



Environmental
Science &
Engineering, Inc.

ALCO
HAZMAT

93 NOV 23 AM 11:33

November 22, 1993

Mr. Scott O. Seery
Senior Hazardous Materials Specialist
Alameda County Health Care Services Agency
80 Swan Way, Room 350
Oakland, CA 94621

**SUBJECT: REPORT OF STOCKPILED SOIL SAMPLING
4TH AND MADIGAN SITE
SANTA RITA CORRECTIONAL FACILITY
DUBLIN, CALIFORNIA
ESE PROJECT NO. 6-93-5077**

Dear Mr. Seery:

Environmental Science & Engineering, Inc. (ESE) presents the following results for the sampling of stockpiled soil located at the subject site (Figure 1 - Location Map). ESE has been contracted by the Alameda County General Services Agency (GSA) to perform this sampling. The objective of this work was to characterize the soil by assessing the concentrations of petroleum hydrocarbons in samples collected.

BACKGROUND

In May 1992, ESE directed the excavation and removal of three USTs at the subject site (Figure 2 - Site Plan) under permit from the Alameda County Health Care Services Agency (HCSA). The GSA owned and operated one 10,000-gallon capacity UST and one 8,000-gallon capacity UST for the storage of Bunker C fuel oil. This fuel oil was used to operate a series of boilers formerly located at the site. During the removal of the USTs described above, one 3,500-gallon capacity diesel fuel UST was discovered and removed. All USTs were of single-wall carbon steel construction. The installation dates for the tanks are unknown.

During removal of the USTs, the HCSA witnessed the collection of five soil samples from the base of the excavation. All samples were analyzed for total petroleum hydrocarbons as diesel fuel (TPH-D) using EPA analytical method 8015 (modified per CA LUFT); total oil and grease (TOG) using Standard Method for Water and Wastewater (SMWW) 5520; and benzene, toluene, ethylbenzene, and total xylenes (BTEX) using EPA analytical method 8020. Three samples (4W, 4AE, and 4BW) were reported to contain detectable concentrations of TPH-D and TOG. * No detectable concentrations of BTEX constituents

* up to 15,000 ppm TPH-D; 5300 ppm TOG

Mr. Seery
November 22, 1993
Page 2

were reported in any of the samples collected. All findings were documented in an UST closure report prepared by ESE and submitted to the HCSA on July 20, 1992. To date, all soil overexcavated during the UST removal remains stockpiled at the site and the UST excavation has not been backfilled.

On November 3, 1993, ESE measured and mapped the stockpiled soil at the subject site. ESE estimated the total volume of stockpiled soil at the site to be approximately 500 cubic yards. A workplan proposing this fieldwork and detailing ESE stockpile soil sampling techniques was submitted to the HCSA on November 4, 1993.

SITE ACTIVITIES

ESE collected samples at a frequency of one discrete soil sample per approximately 50 cubic yards of stockpiled soil. Since approximately 500 cubic yards of soil are stockpiled at the property, ESE collected a total of 10 samples. All sampling was performed on November 5, 1993.

Prior to work start, all onsite personnel attended a brief health and safety tailgate meeting. The purpose of the meeting was to summarize the health and safety plan and describe the potential hazards. All work was performed in level D personal protective gear.

Soil stockpile sample locations were marked on the pile using wooden stakes with orange spray paint. The sample number and depth at each location was recorded on the appropriate wooden stake and is shown on Figure 3 - Soil Stockpile Sample Locations. Each location delineates approximately 50 cubic yards of soil.

Soil samples were collected at random depths ranging between 0.5 to 4 feet (maximum stockpile height) at each location. Each sample was collected by augering to the specified depth at each location within the stockpile using a hand auger and, subsequently, driving a six-inch long sampler lined with a new, thin-wall brass sleeve. The sampler was advanced into the soil by manually dropping a weighted handle onto a rod attached to the sampler. Shredded plastic, concrete fragments, and other inert debris were not included in the sample. Upon retrieval, the sample was immediately capped with teflon-lined plastic caps, sealed with tape, labeled and documented on a chain of custody form. The sample was then placed under ice in a cooler. Upon completion of the sampling, the samples were transported under chain of custody documentation to McCampbell Analytical of Pacheco, California (a State-certified laboratory). All sampling equipment was cleaned between each sample location using a soap and water solution followed by a clean water rinse.

Each of the ten stockpile soil samples collected were analyzed for TPH-D and BTEX using EPA Method 8015 (modified per CA LUFT) and EPA Method 8020, respectively.

Mr. Seery
November 22, 1993
Page 3

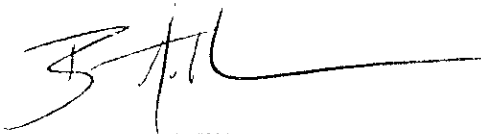
RESULTS

Analytical results for TPH-D and BTEX constituents in the stockpile soil samples are presented on Table 1 - Soil Sample TPH-D and BTEX Analytical Results (November 5, 1993). Copies of analytical reports and chain of custody documents are provided in Attachment A. Of the ten samples collected, five samples (FM-SP-1-2.5', FM-SP-2-1.5', FM-SP-3-2', FM-SP-8-2.5', and FM-SP-10-0.5') were reported to contain detectable concentrations of TPH-D ranging between 20 milligrams per kilogram (mg/kg) to 100 mg/kg. One sample (FM-SP-2-1.5') was reported to contain xylenes only.


o o O o o

Our professional services have been performed using that degree of care and skill ordinarily exercised under similar circumstances by other geologists and engineers practicing in this field. No other warranty, express or implied, is made as to the professional advice in this report. Please feel free to contact Bart Miller at (510) 685-4053 with any questions or comments pertaining to this report.

Sincerely,
ENVIRONMENTAL SCIENCE & ENGINEERING, INC.



Bart S. Miller
Project Geologist



Susan Wickham, R.G. 3851
Senior Geologist

Table
Figures
Attachment

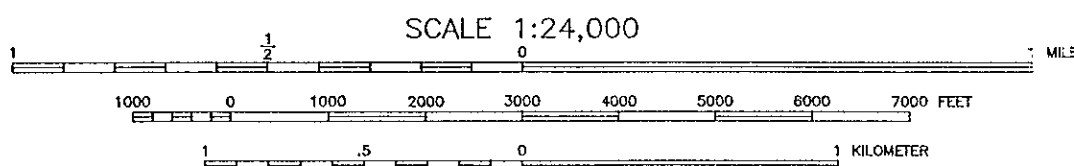
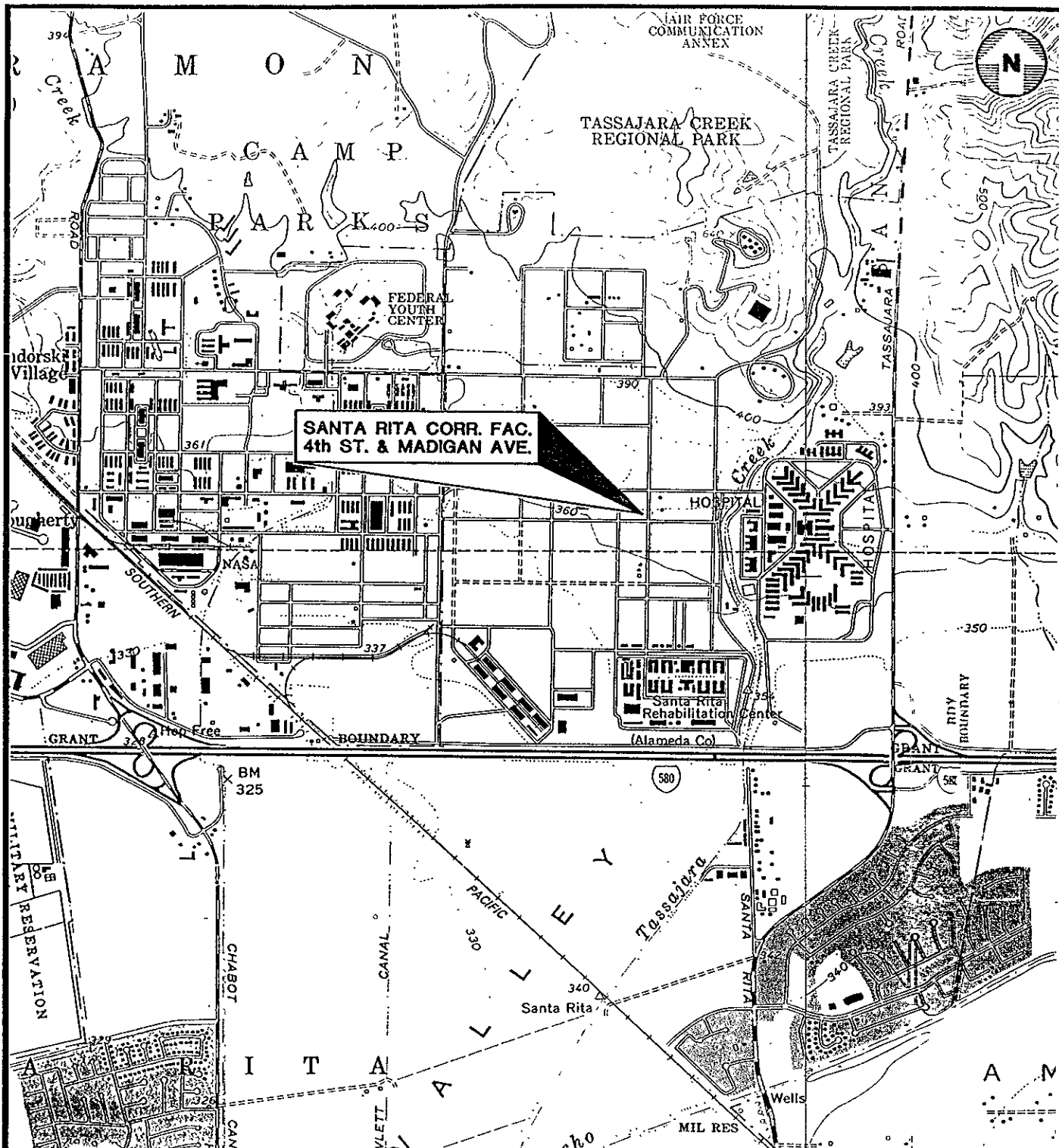
TABLE

**TABLE 1. SOIL SAMPLE TPH-D AND BTEX ANALYTICAL RESULTS
(NOVEMBER 5, 1993)**


Sample No. (with depth)	TPH-D (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)
FM-SP-1-2.5'	23	ND	ND	ND	ND
FM-SP-2-1.5'	100	ND	ND	ND	0.008
FM-SP-3-2.0'	46	ND	ND	ND	ND
FM-SP-4-4.0'	ND	ND	ND	ND	ND
FM-SP-5-2.0'	ND	ND	ND	ND	ND
FM-SP-6-3.0'	ND	ND	ND	ND	ND
FM-SP-7-2.0'	ND	ND	ND	ND	ND
FM-SP-8-2.5'	26	ND	ND	ND	ND
FM-SP-9-0.5'	ND	ND	ND	ND	ND
FM-SP-10-0.5'	20	ND	ND	ND	ND

- NOTES:**
- *TPH-D refers to Total Petroleum Hydrocarbons as Diesel detected using EPA analytical method 8015 (modified per CA LUFT);*
 - *Benzene, Toluene, Ethylbenzene, and Total Xylenes analyzed using EPA analytical method 8020;*
 - *mg/kg refers to milligrams per kilogram;*
 - *ND refers to not detected at method detection limit.*

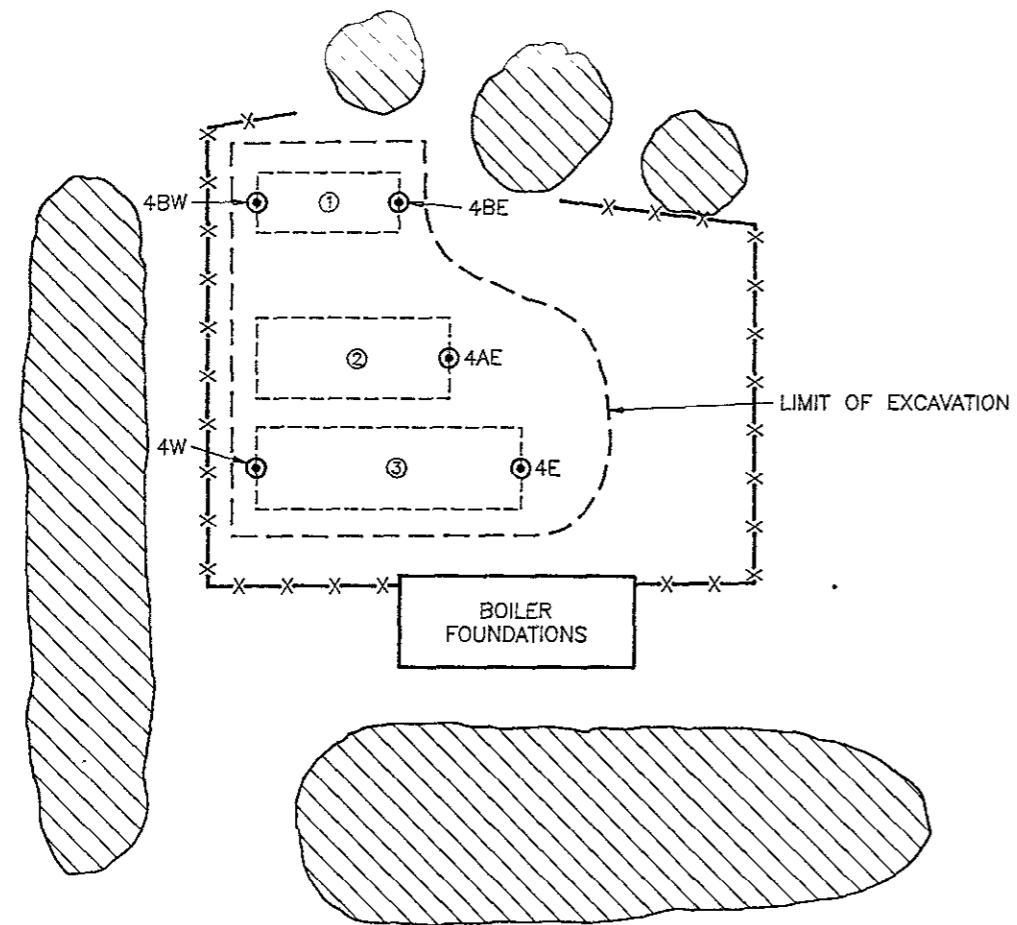
FIGURES



ADAPTED FROM U.S.G.S. DUBLIN AND LIVERMORE, CALIFORNIA 7.5 MINUTE TOPOGRAPHIC QUADRANGLE MAPS, 1980.

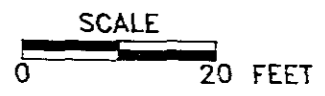
	Environmental Science & Engineering, Inc.	DATE 11/93	LOCATION MAP	FIGURE NO. 1
	4090 NELSON AVENUE, SUITE J CONCORD, CA 94520	REVISED		CAD FILE 50771010


ALAMEDA COUNTY GSA
 SANTA RITA CORRECTIONAL FACILITY
 DUBLIN, CALIFORNIA

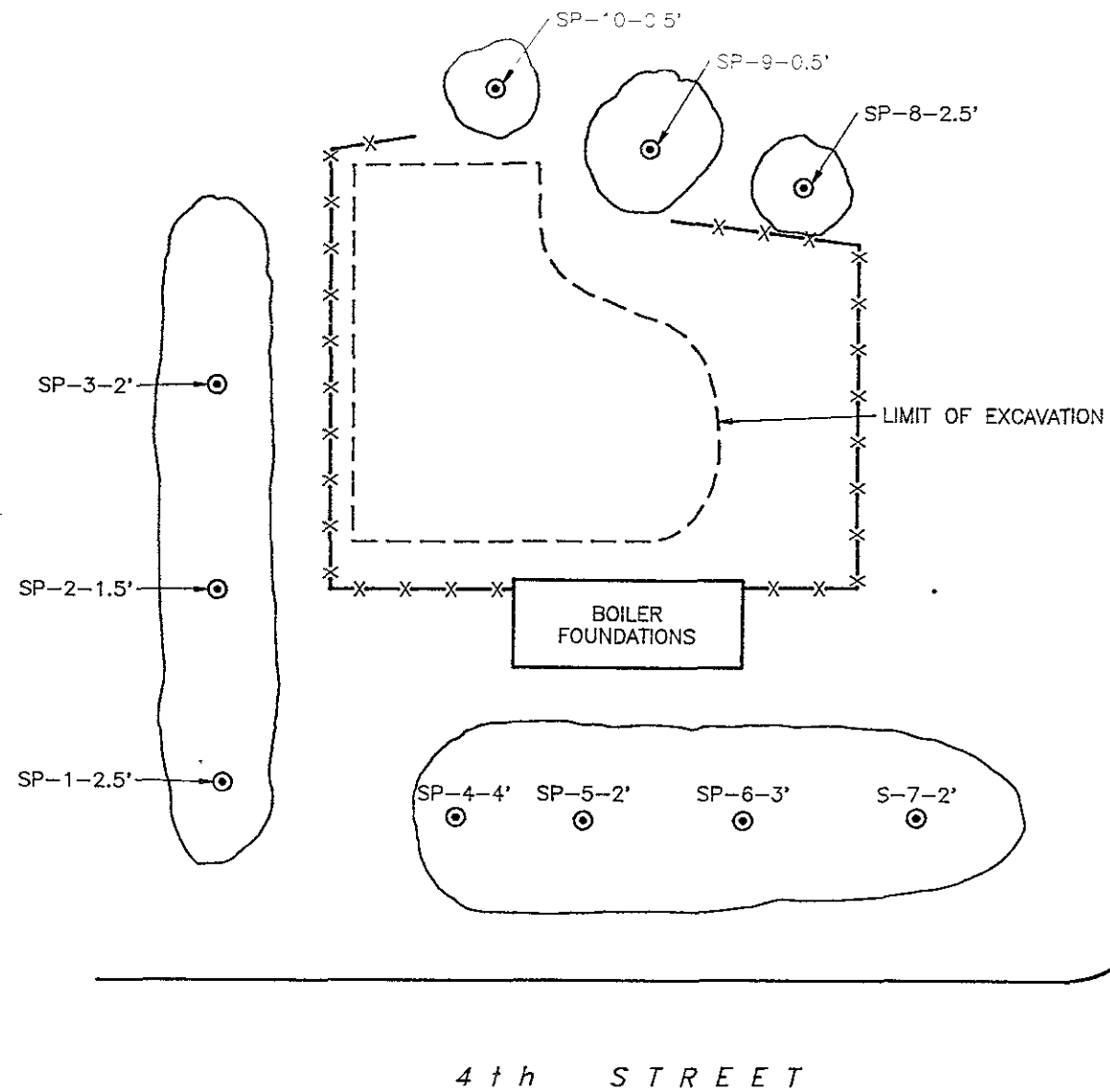


LEGEND

- ① FORMER 3,500 GALLON DIESEL FUEL UST
- ② FORMER 8,000 GALLON BUNKER C FUEL OIL UST
- ③ FORMER 10,000 GALLON BUNKER C FUEL OIL UST
- x- PORTABLE FENCING
- ▨ STOCKPILED SOIL
- ④ FORMER SOIL SAMPLE LOCATION WITH SAMPLE NUMBER



	DATE 11/93	SITE PLAN	FIGURE NO. 2
	REVISED		
4090 NELSON AVENUE, SUITE J CONCORD, CA 94520	CAD FILE 50771038	ALAMEDA COUNTY GSA SANTA RITA CORRECTIONAL FACILITY DUBLIN, CALIFORNIA	PROJ. NO. 6-93-5077

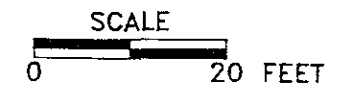



LEGEND

—X— PORTABLE FENCING

⊙ SOIL SAMPLE LOCATION WITH SAMPLE NUMBER AND DEPTH

* NOTE: MAXIMUM HEIGHT OF STOCKPILE IS FOUR FEET.



	DATE 11/93	SOIL STOCKPILE SAMPLE LOCATIONS	FIGURE NO. 3
	REVISED 11/93 BSM		
4090 NELSON AVENUE, SUITE J CONCORD, CA 94520	CAD FILE 50771009	ALAMEDA COUNTY GSA SANTA RITA CORRECTIONAL FACILITY DUBLIN, CALIFORNIA	PROJ. NO. 6-93-5077

ATTACHMENT

Laboratory Analytical Results and Chain of Custody Documents

McCAMPBELL ANALYTICAL INC.	110 2nd Avenue South, #D7, Pacheco, CA 94553 Tele: 510-798-1620 Fax: 510-798-1622
-----------------------------------	--

Environmental Science & Eng. 4090 Nelson Avenue, Suite J Concord, CA 94520	Client Project ID: # 6-93-5077; Santa Rita Jail, 4 th and Madison	Date Sampled: 11/05/93
	Client Contact: Bart Miller	Date Received: 11/08/93
	Client P.O.# 141-3-7295-00	Date Extracted: 11/08/93
		Date Analyzed: 11/08-11/10/93

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with BTEX*
EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH (g) ⁺	Benzene	Toluene	Ethylbenzene	Xylenes	% Rec. Surrogate
32974	FM-SP-1-2.5'	S	--	ND	ND	ND	ND	99
32975	FM-SP-2-1.5'	S	--	ND	ND	ND	0.008	102
32976	FM-SP-3-2'	S	--	ND	ND	ND	ND	100
32977	FM-SP-4-4'	S	--	ND	ND	ND	ND	97
32978	FM-SP-5-2'	S	--	ND	ND	ND	ND	95
32979	FM-SP-6-3'	S	--	ND	ND	ND	ND	97
32980	FM-SP-7-2'	S	--	ND	ND	ND	ND	86
32981	FM-SP-8-25'	S	--	ND	ND	ND	ND	98
32982	FM-SP-9-0.5'	S	--	ND	ND	ND	ND	96
32983	FM-SP-10-0.5'	S	--	ND	ND	ND	ND	95

Detection Limit unless otherwise stated; ND means Not Detected	W	50 ug/L	0.5	0.5	0.5	0.5	
	S	1.0 mg/kg	0.005	0.005	0.005	0.005	

*water samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L

cluttered chromatogram; sample peak co-elutes with surrogate peak

* The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds are significant; no recognizable pattern; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible phase is present.

McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553
 Tel: 510-798-1620 Fax: 510-798-1622

Environmental Science & Eng. 4090 Nelson Avenue, Suite J Concord, CA 94520	Client Project ID: # 6-93-5077; Santa Rita Jail, 4 th and Madigan	Date Sampled: 11/05/93
	Client Contact: Bart Miller	Date Received: 11/08/93
	Client P.O.# 141-0-7295-00	Date Extracted: 11/08/93
		Date Analyzed: 11/08-11/10/93

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel *

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

Lab ID	Client ID	Matrix	TPH(d) ⁺	% Recovery Surrogate
32974	FM-SP-1-2.5'	S	23,g	107
32975	FM-SP-2-1.5'	S	100,g	107
32976	FM-SP-3-2'	S	46,g	107
32977	FM-SP-4-4'	S	ND	106
32978	FM-SP-5-2'	S	ND	106
32979	FM-SP-6-3'	S	ND	100
32980	FM-SP-7-2'	S	ND	106
32981	FM-SP-8-25'	S	26,g	108
32982	FM-SP-9-0.5'	S	ND	108
32983	FM-SP-10-0.5'	S	20,g	101
Detection Limit unless otherwise stated; ND means Not Detected	W		50 ug/L	
	S		10 mg/kg	

*water samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L

cluttered chromatogram; surrogate and sample peaks co-elute or surrogate peak is on elevated baseline

* The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) modified diesel?; light(CL) or heavy(CH) diesel compounds are significant; d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel(?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible phase is present.

DATE 11/5/93 PAGE 1 OF 1

CHAIN OF CUSTODY RECORD

Inw. #1787 AESE36

PROJECT NAME SANTA RITA JAIL
 ADDRESS 4th + MADRIGAN
DUBLIN, CA
 PROJECT NO. 6-93-5077
 SAMPLED BY C. Von STETTEN
 LAB NAME _____

ANALYSES TO BE PERFORMED										MATRIX	MATRIX	NUMBER OF CONTAINERS
1	2	3	4	5	6	7	8	9	10			
											SOIL	1
										32974		
										32975		
										32976		
										32977		
										32978		
										32979		
										32980		
										32981		



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

REMARKS (CONTAINER, SIZE, ETC.)

SAMPLE #	DATE	TIME	LOCATION
EM-SP-1-2.5'	11/5/93	11:15	STOCKPILE SAMPLE
EM-SP-2-1.5'		11:35	
EM-SP-3-2'		12:05	
EM-SP-4-4'		2:25	
EM-SP-5-2'		2:40	
EM-SP-6-3'		2:55	
EM-SP-7-2'		3:10	
EM-SP-8-2.5'		3:35	
EM-SP-9-0.5'		4:10	
EM-SP-10-0.5'		4:25	

RELINQUISHED BY: (signature)
 1. [Signature]
 2. [Signature]
 3. _____
 4. _____
 5. _____

RECEIVED BY: (signature)
 1. [Signature]
 2. [Signature]
 3. _____
 4. _____
 5. _____

date time
 11/05/93 20:40
 11/8/93 10:11

REPORT RESULTS TO:
 10
East Area
ESE

TOTAL NUMBER OF CONTAINERS
 SPECIAL SHIPMENT REQUIREMENTS
COLD TRANSPORT

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

NORMAL T.A.T. Invoice Alameda Co. GSA directly.

ICE/PT PRESERVATIVE APPROPRIATE
 GOOD CONDITION HEAD SPACE ABSENT CONTAINERS
 WAS O & G METALS OTHER

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