

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

REMEDIAL ACTION COMPLETION CERTIFICATION

StID 596 - 1700 Park Street, Alameda, CA

December 9, 1996

Mr. Lee Cavanaugh
Joan Cavanaugh Trust
P.O. Box 2418
Alameda, CA 94501

Dear Mr. Cavanaugh:

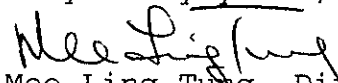
This letter confirms the completion of site investigation and remedial action for the two former underground storage tanks (1-550 gallon gasoline and 1-300 gallon waste oil tank) removed from the above site on December 15, 1989. Enclosed is the Case Closure Summary for the referenced site for your records.

Based upon the available information, including the current land use, and with the provision that the information provided to this agency was accurate and representative of site conditions, no further action related to the underground tank release 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. If changes in land use, structural configuration, or site activities are proposed such that more conservative exposure scenarios should be evaluated, the owner must promptly notify this agency.

Please contact Ms. Eva Chu at (510) 567-6700 if you have any questions regarding this matter.

Very truly yours,


Mee Ling Tung, Director

cc: Chief, Division of Environmental Protection
Kevin Graves, RWQCB
Lori Casias, SWRCB (with attachment)
Cheryl Gordon, UST Cleanup Fund
files (cavanaugh.4)

CASE CLOSURE SUMMARY
Leaking Underground Fuel Storage Tank Program

I. AGENCY INFORMATION

Date: April 22, 1996

Agency name: Alameda County-HazMat Address: 1131 Harbor Bay Pkwy
City/State/Zip: Alameda, CA 94502 Phone: (510) 567-6700
Responsible staff person: Eva Chu Title: Hazardous Materials Spec.

II. CASE INFORMATION

Site facility name: Cavanaugh Motors, Inc.
Site facility address: 1700 Park Street, Alameda, CA 94501
RB LUSTIS Case No: N/A Local Case No./LOP Case No.: 596
URF filing date: 2/6/90 SWEEPS No: N/A

Responsible Parties: Addresses: Phone Numbers:

Lee R. Cavanaugh P.O. Box 2418
Joan Cavanaugh Trust Alameda, CA 94501

<u>Tank No:</u>	<u>Size in gal.:</u>	<u>Contents:</u>	<u>Closed in-place or removed?:</u>	<u>Date:</u>
1	550	Gasoline	Removed	12/15/89
2	300	Waste Oil	"	"

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and type of release: Leaking UST and fill pipe.
Site characterization complete? YES
Date approved by oversight agency: 8/15/94
Monitoring Wells installed? Yes Number: 7
Proper screened interval? Yes, 6 to 16' bgs in well MW-7
Highest GW depth below ground surface: 5.13' Lowest depth: 8.96'
Flow direction: NW to NE
Most sensitive current use: Commercial
Are drinking water wells affected? No Aquifer name: Merritt Sand
Is surface water affected? No Nearest affected SW name: NA
Off-site beneficial use impacts (addresses/locations): None

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

ENVIRONMENTAL PROTECTION
95 MAY 26 PM 3:03

Treatment and Disposal of Affected Material:

<u>Material</u>	<u>Amount (include units)</u>	<u>Action (Treatment or Disposal w/destination)</u>	<u>Date</u>
Tank & Piping	1 UST (550 gal) 1 UST (300gal)	Scrapped at Levin Metals Disposed by Erickson, Richmond	12/19/89 8/31/90
Soil	115 tons	Vasco Rd L.F. in Livermore	1/22/96

Maximum Documented Contaminant Concentrations - - Before and After Cleanup

Contaminant	Soil (ppm)		Water (ppb)	
	Before ¹	After ⁶	Before ⁴	After
TPH (Gas)	7,900	3,500	28,000	ND
TPH (Diesel)	6,400 ²	680	1,700 ⁵	ND
Benzene	65	ND	6,200	ND
Toluene	359	190	6,000	ND
Ethylbenzene	160	76	630	ND
Xylenes	870	510	6,100	ND
Oil & Grease	2,000 ²	710	ND	ND
Heavy metals Pb	1,040 ²			
Other PNAs	see NOTE 3			
Chlorobenzene	59 ²		33 ⁵	5

- NOTE:
- 1 from UST pit at time of gas tank removal
 - 2 from waste oil pit
 - 3 1.6, 1.5, 0.3 ppm naphthalene, 2 methyl naphthalene, phenanthrene, respectively, from waste oil pit.
 - 4 from well MW-1
 - 5 from well MW-6
 - 6 from boring MW-1

Comments (Depth of Remediation, etc.):

See Section VII, Additional Comments, etc...

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**

Site management requirements: **None**

Should corrective action be reviewed if land use changes? **YES**

Monitoring wells Decommissioned: **Yes**


Number Decommissioned: **One** Number Retained: **6**

List enforcement actions taken: **None**

List enforcement actions rescinded: **NA**

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: Eva Chu Title: Haz Mat Specialist

Signature:  Date: 5/2/96

Reviewed by

Name: Juliet Shin Title: Sr Haz Mat Specialist


Signature:  Date: 4/24/96

Name: Tom Peacock Title: Supervisor Manager

Signature:  Date: 5/1/96

VI. RWQCB NOTIFICATION

Date Submitted to RB: 5/4/96

RB Response: 

RWQCB Staff Name: Kevin Graves

Title: AWRCE

Signature: 

Date: 5/27/96

VII. ADDITIONAL COMMENTS, DATA, ETC.

The site is presently an automobile dealership and repair facility.

In August 1989 the 550 gallon gasoline UST failed a precision test (due to a filler tube leak). The gasoline UST was removed in December 1989. Soil samples collected exhibited up to 7,900 ppm TPH-G, and 65, 350, 160, and 870 ppm BTEX, respectively. (See Fig 1, Tables 1 and 2)

Overexcavation began in April 1990. Approximately 70 cy hydrocarbon impacted soil were removed. Native sand sediments provided minimum stability and contamination appeared to increase when moving toward the building. Thus, overexcavation was limited in extent. Prior to backfilling the gasoline pit, soil samples were collected from the south and west walls (sample West 1, and South 1) which did not contain petroleum hydrocarbons. However, per consultant, a slight sheen was observed on the groundwater. (See Fig 2, Table 3)

Four exploratory borings (EB-1 through EB-4) were advanced to 7' bgs around the former gasoline UST to delineate the extent of soil contamination. The borings were subsequently converted into vapor recovery wells. Soil samples from each exploratory boring at 5' bgs did not contain detectable levels of TPH-G or BTEX. (See Fig 2, Table 3)

In May 1990 four monitoring wells (MW-1 through MW-4) were installed. Only well MW-1, installed within the tank excavation, identified elevated levels of petroleum hydrocarbons in soil and groundwater. (See Fig 2, Table 3).

It appeared gasoline-impacted soil was limited to the vicinity of the former tank. Approximately 400 cy of impacted soil resulting from the gas UST may remain below grade. It was not recommended to overexcavate additional impacted soil due to the proximity and potential structural damage to the building.

On August 14, 1990 a 300-gallon waste oil tank, located inside the auto repair shop, was removed. Numerous through-holes were noted on the bottom of the tank. A soil sample, SS-1, collected exhibited elevated levels of TPH-G, BTEX, TPH-D, TOG, and lead. Low levels of PNAs and chlorobenzene were also identified. (See Fig 3, Table 4)

Five hand-augered borings (B-1 through B-5) were drilled to a depth of 8.5' bg around the former waste oil tank excavation to delineate the extent of soil contamination. Only boring B-4 identified petroleum hydrocarbons (680 ppm TPH-D, 710 ppm TOG, the only analyses requested). Soil samples were not collected from boring B-2 since it was obviously stained and had a petroleum odor. Boring B-5, which was drilled 10' further from B-2, did not contain TPH-D or TOG. Overexcavation removed approximately 120 cy of contaminated soil from the waste oil location to a depth of 13'. Verification soil samples were not collected. Residual contamination remained under the building wall. Stained and odorous soil was still present at the bottom of the excavation. The remaining three walls appeared clean. (See Fig 3, Table 4)

Two monitoring wells (MW-5 and MW-6) were installed in the vicinity of the waste oil tank. Soil samples from these borings did not contain remarkable levels of TPH-D, -K, -MO, TOG, or BTEX. Of the six monitoring wells onsite, only wells MW-1 and MW-6 have identified elevated levels of chemicals of concern. (See Table 5)

A soil venting system was constructed in February 1993 using vapor wells EB-1 through EB-4. Operation began in March 1993 but was discontinued due to an increase in groundwater elevation (due to heavy rainfall). Soil vapor extraction started up again in July 1993 and operated until January 1994 when soil vapor readings stabilized to approximately 40 ppm. It was estimated that approximately 1,000 lbs of hydrocarbons were removed from the soil.

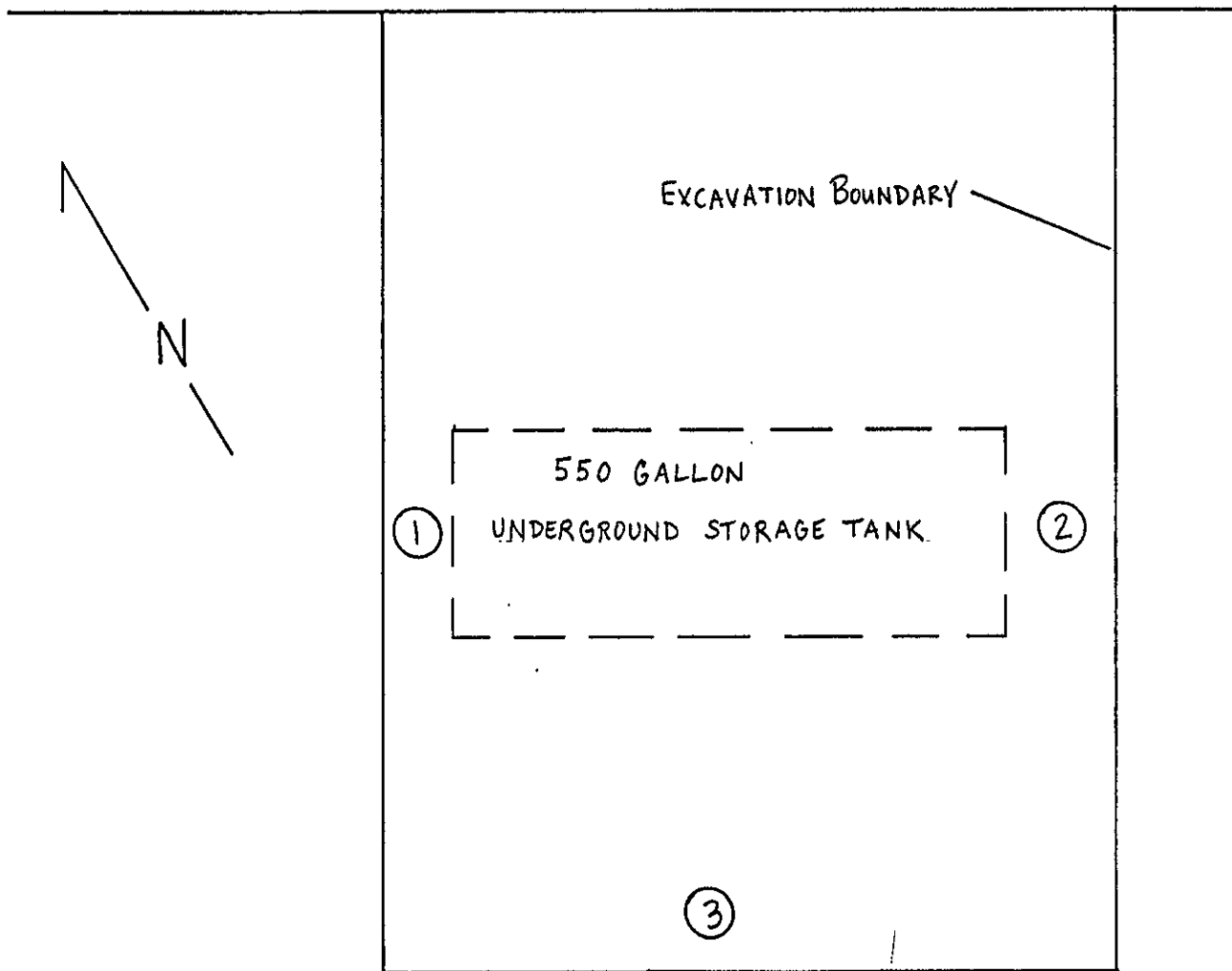
In August 1994 four verification borings (VB-1 through VB-4) were drilled in the vicinity of well MW-1 and the former gasoline tank pit to verify the effectiveness of remediation by soil vapor extraction. Also another well, MW-7, was installed approximately 10' downgradient of the former gasoline tank excavation. Soil from borings VB-1 through VB-4 did not identify TPH-G or BTEX, except for 12 ppb ethylbenzene from VB-3 at 7.5' bgs. Subsequently wells MW-1 and VB-1 through VB-4 were destroyed by overdrilling and grouting. (See Fig 4)

Wells MW-1 through MW-6 have been sampled at least 13 times, and well MW-7 at least 4 times. None of the downgradient wells have ever identified TPH-G, BTEX, or TOG in groundwater, except for sporadic levels of trace BTEX. Elevated TPH-G and BTEX were found in well MW-1, and TPH-D in well MW-6.

Both these wells were installed through the former UST pits. (See Table 5)

It appears fuel release from the waste oil and gasoline USTs have minimally impacted groundwater quality beneath the site. Tank removal, vapor extraction, and overexcavation removed the source of contamination. Residual contamination in groundwater appears to be naturally bioattenuating. Chlorobenzene levels in groundwater do not exceed CA MCLs for primary drinking water standards. Continued monitoring is not warranted.

SERVICE AND REPAIR SHOP



EXPLANATION

NOTE:

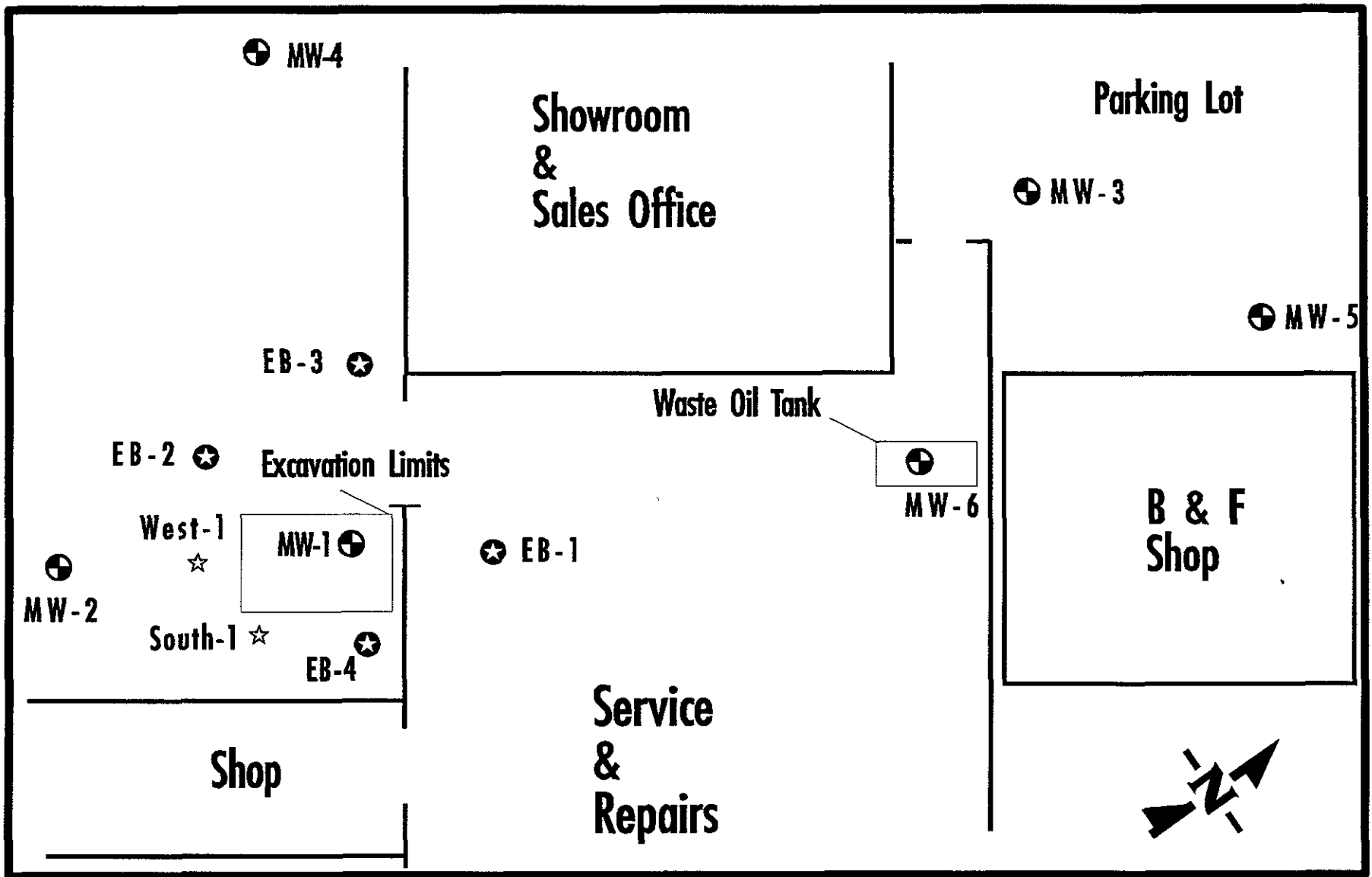
ALL SAMPLES COLLECTED 8.0' BELOW GRADE. (WORK PERFORMED BY SCOTT COMPANY)

(#) SOIL SAMPLE NUMBER and LOCATION (see ANALYTICAL Results - APPENDIX D).

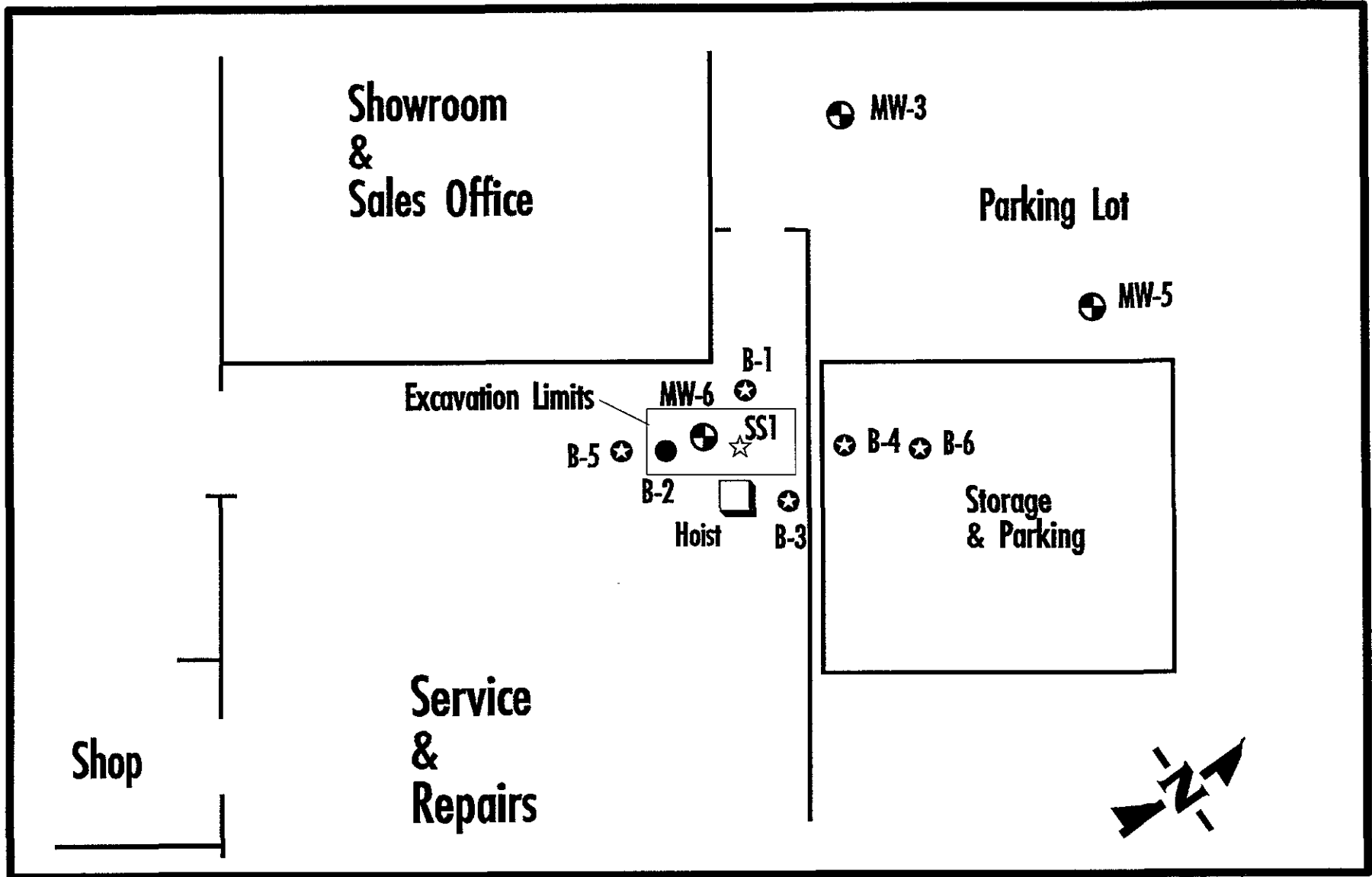
TOM EDWARDS & ASSOCIATES

TITLE: SOIL SAMPLE LOCATION MAP					
PROJECT NAME/NUMBER: CAVANAUGH MOTORS, 109001					
SITE LOCATION: 1700 PARK ST., ALAMEDA, CA.					
REV. #	DATE	DRAWN BY	CHECKED BY	APPROVED BY	SCALE
FIG. 2	4-2-90	CNC	MY	MY	1" = 3.0'

FIG 1



LEGEND		SAMPLING MAP GASOLINE TANK Cavanaugh Motors 1700 Park Street, Alameda California	
⊕ Monitoring Well ● Boring without soil sample ☆ Boring with soil sample ☆ Soil sample	Project No. 109001 January 15, 1992 Scale 1 inch = 20 feet		



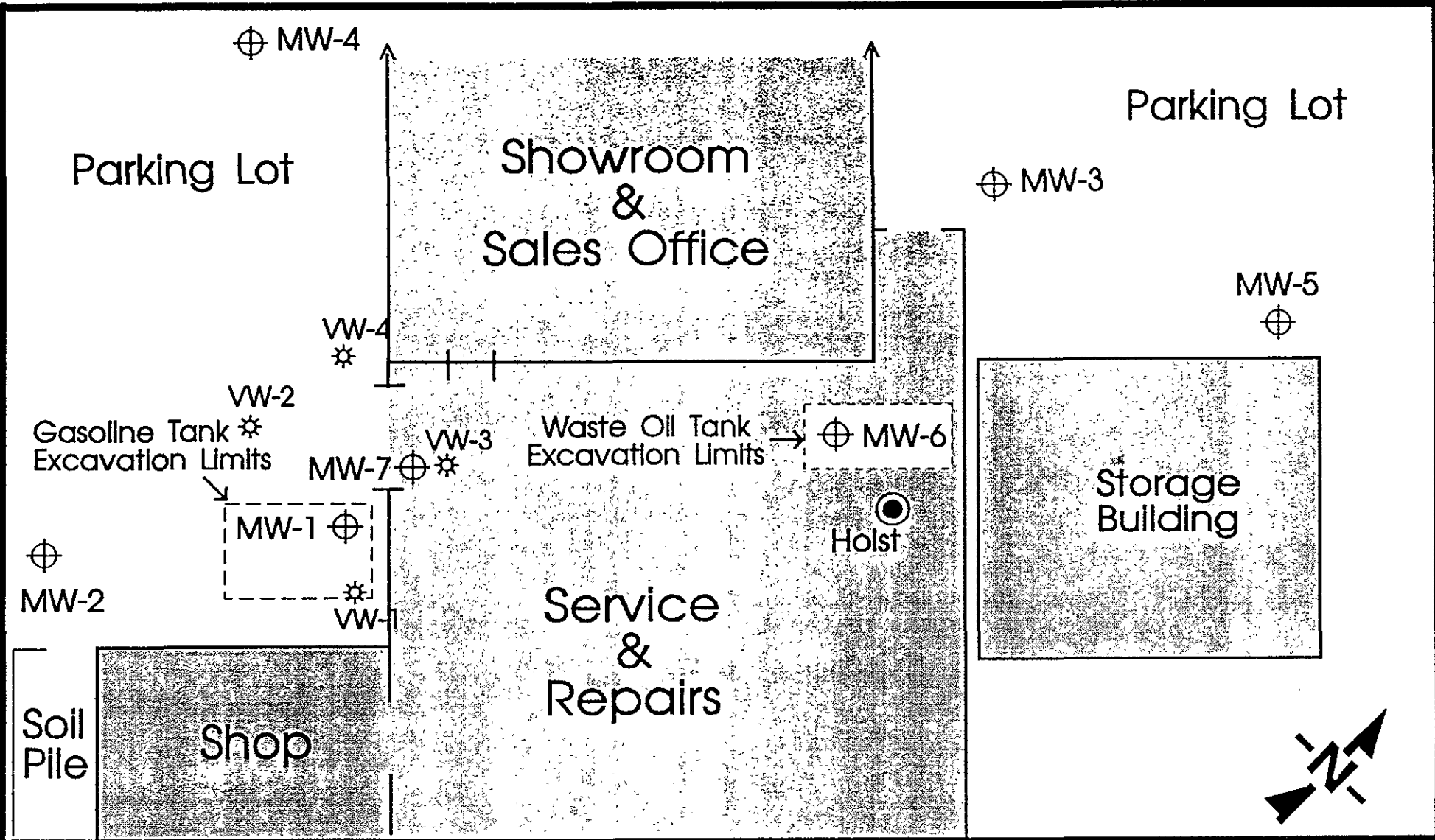
LEGEND

- Boring without soil sample
- ⊕ Boring with soil sample
- ☆ Tank removal soil sample

Project No. 109001
 January 15, 1992
 Scale 1 inch = 20 feet

**SAMPLING MAP
 WASTE OIL TANK**

Cavanaugh Motors
 1700 Park Street, Alameda California



LEGEND		Project No. 101090 February, 1995 Scale 1 Inch=20 ft.
MW-0	Monitoring Well	
⊕	Vapor Extraction Well	
☼	Building Interiors	

SITE PLAN
Cavanaugh Motors
 1700 Park Street, Alameda California



December 19, 1989
Sample Log 1224

Table 1: 'BTEX' Results for 3 Soil Sample(s) Identified as
Cavanaugh Motors
Received December 15, 1989

--all concentrations are units of mg/kg--

Sample	Benz.	Tol.	Eth.Benz.	Xyl.
# 1	65	350	140	650
# 2	56	350	160	870
# 3	17	130	75	430
Reporting Limit	.05	.05	.05	.05



December 19, 1989
Sample Log 1224

Table 2: TPH Results for 3 Soil Sample(s) Identified as
Cavanaugh Motors
Received December 15, 1989

--all concentrations are units of mg/kg--

Sample	TPH as Gasoline
# 1	7900
# 2	7200
# 3	3700
Reporting Limit	.5

TABLE 3

1700 Park Street, Alameda, California / Status Report / January 15, 1992

was aerated on site until no detectable results were obtained. TMC reported the results of the 550 gallon gasoline tank investigation in a report dated July 11, 1990, titled "Preliminary Assessment Report" submitted to Cavanaugh Motors.

The following tables summarize the results of soil and water sampling and analyses in the report:

GASOLINE TANK TEST RESULTS FOR SOIL BORING SAMPLES Summary of Laboratory Test Results for Soil Samples

Date Sampled	Sample & depth	TPH gas mg/Kg	Benzene mg/kg	Toluene mg/kg	Ethyl benzene mg/Kg	Xylenes mg/Kg
4-26-90	SOUTH-1	ND < 0.5	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005
4-26-90	WEST-1	ND < 0.5	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005
5-19-90	EB-1,5'	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005
5-19-90	EB-2,5'	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005
5-19-90	EB-3,5'	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005
5-19-90	EB-4,5'	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	0.034
5-17-90	MW-1,5'	3,500	ND < 0.005	190	76	510
5-17-90	MW-2,5'	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005
5-17-90	MW-3,5'	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005
5-17-90	MW-4,5'	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	0.034

ND- Not detected below reporting limits

4.2 300 GALLON WASTE OIL TANK

During removal of the 300 gallon waste oil tank on August 4, 1990 by TMC, many holes were in the metal tank. Stained soil surrounded the tank. There is no available estimate on the quantity of released waste oil. Soil borings and a controlled excavation removed 120 cubic yards of waste oil contaminated soil. TMC reported the

TABLE 4

OIL AND DIESEL RESULTS FOR RECENT SOIL SAMPLES
 Summary of Laboratory Oil & Grease Test Results for Soil Samples

Date Sampled	Sample & depth	Oil & Grease mg/Kg	Kerosene mg/kg	Diesel mg/kg	Motor Oil mg/kg
8-31-90	SS-1 18" below tank	20,000	NA	6,400	NA
10-10-90	B-1, 7'	ND < 30	NA	ND < 10 *	NA
10-10-90	B-3, 8'	ND < 30	NA	ND < 10 *	NA
10-10-90	B-4, 8'	710	NA	680 *	NA
10-10-90	B-5, 8'	ND < 30	NA	ND < 10 *	NA
6-26-91	B-6, 8'	ND < 50.0	ND < 1.0	ND < 1.0	ND < 100
6-26-91	MW-5, 5'	ND < 50.0	ND < 1.0	ND < 1.0	ND < 100
6-26-91	MW-6, 15'	ND < 50.0	ND < 1.0	ND < 1.0	ND < 100
6-26-91	MW-6, 20'	ND < 50.0	ND < 1.0	ND < 1.0	ND < 100

ND- Not detected below reporting limits

NA- Not analyzed for this constituent

* - Quality control error reported by laboratory

5.0 GROUNDWATER SAMPLING

A total of six ground water monitoring wells have been installed on the 150 X 200 foot site. The first four wells, MW-1 through MW-4, were installed as a part of the investigation of the former gasoline tank. The wells MW-5 and MW-6 were recently installed to investigate the vicinity of the former waste oil tank.

5.1 MONITORING WELL DEVELOPMENT

Monitoring wells MW-5 and MW-6 were developed to remove fine-grained sediments from the well casings on June 29, 1991. The procedures followed for well development were included in the workplan for this project. All equipment inserted during development was decontaminated and dedicated to each well. Prior to development a clear, dedicated, disposable PVC bailer was used to check for the presence of product

Sample MW-6-15 recovered from sand at a depth of 15 feet below grade in monitoring well MW-6. This well was in the back fill of the waste oil tank pit. Back fill material was present to a depth of 12-13 feet below grade. Laboratory analysis shows no detectable total petroleum hydrocarbons as diesel, kerosene, or motor oil; no detectable TVH as gasoline or benzene. Toluene was detected at 7.2 ug/Kg, Ethylbenzene was detected at 5.2 ug/Kg, and total xylenes were detected at 28 ug/Kg. No hydrocarbon oil & grease was detected. No staining or odor was noticeable in the sample.

Sample MW-6-20 recovered from sand at a depth of 20 feet below grade in monitoring well MW-6. Laboratory analysis shows no detectable total petroleum hydrocarbons as diesel, kerosene, or motor oil; no detectable TVH as gasoline, benzene, toluene, or ethylbenzene. Total xylenes were detected at 15 ug/Kg. No hydrocarbon oil & grease was detected. No staining or odor was noticeable in the sample.

The following tables summarize the results of soil sampling and analyses presented in this report:

cont. Table 4

GASOLINE RESULTS FOR RECENT SOIL SAMPLES
 Summary of Laboratory Gasoline Test Results for Soil Samples

Date Sampled	Sample & depth	TPH gas mg/Kg	Benzene mg/kg	Toluene mg/kg	Ethyl benzene mg/Kg	Xylenes mg/Kg
6-26-91	B-6, 8'	ND < 1.0	ND < 0.005	0.011	ND < 0.005	0.029
6-26-91	MW-5, 5'	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	0.021
6-26-91	MW-6, 15'	ND < 1.0	ND < 0.005	0.0072	0.0052	0.028
6-26-91	MW-6, 20'	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	0.015

ND- Not detected below reporting limits

Cont. TABLE 4

ORGANIC ANALYSIS DATA SHEET - EPA METHOD 601/8010
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 109001 SS-1
Matrix : SOIL
Date sampled : 08/31/90
Date analyzed: 09/13/90
Dilution : 2000

Anamatrix I.D. : 9009006-01
Analyst : *mk*
Supervisor : *CP*
Date released : 09/18/90
Instrument ID : HP15

CAS #	Compound Name	Reporting Limit (ug/Kg)	Amount Found (ug/Kg)
74-87-3	* Chloromethane	2000	ND
74-83-9	* Bromomethane	1000	ND
75-71-8	* Dichlorodifluoromethane	2000	ND
75-01-4	* Vinyl Chloride	1000	ND
75-00-3	* Chloroethane	1000	ND
75-09-2	* Methylene Chloride	1000	22000
79-69-4	* Trichlorofluoromethane	1000	ND
75-35-4	* 1,1-Dichloroethene	1000	ND
75-34-3	* 1,1-Dichloroethane	1000	ND
156-59-2	# Cis-1,2-Dichloroethene	1000	ND
156-60-5	* Trans-1,2-Dichloroethene	1000	ND
67-66-3	* Chloroform	1000	ND
76-13-1	# Trichlorotrifluoroethane	1000	ND
107-06-2	* 1,2-Dichloroethane	1000	ND
71-55-6	* 1,1,1-Trichloroethane	1000	ND
56-23-5	* Carbon Tetrachloride	1000	ND
75-27-4	* Bromodichloromethane	1000	ND
78-87-5	* 1,2-Dichloropropane	1000	ND
10061-02-6	* Trans-1,3-Dichloropropene	1000	ND
79-01-6	* Trichloroethene	1000	ND
124-48-1	* Dibromochloromethane	1000	ND
79-00-5	* 1,1,2-Trichloroethane	1000	ND
10061-01-5	* cis-1,3-Dichloropropene	1000	ND
110-75-8	* 2-Chloroethylvinylether	2000	ND
75-25-2	* Bromoform	1000	ND
127-18-4	* Tetrachloroethene	1000	ND
79-34-5	* 1,1,2,2-Tetrachloroethane	1000	ND
108-90-7	* Chlorobenzene	1000	59000
541-73-1	* 1,3-Dichlorobenzene	2000	ND
95-50-1	* 1,2-Dichlorobenzene	2000	ND
106-46-7	* 1,4-Dichlorobenzene	2000	ND
	% Surrogate Recovery	33-134%	121%

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

* A 601/8010 approved compound (Federal Register, 10/26/84).

A compound added by Anamatrix, Inc.

3.0 GROUNDWATER SAMPLING

On December 18, 1995, E-Tech recovered groundwater samples from monitoring well MW-7 in accordance with the sampling schedule set forth in the ACHCSA letter dated December 29, 1994.

The ground water sample from MW-7 was analyzed for the target chemicals of total petroleum hydrocarbons as gasoline (TPH-g), and benzene, toluene, ethylbenzene, and total xylenes (BTEX). The following tables summarize recent and previous analyses results. Table 1, Gasoline Results for Groundwater Samples, lists the historic gasoline results for samples recovered from the site and this sampling of MW-7.

TABLE 5 GASOLINE RESULTS FOR GROUND WATER SAMPLES

Date Sampled	Monitoring Well	TPH gas ug/L	Benzene ug/L	Toluene ug/L	Ethyl benzene ug/L	Xylenes ug/L
<i>June 1990 Groundwater Sampling</i>						
6-08-90	MW-1	28000	6200	7000	630	6100
6-08-90	MW-2	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
6-08-90	MW-3	ND<50	ND<0.5	ND<0.5	ND<0.5	0.9
6-08-90	MW-4	ND<50	ND<0.5	ND<0.5	ND<0.5	0.9
<i>December 1990 Groundwater Sampling</i>						
12-17-90	MW-1	7200	620	250	1200	1400
12-17-90	MW-2	ND<50	1.1	ND<0.5	2.3	2.1
12-17-90	MW-3	140	ND<0.5	1.3	1.3	9.1
12-17-90	MW-4	ND<50	ND<0.5	ND<0.5	ND<0.5	0.9
<i>July 1991 Groundwater Sampling</i>						
7-29-91	MW-1	21000	890	1900	320	1700
7-30-91	MW-2	ND<50	ND<0.5	ND<0.5	ND<0.5	0.9
7-18-91	MW-3	ND<50	ND<0.5	ND<0.5	ND<0.5	0.9

Date Sampled	Monitoring Well	TPH gas ug/L	Benzene ug/L	Toluene ug/L	Ethyl benzene ug/L	Xylenes ug/L
7-30-91	MW-4	ND<50	ND<0.5	ND<0.5	ND<0.5	0.9
7-18-91	MW-5	ND<50	ND<0.5	ND<0.5	ND<0.5	0.9
7-18-91	MW-6	ND<50	1.3	ND<0.5	ND<0.5	1.6
<i>December 1991 Groundwater Sampling</i>						
12-4-91	MW-1	4300	3.2	1.3	88	630
12-4-91	MW-2	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
12-4-91	MW-3	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
12-4-91	MW-4	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
12-4-91	MW-5	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
12-4-91	MW-6	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
<i>April 1992 Groundwater Sampling</i>						
4-30-92	MW-1	16000	910	2000	250	1400
4-29-92	MW-2	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
4-29-92	MW-3	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
4-29-92	MW-4	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
4-30-92	MW-5	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
4-30-92	MW-6	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
<i>July 1992 Groundwater Sampling</i>						
7-28-92	MW-1	12000	1200	2300	340	1800
7-27-92	MW-2	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
7-27-92	MW-3	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
7-27-92	MW-4	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
7-27-92	MW-5	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
7-28-92	MW-6	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
<i>October 1992 Groundwater Sampling</i>						

Date Sampled	Monitoring Well	TPH gas ug/L	Benzene ug/L	Toluene ug/L	Ethyl benzene ug/L	Xylenes ug/L
10-19-92	MW-1	5000	400	710	170	750
10-19-92	MW-2	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
10-19-92	MW-3	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
10-19-92	MW-4	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
10-19-92	MW-5	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
10-19-92	MW-6	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
<i>February 1993 Groundwater Sampling</i>						
2-24-93	MW-1	8800	780	1200	230	1000
2-24-93	MW-2	ND<50	0.5	ND<0.5	ND<0.5	ND<0.5
2-24-93	MW-3	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
2-24-93	MW-4	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
2-24-93	MW-5	ND<50	ND<0.5	1.8	ND<0.5	ND<0.5
2-24-93	MW-6	ND<50	ND<0.5	6.8	ND<0.5	ND<0.5
<i>May 1993 Groundwater Sampling</i>						
5-19-93	MW-1	24000	2500	4700	560	3100
5-19-93	MW-2	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
5-19-93	MW-3	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
5-19-93	MW-4	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
5-19-93	MW-5	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
5-19-93	MW-6	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
<i>August 1993 Groundwater Sampling</i>						
8-11-93	MW-1	13000	1200	2100	350	2000
8-11-93	MW-2	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
8-11-93	MW-3	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
8-11-93	MW-4	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5

Date Sampled	Monitoring Well	TPH gas ug/L	Benzene ug/L	Toluene ug/L	Ethyl benzene ug/L	Xylenes ug/L
8-11-93	MW-5	ND<50	ND<0.5	ND<0.5	0.8	ND<0.5
8-11-93	MW-6	ND<50	ND<0.5	ND<0.5	7.9	ND<0.5
<i>February 1994 Groundwater Sampling</i>						
2-2-94	MW-1	7300	600	920	250	1,000
2-2-94	MW-2	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
2-2-94	MW-3	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
2-2-94	MW-4	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
2-2-94	MW-5	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
2-2-94	MW-6	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
<i>May 1994 Groundwater Sampling</i>						
5-26-94	MW-1	15000	1200	2000	370	1500
5-26-94	MW-2	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
5-26-94	MW-3	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
5-26-94	MW-4	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
5-26-94	MW-5	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
5-26-94	MW-6	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
<i>September 1994 Groundwater Sampling</i>						
9-15-94	MW-1	4900	150	340	100	410
9-15-94	MW-2	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
9-15-94	MW-3	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
9-15-94	MW-4	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
9-15-94	MW-5	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
9-15-94	MW-6	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
9-15-94	MW-7	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
<i>January 13, 1995 Groundwater Sampling</i>						

Date Sampled	Monitoring Well	TPH gas ug/L	Benzene ug/L	Toluene ug/L	Ethyl benzene ug/L	Xylenes ug/L
1-13-95	MW-1	11000	260	770	310	1200
1-13-95	MW-2	ns	ns	ns	ns	ns
1-13-95	MW-3	NA	NA	NA	NA	NA
1-13-95	MW-4	ns	ns	ns	ns	ns
1-13-95	MW-5	NA	NA	NA	NA	NA
1-13-95	MW-6	NA	NA	NA	NA	NA
1-13-95	MW-7	ND<50.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
<i>April 26, 1995 Groundwater Sampling</i>						
4-26-95	MW-2	ns	ns	ns	ns	ns
4-26-95	MW-3	ns	ns	ns	ns	ns
4-26-95	MW-4	ns	ns	ns	ns	ns
4-26-95	MW-5	ns	ns	ns	ns	ns
4-26-95	MW-6	ns	ns	ns	ns	ns
4-26-95	MW-7	ND<50.0	ND<0.50	ND<05	ND<0.5	
<i>December 18, 1995 Groundwater Sampling</i>						
12-18-95	MW-7	ND	ND	ND	ND	ND

ND - Not detected below reporting limits; NA - Not analyzed, ns - Not sampled

Samples collected from MW-7 (located down gradient of the former gasoline tank) continue to reveal non-detectable levels of TPH-g and BTEX. TPH-g and BTEX were also non-detectable at the September 1994 and January and April 1995 sampling episodes. The four consecutive quarters of non-detectable levels of any target analyte in the down gradient direction of the former tank pit, suggests that the vapor recovery system installed and run by TMC was effective in removing any petroleum

Table 2 presents historic results of laboratory analyses for extractable petroleum hydrocarbons (Diesel/Kerosene, Oil and Grease) and purgeable halocarbons (Chlorobenzene). This table presents past sampling event data only, as monitoring wells MW-3, MW-5, and MW-6 were not sampled during the recent quarter.

TABLE 2 DIESEL, OIL & GREASE AND CHLOROBENZENE RESULTS FOR WATER SAMPLES

Date Sampled	Monitoring Well	Diesel ug/L	Kerosene ug/L	Oil & Grease mg/L	Chlorobenzene ug/L
<i>July 1991 Groundwater Sampling</i>					
7-18-91	MW-3	NA	NA	ND<5	NA
7-18-91	MW-5	NA	NA	ND<5	NA
7-18-91	MW-6	NA	NA	ND<5	NA
<i>December 1991 Groundwater Sampling</i>					
12-4-91	MW-3	ND<50	ND<50	ND<5	ND<1.0
12-4-91	MW-5	ND<50	ND<50	ND<5	4.6
12-4-91	MW-6	1,400	ND<50	ND<5	33
<i>April 1992 Groundwater Sampling</i>					
4-29-92	MW-3	ND<50	ND<50	ND<5	ND<1.0
4-29-92	MW-5	ND<50	ND<50	ND<5	3
4-29-92	MW-6	670	ND<50	ND<5	7
<i>July 1992 Groundwater Sampling</i>					
7-28-92	MW-3	ND<50	ND<50	ND<5	ND<1.0
7-28-92	MW-5	ND<50	ND<50	ND<5	2
7-28-92	MW-6	1,700	ND<50	ND<5	17
<i>October 1992 Groundwater Sampling</i>					
10-19-92	MW-3	ND<50	ND<50	ND<5	ND<1.0
10-19-92	MW-5	ND<50	ND<50	ND<5	2
10-19-92	MW-6	500	ND<50	ND<5	26
<i>February 1993 Groundwater Sampling</i>					
2-24-93	MW-3	ND<50	ND<50	ND<5	ND<1.0
2-24-93	MW-5	ND<50	ND<50	ND<5	1

Date Sampled	Monitoring Well	Diesel ug/L	Kerosene ug/L	Oil & Grease mg/L	Chlorobenzene ug/L
2-24-93	MW-6	ND<50	170 +	ND<5	6
<i>May 1993 Groundwater Sampling</i>					
5-19-93	MW-3	ND<50	ND<50	ND<5	ND
5-19-93	MW-5	ND<50	ND<50	ND<5	2
5-19-93	MW-6	670	ND<50	ND<5	4
<i>August 1993 Groundwater Sampling</i>					
8-11-93	MW-3	ND<50	ND<50	ND<5	ND<1
8-11-93	MW-5	ND<50	ND<50	ND<5	ND<1
8-11-93	MW-6	80	*	7.0	10
<i>February 1994 Groundwater Sampling</i>					
2-2-94	MW-3	ND<50	ND<50	ND<05	ND<1
2-2-94	MW-5	ND<50	ND<50	ND<5	ND<1
2-2-94	MW-6	ND<50	220	ND<5	3
<i>May 1994 Groundwater Sampling</i>					
5-24-94	MW-3	ND<50	N/A	ND<5	ND<0.4
5-24-94	MW-5	ND<50	N/A	ND<5	0.6
5-24-94	MW-6	ND<50	N/A	ND<5	5.5
<i>September 1994 Groundwater Sampling</i>					
9-15-94	MW-3	ND<50	N/A	ND<5	ND<0.4
9-15-94	MW-5	ND<50	N/A	ND<5	ND<0.4
9-15-94	MW-6	ND<50	N/A	ND<5	4.6
<i>January 13, 1995 Groundwater Sampling</i>					
1-13-95	MW-3	ND<50	N/A	ND<0.5	ND
1-13-95	MW-5	ND<50	N/A	ND<0.5	1.1