



ENVIRONMENTAL
PROTECTION
97 JUL 24 PM 2:52

UNDERGROUND STORAGE TANK REMOVAL

**Thoroughbred Building
1397 55th Street
Emeryville, California**

Prepared for

**HFH Limited
1355 Ocean Avenue
Emeryville, California**

**July 1997
Project No. 3356**

Geomatrix Consultants

Andrew Getz
1355 Ocean Avenue
Emeryville, California 94608
telephone: (510) 652-4191
telecopier: (510) 652-9661

July 22, 1997

ST 176080

Re: Underground Storage Tank Removal
Thoroughbred Building
1397 - 55th Street
Emeryville, California 94608

Ms. Susan Hugo
Senior Hazardous Materials Specialist
Alameda County Health Care Services Agency
Environmental Health Services
Environmental Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Dear Ms. Hugo,

Here is the report by Geomatrix about this tank removal.

Please contact me or Jennifer Patterson or Elizabeth Wells at Geomatrix with any questions or requests for additional information.

Thanks,



Andrew Getz

enclosure

100 Pine Street, 10th Floor
San Francisco, CA 94111
(415) 434-9400 • FAX (415) 434-1365



17 July 1997
Project 3356B

Mr. Andrew Getz
HFH Limited
1355 Ocean Avenue
Emeryville, California 94608

Subject: Underground Storage Tank Removal Report
 Thoroughbred Building
 1397 55th Street
 Emeryville, California

Dear Ms. Hugo:

Geomatrix Consultants, Inc., is pleased to submit the subject report describing underground storage tank removal activities conducted at the subject site in February 1997, including soil sampling and analytical results. Please contact either of the undersigned if you have questions or require any additional information.

Sincerely,

GEOMATRIX CONSULTANTS, INC.

A handwritten signature in black ink, appearing to read "JL Patterson".

Jennifer L. Patterson
Project Engineer

A handwritten signature in black ink, appearing to read "Elizabeth K. Wells".

Elizabeth K. Wells, P.E.
Senior Engineer

JLP/EKW/lo
I:\WPDOCS\3356\3356RPT2.LTR

Enclosure

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UNDERGROUND STORAGE TANK REMOVAL THOROUGHbred BUILDING

1397 55th Street
Emeryville, California

1.0 INTRODUCTION

This report describes underground storage tank (UST) removal activities conducted at the Thoroughbred Building located at 1397 55th Street, Emeryville, California (Figure 1). One 700-gallon kerosene UST was removed by Zaccor Corporation (Zaccor) of Menlo Park, California, a California-licensed contractor. Clearwater Environmental Management, Inc. (Clearwater), of Fremont, California, directed UST removal activities on behalf of HFH, Ltd., of Emeryville, California. Geomatrix Consultants, Inc. (Geomatrix), observed tank removal activities and collected soil samples for chemical analysis. UST removal activities were performed under the supervision of Mr. George Warren of the Emeryville Fire Department. Soil sampling activities were performed under the supervision of Ms. Susan Hugo of the Alameda County Health Care Services Agency (ACHCSA).

Tank removal, soil sampling, and chemical analytical procedures were performed in accordance with applicable guidelines contained in the State of California Leaking Underground Fuel Tank Task Force, October 1989, field manual titled "Leaking Underground Fuel Tank Field Manual: Guidelines for Site Assessment, Cleanup, and Underground Storage Tank Closure" (LUFT Manual) and in the August 1990 "Tri-Regional Board Staff Recommendations For Preliminary Evaluations and Investigation of Underground Tank Sites" (Tri-Regional). UST removal activities, soil sampling, laboratory analytical results, and recommendations are described below.

2.0 SITE CONDITIONS

The site is located at 1397 55th Street in the City of Emeryville, Alameda County, California. The 700-gallon capacity UST was located in front of the building as shown on Figure 2. According to Mr. Andrew Getz, of HFH, Ltd., the UST was installed in the early 1940s and

contained kerosene. Reportedly, the tank was last used in the late 1950s and has been empty since then.

3.0 UNDERGROUND STORAGE TANK REMOVAL

Prior to UST removal activities, Clearwater obtained the removal permit from the ACHCSA. A copy of the permit issued by the ACHCSA is included in Appendix A. Zaccor performed the excavation, UST removal, and backfilling activities on 14 February 1997. According to Clearwater, approximately 1200 gallons of water were pumped from the tank on 11 February 1997. A Geomatrix field engineer observed removal of the UST and collected excavation and soil stockpile samples for chemical analysis on 14 February 1997. UST removal and sampling activities are discussed in the following sections.

3.1 UST STABILIZATION AND REMOVAL

Soil overlying the UST was removed to access and prepare the UST for removal. The top of the UST was encountered at a depth of approximately 2 feet below ground surface (bgs). Backfill material surrounding the UST consisted primarily of sand. Approximately 10 cubic yards (cy) of unstained soil were removed to access the UST and were stockpiled on plastic sheeting at a location on 53rd Street. Stained soil was not observed in the excavation.

Zaccor inserted approximately 50 pounds of dry ice into the UST to facilitate evacuation of oxygen and potentially explosive organic vapors. Immediately prior to removal of the UST, Clearwater took explosive vapor meter readings through the fill-pipe opening in the top of the UST. The readings indicated that a non-explosive atmosphere (less than 10% oxygen and less than 10% of the lower explosive limit) existed inside the tank. Mr. Warren approved the readings and removal of the UST.

A backhoe was used to lift the UST out of the excavation. The tank was visually examined by the Geomatrix field engineer and Mr. Warren. The UST measured 4 feet in diameter by 7 feet in length, and was constructed of single-walled steel wrapped with a coating of tar. Four holes,

approximately 1/8- to 1/4-inch-diameter, were observed in the side or bottom of the west end of the tank. Four approximately 1/8-inch-diameter holes were observed near the top of the east end of the tank. Two 3/4- to 1-inch-diameter holes were observed near the fill port on the top of the tank. Three holes, approximately 1/4- to 1/2-inch-diameter, were observed on the tank bottom. The tank surface appeared corroded. The final UST excavation was rectangular in shape, with a length and width of approximately 12 and 7 feet, respectively, and a maximum depth of approximately 8.5 feet bgs. After the tank was removed, approximately 4 cy of additional soil was excavated to prepare the bottom for sampling. The four cy were stockpiled separately on plastic sheeting at the same location as the 10 cy stockpile. Upon collection of the samples (see Section 3.2 below), groundwater entered the excavation at a depth of approximately 8.5 feet bgs. Less than 5 gallons of groundwater entered the excavation and no product or sheen was observed on the water.

3.2 SOIL SAMPLING

The Geomatrix field engineer collected three soil samples from the bottom of the excavation as directed by Ms. Hugo. Samples EX-1 and EX-2 were collected at approximately 8 and 8.5 feet bgs beneath the west end of the former UST, respectively. Sample EX-3 was collected at approximately 8 feet bgs beneath the east end of the former UST (Figure 2). At the request of Ms. Hugo, EX-2 and EX-3 were analyzed. In addition, Geomatrix collected one two-point composite soil sample (SP-1a,b) from the approximately 10 cy of material removed above the former UST and one two-point composite soil sample (SP-2a,b) from the approximately 4 cy of material removed from the bottom of the excavation.

All soil samples were collected in clean 4-inch-long, 2-inch-diameter brass tubes. The ends of the tubes were sealed with Teflon sheets, plastic end-caps, and secured with duct tape. The soil samples were labeled and stored in an ice-cooled chest until delivery under Geomatrix chain-of-custody procedures to Chromalab Environmental Services of Pleasanton, California, a California-certified analytical laboratory.

3.3 RINSEATE AND UST DISPOSAL

Clearwater, a state-licensed liquid waste transporter, transported the water to Alviso Independent Oil, a state-licensed transportation, storage, and disposal facility in Alviso, California, for disposal. A copy of the Uniform Hazardous Waste Manifest is included in Appendix B.

The UST was transported by Erickson, Inc., to their facility in Richmond, California. Erickson cleaned the tank and recycled it as scrap metal. Copies of the Uniform Hazardous Waste Manifest and certificate of destruction are included in Appendix B.

4.0 ANALYTICAL METHODS AND RESULTS

Soil samples EX-2, EX-3, SP-1a,b, and SP-2a,b were analyzed according to LUFT Manual and Tri-Regional guidelines for total petroleum (extractable) hydrocarbons quantified as diesel (TPHd) and as kerosene (TPHk) using modified U.S. Environmental Protection Agency (EPA) Method 8015 and benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA Method 8020. Soil sample EX-1 was not analyzed per Ms. Susan Hugo. Analytical results are summarized in Table 1. A copy of the laboratory analytical report and chain-of-custody records are included in Appendix C.

TPHk was reported in excavation samples EX-2 and EX-3 at concentrations of 4400 and 310 milligrams per kilogram (mg/kg), respectively. TPHd, benzene, and toluene were not detected in either excavation sample above the laboratory reporting limits. Ethylbenzene and xylenes were detected in EX-2 and EX-3 at concentrations up to 5.6 mg/kg.

TPHk and BTEX were not detected in sample SP-1a,b at concentrations above laboratory reporting limits. TPHd was reported at a concentration of 6.9 mg/kg in sample SP-1a,b; however, the laboratory noted that this detection does not match their diesel standard. TPHk was reported at a concentration of 690 mg/kg in the composite stockpile sample SP-2a,b. TPHd and benzene were not detected in sample SP-2a,b at concentrations above laboratory

reporting limits. Toluene, ethylbenzene, and xylenes were detected in stockpile sample SP-2a,b at concentrations up to 0.094 mg/kg.

5.0 EXCAVATION BACKFILLING

Zaccor backfilled the UST excavation on 14 February 1997 with approximately 20 cy of sand imported from Tidewater Sand and Gravel of Oakland, California. The backfill was compacted with a vibratory plate attached to the backhoe. After the excavation was backfilled, a concrete sidewalk was poured over the UST area.

6.0 SUMMARY

A summary of the UST removal activities is presented below.

- One 700-gallon kerosene UST was removed at the Thoroughbred Building in Emeryville, California, on 14 February 1997. The tank was removed in accordance with Alameda County guidelines and under the supervision of Mr. George Warren of the Emeryville Fire Department. After the tank was removed, it was visually examined and numerous small holes were observed. The tank was transported to Erickson, Inc., for destruction and recycling as scrap metal.
- Approximately 10 cy of unstained soil was removed from around the UST to access the UST for removal. Four additional cy were removed from the excavation bottom prior to sample collection. No staining was observed on the excavation sidewalls or bottom.
- Less than 5 gallons of groundwater was encountered in the UST excavation at a depth of 8.5 feet bgs and no sheen or product was observed on the groundwater.
- Three soil samples were collected from the bottom of the UST excavation, one of which was not analyzed, as directed by Ms. Susan Hugo of the ACHCSA. TPHk was detected at concentrations of 4400 and 310 mg/kg in the excavation samples analyzed. Ethylbenzene and xylenes were detected at concentrations up to 5.6 mg/kg. TPHd, benzene, and toluene were not detected in either of the soil samples.
- A composite sample was collected from the 10 cy of soil removed from around the UST. TPHd was reported at a concentration of 6.9 mg/kg; however, the laboratory indicated that this did not match their diesel standard. TPHk and BTEX were not detected in the composite sample.

- A composite sample collected from the 4 cy of soil removed from beneath the UST contained TPHk at 690 mg/kg and toluene, ethylbenzene, and xylenes up to 0.094 mg/kg. TPHd and benzene were not detected in this sample at concentrations above laboratory reporting limits.
- Approximately 20 cy of imported sand were used to backfill the excavation.

TABLE 1**SOIL SAMPLE ANALYTICAL RESULTS¹**

Thoroughbred Building
1397 55th Street
Emeryville, California

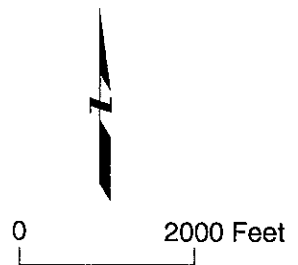
Sample I.D.	Sample Depth (feet bgs²)	TPH³ as Diesel	TPH³ as Kerosene	Benzene	Toluene	Ethylbenzene	Xylenes
EX-2	8.5	<40	4400	<0.73	<0.73	3.7	1.7
EX-3	8.0	<40	310	<1.5	<1.5	5.6	3.1
SP-1a,b ⁴	---	8.9 ⁵	<2.0	<0.005	<0.005	<0.005	<0.005
SP-2a,b ⁴	---	<2.0	690	<0.005	0.0075	0.020	0.094

Notes:

1. Soil samples collected by Geomatrix Consultants, Inc., on 14 February 1997 during underground storage tank removal activities. Sampling locations are shown on Figure 2.
2. bgs = below ground surface.
3. TPH = total petroleum hydrocarbons.
4. Two-point composite soil stockpile sample.
5. Laboratory note states, "Hydrocarbon reported is in the early diesel range and does not match our diesel standard."



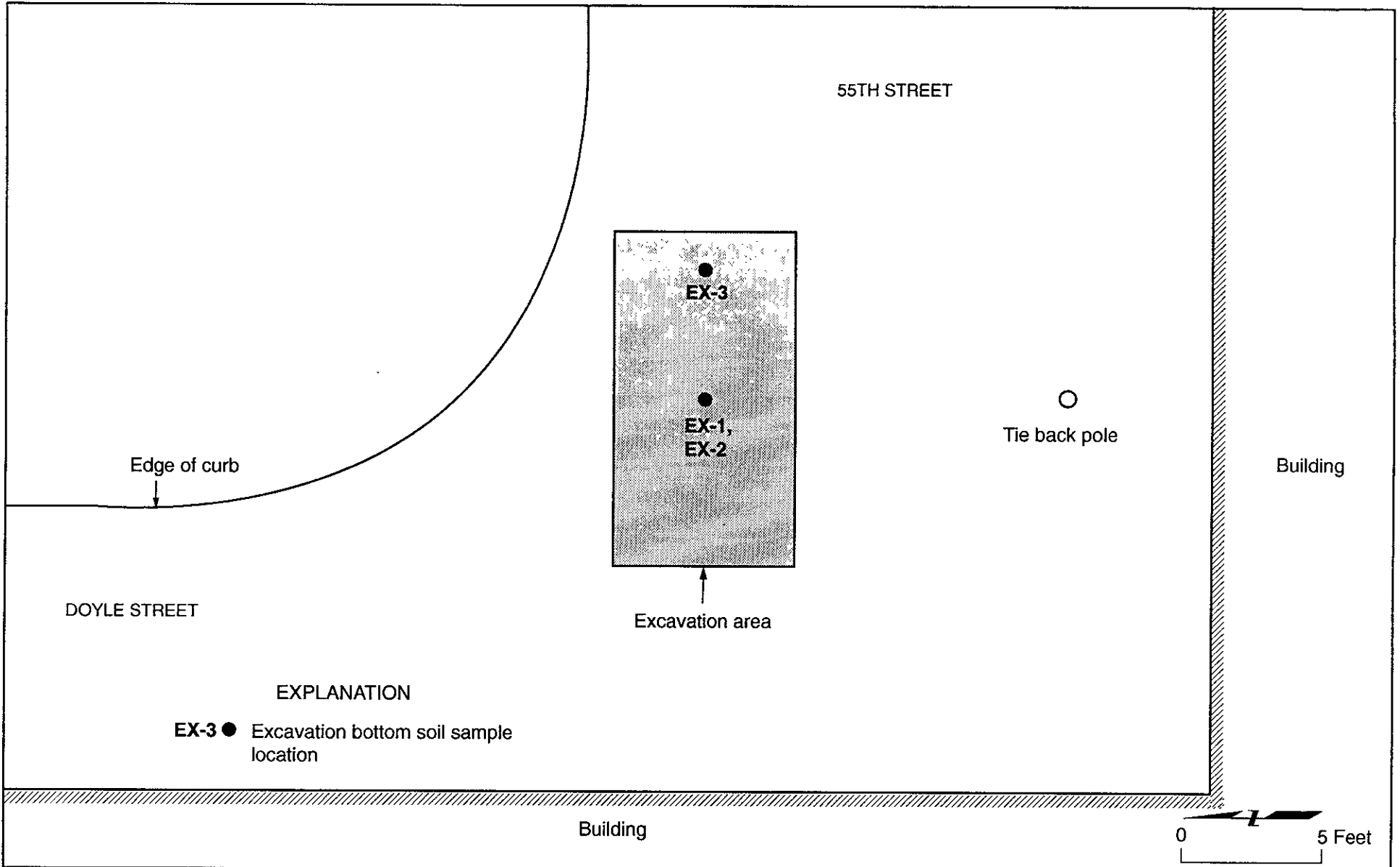
Base map from *The Thomas Guide, 1995 Alameda/Contra Costa Counties*. Reproduced with permission granted by THOMAS BROS. MAPS®. This map is copyrighted by THOMAS BROS. MAPS®. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission. All rights reserved.



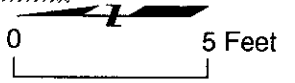
SITE LOCATION MAP
 Thoroughbred Building
 1397 55th Street
 Emeryville, California

Figure
 1

Project No.
 3356B



EXPLANATION
 EX-3 ● Excavation bottom soil sample location



SITE PLAN
 Thoroughbred Building
 1397 55th Street
 Emeriville, California

Figure
 2
 Project No.
 3356B

APPENDIX A

**DEPARTMENT OF ENVIRONMENTAL HEALTH
 ENVIRONMENTAL PROTECTION DIVISION
 1131 HARBOR BAY PARKWAY, RM 250
 ALAMEDA, CA 94502-6577
 PHONE # 510/567-6700
 FAX # 510/337-9335**

SUSAN L. HUGO
 Project Specialist

ACCEPTED

Underground Storage Tank Closure Permit Application
 Alameda County Division of Hazardous Materials
 1131 Harbor Bay Parkway, Suite 250
 Alameda, CA 94502-6577

These closure/removal plans have been received and found to be acceptable and essentially meet the requirements of State and Local Health Laws. Changes to your closure plans indicated by this Department are to assure compliance with State and local laws. The project proposed herein is now released for issuance of any required building permits for construction/destruction.
 One copy of the accepted plans must be on the job and available to all contractors and craftsmen involved with the removal.
 Any changes or alterations of these plans and specifications must be submitted to this Department and to the Fire and Building Inspections Department to determine if such changes meet the requirements of State and local laws.
 Notify this Department at least 72 hours prior to the following required inspections:

- Removal of Tank(s) and Piping
- Sampling
- Final Inspection

Issuance of a) permit to operate, b) permanent site closure, is dependent on compliance with accepted plans and all applicable laws and regulations.

THERE IS A FINANCIAL PENALTY FOR NOT OBTAINING THESE INSPECTIONS.

Contact Specialist:

Susan J. Hugo
1/30/97

UNDERGROUND TANK CLOSURE PLAN

* * * Complete according to attached instructions * * *

1. Name of Business Thoroughbred Building
 Business Owner or Contact Person (PRINT) Mr. Andrew Getz

2. Site Address 1397 55th Street
 City Emeryville Zip 94608 Phone 510 652-4191

3. Mailing Address Same
 City _____ Zip _____ Phone _____

4. Property Owner H.F.H. Ltd.
 Business Name (if applicable) Same
 Address 1397 55th Street
 City, State Emeryville, Ca. Zip 94608

5. Generator name under which tank will be manifested
H.F.H. Ltd.

EPA ID# under which tank will be manifested C A C 00123744

6. Contractor Zaccor Corporation, Inc.
Address 791 Hamilton Avenue
City Menlo Park, Ca. 94025 Phone 415 363-2181
License Type* A-C21-HAZ-ASB ID# 478799

*Effective January 1, 1992, Business and Professional Code Section 7058.7 requires prime contractors to also hold Hazardous Waste Certification issued by the State Contractors License Board.

7. Consultant (if applicable) Geomatrix Consultants
Address 100 Pine Street, 10th Floor
City, State San Francisco, Ca. Phone 415 434-9400

8. Main Contact Person for Investigation (if applicable)
Name Mr. David Boyd Title V.P. / Project Manager
Company Clearwater Environmental Management, Inc.
Phone 1-800-499-3676

9. Number of underground tanks being closed with this plan one
Length of piping being removed under this plan less than twenty feet
Total number of underground tanks at this facility (**confirmed with owner or operator) one

10. State Registered Hazardous Waste Transporters/Facilities (see instructions).

**** Underground storage tanks must be handled as hazardous waste ****

a) Product/Residual Sludge/Rinsate Transporter

Name Clearwater Environmental Mgmt. EPA I.D. No. CAR000007013
Hauler License No. 3515 License Exp. Date Nov. 1997
Address P.O. Box 7420
City Fremont State Ca. Zip 94537-7420

b) Product/Residual Sludge/Rinsate Disposal Site

Name Alivso Indenpent Oil EPA ID# CAL 000048571
Address 5002 Archer Street
City Alivso State Ca Zip 95002

14. Describe methods to be used for rendering tank(s) inert:

Drv Ice 100lbs.

Before tanks are pumped out and inerted, all associated piping must be flushed out into the tanks. All accessible associated piping must then be removed. Inaccessible piping must be permanently plugged.

The Bay Area Air Quality Management District, 415/771-6000, along with local Fire and Building Departments, must also be contacted for tank removal permits. Fire departments typically require the use of a combustible gas indicator to verify tank inertness. It is the contractor's responsibility to bring a working combustible gas indicator on-site to verify that the tank is inert.

15. Tank History and Sampling Information *** (see instructions) ***

Tank		Material to be sampled (tank contents, soil, groundwater)	Location and Depth of Samples
Capacity	Use History include date last used (estimated)		
2000 gal. est.	Late 1950's	Soil and groudwater if present.	2 samples, at each end of tank. No deeper than two feet into native soil below tank.

One soil sample must be collected for every 20 linear feet of piping that is removed. A ground water sample must be collected if any ground water is present in the excavation.

c) Tank and Piping Transporter

Name Erickson Inc. EPA I.D. No. CAD 009466392
Hauler License No. 0019 License Exp. Date May 1997
Address 255 Parr Blvd.
City Richmond State Ca. Zip 94801

d) Tank and Piping Disposal Site

Name Erickson, Inc. EPA I.D. No. CAD 009466392
Address 255 Parr Blvd.
City Richmond State Ca. Zip 94801

11. Sample Collector

Name Ms. Jennifer Patterson
Company Geomatrix Consultants
Address 100 Pine Street, 10th floor
City San Francisco State Ca. Zip 94111 Phone 415 434-9400

12. Laboratory

Name American Environmental Network
Address 3440 Vincent Road
City Pleasant Hill State Ca. Zip 94523
State Certification No. _____

13. Have tanks or pipes leaked in the past? Yes[] No[] Unknown[X]

If yes, describe. _____

<p>Stockpiled Soil Volume (estimated)</p> <p>Estimated 10 yards. Soil will be characterized by California State Certified Laboratory for disposal.</p>	<p>Sampling Plan:</p> <p>In accordance to regional board recommendations.</p>
---	--

Stockpiled soil must be placed on bermed plastic and must be completely covered by plastic sheeting.

Will the excavated soil be returned to the excavation immediately after tank removal? [] yes [X] no [] unknown

If yes, explain reasoning _____

If unknown at this point in time, please be aware that excavated soil may not be returned to the excavation without prior approval from Alameda County. This means that the contractor, consultant, or responsible party must communicate with the Specialist IN ADVANCE of backfilling operations.

16. Chemical methods and associated detection limits to be used for analyzing samples:
 The Tri-Regional Board recommended minimum verification analyses and practical quantitation reporting limits should be followed.
 See attached Table 2.

17. Submit Site Health and Safety Plan (See Instructions)

Contaminant Sought	EPA or Other Sample Preparation Method Number	EPA or Other Analysis Method Number	Method Detection Limit
Diesel, Kerosene	TPH as Diesel EPA modified 8015 GC/FID EPA 8020	Method 3550 EPA Method 8020 or 8240	1.0 ppm in soil 5.0 ppm in soil

18. Submit Worker's Compensation Certificate copy

Name of Insurer Golden Eagle Insurance Company

19. Submit Plot Plan ***** (See Instructions) *****

20. Enclose Deposit (See Instructions)

21. Report any leaks or contamination to this office within 5 days of discovery.

The written report shall be made on an Underground Storage Tank Unauthorized Leak/Contamination Site Report (ULR) form.

22. Submit a closure report to this office within 60 days of the tank removal. The report must contain all information listed in item 22 of the instructions.

23. Submit State (Underground Storage Tank Permit Application) Forms A and B (one B form for each UST to be removed) (mark box 8 for "tank removed" in the upper right hand corner)

I declare that to the best of my knowledge and belief that the statements and information provided above are correct and true.

I understand that information, in addition to that provided above, may be needed in order to obtain approval from the Environmental Protection Division and that no work is to begin on this project until this plan is approved.

I understand that any changes in design, materials or equipment will void this plan if prior approval is not obtained.

I understand that all work performed during this project will be done in compliance with all applicable OSHA (Occupational Safety and Health Administration) requirements concerning personnel health and safety. I understand that site and worker safety are solely the responsibility of the property owner or his agent and that this responsibility is not shared nor assumed by the County of Alameda.

Once I have received my stamped, accepted closure plan, I will contact the project Hazardous Materials Specialist at least three working days in advance of site work to schedule the required inspections.

CONTRACTOR INFORMATION

Name of Business Zaccor Corporation, Inc.

Name of Individual Mr. Gary Zaccor

Signature _____ Date 1/ /97

PROPERTY OWNER OR MOST RECENT TANK OPERATOR (Circle one)

Name of Business H.F.H. Ltd.

Name of Individual Mr. Andrew Getz

Signature *Andrew Getz* Date 1/14/97

General Instructions

- * Three (3) copies of this plan plus attachments and a deposit must be submitted to this Department.
- * Any cutting into tanks requires local fire department approval.
- * One complete copy of your approved plan must be at the construction site at all times; a copy of your approved plan must also be sent to the landowner.
- * State of California Permit Application Forms A and B are to be submitted to this office. One Form A per site, one Form B for each removed tank.

Line Item Specific Instructions

2. SITE ADDRESS
Address at which closure is taking place.
5. EPA I.D. NO. under which the tanks will be manifested
EPA I.D. numbers may be obtained from the State Department of Toxic Substances Control, 916/324-1781.
6. CONTRACTOR
Prime contractor for the project.
10. STATE REGISTERED HAZARDOUS WASTE TRANSPORTERS/FACILITIES
 - a) All residual liquids and sludges are to be removed from tanks before tanks are inerted.
 - c) Tanks must be hauled as hazardous waste.
 - d) This is the place where tanks will be taken for cleaning.
15. TANK HISTORY AND SAMPLING INFORMATION

Use History - This information is essential and must be accurate. Include tank installation date, products stored in the tank, and the date when the tank was last used.

Material to be sampled - e.g. water, oil, sludge, soil, etc.

Location and depth of samples - e.g. beneath the tank a maximum of two feet below the native soil/backfill interface, side wall at the high water mark, etc.

16. CHEMICAL METHODS AND ASSOCIATED DETECTION LIMITS

See attached Table 2.

17. SITE HEALTH AND SAFETY PLAN

A site specific Health and Safety plan must be submitted. We advocate the site health and safety plan include the following items, at a minimum:

- a) The name and responsibilities of the site health and safety officer;
- b) An outline of briefings to be held before work each day to appraise employees of site health and safety hazards;
- c) Identification of health and safety hazards of each work task. Include potential fire, explosion, physical, and chemical hazards;
- d) For each hazard, identify the action levels (contaminant concentrations in air) or physical conditions which will trigger changes in work habits to ensure workers are not exposed to unsafe chemical levels or physical conditions;
- e) Description of the work habit changes triggered by the above action levels or physical conditions;
- f) Frequency and types of air and personnel monitoring - along with the environmental sampling techniques and instrumentation - to be used to detect the above action levels. Include instrumentation maintenance and calibration methods and frequencies;
- g) Confined space entry procedures (if applicable);
- h) Decontamination procedures;
- i) Measures to be taken to secure the site, excavation and stockpiled soil during and after work hours (e.g. barricades, caution tape, fencing, trench plates, plastic sheeting, security guards, etc.);
- j) Spill containment/emergency/contingency plan. Be sure to include emergency phone numbers, the location of the phone nearest the site, and directions to the hospital nearest the site;
- k) Documentation that all site workers have received the appropriate OSHA approved trainings and participate in appropriate medical surveillance per 29 CFR 1910.120; and
- l) A page for employees to sign acknowledging that they have read and will comply with the site health and safety plan.

The safety plan must be distributed to all employees and contractors working in hazardous waste operations on site. A complete copy of the site health and safety plan along with any standard operating procedures shall be on site and accessible at all times.

- c) Description of the excavation itself. Include the tank and excavation depth, a log of the stratigraphic units encountered within the excavation, a description of root holes or other potential contaminant pathways, the depth to any observed ground water, descriptions and locations of stained or odor-bearing soil, and descriptions of any observed free product or sheen;
- d) Detailed description of sampling methods; i.e. backhoe bucket, drive sampler, bailer, bottle(s), sleeves
- e) Description of any remedial measures conducted at the time of tank removal;
- f) To-scale figures showing the excavation size and depth, nearby buildings, sample locations and depths, and tank and piping locations. Include a copy of the plot plan prepared for the Tank Closure Plan under item 19;
- g) Chain of custody records;
- h) Copies of signed laboratory reports;
- i) Copies of "TSDF to Generator" Manifests for all hazardous wastes hauled offsite (sludge, rinsate, tanks and piping, contaminated soil, etc.); and
- j) Documentation of the disposal of/and volume and final destination of all non-manifested contaminated soil disposed offsite.

Hazardous Waste Operations and Emergency Response, Tank Rule, March 6, 1989. Safety plans of certain underground tank sites may need to meet the complete requirements of this Rule.

19. PLOT PLAN

The plan should consist of a scaled view of the facility at which the tank(s) are located and should include the following information:

- a) Scale;
- b) North Arrow;
- c) Property Lines;
- d) Location of all Structures;
- e) Location of all relevant existing equipment including tanks and piping to be removed and dispensers;
- f) Streets;
- g) Underground conduits, sewers, water lines, utilities;
- h) Existing wells (drinking, monitoring, etc.);
- i) Depth to ground water; and
- j) All existing tank(s) and piping in addition to the tank(s) being removed.

20. DEPOSIT

A deposit, payable to "County of Alameda" for the amount indicated on the Alameda County Underground Storage Tank Fee Schedule, must accompany the plans.

21. Blank Unauthorized Leak/Contamination Site Report forms may be obtained in limited quantities from this office or from the San Francisco Bay Regional Water Quality Control Board (510/286-1255). Larger quantities may be obtained directly from the State Water Resources Control Board at (916) 739-2421.

22. TANK CLOSURE REPORT

The tank closure report should contain the following information:

- a) General description of the closure activities;
- b) Description of tank, fittings and piping conditions. Indicate tank size and former contents; note any corrosion, pitting, holes, etc.;

DECLARATION OF SITE ACCOUNT REFUND RECIPIENT

There may be excess funds remaining in the Site Account at the completion of this project. The PAYOR (person or company that issues the check) will use this form to predesignate another party to receive any funds refunded at the completion of this project. In the absence of this form, the PAYOR will receive the refund.

SITE INFORMATION:

Site ID Number
(if known)

Thoroughbred Building

Name of Site

1397 55th Street

Street Address

Emeryville, Ca. 94608

City, State & Zip Code

I designate the following person or business to receive any refund due at the completion of all deposit/refund projects:

Clearwater Environmental Management , Inc.

Name

P.O. Box 7420

Street Address

Fremont, ca. 94537-7420

City, State & Zip Code

Signature of Payor

Date

David A. Boyd

Name of Payor
(PLEASE PRINT CLEARLY)

Clearwater EMI

Company Name of Payor

RETURN FORM TO:

*County of Alameda, Environmental Protection
1131 Harbor Bay Parkway, Rm 250
Alameda CA 94502-6577
Phone#(510) 567-6700*

Based upon a Regional Board survey of Department of Health Services Certified Laboratories, the Practical Quantitation Reporting Limits are attainable by a majority of laboratories with the exception of diesel fuel in soils. The Diesel Practical Quantitation Reporting Limits, shown by the survey, are:

ROUTINE	MODIFIED PROTOCOL
≤ 10 ppm (42%)	≤ 10 ppm (10%)
≤ 5 ppm (19%)	≤ 5 ppm (21%)
≤ 1 ppm (35%)	≤ 1 ppm (60%)

When the Practical Quantitation Reporting Limits are not achievable, an explanation of the problem is to be submitted on the laboratory data sheets.

10. LABORATORY DATA SHEETS are to be signed and submitted and include the laboratory's assessment of the condition of the samples on receipt including temperature, suitable container type, air bubbles present/absent in VOA bottles, proper preservation, etc. The sheets are to include the dates sampled, submitted, prepared for analysis, and analyzed.
11. IF PEAKS ARE FOUND, when running samples, that do not conform to the standard, laboratories are to report the peaks, including any unknown complex mixtures that elute at times varying from the standards. Recognizing that these mixtures may be contrary to the standard, they may not be readily identified; however, they are to be reported. At the discretion of the LIA or Regional Board the following information is to be contained in the laboratory report:

The relative retention time for the unknown peak(s) relative to the reference peak in the standard, copies of the chromatogram(s), the type of column used, initial temperature, temperature program is C/minute, and the final temperature.

12. REPORTING LIMITS FOR TPH are: gasoline standard ≤ 20 carbon atoms, diesel and jet fuel (kerosene) standard ≤ 50 carbon atoms. It is not necessary to continue the chromatography beyond the limit, standard, or EPA/DHS method protocol (whichever time is greater).

EPILOGUE

ADDITIVES: Major oil companies are being encouraged or required by the federal government to reformulate gasoline as cleaner burning fuels to reduce air emissions. MTBE (Methyl-tertiary butyl ether), ETHANOL (ethyl alcohol), and other chemicals may be added to reformulate gasolines to increase the oxygen content in the fuel and thereby decrease undesirable emissions (about four percent with MTBE). MTBE and ethanol are, for practical purposes, soluble in water. The removal from the water column will be difficult. Other compounds are being added by the oil companies for various purposes. The refinements for detection and analysis for all of these additives are still being worked out. If you have any questions about the methodology, please call your Regional Board representative.

TABLE #2
RECOMMENDED MINIMUM VERIFICATION ANALYSES FOR
UNDERGROUND TANK LEAKS

<u>HYDROCARBON LEAK</u>	<u>SOIL ANALYSIS</u>		<u>WATER ANALYSIS</u>	
Unknown Fuel	TPH G TPH D BTX&E TPH AND BTX&E 8230	GCFID(5030) GCFID(3550) 8020 or 8240 8230	TPH G TPH D BTX&E	GCFID(5030) GCFID(3510) 602, 624 or 8260
Leaded Gas	TPH G BTX&E TPH AND BTX&E 8260 TOTAL LEAD AA -----Optional----- TEL EDB	GCFID(5030) 8020 OR 8240 8260 AA DHS-LUFT DHS-AB1803	TPH G BTX&E TOTAL LEAD AA TEL EDB	GCFID(5030) 602 or 624 AA DHS-LUFT DHS-AB1803
Unleaded Gas	TPH G BTX&E TPH AND BTX&E 8260	GCFID(5030) 8020 or 8240 8260	TPH G BTX&E	GCFID(5030) 602, 624 or 8260
Diesel, Jet Fuel and Kerosene	TPH D BTX&E TPH AND BTX&E 8260	GCFID(3550) 8020 or 8240 8260	TPH D BTX&E	GCFID(3510) 602, 624 or 8260
Fuel/Heating Oil	TPH D BTX&E TPH AND BTX&E 8260	GCFID(3550) 8020 or 8240 8260	TPH D BTX&E	GCFID(3510) 602, 624 or 8260
Chlorinated Solvents	CL HC BTX&E CL HC AND BTX&E 8260	8010 or 8240 8020 or 8240 8260	CL HC BTX&E CL HC AND BTX&E 8260	601 or 624 602 or 624 8260
Non-chlorinated Solvents	TPH D BTX&E TPH AND BTX&E 8260	GCFID(3550) 8020 or 8240 8260	TPH D BTX&E TPH and BTX&E 8260	GCFID(3510) 602 or 624 8260
Waste and Used Oil or Unknown (All analyses must be completed and submitted)	TPH G TPH D TPH AND BTX&E 8260 O & G BTX&E CL HC	GCFID(5030) GCFID(3550) 8260 5520 D & F 8020 or 8240 8010 or 8240	TPH G TPH D O & G BTX&E CL HC	GCFID(5030) GCFID(3510) 5520 B & F 602, 624 or 8260 601 or 624
	ICAP or AA TO DETECT METALS: Cd, Cr, Pb, Zn, Ni METHOD 8270 FOR SOIL OR WATER TO DETECT:			
	PCB*		PCB	
	PCP*		PCP	
	PNA		PNA	
	CREOSOTE		CREOSOTE	

* If found, analyze for dibenzofurans (PCBs) or dioxins (PCP)

Reference: Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites, 10 August 1990

EXPLANATION FOR TABLE #2: MINIMUM VERIFICATION ANALYSIS

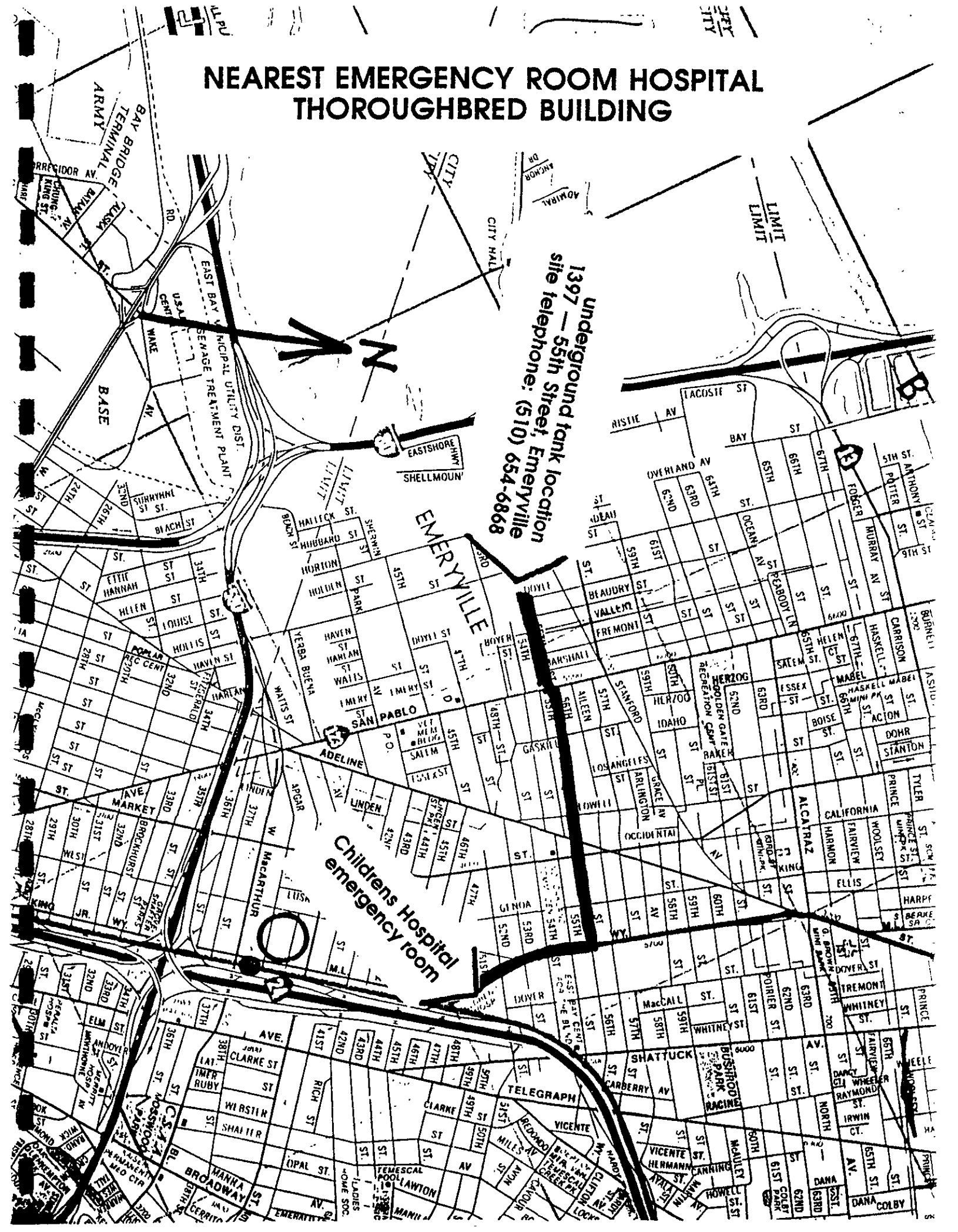
1. OTHER METHODOLOGIES are continually being developed and as methods are accepted by EPA or DHS, they also can be used.
2. For DRINKING WATER SOURCES, EPA recommends that the 500 series for volatile organics be used in preference to the 600 series because the detection limits are lower and the QA/QC is better.
3. APPROPRIATE STANDARDS for the materials stored in the tank are to be used for all analyses on Table #2. For instance, seasonally, there may be five different jet fuel mixtures to be considered.
4. To AVOID FALSE POSITIVE detection of benzene, benzene-free solvents are to be used.
5. TOTAL PETROLEUM HYDROCARBONS (TPH) as gasoline (G) and diesel (D) ranges (volatile and extractable, respectively) are to be analyzed and characterized by GCFID with a fused capillary column and prepared by EPA method 5030 (purge and trap) for volatile hydrocarbons, or extracted by sonication using 3550 methodology for extractable hydrocarbons. Fused capillary columns are preferred to packed columns; a packed column may be used as a "first cut" with "dirty" samples or once the hydrocarbons have been characterized and proper QA/QC is followed.
6. TETRAETHYL LEAD (TEL) analysis may be required if total lead is detected unless the determination is made that the total lead concentration is geogenic (naturally occurring).
7. CHLORINATED HYDROCARBONS (CL HC) AND BENZENE, TOLUENE, XYLENE AND ETHYLBENZENE (BTX&E) are analyzed in soil by EPA methods 8010 and 8020 respectively, (or 8240) and in water, 601 and 602, respectively (or 624).
8. OIL AND GREASE (O & G) may be used when heavy, straight chain hydrocarbons may be present. Infrared analysis by method 418.1 may also be acceptable for O & G if proper standards are used. Standard Methods" 17th Edition, 1989, has changed the 503 series to 5520.
9. PRACTICAL QUANTITATION REPORTING LIMITS are influenced by matrix problems and laboratory QA/QC procedures. Following are the Practical Quantitation Reporting Limits:

	<u>SOIL PPM</u>	<u>WATER PPB</u>
TPH G	1.0	50.0
TPH D	1.0	50.0
BTX&E	0.005	0.5
O & G	50.0	5,000.0

NEAREST EMERGENCY ROOM HOSPITAL THOROUGHBRED BUILDING

Underground tank location
1397 — 55th Street, Emeryville
site telephone: (510) 654-6868

Childrens Hospital
emergency room



underground tank location
1397 — 55th Street, Emeryville
site telephone: (510) 654-6868

Doyle Street



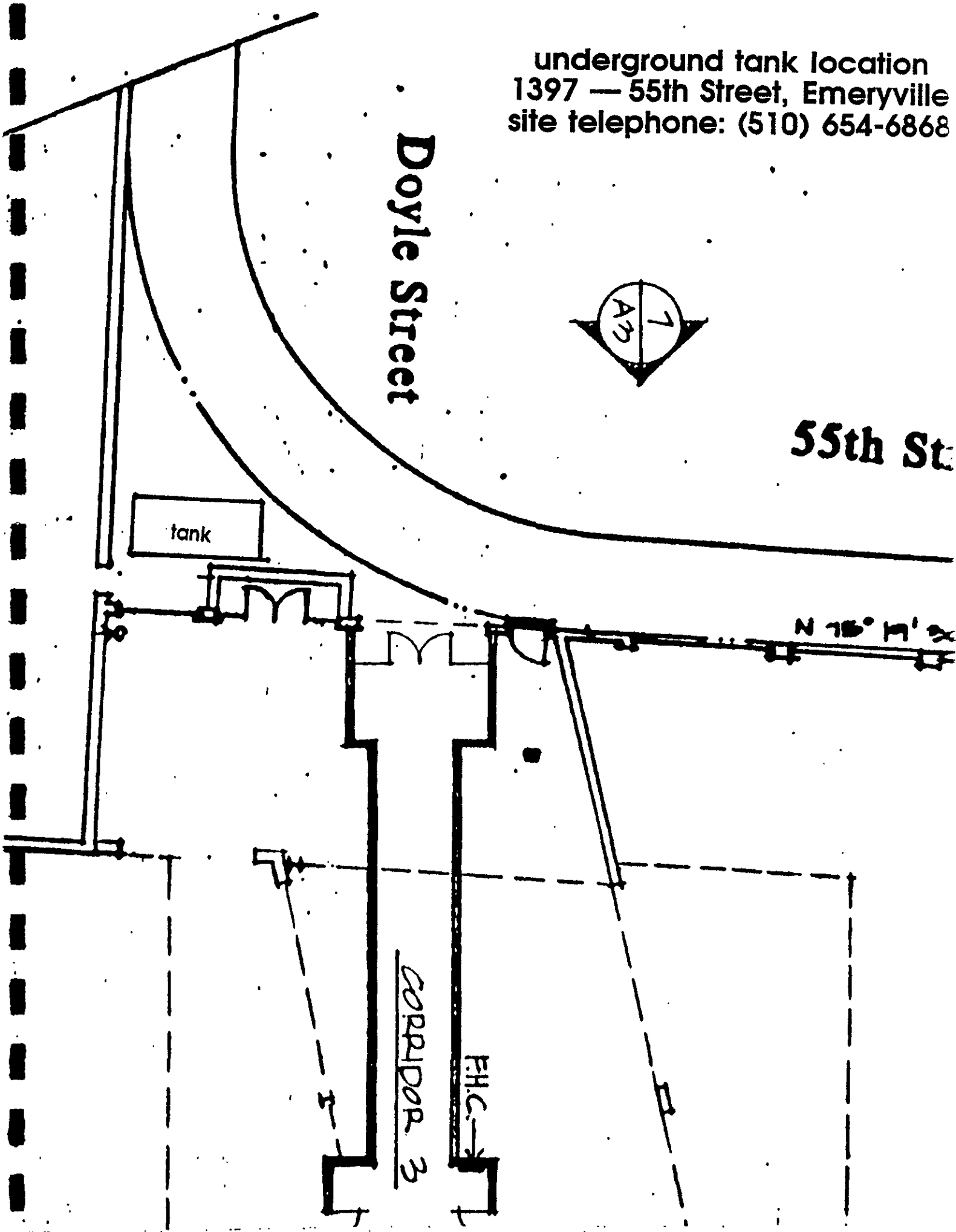
55th St

tank

N 75° 19' E

COPPER 3

F.H.C.



LIC. #478799



ZACCOR

COMPANIES, INC.

HEALTH AND SAFETY PLAN

HEALTH AND SAFETY PLAN REVIEW AND APPROVAL

CLIENT: H.F.H. Ltd. SITE NAME: 55TH Street

PROJECT NAME: Throughbred Building

START DATE: February, 1997

<u>Mr. David Boyd</u>		<u>1/24/97</u>
Plan Completed By	Signature	Date

<u>Mr. David Boyd</u>		<u>1/24/97</u>
Project Manager	Signature	Date

<u>Mr. Gary Zaccor</u>		
Health & Safety Coordinator	Signature	Date

<u>Mr. David Boyd</u>		<u>1/24/97</u>
Plan Completed By	Signature	Date

<u>Mr. Gary Zaccor</u>		
Site Health & Safety Officer	Signature	Date

<u>Mr. David Boyd</u>		<u>1/24/97</u>
Alternate Site Health & Safety Officer	Signature	Date

<u>None Required</u>		
Industrial Hygienist	Signature	Date

Excavation Competent Person	Signature	Date

Subcontractor Field Supervisor	Signature	Date

The Health and Safety Plan has been written for the Zaccor Co. and its employees. It may also be used as a guidance document by properly trained and experienced subcontractors. However Zaccor Co. does not guarantee the health or safety of any person entering this site.

Due to the potential hazardous nature of this site and the activity occurring thereon, and is not possible to discover, evaluate, and provide protection for all possible hazards which may be encountered. Strict adherence to the health and safety guidelines set forth herein will reduce, but not eliminate, the potential for injury at this site. The health and safety guidelines in this Plan were prepared specifically for this site and should not be used on any other site without prior research by trained a health and safety specialist.

Zaccor Co. claims no responsibility for its use by others. The Plan is written for the specific site conditions, purposes, dates, and personnel specified and must be amended if these conditions change.

SITE HEALTH AND SAFETY PLAN

1.0 INTRODUCTION

The Site Health and Safety Plan (HSP) has been prepared on behalf of Thoroughbred Building by Zaccor Co.. This HSP establishes procedures to address health and safety aspects of fieldwork activities to be conducted by Zaccor Co. employees at 1397 55th Ave. Emeryville, Ca.

This Plan was prepared in accordance with federal (29 CFR 1910.120) and state (Title 8 CCR Section 5192) regulations and has been reviewed by the project manager and project health and safety officer. Prior to entering the site Zaccor personnel shall read this plan and be familiar with health and safety procedures required when working onsite. A copy of the HSP shall be available onsite for inspection and review.

The observance of procedures in this plan are mandatory for all Zaccor employees at the site. All subcontractors, regulatory agency personnel, and other non Zaccor personnel shall be made aware of the requirements of this plan; however, subcontractors and others will be responsible for the safety of their own employees and for following all applicable federal, state, and local regulations.

2.0 SITE BACKGROUND

1000 gallon underground storage tank. The tank is located
10' from street curb under sidewalk. Storage tank was
used for diesel fuel as heating oil. Storage tank has not
used since the 1950's.

3.0 FIELD ACTIVITIES

The field activities to be conducted at the site may include any of the following work tasks:

Remove sidewalk and 1000 gallon underground heating oil storage tank. Backfill excavation and compact.

4.0 KEY PERSONNEL AND RESPONSIBILITIES

The following sections describe the health and safety responsibilities assigned to the project.

Project Manager: The Project Manager (PM) shall:

1. direct all Zaccor personnel involved in contracted activities at the site and vicinity.
2. make the Project Health and Safety Office aware of all pertinent project developments and plans.
3. make the resources available for a safe working environment and
4. maintain communications with client, as necessary.

Project Health and Safety Officer: The Project health and Safety Officer (PHSO) shall:

1. direct all health and safety aspects of contractual activities conducted by Zaccor personnel at the site vicinity;
2. insure that all Zaccor personnel have received required training, are aware of the potential hazards associated with site operations, have been instructed in the work practices for health and safety, and are familiar with the site health and safety plan procedures for all scheduled activities and for dealing with emergencies
3. direct required exposure monitoring to assess site health and safety concerns.
4. prepare any accident/incident reports
5. modify the site health and safety plan as required based on accidents/incidents and findings regarding personnel exposures and work practices; and
6. report all accidents/incidents and findings regarding personnel exposure and work practices to the PM.

Site Safety Officer: The Site Safety Officer (SO) shall:

1. ensure that appropriate personal protective equipment is available for Zaccor personnel and enforce proper utilization of personal protective equipment by on-site Zaccor personnel
2. with guidance from the PHSO, observe subcontractor's personnel with respect to health and safety. If the SSO believes that a subcontractors personnel are or may be exposed to an immediate health hazard, the SSO shall suspend the subcontractors site work. If the subcontractors personnel do not have the required protective equipment, the SSO shall consult with the PM or PHSO before processing with the work;
3. implement the project health and safety plan and report any observed deviations from site conditions anticipated in the plan
4. conduct site safety briefings as needed
5. calibrate monitoring equipment daily and properly record and file results;
6. under direction of the PHSO, perform required exposure monitoring;
7. maintain monitoring equipment or arrange maintenance as necessary;
8. assume other duties as directed by the PM or PHSO; and
9. report observed accidents/incidents or inadequate work practices to the PHSO and the PM.

Project Personnel: Project personnel involved in on-site investigations and operations shall:

1. take reasonable precautions to prevent injury to themselves and to their fellow employees and perform only those tasks that they can do safely.
2. immediately report accidents and/or unsafe conditions to the SSO or PHSO;
3. follow the procedures set forth in the HSP and report to the SSO or PHSO any observed deviations from the procedures described in the plan on the part of Zaccor or subcontractor personnel; and
4. inform the PM and PHSO of any physical conditions that might affect their ability to perform

Minimum Training and Medical Surveillance Requirements for Site Personnel

- XX 40 hr. Health and Safety Training for Hazardous Waste Workers
- XX 8 hr. Annual Refresher Training
- _____ 8 hr Supervisor Training for Site Health and Safety Officer
- _____ First Aid and CPR Training for Site Health and Safety Officer
- _____ Respirator Fit testing
- _____ Medical Surveillance
- _____ Confined Space Entry Training (For personnel entering excavation)
- XX Excavation Competent Person Training (One competent person onsite during all excavation work)

5.0 CHEMICAL HAZARDS AND RISK

Inert underground storage tank and practice guideline set

in the enclosed health and safety plan.

6.0 CHEMICAL EXPOSURE MONITORING PLAN

6.1 AIR MONITORING

Air monitoring will not be performed by Zaccor Co. unless deemed necessary

6.2 DUST MONITORING

Water will be used to minimize dust generated during work activities. Dust suppression measures will be implemented before dust becomes visible in the work area.

7.0 POTENTIAL PHYSICAL HAZARDS AND RISK

In addition to potential chemical hazards, potential physical hazards are present at the site. A description of the potential physical hazards, the tasks (identified in Section 3.0) to which each hazard applies, and precautions to be taken to minimize the hazards are presented in the following sections.

7.1 SAFETY HAZARDS (ALL TASKS)

Various safety hazards and the precautions to be taken to minimize the hazards are summarized below:

- a) falling/flying objects: hard hats and safety glasses will be worn
- b) uneven pavement and slippery surfaces; sharp objects such as nails, metal shards, and broken glass: steel-toed boots will be worn and personnel will watch where they are walking.
- c) vehicle traffic: work area may be cordoned off and personnel will look both ways before crossing streets and heavy equipment corridors.
- d) hot equipment: personnel will wear heavy gloves if handling hot equipment (i.e., steam cleaners, motors).
- e) rotating equipment (excavators, cranes, etc.) personnel will remain visible to equipment operators at all times.

7.2 ELECTRICAL HAZARDOUS AND UNDERGROUND UTILITIES (TASK 1 & 2)

Before beginning any work, the SSO shall locate above-ground and underground utilities (electricity, gas, water, telephone, sewer, storm drain) and indicate overhead power lines to all site personnel and contractors. An underground utility checks shall be performed by Underground Service Alert and a private locator prior to initiating any subsurface work.

7.3 NOISE

Large heavy equipment often creates excessive noise. Noise at the site is expected to be quite variable depending upon location and nearby construction activities. Noise monitoring will not be conducted; however, on-site personnel will wear hearing protection when working near operating or other noisy conditions. Zaccor includes annual audiometric testing as part of our medical monitoring program.

7.4 HEAT STRESS

The signs and symptoms of heat stress include:

- a) Heat rash may result from continuous exposure to heat or humid air.
- b) Heat cramps are caused by heavy sweating with inadequate electrolyte replacement. Signs and symptoms include: muscle spasms and pains in the hands feet and abdomen.
- c) Heat exhaustion occurs from increased stress on various body organs including inadequate blood circulation due to cardio-vascular insufficiency or dehydration. Signs and symptoms include: pale, cool, moist skin; heavy sweating; dizziness; nausea; and fainting.
- d) Heat stroke is the most serious form of heat stress. Temperature regulation fails and the body temperature rises to critical levels. Immediate action must be taken to cool the body before serious injury and death occur. Competent medical help must be obtained. Signs and symptoms are: red, hot, unusually dry skin; lack of or reduced perspiration; nausea; dizziness and confusion; strong rapid pulse and coma.

HEAT STRESS-continued

If protective clothing must be worn, the suggested guidelines for ambient temperature and maximum work period, from the NIOSH/OSHA/HSGG/EPA "Occupational Safety and Health Guidelines Manual for Hazardous Waste Site Activities" are:

Suggested Frequency of Physiological Monitoring for Fit and Acclimated Workers ^a

^b Adjusted Temperature	^c Normal Worker Ensemble	^d Impermeable Ensemble
90° F (32.2 C) or above	After each 45 minutes of work	After each 15 minutes of work
87.5-90° F (30.8 - 32.2 C) or above	After each 60 minutes of work	After each 30 minutes of work
82.5-87.5° F (28.1 - 30.8 C)	After each 90 minutes of work	After each 60 minutes of work
77.5-82.5° F (25.3 - 28.1 C) or above	After each 120 minutes of work	After each 90 minutes of work
72.5-77.5° F (22.5 - 25.3 C) or above	After each 150 minutes of work	After each 120 minutes of work

Notes:

- ^a For work levels of 250 kilocalories/hour
- ^b Calculate the adjusted air temperature (ta/adj) from the measured air temperature (ta) by using this equation: $ta \text{ adj } F = ta \text{ F} + (13 \times \% \text{ sunshine})$. Measure air temperature (ta) with a standard mercury in glass thermometer, with the bulb shielded from radiant heat. Estimate percent sunshine by judging what percent time the sun is not covered by clouds that are thick enough to produce a shadow (100 percent sunshine = no cloud cover and a sharp distinct shadow; 0 percent sunshine = no shadows).
- ^c A normal work ensemble consists of cotton coveralls or other common clothing with long sleeves and pants.
- ^d Impermeable ensemble includes Tyvek and Saranex coveralls with rubber boots.

HEAT STRESS-continued

Pulse rates and oral temperatures may be monitored as early as possible in the rest period.

If the pulse exceeds 100 beats per minute or temperature exceeds 99 degrees Fahrenheit at the beginning of the rest period, the work cycle will be shortened by one-third.

7.6 SUNBURN (ALL TASKS)

Skin exposure to ultraviolet radiation can produce sunburn. Hats or hard-hats, long sleeved shirts, and sunscreen will be used to protect against sunburn.

7.7 OTHER (ALL TASKS)

Trenching, excavating, or other construction activities may be performed at the site. Field activities conducted by Zaccor shall be coordinated with other construction activities so as not to interfere with such activities.

8.0 PERSONAL PROTECTIVE EQUIPMENT

The following personal protective equipment will be used or available as specified below.

- * Flotation devise
- * Chemical-resistant rubber boots, steel-toed
- * Steel-toed boots
- * Hard hats
- * Ear Plugs
- * Gloves (latex inner liner, nitrile outer glove)
- * Disposable suit (Tyvek or Saranex)
- * Half- or full-face respirator
- * Cartridges
- * Safety glasses/goggles

<u>Activity</u>	<u>Equipment/Clothing</u> <i>mandatory</i>	<i>non-mandatory</i>
ALL	Steel-toed boots Hard hat Eye protection Ear protection gloves	Tyvek Radio communication
ALL WORK OVER THE WATER	Flotation device Radio communication	

9.0 SITE CONTROL

The purpose of site control is to minimize the potential exposure to site hazards, to prevent vandalism at the site, and to provide adequate facilities for the workers.

9.1 WORK ZONES

The work zones for operations will be specified at each location and only authorized personnel shall be permitted access to the site work zone. The work zone may be cordoned with barriers to limit unauthorized access. No eating, drinking, or smoking shall be allowed in the work zone.

9.2 SITE SECURITY

Site security shall consist of the use of barriers and caution tape around work areas. When no work activities are being performed (nights and weekends) equipment and materials shall be locked up. Open holes shall be barricaded if the work area is left unattended.

9.3 SANITATION FACILITIES

If existing sanitation facilities are not within walking distance to the work areas, a portable toilet will be provided near the work area. Soap and water will be available for washing face and hands before eating or when leaving the work area.

9.4 COMMUNICATIONS

A field representative should contact the project manager or office at least once a day while in the field. Zaccor personnel will carry a mobile phone while working on site.

10.0 DECONTAMINATION PROCEDURES

Separate equipment and personnel decontamination areas will be designated on site. Equipment and tools used during work activities shall be decontaminated in the designated decontamination area. Personnel decontamination areas will only be established if work is performed in Level C protective equipment. In such cases, personnel leaving the site will be required to decontaminate their boots and remove and wash other contaminated clothing within the personnel decontamination area. This area will serve as rest-location between work cycles and a staging area for first aid equipment (kits, eye washes, etc.).

10.1 EQUIPMENT DECONTAMINATION PROCEDURES

10.2 PERSONNEL DECONTAMINATION

11.0 SAFETY PRACTICES & STANDARD OPERATING PROCEDURES

In working around any hazardous or potentially hazardous substances or situations, site personnel shall plan all activities before starting any task. Site personnel shall identify health and safety hazards involved with the work planned and consult with the PHSO or SSO as to how the task can be performed in the safest manner, if he/she has any uncertainties.

The SSO shall conduct periodic safety briefings so that any precautions that are required will be fully understood by site personnel and contractors, and any questions personnel may have can be addressed. Adherence to the following general safety rules will be required:

1. Wear protective equipment and clothing as provided, when required.
2. Wear protective hard-hat in construction areas.
3. Wear sturdy work boots or shoes at the site. Steel boots are required.
4. Prevent splashing of contaminated materials.
5. Prevent back injury by never lifting or carrying a load that is more than you can comfortably handle. When lifting heavy objects, bend the knees and use the leg muscles.
6. Keep all heat sources away from combustible liquids, gases, or any flammable materials. When working in areas where combustible gases are present, use only intrinsically safe equipment (non-sparking)
7. Be familiar with the physical characteristics of investigations, including:
 - * Wind direction in relation to contaminated areas
 - * Accessibility of other personnel, equipment, and vehicles
 - * Areas of known or suspected contaminants
 - * Site access
 - * Nearest water sources
 - * Location of communication devices
8. Minimize the number of personnel and equipment in the contaminated areas to the extent necessary to perform the task at hand.

SAFETY PRACTICES & STANDARD OPERATING PROCEDURES-continued

9. Dispose of all wastes generated during work activities at the site as directed by the PM.
10. Inspect power cords for damage such as cuts and frays. Suspend cords with nylon rope and plastic ties only.
11. When in doubt of your safety it is better to overprotect.
12. Practice defensive driving.
13. Keep a first aid kit and a type ABC fire extinguisher in a field vehicle when performing field work.

12.0 EMERGENCY RESPONSE

In the event of an accident or emergency conditions, the procedures listed below shall be followed immediately. Emergency conditions are:

- * An accident (physical or chemical) involving personnel or anyone experiencing adverse effects or symptoms of exposure.
- * Discovery of a situation more hazardous than anticipated.
- * Accidental release of hazardous materials or wastes.

The site safety officer shall take charge, and follow the emergency procedures listed

12.1 MEDICAL EMERGENCY

The following steps shall be taken as appropriate in the event of a medical emergency:

1. Remove the injured or exposed person(s) from immediate danger, if possible. Transport the injured person(s) to a hospital if they can be transported safely. The hospital location can be shown on Figure 2.
2. If a serious injury or life threatening-condition exists, CALL AN AMBULANCE (dial 911). Clearly describe the location, injuries and conditions to the ambulance dispatcher. Designate a person to direct emergency equipment to the injured person.
3. Provide emergency First Aid, if possible.
4. Evacuate other on-site personnel to a safe place until the PM or the PHSO determines that it is safe for work to resume.
5. Immediately implement steps to prevent recurrence of the accident, and to conduct a critique of response and follow-up.
6. If there is any question as to the nature of the injury or what should be done, call 911 or appropriate emergency numbers listed below.

Ambulance: 911

Fire Department: 911

Police Department: 911

Poison Control Center: 1-(800)-777-6476 or (213) 484-5151.

National Emergency Response Center: (800) 424-8802 (24 hour)

California State Office of Emergency Services: (800) 852-7550

7. Location of nearest hospital.

The hospital location map is attached as Figure 2.

12.2 ACCIDENTAL RELEASE OF HAZARDOUS MATERIALS OR WASTES

The following steps shall be taken as appropriate in the event of a release of hazardous materials or waste:

1. Evacuate all on-site personnel to a minimum of 100-feet in an upwind direction until the PM or PHSO determines that it is safe for work to resume.
2. Immediately instruct a designated person to contact the PM or PHSO.
3. Contain spill, if possible.
4. Initiate cleanup, if directed to do so by the PM or PHSO.

12.3 GENERAL

In the case of fire, flood, explosion or other hazard, work shall be halted and the local fire department notified if necessary (911). All on-site personnel will be evacuated to a minimum of 100-feet in an upwind direction.

13.0 TRAINING, MEDICAL SURVEILLANCE, AND RECORD KEEPING

13.1 TRAINING REQUIREMENTS

All project personnel must be in compliance with OSHA regulations specified in 29 CFR 1910.120 and CCR Title 8, Section 5192. These include completion of a 40-hour health and safety training course, annual 8 hour refresher training, and participation in a medical monitoring program and respiratory protection program.

Documentation of required training for contractors and subcontractors shall be submitted to Zaccor Co. prior to starting work.

Additional site specific training that covers on-site hazards, personal protection requirements, decontaminating procedures, and emergency response information as outlined in the site safety plan will be given by the PHSO or SSO before beginning onsite work.

13.2 MEDICAL SURVEILLANCE

All Zaccor project personnel shall participate in the Zaccor medical monitoring program, which includes annual audiometric and physical exams for employees involved in hazardous waste or materials projects. It requires that all such personnel have medical clearance before being issued a respirator and participating in field activities. Frequency of medical exams complies with CCR8 5192(f 3) and is summarized as follows:

1. Prior to performing field work.
2. At least once every 12 months.
3. At termination of employment.
4. Upon occurrence of possible over-exposure.
5. More frequently if deemed necessary by a physician.

Documentation of medical clearance will be required from contractors and subcontractors prior to the start of work.

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD
UNDERGROUND STORAGE TANK PERMIT APPLICATION - FORM A
COMPLETE THIS FORM FOR EACH FACILITY/SITE



MARK ONLY ONE ITEM	<input checked="" type="checkbox"/> 1 NEW PERMIT	<input type="checkbox"/> 2 INTERIM PERMIT	<input type="checkbox"/> 3 RENEWAL PERMIT	<input type="checkbox"/> 4 AMENDED PERMIT	<input type="checkbox"/> 5 CHANGE OF INFORMATION	<input type="checkbox"/> 6 TEMPORARY SITE CLOSURE	<input checked="" type="checkbox"/> 7 PERMANENTLY CLOSED SITE
--------------------	--	---	---	---	--	---	---

I. FACILITY/SITE INFORMATION & ADDRESS - (MUST BE COMPLETED)

DBA OR FACILITY NAME Thoroughbred Building		NAME OF OPERATOR H.F.H. Ltd.	
ADDRESS 1397 55th Street		NEAREST CROSS STREET Hollis	PARCEL # (OPTIONAL)
CITY NAME Emeryville		STATE CA	ZIP CODE 94608
		SITE PHONE # WITH AREA CODE 510 652-4191	
<input checked="" type="checkbox"/> BOX TO INDICATE <input type="checkbox"/> CORPORATION <input type="checkbox"/> INDIVIDUAL <input checked="" type="checkbox"/> PARTNERSHIP <input type="checkbox"/> LOCAL-AGENCY DISTRICTS <input type="checkbox"/> COUNTY-AGENCY* <input type="checkbox"/> STATE-AGENCY* <input type="checkbox"/> FEDERAL-AGENCY*			
* If owner of UST is a public agency, complete the following: name of supervisor of division, section or office which operates the UST			
TYPE OF BUSINESS		E. P. A. I. D. # (optional)	
<input type="checkbox"/> 1 GAS STATION <input type="checkbox"/> 2 DISTRIBUTOR <input type="checkbox"/> 3 FARM <input type="checkbox"/> 4 PROCESSOR <input checked="" type="checkbox"/> 5 OTHER		<input type="checkbox"/> IF INDIAN RESERVATION OR TRUST LANDS # OF TANKS AT SITE: one	

EMERGENCY CONTACT PERSON (PRIMARY)

EMERGENCY CONTACT PERSON (SECONDARY) - optional

DAYS: NAME (LAST, FIRST) Getz, Andrew		PHONE # WITH AREA CODE 510 652-4191	
NIGHTS: NAME (LAST, FIRST) Same		PHONE # WITH AREA CODE	
DAYS: NAME (LAST, FIRST) Williams, Jim		PHONE # WITH AREA CODE 510 654-6868	
NIGHTS: NAME (LAST, FIRST) Fetherston, Paul		PHONE # WITH AREA CODE 510 553-2228	

II. PROPERTY OWNER INFORMATION - (MUST BE COMPLETED)

NAME H.F.H. Ltd.		CARE OF ADDRESS INFORMATION	
MAILING OR STREET ADDRESS 1397 55th Street		<input checked="" type="checkbox"/> box to indicate <input type="checkbox"/> INDIVIDUAL <input type="checkbox"/> LOCAL-AGENCY <input type="checkbox"/> STATE-AGENCY <input type="checkbox"/> CORPORATION <input checked="" type="checkbox"/> PARTNERSHIP <input type="checkbox"/> COUNTY-AGENCY <input type="checkbox"/> FEDERAL-AGENCY	
CITY NAME Emeryville		STATE Ca.	PHONE # WITH AREA CODE 510 652-4191
		ZIP CODE 94608	

III. TANK OWNER INFORMATION - (MUST BE COMPLETED)

NAME OF OWNER H.F.H. Ltd.		CARE OF ADDRESS INFORMATION	
MAILING OR STREET ADDRESS 1397 55th Street		<input checked="" type="checkbox"/> box to indicate <input type="checkbox"/> INDIVIDUAL <input type="checkbox"/> LOCAL-AGENCY <input type="checkbox"/> STATE-AGENCY <input type="checkbox"/> CORPORATION <input checked="" type="checkbox"/> PARTNERSHIP <input type="checkbox"/> COUNTY-AGENCY <input type="checkbox"/> FEDERAL-AGENCY	
CITY NAME Emeryville		STATE Ca.	PHONE # WITH AREA CODE 510 652-4191
		ZIP CODE 94608	

IV. BOARD OF EQUALIZATION UST STORAGE FEE ACCOUNT NUMBER - Call (916) 322-9669 if questions arise.

TY (TK) HQ **44** - [] [] [] [] [] [] [] []

V. PETROLEUM UST FINANCIAL RESPONSIBILITY - (MUST BE COMPLETED) - IDENTIFY THE METHOD(S) USED

<input checked="" type="checkbox"/> box to indicate	<input checked="" type="checkbox"/> 1 SELF-INSURED <input type="checkbox"/> 2 GUARANTEE <input type="checkbox"/> 3 INSURANCE <input type="checkbox"/> 4 SURETY BOND <input type="checkbox"/> 5 LETTER OF CREDIT <input type="checkbox"/> 6 EXEMPTION <input type="checkbox"/> 7 STATE FUND	<input type="checkbox"/> 8 STATE FUND & CHIEF FINANCIAL OFFICER LETTER <input type="checkbox"/> 9 STATE FUND & CERTIFICATE OF DEPOSIT <input type="checkbox"/> 10 LOCAL GOVT. MECHANISM <input type="checkbox"/> 99 OTHER
---	--	---

VI. LEGAL NOTIFICATION AND BILLING ADDRESS

Legal notification and billing will be sent to the tank owner unless box I or II is checked.

CHECK ONE BOX INDICATING WHICH ABOVE ADDRESS SHOULD BE USED FOR LEGAL NOTIFICATIONS AND BILLING:		
I. <input type="checkbox"/>	II. <input checked="" type="checkbox"/>	III. <input type="checkbox"/>

THIS FORM HAS BEEN COMPLETED UNDER PENALTY OF PERJURY, AND TO THE BEST OF MY KNOWLEDGE, IS TRUE AND CORRECT

TANK OWNER'S NAME (PRINTED) SIGNATURE Andrew Getz	TANK OWNER'S TITLE Partner/Agent	DATE MONTH/DAY/YEAR 01/14/97
---	--	--

LOCAL AGENCY USE ONLY

COUNTY # [] []	JURISDICTION # [] [] []	FACILITY # [] [] [] [] [] []
LOCATION CODE - OPTIONAL	CENSUS TRACT # - OPTIONAL	SUPVISOR - DISTRICT CODE - OPTIONAL

THIS FORM MUST BE ACCOMPANIED BY AT LEAST (1) OR MORE PERMIT APPLICATION - FORM B, UNLESS THIS IS A CHANGE OF SITE INFORMATION ONLY.
OWNER MUST FILE THIS FORM WITH THE LOCAL AGENCY IMPLEMENTING THE UNDERGROUND STORAGE TANK REGULATIONS

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD
UNDERGROUND STORAGE TANK PERMIT APPLICATION - FORM B



COMPLETE A SEPARATE FORM FOR EACH TANK SYSTEM.

MARK ONLY ONE ITEM	<input checked="" type="checkbox"/> 1 NEW PERMIT	<input type="checkbox"/> 2 INTERIM PERMIT	<input type="checkbox"/> 3 RENEWAL PERMIT	<input type="checkbox"/> 4 AMENDED PERMIT	<input type="checkbox"/> 5 CHANGE OF INFORMATION	<input type="checkbox"/> 6 TEMPORARY TANK CLOSURE	<input checked="" type="checkbox"/> 7 PERMANENTLY CLOSED ON SITE	<input checked="" type="checkbox"/> 8 TANK REMOVED
--------------------	--	---	---	---	--	---	--	--

DBA OR FACILITY NAME WHERE TANK IS INSTALLED:

I. TANK DESCRIPTION COMPLETE ALL ITEMS - SPECIFY IF UNKNOWN

A. OWNER'S TANK I.D. # <u>None</u>	B. MANUFACTURED BY: <u>Unknown</u>
C. DATE INSTALLED (MO/DAY/YEAR) <u>Unknown 1940's</u>	D. TANK CAPACITY IN GALLONS: <u>Est. 2000 gallons</u>

II. TANK CONTENTS IF A-1 IS MARKED, COMPLETE ITEM C.

A. <input type="checkbox"/> 1 MOTOR VEHICLE FUEL	<input type="checkbox"/> 4 OIL	B. <input type="checkbox"/> 1 PRODUCT	C. <input type="checkbox"/> 1a REGULAR UNLEADED	<input checked="" type="checkbox"/> 3 DIESEL	<input type="checkbox"/> 6 AVIATION GAS
<input type="checkbox"/> 2 PETROLEUM	<input checked="" type="checkbox"/> 80 EMPTY	<input type="checkbox"/> 2 WASTE	<input type="checkbox"/> 1b PREMIUM UNLEADED	<input type="checkbox"/> 4 GASAHOL	<input type="checkbox"/> 7 METHANOL
<input type="checkbox"/> 3 CHEMICAL PRODUCT	<input type="checkbox"/> 95 UNKNOWN		<input type="checkbox"/> 1c MIDGRADE UNLEADED	<input type="checkbox"/> 5 JET FUEL	<input type="checkbox"/> 8 M85
D. IF (A.1) IS NOT MARKED, ENTER NAME OF SUBSTANCE STORED			C. A. S. #:		

III. TANK CONSTRUCTION MARK ONE ITEM ONLY IN BOXES A, B, AND C, AND ALL THAT APPLIES IN BOX D AND E

A. TYPE OF SYSTEM	<input type="checkbox"/> 1 DOUBLE WALL	<input type="checkbox"/> 3 SINGLE WALL WITH EXTERIOR LINER	<input type="checkbox"/> 5 INTERNAL BLADDER SYSTEM	<input type="checkbox"/> 95 UNKNOWN
	<input checked="" type="checkbox"/> 2 SINGLE WALL	<input type="checkbox"/> 4 SINGLE WALL IN A VAULT	<input type="checkbox"/> 99 OTHER	
B. TANK MATERIAL (Primary Tank)	<input checked="" type="checkbox"/> 1 BARE STEEL	<input type="checkbox"/> 2 STAINLESS STEEL	<input type="checkbox"/> 3 FIBERGLASS	<input type="checkbox"/> 4 STEEL CLAD W/ FIBERGLASS REINFORCED PLASTIC
	<input type="checkbox"/> 5 CONCRETE	<input type="checkbox"/> 6 POLYVINYL CHLORIDE	<input type="checkbox"/> 7 ALUMINUM	<input type="checkbox"/> 8 100% METHANOL COMPATIBLE W/FRP
	<input type="checkbox"/> 9 BRONZE	<input type="checkbox"/> 10 GALVANIZED STEEL	<input type="checkbox"/> 95 UNKNOWN	<input type="checkbox"/> 99 OTHER
C. INTERIOR LINING OR COATING	<input type="checkbox"/> 1 RUBBER LINED	<input type="checkbox"/> 2 ALKYD LINING	<input type="checkbox"/> 3 EPOXY LINING	<input type="checkbox"/> 4 PHENOLIC LINING
	<input type="checkbox"/> 5 GLASS LINING	<input checked="" type="checkbox"/> 6 UNLINED	<input type="checkbox"/> 95 UNKNOWN	<input type="checkbox"/> 99 OTHER
IS LINING MATERIAL COMPATIBLE WITH 100% METHANOL? YES ___ NO ___				
D. EXTERIOR CORROSION PROTECTION	<input type="checkbox"/> 1 POLYETHYLENE WRAP	<input type="checkbox"/> 2 COATING	<input type="checkbox"/> 3 VINYL WRAP	<input type="checkbox"/> 4 FIBERGLASS REINFORCED PLASTIC
	<input type="checkbox"/> 5 CATHODIC PROTECTION	<input checked="" type="checkbox"/> 91 NONE	<input type="checkbox"/> 95 UNKNOWN	<input type="checkbox"/> 99 OTHER
E. SPILL AND OVERFILL, etc.	SPILL CONTAINMENT INSTALLED (YEAR) _____		OVERFILL PREVENTION EQUIPMENT INSTALLED (YEAR) _____	
	DROPTUBE YES ___ NO ___		STRIKER PLATE YES ___ NO ___	
			DISPENSER CONTAINMENT YES ___ NO ___	

IV. PIPING INFORMATION CIRCLE A IF ABOVE GROUND OR U IF UNDERGROUND, BOTH IF APPLICABLE

A. SYSTEM TYPE	A <input checked="" type="checkbox"/> 1 SUCTION	A U <input type="checkbox"/> 2 PRESSURE	A U <input type="checkbox"/> 3 GRAVITY	A U <input type="checkbox"/> 4 FLEXIBLE PIPING	A U <input type="checkbox"/> 99 OTHER
B. CONSTRUCTION	A <input checked="" type="checkbox"/> 1 SINGLE WALL	A U <input type="checkbox"/> 2 DOUBLE WALL	A U <input type="checkbox"/> 3 LINED TRENCH	A U <input type="checkbox"/> 95 UNKNOWN	A U <input type="checkbox"/> 99 OTHER
C. MATERIAL AND CORROSION PROTECTION	A <input checked="" type="checkbox"/> 1 BARE STEEL	A U <input type="checkbox"/> 2 STAINLESS STEEL	A U <input type="checkbox"/> 3 POLYVINYL CHLORIDE (PVC)	A U <input type="checkbox"/> 4 FIBERGLASS PIPE	
	A U <input type="checkbox"/> 5 ALUMINUM	A U <input type="checkbox"/> 6 CONCRETE	A U <input type="checkbox"/> 7 STEEL W/ COATING	A U <input type="checkbox"/> 8 100% METHANOL COMPATIBLE W/FRP	
	A U <input type="checkbox"/> 9 GALVANIZED STEEL	A U <input type="checkbox"/> 10 CATHODIC PROTECTION	A U <input type="checkbox"/> 95 UNKNOWN	A U <input type="checkbox"/> 99 OTHER	
D. LEAK DETECTION	<input type="checkbox"/> 1 MECHANICAL LINE LEAK DETECTOR	<input type="checkbox"/> 2 LINE TIGHTNESS TESTING	<input type="checkbox"/> 3 CONTINUOUS INTERSTITIAL MONITORING	<input type="checkbox"/> 4 ELECTRONIC LINE LEAK DETECTOR	<input type="checkbox"/> 5 AUTOMATIC PUMP SHUTDOWN
	<input checked="" type="checkbox"/> 99 OTHER <u>None</u>				

V. TANK LEAK DETECTION

<input checked="" type="checkbox"/> 1 VISUAL CHECK	<input type="checkbox"/> 2 MANUAL INVENTORY RECONCILIATION	<input type="checkbox"/> 3 VADOZE MONITORING	<input type="checkbox"/> 4 AUTOMATIC TANK GAUGING	<input type="checkbox"/> 5 GROUND WATER MONITORING	<input type="checkbox"/> 6 ANNUAL TANK TESTING
<input type="checkbox"/> 7 CONTINUOUS INTERSTITIAL MONITORING	<input type="checkbox"/> 8 SIR	<input type="checkbox"/> 9 WEEKLY MANUAL TANK GAUGING	<input type="checkbox"/> 10 MONTHLY TANK TESTING	<input type="checkbox"/> 95 UNKNOWN	<input type="checkbox"/> 99 OTHER

VI. TANK CLOSURE INFORMATION (PERMANENT CLOSURE IN-PLACE)

1. ESTIMATED DATE LAST USED (MO/DAY/YR) <u>Late 1950's</u>	2. ESTIMATED QUANTITY OF SUBSTANCE REMAINING <u>zero</u> GALLONS	3. WAS TANK FILLED WITH INERT MATERIAL? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
---	--	---

THIS FORM HAS BEEN COMPLETED UNDER PENALTY OF PERJURY, AND TO THE BEST OF MY KNOWLEDGE, IS TRUE AND CORRECT

TANK OWNER'S NAME (PRINTED & SIGNATURE) <u>Mr. Andrew Getz</u>	DATE <u>1/14/97</u>
---	------------------------

LOCAL AGENCY USE ONLY THE STATE I.D. NUMBER IS COMPOSED OF THE FOUR NUMBERS BELOW

STATE I.D. #	COUNTY #	JURISDICTION #	FACILITY #	TANK #
[] [] [] []	[] []	[] [] [] []	[] [] [] [] [] []	[] [] [] [] [] []
PERMIT NUMBER	PERMIT APPROVED BY/DATE		PERMIT EXPIRATION DATE	

THIS FORM MUST BE ACCOMPANIED BY A PERMIT APPLICATION - FORM A, UNLESS A CURRENT FORM A HAS BEEN FILED. FORM C MUST BE COMPLETED FOR INSTALLATIONS. THIS FORM SHOULD BE ACCOMPANIED BY A PLOT PLAN. FILE THIS FORM WITH THE LOCAL AGENCY IMPLEMENTING THE UNDERGROUND STORAGE TANK REGULATIONS

APPENDIX B

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. CAK10D19747280 Manifest Document No. 17043 2. Page 1 of 1

Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
ANDREW GETZ H FH LTD
1397-55TH ST EMERYVILLE CA 90045
 4. Generator's Phone (510) 632-4171

A. State Manifest Document Number 96417043

5. Transporter 1 Company Name ERICKSON INC 6. US EPA ID Number KF1000144171

B. State Generator's ID

7. Transporter 2 Company Name _____ 8. US EPA ID Number _____

C. State Transporter's ID

9. Designated Facility Name and Site Address
Erickson, Inc.
255 Parr Blvd.
Richmond, CA. 94801 10. US EPA ID Number CA100009496392

D. Transporter's Phone

E. State Transporter's ID

F. Transporter's Phone

G. State Facility's ID

11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers		13. Total Quantity	14. Unit Wt/Vol
	No.	Type		
a. <u>NON-RCRA Hazardous Waste Solid</u> <u>Waste Empty Storage Tank.</u>	<u>001</u>	<u>T/P</u>	<u>00550</u>	<u>P</u>
b.				
c.				
d.				

15. Special Handling Instructions and Additional Information
Keep away from sources of ignition. Always wear hardhats when working around
U.G.S.T.'s 24 Hr. Contact Name D. D. OYD & Phone 510 777 8571

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.
 If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name _____ Signature _____ Month _____ Day _____ Year _____

17. Transporter 1 Acknowledgement of Receipt of Materials
 Printed/Typed Name JERRY E. BRUCK Signature _____ Month _____ Day _____ Year _____

18. Transporter 2 Acknowledgement of Receipt of Materials
 Printed/Typed Name _____ Signature _____ Month _____ Day _____ Year _____

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
 Printed/Typed Name _____ Signature _____ Month _____ Day _____ Year _____

IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA, CALL 1-800-852-7550

DO NOT WRITE BELOW THIS LINE.

OR NIGHT
TELEPHONE
0) 235-1393

CERTIFICATE CERTIFIED SERVICES COMPANY

255 Parr Boulevard • Richmond, California 94801

NO. 23015

CUSTOMER
CLEARWATER ENV
JOB NO.
870382

FOR: ERICKSON, INC. TANK NO. 19650

LOCATION: RICHMOND DATE: 97/02/27 TIME: 13:29

METHOD VISUAL GASTECH/1314 SMPN LAST PRODUCT D

This is to certify that I have personally determined that this tank is in accordance with the American Petroleum Institute and have found the condition to be in accordance with its assigned designation. This certificate is based on conditions existing at the time the inspection herein set forth was completed and is issued subject to compliance with all qualifications and instructions.

TANK SIZE 550 GALLON TANK CONDITION SAFE FOR FIRE

REMARKS: OXYGEN 20.9% LOWER EXPLOSIVE LIMIT LESS THAN 0.1%
ERICKSON, INC. HEREBY CERTIFIES THAT THE ABOVE NUMBERED TANK HAS BEEN
CUT OPEN, PROCESSED, AND THEREFORE DESTROYED AT OUR PERMITTED HAZARDOUS
WASTE FACILITY.
ERICKSON, INC. HAS THE APPROPRIATE PERMITS FOR. AND HAS ACCEPTED THE TANK
SHIPPED TO US FOR PROCESSING.

In the event of any physical or atmospheric changes affecting the gas-free conditions of the above tanks, or if in any doubt, immediately stop all hot work and contact the undersigned. This permit is valid for 24 hours if no physical or atmospheric changes occur.

STANDARD SAFETY DESIGNATION

SAFE FOR MEN: Means that in the compartment or space so designated (a) The oxygen content of the atmosphere is at least 19.5 percent by volume; and that (b) Toxic materials in the atmosphere are within permissible concentrations; and (c) In the judgment of the Inspector, the residues are not capable of producing toxic materials under existing atmospheric conditions while maintained as directed on the Inspector's certificate.

SAFE FOR FIRE: Means that in the compartment so designated (a) The concentration of flammable materials in the atmosphere is below 10 percent of the lower explosive limit; and that (b) In the judgment of the Inspector, the residues are not capable of producing a higher concentration than permitted under existing atmospheric conditions in the presence of fire and while maintained as directed on the Inspector's certificate, and further, (c) All adjacent spaces have either been cleaned sufficiently to prevent the spread of fire, are satisfactorily inerted, or in the case of fuel tanks, have been treated as deemed necessary by the Inspector.

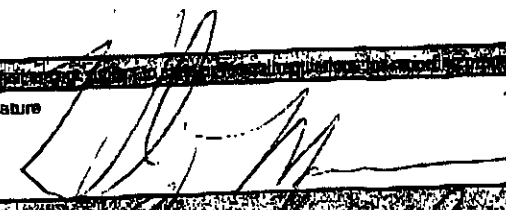
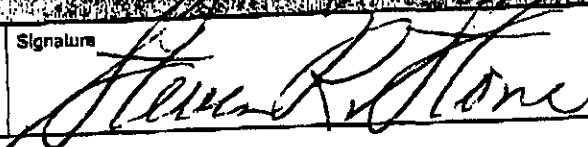
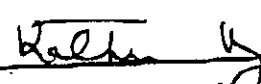
The undersigned representative acknowledges receipt of this certificate and understands the conditions and limitations under which it was issued.

[Signature]
REPRESENTATIVE

TITLE

[Signature]
INSPECTOR

29794

NON HAZARDOUS		1. Generator's US EPA ID No.	2. Page 1 of 1	3. Document Number NH- NE 43188
4. Generator's Name and Mailing Address HFH LTD 1250 53 rd St Emeraldville, CA 94608 Generator's Phone 510-652-4191		Profile # 297-148 PS		
5. Transporter Company Name Clearwater Env Mgt	6. US EPA ID Number CA000007013	7. Transporter Phone 510-797 8511		
8. Designated Facility Name and Site Address McKitterick Waste Treatment Site 56533 Hwy 58, WEST McKitterick CA 93057, CA0980636831		10. Facility's Phone 805 762-7366		
11. Waste Shipping Name and Description NON HAZARDOUS WASTE LIQUID		12. Containers No. Type	13. Total Quantity	14. Unit Wt/Vol
		001 TT	1250	G
15. Special Handling Instructions and Additional Information Wear Protective Gear Emergency Contact 510-797 8511 ATTN Kirk Hayward		Handling Codes for Wastes Listed Above 11a. 11b.		
16. Generator's Certification Printed/Typed Name Wesley Morse		Signature  Month Day Year 12/26/97		
17. Transporter Acknowledgment of Receipt of Materials Printed/Typed Name STEVEN R. STONE		Signature  Month Day Year 12/26/97		
18. Discrepancy Indication Space				
19. Main Operator or Operator Representative Printed/Typed Name Kathy May		Signature  Month Day Year 12/27/97		

Tom SCC PA7

APPENDIX C

CHROMALAB, INC.

Environmental Services (SDB)

February 20, 1997

Submission #: 9702172

LEARNWATER ENVIRONMENTAL MGMT

Atten: David Boyd

Project: GEOMATRIX/ E.WELLS
Received: February 14, 1997

Project#: 3356B

re: 1 sample for BTEX compounds analysis.
Method: SW846 Method 8020A Nov 1990

Matrix: SOIL

Sampled: February 14, 1997 Run#: 5350

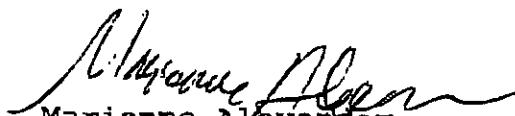
Analyzed: February 18, 1997

pl#	CLIENT SPL ID	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl Benzene (mg/Kg)	Total Xylenes (mg/Kg)
17864	EX-3	N.D.	N.D.	5.6	3.1

Note: Surrogate recovery was outside QA/QC limits due to sample interference.
See Surrogate Summary page. Reporting Limit Increased Due To Sample Interferences.

Reporting Limits	1.5	1.5	1.5	1.5
Blank Result	N.D.	N.D.	N.D.	N.D.
Blank Spike Result (%)	94.0	94.0	95.0	91.2

Rayvan Kimyai
chemist


Marianne Alexander
Gas/BTEX Supervisor

CHROMALAB, INC.

Environmental Services (SDB)

February 20, 1997

Submission #: 9702172

SEARWATER ENVIRONMENTAL MGMT

Atten: David Boyd

Project: GEOMATRIX/ E.WELLS
Received: February 14, 1997

Project#: 3356B

re: 1 sample for BTEX compounds analysis.
Method: SW846 Method 8020A Nov 1990

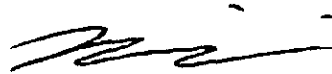
Matrix: SOIL
Sampled: February 14, 1997 Run#: 5350


Analyzed: February 18, 1997

Col#	CLIENT SPL ID	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl Benzene (mg/Kg)	Total Xylenes (mg/Kg)
17863	EX-2	N.D.	N.D.	3.7	1.7

Note: Reporting Limits Increased Due To Sample Interference.

Reporting Limits	0.73	0.73	0.73	0.73
Blank Result	N.D.	N.D.	N.D.	N.D.
Blank Spike Result (%)	94.0	94.0	95.0	91.2


Kayvan Kimyai
Chemist


Marianne Alexander
Gas/BTEX Supervisor

CHROMALAB, INC.

Environmental Services (SDB)

February 20, 1997

Submission #: 9702172

CLEARWATER ENVIRONMENTAL MGMT

Atten: David Boyd

Project: GEOMATRIX/ E.WELLS
Received: February 14, 1997

Project#: 3356B

re: **Surrogate** report for 2 samples for BTEX compounds analysis.

Method: SW846 Method 8020A Nov 1990

Lab Run#: 5350

Matrix: SOIL

Sample#	Client Sample ID	Surrogate	% Recovered	Recovery Limits
17863-1	EX-2	TRIFLUOROTOLUENE	118	65-135
17863-2	EX-2	TRIFLUOROTOLUENE	124	65-135
17864-1	EX-3	TRIFLUOROTOLUENE	114	65-135
17864-2	EX-3	TRIFLUOROTOLUENE	159	65-135

Sample#	QC Sample Type	Surrogate	% Recovered	Recovery Limits
18108-1	Reagent blank (MDB)	TRIFLUOROTOLUENE	104	65-135
18109-1	Spiked blank (BSP)	TRIFLUOROTOLUENE	100	65-135
18110-1	Spiked blank duplicate (BSD)	TRIFLUOROTOLUENE	106	65-135
18111-1	Matrix spike (MS)	TRIFLUOROTOLUENE	79.9	65-135
18112-1	Matrix spike duplicate (MSD)	TRIFLUOROTOLUENE	70.8	65-135

V100
QCSURR1229 KAYVAN 20-Feb-97 14

--20-1997 2:50PM FROM

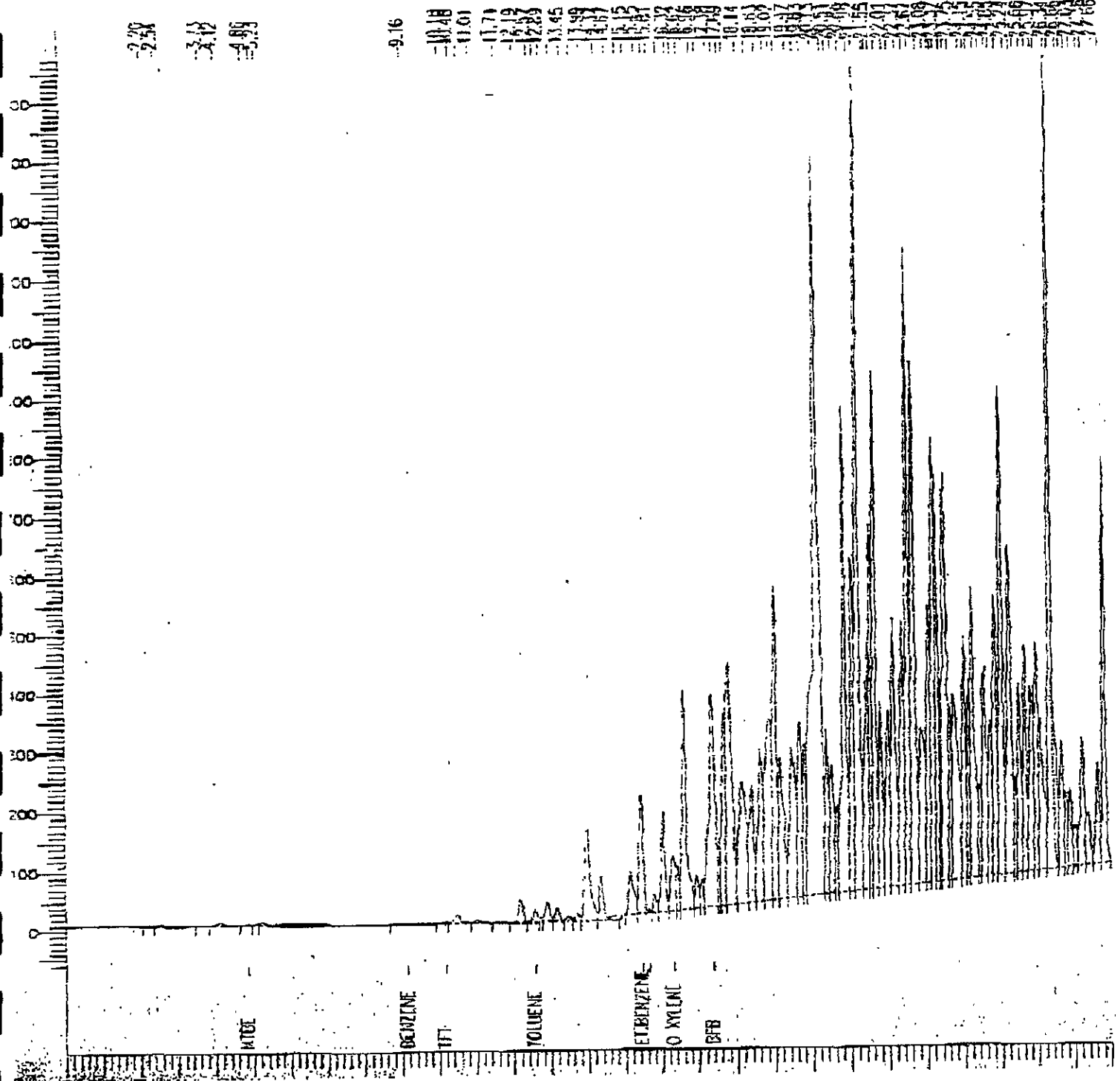
BTEX Chromatogram

Name : 9702172/EM2
Date : 07/15/97 20:25
File : JPAL5NE
Time : 0.00 min
Factor : 1.0

End Time : 28.00 min
Plot Offset: -24 mV

Sample #: 117863
Date : 7/15/97 20:25
Time of Injection: 7/15/97 19:54
Inj Volume: 10.00 µl
Inj Speed: 1500.0 µl/min
High Count: 1472.17 mv

Page 1 of 1



2-20-1997 2:49PM FROM

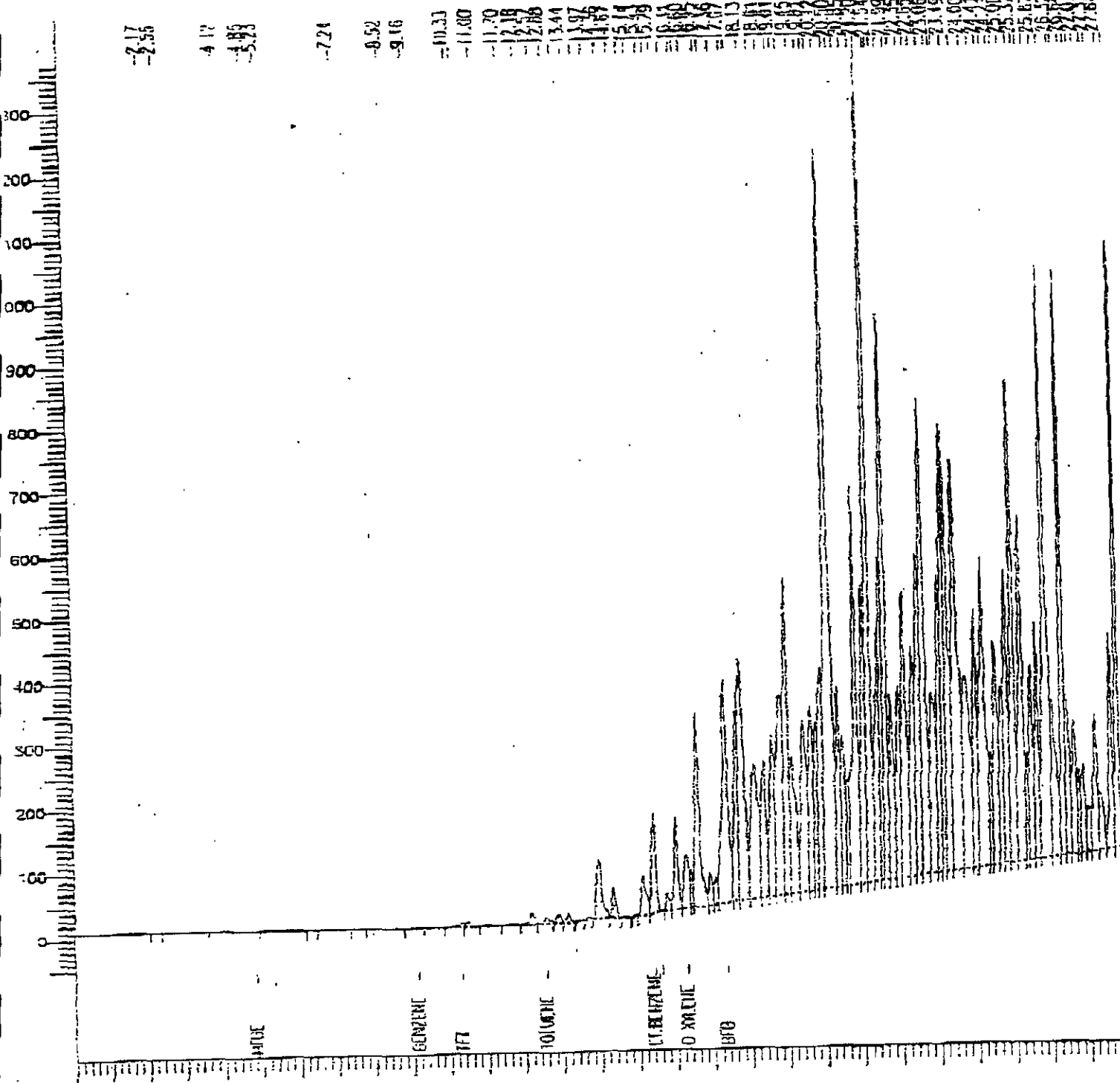
BTEX Chromatogram

Page 1 of 1

Name : 9102172/EX3
Date : 07/15/97 21:01
Time : 32A130E
Time : 0.00 min
Factor : 1.0

End Time : 28.00 min
Flow Offset : -58 mV

Sample #: 117864
Date : 2/19/97 21:01
Time of Injection: 2/19/97 20:32
Low Point : -88.76 mV
High Point : 1375.54 mV
Plot Scale: 1414.9 mV



CHROMALAB, INC.

Environmental Services (SDB)

February 20, 1997

Submission #: 9702172

LEARNWATER ENVIRONMENTAL MGMT

Atten: David Boyd

Project: GEOMATRIX/ E.WELLS
Received: February 14, 1997

Project#: 3356B

re: One sample for TEPH analysis.
Method: EPA 8015M

Client Sample ID: EX-3

Spl#: 117864

Matrix: SOIL

Extracted: February 19, 1997

Sampled: February 14, 1997


Run#: 5371

Analyzed: February 20, 1997

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE DILUTION FACTOR (%)
DISESEL	N.D.	40	N.D.	86.0
DIBROSENE	310	40	N.D.	--

NOTE: Quantitation for the above Analyte is based on the response factor of Diesel.

Ruce Havlik
chemist


Alex Tam
Semivolatiles Supervisor

CHROMALAB, INC.

Environmental Services (SDB)

February 20, 1997

Submission #: 9702172

LEARNWATER ENVIRONMENTAL MGMT

Atten: David Boyd

Project: GEOMATRIX/ E.WELLS
Received: February 14, 1997

Project#: 3356B

re: One sample for TEPH analysis.
Method: EPA 8015M

Client Sample ID: EX-2

Spl#: 117863

Matrix: SOIL

Extracted: February 19, 1997

Sampled: February 14, 1997

Run#: 5371

Analyzed: February 20, 1997

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE DILUTION FACTOR (%)
DISESEL	N.D.	40	N.D.	86.0
DIBENZO(AH)ANTHROSENE	4400	40	N.D.	--

NOTE: Quantitation for the above Analyte is based on the response factor of Diesel.

Ruce Havlik
Chemist

For

Alex Tam
Semivolatiles Supervisor

2-20-1997 2:51PM FROM

diesel analysis

Page 1 of 1

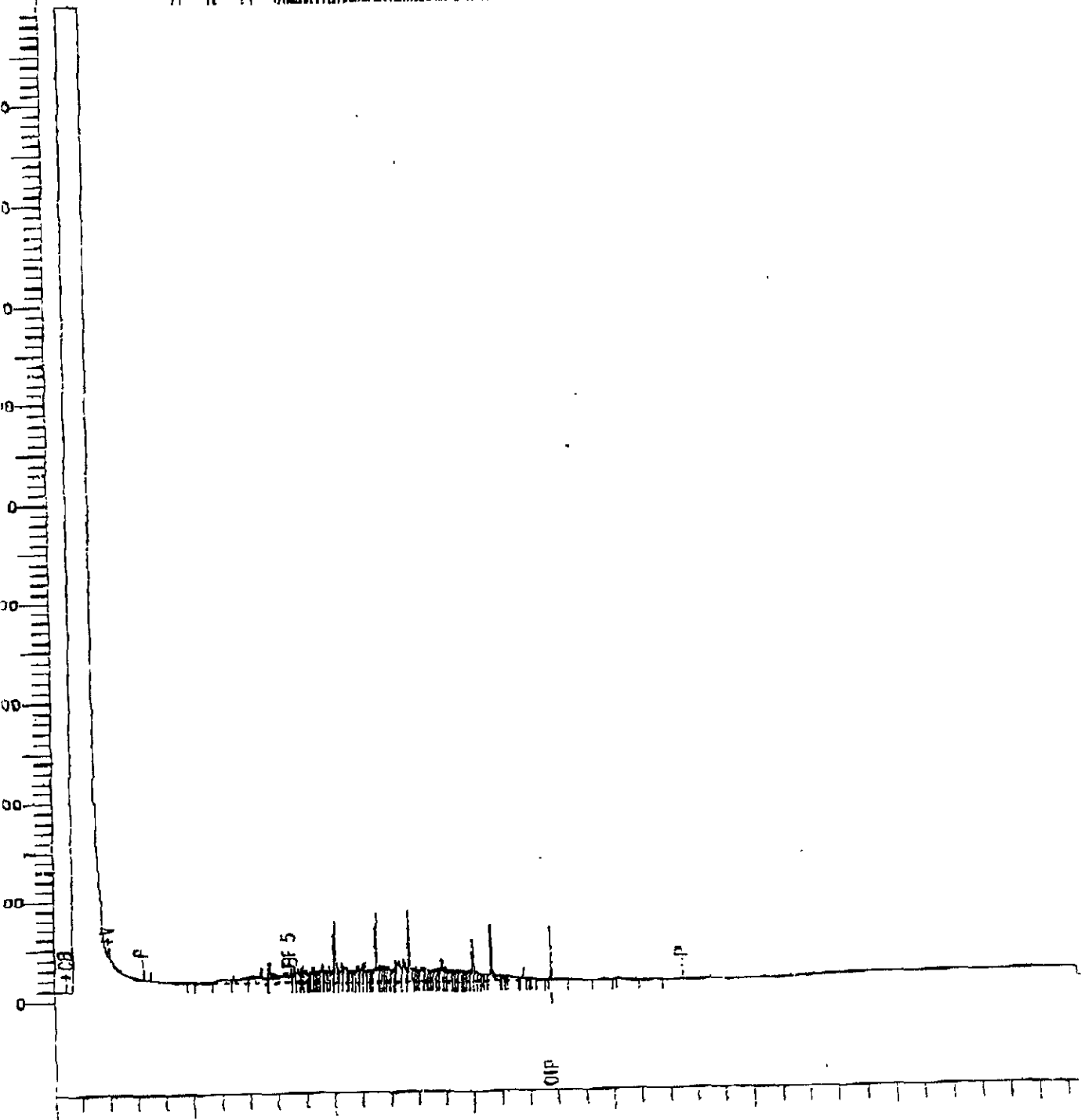
File : 9702172/RWD-10ML-30V
M: 18219074.DAW
10020287
0.00 MLD
0.0

Sample #: 117964-20
Date : 2/20/97 04:08
Time of Injection: 2/20/97 03:48
Low Point : 0.00 MV
Plot Scale: 1000.0 MV

High Point : 1000.00 MV

End Time : 16.80 min
Plot Offset: 0 MV

4.93	5.21	7.42	8.00	8.15	8.30	8.45	8.60	8.75	8.90	9.05	9.20	9.35	9.50	9.65	9.80	9.95	10.10	10.25	10.40	10.55	10.70	10.85	11.00	11.15	11.30	11.45	11.60	11.75	11.90	12.05	12.20	12.35	12.50	12.65	12.80	12.95	13.10	13.25	13.40	13.55	13.70	13.85	14.00	14.15	14.30	14.45	14.60	14.75	14.90	15.05	15.20	15.35	15.50	15.65	15.80	15.95	16.10	16.25	16.40	16.55	16.70	16.85	17.00	17.15	17.30	17.45	17.60	17.75	17.90	18.05	18.20	18.35	18.50	18.65	18.80	18.95	19.10	19.25	19.40	19.55	19.70	19.85	20.00
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172/ 117862-117804

4102112

22010

CHAIN-OF-CUSTODY RECORD			No 8718		Date: 2/14/97		Page 1 of 1													
Project No: 3356 B			ANALYSES				REMARKS													
Sample (Signatures): Jill L. Patterson Elizabeth V. Wells			EPA Method 8010	EPA Method 8020	EPA Method 8020 (STEX only)	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel *	Other	Coated	Seal (S), Washer (W), or Vapor (V)	Assembled	Number of containers	Additional Comments					
Date	Time	Sample Number																		
2/14	14:15	EX-1		X				X			Y	S	-	1	Please fax results to Elizabeth Wells by Thursday 2/20/97 and 2:00 pm Dave Boyd *TPH as diesel & kerosene Hold samples after analysis					
2/14	15:20	EX-2		X			X			Y	S	-	1							
2/14	15:06	EX-3		X			X			Y	S	-	1							
RUSH																				
Turnaround time: 3-day			Results to: E. Wells / D. Boyd			Total No. of containers: 1			BURN #: 9702172 REP: RM			CLIENT: CLEARWATER ENV			DUE: 02/20/97			REF #: 32290		
Relinquished by (signature): Jill L. Patterson		Date: 2/14/97		Relinquished by (signature): Mimi Pak		Date: 2/14/97		Relinquished by (signature):		Date:		Method of Shipment: Delivered to lab								
Printed Name: Jennifer Patterson		Time: 16:10		Printed Name: Mimi Pak		Time: 17:20		Printed Name:		Time:		Laboratory Comments and Log No.:								
Company: Geomatrix				Company: Chromalab				Company:				COPY TO Elizabeth Wells								
Received by (signature): DAVE BOYD		Date: 2/14/97		Received by (signature): Mimi Pak		Date: 2/14/97		Received by (signature):		Date:		Geomatrix Consultants 100 Pine Street, 10th Floor San Francisco, California 94111 415 434 9400								
Printed Name: DAVE BOYD		Time: 16:10		Printed Name: Mimi Pak		Time: 17:25		Printed Name:		Time:										
Company: com1				Company: Chromalab				Company:												

Form (FF) 012 (Revised 12/86)

Send Bill & Original Report to
CLEARWATER ENV. MF-1

CHROMALAB, INC.

Environmental Service (SES)

Sample Receipt Checklist

Client Name: CLEARWATER Date/Time Received: 2/14/95 1725
Reference/Subm #: 92090/9702/172 Received by: MP Date / Time

Checklist completed by: Chris Rowley 2/18/97 Reviewed By: SA 2/18/97
Signature Date Initial/Date

Matrix: SPILL Carrier name: Client - C/L -

- Shipping container/cooler in good condition? Yes No Not Present
- Study seals intact on shipping container/cooler? Yes No Present Not Present
- Study seals intact on sample bottles? Yes No Present Not Present
- Main of custody present? Yes No
- Main of custody signed when relinquished and received? Yes No
- Main of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- Samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No Temp: 6.4°C
- Car - VOA vials have zero headspace? Yes No No VOA vials submitted Yes No

Chem - pH acceptable upon receipt? adjusted? Checked by /chemist for VOAs

No and/or NA (not applicable) response must be detailed in the comments section below.

Client contacted: Date contacted: Person contacted:

Contacted by: Regarding:

Comments:

Corrective Action:

2-24-1997 7:28PM FROM

CHROMALAB, INC.

Environmental Services (SOS)

February 24, 1997

Submission #: 9702171

CLEARWATER ENVIRONMENTAL MGMT

Atten: David Boyd

Project: GEOMATRIX/ E.WELLS
Received: February 14, 1997


Project#: 3356B


re: 2 samples for BTEX compounds analysis.
Method: SW846 Method 8020A Nov 1990

Sampled: February 14, 1997 Matrix: SOIL
Run#: 5350

Analyzed: February 18, 1997

SP#	CLIENT SPL ID	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl Benzene (mg/Kg)	Total Xylenes (mg/Kg)
17860	SP 1-A,B	N.D.	N.D.	N.D.	N.D.
17861	SP 2-A,B	N.D.	0.0075	0.020	0.094
Reporting Limits		0.0050	0.0050	0.0050	0.0050
Blank Result		N.D.	N.D.	N.D.	N.D.
Blank Spike Result (%)		94.0	94.0	95.0	91.2


Sayvan Kimyai
Chemist


Marianne Alexander
Gas/BTEX Supervisor

3-24-1997 11:29AM FROM

P. 2

CHROMALAB, INC.

Environmental Services (SDS)

February 24, 1997

Submission #: 9702171

CLEARWATER ENVIRONMENTAL MGMT

Atten: David Boyd

Project: GEOMATRIX/ E.WELLS
Received: February 14, 1997

Project#: 3356B

re: One sample for TEPH analysis.
Method: EPA 8015M

Client Sample ID: SP 1-A,B

Spl#: 117860

Matrix: SOIL

Extracted: February 21, 1997

Sampled: February 14, 1997

Run#: 5403

Analyzed: February 22, 1997

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
BENSEN	8.9	2.0	N.D.	66.8	2
DIENE	N.D.	2.0	N.D.	--	2

Note: Hydrocarbon reported is in the early Diesel range and does not match our Diesel standard.

NOTE: Quantitation for the above Analyte is based on the response factor of Diesel.

Duce Havlik
Chemist

FM

Alex Tam
Alex Tam
Semivolatiles Supervisor

1220 Quarry Lane - Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1098

440041 PM 02/98
ELIZABETH WELLS-COBBENTON @ 412-439-1333

3315 02/22/95 17 15:01

3-24-1997 11:30AM FROM

P. 3

CHROMALAB, INC.

Environmental Services (SDB)

February 24, 1997

Submission #: 9702171

CLEARWATER ENVIRONMENTAL MGMT

Atten: David Boyd

Project: GEOMATRIX/ E.WELLS
Received: February 14, 1997

Project#: 3356B

Re: One sample for TEPH analysis.
Method: EPA 8015M

Client Sample ID: SP 2-A,B

Spl#: 117861

Matrix: SOIL

Extracted: February 21, 1997


Sampled: February 14, 1997


Run#: 5403

Analyzed: February 22, 1997

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
BSEI	N.D.	5.0	N.D.	66.8	5
ROSENE	690	5.0	N.D.	--	5

NOTE: Quantitation for the above Analyte is based on the response factor of Diesel.


Bruce Havlik
Analyst


Alex Tam
Semivolatiles Supervisor