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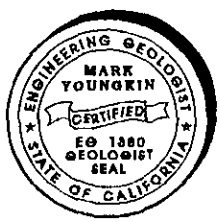
GROUNDWATER MONITORING REPORT

1700 Park Street
Alameda, California

MANAGEMENT AND CONSULTING



California Registered Environmental Assessors
California Certified Engineering Geologist
Oregon Registered Engineering Geologist
Oregon Registered UST Soil Cleanup Supervisors

"An Environmental Management Company"

GROUNDWATER MONITORING REPORT

Cavanaugh Motors Facility
1700 Park Street
Alameda, California

Project Number 109001
May 15, 1992

Prepared for

Mr. Dave Cavanaugh
Cavanaugh Motors
1700 Park Street
Alameda, California 94501

prepared by

TMC Environmental Inc.
13908 San Pablo Avenue, Suite 101
San Pablo, California 94806

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1700 Park Street, Alameda California

1.0 GENERAL SITE INFORMATION

1.1 SITE LOCATION

The Cavanaugh Motors property, called the site in this workplan, is at the following address and description:

1700 Park Street, Alameda, California 94501
Alameda County
Appraisers parcel number: APN 70-192-21-1 and 24
Lots 1, 2, 3, portion of 4, 7 Block E of Alameda
Station Homestead Tract (Book 17 page 60)

The site is at the northeast corner of the intersection of Park Street and Buena Vista Avenue. The corner lot is approximately 150 feet by 200 feet.

1.2 TANK OWNER

The current property owner is:

Lee & Dave Cavanaugh
1700 Park Street
Alameda, California 94501

Mr. Dave Cavanaugh is the owner contact. He can be reached at (510) 523-5246.

1.3 CONSULTANT OF RECORD

The consultant of record for this project is:

TMC Environmental Inc. (TMC)
13908 San Pablo Avenue, Suite 101
San Pablo, California 94806

The contact for TMC is Mr. Tom Edwards, President or Mr. Mark Youngkin, Vice President. Mr. Edwards and Mr. Youngkin can be reached at 510-232-8366.

1.4 SITE CONDITION

The site is presently being used for an automobile dealership. The site is in a commercial and retail neighborhood. Current activities include: a new car showroom, sales offices, parts storage and distribution, outside car storage, and vehicle repair shop with hydraulic hoists. Foot and vehicle traffic is heavy in this neighborhood and site. The site contains a large building with paved parking areas and driveways.

Access to the dealership is from both Park Street that borders the property on the northwest and Buena Vista Avenue that borders the property on the southwest. A gasoline station and automobile dealers occur across Park Street to the north. A motor vehicle repair shop bounds the site on the east. Adjacent to the site on the south is a residential neighborhood.

1.5 GEOLOGY

The site is less than one half mile west of the Oakland Estuary and Inner Harbor Waterway. San Francisco Bay is about one mile west of the site. The Inner Harbor Waterway connects San Leandro Bay and San Francisco Bay. As suggested by U.S. Geological Survey geological publications, the site is on the Alameda Bay Plain that has an alluvial fan environment. The Merritt Sand Formation is the main stratigraphic unit in the upper aquifer. This unit usually has unconsolidated beach sand and near shore deposits. Borings on the site have encountered unconsolidated sands and clayey sands. Lenses of clayey sand occur in the sand. It appears that groundwater in the Merritt Sand Formation is unconfined. Ground water is about eight feet below surface grade (bsg) at the site.

1.6 LEAD IMPLEMENTING AGENCY

As stated in a letter to Mr. Dave Cavanaugh dated January 31, 1990 from the Alameda County Health Care Services Agency; the agency authorized by the Regional Water Quality Control Board (RWQCB) to oversee this site is:

Alameda County Health Care Services Agency
Department of Environmental Health
Division of Hazardous Materials
80 Swan Way, Room 200, Oakland, California 94621

The officer overseeing this case is: Ms. Juliet Shin. Ms. Shin at can be called at 510-271-4320.

TMC followed the guidelines by the enforcing agency and the Bay Area Regional Water Quality Control Board (RWQCB) in preparing this workplan. The investigation, reclamation, and reporting guidelines applicable to leaking underground fuel tanks, available through these agencies, apply to this discharge. These guidelines are available from the Alameda County Health Care Services Agency.

2.0 GROUNDWATER SAMPLING

TMC had the ground water from monitoring wells MW-1, MW-2, MW-3, MW-4, MW-5, and MW-6 tested for the target fuel chemicals: total volatile hydrocarbons (TVH) as gasoline and benzene, toluene, ethylbenzene, and total xylene (BTEX). The groundwater from wells MW-3, MW-5, and MW-6 were tested for diesel, oil & grease and purgeable halocarbons. The certified analytical reports in the original reports contain quality assurance and quality control (QA/QC) data. The following tables summarize the chemical compounds detected. The first table lists the gasoline results for groundwater samples:

TABLE 1. GASOLINE RESULTS FOR GROUNDWATER SAMPLES

Date Sampled	*Monitoring Well*	*TVH gas ug/L*	*Benzene ug/L*	*Toluene ug/L*	*Ethyl benzene ug/L*	*Xylenes ug/L*
6-08-90	MW-1	28,000.	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
12-17-90	MW-1	7,200.	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
7-30-91	MW-1	21,000.	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
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
12-4-91	MW-1	4,300.	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
4-30-92	MW-1	16,000.	910	2,000	250.	1,400.
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

ND- Not detected below reporting limits

The following table presents the results of laboratory analyses for extractable petroleum hydrocarbons and purgeable halocarbons in water:

TABLE 2. DIESEL AND OIL RESULTS FOR WATER SAMPLES

Date Sampled	*Monitoring Well*	*Diesel ug/L*	*Kerosene ug/L*	*Oil & Grease mg/L*	*Chlorobenzene ug/L*
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
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
4-29-92	MW-3	ND<50	ND<50	ND<5	ND<1.0
4-30-92	MW-5	ND<50	ND<50	ND<5	3.
4-30-92	MW-6	670	ND<50	ND<5	7.

ND- NOT DETECTED BELOW REPORTING LIMITS
NA- NOT ANALYZED BY LABORATORY

3.0 GROUNDWATER MEASUREMENTS

The first water containing layer consists mostly of fine to medium grained sand. The sand contains a clayey sand lens from 5-7 feet below grade at the surface of the groundwater. The shallow water-bearing sand beneath the site appears unconfined. By measuring the water levels at three groundwater monitoring wells, we estimated the direction of groundwater flow.

In an effort to eliminate some of the variability in the data collected, a more stringent protocol of groundwater measurement was initiated with this sampling interval. The purpose of the new protocol is to insure complete stabilization of the wells prior to measurement. The wells were all allowed to equilibrate with atmospheric pressure.

The wells were measured in rotation until two successive measurements of the water elevation agreed within 0.01 of a foot. The following table summarizes the groundwater measurements recorded for selected monitoring wells.

TABLE 3. GROUNDWATER MEASUREMENTS FROM MONITORING WELLS

Date	*Well Number*	*Water Level*	*Casing Elevation*	*Water Elevation*
6-20-90	MW2	7.16	16.73	9.57
6-20-90	MW3	7.37	16.89	8.52
6-20-90	MW4	7.60	16.39	8.79
12-17-90	MW2	8.78	16.73	7.95
12-17-90	MW3	8.42	16.89	8.47
12-17-90	MW4	8.61	16.39	7.78
9-13-90	MW2	8.78	16.73	7.95
9-13-90	MW3	8.70	16.89	8.19
9-13-90	MW4	8.80	16.39	7.59
12-4-91	MW2	7.99	16.73	8.74
12-4-91	MW3	8.18	16.89	8.71
12-4-91	MW4	8.26	16.39	8.13
4-29-92	MW2	6.05	16.73	10.68
4-29-92	MW3	6.73	16.89	9.14
4-29-92	MW4	6.81	16.39	9.58

The following table summarizes the estimated groundwater flow direction and gradient. We used a three point solution to estimate the flow direction and gradient. We avoided using well MW1 in the estimate because it is in the back fill of the tank excavation.

TABLE 4. GROUNDWATER FLOW DIRECTIONS AND GRADIENTS

Date	*Direction of Flow*	*Horizontal Gradient*
June 20, 1990	**North 26 degrees West**	**0.0088 ft/ft**
September 13, 1990	**North 91 degrees West**	**0.0073 ft/ft**
December 17, 1990	**North 106 degrees West**	**0.0069 ft/ft**
December 4, 1991	**North 77 degrees West**	**0.0093 ft/ft**
April 29, 1992	**North 20 degrees West**	**0.012 ft/ft**

The groundwater flow direction and the horizontal gradient vary between measurements. The changing groundwater flow direction may suggest the shallow water layer is sensitive to seasonal changes or incomplete stabilization of the wells was achieved in the past. The most recent data indicate a North 20 degrees West flow direction at an average horizontal gradient of 0.012 ft/ft.

4.0 SOIL AND WATER SAMPLE DATA QUALITY

The quality assurance and quality control (QA/AC) review of the new sample data for this report indicates that the data is acceptable for the purpose and objectives of this project. We did not review data summarized from previous reports. The U.S. Environmental Protection Agency (EPA) Test Methods for Evaluating Solid Waste (SW-846) and the California Department of Health Services (DOHS) Leaking Underground Fuel Tank (LUFT) Manual were used to evaluate the sampling data since the SW-846 and LUFT methodologies were primarily used to analyze the samples. The samples were analyzed by Curtis & Tompkins, Ltd. of Berkeley, California. The certified laboratory reports and chain-of-custody forms are presented in Appendix A.

A. QUALITY OF GROUNDWATER SAMPLES

During sampling, all monitoring wells were purged of at least 3 bore volumes of water, in accordance with EPA protocol. At the end of purging, the well water was clear in all wells. The deionized water equipment blank for the sampling reported no detectable compounds.

Conductivity measurements for five of the six wells on site indicate a total dissolved solids content corresponding to about 300-600 mg/L. Well MW-6 shows anomalous conductivity results at about 3600 mg/L. A laboratory analysis using EPA method 160.1 for total dissolved solids was performed on a water sample collected from well MW-6 on July 18, 1991. The results of the analysis indicate 5,000 mg/L for the water from well MW-6. We believe that the base rock used to back fill the waste oil tank excavation was of low quality and salty. Therefore, the anomalous total dissolved solids content of well MW-6 is due to back fill salt content. This condition should not effect the usefulness of the well for water quality measurements.

B. CHAIN OF CUSTODY DOCUMENTATION

Complete chain-of-custody forms were maintained for all samples from the time of their collection until their submission to the laboratory. No errors in chain-of-custody protocol was noted.

C. PURGEABLE HALOCARBONS

Based on the QC data reviewed, the results of analyses for purgeable halocarbons by EPA SW-846 Method 8010 appear reasonably representative. Groundwater samples were analyzed within the EPA-specified maximum holding time. Surrogate spike recoveries were judged acceptable based on professional judgement. Matrix spike/matrix spike duplicate percent recoveries and relative percent differences (RPD's) were either within EPA-specified limits or were within limits set by professional judgment where no EPA limits exist. The compound chlorobenzene was again detected in wells MW-5 and MW-6. The chlorobenzene concentrations detected were lower than the previous sampling.

D. TOTAL VOLATILE HYDROCARBONS WITH BTEX

Based on the QC data reviewed, total volatile hydrocarbons (TVH) as gasoline analysis by LUFT methods and benzene, toluene, ethylbenzene, and total xylenes (BTEX) analyses by EPA SW-846 Methods modified 5030/8020 appear reasonably representative. Samples were analyzed within the Regional Water Quality Control Board specified 7 day maximum holding time for water samples. Matrix spike/matrix spike duplicate percent recoveries and relative percent differences (RPD's) were either within EPA-specified limits or were within limits set by professional judgment where no EPA limits exist.

E. EXTRACTABLE PETROLEUM HYDROCARBONS

Based on the QC data review, extractable petroleum hydrocarbons (TEH) analysis by LUFT methods appear reasonably representative. Samples were analyzed within the Regional Water Quality Control Board specified 14 day maximum holding time for water samples. Matrix spike/matrix spike duplicate percent recoveries and relative percent differences (RPD's) were either within EPA-specified limits or were within limits set by professional judgment where no EPA limits exist.

F. HYDROCARBON OIL & GREASE

Based on the QC data reviewed, the results of analyses for hydrocarbon oil & grease by gravimetric analysis, method SMWW 17:5520BF appear reasonably representative. Groundwater samples were analyzed within the EPA-specified maximum holding time. Surrogate spike recoveries were judged acceptable based on professional judgement. Matrix spike/matrix spike duplicate percent recoveries and relative percent differences (RPD's) were either within EPA-specified limits or were within limits set by professional judgment where no EPA limits exist. No hydrocarbon oil & grease was detected in the method blanks.

5.0 SCHEDULE OF ACTIVITIES

The following activities are scheduled to be performed during the next quarter:

- Quarterly groundwater sampling and analysis with quarterly measurement of groundwater gradient and flow direction
- Permitting, installation, and operation of a soil venting system
- Disposal of on site stock pile.

6.0 LIMITATIONS

The procedures and opinions in this report agree with professional practice as provided in the guidelines of the California Regional Water Quality Control Board for addressing fuel leaks from underground tanks. This report is only part of the ongoing work required by the lead implementing agency at this site. The lab test results rely on limited data collected at the sampling location only. Budget constraints restrict the amount of testing allowed. The lab test results do not apply to the general site as a whole. Therefore, **TMC** Environmental Inc. cannot have complete knowledge of the underlying conditions.

We provide the information in the resulting report to our client so he may make a more informed decision about site conditions. The professional opinion and judgement in the reports is subject to revisions in light of new information. We do not state or imply any guarantees or warranties that the subject property is or is not free of environmental impairment. Monitoring wells and soil venting wells are temporary sampling and remediation wells that eventually must be permitted and destroyed by a licensed driller at the clients expense.

7.0 CERTIFICATION

I supervised the preparation of the Groundwater Monitoring Report dated May 15, 1992 for the Cavanaugh Motors facility in the City of Alameda, Alameda County, California. The investigation used techniques and standards of care common to the consulting geologic profession in California. My certification as an engineering geologist by the State of California, Board of Registration for Geologists and Geophysicists, license number EG-1380, expires on June 30, 1992. This license is active and currently in good standing with the Board of Registration.

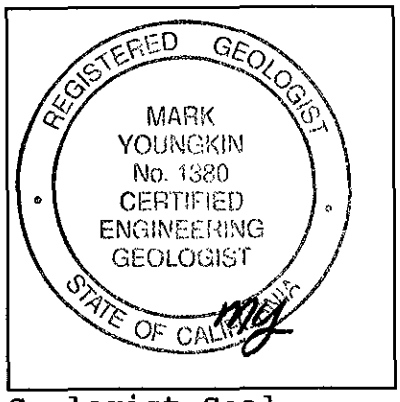
Certifying Professional:

TMC Environmental, Inc.
Vice President

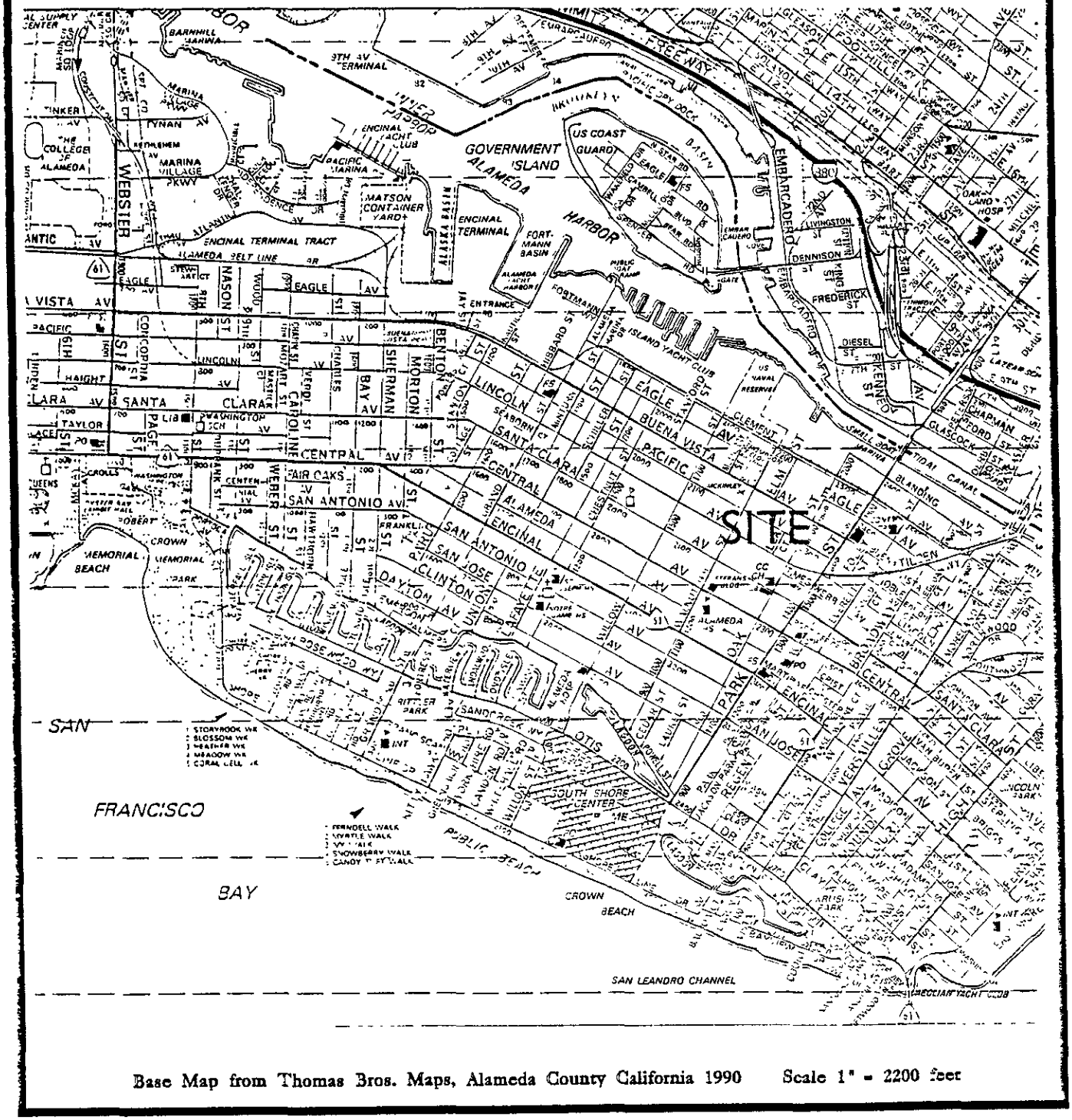
Mark T. Youngkin

Mark T. Youngkin
Certified Engineering Geologist No. EG-1380

Dated May 19, 1992



Geologist Seal



Base Map from Thomas Bros. Maps, Alameda County California 1990 Scale 1" = 2200 feet

TMC
Environmental, Inc.

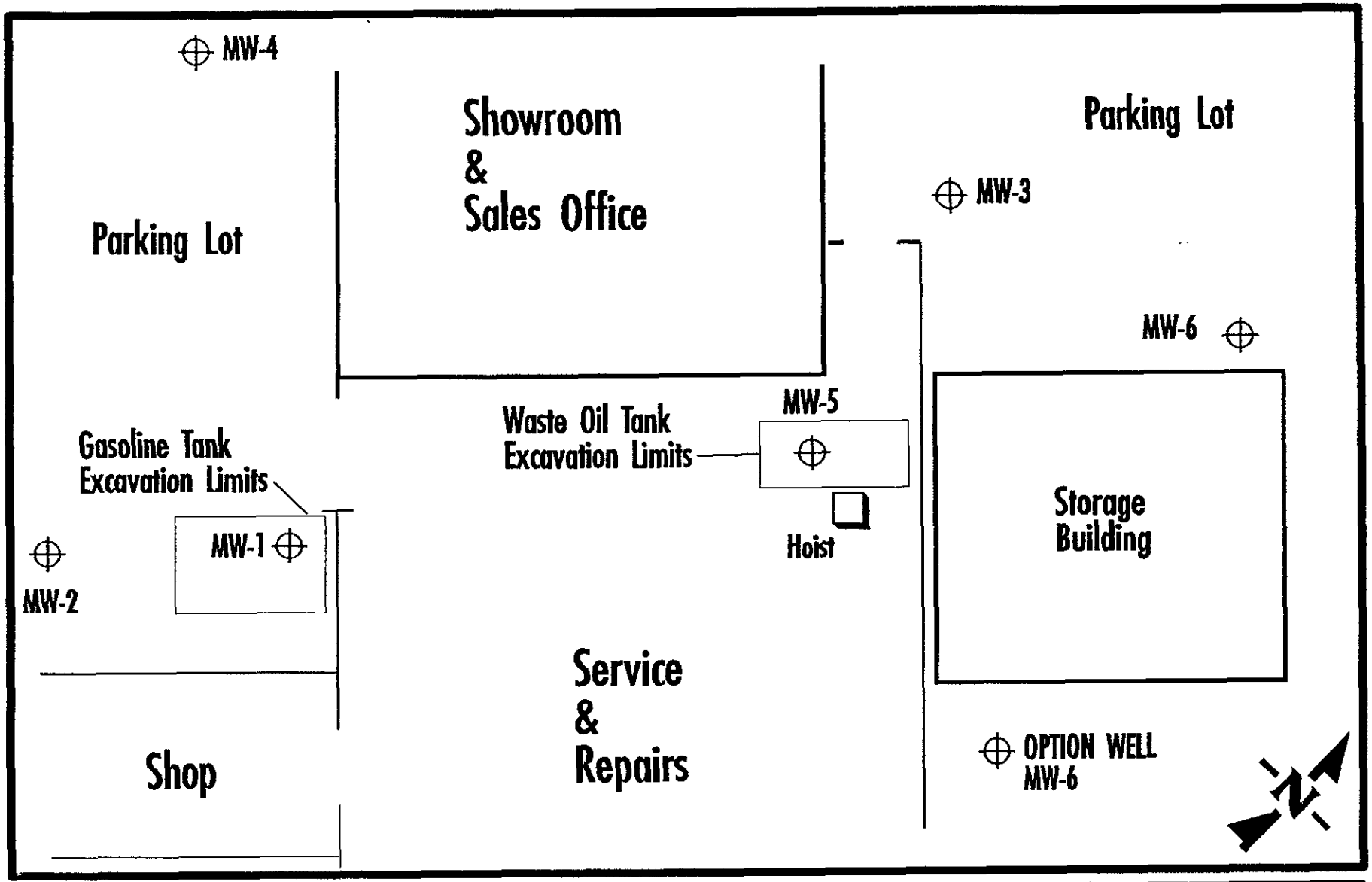
SITE VICINITY MAP

Cavanaugh Motors

1700 Park Street
Alameda, California

Project No. 109001 May 1992

PLATE
1



LEGEND

MW-0 ⊕ Monitoring Well

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

SITE PLAN

Cavanaugh Motors

1700 Park Street, Alameda California

TMC ENVIRONMENTAL INC. SAN PABLO, CALIFORNIA

PLATE 2

APPENDIX A

CERTIFIED ANALYTICAL REPORTS,

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST FORMS,

WELL SAMPLING FORMS

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

DATE RECEIVED: 04/29/92
DATE REPORTED: 05/08/92

LABORATORY NUMBER: 107254

CLIENT: TMC ENVIRONMENTAL

PROJECT ID: 101090

LOCATION: CAVANAUGH MOTOR

RESULTS: SEE ATTACHED

Reviewed By

Reviewed By

Curtis & Tompkins, Ltd

LABORATORY NUMBER: 107254
CLIENT: TMC ENVIRONMENTAL, INC.
PROJECT ID: 101090
LOCATION: CAVANAUGH MOTOR

DATE SAMPLED: 04/29/92
DATE RECEIVED: 04/29/92
DATE ANALYZED: 05/03/92
DATE REPORTED: 05/08/92

Total Volatile Hydrocarbons with BTXE in Aqueous Solutions
TVH by California DOHS Method/LUFT Manual October 1989
BTXE by EPA 5030/8020

LAB ID	SAMPLE ID	TVH AS GASOLINE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL BENZENE (ug/L)	TOTAL XYLENES (ug/L)
107254-1	MW2	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)
107254-2	MW4	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)
107254-3	MW3	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)

ND = Not detected at or above reporting limit; Reporting limit indicated in parentheses.

QA/QC SUMMARY

RPD, %	2
RECOVERY, %	87

Curtis & Tompkins, Ltd

LABORATORY NUMBER: 107254-003
CLIENT: TMC ENVIRONMENTAL, INC.
PROJECT ID: 101090
LOCATION: CAVANAUGH MOTOR
SAMPLE ID: MW3

DATE SAMPLED: 04/29/92
DATE RECEIVED: 04/29/92
DATE ANALYZED: 05/02/92
DATE REPORTED: 05/08/92

EPA 8010
Purgeable Halocarbons in Water

Compound	Result ug/L	Reporting Limit ug/L
Chloromethane	ND	2
Bromomethane	ND	2
Vinyl chloride	ND	2
Chloroethane	ND	2
Methylene chloride	ND	20
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
cis-1,2-Dichloroethene	ND	1
trans-1,2-Dichloroethene	ND	1
Chloroform	ND	1
Freon 113	ND	1
1,2-Dichloroethane	ND	1
1,1,1-Trichloroethane	ND	1
Carbon tetrachloride	ND	1
Bromodichloromethane	ND	1
1,2-Dichloropropane	ND	1
cis-1,3-Dichloropropene	ND	1
Trichloroethylene	ND	1
1,1,2-Trichloroethane	ND	1
trans-1,3-Dichloropropene	ND	1
Dibromochloromethane	ND	1
2-Chloroethylvinyl ether	ND	2
Bromoform	ND	1
Tetrachloroethene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
Chlorobenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Surrogate Recovery, %	105

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 107254-METHOD BLANK
CLIENT: TMC ENVIRONMENTAL
PROJECT ID: 101090
LOCATION: CAVANAUGH MOTOR

DATE ANALYZED: 05/01/92
DATE REPORTED: 05/08/92

EPA 8010
Purgeable Halocarbons in Water

Compound	Result ug/L	Reporting Limit ug/L
Chloromethane	ND	2
Bromomethane	ND	2
Vinyl chloride	ND	2
Chloroethane	ND	2
Methylene chloride	ND	20
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
cis-1,2-Dichloroethene	ND	1
trans-1,2-Dichloroethene	ND	1
Chloroform	ND	1
Freon 113	ND	1
1,2-Dichloroethane	ND	1
1,1,1-Trichloroethane	ND	1
Carbon tetrachloride	ND	1
Bromodichloromethane	ND	1
1,2-Dichloropropane	ND	1
cis-1,3-Dichloropropene	ND	1
Trichloroethylene	ND	1
1,1,2-Trichloroethane	ND	1
trans-1,3-Dichloropropene	ND	1
Dibromochloromethane	ND	1
2-Chloroethylvinyl ether	ND	2
Bromoform	ND	1
Tetrachloroethene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
Chlorobenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Surrogate Recovery, %	108

Curtis & Tompkins, Ltd

MS/MSD SUMMARY SHEET FOR EPA 8010

Laboratory Number: 107254
Analysis date: 05/01/92
Sample type: Water
Spike file: 122w/x006
Spike dup file: 122w/x007

8010 MS/MSD DATA (spiked at 20 ppb)

SPIKE COMPOUNDS	READING	RECOVERY	STATUS	LIMITS
1,1-Dichloroethene	21.79	109 %	OK	61 - 145
Trichloroethene	19.62	98 %	OK	71 - 120
Chlorobenzene	17.67	88 %	OK	75 - 130
SPIKE DUP COMPOUNDS				
1,1-Dichloroethene	22.86	114 %	OK	61 - 145
Trichloroethene	20.38	102 %	OK	71 - 120
Chlorobenzene	19.21	96 %	OK	75 - 130
SURROGATES				
BROMOBENZENE (MS)	103.55	104 %	OK	75 - 115
BROMOBENZENE (MSD)	102.29	102 %	OK	75 - 115

RPD DATA

8010 COMPOUNDS	SPIKE	SPIKE DUP	RPD	STATUS	LIMITS
1,1-Dichloroethene	21.79	22.86	5 %	OK	<= 14
Trichloroethene	19.62	20.38	4 %	OK	<= 14
Chlorobenzene	17.67	19.21	8 %	OK	<= 13

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 107254
CLIENT: TMC ENVIRONMENTAL
PROJECT ID: 101090
LOCATION: CAVANAUGH MOTOR

DATE SAMPLED: 04/29/92
DATE RECEIVED: 04/29/92
DATE EXTRACTED: 05/04/92
DATE ANALYZED: 05/06/92
DATE REPORTED: 05/08/92

Extractable Petroleum Hydrocarbons in Aqueous Solutions
California DOHS Method
LUFT Manual October 1989

LAB ID	CLIENT ID	KEROSENE RANGE (ug/L)	DIESEL RANGE (ug/L)	REPORTING LIMIT* (ug/L)
107254-3	MW3	ND	ND	50

ND = Not detected at or above reporting limit.

*Reporting limit applies to all analytes.

QA/QC SUMMARY

RPD, %	2
RECOVERY, %	84

Curtis & Tompkins, Ltd.

Client: TMC Environmental, Inc.

Laboratory Login Number: 107254

Project Name: Cavanaugh Motors
Project Number: 109001

Report Date: 08 May 92

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric) **METHOD: SMWW 17:5520BF**

Lab ID	Sample ID	Matrix	Sampled	Received	Analyzed	Result	Units	RL	Analyst	QC Batch
107254-003	MW3	Water	29-APR-92	29-APR-92	01-MAY-92	ND	mg/L	5	TR	5157

ND = Not Detected at or above Reporting Limit (RL).

Curtis & Tompkins, Ltd

QC Batch Report

Client: TMC Environmental, Inc.
Project Name: Cavanaugh Motors
Project Number: 109001

Laboratory Login Number: 107254
Report Date: 08 May 92

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric) **QC Batch Number: 5157**

Blank Results

Sample ID	Result	MDL	Units	Method	Date Analyzed
BLANK	ND	5	mg/L	SMWW 17:5520BF	01-MAY-92

Spike/Duplicate Results

Sample ID	Recovery	Method	Date Analyzed
BS	82%	SMWW 17:5520BF	01-MAY-92
BSD	86%	SMWW 17:5520BF	01-MAY-92

		Control Limits
Average Spike Recovery	84%	80% - 120%
Relative Percent Difference	4.3%	< 20%

TMC ENVIRONMENTAL, INC.
13908 San Pablo Avenue, Suite 101
San Pablo, California 94806
(415) 232-8366 / FAX 232-5133

CHAIN OF CUSTODY RECORD
ANALYSIS REQUEST FORM

Project No. 101090	Project Name: Cavanaugh Motor	Project Contact: Mack Youngkin	Page 1 of
Project Address: 1700 Park Street, Alameda, Cal.			Turnaround Time: 5 days
Sampler: Tom Ghigliotto	Laboratory Name: Curtis & Tompkins		Lab No: 159

LAB ID NO.	DATE	TIME	SOIL	WATER	SAMPLE LABEL	TPH-GAS BTEX	TPH-DIESEL	ORGANIC LEAD	Oil & Grease EPA 8010		REMARKS ADDITIONAL ANALYSIS
109254-1	4-29-92	1300		X	MW2	X					
-2	4-29-92	1410		X	MW4	X					
-3	4-29-92	1540		X	MW3	X	X		X	X	6-40 A's, 2 LITERS

Relinquished By: (Signature) Thomas Ghigliotto	Date: 4-29-92 Time: 1630	Received By: (Signature)	Date: Time:
Relinquished By: (Signature)	Date: Time:	Received By: (Signature)	Date: Time:
Relinquished By: (Signature)	Date: Time:	Received By: (Signature)	Date: 4/29/92 Time: 1630

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

DATE RECEIVED: 05/01/92
DATE REPORTED: 05/08/92

LABORATORY NUMBER: 107269

CLIENT: TMC ENVIRONMENTAL

PROJECT ID: 101090

LOCATION: CAVANAUGH MOTORS

RESULTS: SEE ATTACHED

Reviewed By

Reviewed By

Curtis & Tompkins, Ltd

LABORATORY NUMBER: 107269
CLIENT: TMC ENVIRONMENTAL
PROJECT ID: 101090
LOCATION: CAVANAUGH MOTORS

DATE SAMPLED: 04/30/92
DATE RECEIVED: 05/01/92
DATE ANALYZED: 05/03-05/92
DATE REPORTED: 05/08/92

Total Volatile Hydrocarbons with BTXE in Aqueous Solutions
TVH by California DOHS Method/LUFT Manual October 1989
BTXE by EPA 5030/8020

LAB ID	SAMPLE ID	TVH AS GASOLINE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL BENZENE (ug/L)	TOTAL XYLENES (ug/L)
107269-1	EQB-5	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)
107269-2	MW5	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)
107269-3	MW6	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)
107269-4	MW1	16,000	910	2,000	250	1,400

ND = Not detected at or above reporting limit; Reporting limit indicated in parentheses.

QA/QC SUMMARY

RPD, %	3
RECOVERY, %	94

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 107269
CLIENT: TMC ENVIRONMENTAL
PROJECT ID: 101090
LOCATION: CAVANAUGH MOTORS

DATE SAMPLED: 04/30/92
DATE RECEIVED: 05/01/92
DATE EXTRACTED: 05/04/92
DATE ANALYZED: 05/06/92
DATE REPORTED: 05/08/92

Extractable Petroleum Hydrocarbons in Aqueous Solutions
California DOHS Method
LUFT Manual October 1989

LAB ID	CLIENT ID	KEROSENE RANGE (ug/L)	DIESEL RANGE (ug/L)	REPORTING LIMIT* (ug/L)
107269-1	EQB-5	ND	ND	50
107269-2	MW5	ND	ND	50
107269-3	MW6	**	670	50

ND = Not detected at or above reporting limit.

*Reporting limit applies to all analytes.

**Kerosene range not reported. Quantitated as diesel range.

QA/QC SUMMARY

RPD, %	2
RECOVERY, %	84

Curtis & Tompkins, Ltd

LABORATORY NUMBER: 107269-1
CLIENT: TMC ENVIRONMENTAL
PROJECT ID: 101090
LOCATION: CAVANAUGH MOTORS
SAMPLE ID: EQB-5

DATE SAMPLED: 04/30/92
DATE RECEIVED: 05/01/92
DATE ANALYZED: 05/04/92
DATE REPORTED: 05/08/92

EPA 8010
Purgeable Halocarbons in Water

Compound	Result ug/L	Reporting Limit ug/L
Chloromethane	ND	2
Bromomethane	ND	2
Vinyl chloride	ND	2
Chloroethane	ND	2
Methylene chloride	ND	20
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
cis-1,2-Dichloroethene	ND	1
trans-1,2-Dichloroethene	ND	1
Chloroform	ND	1
Freon 113	ND	1
1,2-Dichloroethane	ND	1
1,1,1-Trichloroethane	ND	1
Carbon tetrachloride	ND	1
Bromodichloromethane	ND	1
1,2-Dichloropropane	ND	1
cis-1,3-Dichloropropene	ND	1
Trichloroethylene	ND	1
1,1,2-Trichloroethane	ND	1
trans-1,3-Dichloropropene	ND	1
Dibromochloromethane	ND	1
2-Chloroethylvinyl ether	ND	2
Bromoform	ND	1
Tetrachloroethene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
Chlorobenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Surrogate Recovery, %	104

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 107269-2
CLIENT: TMC ENVIRONMENTAL
PROJECT ID: 101090
LOCATION: CAVANAUGH MOTORS
SAMPLE ID: MW5

DATE SAMPLED: 04/30/92
DATE RECEIVED: 05/01/92
DATE ANALYZED: 05/04/92
DATE REPORTED: 05/08/92

EPA 8010
Purgeable Halocarbons in Water

Compound	Result ug/L	Reporting Limit ug/L
Chloromethane	ND	2
Bromomethane	ND	2
Vinyl chloride	ND	2
Chloroethane	ND	2
Methylene chloride	ND	20
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
cis-1,2-Dichloroethene	ND	1
trans-1,2-Dichloroethene	ND	1
Chloroform	ND	1
Freon 113	ND	1
1,2-Dichloroethane	ND	1
1,1,1-Trichloroethane	ND	1
Carbon tetrachloride	ND	1
Bromodichloromethane	ND	1
1,2-Dichloropropane	ND	1
cis-1,3-Dichloropropene	ND	1
Trichloroethylene	ND	1
1,1,2-Trichloroethane	ND	1
trans-1,3-Dichloropropene	ND	1
Dibromochloromethane	ND	1
2-Chloroethylvinyl ether	ND	2
Bromoform	ND	1
Tetrachloroethene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
Chlorobenzene	3	1
1,3-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Surrogate Recovery, %	104

Curtis & Tompkins, Ltd

LABORATORY NUMBER: 107269-3
CLIENT: TMC ENVIRONMENTAL
PROJECT ID: 101090
LOCATION: CAVANAUGH MOTORS
SAMPLE ID: MW6

DATE SAMPLED: 04/30/92
DATE RECEIVED: 05/01/92
DATE ANALYZED: 05/04/92
DATE REPORTED: 05/08/92

EPA 8010
Purgeable Halocarbons in Water

Compound	Result ug/L	Reporting Limit ug/L
Chloromethane	ND	2
Bromomethane	ND	2
Vinyl chloride	ND	2
Chloroethane	ND	2
Methylene chloride	ND	20
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
cis-1,2-Dichloroethene	ND	1
trans-1,2-Dichloroethene	ND	1
Chloroform	ND	1
Freon 113	ND	1
1,2-Dichloroethane	ND	1
1,1,1-Trichloroethane	ND	1
Carbon tetrachloride	ND	1
Bromodichloromethane	ND	1
1,2-Dichloropropane	ND	1
cis-1,3-Dichloropropene	ND	1
Trichloroethylene	ND	1
1,1,2-Trichloroethane	ND	1
trans-1,3-Dichloropropene	ND	1
Dibromochloromethane	ND	1
2-Chloroethylvinyl ether	ND	2
Bromoform	ND	1
Tetrachloroethene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
Chlorobenzene	7	1
1,3-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Surrogate Recovery, %	103

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 107269-METHOD BLANK
CLIENT: TMC ENVIRONMENTAL
PROJECT ID: 101090
LOCATION: CAVANAUGH MOTORS

DATE ANALYZED: 05/04/92
DATE REPORTED: 05/08/92

EPA 8010
Purgeable Halocarbons in Water

Compound	Result ug/L	Reporting Limit ug/L
Chloromethane	ND	2
Bromomethane	ND	2
Vinyl chloride	ND	2
Chloroethane	ND	2
Methylene chloride	ND	20
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
cis-1,2-Dichloroethene	ND	1
trans-1,2-Dichloroethene	ND	1
Chloroform	ND	1
Freon 113	ND	1
1,2-Dichloroethane	ND	1
1,1,1-Trichloroethane	ND	1
Carbon tetrachloride	ND	1
Bromodichloromethane	ND	1
1,2-Dichloropropane	ND	1
cis-1,3-Dichloropropene	ND	1
Trichloroethylene	ND	1
1,1,2-Trichloroethane	ND	1
trans-1,3-Dichloropropene	ND	1
Dibromochloromethane	ND	1
2-Chloroethylvinyl ether	ND	2
Bromoform	ND	1
Tetrachloroethene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
Chlorobenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Surrogate Recovery, %	103

Curtis & Tompkins, Ltd

MS/MSD SUMMARY SHEET FOR EPA 8010

Laboratory Number: 107269
Analysis date: 05/04/92
Sample type: Water
Spike file: 125w/x010
Spike dup file: 125w/x011

8010 MS/MSD DATA (spiked at 20 ppb)

SPIKE COMPOUNDS	READING	RECOVERY	STATUS	LIMITS
1,1-Dichloroethene	23.71	119 %	OK	61 - 145
Trichloroethene	20.98	105 %	OK	71 - 120
Chlorobenzene	21.01	105 %	OK	75 - 130
SPIKE DUP COMPOUNDS				
1,1-Dichloroethene	23.57	118 %	OK	61 - 145
Trichloroethene	20.60	103 %	OK	71 - 120
Chlorobenzene	20.84	104 %	OK	75 - 130
SURROGATES				
BROMOBENZENE (MS)	101.02	101 %	OK	75 - 115
BROMOBENZENE (MSD)	100.63	101 %	OK	75 - 115

RPD DATA

8010 COMPOUNDS	SPIKE	SPIKE DUP	RPD	STATUS	LIMITS
1,1-Dichloroethene	23.71	23.57	1 %	OK	<= 14
Trichloroethene	20.98	20.60	2 %	OK	<= 14
Chlorobenzene	21.01	20.84	1 %	OK	<= 13

Curtis & Tompkins, Ltd.

Client: TMC Environmental, Inc.

Laboratory Login Number: 107269

Project Name: Cavanaugh Motors
Project Number: 109001

Report Date: 08 May 92

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric) **METHOD:** SMWW 17:5520BF

Lab ID	Sample ID	Matrix	Sampled	Received	Analyzed	Result	Units	RL	Analyst	QC Batch
107269-001	EQB-5	Water	30-APR-92	01-MAY-92	06-MAY-92	ND	mg/L	5	TR	5195
107269-002	MW5	Water	30-APR-92	01-MAY-92	06-MAY-92	ND	mg/L	5	TR	5195
107269-003	MW6	Water	30-APR-92	01-MAY-92	06-MAY-92	ND	mg/L	5	TR	5195

ND = Not Detected at or above Reporting Limit (RL).

Curtis & Tompkins, Ltd.

Q C B a t c h R e p o r t

Client: TMC Environmental, Inc.
Project Name: Cavanaugh Motors
Project Number: 109001

Laboratory Login Number: 107269
Report Date: 08 May 92

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric) **QC Batch Number: 5195**

Blank Results

Sample ID	Result	MDL	Units	Method	Date Analyzed
BLANK	ND	5	mg/L	SMWW 17:5520BF	06-MAY-92

Spike/Duplicate Results

Sample ID	Recovery	Method	Date Analyzed
BS	84%	SMWW 17:5520BF	06-MAY-92
BSD	87%	SMWW 17:5520BF	06-MAY-92

		Control Limits
Average Spike Recovery	86%	80% - 120%
Relative Percent Difference	4.2%	< 20%

TMC ENVIRONMENTAL, INC.
13908 San Pablo Avenue, Suite 101
San Pablo, California 94806
(415) 232-8366 / FAX 232-5133

CHAIN OF CUSTODY RECORD
ANALYSIS REQUEST FORM

Project No. 101090	Project Name: CAVANAUGH MOTORS	Project Contact: MARK YOUNGKIN	Page 1 of 1
Project Address: 1700 PARK STREET, ALAMEDA, CA.			Turnaround Time: 5 days
Sampler: TOM GHIGLIOTTO	Laboratory Name: CURTIS & TOMPKINS		Lab No: 159

LAB ID NO.	DATE	TIME	SOIL	WATER	SAMPLE LABEL	TPH-GAS BTEX	TPH-DIESEL	ORGANIC LEAD	OIL & GREASE	EPA 6010		REMARKS ADDITIONAL ANALYSIS
16726 9-1	4-30-92	1135		X	EQB-5	X	X		X	X		
-2	4-30-92	1210		X	MW5	X	X		X	X		
-3	4.30.92	1335		X	MW6	X	X		X	X		
-4	4-30-92	1500		X	MW1	X						

Relinquished By: (Signature) Thomas Ghigliotto	Date: 5/1/92 Time: 1010	Received By: (Signature) Terri Ghigliotto	Date: Time: 5/1/92 1010
Relinquished By: (Signature)	Date: Time:	Received By: (Signature)	Date: Time:
Relinquished By: (Signature) Terri Ghigliotto	Date: 5/1/92 Time: 10:55A	Received By: (Signature) Troy E. Walker	Date: 5-1-92 Time: 1055

RECORD OF WATER SAMPLE COLLECTION

Well Label: MW-1 Date Collected: 04-30-92 Job Number: 101090

Job Name: CAVANAUGH MOTORS Location: 1700 PARK STREET, ALAMEDA, CA 94501

Samplers Name: TOM GHIGLIOTTO Well Condition: WET, LOCKED

WATER LEVEL MEASUREMENTS

Time well allowed to sabilize: 20 minutes

TIME MEASURED	4-29-92	11:16	11:36	4-30-92	10:30	10:40	13:48
DEPTH IN FEET		6.00	6.00		6.02	6.02	6.02

WELL PURGING RECORD

Total depth of well: 14.26 Depth to water: 6.02 Diameter: 4 inches

Purge volume = total depth - water depth x volume factor x 4 volumes = 21.2 gallons
Volume factor = 0.17 for 2" casing; 0.65 for 4" casing; 1.47 for 6" casing

Purge method: HONDA PUMP

Vapor reading, ppm: VERY STRONG ODOR, BUT NO METER AVAILABLE FOR P.P.M READING

Describe sheen: SLIGHT ON PURGED WATER OBERVED

WELL PURGING PARAMETERS

Gallons Removed	Time	Temperature-F	Conductivity X 1000	Turbidity	pH
0	14:00	745.	.85	CLR W/BLK SPECS	6.90
3	14:05	70.6	.61	CLR W/BLK SPECS	6.87
6	14:08	70.4	.59	CLEAR	6.84
9	14:11	69.9	.76	CLEAR	6.80
12	14:14	69.9	.61	CLEAR	6.90
15	14:17	69.7	.59	CLEAR	6.93
18	14:20	69.6	.59	CLEAR	7.05
20	14:22	69.5	.58	CLEAR	7.14
21	14:23	69.5	.58	CLEAR	7.00
22	14:24	69.5	.58	CLEAR	6.98
23	14:25	69.5	.58	CLEAR	6.98

Comments:

Actual volume purged from well: 24 gallons Number of barrels: 1

RECORD OF WELL SAMPLING

Sample ID Number: MW-1 Time Collected: 15:00

Sampling Method: DISPOSABLE BAILER

Recovery Time: 30 MINUTES TO 6.5

RECORD OF WATER SAMPLE COLLECTION

Well Label: MW-2 Date Collected: 04-29-92 Job Number: 101090

Job Name: CAVANAUGH MOTORS Location: 1700 PARK STREET, ALAMEDA, CA 94501

Samplers Name: TOM GHIGLIOTTO Well Condition: WET, LOCKED

WATER LEVEL MEASUREMENTS

Time well allowed to sabilize: 50 minutes

TIME MEASURED	10:50	11:20	11:40				
DEPTH IN FEET	6.05	6.05	6.05				

WELL PURGING RECORD

Total depth of well: 14.58 Depth to water: 6.05 Diameter: 4 inches

Purge volume = total depth - water depth x volume factor x 4 volumes = 22.0 gallons
Volume factor = 0.17 for 2" casing; 0.65 for 4" casing; 1.47 for 6" casing

Purge method: HONDA PUMP

Vapor reading, ppm: N/A

Describe sheen: NONE OBSERVED

WELL PURGING PARAMETERS

Gallons Removed	Time	Temperature-F	Conductivity X 1000	Turbidity	pH
0	12:01	18.4	0.52	CLEAR	7.14
3	12:10	70.8	0.37	CLEAR	7.06
6	12:13	70.5	0.37	CLEAR	6.84
9	12:16	69.3	0.40	CLEAR	7.13
12	12:19	69.1	0.41	CLEAR	7.13
15	12:22	69.1	0.40	CLEAR	7.12
18	12:25	68.9	0.37	CLEAR	6.96
21	12:28	69.1	0.37	CLEAR	7.00
22	12:29	69.1	0.36	CLEAR	6.94
23	12:30	69.0	0.36	CLEAR	6.94

Comments:

Actual volume purged from well: 23 gallons Number of barrels: 1

RECORD OF WELL SAMPLING

Sample ID Number: MW-2 Time Collected: 12:00

Sampling Method: DISPOSABLE BAILER

Recovery Time: 23 MINUTES TO 6.28

RECORD OF WATER SAMPLE COLLECTION

Well Label: MW-3 Date Collected: 04-29-92 Job Number: 101090

Job Name: CAVANAUGH MOTORS Location: 1700 PARK STREET, ALAMEDA, CA 94501

Samplers Name: TOM GHIGLIOTTO Well Condition: WET, LOCKED

WATER LEVEL MEASUREMENTS

Time well allowed to sabilize: minutes

TIME MEASURED	10:58	11:24	14:26				
DEPTH IN FEET	6.74	6.74	6.73				

WELL PURGING RECORD

Total depth of well: 14.53 Depth to water: 6.73 Diameter: 4 inches

Purge volume = total depth - water depth x volume factor x 4 volumes = 20.0 gallons
Volume factor = 0.17 for 2" casing; 0.65 for 4" casing; 1.47 for 6" casing

Purge method: HONDA PUMP

Vapor reading, ppm: N/A

Describe sheen: NONE OBSERVED

WELL PURGING PARAMETERS

Gallons Removed	Time	Temperature-F	Conductivity X 1000	Turbidity	pH
0	14:43	79.0	0.48	CLEAR	6.46
3	14:47	73.4	0.44	CLEAR	6.75
6	14:50	71.9	0.43	CLEAR	6.77
9	14:53	71.3	0.45	CLEAR	6.84
12	14:56	71.0	0.44	CLEAR	6.84
15	14:59	70.8	0.42	CLEAR	6.82
18	15:02	70.7	0.42	CLEAR	6.80
19	15:03	70.3	0.42	CLEAR	6.78
20	15:04	70.3	0.42	CLEAR	6.77
21	15:06	70.3	0.42	CLEAR	6.78

Comments:

Actual volume purged from well: 22 gallons Number of barrels: 1

RECORD OF WELL SAMPLING

Sample ID Number: MW-3 Time Collected: 15:40

Sampling Method: DISPOSABLE BAILER

Recovery Time: 26 MINUTES TO 7.18

RECORD OF WATER SAMPLE COLLECTION

Well Label: MW-4 Date Collected: 04-29-92 Job Number: 101090

Job Name: CAVANAUGH MOTORS Location: 1700 PARK STREET, ALAMEDA, CA 94501

Samplers Name: TOM GHIGLIOTTO Well Condition: WET, LOCKED

WATER LEVEL MEASUREMENTS

Time well allowed to sabilize: minutes

TIME MEASURED	11:11	11:22	13:10				
DEPTH IN FEET	6.81	6.81	6.81				

WELL PURGING RECORD

Total depth of well: 14.42 Depth to water: 6.81 Diameter: 4 inches

Purge volume = total depth - water depth x volume factor x 4 volumes = 19.6 gallons
Volume factor = 0.17 for 2" casing; 0.65 for 4" casing; 1.47 for 6" casing

Purge method: HONDA PUMP

Vapor reading, ppm: N/A

Describe sheen: NONE OBSERVED

WELL PURGING PARAMETERS

Gallons Removed	Time	Temperature-F	Conductivity X 1000	Turbidity	pH
0	13:22	78.2	0.59	CLEAR	7.02
3	13:27	73.3	0.52	CLEAR	7.26
6	13:30	70.7	0.51	CLEAR	6.96
9	13:33	70.4	0.54	CLEAR	6.98
12	13:36	70.4	0.51	CLEAR	7.04
15	13:39	69.6	0.54	CLEAR	6.88
18	13:42	69.6	0.51	CLEAR	6.96
19	13:43	69.8	0.51	CLEAR	6.94
20	13:44	69.9	0.50	CLEAR	6.93
21	13:45	69.8	0.51	CLEAR	6.93

Comments:

Actual volume purged from well: 21 gallons Number of barrels: 1

RECORD OF WELL SAMPLING

Sample ID Number: MW-4 Time Collected: 14:10

Sampling Method: DISPOSABLE BAILER

Recovery Time: 22 MINUTES TO 7.04

RECORD OF WATER SAMPLE COLLECTION

Well Label: MW-5 Date Collected: 04-30-92 Job Number: 101090

Job Name: CAVANAUGH MOTORS Location: 1700 PARK STREET, ALAMEDA, CA 94501

Samplers Name: TOM GHIGLIOTTO Well Condition: DRY, LOCKED, PRESSURE RELEASED N WHEN OPENED

WATER LEVEL MEASUREMENTS

Time well allowed to sabilize: 23 minutes

TIME MEASURED	11:03	11:26	4-30-92	10:22	10:32	10:43	
DEPTH IN FEET	7.10	6.05		6.05	6.05	6.05	

WELL PURGING RECORD

Total depth of well: 17.46 Depth to water: 6.05 Diameter: 2 inches

Purge volume = total depth - water depth x volume factor x 4 volumes = 7.8 gallons
Volume factor = 0.17 for 2" casing; 0.65 for 4" casing; 1.47 for 6" casing

Purge method: HONDA PUMP

Vapor reading, ppm: N/A

Describe sheen: NONE OBSERVED

WELL PURGING PARAMETERS

Gallons Removed	Time	Temperature-F	Conductivity X 1000	Turbidity	pH
0	11:02	65.4	0.36	CLEAR	6.92
2	11:06	64.2	0.34	CLOUDY	6.91
4	11:08	63.9	0.36	SLT CLOUDY	6.85
5	11:09	63.6	0.35	SLT CLOUDY	6.78
6	11:10	63.3	0.35	CLEAR	6.73
7	11:11	63.2	0.35	CLEAR	6.74
8	11:12	63.1	0.35	CLEAR	6.73
9	11:13	63.1	0.35	CLEAR	6.73

Comments:

Actual volume purged from well: 9.5 gallons Number of barrels: 1

RECORD OF WELL SAMPLING

Sample ID Number: MW-5 Time Collected: 12:10

Sampling Method: DISPOSABLE BAILER

Recovery Time: 30 MINUTES TO 6.14

RECORD OF WATER SAMPLE COLLECTION

Well Label: MW-6 Date Collected: 04-30-92 Job Number: 101090

Job Name: CAVANAUGH MOTORS Location: 1700 PARK STREET, ALAMEDA, CA 94501

Samplers Name: TOM GHIGLIOTTO Well Condition: DRY, LOCKED

WATER LEVEL MEASUREMENTS

Time well allowed to sabilize: 24 minutes

TIME MEASURED	11:07	11:31	4-30-92	10:27	10:37	12:35	
DEPTH IN FEET	6.14	6.14		6.17	6.17	6.17	

WELL PURGING RECORD

Total depth of well: 17.84 Depth to water: 6.17 Diameter: 2 inches

Purge volume = total depth - water depth x volume factor x 4 volumes = 7.6 gallons
Volume factor = 0.17 for 2" casing; 0.65 for 4" casing; 1.47 for 6" casing

Purge method: HONDA PUMP

Vapor reading, ppm: N/A

Describe sheen: NONE OBSERVED

WELL PURGING PARAMETERS

Gallons Removed	Time	Temperature-F	Conductivity X 1000	Turbidity	pH
0	12:48	69.0	2.59	CLEAR	6.79
2	12:50	67.1	2.54	CLOUDY	6.81
4	12:52	66.6	2.92	CLEAR	6.78
5	12:53	66.4	3.25	CLEAR	6.74
6	12:54	66.3	3.46	CLEAR	6.76
7	12:55	66.3	3.57	CLEAR	6.77
8	12:56	66.3	3.65	CLEAR	6.76
9	12:57	66.2	3.67	CLEAR	6.77
10	12:58	66.2	3.66	CLEAR	6.76

Comments:

Actual volume purged from well: 11 gallons Number of barrels: 1

RECORD OF WELL SAMPLING

Sample ID Number: MW-6 Time Collected: 13:35

Sampling Method: DISPOSABLE BAILER

Recovery Time: 10 MINUTES TO 6.20