ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION (LOP)
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

October 8, 1997
StID # 1136

REMEDIAL ACTION COMPLETION CERTIFICATION

Mr. Perry Pahlmeyer, Trustee of R.B. Pahlmeyer Irrevocable Trust
10234 County Rd.
Durango, CO 81301-8613

RE: Oil Changers No. 616, 3132 E. 12th St., Oakland CA 94601

Dear Mr. Pahlmeyer:

This letter confirms the completion of site investigation and remedial action for the two 10,000 gallon gasoline and the one 550 gallon waste oil tanks at the above described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground tank is greatly appreciated.

Based upon the available information and with provision that the information provided to this agency was accurate and representative of site conditions, no further action related to the underground tank releases is required.

This notice is issued pursuant to a regulation contained in Title 23, Division 3, Chapter 16, Section 2721 (e) of the California Code of Regulations.

Please contact Barney Chan at (510) 567-6765 if you have any questions regarding this matter.

Sincerely,

Mee Ling Tung
Director, Environmental Health

c: B. Chan, Hazardous Materials Division-files
Kevin Graves, RWQCB
Dave Deaner, SWRCB Cleanup Fund
Mr. L. Griffin, City of Oakland, OES, 505 14th St., Suite 702
Oakland CA 94612

RACC3132

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

October 10, 1997
StID# 1136

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION (LOP)
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

Mr. Perry Pahlmeyer, Trustee of R.B. Pahlmeyer Irrevocable Trust
10234 County Rd.
Durango, CO 81301-8613

RE: Fuel Leak Site Case Closure- 3132 E. 12th St., Oakland CA 94601

Dear Mr. Pahlmeyer:

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with the Health and Safety Code, Chapter 6.75 (Article 4, Section 25299.37 h). The State Water Resources Control Board adopted this letter on February 20, 1997. As of March 1, 1997, the Alameda County Health Services, Local Oversight Program (LOP) is required to use this case closure letter. We are also enclosing the case closure summary. These documents confirm the completion of the investigation and cleanup of the reported release at the subject site.

Site Investigation and Cleanup Summary:

Please be advised that the following conditions exist at the site:

* 2900 parts per million (ppm) Total Petroleum Hydrocarbons as gasoline (TPHg) and 29,98,23 and 77 ppm BTEX, respectively remain in the soil at the site.

* Low levels of the chlorinated solvents; carbon tetrachloride, chloroform, cis-1,2-DCE, PCE and TCE exist beneath this site as a result of an offsite source.

This site should be included in the City's permit tracking system. Please contact me at (510) 567-6765 if you have any questions.

Sincerely,

Barney M. Chan
Hazardous Materials Specialist

enclosures: Case Closure Letter, Case Closure Summary

c: Mr. L. Griffin, City of Oakland OES, 505 14th St., Suite 702, Oakland CA 94612
B. Chan, files (letter only)
trlt3132

04172

ENVIRONMENTAL PROTECTION
97 JUL 22 PM 4:11

CASE CLOSURE SUMMARY
Leaking Underground Fuel Storage Tank Program

I. AGENCY INFORMATION **Date:** 06/13/97

Agency name: **Alameda County-HazMat** Address: **1131 Harbor Bay Parkway Room 250**

City/State/Zip: **Alameda, CA 94502-6577** Phone: **(510) 567-6700**

Responsible staff person: Barney Chan Title: **Hazardous Materials Spec.**

II. CASE INFORMATION

Site facility name: Oil Changers No. 616

Site facility address: 3132 E. 12th St., Oakland CA 94601

RB LUSTIS Case No: **N/A** Local Case No./LOP Case No.: 1136

ULR filing date: 8/28/89 SWEEPS No: **N/A**

Responsible Parties:	Addresses:	Phone Numbers:
1) Mr. Perry Pahlmeyer, Trustee of R. B. Pahlmeyer Irrevocable Trust	10234 County Rd. Durango, CO 81301-8613	970-259-7576

Tank No:	Size in gal.:	Contents:	Closed in-place or removed?:	Date:
1	10,000	gasoline	Removed	6/16/89
2	10,000	gasoline	Removed	6/16/89
3	550	waste oil	Removed	6/16/89

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and type of release: unknown

Site characterization complete? Yes

Date approved by oversight agency:

Monitoring Wells installed? YES Number: 6

Proper screened interval? Yes, based upon first encounter water in field

Highest GW depth: 6.88'bgs Lowest depth: 14.28' bgs

Flow direction: south-southwesterly

Leaking Underground Fuel Storage Program

Most sensitive current use: commercial/industrial

Are drinking water wells affected? no Aquifer name:

Is surface water affected? no Nearest affected SW name:

Off-site beneficial use impacts (addresses/locations):

Report(s) on file? Yes Where is report filed? **Alameda County**
1131 Harbor Bay Pkwy
Alameda CA 94502

Treatment and Disposal of Affected Material:

Material	Amount (include units)	Action (Treatment of Disposal w/destination)	Date
Tanks & Piping	2-10,000 1-550 gallon	Disposed by H&H Shipping	6/16/89
Free Product	300 gallon	Disposed by H&H Shipping	6/15/89
Soil	200 cy	Disposed, BFI Landfill	1/28 & 1/29/91
Groundwater	20 gallons	Recycled at REMCO, Richmond	3/7/91

Maximum Documented Contaminant Concentrations - - Before and After Cleanup

Contaminant	Soil (ppm) 1 Before	Soil (ppm) After 2	Water (ppb) Before	Water (ppb) After
TPH (Gas)	2800	2900	NA	ND
Benzene	25	29	NA	0.0005
Toluene	67	98	NA	ND
Ethylbenzene	33	23	NA	ND
Xylenes	350	77	NA	ND
Oil and Grease	800			
Other- Organic lead	0.338			
Metals:Cd,Cr,Pb,Ni, Zn	0.66,39.1,58.1,45.1,108 ppm			

Comments (Depth of Remediation, etc.):
1 Sample A3 from 6/16/89 tank pull
2 Sample B1A from 7/11/89 overexcavation

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? undetermined

Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? undetermined

Does corrective action protect public health for current land use? YES

Leaking Underground Fuel Storage Tank Program

Site management requirements: NA

Should corrective action be reviewed if land use changes? Yes

Monitoring wells Decommisioned: NO

Number Decommisioned: 0 Number Retained: 6

List enforcement actions taken: None

List enforcement actions rescinded:None

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: Barney M. Chan Title: Hazardous Materials Specialist

Signature: Barney M Chan Date: 7/1/97

Reviewed by

Name: Tom Peacock Title: Manager

Signature: Tom Peacock Date: 7-10-97

Name: Madhulla Logan Title: Hazardous Materials Specialist

Signature: Madhulla Logan Date: 6/27/97

VI. RWQCB NOTIFICATION

Date Submitted to RB: RB Response: Approved

RWQCB Staff Name: K. Graves Title: AWRCE Date: 7-18-97

VII. ADDITIONAL COMMENTS, DATA, ETC.

see case closure summaries

Site Summary- 3132 E. 12th St., Oil Changers #616
StID # 1136

June 16, 1989- Three underground tanks; 2-10k gasoline, and 1-550 gallon waste oil were removed from this site. The two gasoline tanks layed side by side within the same pit. Considerable soil contamination was encountered in both the fuel and waste oil tank pits. Up to 2,800 ppm TPHg and 25,67,33 and 350 ppm BTEX, respectively was detected in soil sample A3 from beneath the fuel tanks. Up to 800 ppm TOG was detected in a soil sample beneath the waste oil tank.

July 11, 1989- Overexcavation of the fuel tank pit was performed to about 14' bgs where groundwater was encountered. Soil samples were taken after excavation. Up to 2,900 ppm TPHg and 29,98,23 and 77 ppm BTEX was detected in these samples. The waste oil tank was not overexcavated at this time.

April 12, 1990- Three monitoring wells , MW-1 through MW-3 were installed at the site. Groundwater was encountered at approximately 20-23' bgs and equilibrated at approximately 10-11' bgs. Silty clay was encountered in the borings from 2-22', under which a gravelly-sandy clay mixture and groundwater was encountered. Quarterly monitoring was initiated.

January 11, 1991- The waste oil tank was overexcavated. It was enlarged approximately 2' on the sides and approximately 3' in depth. Five confirmatory soil samples were taken, from each side and from the tank floor. All samples analyzed were ND for TOG except the sample from the east wall which detected 50 ppm TOG.

June 9, 1993- After discontinuing groundwater monitoring after five quarters of monitoring in 6/91, groundwater monitoring was reinitiated. Monitoring well MW-1 was analyzed for the additional waste oil parameters not previously looked for; the metals; cadmium, lead, nickel and zinc and chlorinated solvents. Carbon tetrachloride, chloroform, PCE and TCE were detected.

September 3, 1993- Additional subsurface investigation was performed to further delineate the extent of both petroleum and solvent contamination in soil and groundwater. Borings B-1 through B-8 were advanced further up- and downgradient of the former tanks. This was done since a potential upgradient source for contamination was suspected and high residual petroleum contamination was left in-place beneath the gasoline tanks. Grab groundwater hydropunch samples from the two upgradient borings, B-1 and B-2, detected chlorinated solvents supporting the theory of a potential upgradient solvent source. The extent of petroleum contamination was not determined as grab groundwater samples from borings B-6 and B-8 downgradient of the gasoline tanks detected 5 and 8.3 mg/l TPHg, respectively and detectable

BTEX.

July 31 and August 1, 1995- Three additional monitoring wells, (MW -4 through MW-6) were installed further downgradient to the former gasoline tank pit. One well was located on-site and two were located off-site within the median of E. 12th St. Soil and groundwater samples from MW-4 through MW-6 indicate little to no gasoline and BTEX contamination. The limits of the fuel release were defined.

In addition, to further investigate the source of the chlorinated solvents, four offsite upgradient borings were installed along E. 13th St. and Fruitvale Ave. Grab groundwater samples were taken from these borings. In B10, elevated levels of chlorinated solvents were detected, supporting the theory of an offsite upgradient source for the chlorinated solvents.

After this initial monitoring in August 1995, one additional monitoring event occurred in February 1996. Only TPHg at 0.170 mg/l and benzene at 0.0076 mg/l were detected in MW-4. All other results for TPH and BTEX were ND. Chlorinated solvents were not run during this event. Part of the April 5,1995 work plan was to install offsite wells and then perform a Human Health Risk Assessment (HHRA). Reluctance to include the chlorinated solvents in the HHRA led to an impasse.

One final monitoring event occurred in 1997. Based upon these results closure was requested without the submission of a HHRA.

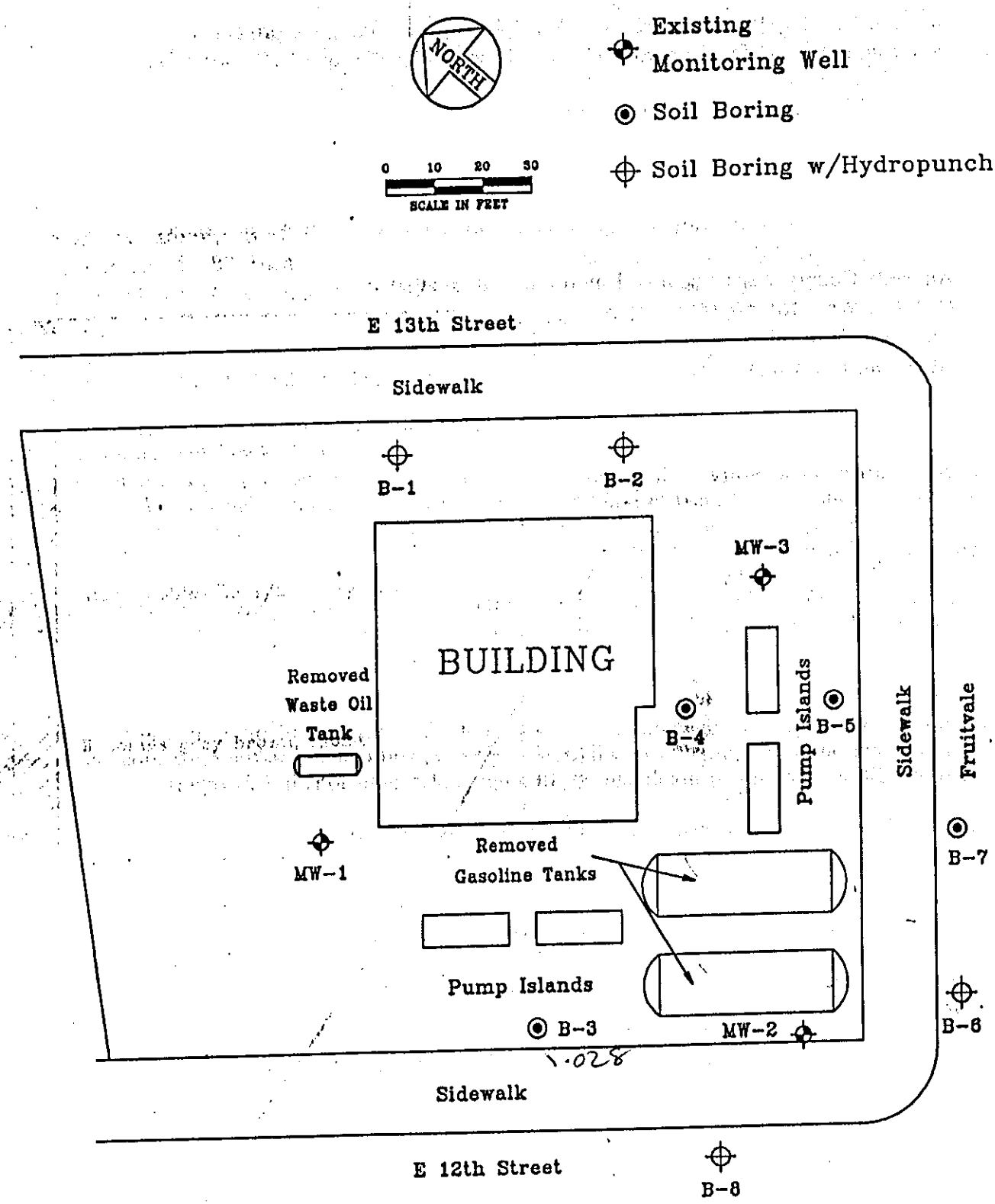
Our office performed a Tier 1 HHRA for both the petroleum,ie benzene, and the chlorinated solvents. See the attached printout of the Tier 1 evaluations. The exposure pathways investigated were: solvent groundwater volatilization to indoor air, benzene gw volatilization to indoor and outdoor air and benzene soil volatilization to indoor and outdoor air. Either the highest concentration ever detected or the average concentration onsite was evaluated. Based upon this evaluation by M. Logan, no risk exceeding 10E-5 is anticipated for a commercial scenario.

Site closure is recommended based upon:

1. Adequate site characterization;

2. Stabilized contaminant plume; and

3. No anticipated human health risk at 10E-5 due to residual petroleum or chlorinated solvents.



EnviroNet

Site Plan
3132 East 12th Street
Oakland, California

PLATE 1

Soil Sample Analytical Results

MCL | 680 | 100 | 1750 | ppb

Boring	Depth of Soil Sample in ft	TPH-g	TPH-d	B	E	T	X
		mg/Kg					
B-2	13.5	ND	ND	ND	ND	ND	ND
	18.5	ND	ND	ND	ND	ND	ND
B-3	8.5	ND	1.6[a]	ND	ND	ND	ND
	13.5	15	6.0[a]	0.028	0.190	0.0050	0.660
	18.5	ND	ND	ND	ND	ND	ND
B-4	8.5	ND	ND	ND	ND	ND	ND
	13.5	570	36.[a]	ND	6.100	0.310	19.000
	18.5	ND	ND	ND	ND	ND	ND
B-5	8.5	ND	ND	ND	ND	ND	ND
	13.5	12	5.4[a]	ND	0.110	0.017	0.072
	18.5	17	3.7[a]	ND	0.100	0.058	0.053
B-6	8.5	ND	1.3[a]	ND	ND	ND	ND
	13.5	270	46.[a]	ND	1.100	0.400	0.680
	18.5	4.6[b]	1.5[a]	ND	ND	ND	ND
B-7	13.5	52	4.6[a]	ND	0.240	0.086	0.140
	18.5	ND	ND	ND	ND	ND	ND
B-8	14.0	ND	ND	ND	ND	ND	ND
	18.5	ND	ND	ND	ND	ND	ND

Ground Water Sample Analytical Results

Boring	TPH-g	TPH-d	B	E	T	X	Carbon tetra chloride	Chlor-oform	Tetra-chloro-ethene	Tri-chloro-ethene
	mg/L									
B-1	NA	NA	NA	NA	NA	NA	0.0011	ND	0.087	ND
B-2	0.41	0.17	0.0009	0.0051	ND	0.0093	1.300	0.100	0.560	0.0091
B-6	5.0	1.8[a]	0.084	0.044	0.016	0.069	NA	NA	NA	NA
B-8	8.3	1.5[a]	0.059	0.780	0.0021	1.500	NA	NA	NA	NA

[a] The positive result appears to be a lighter hydrocarbon than diesel.
[b] The positive result has an atypical pattern for gasoline analysis.
ND Not detected above the laboratory reporting limit.
NA Not analyzed for this compound.

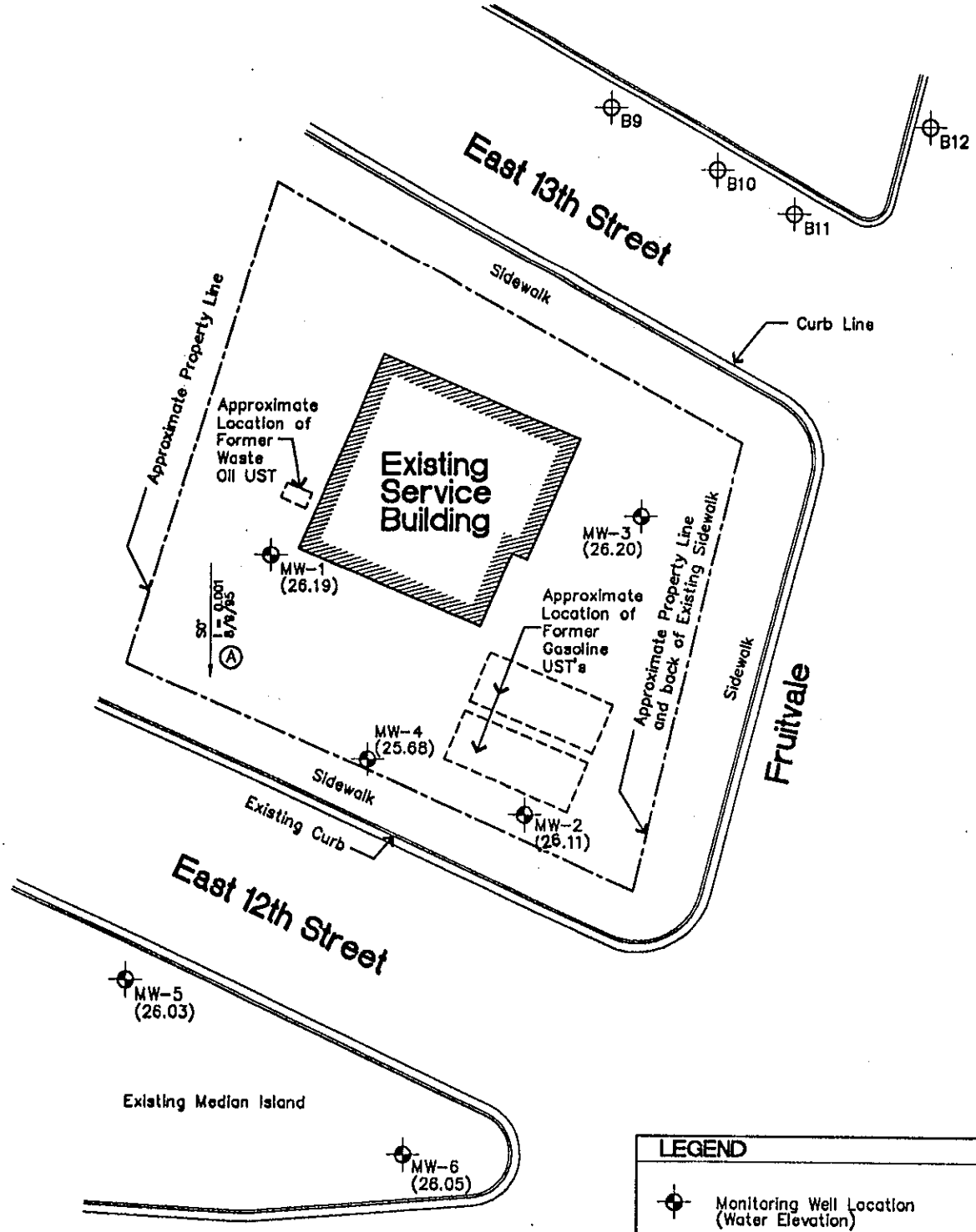
The laboratory report and chain-of-custody form are attached.

CLOSURE

The extent of petroleum hydrocarbons in soil appears to have been delineated to the southwest, downgradient of the removed gasoline tanks, as evidenced by the lack of petroleum hydrocarbons detected in soil samples collected from boring B-8. Only low concentrations were detected to the northwest, in boring B-3. Relatively high concentrations were detected to the northeast in borings B-4 and B-5, and to the southeast in borings B-6 and B-7. With the exception of boring B-5, the highest concentrations of contaminants were detected in the samples from 13.5 feet BGS. This is consistent with the observation of water levels between 10 and 14 feet BGS.

TPH-g, TPH-d, and BETX were detected downgradient and sidegradient of the removed tanks in water samples collected from borings B-6 and B-8, although the laboratory noted that the positive result for TPH-d appears to be a lighter hydrocarbon than diesel. This phase of the investigation did not delineate the extent of petroleum hydrocarbons in ground water. However, TPH-g and TPH-d were detected in the water sample from boring B-2, which is upgradient and near the property line, while the soil analyses from this boring were non detect. Also, the TPH-d result was not noted to be a lighter hydrocarbon than diesel, while the remaining TPH-d results were. These facts suggest the possibility of an off site source of petroleum hydrocarbons, in addition to the petroleum hydrocarbon source in the tanks excavation.

Carbon tetrachloride, chloroform, tetrachloroethene, and trichloroethene were detected in



GROUNDWATER FLOW LEGEND				
Gradient Direction — #				
Identifier Tag	Date Surveyed	Flow Direction	Gradient Slope	Notes
(A)	8/9/95	S 0°	I = 0.001	

LEGEND

- Monitoring Well Location (Water Elevation)
- Boring Location
- Groundwater Flow Direction (approximate)

0 15' 30'
Scale: 1" = 30'

NORTH

EnviroNet CONSULTING, Inc.

SITE PLAN
Monitoring Well Locations
Oil Changers - Perry Pahlmeyer
3132 12th Street
Oakland, California

DRAWN BY:	DWG NAME:	APPROVED BY:	JOB NUMBER:	REVISIONS:
W A	31081-2	GSJ	3108.1	

PLATE 2 of 2

DATE: 9-13-95

Table 2: 8010 Halogenated Volatile Organics Analysis Report

Sample	Date Sampled	Carbon tetra-chloride	Chloro-form	Cis 1,2-Dichloro-ethylene	1,2-Di-chloro-propane	Tetra-chloro-ethylene	Tri-chloro-ethylene
		----------mg/L----------					
B9	08/01/95	0.0089	0.0065	ND	0.0006	0.49	0.0048
B10	08/01/95	8.2	2.8	0.0008	0.0065	0.27	0.0044
B11	08/01/95	0.086	0.026	ND	ND	0.0063	ND
B12	08/01/95	ND	ND	0.001	ND	0.0025	0.0007

ND = Not Detected

Note: All other 8010 constituents except those listed in Table 2 were below detection limits for borings B9, B10, B11, and B12.

Table 1: Soil Analytical Results

Sample	Date Sampled	TPH-g	TPH-d	TPH-mo	B	T	E	X
		----------mg/kg----------						
MW4-5.5'	08/01/95	ND	ND	ND	ND	ND	ND	ND
MW4-10.5'	08/01/95	ND	ND	ND	ND	ND	ND	ND
MW4-15.5'	08/01/95	31	ND	ND	0.058	0.032	0.37	0.21
MW4-20'	08/01/95	ND	ND	ND	ND	ND	ND	ND
MW5-5.5'	07/31/95	ND	ND	ND	ND	ND	ND	ND
MW5-10.5	07/31/95	ND	ND	ND	ND	ND	ND	ND
MW5-15.5'	07/31/95	ND	ND	ND	ND	ND	ND	ND
MW5-20'	07/31/95	ND	ND	ND	ND	ND	ND	ND
MW6-5.5'	07/31/95	ND	ND	ND	ND	ND	ND	ND
MW6-10.5'	07/31/95	ND	ND	ND	ND	ND	ND	ND
MW6-15.5'	07/31/95	ND	ND	ND	ND	ND	ND	ND
MW6-20'	07/31/95	ND	ND	ND	ND	ND	ND	ND

ND = Not Detected

Table 1A: Historical Sampling Results - MW-1 (Petroleum Hydrocarbons)

Well	Date	TPH-g	TPH-d	TPH-mo	TRPH	B	T	E	X
		----------mg/L----------							
MW-1	06/14/90	0.26	-----	ND	-----	ND	ND	ND	ND
	10/16/90	0.07	-----	ND	-----	ND	ND	ND	ND
	01/14/91	0.08	-----	ND	-----	ND	ND	ND	ND
	05/17/91	0.19	-----	ND	-----	ND	ND	ND	ND
	09/03/91	0.22	-----	ND	-----	0.003	ND	ND	0.001
	06/09/93	0.18*	ND	ND	-----	ND	ND	ND	ND
	11/09/93	0.07*	ND	ND	-----	ND	ND	ND	ND
	03/17/94	0.08*	ND	ND	-----	ND	ND	ND	ND
	10/26/94	ND	ND	ND	-----	ND	ND	ND	ND
	01/30/95	ND	ND	-----	ND	ND	ND	ND	ND
	08/09/95	ND	ND	-----	ND	ND	ND	ND	ND

ND = Not Detected; ----- = Not Analyzed; * Unknown hydrocarbon, single peak

Table 1B: Historical Sampling Results - MW-2 (Petroleum Hydrocarbons)

Well	Date	TPH-g	TPH-d	TPH-mo	TRPH	B	T	E	X
		----------mg/L----------							
MW-2	06/14/90	0.22	-----	ND	-----	ND	ND	ND	ND
	10/16/90	ND	-----	ND	-----	ND	ND	ND	ND
	01/14/91	0.05	-----	ND	-----	0.0007	ND	ND	ND
	05/17/91	0.10	-----	ND	-----	0.0063	ND	ND	ND
	09/03/91	0.48	-----	ND	-----	0.043	ND	0.02	0.005
	06/09/93	0.13	-----	ND	-----	0.0091	ND	ND	ND
	11/09/93	ND	0.13	ND	-----	0.0076	ND	ND	ND
	03/17/94	0.06*	0.09	ND	-----	0.0076	ND	ND	ND
	10/26/94	ND	ND	ND	-----	-----	ND	ND	ND
	01/30/95	ND	ND	-----	ND	ND	ND	ND	ND
	08/09/95	ND	ND	-----	ND	ND	ND	ND	ND

ND = Not Detected; ----- = Not Analyzed; * Unknown hydrocarbon, single peak.

Table 1C: Historical Sampling Results - MW-3 (Petroleum Hydrocarbons)

Well	Date	TPH-g	TPH-d	TPH-mo	TRPH	B	T	E	X
		mg/L							
MW-3	06/14/90	0.35	-----	ND	-----	0.004	ND	ND	ND
	10/16/90	0.14	-----	ND	-----	0.012	ND	ND	ND
	01/14/91	0.22	-----	ND	-----	0.0025	ND	ND	ND
	05/17/91	0.16	-----	0.16	-----	0.0018	ND	ND	ND
	09/03/91	10.0	-----	7.0	-----	3.6	ND	0.11	0.56
	06/09/93	0.11*	-----	ND	-----	0.0069	ND	ND	ND
	11/09/93	0.06*	-----	ND	-----	0.0034	ND	ND	ND
	03/17/94	0.08*	-----	ND	-----	ND	ND	ND	ND
	10/26/94	ND	ND	ND	-----	ND	ND	ND	ND
	01/30/95	ND	ND	-----	ND	ND	ND	ND	ND
	08/09/95	ND	ND	-----	ND	ND	ND	ND	ND

ND = Not Detected; Blank = Not Analyzed; * Unknown hydrocarbon, single peak.

Table 2: Historical Sampling Results MW-4→MW-6 (Petroleum Hydrocarbons)

Well	Date	TPH-g	TPH-d	TPH-mo	B	T	E	X
		mg/L						
MW-4	08/09/95	ND	ND	ND	0.0005	ND	ND	ND
MW-5		ND	ND	ND	ND	ND	ND	ND
MW-6		ND	ND	ND	ND	ND	ND	ND

ND= Not Detected

Table 5: Current Groundwater Analytical Results

Sample	Date Sampled	TPH-g	TPH-d	TPH-mo	B	T	E	X
		mg/L						
MW-1	02/07/96	ND	ND	ND	ND	ND	ND	ND
MW-2		ND	ND	ND	ND	ND	ND	ND
MW-3		ND	ND	ND	ND	ND	ND	ND
MW-4		0.170	ND	ND	0.0076	ND	ND	ND
MW-5		ND	ND	ND	ND	ND	ND	ND
MW-6		ND	ND	ND	ND	ND	ND	ND

ND = Not Detected

Table 6: Historical Sampling Results MW-1→MW-6 (TOG and Metals)

Well	Date Sampled	TOG	Cd	Cr	Pb	Ni	Zn
		----------mg/L----------					
MW-1	06/09/93	ND	ND	ND	ND	ND	ND
MW-1	11/09/93	UTD	ND	ND	ND	ND	ND
MW-1	03/17/94	ND	ND	ND	ND	ND	ND
MW-1	10/26/94	1.6	ND	ND	ND	ND	0.22
MW-1	01/30/95	ND	0.006	ND	ND	ND	0.017
MW-1	08/09/95	ND	ND	ND	ND	ND	0.015
MW-2	11/09/93	ND					
MW-2	03/17/94	ND	ND	ND	ND	ND	ND
MW-2	10/26/94		ND	ND	ND	ND	0.039
MW-2	01/30/95		ND	0.023	ND	ND	0.02
MW-2	08/09/95	ND	ND	ND	ND	0.044	0.10
MW-3	11/09/93						
MW-3	03/17/94	ND	ND	ND	ND	ND	ND
MW-3	10/26/94		ND	ND	ND	ND	0.065
MW-3	01/30/95		ND	ND	ND	ND	0.036
MW-3	08/09/95	ND	ND	ND	ND	ND	0.96
MW-4	08/09/95	ND	ND	0.012	ND	ND	0.04
MW-5	08/09/95	ND	ND	0.16	ND	0.30	0.19
MW-6	08/09/95	ND	ND	0.015	ND	ND	0.21

ND = Not Detected; UTD = Unable To Determine; Blank = Not Analyzed

Table 7: Historical Sampling Results MW-1→MW-6 (EPA 8010)

Well	Date	Carbon Tetrachloride	Chloroform	Cis 1,2-Dichloro-ethylene	Tetra-chloro-ethylene	Trichloro-ethylene
		----------mg/L----------				
MW-1	06/09/93	0.035	0.0095		0.24	0.0091
MW-1	11/09/93	0.081	0.0073		0.370	0.0052
MW-1	03/17/94	0.015	0.021		0.062	0.0046
MW-1	10/26/94	0.091	0.010	61 ppb	0.260	ND
MW-1	01/30/95	0.21	0.025	ND	0.34	ND
MW-1	08/09/95	0.094	0.011	0.0065	0.29	0.0068
MW-2	11/09/93	0.0088	0.011		0.087	0.0009
MW-2	03/17/94	0.0056	0.011		0.016	0.0022
MW-2	10/26/94	ND	0.011		0.100	ND
MW-2	01/30/95	0.0056	0.0099	ND	0.12	ND
MW-2	08/09/95	0.0037	0.0076	0.0030	0.12	0.0036
MW-3	11/09/93	0.056	0.0049		0.310	0.0056
MW-3	03/17/94	0.086	0.0024		0.180	0.0026
MW-3	10/26/94	0.018	ND		0.230	ND
MW-3	01/30/95	0.0071	ND	0.006	0.18	0.0059
MW-3	08/09/95	0.0042	0.0018	0.0042	0.15	0.0052
MW-4	08/09/95	0.0063	0.0055	0.0035	0.13	0.0034
MW-5	08/09/95	0.086	0.017	0.0038	0.22	0.0034
MW-6	08/09/95	0.0046	0.0089	0.0031	0.079	0.0034

PRG Tap water

1.1 ppb

1.6 ppb

ND = Not Detected; Blank = Not Analyzed
Note: All other 8010 constituents except those listed in Table 7 were below detection limits

Solvents

RBCA SITE ASSESSMENT — Tier 2 Worksheet 9.3

Site Name: 0
Site Location: 0
Completed By: madhulla Logan
Date Completed: 1/1/1904

GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

☐ MCL exposure limit?
☐ PEL exposure limit?

Calculation Option: 2

SSTL Results For Complete Exposure Pathways ("x" if Complete)

CONSTITUENTS OF CONCERN		Representative Concentration	Groundwater Ingestion			X Groundwater Volatilization to Indoor Air		Groundwater Volatilization to Outdoor Air		Applicable SSTL	Exceeded ?	Required CRF
CAS No.	Name	(mg/L)	Residential: (on-site)	Commercial: (on-site)	Regulatory(MCL): (on-site)	Residential: (on-site)	Commercial: (on-site)	Residential (on-site)	Commercial: (on-site)	(mg/L	"■" If yes	Only if "yes" left
~~71-43-2~~	~~Benzene~~	~~7.6E-3~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~7.4E-1~~	~~NA~~	~~NA~~	~~7.4E-1~~	☐	~~<1~~
56-23-5	Carbon tetrachloride	9.4E-2	NA	NA	NA	NA	1.1E-1	NA	NA	1.1E-1	☐	<1
67-66-3	Chloroform	1.1E-2	NA	NA	NA	NA	3.5E-1	NA	NA	3.5E-1	☐	<1
156-59-2	Dichloroethene, cis-1,2-	6.5E-3	NA	NA	NA	NA	2.0E+0	NA	NA	2.0E+0	☐	<1
127-18-4	Tetrachloroethene	~~6.5E-3~~ 29	NA	NA	NA	NA	3.2E+0	NA	NA	3.2E+0	☐	<1
79-01-6	Trichloroethene	6.8E-3	NA	NA	NA	NA	1.5E+0	NA	NA	1.5E+0	☐	<1

MW 1

Software: GSI RBCA Spreadsheet
Version: v 1.0
Serial: 0

For Solvents, all the conc used are the highest found on site except for CCl4, for which the highest is 1.3 ppm (B-2) But if you take an average it should be less than calculated SSTL value of 0.1 ppm.

~~BTEX~~ in Soil

Benzene

Tier 2 Worksheet 9.2

Site Name: Oil Changers
Site Location: 0

Completed By: Madhulla Logan
Date Completed: 1/1/1904

SUBSURFACE SOIL SSTL VALUES (> 3 FT BGS)

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

☐ MCL exposure limit?
☐ PEL exposure limit?

Calculation Option: 2

SSTL Results For Complete Exposure Pathways ("x" if Complete)

CONSTITUENTS OF CONCERN		Representative Concentration	Soil Leaching to Groundwater			X Soil Volatilization to Indoor Air		X Soil Volatilization to Outdoor Air		Applicable SSTL	SSTL Exceeded ?	Required CRF
CAS No.	Name	(mg/kg)	Residential: (on-site)	Commercial: (on-site)	Regulatory(MCL): (on-site)	Residential: (on-site)	Commercial: (on-site)	Residential: (on-site)	Commercial: (on-site)	(mg/kg)	"■" If yes	Only if "yes" left
71-43-2	Benzene	4.4E+0	NA	NA	NA	NA	4.0E+1	NA	3.4E+2	4.0E+1	☐	<1
56-23-5	Carbon tetrachloride	0.0E+0	NA	NA	NA	NA	5.4E+1	NA	1.9E+2	5.4E+1	☐	<1
67-66-3	Chloroform	0.0E+0	NA	NA	NA	NA	3.9E+1	NA	1.2E+2	3.9E+1	☐	<1
156-59-2	Dichloroethene, cis-1,2-	0.0E+0	NA	NA	NA	NA	9.3E+1	NA	>Res	9.3E+1	☐	<1
127-18-4	Tetrachloroethene	0.0E+0	NA	NA	NA	NA	>Res	NA	5.2E+4	5.2E+4	☐	<1
79-01-6	Trichloroethene	0.0E+0	NA	NA	NA	NA	4.9E+1	NA	>Res	4.9E+1	☐	<1

Software: GSI RBCA Spreadsheet
Version: v 1.0

Serial: G-385-FRX-508

Using an average conc of 4ppm (to do all conc into account) for a future scenario

Area: B1-B8 + overexe sples (A1A, A3A, B3A, B1A)

(TPH) Benzene in G.W

Tier 2 Worksheet 9.3

Site Name: Oil Changers
Site Location: 0

Completed By: Madhulla Logan
Date Completed: 1/1/1904

GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

☐ MCL exposure limit?
☐ PEL exposure limit?

Calculation Option: 2

SSTL Results For Complete Exposure Pathways ("x" if Complete)

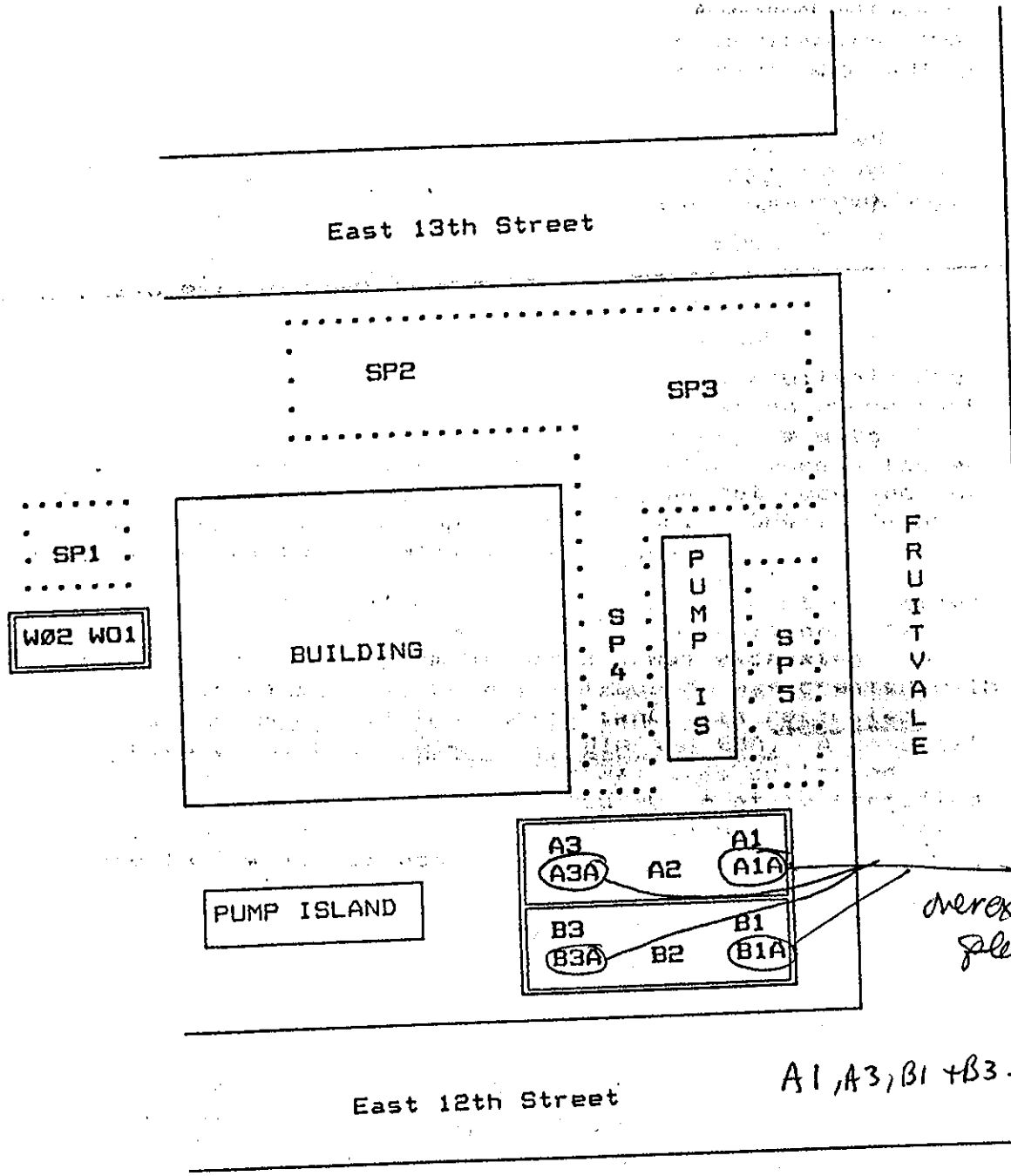
CONSTITUENTS OF CONCERN		Representative Concentration	X Groundwater Ingestion			X Groundwater Volatilization to Indoor Air		X Groundwater Volatilization to Outdoor Air		Applicable SSTL	SSTL Exceeded ?	Required CRF
CAS No.	Name	(mg/L)	Residential: (on-site)	Commercial: 100 feet	Regulatory(MCL): 100 feet	Residential: (on-site)	Commercial: (on-site)	Residential (on-site)	Commercial: (on-site)	(mg/L	"■" If yes	Only if "yes" left
71-43-2	Benzene	8.4E-2	NA	7.2E+0	NA	NA	8.8E+1	NA	4.5E+2	7.2E+0	☐	<1
56-23-5	Carbon tetrachloride	0.0E+0	NA	0.0E+0	NA	NA	1.1E+1	NA	5.7E+1	>Sol	☐	<1
67-66-3	Chloroform	0.0E+0	NA	0.0E+0	NA	NA	4.3E+1	NA	2.2E+2	>Sol	☐	<1
156-59-2	Dichloroethene, cis-1,2-	0.0E+0	NA	0.0E+0	NA	NA	2.1E+2	NA	>Sol	>Sol	☐	<1
127-18-4	Tetrachloroethene	0.0E+0	NA	0.0E+0	NA	NA	>Sol	NA	>Sol	>Sol	☐	<1
79-01-6	Trichloroethene	0.0E+0	NA	0.0E+0	NA	NA	1.7E+2	NA	9.2E+2	>Sol	☐	<1

Software: GSI RBCA Spreadsheet
Version: v 1.0

Serial: G-385-FRX-508

Used the highest found GW concentration of 84 ppb.

SITE PLAN



Boldface letters are sampling locations

Not to scale

TABLE I

SUMMARY OF LABORATORY RESULTS

3132 E. 12th Street, Oakland, CA

Initial Samples — contamination in mg/kg

Sample #	TPH/gas	Benzene	Toluene	Ethylbenzene	Xylene
A1	490	1.6	0.9	3.4	18
A2	73	0.27	0.5	ND	ND
A3	2,800	25	67	33	350
B1	635	2.0	8.3	3.5	20
B2	50	0.15	ND	ND	0.09
B3	300	0.18	ND	3.2	25
SP2	9.7	ND	0.1	ND	0.24
SP3	3	0.13	0.09	ND	0.23
SP4	2.9	0.22	0.3	ND	0.40

Re-excavate and resample

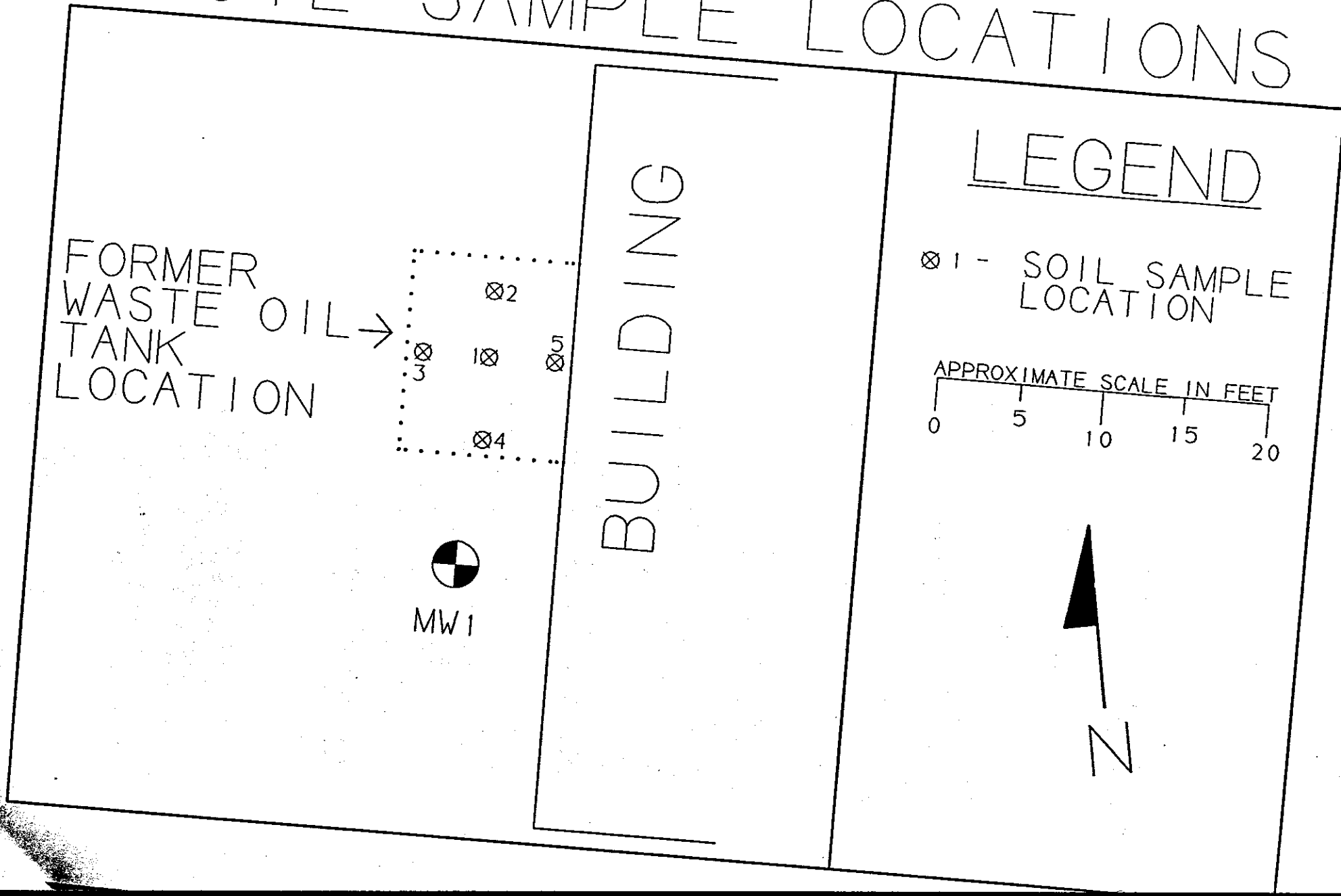
Sample #	TPH/gas	Benzene	Toluene	Ethylbenzene	Xylene
A1A	1,600	18	26	13	26
A3A	500	1.1	0.66	ND	0.60
B1A	2,900	29	98	23	77
B3A	57	0.02	0.32	0.28	2.32
SP5	120	0.10	0.32	ND	3.6

confirmatory overexc.

Waste oil tank

Sample #	Waste Oil
WO1	750
WO2	800
SP1	3,700

FIGURE 2
SOIL SAMPLE LOCATIONS



800 ppm) of high boiling point contamination left in the soil.

On January 11, 1991 a geologist from MEC supervised the over-excavation of the former waste oil tank location. The excavation was enlarged approximately 2 feet on each side except for the side where the building is located. The depth of the pit was extended by approximately 3 feet. The on-site geologist determined the limits of the excavation reached by using soil discoloration and odor as guidelines. Afterwards, soil samples were collected from the four sidewalls and the bottom of the excavation. Sample locations are shown in Figure 2.

Samples were collected using a backhoe bucket in accordance with sampling guidelines established by the Regional Water Quality Control Board (RWQCB) in their manual titled Regional Board Staff Recommendations for Initial Evaluation and Investigation of Underground Tanks - August 10, 1990. All soil samples were collected in 6" X 2" clean brass tubes, sealed with teflon tape and plastic caps and placed on ice for transport to the laboratory. All soil samples were analyzed for Total Oil and Grease (TOG) at Superior Analytical, a state-certified laboratory. Copies of the laboratory results and the chain-of-custody are located in Appendix B.

For ease of reference, a summary of laboratory results is given below in Table 3:

TABLE 3
Soil sample results from overexc. of waste oil tank

Sample #	TOG
#1	ND
#2	ND
#3	ND
#4	ND
#5	50

a) sample results expressed in milligrams per kilogram (mg/kg) which is equivalent to parts per million (ppm).
b) TOG = Total Oil and Grease
c) ND = Not detected (detection limit - 50 mg/kg)

Soil removal and disposal
The excavated soil, along with the soil removed during tank removal operations (approximately 20 cubic yards), was hauled by REMCO for proper disposal. This soil was incinerated and the residuals were used as either road base or cement kiln feed. This method of remediation has been approved by the

Soil
The analytical results for soil samples are summarized in Table 2.

Table 2

ANALYTICAL RESULTS FOR SOIL SAMPLES
Ground-water Monitoring Well Installation
all concentrations in mg/kg

Sample	ft Depth	TPH Gasoline	TRPH	B	T	E	X
MW1-5	5	ND	760	ND	ND	ND	ND
-10	10	ND	ND	ND	ND	ND	ND
-15	15	ND	ND	ND	ND	ND	ND
-20	20	ND	ND	ND	ND	ND	ND
-23	23	ND	ND	ND	ND	ND	ND
MW2-5	5	ND	ND	ND	ND	ND	ND
-10	10	ND	ND	ND	ND	ND	ND
-15	15	2.1	ND	ND	ND	ND	ND
-20	20	ND	340	ND	ND	ND	ND
MW3-5	5	2.5	ND	0.13	ND	ND	ND
-10	10	1.5	ND	0.22	0.41	0.50	0.22
-15	15	24	ND	0.11	0.10	0.07	0.07
-20	20	ND	ND	ND	ND	ND	ND

a) mg/kg is equivalent to parts per million (ppm)
b) ND = non-detect

Ground Water
The analytical results for water samples collected from the three monitoring wells are summarized in Table 3.

Table 3

ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
all concentrations in mg/L

Well	TPH Gasoline	TRPH	B	T	E	X
MW1	0.26	ND	ND	ND	ND	ND
MW2	0.22	ND	ND	ND	ND	ND
MW3	0.35	ND	0.004	ND	ND	ND

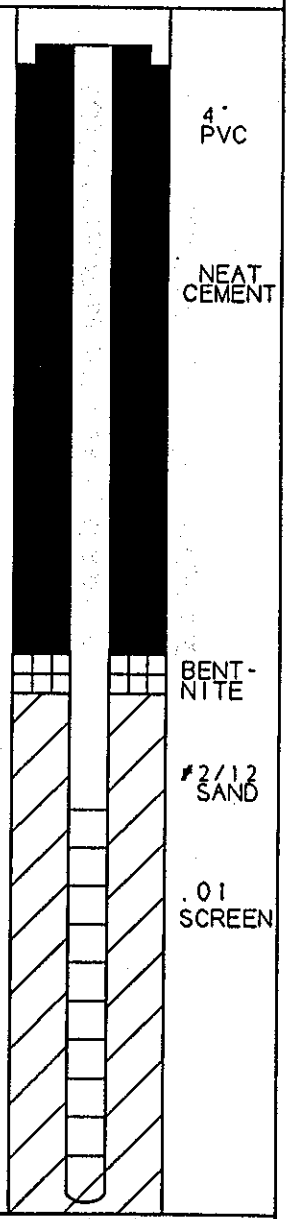
a) mg/L is equivalent to parts per million (ppm)
b) ND = non-detect

BORING LOG – Typical of subsurface geology

ECT NO:89-1015	PROJECT NAME:FRUITVALE	BORING NO:MW1
TION:E. 12TH AND FRUITVALE		DATE:4/9/90
LOGIST:REINHARD RUHMKE		PAGE 1 OF 1
OUND WATER DEPTH: 23 FEET		DRILLER:HEW
RILLING METHODS: 12" HOLLOW STEM AUGER		

DEPTH	SAMPLE	RECOVERY	BLOWS	DESCRIPTION	USCS	GRAPHIC SYMBOL
0				2" ASPHALT; 10" BASEROCK		
5	MW1-5	18"	6 4 6	GRAYISH BLACK SILTY CLAY; STIFF; DRY; SLIGHTLY PLASTIC.	CL	
10	MW1-10	18"	4 11 18	OLIVE-GRAY SILTY CLAY.	CL	
15	MW1-15	18"	9 16 19	YELLOWISH-BROWN SILTY CLAY.	CL	
20	MW1-20	18"	3 6 8	YELLOWISH-BROWN VERY FINE SANDY SILTY CLAY.	CL	
23	MW1-23	10"	NA	YELLOWISH-BROWN SILTY CLAY.	CL	
				LIGHT BROWN FINE SAND.	SP	▽
				UNSORTED GRAVEL. MEDIUM SAND. SILT MIX; CHERT PEBBLES.	GM	
30				SANDY CLAY-END OF BORING		

WELL CONSTRUCTION



REMARKS

MILLER ENVIRONMENTAL COMPANY
RICHMOND, CA