ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

DEPARTMENT OF ENVIRONMENTAL HEALTH
Hazardous Materials Program
80 Swan Way, Rm. 200
Oakland, CA 94621
(415)

FACSIMILE TRANSMITTAL

TO:

825-5889 — Floor/Room # _____
Fax Phone Number

Name: FRED HAYDEN
Title/Section

Agency: GROUNDWATER TECHNOLOGY

Address: _____

Phone #: ( )

FROM:

_____ — Floor/Room # _____
Fax Phone Number

Date: 9-17-90 — Time Sent: 3:45

Sender: SCOTT SEERY
Title/Section

Phone #: ( ) 271-4320

Number of Pages Including Transmittal Sheet: 3

Special Instructions/Comments:

(1) MINIMUM VERIFICATION ANALYSES (TABLE #2)

(2) EXPLANATION FOR TABLE #2

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 material 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 extractible 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. TETRAETHYLLEAD (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 for 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:

	SOIL PPM	WATER PPB
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

TABLE #2
REVISED 10 AUGUST 1990

RECOMMENDED MINIMUM VERIFICATION ANALYSES FOR UNDERGROUND TANK LEAKS

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

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