

ALAMEDA COUNTY
HEALTH CARE SERVICES



AGENCY

DAVID J. KEARS, Agency Director

RAFAT A. SHAHID, Assistant Agency Director

November 4, 1994

Mr. Curtis Cavin
American Red Cross Bay Area
1550 Sutter Street
San Francisco, CA 94109

DEPARTMENT OF ENVIRONMENTAL HEALTH
Hazardous Materials Division
80 Swan Way, Rm. 200
Oakland, CA 94621
(510) 271-4320

Re: The removed 500-gallon heating oil tank of July 12, 1994,
2017 Central Ave., Alameda, California

Dear Mr. Cavin,

This office has reviewed the soil sample analysis results for the 500-gallon heating oil tank removal, that was conducted on July 12, 1994. No diesel contamination was identified above detection limits, and only very low levels of benzene (0.01 ppm), toluene (0.019 ppm), and xylenes (0.02 ppm) were identified in these soil samples. Additionally, no apparent holes were observed in the tank.

Provided that the information made available to this agency is accurate and representative of existing conditions, no further action related to this tank is required at this time.

If you have any questions or comments, please contact me at (510) 567-6700.

Sincerely,

Juliet Shin
Senior Hazardous Materials Specialist

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY
DAVID J. KEARS, Agency Director



RECEIVED
NOV 8 1994
By RAFAEL A. SHAHID, Assistant Agency Director

DEPARTMENT OF ENVIRONMENTAL HEALTH
Hazardous Materials Division
1131 HARBOR BAY PKWY., #250
ALAMEDA CA 94502-6577
(510)567-6700

October 24, 1994

Mr. Curtis Cavin
American Red Cross Bay Area
1550 Sutter Street
San Francisco, CA 94109

Re: - Underground storage tank removals at 2017 Central Ave.,
Alameda, California

Dear Mr. Cavin,

On December 22, 1992, a 250-gallon heating oil underground storage tank was removed from the above site. The identification of soil contamination during the tank removal led to further soil and ground water investigations. This investigation/ remediation continued at the site through November 1993. Subsequently, in January 1994, this site was granted closure.

During the above investigations, Alameda County Health Department was reimbursed for its oversight time through the Local Oversight Program (LOP) fund (i.e., the County bills the State and the State in turn bills the Responsible Party(ies)).

In June 1994, the American Red Cross discovered a second underground storage tank at the site and submitted a proposal for the removal of this tank. Standardly, the County requests that a deposit of \$603.00 per tank be submitted with tank removal proposals to cover the cost of the County's oversight work. However, the County did not request a deposit at that time due to a misunderstanding that led the County to believe that the case was still active and our oversight time could therefore be reimbursed through the LOP fund.

The second tank was removed and samples collected on July 12, 1994. To this date, the County has spent approximately 4 hours in overseeing the investigations related to this tank (i.e., review of the tank removal proposal, oversight of actual tank removal and sampling, and review of tank removal report). Due to the fact that the County can no longer be reimbursed for our oversight time through the LOP fund, this office is requesting that you submit a deposit to reimburse the County for the time spent. The County's oversight fee rate is \$90.00 per hour. Therefore, the total amount currently owed to the County is \$360.00. Please make the check payable to Environmental Health Services, and submit it to:

Alameda County Department of Environmental Health
1131 Harbor Bay Parkway, Ste. 250
Alameda, California 94502

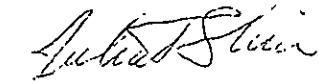
*BOTH S/F AND DEANED
BANKER
NEED CERTIFICATE - REJECT
CONNECTED*

Mr. Curtis Cavin
Re: 2017 Central Ave.
October 24, 1994
Page 2 of 2

Based on our review of the sample analysis results from the second tank removal, it appears that there is no contamination resulting from the second tank, and therefore no further oversight time by the County will be necessary following the submittal of the above deposit.

We thank you for your patience. If you have any questions or comments, please contact me at (510) 567-6763.

Sincerely,



Juliet Shin
Senior Hazardous Materials Specialist

REF./
A/C NO. Ad

STD 4571

MISCELLANEOUS RECEIPT
Sto # 1269.

COUNTY OF ALAMEDA
OFFICE OF THE AUDITOR-CONTROLLER

DATE: 11 130 194

No 747024

\$ 360 ⁰⁰/₁₀₀
DOLLARS

RECEIVED FROM:	<u>American Red Cross</u>	<u>2111 B. 14th St. Oakland, CA 94606-9423</u>
FOR:	<u>Golden West Env. Serv.</u>	
RECEIVED BY:	<u>2017 Central Ave Alameda 94601</u>	DEPT. NO.: <u>430-4538</u>
	<u>Giulietto D. B. Fox</u>	

CASH PERSONAL/CASHIER'S CHECK/M. O. # 32116 OTHER: _____
Distribution: White - Payor Yellow & Pink - Depart.



American Red Cross
Bay Area

1550 SUTTER ST. • SAN FRANCISCO, CA. 94109

VENDOR NUMBER	VENDOR NAME		CHECK DATE	CHECK NO	
063050	ENVIRONMENTAL HEALTH SERV		11/18/94	0032116	
INVOICE NUMBER	INVOICE DATE	INVOICE DESCRIPTION	GROSS AMOUNT	DISCOUNT AMOUNT	NET AMOUNT
CK REQU	0110494	U. S. T. FEES	360.00	.00	360.00
ALCO HAZMAT 4 NOV 30 PM 2:14					
DETACH AND RETAIN THIS PORTION FOR YOUR RECORDS			TOTALS ▶		
			360.00	.00	360.00

BANK OF AMERICA #0033
SAN FRANCISCO MAIN OFFICE
SAN FRANCISCO, CA 94104

11-35/1210



American Red Cross
Bay Area

ACCOUNTS PAYABLE
GENERAL FUND

32116

AMOUNT	DATE	CHECK NO.
***360.00	11/18/94	0032116

THREE HUNDRED SIXTY AND 00/100 DOLLARS

TO THE ORDER OF ENVIRONMENTAL HEALTH SERV
ALAMEDA CTY DEPT ENV HEAL
1131 HARBOR BAY PKWY #250
ALAMEDA, CA.

94502

VOID AFTER 90 DAYS

[Handwritten Signature]
AUTHORIZED SIGNATURE

AUTHORIZED SIGNATURE

⑈032116⑈ ⑆121000358⑆ 00337⑈ 12685⑈

ALAMEDA COUNTY, DEPARTMENT OF ENVIRONMENTAL HEALTH

80 Swan Way, #200
Oakland, CA 94621
(415) 271-4320

Hazardous Materials Division Inspection Form

Site ID# _____ Site Name Red Cross Today's Date 7/12/94
 Site Address 2017 Central Ave EPA ID# _____
 City Alameda Zip 94501 Phone _____

MAX Amt. Stored > 500lbs/55g/200cf? Y N
 Hazardous Waste generated per month? _____

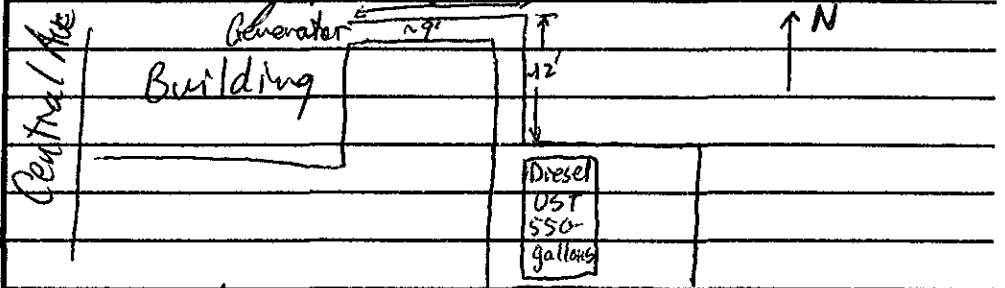
Inspection Categories:

- I. Haz. Mat/Waste GENERATOR/TRANSPORTER
- II. Business Plans, Acute Hazardous Materials
- III. Underground Tanks

ions of the Calif. Administration Code (CAC) or the Health & Safety Code (HS&C)

Comments:

Came out to site to oversee removal of 550-gallon ^{diesel} tank, formerly used for site's generator. Piping went to north to generator. There was ~20' of trench.



This tank was installed in ~'85 according to Mr. John Watson, site contact. 20lbs of dry ice placed in tank. Tank was removed. Had small lead wire on either side. No apparent holes on tank. Some spum noted on bottom of tank. A some pitting observed on bottom of tank and some bubbling of tank wrapping. For the most part, tank wrapping remained on tank. Hauled by Erickson under Manifest 932 38493. (Michael Edwards, Fire Dept, came out to oversee removal). There appeared to be some water in the pit, but due to all the gravel backfill, it was difficult to say at what depth or to confirm that it was g.w.

American Red Cross
 Bay Area
 1550 Sutter Street
 San Francisco, CA 94109
 Phone: (415) 202-0661
 FAX: (415) 202-0682

John Wm Watson
 Facilities Manager
 67243
 67244
 67246
 67259
 67245
 67261
 67257

- I.B. TRANSPORTER (Title 22)
- 32. Applic./Insurance 66428
 - 33. Comp. Cert./CHP Insp. 66448
 - 34. Containers 66465
 - 35. Vehicles 66465
 - 36. EPA ID #s 66531
 - 37. Correct 66541
 - 38. HW Delivery 66543
 - 39. Records 66544
 - 40. Name/ Covers 66545
 - 41. Recyclables 66800

Contact: John Scheffel, Golden West
 Title: _____ Inspector: Juliet Shin
 Signature: John Scheffel Signature: Juliet Shin

Pg 2 of 2

ALAMEDA COUNTY, DEPARTMENT OF ENVIRONMENTAL HEALTH

80 Swan Way, #200 Oakland, CA 94621 (415) 271-4320

Hazardous Materials Division Inspection Form

Site ID# Site Name Red Cross Today's Date 7/12/94
Site Address 2017 Central Ave EPA ID#
City Alameda Zip 94501 Phone

MAX Amt. Stored > 500lbs/55g/200cf? Y N
Hazardous Waste generated per month?

Inspection Categories:

- I. Haz. Mat/Waste GENERATOR/TRANSPORTER
II. Business Plans, Acute Hazardous Materials
III. Underground Tanks

The marked items represent violations of the Calif. Administration Code (CAC) or the Health & Safety Code (HS&C)

I.A GENERATOR (Title 22)

- 1. Waste ID 66471
2. EPA ID 66472
3. > 90 days 66508
4. Label dates 66508
5. Biennial 66493
6. Records 66492
7. Correct 66484
8. Copy sent 66492
9. Exception 66484
10. Copies Rec'd 66492
11. Treatment 66371
12. On-site Disp. (H.S.&C.) 26189.5
13. Ex Haz. Waste 66570
14. Communications 67121
15. Aisle Space 67124
16. Local Authority 67126
17. Maintenance 67120
18. Training 67105
19. Prepared 67140
20. Name List 67141
21. Copies 67141
22. Emg. Coord. Trng. 67144
23. Condition 67241
24. Compatibility 67242
25. Maintenance 67243
26. Inspection 67244
27. Buffer Zone 67246
28. Tank Inspection 67259
29. Containment 67245
30. Safe Storage 67261
31. Freeboard 67257

Comments:

Sample was collected from beneath tank, north end, at ~8' bgs. The sample was reddish brown, sandy soil, w/ no apparent staining or odor. Our soil sample will be collected from stockpiled soil (which is mostly gravel). (Mr. Schreffel noted that he had broken a water line the night before, so this could be source of observed water).

I.B TRANSPORTER (Title 22)

- 32. Applic./insurance 66428
33. Comp. Cert./CHP Insp. 66448
34. Containers 66465
35. Vehicles 66465
36. EPA ID #s 66531
37. Correct 66541
38. HW Delivery 66543
39. Records 66544
40. Name/ Covers 66545
41. Recyclables 66800

Rev 6/88

Contact: John Schreffel
Title:
Signature: John Schreffel

Inspector: Juliet Shin
Signature: Juliet Shin

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY

DAVID J. KEARS, Agency Director



RAFAT A. SHAHID, ASST. AGENCY DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
State Water Resources Control Board
Division of Clean Water Programs
UST Local Oversight Program
80 Swan Way, Rm 200
Oakland, CA 94621
(510) 271-4530

October 28, 1993

Mr. Edward T. Marshall
Marshall, Akawie & LaPietra
One Kaiser Plaza, Ste. 1340
Oakland, CA 94612

STID 4571

Re: Work plan for investigations at 2017 Central Avenue, Alameda,
California

Dear Mr. Marshall,

This office has received and reviewed ESE's work plan, dated October 20, 1993, for the above site. This work plan is acceptable to this office. Please be reminded that a minimum of one soil sample must be analyzed from each boring. It is the understanding of this office that this work will be implemented as scheduled in the work plan.

If you have any questions or comments, please contact me at (510) 271-4530.

Sincerely,

Juliet Shin
Hazardous Materials Specialist

cc: John Watson
American Red Cross
2017 Central Ave.
Alameda, CA 94501

Susan Wickham
ESE
4090 Nelson Ave., Ste J
Concord, CA 94520

Edgar Howell-File(JS)

9/28/93

TO: JULIET SWIN
DEPT. OF ENVIRONMENTAL HEALTH
(510) 569-4757 (FAX)

FR: JOHN WATSON
APT. RED CROSS
(415) 202-0661 (BUS.)
(415) 807-4855 (PGR.)


RE: ALAMEDA SITE TESTING

JULIET-

PLEASE REVIEW THE ATTACHED PROPOSAL.
WE BELIEVE THAT THIS WORK WILL
MEET YOUR CURRENT REQUIREMENTS.

WE LOOK FORWARD TO YOUR COMMENTS.

SINCERELY,


JOHN WATSON
FACILITIES MANAGER



Environmental
Science &
Engineering, Inc.

September 21, 1993

Proposal 93-C-272
Project No. 6-92-5427

Mr. John Watson
American Red Cross
1550 Sutter Street
San Francisco, CA 94109

SUBJECT: 2017 Central Avenue, Alameda, California

Dear Mr. Watson:

The following discussion and cost estimate was prepared at your request by Environmental Science & Engineering, Inc. (ESE) for the subject site. An underground heating oil tank was removed from the subject site in December 1992. Soil containing fuel oil was excavated to the extent possible. Some soil containing fuel remains in the subsurface and has triggered a request by the lead regulatory agency, Alameda County Health Care Services (County) for a preliminary site assessment (PSA). It is our understanding that you have negotiated a scope of work with the County as follows:

- Drill two soil borings at the locations of samples ARC #7 and ARC #8 collected during the tank removal operations (ESE Report March 1993). Collect one soil sample from each boring at approximately one foot above the ground water table, at approximate depth of 9 feet below ground surface (bgs). Collect one ground water sample in each boring with a Hydropunch.
- Analyze soil and ground water samples for Total Petroleum Hydrocarbons as diesel (TPH-D), and Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX). One trip blank sample will be analyzed for BTEX for the purpose of quality control (QC).
- Place soil cuttings and decontamination water in drums to be stored on site pending proper disposal.
- Prepare a report of findings in accordance with Tri-Regional Board guidelines.

Optional Scope includes:

- Prepare a workplan for the soil and ground water sampling outlined above.
- Dispose of an estimated two drums soil. Decontamination water will be drummed and remain on site pending analytical results and proper disposal.

Mr. Watson
September 21, 1993
Page 2

Estimated Costs

The following costs are for the scope presented above:

Assessment

Soil and ground water sampling. Assumes ground water at a depth of 10 feet. One soil and one ground water sample per boring analyzed for TPH-D/ BTEX on a 10-day turnaround basis. Analyze one QC sample for BTEX only. Prepare assessment report.

Total Lump Sum Price \$ 4,000

Optional Tasks

Workplan \$ 750

Disposal (estimated)

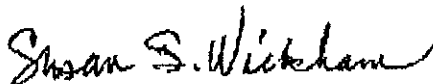
Assumes disposal at McKittrick Class II landfill under previous waste stream characterization.

Soil disposal (2 drums) \$ 580

Your acceptance of the above outlined scope and costs can be indicated by your signature on the enclosed short form contract. Please contact Sue Wickham at (510) 685-4053 with any questions or comments regarding this proposal.

Sincerely,

ENVIRONMENTAL SCIENCE & ENGINEERING, INC.


Susan S. Wickham, RG 3851
Senior Geologist


Shri Nandan
Regional Office Manager

Attachment (SFC)



American Red Cross
Bay Area

93 SEP 17 AM 10:04

American Red Cross Bay Area
1550 Sutter Street
San Francisco, CA 94109
Phone: (415) 202-0600
FAX: (415) 202-0714

September 10, 1993

Ms. Juliet Shin
Materials Specialist
Alameda County Health Services
80 Swan Way, Room 200
Oakland, CA 94621

Re: Investigations at Alameda ARCBA Property
2017 Central Avenue, Alameda

Dear Ms. Shin:

Per a discussion on August 24, 1993 with Mr. Ed Marshall (an American Red Cross volunteer) it is our understanding that we should to submit a site work plan to your office encompassing the following activities.

Hydropunch for soil and water samples at locations ARC#7 and ARC#8 (per the ESE report (dated: March 24, 1993) Figure #4. And additionally, these samples should be taken below the 5 foot level.

In closing, we repectfully request that the work plan due-date be extended out to October 29,1993, due to a temporary reduction in staff, performing disaster relief work in the MidWest. ← Extension granted

If there are any additionlly comments and/or questions, please contact my office at (415) 202-0661. — Juliet Shin 9/18/93

Sincerely,

John Wm. Watson
Facilities Manager

xcc: Curtis Cavin, Stuart Erlanger, Ed Marshall, Billie Walker,
Marian Wilson



Sharing in United Way funds

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY

DAVID J KEARS, Agency Director



RAFAT A SHAHID, ASST AGENCY DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
State Water Resources Control Board
Division of Clean Water Programs
UST Local Oversight Program
80 Swan Way, Rm 200
Oakland, CA 94621
(510) 271-4530

August 5, 1993

Mr. Edward T. Marshall
Marshall, Akawie & LaPietra
One Kaiser Plaza, Ste. 1340
Oakland, CA 94612

STID 4571

Re: Investigations at the Alameda Red Cross Property, 2017
Central Avenue, Alameda, California

Dear Mr. Marshall,

Per our discussions on August 4 and 5, 1993, your alternatives to the required source removal at the above site are to conduct hydropunches or borings in the vicinity of the former excavation to delineate the extent of the observed sidewall contamination, and to collect grab ground water samples to determine the impact this contaminated soil has had to ground water. After you have characterized the severity and extent of contamination at the site, this office will determine what further work will be required.

A work plan should be submitted to this office **within 45 days** of the date of this letter or by September 20, 1993. If you have any questions or comments, please contact me at (510) 271-4530.

Sincerely,

A handwritten signature in cursive script, appearing to read "Juliet Shin".

Juliet Shin
Hazardous Materials Specialist

cc: John Ramsey
American Red Cross
2017 Central Ave.
Alameda, CA 94501

Edgar Howell-File(JS)

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY

DAVID J KEARS, Agency Director



RAFAT A SHAHID, ASST. AGENCY DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
State Water Resources Control Board
Division of Clean Water Programs
UST Local Oversight Program
80 Swan Way, Rm 200
Oakland, CA 94621
(510) 271-4530

July 22, 1993

Mr. Edward T. Marshall
Marshall, Akawie & LaPietra
One Kaiser Plaza, Ste 1340
Oakland, CA 94612

STID 4571

Re: Investigations at 2017 Central Avenue, Alameda, California

Dear Mr. Marshall,

Per my discussions with the Regional Water Quality Control Board (RWQCB), it appears that the 250-gallon underground storage tank, formerly located at the above site, was used as a home heating oil tank. Currently, RWQCB is developing a policy for the cleanup of home heating oil tank sites. Until this policy is completed, we should not be requiring any further actions beyond source removal at subject leak sites. Source removal includes tank contents, the tank itself, and the polluted soil to the extent feasible.

Therefore, the office will not be requiring a ground water investigation at the site, per our letter dated May 4, 1993, but we will be requiring that you address the removal/remediation of contaminated soil remaining at the site. Per our conversation on July 13, 1993, it was determined that a work plan would be submitted by **August 19, 1993**. This due date still holds.

If you have any questions or comments, please contact me at (510) 271-4530.

Sincerely,



Juliet Shin
Hazardous Materials Specialist

cc: Richard Hiett, RWQCB

Edgar Howell-File(JS)

MARSHALL, AKAWIE & LAPIETRA

PROFESSIONAL CORPORATION
ATTORNEYS AT LAW

ONE KAISER PLAZA, SUITE 1340
OAKLAND, CALIFORNIA 94612

July 15, 1993

TELEPHONE (510) 874-7200
FAX (510) 874-7219

Juliet Shin
Hazardous Materials Specialists
Department of Environmental Health
U.S.T. Local Oversight Program
80 Swan Way, Room 200
Oakland, California 94621

Re: Alameda Red Cross Property
2017 Central Avenue, Alameda, California

Dear Ms. Shin:

This letter is to confirm our telephone conversation on Tuesday, July 13, 1993, regarding your request for a Preliminary Site Assessment on the above-referenced site.

You have agreed to extend the due date for the PSA proposal for a period of 45 days, ending on August 19, 1993. In addition, you have offered to evaluate the applicability of the home heating fuel exemption to this house which is being used for charitable purposes.

Thank you again for your consideration and cooperation in this matter.

Very truly yours,



Edward T. Marshall

ETM:pah

cc: John Watson, Facilities Manager
John Ramsey, Alameda Manager

Mark Out What Needs Changing and Hand to LOP Data Entry
(Name/Address changes go to Annual Programs Data Entry)

AGENCY # : 10000 SOURCE OF FUNDS: F SUBSTANCE: 12034
 StID : 4571
 SITE NAME: Golden West Env. Services DATE REPORTED : 06/25/92
 ADDRESS : 2017 Central Ave. DATE CONFIRMED: 06/25/92
 CITY/ZIP : Alameda 94501 MULTIPLE RPs : N

SITE STATUS

CASE TYPE: S CONTRACT STATUS: 4 EMERGENCY RESP:
 RP SEARCH: S DATE COMPLETED: 05/04/93
 PRELIMINARY ASMNT: DATE UNDERWAY: DATE COMPLETED:
 REM INVESTIGATION: DATE UNDERWAY: DATE COMPLETED:
 REMEDIAL ACTION: DATE UNDERWAY: DATE COMPLETED:
 POST REMED ACT MON: DATE UNDERWAY: DATE COMPLETED:

ENFORCEMENT ACTION TYPE: 1 DATE ENFORCEMENT ACTION TAKEN: 05/04/93
 LUFT FIELD MANUAL CONSID: 2HSCA
 CASE CLOSED: DATE CASE CLOSED:
 DATE EXCAVATION STARTED : REMEDIAL ACTIONS TAKEN:

RESPONSIBLE PARTY INFORMATION

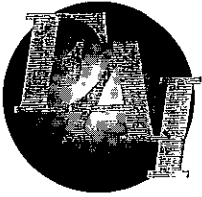
RP#1-CONTACT NAME: John Ramsey
 COMPANY NAME: American Red Cross
 ADDRESS: 2017 Central Avenue
 CITY/STATE: Alameda, C A 94501

INSPECTOR VERIFICATION:

NAME _____ SIGNATURE _____ DATE _____

DATA ENTRY INPUT:

Name/Address Changes Only			Case Progress Changes	
ANNPMS _____	LOP _____	DATE _____	LOP _____	DATE _____



ENVIRONMENTAL AUDIT, INC.

1000-A ORTEGA WAY • PLACENTIA, CA 92670-7125

714/632-8521 • FAX: 714/632-6754

June 16, 1993

Project No. 1233

Mr. Ravi Arulanantham, Ph.D.
Alameda County Department of Environmental Health
80 Swan Way, #200
Oakland, CA 94621

**RE: MONTGOMERY WARD AUTO SERVICE CENTER
7575 Dublin Boulevard, Dublin, California**

Dear Mr. Arulanantham:

Enclosed herewith is a copy of the report "Phase II Soil and Ground Water Investigation, Montgomery Ward Auto Service Center, 7575 Dublin Boulevard, Dublin, California," dated June 16, 1993.

Please call if you have any questions.

Sincerely,

ENVIRONMENTAL AUDIT, INC.

Jimmy Avancena
Project Geologist

Frank S. Muramoto, R.G.
Senior Geologist

FSM:SAB:sss

enclosure

cc: C. West, Montgomery Ward
G. Jonas, Montgomery Ward
S. Sommerhalter, Buchalter, et. al.

FSM:WORD:12336-16.DOC

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY

DAVID J. KEARS, Agency Director



RAFAT A. SHAHID, ASST AGENCY DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
State Water Resources Control Board
Division of Clean Water Programs
UST Local Oversight Program
80 Swan Way, Rm 200
Oakland, CA 94621
(510) 271-4530

May 4, 1993

Mr. John Ramsey
American Red Cross
2017 Central Avenue
Alameda, CA 94501

STID 4571

Re: Required investigations at 2017 Central Avenue, Alameda,
California

Dear Mr. Ramsey,

In May 1992, ESE consultants installed and collected soil samples from several borings (RC1, RC2, and RC3) at the above site. Up to 210 ppm Total Petroleum Hydrocarbons as diesel (TPHd) was identified from boring RC-1 and odors and discoloration was observed in the soil. According to ESE, it appears that this contamination may have been due to former overfilling of the tank.

On December 22, 1992, a 250-gallon heating oil underground storage tank was removed the site. ESE collected soil samples from beneath the tank invert and vent piping, and from the floor and sidewalls of the excavation and had them analyzed for TPHd and benzene, toluene, ethylbenzene, and xylenes (BTEX). Analyses of soil sample ARC-1-10', collected three feet below the tank invert at a depth of 10 feet, identified 1,000 parts per million (ppm) TPHd. Additionally, analysis of soil samples ARC-7-10.5' and ARC-8-10.5', collected from the northeast and northwest sidewalls, identified 240 ppm TPHd and 110 parts per billion (ppb) benzene. The above soil contamination was observed at approximately the same depth as the water table, which was noted to occur at approximately 10.5 feet below ground surface.

Guidelines established by the California Regional Water Quality Control Board (RWQCB) requires that a soil and ground water investigation be conducted when there is evidence to indicate that a release may have occurred from an underground storage tank. Although over excavation of the soil contaminated area was conducted, it appears that contaminated soil may still remain in place at the site. It is unclear if this soil contamination may have impacted the ground water at the site.

You are required to conduct a **Preliminary Site Assessment (PSA)** to determine the lateral and vertical extent and severity of ground water contamination which may have resulted from the release at the site. The information gathered by the PSA will be

Mr. John Ramsey
Re: 2017 Central Ave.
May 4, 1993
Page 2 of 4

used to determine an appropriate course of action to remediate the site, if deemed necessary. The PSA must be conducted in accordance with the RWQCB's Staff Recommendations for the Initial Evaluation and Investigation of Underground Tanks, the State Water Board's LUFT Manual, and be consistent with requirements set forth in Article 11 of Title 23, California Code of Regulations. The major elements of such an investigation are summarized in the attached **Appendix A**. The major elements of the guidelines include, but are not limited to, the following:

- o At least one ground water monitoring well must be installed within 10 feet of the observed soil contamination, oriented in the confirmed downgradient direction relative to ground water flow. In the absence of data identifying the confirmed downgradient direction, a minimum of three wells will be required to verify gradient direction. During the installation of these wells, soil samples are to be collected at five-foot-depth intervals and any significant changes in lithology.
- o Subsequent to the installation of the monitoring wells, these wells must be surveyed to an established benchmark, with an accuracy of 0.01 foot. Ground water samples are to be collected and analyzed quarterly, and water level measurements are to be collected monthly for the first three months, and then quarterly thereafter. If the initial ground water elevation contours indicate that ground water flow directions vary greatly than you will be required to continue monthly water level measurements until the ground water gradient behavior is known. Both soil and ground water samples must be analyzed for the appropriate fuel contaminants listed in Table 2 of the RWQCB's Staff Recommendations for the Initial Evaluation and Investigation of Underground Tanks.

This Department will oversee the assessment and remediation of your site. Our oversight will include the review of and comment on work proposals and technical guidance on appropriate investigative approaches and monitoring schedules. The issuance of well drilling permits, however, will be through the Alameda County Flood Control and Water Conservation District, Zone 7, in Pleasanton. The RWQCB may choose to take over as lead agency if it is determined, following the completion of the initial assessment, that there has been a substantial impact to ground water.

Mr. John Ramsey
Re: 2017 Central Ave.
May 4, 1993
Page 3 of 4

The PSA proposal is due **within 60 days** of the receipt of this letter. Once the proposal is approved, field work should commence within 60 days. A report must be submitted within 45 days after the completion of this phase of work at the site. Subsequent reports are to be submitted quarterly until this site qualifies for final RWQCB "sign-off". Such quarterly reports are due the first day of the second month of each subsequent quarter.

The referenced initial and quarterly reports must describe the status of the investigation and must include, among others, the following elements:

- o Details and results of all work performed during the designated period of time: records of field observations and data, boring and well construction logs, water level data, chain-of-custody forms, laboratory results for all samples collected and analyzed, tabulations of free product thicknesses and dissolved fractions, etc.
- o Status of ground water contamination characterization.
- o Interpretations of results: water level contour maps showing gradients, free and dissolved product, plume definition maps for each target component, geologic cross sections, etc.
- o Recommendations or plans for additional investigative work or remediation.

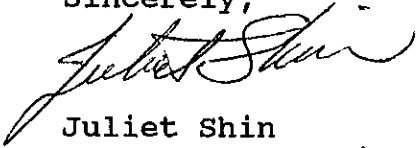
Please be advised that this is a formal request for a work plan pursuant to **Section 2722 (c)(d) of Title 23 California Code of Regulations**. Any extensions of the stated deadlines, or modifications of the required tasks, must be confirmed in writing by either this agency or RWQCB.

Please be reminded to copy Richard Hiett, at the San Francisco Bay Region-Water Quality Control Board, on all correspondence and reports regarding this site.

If you have any questions or comments, please contact me at (510) 271-4530.

Mr. John Ramsey
Re: 2017 Central Ave.
May 4, 1993
Page 4 of 4

Sincerely,



Juliet Shin
Hazardous Materials Specialist

cc: Richard Hiatt, RWQCB

Susan Wickham
Environmental Science &
Engineering, Inc.
4090 Nelson Ave., Ste J
Concord, CA 94520

Edgar Howell-File(JS)

FAX MESSAGE

FROM

GOLDEN WEST
ENVIRONMENTAL SERVICES, BUILDERS,
GENERAL CONTRACTORS

567 EXCHANGE COURT
LIVERMORE, CA 94550

(510) 447-2484

FAX (510) 447-4145

DATE: 12/9/92 TOTAL NO. OF PAGES : 3

TO: Kevin Tinsley

COMPANY: Alameda County Health

FAX NUMBER: 510-4757

SUBJECT: 2017 Central Ave. Alameda

PROJECT: American Red Cross

COMMENTS: *Copy of Contractors License &
Haz. mat. Endorsement as requested.
Worker's Comp will fax directly to
you within 2 hours.*

FROM: Chris

IF YOU DO NOT RECEIVE ALL PAGES
PLEASE CONTACT (510) 447-2484 EXT. 108

UNDERGROUND STORAGE TANK UNAUTHORIZED RELEASE (LEAK) / CONTAMINATION SITE REPORT

EMERGENCY <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	HAS STATE OFFICE OF EMERGENCY SERVICES REPORT BEEN FILED? <input type="checkbox"/> YES <input type="checkbox"/> NO	FOR LOCAL AGENCY USE ONLY I HEREBY CERTIFY THAT I AM A DESIGNATED GOVERNMENT EMPLOYEE AND THAT I HAVE REPORTED THIS INFORMATION TO LOCAL OFFICIALS PURSUANT TO SECTION 25160.7 OF THE HEALTH AND SAFETY CODE.
REPORT DATE 0 m 6 d 1 d 7 d 9 y 2 y	CASE #	SIGNED: _____ DATE: _____

REPORTED BY	NAME OF INDIVIDUAL FILING REPORT John Watson	PHONE (510) 535-2830	SIGNATURE
	REPRESENTING <input type="checkbox"/> LOCAL AGENCY <input type="checkbox"/> OTHER _____	<input checked="" type="checkbox"/> OWNER/OPERATOR <input type="checkbox"/> REGIONAL BOARD	COMPANY OR AGENCY NAME American Red Cross - Bay Area
	ADDRESS 2111 East 14th Street <small style="margin-left: 100px;">STREET</small> Oakland CA 94606 <small style="margin-left: 100px;">CITY</small> STATE ZIP		

RESPONSIBLE PARTY	NAME American Red Cross - Bay Area <input type="checkbox"/> UNKNOWN	CONTACT PERSON John Ramsey	PHONE (510) 522-7711
	ADDRESS 2017 Central Avenue <small style="margin-left: 100px;">STREET</small> Alameda CA 94606 <small style="margin-left: 100px;">CITY</small> STATE ZIP		

SITE LOCATION	FACILITY NAME (IF APPLICABLE) Red Cross	OPERATOR John Ramsey	PHONE (510) 522-7711
	ADDRESS 2017 Central Avenue <small style="margin-left: 100px;">STREET</small> Alameda Alameda CA 94606 <small style="margin-left: 100px;">CITY</small> COUNTY ZIP		
	CROSS STREET Chestnut	TYPE OF AREA <input checked="" type="checkbox"/> RESIDENTIAL <input type="checkbox"/> COMMERCIAL <input type="checkbox"/> INDUSTRIAL <input type="checkbox"/> RURAL <input type="checkbox"/> OTHER _____	TYPE OF BUSINESS <input type="checkbox"/> FARM <input checked="" type="checkbox"/> OTHER <u>Charity</u>

IMPLEMENTING AGENCIES	LOCAL AGENCY AGENCY NAME Alameda County Dept. of Environmental Health Hazardous Materials Division	CONTACT PERSON	PHONE (510) 271-4320
	REGIONAL BOARD San Francisco Bay		PHONE (510) 464-1255

SUBSTANCES INVOLVED	(1) NAME Heating Oil	QUANTITY LOST (GALLONS) <input checked="" type="checkbox"/> UNKNOWN
	(2)	<input type="checkbox"/> UNKNOWN

DISCOVERY/ABATEMENT	DATE DISCOVERED 0 m 6 d 0 d 9 d 9 y 2 y	HOW DISCOVERED <input type="checkbox"/> TANK TEST <input type="checkbox"/> TANK REMOVAL <input checked="" type="checkbox"/> SUBSURFACE MONITORING <input type="checkbox"/> INVENTORY CONTROL <input type="checkbox"/> NUISANCE CONDITIONS <input type="checkbox"/> OTHER _____
	DATE DISCHARGE BEGAN <input checked="" type="checkbox"/> UNKNOWN	METHOD USED TO STOP DISCHARGE (CHECK ALL THAT APPLY) <input checked="" type="checkbox"/> REMOVE CONTENTS <input type="checkbox"/> REPLACE TANK <input checked="" type="checkbox"/> CLOSE TANK <input type="checkbox"/> REPAIR TANK <input type="checkbox"/> REPAIR PIPING <input type="checkbox"/> CHANGE PROCEDURE
	HAS DISCHARGE BEEN STOPPED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, DATE _____	<input type="checkbox"/> OTHER _____

SOURCE/CAUSE	SOURCE OF DISCHARGE <input checked="" type="checkbox"/> TANK LEAK <input type="checkbox"/> UNKNOWN <input type="checkbox"/> PIPING LEAK <input type="checkbox"/> OTHER _____	TANKS ONLY/CAPACITY 1,000 GAL. AGE _____ YRS <input checked="" type="checkbox"/> UNKNOWN	MATERIAL <input type="checkbox"/> FIBERGLASS <input type="checkbox"/> STEEL <input type="checkbox"/> OTHER _____	CAUSE(S) <input checked="" type="checkbox"/> OVERFILL <input type="checkbox"/> RUPTURE/FAILURE <input type="checkbox"/> CORROSION <input checked="" type="checkbox"/> UNKNOWN <input type="checkbox"/> SPILL <input type="checkbox"/> OTHER _____
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CASE TYPE	CHECK ONE ONLY <input type="checkbox"/> UNDETERMINED <input checked="" type="checkbox"/> SOIL ONLY <input checked="" type="checkbox"/> GROUNDWATER <input type="checkbox"/> DRINKING WATER - (CHECK ONLY IF WATER WELLS HAVE ACTUALLY BEEN AFFECTED)
-----------	---

CURRENT STATUS	CHECK ONE ONLY <input checked="" type="checkbox"/> SITE INVESTIGATION IN PROGRESS (DEFINING EXTENT OF PROBLEM) <input type="checkbox"/> CLEANUP IN PROGRESS <input type="checkbox"/> SIGNED OFF (CLEANUP COMPLETED OR UNNECESSARY) <input type="checkbox"/> NO ACTION TAKEN <input type="checkbox"/> POST CLEANUP MONITORING IN PROGRESS <input type="checkbox"/> NO FUNDS AVAILABLE TO PROCEED <input type="checkbox"/> EVALUATING CLEANUP ALTERNATIVES
----------------	--

REMEDIAL ACTION	CHECK APPROPRIATE ACTION(S) (SEE BACK FOR DETAILS) <input type="checkbox"/> CAP SITE (CD) <input checked="" type="checkbox"/> EXCAVATE & DISPOSE (ED) <input type="checkbox"/> REMOVE FREE PRODUCT (FP) <input type="checkbox"/> ENHANCED BIO DEGRADATION (IT) <input type="checkbox"/> CONTAINMENT BARRIER (CB) <input type="checkbox"/> EXCAVATE & TREAT (ET) <input type="checkbox"/> PUMP & TREAT GROUNDWATER (GT) <input type="checkbox"/> REPLACE SUPPLY (RS) <input type="checkbox"/> TREATMENT AT HOOKUP (H-U) <input type="checkbox"/> NO ACTION REQUIRED (NA) <input type="checkbox"/> OTHER (OT) _____
-----------------	--

COMMENTS	
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**STATE
COMPENSATION
INSURANCE
FUND**

P.O. BOX 420807, SAN FRANCISCO, CA 94142-0807

CERTIFICATE OF WORKERS' COMPENSATION INSURANCE

DECEMBER 9, 1992

POLICY NUMBER: GRP#571 UNIT#1486-92
CERTIFICATE EXPIRES: 10-01-93

ALAMEDA COUNTY HEALTH DEPT.
SWAN WAY RM 200
OAKLAND, CA 94621

ATTN: KEVIN TINSLEY

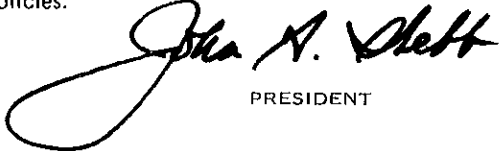
JOB: 2017 CENTRAL AVE. ALAMEDA, CA

This is to certify that we have issued a valid Workers' Compensation insurance policy in a form approved by the California Insurance Commissioner to the employer named below for the policy period indicated.

This policy is not subject to cancellation by the Fund except upon ten days' advance written notice to the employer.

We will also give you TEN days' advance notice should this policy be cancelled prior to its normal expiration.

This certificate of insurance is not an insurance policy and does not amend, extend or alter the coverage afforded by the policies listed herein. Notwithstanding any requirement, term, or condition of any contract or other document with respect to which this certificate of insurance may be issued or may pertain, the insurance afforded by the policies described herein is subject to all the terms, exclusions and conditions of such policies.


PRESIDENT

EMPLOYER

THE D.B. NEFF CORP.
DBA: GOLDEN WEST ENVIRONMENTAL SERVICE/BUILDERS
567 EXCHANGE CT.
LIVERMORE, CA 94551

TMR



State of California
CONTRACTORS STATE LICENSE BOARD



License Number

4321851

Entity

CORP

Business Name

THE BOWEN CORPORATION
200 GOLDEN WEST
SUNLAND, CA 91765

Class

Expiration Date

12/31/94

STATE OF CALIFORNIA
STATE AND CONSUMER SERVICES AGENCY (CONTRACTORS STATE LICENSE BOARD)



Building Quality



HAZARDOUS SUBSTANCES REMOVAL AND REMEDIAL ACTIONS CERTIFICATION

Pursuant to the provisions of Section 7058.7 of the Business and Professions Code, the Registrar of Contractors does hereby certify that the following qualifying person has successfully completed the hazardous substances removal and remedial actions examination.



Qualifier: **D. BAILEY NEFF**

License No.: **432103**

Namestyle: **GOLDEN WEST BUILDERS * NEFF D. B. INCORPORATED**

WITNESS my hand and official seal this
3 day of **OCTOBER, 1988**

[Signature]
Registrar of Contractors

13L-36 (1/88)

This certification is the property of the Registrar of Contractors, is not transferable, and shall be returned to the Registrar upon demand when suspended, revoked, or invalidated for any reason.

41762

**STATE
COMPENSATION
INSURANCE
FUND**

P.O. BOX 420807, SAN FRANCISCO, CA 94142-0807

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DECEMBER 9, 1992

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SWAN WAY RM 200
OAKLAND, CA 94621

ATTN: KEVIN TINSLEY

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PRESIDENT

EMPLOYER

THE D.B. NEFF CORP.
DBA: GOLDEN WEST ENVIRONMENTAL SERVICE/BUILDERS
567 EXCHANGE CT.
LIVERMORE, CA 94551

TMR

GOLDEN WEST

ices

GOLDEN WEST
567 EXCHANGE COURT
LIVERMORE, CA 94551
(510) 447-2484 FAX (510) 447-4145

LETTER OF TRANSMITTAL

TO ~~Mr. Kevin Timms~~
Alameda Co. Health
80 Swan Way, Room 200
Oakland, CA 94621

DATE 12-2-92
PROJECT NO Red Cross 92292
FACILITY
LOCATION Alameda

WE ARE SENDING YOU HERewith UNDER SEPARATE COVER VIA Express mail

- QUOTATIONS
- PLANS
- SPECIFICATIONS
- COPY OF LETTER

COPIES	DATED	NO.	DESCRIPTION
1			Closure plan & all attachments
1			Check for 459.00

- FOR YOUR INFO AND FILES
- FOR YOUR REVIEW AND COMMENTS
- FOR YOUR USE
- AS REQUESTED
- FOR YOUR APPROVAL
- APPROVED
- FOR YOUR APPROVAL AND RETURN
- REVISED
- FOR YOUR CORRECTIONS AND RESUBMISSION
- PLEASE RETURN _____ COPIES TO ME

REMARKS Kevin, Please phone our office when this is approved so we can pick it up and get it to City of Alameda for approval. If you can get through this in a few days it would be much appreciated.

COPIES TO
BY Thanks
Chris for
Rick Henderson

INSTRUCTIONS

General Instructions

- * Three (3) copies of this plan plus attachments and 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.

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 Health Services, 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) Page for employees to sign indicating 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.**

NOTE: These requirements are excerpts from 29 CFR Part 1910.120(b)(4), Hazardous Waste Operations and Emergency Response; Final 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 tanks and piping in addition to the ones being pulled.

20. DEPOSIT

A deposit, payable to Alameda County 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 our office and from the San Francisco Bay Regional Water Quality Control Board (415/464-1255). 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.;

- 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) Description of sampling methods;
- 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) Tabulation of the volume and final destination of all non-manifested contaminated soil hauled offsite.

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	GCFID(5030)	TPH G	GCFID(5030)
	TPH D	GCFID(3550)	TPH D	GCFID(3510)
	BTX&E	8020 or 8240	BTX&E	602, 624 or 8260
	TPH AND BTX&E	8260		
Leaded Gas	TPH G	GCFID(5030)	TPH G	GCFID(5030)
	BTX&E	8020 OR 8240	BTX&E	602 or 624
	TPH AND BTX&E	8260	TOTAL LEAD AA	
	-----Optional-----			
	TEL	DHS-LUFT	TEL	DHS-LUFT
	EDB	DHS-AB1803	EDB	DHS-AB1803
Unleaded Gas	TPH G	GCFID(5030)	TPH G	GCFID(5030)
	BTX&E	8020 or 8240	BTX&E	602, 624 or 8260
	TPH AND BTX&E	8260		
Diesel, Jet Fuel and Kerosene	TPH D	GCFID(3550)	TPH D	GCFID(3510)
	BTX&E	8020 or 8240	BTX&E	602, 624 or 8260
	TPH AND BTX&E	8260		
Fuel/Heating Oil	TPH D	GCFID(3550)	TPH D	GCFID(3510)
	BTX&E	8020 or 8240	BTX&E	602, 624 or 8260
	TPH AND BTX&E	8260		
Chlorinated Solvents	CL HC	8010 or 8240	CL HC	601 or 624
	BTX&E	8020 or 8240	BTX&E	602 or 624
	CL HC AND BTX&E	8260	CL HC AND BTX&E	8260
Non-chlorinated Solvents	TPH D	GCFID(3550)	TPH D	GCFID(3510)
	BTX&E	8020 or 8240	BTX&E	602 or 624
	TPH AND BTX&E	8260	TPH and BTX&E	8260
Waste and Used Oil or Unknown (All analyses must be completed and submitted)	TPH G	GCFID(5030)	TPH G	GCFID(5030)
	TPH D	GCFID(3550)	TPH D	GCFID(3510)
	TPH AND BTX&E	8260		
	O & G	5520 D & F	O & G	5520 C & F
	BTX&E	8020 or 8240	BTX&E	602, 624 or 8260
	CL HC	8010 or 8240	CL HC	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 extractible, 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

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.