

August 16, 1991

Alameda County Office of Environmental Health 80 Swan Way Room 200 Oakland, CA 94621

Attn: Ms. Pam Evans

Hazardous Materials Division

RE:

Tank Removal, Excavation of Contaminated Soil,

Stockpile Sampling

Gentlemen:

Enclosed please find comprehensive report for the initial tank removal, excavation of contaminated soil, and stockpile sampling at:

ALAMEDA GOLF COURSE 1 MEMORIAL CLUBHOUSE DRIVE ALAMEDA, CALIFORNIA

Zaccor Corporation has mailed one copy of this report to the Owner of the property and one additional copy of this report has been mailed to the Water Quality Control Board San Francisco Region.

If I may be of further assistance to you, please do not hesitate to contact my office at (415) 363-2181.

Sincerely,

ZACCOR CORPORATION

Scot S. Zaccor

Scot J. Zaccor

Project Manager

SJZ/Is

TS:11118 EL BUR 18



August 4, 1991

Parks and Recreation Oak Street at Santa Clara Street Alameda, California 94501

Attention: Mr. Fred Framsted

The following documentation concerns the initial tank removal, excavation of contaminated soil, and stockpile sampling performed by Zaccor Corporation at:

ALAMEDA GOLF COURSE 1 MEMORIAL CLUB HOUSE DRIVE ALAMEDA, CALIFORNIA

Field Sampling was performed in accordance with state and local agency approved methodology, in the presence of Pamela Evans, Hazardous Materials Specialist for the Alameda County Environmental Health Department.

See accompanying site diagram for the location of tanks, field sampling designations, and sampling depths.

TANK REMOVAL

On July 10, 1991, two underground storage tanks (UST's) were removed from the above mentioned address. These were one 500 gallon gasoline tank and one 125 gallon tank.

Upon tank removal the following observations were noted;

Tank A was a 500 gallon single wall steel gasoline UST. The tank was covered with an intact tar wrap. An anode was attached properly to the tank.

Tank B was a 125 gallon single wall steel UST. The tank was uncovered unexpectedly during the excavation of contaminated soil. The tanks existence was unknown. The tank had corroded to a thin shell with multiple holes and had been partially crushed by the pressure of native backfill. A GasTech model 1314 Hydrocarbon Survey Instrument was used to monitor vapors in soil present within the tank interior. Vapor concentrations within the tank exceeded the instruments maximum vapor detection capacity of 10,000 ppm. Three bungs were noted on the tank. It is assumed these were the fill pipe, vent pipe and product line bung.

SAMPLING

Soil samples were collected from the tank pit wall vadose/saturated capillary zone as groundwater was encountered at 5' within the excavation. This was accomplished by the clearing of fill material and slough from the designated sample area. A backhoe bucket then obtained a sample from 12" to 18" into the native soil. The surface three inches of soil was removed from the backhoe bucket and a clean brass sleeve driven into the remaining soil. Soil was packed into the sleeve, then covered with aluminum foil, fitted with plastic caps, sealed with duct tape, labeled, and placed under chain of custody, in a refrigerator within the mobile lab analytical facility, for immediate analysis.

EXCAVATION OF CONTAMINATION

The excavation of contaminated soil was implemented using heavy earth moving equipment.

As the excavation proceeded soil samples were obtained and monitored for odor and hydrocarbon vapors using a GasTech model 1314 hydrocarbon survey instrument.

Upon collection, soil samples were analyzed immediately using an on-site Certified Hazardous Waste Analytical Laboratory.

Where hydrocarbon contamination was detected the excavation of soil was implemented using heavy earth moving equipment. A soil sample was collected and analyzed for TPH-G & BTEX. This process was repeated until soil samples representing each wall contained no detectable concentrations for TPH-G & BTEX.

STOCKPILE SAMPLING

Composite soil samples were collected in accordance with the Bay Area Air Quality Management District (BAAQMD) guidelines.

Approximately 80 cubic yards of contaminated soil was generated throughout the original tank pull and excavation.

Soil samples were obtained from four points within each 50 cubic yards of soil to be composited at a certified laboratory for one analysis.

SAMPLE DATA-continued

Soil	5	North Wall Capillary	4.5
Soil	6	East Wall Capillary	4.5'
Soil	7	West Wall Capillary	4.5′
Soil	8	South Wall Capillary	4.5'
Soil	9A-D	Stockpile	2'
Soil	10A-D	Stockpile	2'
Water	TPW-1	Tank Pit Water	81

SAMPLE ANALYSIS

Sample AGC #1A-C to #10A-D and #TPW-1 were analyzed for Total Petroleum Hydrocarbons as Gasoline with benzene, toluene, ethylbenzene, and total xylenes (TPH-G, BTEX, EPA Method 5030/8020)

SOIL ANALYTICAL RESULTS

Sample# all AGC	TPH-G soil result	<u>B</u> s are repo	T orted in p	<u>E</u> ppm	<u>X</u>
#1A-C	2,000	1.2	2.8	2.6	26
#2	960	3.5	0.10	3.0	13
#3A-C	250	0.52	0.45	0.65	5.4
#4	ND	0.011	ND	ND	0.005
#5	ND	ND	ND	ND	ND

STOCKPILE SAMPLING-continued

The composite soil samples were designated as sample AGC #1A-D, AGC #3A-D, AGC #7A-D, AGC #9A-D and sample AGC #10A-D.

Each sample was analyzed for total petroleum hydrocarbons as gasoline, benzene, toluene, ethylbenzene and total xylenes.

GROUNDWATER SAMPLING

Groundwater was present within the tank pit at a depth of five feet.

Twice the water was evacuated from the tank pit and allowed to recharge. Following the second recharge, on July 16, 1991, a sample of the groundwater was collected by lowering a closed one liter amber bottle beneath the groundwater surface, the bottle was then opened, allowed to fill, closed, and removed from the tank pit excavation. This process was repeated until three one-liter amber bottles and three 40-ml VOA vials were filled to a positive meniscus and capped. The bottles were placed on blue ice under chain of custody and transported to a Certified Hazardous Waste Analytical Laboratory. The groundwater sample was analyzed for Total Petroleum Hydrocarbons as Gasoline, benzene, toluene, ethylbenzene, and xylene.

The tank pit was then backfilled with clean imported fill material.

SAMPLE DATA

<u>Matrix</u>	AGC Sample #	<u>Location</u>	<u>Depth</u>
Soil	1A-C	Stockpile	2'
Soil	2	South Wall Capillary Beneath 125 gal. tank	4.5'
Soil	3 A- C	Stockpile	2'
Soil	4	South Wall Capillary	4.5′

SOIL ANALYTICAL RESULTS-continued

	<u>TPH-G</u> oil results	B are repo	$\frac{T}{ted in p}$	<u>E</u> pm	X
#6	3.0	0.030	0.006	0.023	0.059
#7	ND	ND	ND	ND	ND
#8	ND	ND	ND	ND	ND
#9A-D	ND	ND	ND	ND	ND
#10A-D	11	0.13	0.48	0.29	1.9
	ER ANALYTIC ported in p				
Sample#	TPH-G	<u>B</u>	T	E	X

ND = Not detectable amount at the lower detection limit

210 ND 270

1,200

RECOMMENDATIONS

#TPW-1

8,200

The State Water Resources Control Board Document, Leaking Underground Fuel Tank Field Manual (LUFT), supported by the San Francisco Regional Water Quality Control Board (SFRWQCB), defines acceptable limits and appropriate actions for addressing UST contamination.

The results of soil samples collected within the vadose/ saturated wall capillary zone representing each wall, indicate soil contamination has been removed and further excavation is not warranted at this time.

A monitoring well is present within two feet of the tank pit excavation. It is our recommendation that this well be used for future monitoring should an investigation of the well installation reports and local groundwater gradient prove the wells integrity and placement is sufficient.

REPORTAGE

Copies of the sampling report, chain of custody, and certified analytical report should be submitted to both the SFRWQCB and the Alameda County Department of Environmental Health.

The following addresses have been listed for your convenience:

Water Quality Control Board San Francisco Bay Region 2101 Webster St. Rm. 500 Oakland Ca. 94612 ATTN: Fuel Leaks Division

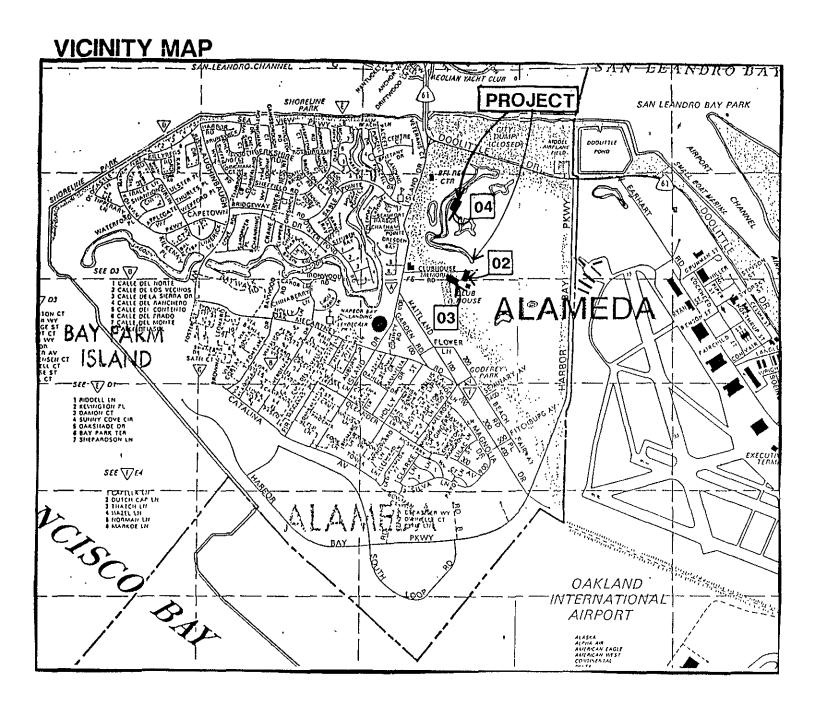
Alameda County Department of Environmental Health Hazardous Materials Unit 80 Swan Way Rm.200 Oakland Ca. 94612 ATTN: Pamela Evans

It has been a pleasure working with you. If I may be of further assistance please contact me at (415) 363-2181.

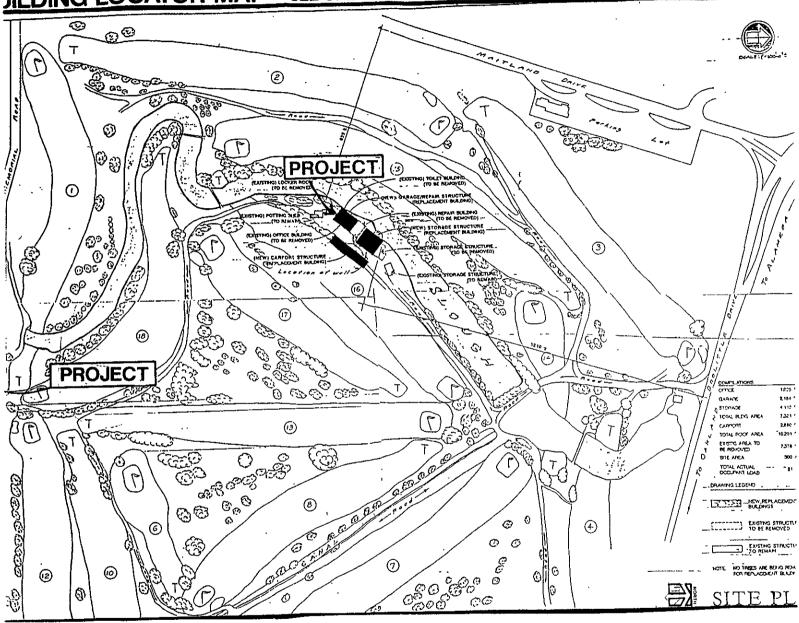
Sincerely, ZACCOR CORPORATION

Bary Zaccer

Gary Zaccor Project Manager

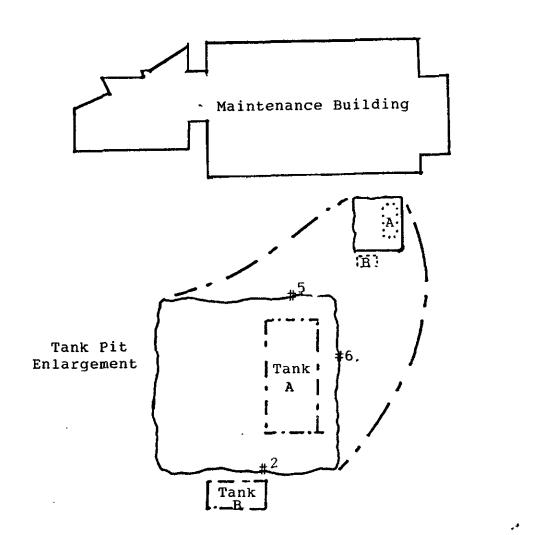


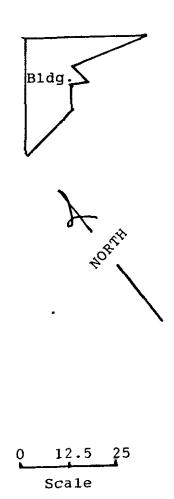
JILDING LOCATOR MAP SEE SHEET T1 & T4 FOR OTHER LOCATIONS

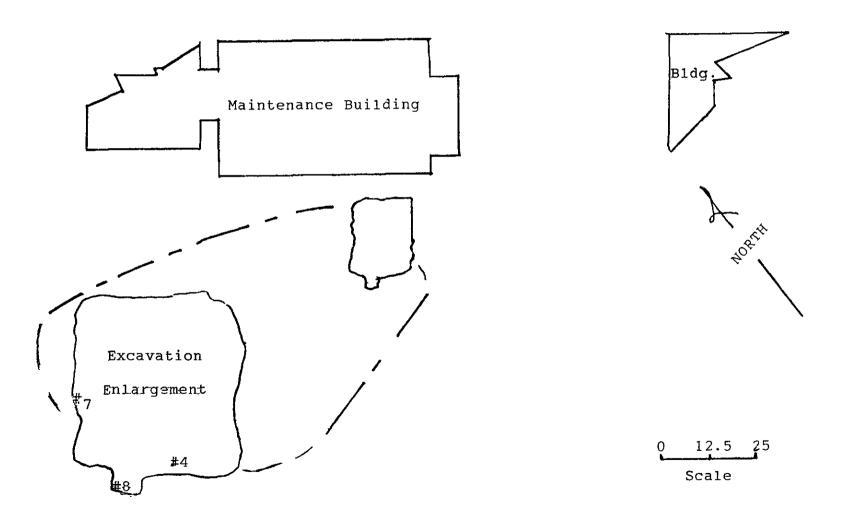


ENVIRONMENTAL TECHNICAL SERVICES

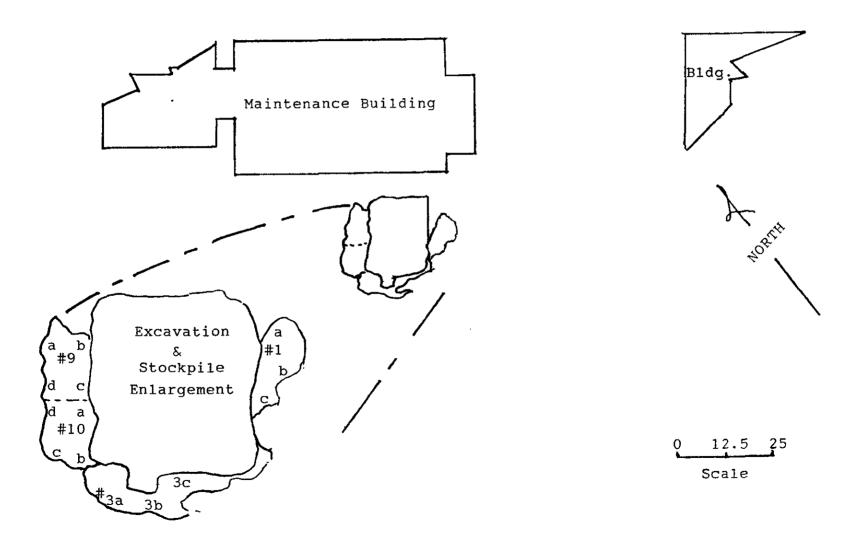
at: Alameda Golf Course, 1 Memorial Club House Drive, Alameda CA.







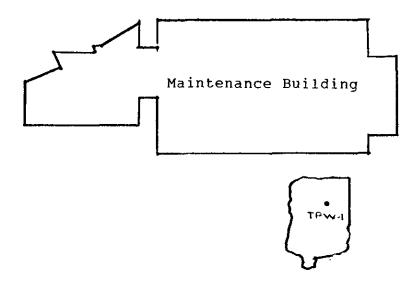
at: Alameda Golf Course, 1 Memorial Club House Drive, Alameda CA.

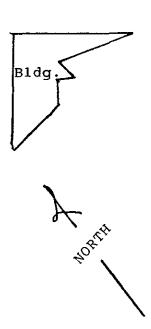


ENVIRONMENTAL TECHNICAL SERVICES

at: Alameda Golf Course, 1 Memorial Club House Drive, Alameda CA.

7/16/91







5021 Blum Road, Suite 3 • Martinez, CA 94553 Phone (415) 372-3700 • Fax (415) 372-6955

#1 Clubhouse Dr.\011780

Zaccor Corporation 791 Hamilton Avenue Menlo Park, CA 94025 Attn: Gary Zaccor

Project Manager

Date Sampled: 07-10-91 Date Received: 07-10-91 Date Reported: 07-10-91

Sample Number -----V071001 ANALYSIS

	Detection Limit	Sample Results	
	ppm	ppm	
Total Petroleum Hydrocarbons as Gasoline	1.0	2,000	
Benzene	0.005	1.2	
Toluene	0.005	2.8	
Xylenes	0.005	26	
Ethylbenzene	0.005	2.6	

QA/QC: Sample blank is none detected

Duplicate Deviation is 6.7%

Note:

Analysis was performed using EPA methods 5030 and TPH

LUFT with method 8020 used for BTX distinction.

(ppm) = (mg/kg)

MOBILE CHEM LABS



5021 Blum Road, Sulte 3 • Martinez, CA 94553 Phone (415) 372-3700 • Fax (415) 372-6955

#1 Clubhouse Dr.\011780

Zaccor Corporation
791 Hamilton Avenue
Menlo Park, CA 94025
Attn: Gary Zaccor
Project Manager

Date Sampled: 07-10-91 Date Received: 07-10-91 Date Reported: 07-10-91

Sample Number -----V071002 Sample Description
-----Alameda Golf Course
#1 Clubhouse Drive
Alameda, CA
#2 SOIL

ANALYSIS

	Detection Limit	Sample Results	
	ppm	ppm	
Total Petroleum Hydrocarbons as Gasoline	1.0	960	
Benzene	0.005	3.5	
Toluene	0.005	0.10	
Xylenes	0.005	13	
Ethylbenzene	0.005	3.0	

QA/QC: Sample blank is none detected

Note:

Analysis was performed using EPA methods 5030 and TPH

LUFT with method 8020 used for BTX distinction.

(ppm) = (mg/kg)

MOBILE CHEM LABS

Ronald G. Evans



5021 Blum Road, Suite 3 • Martinez, CA 94553 Phone (415) 372-3700 • Fax (415) 372-6955

#1 Clubhouse Dr.\011780

Zaccor Corporation 791 Hamilton Avenue Menlo Park, CA 94025 Attn: Gary Zaccor Project Manager

Date Sampled: 07-10-91 Date Received: 07-10-91 Date Reported: 07-10-91

Sample Number -----V071003

Sample Description
-----Alameda Golf Course
#1 Clubhouse Drive
Alameda, CA
#3A,3B,3C SOIL

ANALYSIS

	Detection Limit	Sample Results	
	ppm	ppm	
Total Petroleum Hydrocarbons as Gasoline	1.0	250	
Benzene	0.005	0.52	
Toluene	0.005	0.45	
Xylenes	0.005	5.4	
Ethylbenzene	0.005	0.65	

QA/QC: Sample blank is none detected

Note:

Analysis was performed using EPA methods 5030 and TPH

LUFT with method 8020 used for BTX distinction.

(ppm) = (mg/kg)

MOBILE CHEM LABS



5021 Blum Road, Suite 3 • Martinez, CA 94553 Phone (415) 372-3700 • Fax (415) 372-6955

#1 Clubhouse Dr.\011780

Zaccor Corporation 791 Hamilton Avenue Menlo Park, CA 94025 Attn: Gary Zaccor Project Manager

Date Sampled: 07-10-91 Date Received: 07-10-91 Date Reported: 07-10-91

Sample Number V071004

Sample Description Alameda Golf Course #1 Clubhouse Drive Alameda, CA #4 SOIL

ANALYSIS ____

Detection Limit	Sample Results	
ppm	ppm	
1.0	<1.0	
0.005	0.011	
0.005	<0.005	
0.005	0.005	
0.005	<0.005	
	Limit ppm 1.0 0.005 0.005	

QA/QC: Sample blank is none detected

Note:

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

(ppm) = (mg/kg)

MOBILE CHEM LABS



5021 Blum Road, Suite 3 • Martinez, CA 94553 Phone (415) 372-3700 • Fax (415) 372-6955

#1 Clubhouse Dr.\011780

Zaccor Corporation
791 Hamilton Avenue
Menlo Park, CA 94025
Attn: Gary Zaccor
Project Manager

Date Sampled: 07-10-91 Date Received: 07-10-91 Date Reported: 07-10-91

Sample Number -----V071005 Sample Description
-----Alameda Golf Course
#1 Clubhouse Drive
Alameda, CA
#5 SOIL

ANALYSIS

	Detection Limit	Sample Results	
	ppm	ppm	
Total Petroleum Hydrocarbons as Gasoline	1.0	<1.0	
Benzene	0.005	<0.005	
Toluene	0.005	<0.005	
Xylenes	0.005	<0.005	
Ethylbenzene	0.005	<0.005	

QA/QC: Sample blank is none detected

Note:

Analysis was performed using EPA methods 5030 and TPH

LUFT with method 8020 used for BTX distinction.

(ppm) = (mg/kg)

MOBILE CHEM LABS



5021 Blum Road, Suite 3 • Martinez, CA 94553 Phone (415) 372-3700 • Fax (415) 372-6955

#1 Clubhouse Dr.\011780

Zaccor Corporation
791 Hamilton Avenue
Menlo Park, CA 94025
Attn: Gary Zaccor
Project Manager

Date Sampled: 07-10-91 Date Received: 07-10-91 Date Reported: 07-10-91

Sample Number V071006 Sample Description

Alameda Golf Course
#1 Clubhouse Drive
Alameda, CA
#6 SOIL

ANALYSIS

	Detection Limit	Sample Results	
	ppm	ррт	
Total Petroleum Hydrocarbons as Gasoline	1.0	3.0	
Benzene	0.005	0.030	
Toluene	0.005	0.006	
Xylenes	0.005	0.059	
Ethylbenzene	0.005	0.023	

QA/QC: Sample blank is none detected

Note:

Analysis was performed using EPA methods 5030 and TPH

LUFT with method 8020 used for BTX distinction.

(ppm) = (mg/kg)

MOBILE CHEM LABS



5021 Blum Road, Suite 3 • Martinez, CA 94553 Phone (415) 372-3700 • Fax (415) 372-6955

#1 Clubhouse Dr.\011780

Zaccor Corporation 791 Hamilton Avenue Menlo Park, CA 94025 Attn: Gary Zaccor Project Manager

Date Sampled: 07-10-91 Date Received: 07-10-91 Date Reported: 07-10-91

Sample Number V071007

Sample Description Alameda Golf Course #1 Clubhouse Drive Alameda, CA SOIL

ANALYSIS

	Detection Limit	Sample Results	
	ppm	mqq	
Total Petroleum Hydrocarbons as Gasoline	1.0	<1.0	
Benzene	0.005	<0.005	
Toluene	0.005	<0.005	
Xylenes	0.005	<0.005	
Ethylbenzene	0.005	<0.005	

Sample blank is none detected QA/QC:

Spike Recovery is 90%

Note:

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

(ppm) = (mg/kg)

MOBILE CHEM LABS



5021 Blum Road, Sulte 3 • Martinez, CA 94553 Phone (415) 372-3700 • Fax (415) 372-6955

#1 Clubhouse Dr.\011780

Zaccor Corporation 791 Hamilton Avenue Menlo Park, CA 94025 Attn: Gary Zaccor

Date Sampled: 07-10-91 Date Received: 07-10-91

Project Manager

Date Reported: 07-10-91

Sample Number V071008

Sample Description Alameda Golf Course #1 Clubhouse Drive Alameda, CA #8 SOIL

ANALYSIS _____

	Detection Limit	Sample Results
	ppm	ppm
Total Petroleum Hydrocarbons as Gasoline	1.0	<1.0
Benzene	0.005	<0.005
Toluene	0.005	<0.005
Xylenes	0.005	<0.005
Ethylbenzene	0.005	<0.005

QA/QC: Sample blank is none detected

Note:

Analysis was performed using EPA methods 5030 and TPH

LUFT with method 8020 used for BTX distinction.

(ppm) = (mg/kg)

MOBILE CHEM LABS



5021 Blum Road, Suite 3 • Martinez, CA 94553 Phone (415) 372-3700 • Fax (415) 372-6955

#1 Clubhouse Dr.\011780

Zaccor Corporation 791 Hamilton Avenue Menlo Park, CA 94025 Attn: Gary Zaccor Project Manager

Date Sampled: 07-10-91 Date Received: 07-10-91 Date Reported: 07-10-91

Sample Number V071009

Sample Description Alameda Golf Course #1 Clubhouse Drive Alameda, CA #9A-9D SOIL

ANALYSIS _____

	Detection Limit	Sample Results	
	ppm	ppm	
Total Petroleum Hydrocarbons as Gasoline	1.0	<1.0	
Benzene	0.005	<0.005	
Toluene	0.005	<0.005	
Xylenes	0.005	<0.005	
Ethylbenzene	0.005	<0.005	

QA/QC: Sample blank is none detected

Note:

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

(ppm) = (mg/kg)

MOBILE CHEM LABS



5021 Blum Road, Suite 3 • Martinez, CA 94553 Phone (415) 372-3700 • Fax (415) 372-6955

#1 Clubhouse Dr.\011780

Zaccor Corporation 791 Hamilton Avenue Menlo Park, CA 94025 Attn: Gary Zaccor

Project Manager

Date Sampled: 07-10-91 Date Received: 07-10-91 Date Reported: 07-11-91

Sample Number V071011

Sample Description Alameda Golf Course #1 Clubhouse Drive Alameda, CA #10A-10D SOIL

ANALYSIS

	Detection Limit	Sample Results	
	ppm	ppm	
		- -	
Total Petroleum Hydrocarbons as Gasoline	1.0	11	
Benzene	0.005	0.13	
Toluene	0.005	0.48	
Xylenes	0.005	1.9	
Ethylbenzene	0.005	0.29	

QA/QC: Sample blank is none detected

Duplicate Deviation is 0.7%

Note:

Analysis was performed using EPA methods 5030 and TPH

LUFT with method 8020 used for BTX distinction.

(ppm) = (mg/kg)

MOBILE CHEM LABS

ANAMETRIX INC

Environmental & Analytical Chemistry 1961 Concourse Drive Suite E San Jose CA 95131 408) 432 8192 + Fax (408) 432-8198



MR. GARY ZACCOR ZACCOR CORP. 791 HAMILTON AVE. MENLO PARK, CA 94025 Workorder # : 9107150 Date Received: 07/16/91 Project ID: AG COURSE

Purchase Order: N/A

The following samples were received at Anametrix, Inc. for analysis:

ANAMETRIX ID	CLIENT SAMPLE ID
9107150- 1	TPW-1

This report consists of 3 pages not including the cover letter, and is organized in sections according to the specific Anametrix laboratory group or section which performed the analysis(es) and generated the data. The Report Summary that precedes each section will help you determine which Anametrix group is responsible for those test results, and will bear the signatures of the department supervisor and the chemist who have reviewed the analytical data. Please refer all questions to the department supervisor who signed the form.

Anametrix is certified by the California Department of Health Services (DHS) to perform environmental testing under Certificate Number 1234. À detailed list of the approved fields of testing can be obtained by calling our office, or the DHS Environmental Laboratory Accreditation Program at (415)540-2800.

If you have any further questions or comments on this report, please give us a call as soon as possible. Thank you for using Anametrix.

Sarah Schoen, Ph.D. Laboratory Manager

REPORT SUMMARY ANAMETRIX, INC. (408)432-8192

MR. GARY ZACCOR ZACCOR CORP.

791 HAMILTON AVE.

MENLO PARK, CA 94025

Workorder # : 9107150
Date Received : 07/16/91
Project ID : AG COURSE

Purchase Order: N/A
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9107150- 1	TPW-1	WATER	07/16/91	TPHg/BTEX

REPORT SUMMARY ANAMETRIX, INC. (408)432-8192

MR. GARY ZACCOR ZACCOR CORP. 791 HAMILTON AVE. MENLO PARK, CA 94025 Workorder # : 9107150
Date Received : 07/16/91
Project ID : AG COURSE
Purchase Order: N/A
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- No QA/QC problems encountered for this sample.

Department Supervisor

Chemist Sher 7/29/9/
Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS (GASOLINE WITH BTEX) ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9107150 Matrix : WATER
Date Sampled : 07/16/91

Project Number : AG COURSE Date Released: 07/29/91

	Reporting Limit	Sample I.D.# TPW-1	Sample I.D.# 04B0723A			
COMPOUNDS	(ug/L)	-01	BLANK			
نتا د د جر به د د جر به د د د به د					~ <u>-</u>	
Benzene	0.5	210	ND			
Toluene	0,5	ND	ND			
Ethylbenzene	0.5	270	ND			
Total Xylenes	0.5	1200	ND			
TPH as Gasoline	9 50	8200	ND			
% Surrogate Red Instrument I Date Analyzed RLMF	.D.	100% HP4 07/23/91 50	91% HP4 07/23/91 1			

ND - Not detected at or above the practical quantitation limit for the method.

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Analyst Date

Supervisor Date

TPHq - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020.

RLMF - Reporting Limit Multiplication Factor.

CLIENT CHAIN-OF-CUSTODY RECORD PROJECT NAME ALGORIGIO Type of Analysis ACCOURSE Gulf Course. | Report Due | Verbal Due Send Report Attention of: Send Report Attention of: Report Due | Verbal Du

CARY ZACCOR | 7/30/9/ // Number Condition Type Initial Containers | Containers Samples Sample Number Time Comp Grab Station Location Date 7/6/9/ 1235 TPW-1 3 1783 1165 6.66120 18 gmm - Ann woom somple Remarks: Routine | SAMPLE DISPOSAL:

Return to Client

Soil Disposal by Anametrix

(\$5.00 per container)

COMPANY: EMCCOIC COR POCCOTICAL

ADDRESS: 791 Watter Coc. Mark, Ca Relinquished by: (Signature) | Date/Time | Received by: (Signature) | 3:25 | May South Date/Time Relinguished by: (Signature) | Date/Time | Received by: (Signature) Relinquished by: (Signature) | Date/Time | Received by: (Signature) Date/Time PHONE : 4 5 363 - 3/8// FAX : 5025 ENVIRONMENTAL TECHNICAL SERVICES

at: Alameda Golf Course, 1 Memorial Clu

