GROUND WATER SAMPLING REPORT
MONITORING WELLS MW1 - MW5

Rifkin Property
4525 - 4563 Horton Street
Emeryville, California

July 26, 1995
Project Number 1-13093

Prepared For:

Alameda County Health Care Services Agency
Department of Environmental Health
Local Oversight Program
1131 Harbor Bay Parkway
Alameda, California 94602

Authorized By:

Mr. Frank Satterwhite, Receiver
3220 Monika Lane
Hayward, California 94541

Prepared By:

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

Mark Younglin #3888
Registered Geologist

Donald Chung
Project Engineer

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4525-4563 Horton Street, Emeryville, California

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1.0 INTRODUCTION

On June 8, 1995, TMC Environmental, Inc. (TMC) collected ground water samples from monitoring wells MW1-MW5 on the Rifkin Property as part of the third quarterly monitoring episode. This was the second quarterly sampling event of 1995. The purpose of the sampling was to assess the ground water quality down gradient of three former underground storage tanks along Horton Street, and to assess the possible migration of contaminants onto the subject property from off-site sources.

2.0 GENERAL SITE INFORMATION

2.1 Site Location and Description

The Rifkin Property, called the "Site" in this report, is located at the following addresses:

4525-4563 Horton Street
City of Emeryville
Alameda County
State of California
APN 49-1041-005

The study area includes the part of the property south of the Temescal Creek Overflow Culvert. The large, rectangular-shaped property is along Horton Street between 53rd and 45th Streets (see Plate 1, Site Vicinity Map). The property is located in a heavily industrialized area of Emeryville, California, near the former shoreline of San Francisco Bay. The property contains several two-story, brick walled commercial buildings. The buildings occupy the majority of the one acre property. Multiple businesses and addresses occur within the buildings.

The Site is bordered to the north by Chiron International Research Corporation (Chiron), to the south by the Sherwin Williams Company Plant (Plant) , to the east by Horton Street and Chiron, and to the west by railroad tracks and the Plant (see Plate 2, Site Map). Prior to Chiron's occupation, the Shell Oil Company had a research laboratory with above ground tank storage areas across Horton Street to the east. Public utilities serve the general area. Land use of the surrounding area is commercial and industrial. Surface runoff from the Site flows into storm drains along Horton Street or infiltrates into soil along the west and east sides of the buildings. The storm drains and surface runoff flow into the Temescal Creek Culvert and the Temescal Creek Overflow Culvert. The Temescal Creek Overflow Culvert crosses the northern end of the property. The two culverts converge immediately west of the Site. Temescal Creek flows into San Francisco Bay about 2000 feet to the west.

2.2 Lead Implementing Agencies

The local agency with jurisdiction over the Site is:

Alameda Health Care Services Agency
Department of Environmental Health, Local Oversight Program
1131 Harbor Bay Parkway
Alameda, California 94602.

The case officer for the Site is Ms. Susan Hugo. Ms. Hugo can be reached at 510-567-6700. The case file is labeled "Rifkin Properties Case." The focus of this agency has been on the removal and investigation of underground storage tanks on the Rifkin Property. It is the responsibility of the Local Oversight Program to issue a letter of completion for the underground storage tanks.

The State agency with jurisdiction over this Site is:

California Regional Water Quality Control Board (RWQCB)
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, California 94612
RWQCB Case Number 38-0252

Mr. Sum Arigala is the case officer for the RWQCB, and can be reached at 510-286-0434. The RWQCB has been overseeing the investigation and the interim remediation of the arsenic contamination at the adjacent Sherwin Williams Company Plant.

3.0 GROUND WATER SAMPLING

On June 8, 1995, TMC recovered ground water samples from monitoring wells MW1 through MW5 on the subject property. Prior to sample collection, field personnel purged each well of at least three well volumes of water. TMC monitored the parameters of temperature, conductivity, and pH during the purging process. The stabilization of these parameters indicated that a representative ground water sample could be collected.

TMC submitted the samples to Advanced Materials Engineering Research (AMER) of Sunnyvale, California for chemical analysis. AMER is a State-certified analytical laboratory. AMER analyzed the ground water samples for Total Petroleum Hydrocarbons in the gasoline range (TPH-g) and the diesel range (TPH-d) by EPA Method 8015 Modified, volatile organic compounds (VOCs) by EPA Method 8240, Total Oil and Grease (TOG) by method 5520BF, and Priority Pollutant Metals (including Barium). Chemical analysis results are summarized in the tables attached at the end of this report.

4.0 GROUND WATER MEASUREMENTS

TMC collected ground water elevation data on June 8, 1995. TMC measured the depth to ground water in wells MW-1 through MW-5 until successive measurements agreed to within 1/100 of a foot. A record of the well measurement activities can be found in Attachment 2,

Record of Water Sample Collection. The following table summarizes the ground water elevation data.

TABLE 1: GROUND WATER ELEVATION DATA

WELL ID	DEPTH TO WATER (feet)	CASING ELEVATION (feet MSL)	WATER ELEVATION (feet MSL)
JANUARY 9, 1995 WATER LEVEL MEASUREMENTS			
MW-1	5.14	13.79	8.65
MW-2	4.93	13.59	8.66
MW-3	5.38	14.64	9.26
MW-4	6.87	15.55	8.68
MW-5	6.14	15.27	9.13
RP-1	Not Measured	15.14	-
RP-2	6.40	15.24	8.84
RP-3	6.55	15.17	8.62
RP-4	6.31	15.12	8.81
RP-5	6.22	15.04	8.82
JANUARY 27, 1995 WATER LEVEL MEASUREMENTS			
MW-1	4.78	13.79	9.01
MW-2	4.53	13.59	9.06
MW-3	4.66	14.64	9.98
MW-4	6.75	15.55	8.80
MW-5	5.71	15.27	9.56
RP-1	5.96	15.14	9.18
RP-2	5.95	15.24	9.29
RP-3	6.12	15.17	9.05
RP-4	5.97	15.12	9.15
RP-5	5.93	15.04	9.11
FEBRUARY 17, 1995 WATER LEVEL MEASUREMENTS			
MW-1	6.73	13.79	7.06
MW-2	6.58	13.59	7.01
MW-3	7.01	14.64	7.63
MW-4	7.24	15.55	8.31
MW-5	6.59	15.27	8.68
RP-1	7.46	15.14	7.68
RP-2	7.76	15.24	7.48
RP-3	7.45	15.17	7.72
RP-4	7.79	15.12	7.33
RP-5	7.71	15.04	7.33
APRIL 13, 1995 WATER LEVEL MEASUREMENTS			
MW-1	6.63	13.79	7.16
MW-2	6.46	13.59	7.13
MW-3	6.93	14.64	7.71
MW-4	7.42	15.55	8.13
MW-5	6.55	15.27	8.72
RP-1	7.43	15.14	7.71
RP-2	7.69	15.24	7.55
RP-3	7.44	15.17	7.73
RP-4	7.69	15.12	7.43
RP-5	7.56	15.04	7.48

WELL ID	DEPTH TO WATER (feet)	CASING ELEVATION (feet MSL)	WATER ELEVATION (feet MSL)
JUNE 8, 1995 WATER LEVEL MEASUREMENTS			
MW-1	6.98	13.79	6.81
MW-2	6.82	13.59	6.77
MW-3	7.39	14.64	7.25
MW-4	7.64	15.55	7.91
MW-5	7.44	15.27	7.83
RP-1	Not Measured	15.14	-
RP-2	Not Measured	15.24	-
RP-3	Not Measured	15.17	-
RP-4	Not Measured	15.12	-
RP-5	Not Measured	15.04	-

TMC estimated the ground water gradient and down gradient direction using the June 8, 1995 elevation data. In this estimation, TMC used a three-point solution on two separate sets of three wells; MW1-MW3-MW5 and MW3-MW4-MW5. The variation in estimates between the two sets of wells is small for measurements of this type. The average horizontal gradient is measured at 0.003 horizontal feet per vertical foot (ft/ft), and the average down gradient direction is north 45.75 degrees west.

The June 8, 1995 down gradient direction is more to the northwest than previous measurements. Previous measurements included elevation data from the Levine Fricke monitoring wells RP1-RP5. These wells provide elevation data along the western portion of the Site. Without these wells the three-point solutions become narrow and limited to the eastern margin of the Site. The measurement data shows a northwestern flow along the Horton Street side of the Site. The direction of ground water flow is generally northwest towards the Temescal Creek Overflow Culvert. The following table presents the results of the ground water gradient estimates.

TABLE 2: HORIZONTAL GRADIENT AND DIRECTION IN RIFKIN PROPERTY MONITORING WELLS

Monitoring Well Group	Ground Water Elevation (feet MSL)	Horizontal Gradient (ft/ft)	Down Gradient Direction
SEPTEMBER 8, 1994			
RP1-RP2-RP3	6.47-6.24-6.35	0.004	North 27 degrees West
RP2-RP3-RP4	6.40-6.35-6.07	0.003	North 2 degrees West
RP3-RP4-RP5	6.35-6.07-6.08	0.003	North 16 degrees West
Average Values	**6.24**	**0.003**	**North 15 degrees West**
JANUARY 9, 1995			
All Wells	**average = 8.78**	**unstable**	**unstable**
JANUARY 27, 1995			
All Wells	**average = 9.17**	**unstable**	**unstable**
FEBRUARY 17, 1995			
MW2-MW3-RP5	7.01-7.63-7.33	0.002	North 34 degrees West
MW3-MW5-RP5	7.63-8.68-7.33	0.007	North 1 degree East
Average Values	**7.52**	**0.004**	**North 17 degrees West**
APRIL 13, 1995			
MW2-MW3-RP5	7.13-7.71-7.48	0.002	North 24 degrees West
MW3-MW5-RP5	7.71-8.72-7.48	0.007	North 4 degrees West

Average Values	**7.68**	**0.004**	**North 14 degrees West**
	JUNE 8, 1995		
MW1-MW3-MW5	6.98-7.39-7.44	0.002	North 42.5 degrees West
MW3-MW4-MW5	7.39-7.64-7.44	0.004	North 49 degrees West
Average Values	**7.31**	**0.003**	**North 46 degrees West**

The data from the most recent and previous measurement episodes indicate that the Temescal Creek Overflow Culvert (9-10 feet bsg) is draining the shallow ground water of the Rifkin Property. The base of the Temescal Creek Overflow Culvert (approximately 3-4 feet above MSL) is below the level of the ground water table. The measured direction of ground water flow is towards the Culvert. Seasonal measurements indicate the shallow ground water is unconfined and subject to large, rapid increases in ground water level up to 4 feet above normal dry season levels.

5.0 DISCUSSION OF RESULTS AND RECOMMENDATIONS

Chemical analysis results are summarized in the tables attached at the end of this report. Please see Attachment 1: Laboratory Results and Chain of Custody Documentation, for the certified laboratory report showing the laboratory analyses results. Elevated concentrations of arsenic, barium, beryllium, cadmium, copper, lead, nickel, and zinc occur in all of the sampled wells (MW-1 through MW-5). Significant concentrations of arsenic continue to be detected in samples recovered from wells MW-4 and MW-5. Water samples from well MW-4 contain significant concentrations of cadmium. Water samples from wells MW-4 and MW-5 contain significant concentrations of zinc.

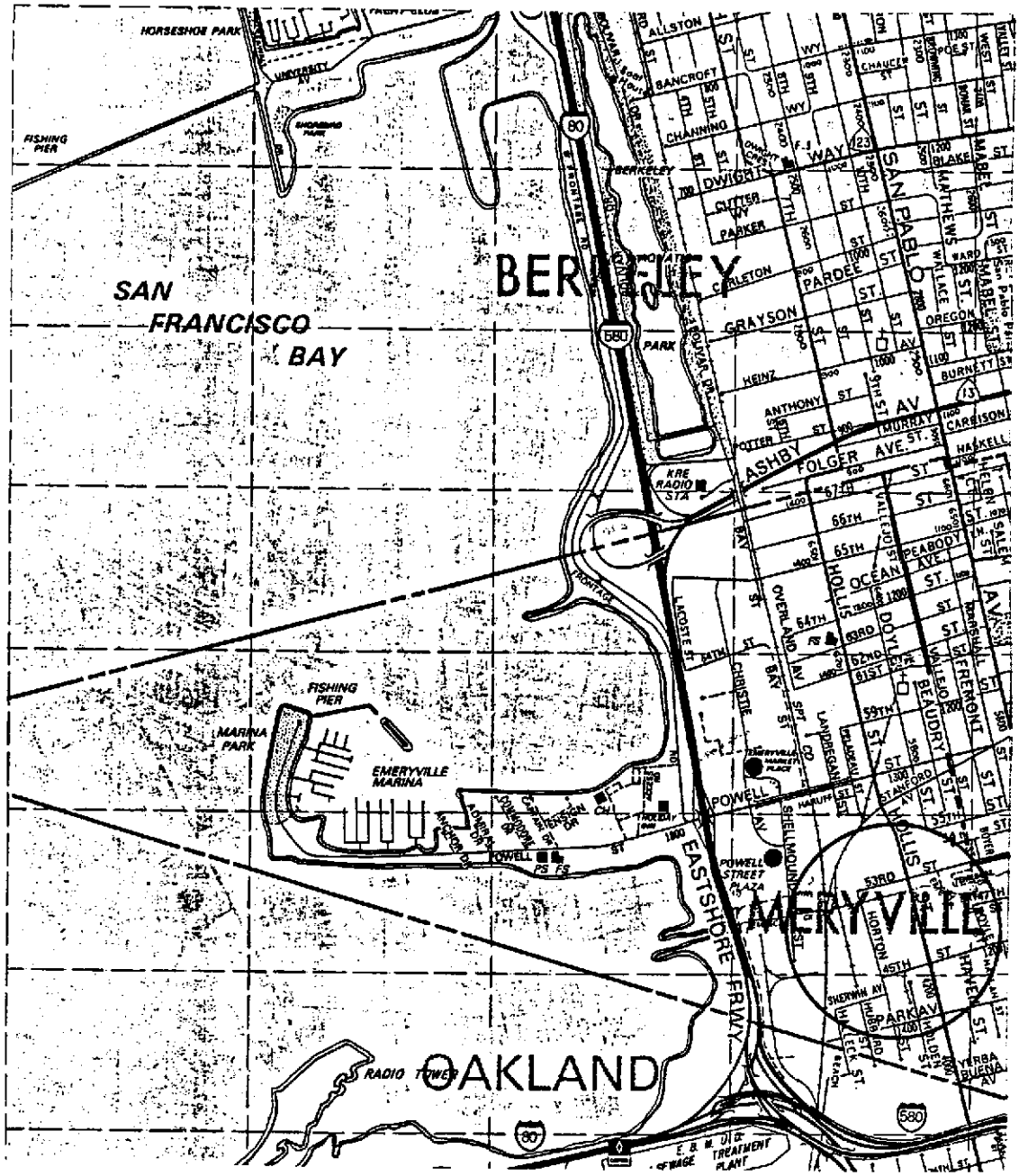
Gasoline and diesel contamination occurs in all of the sampled wells (MW-1 through MW-5). The highest concentrations of gasoline, diesel, and oil & grease (TOG) were detected in samples recovered from well MW-5. TOG was not detected in any of the other sampled wells; however, the TOG analysis detection limit rose to 5000 ppb for the most recent sampling episode (the detection limit was 1000 ppb for the previous sampling episode).

High concentrations of benzene, toluene, ethylbenzene, and xylenes (BTEX) were also found in the water samples from well MW-5. Smaller concentrations of BTEX were also detected in the samples from wells MW-1, MW-2, and MW-4. Significant acetone, 2-butanone (methyl ethyl ketone, or MEK), and 4-methyl-2-pentanone (methyl isobutyl ketone, or MIBK) contamination occurs in samples recovered from well MW-5. Low concentrations of trichloroethylene (TCE) was also detected in samples from all of the sampled wells.

6.0 LIMITATIONS

The procedures herein agree with professional practice as recommended in the guidelines of the Water Quality Control Board. The laboratory test results rely on limited data collected at specific sampling locations. Budget and access constraints restrict the amount of testing allowed. The laboratory test results do not apply to the subject property as a whole. Therefore, TMC cannot have complete knowledge of the underlying conditions at the study area. Work plans and reports contain information provided to TMC by the client, adjacent property owners, and government agencies. TMC does not warranty the accuracy of reported information. TMC provides this

report to our client so that the client may make a more informed decision about site conditions. The professional opinions and judgment are 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 are temporary sampling devices that must eventually be abandoned by a licensed well driller at the client's expense.



Base map from Thomas Guides Alameda County

TMC
Environmental, Inc.

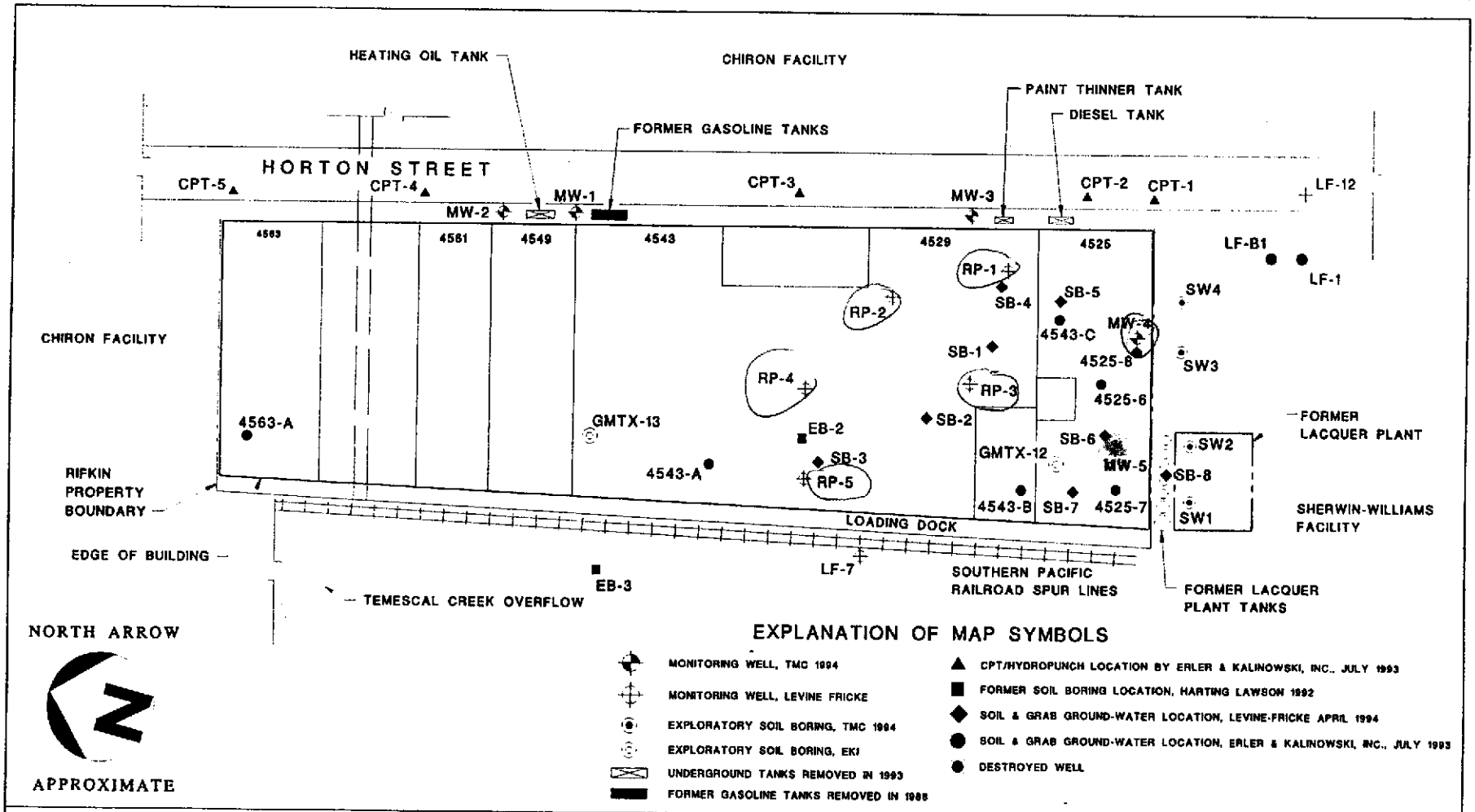
SITE VICINITY MAP

Rifkin Property
Emeryville, California

Project No. 1-150 August 1994

PLATE

1



SCALE IN FEET

0 60 120

APPROXIMATE

TMC
Environmental, Inc.

TMC ENVIRONMENTAL, INC.
13908 SAN PABLO AVENUE, SUITE 101
SAN PABLO, CALIFORNIA 94806
510-232-8366 FAX 510-232-5133

SITE MAP

RIFKIN PROPERTY
EMERYVILLE, CALIFORNIA

DATE OF DRAWING: FEBRUARY, 1995 JOB NO. 113093

PLATE 2

TABLE 3.1: PRIORITY POLLUTANT METALS ANALYSIS RESULTS

	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Zinc
December 16, 1994 Sampling Results												
MW-4	8870	163	ND	141	35.9	38.9	30.4	ND	1150	27.5	13.4	71000
MW-5	41500	236	ND	156	56	44.8	31.7	0.23	449	9	ND	11000
March 27-29, 1995 Sampling Results												
MW-1	78.6	548	ND	6.8	91	95.3	30.8	ND	207	ND	ND	462
MW-2	45.2	772	ND	ND	188	145	55.7	ND	221	ND	ND	449
MW-3	27.6	102	ND	ND	10.5	26.9	7	ND	17.8	ND	ND	190
MW-4	23800	333	ND	286	31	1664	63.6	ND	2030	ND	ND	171000
MW-5	35300	137	ND	ND	10.3	74.6	31.7	ND	167	ND	ND	4670
RP-1	47.4	88.8	ND	ND	ND	37.6	10.8	ND		ND	ND	375
RP-2	17.5	173	ND	ND	17.8	25.2	10.5	ND	24.6	ND	ND	334
RP-3	ND	336	ND	ND	ND	42.8	18.3	ND		ND	ND	189
RP-4	7.4	49.9	ND	ND	ND	13.3		ND		ND	ND	175
RP-5	9.6	97.3	ND	ND	8.6	29	25.9	ND	16.3	ND	ND	225
June 8, 1995 Sampling Results												
MW-1	40	350	ND	ND	ND	30	20	ND	130	ND	ND	160
MW-2	ND	590	ND	10	ND	50	30	ND	140	ND	ND	240
MW-3	30	210	ND	ND	ND	30	10	ND	50	ND	ND	380
MW-4	25000	560	10	420	ND	90	60	ND	2000	ND	ND	97000
MW-5	99000	450	ND	30	ND	70	50	ND	460	ND	ND	13000

All concentrations are parts per billion, or micrograms per liter
ND: Not Detected
Metals that were never detected in any of the wells are excluded from this table

TABLE 3.2: TPH-g, TPH-d, BTEX and TOG ANALYSIS RESULTS

	Gasoline	Diesel	Benzene	Toluene	Ethylbenzene	Xylenes	TOG
December 15-16 Sampling Results							
MW-1	NA	NA	**16**	**2.7**	ND	**3.1**	NA
MW-2	NA	NA	**17**	**1.9**	ND	**1.2**	NA
MW-3	NA	NA	ND	ND	ND	ND	NA
MW-4	NA	NA	**1.4**	**2.1**	**0.6**	**2.3**	NA
MW-5	NA	NA	**570**	**73000**	**1800**	**7800**	NA
March 27-29 Sampling Results							
MW-1	**7410**	**3600**	**28**	**1.3**	**9.3**	**2.5**	**4900**
MW-2	**3600**	**4400**	**16**	**1.1**	ND	**0.9**	**3600**
MW-3	**6900**	**1500**	ND	ND	ND	ND	ND
MW-4	**4900**	**2500**	**1.5**	**1**	**0.7**	**3.7**	**2200**
MW-5	**660000**	**1100**	**470**	**920000**	**1300**	**6800**	**64000**
RP-1	**140**	**360**	ND	ND	ND	ND	NA
RP-2	**110**	**59**	ND	ND	ND	ND	NA
RP-3	**840**	**430**	ND	ND	ND	ND	NA
RP-4	**140**	**90**	ND	ND	ND	ND	NA
RP-5	**55**	**70**	ND	ND	ND	ND	NA
June 8, 1995 Sampling Results							
MW-1	**2100**	**2600**	**37**	**1.6**	**3**	**2.3**	ND
MW-2	**1000**	**3800**	**22**	**0.9**	**0.5**	**0.9**	ND
MW-3	**430**	**550**	ND	ND	ND	ND	ND
MW-4	**1100**	**4500**	**1.8**	**2.2**	**1.1**	**7.9**	ND
MW-5	**36000**	**13000**	**400**	**91000**	**1900**	**9700**	**26000**

All concentrations are parts per billion, or micrograms per liter
ND: Not Detected
NA: Not Analyzed

TABLE 3.3: VOLATILE ORGANIC COMPOUNDS ANALYSIS RESULTS

	MW-1	MW-2	MW-3	MW-4	MW-5	RP-1	RP-2	RP-3	RP-4	RP-5
December 16, 1994 Sampling Results										
Acetone	ND	ND	ND	ND	1300000	NS	NS	NS	NS	NS
2-Butanone	ND	ND	ND	ND	1700000	NS	NS	NS	NS	NS
Carbon Disulfide	ND	ND	3.4	ND	ND	NS	NS	NS	NS	NS
Chlorobenzene	ND	ND	ND	ND	ND	NS	NS	NS	NS	NS
Chloroform	1	ND	ND	ND	ND	NS	NS	NS	NS	NS
1,1-Dichloroethane	ND	ND	ND	ND	ND	NS	NS	NS	NS	NS
1,2-Dichloroethane	ND	ND	ND	ND	ND	NS	NS	NS	NS	NS
1,1-Dichloroethene	ND	ND	ND	ND	ND	NS	NS	NS	NS	NS
1,2-Dichloropropane	32	4.7	ND	ND	ND	NS	NS	NS	NS	NS
2-Hexanone	2.8	ND	ND	ND	ND	NS	NS	NS	NS	NS
4-Methyl-2-Pentanone	ND	ND	ND	ND	130	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	ND	ND	18	ND	ND	NS	NS	NS	NS	NS
Tetrachloroethylene	ND	ND	ND	ND	ND	NS	NS	NS	NS	NS
Trans-1,2-dichloroethlene	ND	ND	2.8	ND	ND	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	NS	NS	NS	NS	NS
Trichloroethylene	2.8	1.8	ND	13	ND	NS	NS	NS	NS	NS
Vinyl Chloride	2.2	ND	ND	ND	ND	NS	NS	NS	NS	NS
March 27-29, 1995 Sampling Results										
Acetone	ND	ND	ND	ND	290000	ND	ND	ND	ND	ND
2-Butanone	13	ND	ND	ND	42000	ND	ND	ND	ND	ND
Carbon Disulfide	5.3	ND	14	ND	ND	ND	5.1	ND	2.6	10
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	17	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	68	2.2	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	ND	ND	ND	ND	39000	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trans-1,2-dichloroethlene	1.3	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene	6.5	0.9	ND	6.9	8.2	ND	ND	ND	1.3	ND
Vinyl Chloride	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
June 8, 1995 Sampling Results										
Acetone	ND	ND	ND	ND	82000	NS	NS	NS	NS	NS
2-Butanone	25	ND	5.2	ND	95000	NS	NS	NS	NS	NS
Carbon Disulfide	ND	ND	1.6	ND	2.3	NS	NS	NS	NS	NS
Chlorobenzene	2.2	ND	ND	ND	ND	NS	NS	NS	NS	NS
Chloroform	2.6	ND	ND	ND	0.9	NS	NS	NS	NS	NS
1,1-Dichloroethane	0.6	ND	ND	ND	ND	NS	NS	NS	NS	NS
1,2-Dichloroethane	24	2.5	1.9	ND	ND	NS	NS	NS	NS	NS
1,1-Dichloroethene	ND	ND	ND	ND	1.5	NS	NS	NS	NS	NS
1,2-Dichloropropane	89	ND	ND	ND	ND	NS	NS	NS	NS	NS
2-Hexanone	ND	ND	ND	ND	ND	NS	NS	NS	NS	NS
4-Methyl-2-Pentanone	ND	ND	ND	ND	27000	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	NS	NS	NS	NS	NS
Tetrachloroethylene	1.3	ND	ND	ND	1.9	NS	NS	NS	NS	NS
Trans-1,2-dichloroethlene	ND	ND	11	ND	ND	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	ND	ND	ND	ND	4.1	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	2.8	ND	ND	ND	ND	NS	NS	NS	NS	NS
Trichloroethylene	10	4.9	1.1	1.6	11	NS	NS	NS	NS	NS
Vinyl Chloride	9	2.2	0.7	ND	ND	NS	NS	NS	NS	NS

All concentrations are parts per billion, or micrograms per liter
ND: Not Detected
NS: Not Sampled
VOCs that were never detected in any of the wells are excluded from this table

ATTACHMENT 1

LABORATORY RESULTS AND CHAIN OF CUSTODY DOCUMENTATION

AMER
Advanced Materials Engineering Research, Inc.

June 19, 1995

Mr. Mark Youngkin
TMC Environmental, Inc.
13908 San Pablo Avenue, Suite 101
San Pablo, CA 94806

Regarding: **Analytical Results**
Client Reference: Rifkin Property, #1-13093
AMER ID: E1117

Dear Mr. Mark Youngkin:

Enclosed are the lab result(s) for the sample(s) submitted to AMER for the project above. The sample(s) will be disposed of by the laboratory after 30 days from the time they were received.

We appreciate the opportunity to be of assistance to you. If you have any questions or comments, please feel free to contact me at (408) 738-3033.

Sincerely,

Kayvan Kimyai
Sales/ Senior Environmental Chemist

Attachments

250 Santa Ana Court, Sunnyvale, CA 94086 · Tel. (408) 738-3033 · Fax. (408) 738-3035

AMER

Advanced Materials Engineering Research, Inc.

ANALYSIS REPORT
(ELAP Certificate No. 1909)
EPA METHOD Proirity Metals

Client: TMC Environmental, Inc.
13908 San Pablo Avenue, Suite 101
San Pablo, CA 94806
Project Manager: Mark Youngkin
Laboratory Report ID.: E1117
Sample Name: MW-1, E5060907
Project Name: Rifkin Property, #1-13093

Date Sampled: 06-08-95
Date Received: 06-09-95
Date Analyzed: 06-15-95
Date Reported: 06-16-95
Matrix: Water

ANALYTES	Prep Method	Analytical Method	Dilution Factor	Results	MDL	Units
Antimony	200.7	200.7	1	ND	0.02	mg/L
Arsenic	200.7	200.7	1	**0.04**	0.01	mg/L
Barium	200.7	200.7	1	**0.35**	0.01	mg/L
Beryllium	200.7	200.7	1	ND	0.005	mg/L
Cadmium	200.7	200.7	1	ND	0.005	mg/L
Chromium	200.7	200.7	1	ND	0.01	mg/L
Copper	200.7	200.7	1	**0.03**	0.01	mg/L
Lead	200.7	200.7	1	**0.02**	0.01	mg/L
Mercury	245.1	245.1	1	ND	0.001	mg/L
Nickel	200.7	200.7	1	**0.13**	0.01	mg/L
Selenium	200.7	200.7	1	ND	0.01	mg/L
Silver	200.7	200.7	1	ND	0.01	mg/L
Thallium	200.7	200.7	1	ND	0.02	mg/L
Zinc	200.7	200.7	1	**0.16**	0.01	mg/L

Analytes reported as ND were not present above the stated limit of detection.
MDL: Method Detection Limit.

Reviewed By:

Lei Chen, Laboratory Manager

AMER
Advanced Materials Engineering Research, Inc.

ANALYSIS REPORT
(ELAP Certificate No. 1909)
EPA METHOD Proirity Metals

Client: TMC Environmental, Inc.
13908 San Pablo Avenue, Suite 101
San Pablo, CA 94806
Project Manager: Mark Youngkin
Laboratory Report ID.: E1117
Sample Name: MW-2, E5060908
Project Name: Rifkin Property, #1-13093

Date Sampled: 06-08-95
Date Received: 06-09-95
Date Analyzed: 06-14-95
Date Reported: 06-16-95
Matrix: Water

ANALYTES	Prep Method	Analytical Method	Dilution Factor	Results	MDL	Units
Antimony	200.7	200.7	1	ND	0.02	mg/L
Arsenic	200.7	200.7	1	ND	0.01	mg/L
Barium	200.7	200.7	1	**0.59**	0.01	mg/L
Beryllium	200.7	200.7	1	ND	0.005	mg/L
Cadmium	200.7	200.7	1	**0.010**	0.005	mg/L
Chromium	200.7	200.7	1	ND	0.01	mg/L
Copper	200.7	200.7	1	**0.05**	0.01	mg/L
Lead	200.7	200.7	1	**0.03**	0.01	mg/L
Mercury	245.1	245.1	1	ND	0.001	mg/L
Nickel	200.7	200.7	1	**0.14**	0.01	mg/L
Selenium	200.7	200.7	1	ND	0.01	mg/L
Silver	200.7	200.7	1	ND	0.01	mg/L
Thallium	200.7	200.7	1	ND	0.02	mg/L
Zinc	200.7	200.7	1	**0.24**	0.01	mg/L

Analytes reported as ND were not present above the stated limit of detection.
MDL: Method Detection Limit.

Reviewed By:

Lei Chen, Laboratory Manager

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AMER
Advanced Materials Engineering Research, Inc.

ANALYSIS REPORT
(ELAP Certificate No. 1909)
EPA METHOD Proirity Metals

Client: TMC Environmental, Inc.
13908 San Pablo Avenue, Suite 101
San Pablo, CA 94806
Project Manager: Mark Youngkin
Laboratory Report ID.: E1117
Sample Name: MW-3, E5060909
Project Name: Rifkin Property, #1-13093

Date Sampled: 06-08-95
Date Received: 06-09-95
Date Analyzed: 06-14-95
Date Reported: 06-16-95
Matrix: Water

ANALYTES	Prep Method	Analytical Method	Dilution Factor	Results	MDL	Units
Antimony	200.7	200.7	1	ND	0.02	mg/L
Arsenic	200.7	200.7	1	**0.03**	0.01	mg/L
Barium	200.7	200.7	1	**0.21**	0.01	mg/L
Beryllium	200.7	200.7	1	ND	0.005	mg/L
Cadmium	200.7	200.7	1	ND	0.005	mg/L
Chromium	200.7	200.7	1	ND	0.01	mg/L
Copper	200.7	200.7	1	**0.03**	0.01	mg/L
Lead	200.7	200.7	1	**0.01**	0.01	mg/L
Mercury	245.1	245.1	1	ND	0.001	mg/L
Nickel	200.7	200.7	1	**0.05**	0.01	mg/L
Selenium	200.7	200.7	1	ND	0.01	mg/L
Silver	200.7	200.7	1	ND	0.01	mg/L
Thallium	200.7	200.7	1	ND	0.02	mg/L
Zinc	200.7	200.7	1	**0.38**	0.01	mg/L

Analytes reported as ND were not present above the stated limit of detection.
MDL: Method Detection Limit.

Reviewed By:

Lei Chen, Laboratory Manager

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Advanced Materials Engineering Research, Inc.

ANALYSIS REPORT
(ELAP Certificate No. 1909)
EPA METHOD Proirity Metals

Client: TMC Environmental, Inc.
13908 San Pablo Avenue, Suite 101
San Pablo, CA 94806
Project Manager: Mark Youngkin
Laboratory Report ID.: E1117
Sample Name: MW-4, E5060910
Project Name: Rifkin Property, #1-13093

Date Sampled: 06-08-95
Date Received: 06-09-95
Date Analyzed: 06-14-95
Date Reported: 06-16-95
Matrix: Water

ANALYTES	Prep Method	Analytical Method	Dilution Factor	Results	MDL	Units
Antimony	200.7	200.7	1	ND	0.02	mg/L
Arsenic	200.7	200.7	1	**46**	0.01	mg/L
Barium	200.7	200.7	1	**0.56**	0.01	mg/L
Beryllium	200.7	200.7	1	**0.010**	0.005	mg/L
Cadmium	200.7	200.7	1	**0.42**	0.005	mg/L
Chromium	200.7	200.7	1	ND	0.01	mg/L
Copper	200.7	200.7	1	**0.09**	0.01	mg/L
Lead	200.7	200.7	1	**0.06**	0.01	mg/L
Mercury	245.1	245.1	1	ND	0.001	mg/L
Nickel	200.7	200.7	1	**2.0**	0.01	mg/L
Selenium	200.7	200.7	1	ND	0.01	mg/L
Silver	200.7	200.7	1	ND	0.01	mg/L
Thallium	200.7	200.7	1	ND	0.02	mg/L
Zinc	200.7	200.7	1	**97**	0.01	mg/L

Analytes reported as ND were not present above the stated limit of detection.
MDL: Method Detection Limit.

Reviewed By:

Lei Chen, Laboratory Manager

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AMER
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ANALYSIS REPORT
(ELAP Certificate No. 1909)
EPA METHOD Proirity Metals

Client: TMC Environmental, Inc.
13908 San Pablo Avenue, Suite 101
San Pablo, CA 94806
Project Manager: Mark Youngkin
Laboratory Report ID.: E1117
Sample Name: MW-5, E5060911
Project Name: Rifkin Property, #1-13093

Date Sampled: 06-08-95
Date Received: 06-09-95
Date Analyzed: 06-14-95
Date Reported: 06-16-95
Matrix: Water

ANALYTES	Prep Method	Analytical Method	Dilution Factor	Results	MDL	Units
Antimony	200.7	200.7	1	ND	0.02	mg/L
Arsenic	200.7	200.7	1	**99**	0.01	mg/L
Barium	200.7	200.7	1	**0.45**	0.01	mg/L
Beryllium	200.7	200.7	1	ND	0.005	mg/L
Cadmium	200.7	200.7	1	**0.030**	0.005	mg/L
Chromium	200.7	200.7	1	ND	0.01	mg/L
Copper	200.7	200.7	1	**0.07**	0.01	mg/L
Lead	200.7	200.7	1	**0.05**	0.01	mg/L
Mercury	245.1	245.1	1	ND	0.001	mg/L
Nickel	200.7	200.7	1	**0.46**	0.01	mg/L
Selenium	200.7	200.7	1	ND	0.01	mg/L
Silver	200.7	200.7	1	ND	0.01	mg/L
Thallium	200.7	200.7	1	ND	0.02	mg/L
Zinc	200.7	200.7	1	**13.8**	0.01	mg/L

Analytes reported as ND were not present above the stated limit of detection.
MDL: Method Detection Limit.

Reviewed By:

Lei Chen, Laboratory Manager

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AMER
Advanced Materials Engineering Research, Inc.

ANALYSIS REPORT
(ELAP Certificate No. 1909)
EPA METHOD 8015M

CLIENT:
TMC Environmental, Inc.
13908 San Pablo Avenue, Suite 101
San Pablo, CA 94806
MATRIX: WATER
PROJECT MANAGER: Mark Youngkin
PROJECT: Rifkin Property, #1-13093

DATA SAMPLED: 06-08-95
DATE RECEIVED: 06-09-95
DATE REPORTED: 06-19-95
AMER ID: E1133

Client I.D.	AMER I.D.	8015M/ TPH-DIESEL	DF
MW-1	E5060907	**2600**	1
MW-2	E5060908	**3800**	1
MW-3	E5060909	**550**	1
MW-4	E5060910	**4500**	1
MW-5	E5060911	**13000**	1
Units		ug/L	
Method Detection Limit		50ug/L	

ND Not Detected. All analytes recorded as ND were found to be at or below the detection limit. Sample Detection Limit is equal to the Method Detection Limit X the Dilution Factor.

Reviewed By

Lei Chen, Laboratory Manager

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AMER
Advanced Materials Engineering Research, Inc.

ANALYSIS REPORT
(ELAP Certificate No. 1909)
EPA METHOD 8015M

CLIENT:
TMC Environmental, Inc.
13908 San Pablo Avenue, Suite 101
San Pablo, CA 94806
MATRIX: WATER
PROJECT MANAGER: Mark Youngkin
PROJECT: Rifkin Property, #1-13093

DATA SAMPLED: 06-08-95
DATE RECEIVED: 06-09-95
DATE REPORTED: 06-19-95
AMER ID: E1133

Client I.D.	AMER I.D.	8015M/ TPH-GASOLINE	DF
MW-1	E5060907	**2100**	1
MW-2	E5060908	**1300**	1
MW-3	E5060909	**430**	1
MW-4	E5060910	**1100**	1
MW-5	E5060911	**38000**	1
Units		ug/L	
Method Detection Limit		50ug/L	

ND Not Detected. All analytes recorded as ND were found to be at or below the detection limit.
Sample Detection Limit is equal to the Method Detection Limit X the Dilution Factor.

Reviewed By

Lei Chen, Laboratory Manager

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AMER
Advanced Materials Engineering Research, Inc.

ANALYSIS REPORT
(ELAP Certificate No. 1909)
EPA METHODS 5520 BF

CLIENT:
TMC Environmental, Inc.
13908 San Pablo Avenue, Suite 101
San Pablo, CA 94806
MATRIX: WATER
PROJECT MANAGER: Mark Youngkin
PROJECT: Rifkin Property, #1-13093

DATA SAMPLED: 06-08-95
DATE RECEIVED: 06-09-95
DATE REPORTED: 06-19-95
AMER ID: E1133

Client I.D.	AMER I.D.	5520 TOG	DF
MW-1	E5060907	ND	1
MW-2	E5060908	ND	1
MW-3	E5060909	ND	1
MW-4	E5060910	ND	1
MW-5	E5060911	**26**	1
Units		mg/L	
Method Detection Limit		5 mg/L	

ND Not Detected. All analytes recorded as ND were found to be under the limit of detection.
Sample Detection Limit is equal to the Method Detection Limit X the Dilution Factor.

Reported by:

Lei Chen, Laboratory Manager

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AMER
Advanced Materials Engineering Research, Inc.

ANALYSIS REPORT
(ELAP CERTIFICATE NO. 1909)
EPA METHODS 624

Client: TMC Environmental, Inc.
13908 San Pablo Avenue, Suite 101
San Pablo, CA 94806
Project Manager: Mark Youngkin
Project: Rifkin Property, #1-13093
Sample Name: MW-1, E5060907

Date Sampled: 06-08-95
Date Received: 06-09-95
Date Reported: 06-19-95
Sample Matrix: WATER
AMER Report #: E1133

COMPOUND	CAS #	CONC. (ug/L)	DETECTION LIMIT (ug/L)
acetone	67-64-1	ND	5
benzene	71-43-2	**37**	0.8
bromomethane	74-83-9	ND	2
bromodichloromethane	75-27-4	ND	0.7
bromoform (SPCC)	75-25-2	ND	2
2-butanone	78-93-3	**25**	2
carbon disulfide	75-15-0	ND	2
carbon tetrachloride	56-23-5	ND	2
chlorobenzene (SPCC)	108-90-7	**2.2**	0.6
chlorodibromomethane	124-48-1	ND	2
chloroethane	75-00-3	ND	1
2-chloro-ethyl-vinyl ether	110-75-8	ND	2
chloroform (CCC)	67-66-3	**2.6**	0.8
chloromethane	74-87-3	ND	2
1,2-dichlorobenzene	95-50-1	ND	0.6
1,3-dichlorobenzene	541-73-1	ND	0.5
1,4-dichlorobenzene	106-46-7	ND	0.5
dichlorodifluoromethane	75-71-8	ND	2
1,1 -dichloroethane (SPCC)	75-34-3	**0.6**	2
1,2-dichloroethane	107-06-2	**24**	0.9
1,1 -dichloroethene (CCC)	75-35-4	ND	0.7
1,2-dichloropropane	78-87-5	**89**	3
cis-1,3-dichloropropene	10061-01-5	ND	0.8
trans-1,3-dichlorpropene	10061-02-6	ND	1
ethylbenzene	100-41-4	**3.0**	0.4
2-hexanone	591-78-6	ND	2
4-methyl-2-pentanone	108-10-1	ND	2
methylene dichloride	75-09-2	ND	7
styrene	100-42-5	ND	0.8

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Advanced Materials Engineering Research, Inc.

ANALYSIS REPORT
(ELAP CERTIFICATE NO. 1909)
EPA METHODS 624

Client: TMC Environmental, Inc.
13908 San Pablo Avenue, Suite 101
San Pablo, CA 94806
Project Manager: Mark Youngkin
Project: Rifkin Property, #1-13093
Sample Name: MW-1, E5060907

Date Sampled: 06-08-95
Date Received: 06-09-95
Date Reported: 06-19-95
Sample Matrix: WATER
AMER Report #: E1133

COMPOUND	CAS #	CONC. (ug/L)	DETECTION LIMIT (ug/L)
1,1,2,2-tetrachloroethane	79-34-5	ND	0.8
tetrachloroethylene	127-18-4	1.3	2
toluene	108-88-3	1.6	0.4
trans- 1,2-dichloroethlene	156-60-5	ND	2
1,1,1-trichloroethane	71-55-6	ND	0.8
1,1,2-trichloroethane	79-00-5	2.8	2
trichloroethylene	79-01-6	10	0.8
trichlorofluoromethane	75-69-4	ND	2
o-xylene	1330-20-7	1.3	0.3
p/m-xylene	1330-20-7	1.0	0.4
vinyl acetate	108-05-4	ND	3
vinyl chloride	75-01-4	9.0	2

SURROGATE COMPOUNDS	% RECOVERY	% CONTROL LIMITS
Toluene-D8	90	88-110
4-bromofluorobenzene	87	88-115
1,2-Dichloroethane-D4	85	76-114

Notes
*Indicates extra compound requested by the client.
NR-Analysis not requested.
COC-Chain of Custody
ND-Analytes not detected at, or above the stated detection limit.
ppb-ug/l for waters; ug/kg for soils
DL-Detection Limit Factor
SDL-Sample Detection Limit-Multiply DL by the DL Factor to obtain the detection limit for a specific analyte
MDL- Method Detection Limit
Sample Detection Limit is equal to the MDL multiplied to the DF
Procedures:
This analysis was performed in using EPA Method 8240 or EPA 624 and EPA 5030
Certification:
California Department of Health Services ELAP Certificate #1909

Reviewed By:

Lei Chen, Laboratory Manager

AMER

Advanced Materials Engineering Research, Inc.

ANALYSIS REPORT
(ELAP CERTIFICATE NO. 1909)
EPA METHODS 624

Client: TMC Environmental, Inc.
13908 San Pablo Avenue, Suite 101
San Pablo, CA 94806
Project Manager: Mark Youngkin
Project: Rifkin Property, #1-13093
Sample Name: MW-2, E5060908

Date Sampled: 06-08-95
Date Received: 06-09-95
Date Reported: 06-19-95
Sample Matrix: WATER
AMER Report #: E1133

COMPOUND	CAS #	CONC. (ug/L)	DETECTION LIMIT (ug/L)
acetone	67-64-1	ND	5
benzene	71-43-2	**22**	0.8
bromomethane	74-83-9	ND	2
bromodichloromethane	75-27-4	ND	0.7
bromoform (SPCC)	75-25-2	ND	2
2-butanone	78-93-3	ND	2
carbon disulfide	75-15-0	ND	2
carbon tetrachloride	56-23-5	ND	2
chlorobenzene (SPCC)	108-90-7	ND	0.6
chlorodibromomethane	124-48-1	ND	2
chloroethane	75-00-3	ND	1
2-chloro-ethyl-vinyl ether	110-75-8	ND	2
chloroform (CCC)	67-66-3	ND	0.8
chloromethane	74-87-3	ND	2
1,2-dichlorobenzene	95-50-1	ND	0.6
1,3-dichlorobenzene	541-73-1	ND	0.5
1,4-dichlorobenzene	106-46-7	ND	0.5
dichlorodifluoromethane	75-71-8	ND	2
1,1 -dichloroethane (SPCC)	75-34-3	ND	2
1,2-dichloroethane	107-06-2	**2.5**	0.9
1,1 -dichloroethene (CCC)	75-35-4	ND	0.7
1,2-dichloropropane	78-87-5	**10**	3
cis-1,3-dichloropropene	10061-01-5	ND	0.8
trans-1,3-dichlorpropene	10061-02-6	ND	1
ethylbenzene	100-41-4	**0.5**	0.4
2-hexanone	591-78-6	ND	2
4-methyl-2-pentanone	108-10-1	ND	2
methylene dichloride	75-09-2	ND	7
styrene	100-42-5	ND	0.8

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AMER
Advanced Materials Engineering Research, Inc.

ANALYSIS REPORT
(ELAP CERTIFICATE NO. 1909)
EPA METHODS 624

Client: TMC Environmental, Inc.
13908 San Pablo Avenue, Suite 101
San Pablo, CA 94806
Project Manager: Mark Youngkin
Project: Rifkin Property, #1-13093
Sample Name: MW-2, E5060908

Date Sampled: 06-08-95
Date Received: 06-09-95
Date Reported: 06-19-95
Sample Matrix: WATER
AMER Report #: E1133

COMPOUND	CAS #	CONC. (ug/L)	DETECTION LIMIT (ug/L)
1,1,2,2-tetrachloroethane	79-34-5	ND	0.8
tetrachloroethylene	127-18-4	ND	2
toluene	108-88-3	**0.9**	0.4
trans- 1,2-dichloroethlene	156-60-5	ND	2
1,1,1-trichloroethane	71-55-6	ND	0.8
1,1,2-trichloroethane	79-00-5	ND	2
trichloroethylene	79-01-6	**4.9**	0.8
trichlorofluoromethane	75-69-4	ND	2
o-xylene	1330-20-7	**0.9**	0.3
p/m-xylene	1330-20-7	ND	0.4
vinyl acetate	108-05-4	ND	3
vinyl chloride	75-01-4	**2.2**	2

SURROGATE COMPOUNDS	% RECOVERY	% CONTROL LIMITS
Toluene-D8	88	88-110
4-bromofluorobenzene	90	88-115
1,2-Dichloroethane-D4	79	76-114

Notes
*Indicates extra compound requested by the client.
NR-Analysis not requested.
COC-Chain of Custody
ND-Analytes not detected at, or above the stated detection limit.
ppb-ug/l for waters; ug/kg for soils
DL-Detection Limit Factor
SDL-Sample Detection Limit-Multiply DL by the DL Factor to obtain the detection limit for a specific analyte
MDL- Method Detection Limit
Sample Detection Limit is equal to the MDL multiplied to the DF
Procedures:
This analysis was performed in using EPA Method 8240 or EPA 624 and EPA 5030
Certification:
California Department of Health Services ELAP Certificate #1909

Reviewed By:

Lei Chen, Laboratory Manager

AMER
Advanced Materials Engineering Research, Inc.

ANALYSIS REPORT
(ELAP CERTIFICATE NO. 1909)
EPA METHODS 624

Client: TMC Environmental, Inc.
13908 San Pablo Avenue, Suite 101
San Pablo, CA 94806
Project Manager: Mark Youngkin
Project: Rifkin Property, #1-13093
Sample Name: MW-3, E5060909

Date Sampled: 06-08-95
Date Received: 06-09-95
Date Reported: 06-19-95
Sample Matrix: WATER
AMER Report #: E1133

COMPOUND	CAS #	CONC. (ug/L)	DETECTION LIMIT (ug/L)
acetone	67-64-1	ND	5
benzene	71-43-2	ND	0.8
bromomethane	74-83-9	ND	2
bromodichloromethane	75-27-4	ND	0.7
bromoform (SPCC)	75-25-2	ND	2
2-butanone	78-93-3	**5.2**	2
carbon disulfide	75-15-0	**1.6**	2
carbon tetrachloride	56-23-5	ND	2
chlorobenzene (SPCC)	108-90-7	ND	0.6
chlorodibromomethane	124-48-1	ND	2
chloroethane	75-00-3	ND	1
2-chloro-ethyl-vinyl ether	110-75-8	ND	2
chloroform (CCC)	67-66-3	ND	0.8
chloromethane	74-87-3	ND	2
1,2-dichlorobenzene	95-50-1	ND	0.6
1,3-dichlorobenzene	541-73-1	ND	0.5
1,4-dichlorobenzene	106-46-7	ND	0.5
dichlorodifluoromethane	75-71-8	ND	2
1,1 -dichloroethane (SPCC)	75-34-3	ND	2
1,2-dichloroethane	107-06-2	**1.9**	0.9
1,1 -dichloroethene (CCC)	75-35-4	ND	0.7
1,2-dichloropropane	78-87-5	ND	3
cis-1,3-dichloropropene	10061-01-5	ND	0.8
trans-1,3-dichlorpropene	10061-02-6	ND	1
ethylbenzene	100-41-4	ND	0.4
2-hexanone	591-78-6	ND	2
4-methyl-2-pentanone	108-10-1	ND	2
methylene dichloride	75-09-2	ND	7
styrene	100-42-5	ND	0.8

AMER

Advanced Materials Engineering Research, Inc.

ANALYSIS REPORT
(ELAP CERTIFICATE NO. 1909)
EPA METHODS 624

Client: TMC Environmental, Inc.
13908 San Pablo Avenue, Suite 101
San Pablo, CA 94806
Project Manager: Mark Youngkin
Project: Rifkin Property, #1-13093
Sample Name: MW-3, E5060909

Date Sampled: 06-08-95
Date Received: 06-09-95
Date Reported: 06-19-95
Sample Matrix: WATER
AMER Report #: E1133

COMPOUND	CAS #	CONC. (ug/L)	DETECTION LIMIT (ug/L)
1,1,2,2-tetrachloroethane	79-34-5	ND	0.8
tetrachloroethylene	127-18-4	ND	2
toluene	108-88-3	ND	0.4
trans- 1,2-dichloroethlene	156-60-5	**11**	2
1,1,1-trichloroethane	71-55-6	ND	0.8
1,1,2-trichloroethane	79-00-5	ND	2
trichloroethylene	79-01-6	**1.1**	0.8
trichlorofluoromethane	75-69-4	ND	2
o-xylene	1330-20-7	ND	0.3
p/m-xylene	1330-20-7	ND	0.4
vinyl acetate	108-05-4	ND	3
vinyl chloride	75-01-4	**0.7**	2

SURROGATE COMPOUNDS	% RECOVERY	% CONTROL LIMITS
Toluene-D8	90	88-110
4-bromofluorobenzene	87	88-115
1,2-Dichloroethane-D4	76	76-114

Notes
*Indicates extra compound requested by the client.
NR-Analysis not requested.
COC-Chain of Custody
ND-Analytes not detected at, or above the stated detection limit.
ppb-ug/l for waters; ug/kg for soils
DL-Detection Limit Factor
SDL-Sample Detection Limit-Multiply DL by the DL Factor to obtain the detection limit for a specific analyte
MDL- Method Detection Limit
Sample Detection Limit is equal to the MDL multiplied to the DF
Procedures:
This analysis was performed in using EPA Method 8240 or EPA 624 and EPA 5030
Certification:
California Department of Health Services ELAP Certificate #1909

Reviewed By:

Lei Chen, Laboratory Manager

250 Santa Ana Court, Sunnyvale, CA 94086 · Tel. (408) 738-3033 · Fax. (408) 738-3035

AMER
Advanced Materials Engineering Research, Inc.

ANALYSIS REPORT
(ELAP CERTIFICATE NO. 1909)
EPA METHODS 624

Client: TMC Environmental, Inc.
13908 San Pablo Avenue, Suite 101
San Pablo, CA 94806
Project Manager: Mark Youngkin
Project: Rifkin Property, #1-13093
Sample Name: MW-4, E5060910

Date Sampled: 06-08-95
Date Received: 06-09-95
Date Reported: 06-19-95
Sample Matrix: WATER
AMER Report #: E1133

COMPOUND	CAS #	CONC. (ug/L)	DETECTION LIMIT (ug/L)
acetone	67-64-1	ND	5
benzene	71-43-2	**1.8**	0.8
bromomethane	74-83-9	ND	2
bromodichloromethane	75-27-4	ND	0.7
bromoform (SPCC)	75-25-2	ND	2
2-butanone	78-93-3	ND	2
carbon disulfide	75-15-0	ND	2
carbon tetrachloride	56-23-5	ND	2
chlorobenzene (SPCC)	108-90-7	ND	0.6
chlorodibromomethane	124-48-1	ND	2
chloroethane	75-00-3	ND	1
2-chloro-ethyl-vinyl ether	110-75-8	ND	2
chloroform (CCC)	67-66-3	ND	0.8
chloromethane	74-87-3	ND	2
1,2-dichlorobenzene	95-50-1	ND	0.6
1,3-dichlorobenzene	541-73-1	ND	0.5
1,4-dichlorobenzene	106-46-7	ND	0.5
dichlorodifluoromethane	75-71-8	ND	2
1,1 -dichloroethane (SPCC)	75-34-3	ND	2
1,2-dichloroethane	107-06-2	ND	0.9
1,1 -dichloroethene (CCC)	75-35-4	ND	0.7
1,2-dichloropropane	78-87-5	ND	3
cis-1,3-dichloropropene	10061-01-5	ND	0.8
trans-1,3-dichlorpropene	10061-02-6	ND	1
ethylbenzene	100-41-4	**1.1**	0.4
2-hexanone	591-78-6	ND	2
4-methyl-2-pentanone	108-10-1	ND	2
methylene dichloride	75-09-2	ND	7
styrene	100-42-5	ND	0.8

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EPA METHODS 624

Client: TMC Environmental, Inc.
13908 San Pablo Avenue, Suite 101
San Pablo, CA 94806
Project Manager: Mark Youngkin
Project: Rifkin Property, #1-13093
Sample Name: MW-4, E5060910

Date Sampled: 06-08-95
Date Received: 06-09-95
Date Reported: 06-19-95
Sample Matrix: WATER
AMER Report #: E1133

COMPOUND	CAS #	CONC. (ug/L)	DETECTION LIMIT (ug/L)
1,1,2,2-tetrachloroethane	79-34-5	ND	0.8
tetrachloroethylene	127-18-4	ND	2
toluene	108-88-3	**2.2**	0.4
trans- 1,2-dichloroethlene	156-60-5	ND	2
1,1,1-trichloroethane	71-55-6	ND	0.8
1,1,2-trichloroethane	79-00-5	ND	2
trichloroethylene	79-01-6	**1.6**	0.8
trichlorofluoromethane	75-69-4	ND	2
o-xylene	1330-20-7	**5.4**	0.3
p/m-xylene	1330-20-7	**2.5**	0.4
vinyl acetate	108-05-4	ND	3
vinyl chloride	75-01-4	ND	2

SURROGATE COMPOUNDS	% RECOVERY	% CONTROL LIMITS
Toluene-D8	89	88-110
4-bromofluorobenzene	95	88-115
1,2-Dichloroethane-D4	77	76-114

Notes
*Indicates extra compound requested by the client.
NR-Analysis not requested.
COC-Chain of Custody
ND-Analytes not detected at, or above the stated detection limit.
ppb-ug/l for waters; ug/kg for soils
DL-Detection Limit Factor
SDL-Sample Detection Limit-Multiply DL by the DL Factor to obtain the detection limit for a specific analyte
MDL- Method Detection Limit
Sample Detection Limit is equal to the MDL multiplied to the DF
Procedures:
This analysis was performed in using EPA Method 8240 or EPA 824 and EPA 5030
Certification:
California Department of Health Services ELAP Certificate #1909

Reviewed By:

Lei Chen, Laboratory Manager

AMER
Advanced Materials Engineering Research, Inc.

ANALYSIS REPORT
(ELAP CERTIFICATE NO. 1909)
EPA METHODS 624

Client: TMC Environmental, Inc.
13908 San Pablo Avenue, Suite 101
San Pablo, CA 94806
Project Manager: Mark Youngkin
Project: Rifkin Property, #1-13093
Sample Name: MW-5, E5060911

Date Sampled: 06-08-95
Date Received: 06-09-95
Date Reported: 06-19-95
Sample Matrix: WATER
AMER Report #: E1133

COMPOUND	CAS #	CONC. (ug/L)	DETECTION LIMIT (ug/L)
acetone	67-64-1	**82000**	5
benzene	71-43-2	**400**	0.8
bromomethane	74-83-9	ND	2
bromodichloromethane	75-27-4	ND	0.7
bromoform (SPCC)	75-25-2	ND	2
2-butanone	78-93-3	**95000**	2
carbon disulfide	75-15-0	2.3	2
carbon tetrachloride	56-23-5	ND	2
chlorobenzene (SPCC)	108-90-7	ND	0.6
chlorodibromomethane	124-48-1	ND	2
chloroethane	75-00-3	ND	1
2-chloro-ethyl-vinyl ether	110-75-8	ND	2
chloroform (CCC)	67-66-3	**0.9**	0.8
chloromethane	74-87-3	ND	2
1,2-dichlorobenzene	95-50-1	ND	0.6
1,3-dichlorobenzene	541-73-1	ND	0.5
1,4-dichlorobenzene	106-46-7	ND	0.5
dichlorodifluoromethane	75-71-8	ND	2
1,1 -dichloroethane (SPCC)	75-34-3	ND	2
1,2-dichloroethane	107-06-2	ND	0.9
1,1 -dichloroethene (CCC)	75-35-4	**1.5**	0.7
1,2-dichloropropane	78-87-5	ND	3
cis-1,3-dichloropropene	10061-01-5	ND	0.8
trans-1,3-dichlorpropene	10061-02-6	ND	1
ethylbenzene	100-41-4	**1900**	0.4
2-hexanone	591-78-6	ND	2
4-methyl-2-pentanone	108-10-1	**27000**	2
methylene dichloride	75-09-2	ND	7
styrene	100-42-5	ND	0.8

AMER

Advanced Materials Engineering Research, Inc.

ANALYSIS REPORT
(ELAP CERTIFICATE NO. 1909)
EPA METHODS 624

Client: TMC Environmental, Inc.
13908 San Pablo Avenue, Suite 101
San Pablo, CA 94806
Project Manager: Mark Youngkin
Project: Rifkin Property, #1-13093
Sample Name: MW-5, E5060911

Date Sampled: 06-08-95
Date Received: 06-09-95
Date Reported: 06-19-95
Sample Matrix: WATER
AMER Report #: E1133

COMPOUND	CAS #	CONC. (ug/L)	DETECTION LIMIT (ug/L)
1,1,2,2-tetrachloroethane	79-34-5	ND	0.8
tetrachloroethylene	127-18-4	**1.9**	2
toluene	108-88-3	**91000**	0.4
trans- 1,2-dichloroethlene	156-60-5	ND	2
1,1,1-trichloroethane	71-55-6	**4.1**	0.8
1,1,2-trichloroethane	79-00-5	ND	2
trichloroethylene	79-01-6	**11**	0.8
trichlorofluoromethane	75-69-4	ND	2
o-xylene	1330-20-7	**1600**	0.3
p/m-xylene	1330-20-7	**8100**	0.4
vinyl acetate	108-05-4	ND	3
vinyl chloride	75-01-4	ND	2

SURROGATE COMPOUNDS	% RECOVERY	% CONTROL LIMITS
Toluene-D8	89	88-110
4-bromofluorobenzene	86	88-115
1,2-Dichloroethane-D4	74	76-114

Notes
*Indicates extra compound requested by the client.
NR-Analysis not requested.
COC-Chain of Custody
ND-Analytes not detected at, or above the stated detection limit.
ppb-ug/l for waters; ug/kg for soils
DL-Detection Limit Factor
SDL-Sample Detection Limit-Multiply DL by the DL Factor to obtain the detection limit for a specific analyte
MDL- Method Detection Limit
Sample Detection Limit is equal to the MDL multiplied to the DF
Procedures:
This analysis was performed in using EPA Method 8240 or EPA 624 and EPA 5030
Certification:
California Department of Health Services ELAP Certificate #1909

Reviewed By:

Lei Chen, Laboratory Manager

250 Santa Ana Court, Sunnyvale, CA 94086 · Tel. (408) 738-3033 · Fax. (408) 738-3035

624/8240 TEST QA/QC TABLE

AMER WORKORDER: E1133

AMER I.D. Number: E1133-MSP
Project: #1-13093
Ext/Prep. Method: EPA 5030
Date: 06-15-95
Analyst: LC

Analytical Method EPA 624/8240
Analysis date: 06-15-95
Analyst: LC
Matrix: Water
Unit: ug/L

Analyte	Sample Result	Spike Level	MSP Result	MSP %R	MSPD Result	MSPD %R	AVE. %R	LCL %R	UCL %R	RPD %	UCL %RPD
1,1-Dichloroethene	0	50	52.25	105	50.22	100	102	61	145	4	14
Trichloroethene	0	50	52.96	106	50.22	100	103	71	120	5	14
Chlorobenzene	0	50	49.98	100	48.03	96	98	75	130	4	13
Toluene	0	50	47.29	95	43.85	88	91	76	125	8	13
Benzene	0	50	45.83	92	44.19	88	90	76	127	4	11

Notes:
Sample Result-Concentration of Sample which is to used for Sample Spike & Sample Spike Duplicate
Spike Level- Level of Concentration Added to the Sample
MSP Result- Matrix Spike Result
MSP %R- Matrix Spike Percent Recovery
MSPD Result- Matrix Spike Duplicate Result
MSPD %R- Matrix Spike Dublicate Percent Recovery
AVG. %R - Average Recovery for MSP & MSPD % Recovery
LCL- Lower Criteria Level
UCL- Upper Criteria Level
RPD- Relative Percent Difference

Laboratory Control Sample Report Table

AMER WORKORDER: E1133

AMER I.D. Number:	LCS	Analysis date:	06-15-95
Project	# 1-13093	Analyst:	CL
Date:	06-15-95	Matrix:	Water
Analyst:	CL	Unit:	mg/L

ANALYTES	Prep Method	Analytical Method	Dilution Factor	Units	Spike Amount	Results	% Rec.
Antimony	200.7	200.7	1	mg/L	0.5	0.5	99
Arsenic	200.7	200.7	1	mg/L	0.5	0.5	104
Barium	200.7	200.7	1	mg/L	0.5	0.5	103
Beryllium	200.7	200.7	1	mg/L	0.5	0.5	101
Cadmium	200.7	200.7	1	mg/L	0.5	0.5	104
Chromium	200.7	200.7	1	mg/L	0.5	0.5	103
Copper	200.7	200.7	1	mg/L	0.5	0.5	104
Lead	200.7	200.7	1	mg/L	0.5	0.5	104
Nickel	200.7	200.7	1	mg/L	0.5	0.5	101
Selenium	200.7	200.7	1	mg/L	0.5	0.5	99
Silver	200.7	200.7	1	mg/L	0.5	0.5	106
Thallium	200.7	200.7	1	mg/L	0.5	0.6	112
Zinc	200.7	200.7	1	mg/L	0.5	0.5	101
Mercury	7470	7470	1	mg/L	0.01	0.01	105

Notes:
Spike Amount- Level of Concentration Added to the Sample
LCS Result- Laboratory Control Sample Result
%R- Percent Recovery

EPA METHOD TEST QA/QC TABLE

AMER WORKORDER:E1133

AMER I.D.:	E1133-MSP	Analytical Method:	EPA M. 8015/602
Project:	#1-13093	Analysis date:	06-14-95
Ext/Prep. Method:	EPA 5030	Analyst:	DL
Date:	06-13-95	Matrix:	Water
Analyst:	DL/	Unit:	ug/L

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery %	Matrix Spike Dul. Result	MSD Recovery %	Average Recovery %R	LCL %R	UCL %R	RPD %	UCL %RPD
Benzene	0.00	40.00	35.22	88.05	33.85	84.63	86.34	76	127	4	11
Toluene	0.00	40.00	35.19	87.98	33.01	82.53	85.25	76	125	6	13
Chlorobenzene	0.00	40.00	35.19	87.98	34.57	86.43	87.20	75	130	2	13
TPH-Gasoline	0.00	1000.00	1139.55	113.96	1100.77	110.08	112.02	70	130	3	30
TPH-Diesel	0.00	1000.00		0.00		0.00	0.00	70	130	#DIV/0!	30

Notes:
Sample Result-Concentration of Sample which is to used for Sample Spike & Sample Spike Duplicate
Spike Level- Level of Concentration Added to the Sample
MSP Result- Matrix Spike Result
MSP %R- Matrix Spike Percent Recovery
MSPD Result- Matrix Spike Duplicate Result
MSPD %R- Matrix Spike Dublicate Percent Recovery
AVG. %R - Average Recovery for MSP & MSPD % Recovery
LCL- Lower Criteria Level
UCL- Upper Criteria Level
RPD- Relative Percent Difference

EPA METHOD TEST QA/QC TABLE

AMER WORKORDER:E1133

AMER I.D.:	E1133-MSP	Analytical Method:	EPA M. 8015/602
Project:	Rifkin Property,#1-13093	Analysis date:	06-15-95
Ext/Prep. Method:	EPA 5030	Analyst:	DL
Date:	06-13-95	Matrix:	Water
Analyst:	DL/JX	Unit:	ug/L

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery %	Matrix Spike Dul. Result	MSD Recovery %	Average Recovery %R	LCL %R	UCL %R	RPD %	UCL %RPD
Benzene	0.00	40.00	35.22	88.05	33.85	84.63	86.34	76	127	4	11
Toluene	0.00	40.00	35.19	87.98	33.01	82.53	85.25	76	125	6	13
Chlorobenzene	0.00	40.00	35.19	87.98	34.57	86.43	87.20	75	130	2	13
TPH-Gasoline	0.00	1000.00	1139.55	113.96	1100.77	110.08	112.02	70	130	3	30
TPH-Diesel	0.00	1000.00	895.00	89.50	905.00	90.50	90.00	70	130	1	30

Notes:
Sample Result-Concentration of Sample which is to used for Sample Spike & Sample Spike Duplicate
Spike Level- Level of Concentration Added to the Sample
MSP Result- Matrix Spike Result
MSP %R- Matrix Spike Percent Recovery
MSPD Result- Matrix Spike Duplicate Result
MSPD %R- Matrix Spike Dublicate Percent Recovery
AVG. %R - Average Recovery for MSP & MSPD % Recovery
LCL- Lower Criteria Level
UCL- Upper Criteria Level
RPD- Relative Percent Difference

TMC ENVIRONMENTAL, INC.
(415) 232-8366 / FAX 232-5133

CHAIN OF CUSTODY RECORD
ANALYSIS REQUEST FORM

Project No. 1-13093	Project Name: RIFKIN PROPERTY	Project Contact: MARK YOUNGKIN	Page 1 of 1
Project Address: 4525 - 4563 HORTON STREET, Emeryville			Turnaround Time: 5 days

LAB ID NO.	DATE	TIME	SOIL	WATER	SAMPLE LABEL	~~TEPH/BTEX~~	~~TEPH/BTEX~~	~~BTEX~~	~~ORGANIC LEAD~~	TPH-Gas	TPH-Diesel	8240	Priority Metals + Barium	8520	REMARKS ADDITIONAL ANALYSIS
	6/8/95	1100		X	MW-1					✓	✓	✓	✓	✓	
	6/8/95	1140		X	MW-2					✓	✓	✓	✓	✓	
	6/8/95	1218		X	MW-3					✓	✓	✓	✓	—	
	6/8/95	1445		X	MW-4					✓	✓	✓	✓	✓	
	6/8/95	1517		X	MW-5					✓	✓	✓	✓	✓	

Relinquished by, Print Name: DONALD CHUNG
Signature: Donald Chung
Date: 6/9/95
Time: 1155

Received by, Print name:
Signature: GEFABELL
Date: 6-9-95
Time: 11:55

Relinquished by, Print name:
Signature: GEFABELL
Date: 6-9-95
Time: 1:00 PM

Received by, Print name: KAYVAN KIANFAR
Signature:
Date: 6/9/95
Time: 13:11

Relinquished by, Print name:
Signature:
Date:
Time:

By signature the laboratory accepts the listed samples in good condition with appropriate containers, temperatures, and intact custody seals.

Received by Laboratory, Print Name of Laboratory:
Laboratory Certification Number:

Received by Laboratory personnel, Print Name:
Signature:
Date:
Time:

ATTACHMENT 2

RECORDS OF WATER SAMPLE COLLECTION

RECORD OF WATER SAMPLE COLLECTION

WELL LABEL:	DATE COLLECTED:	JOB NUMBER:
MW-1	6-8-95	1-13093

JOB NAME:	SAMPLER(S) NAME:
RIFKIN PROPERTY	D. CHUNG AND T. GHIGLIOTTO

LOCATION: 4525-4563 HORTON STREET, EMERYVILLE, CALIFORNIA

WELL HEAD CONDITIONS: [X] CAPPED [X] LOCKED [X] DRY [ ] WATER [ ] DEBRIS [ ] REPLACE CAP [ ] REPLACE LOCK [X] OTHER: rust colored specks on sounder, odors on sounder

TIME MEASURED DEPTH TO WATER (MEASURE TO .01 FEET)						
	0934	1010				
	6.98'	6.98'				

WELL PURGING METHOD

TOTAL DEPTH OF WELL:	DEPTH TO WATER:	DIAMETER OF WELL:
16.20'	6.98'	2"

VOLUME FACTOR = 0.17 FOR 2" CASING; 0.65 FOR 4" CASING; 1.47 FOR 6" CASING

PURGE VOLUME = 5.0 Gallons

PURGE METHOD:	OVA -FID VAPOR READING, ppm:
NEW DISPOSABLE BAILER	

WELL PURGING PARAMETERS

GALLONS	TIME	TEMPERATUTE degrees F	CONDUCTIVITY X 1000	pH	VISUAL TURBIDITY
0	1041	65.3	1.46	5.88	Cloudy with Specks
1.5	1044	65.2	1.12	6.15	Cloudy with Sheen and Specks
3.0	1046	65.0	0.96	6.20	Cloudy with Sheen and Specks
4.5	1050	65.5	0.95	6.38	Cloudy with Sheen and Specks
5.0	1051	65.3	0.92	6.37	Cloudy with Sheen and Specks

SAMPLING METHOD:	SAMPLE TURBIDITY:	TIME COLLECTED:
NEW DISPOSABLE BAILER	143.3	1100

PURGE WATER DESCRIPTION: [X] SHEEN [X] ODOR [X] SILTY [ ] OTHER:

RECORD OF WATER SAMPLE COLLECTION

WELL LABEL:	DATE COLLECTED:	JOB NUMBER:
MW-2	6-8-95	1-15095

JOB NAME:	SAMPLER(S) NAME:
RIFKIN PROPERTY	D. CHUNG AND T. GHIGLIOTTO

LOCATION: 4525-4563 HORTON STREET, EMERYVILLE, CALIFORNIA

WELL HEAD CONDITIONS: [X] CAPPED [X] LOCKED [X] DRY [ ] WATER [ ] DEBRIS [ ] REPLACE CAP [ ] REPLACE LOCK [X] OTHER: slight flecks on sounder, gasoline odor, silts in bottom of well

TIME MEASURED DEPTH TO WATER (MEASURE TO .01 FEET)						
	0939	1011				
	6.82'	6.82'				

WELL PURGING METHOD

TOTAL DEPTH OF WELL:	DEPTH TO WATER:	DIAMETER OF WELL:
15.50'	6.82'	2"

VOLUME FACTOR = 0.17 FOR 2" CASING; 0.65 FOR 4" CASING; 1.47 FOR 6" CASING

PURGE VOLUME = 4.5 GALLONS

PURGE METHOD:	OVA -FID VAPOR READING, ppm:
NEW DISPOSABLE BAILER	

WELL PURGING PARAMETERS

GALLONS	TIME	TEMPERATURE degrees F	CONDUCTIVITY X 1000	pH	VISUAL TURBIDITY
0	1120	66.8	1.09	6.89	sl. cloudy/Clear
1.5	1122	65.8	1.08	6.74	Cloudy Olive green
3	1225	65.5	1.11	6.44	very cloudy/silty
4.5	1127	64.8	1.08	6.38	very cloudy/silty

SAMPLING METHOD:	SAMPLE TURBIDITY:	TIME COLLECTED:
NEW DISPOSABLE BAILER	>200	1140

PURGE WATER DESCRIPTION: [X] SHEEN [X] ODOR [X] SILTY [ ] OTHER:

RECORD OF WATER SAMPLE COLLECTION

WELL LABEL:	DATE COLLECTED:	JOB NUMBER:
MW-3	6-8-95	1-13093

JOB NAME:	SAMPLER(S) NAME:
RIFKIN PROPERTY	D. CHUNG AND T. GHIGLIOTTO

LOCATION: 4525-4563 HORTON STREET, EMERYVILLE, CALIFORNIA

WELL HEAD CONDITIONS: [X] CAPPED [X] LOCKED [X] DRY [ ] WATER [ ] DEBRIS [ ] REPLACE CAP [ ] REPLACE LOCK [ ] OTHER:

TIME MEASURED	0945	1006				
DEPTH TO WATER (MEASURE TO .01 FEET)	7.39'	7.39'				

WELL PURGING METHOD

TOTAL DEPTH OF WELL:	DEPTH TO WATER:	DIAMETER OF WELL:
18.86'	7.39'	2"

VOLUME FACTOR = 0.17 FOR 2" CASING; 0.65 FOR 4" CASING; 1.47 FOR 6" CASING

PURGE VOLUME = 6.0 GALLONS

PURGE METHOD:	OVA -FID VAPOR READING, ppm:
NEW DISPOSABLE BAILER	

WELL PURGING PARAMETERS

GALLONS	TIME	TEMPERATUTE degrees F	CONDUCTIVITY X 1000	pH	VISUAL TURBIDITY
0	1153	66.7	0.55	7.52	Clear
2	1157	65.5	0.48	7.20	Slightly Turbid, Grey
4	1200	65.9	0.45	7.40	Slightly Turbid, Grey
6	1205	66.4	0.45	7.98	Slightly Turbid, Grey

SAMPLING METHOD:	SAMPLE TURBIDITY:	TIME COLLECTED:
NEW DISPOSABLE BAILER	64.6	1218

PURGE WATER DESCRIPTION: [ ] SHEEN [ ] ODOR [ ] SILTY [ ] OTHER:

RECORD OF WATER SAMPLE COLLECTION

WELL LABEL:	DATE COLLECTED:	JOB NUMBER:
MW-4	6-8-95	1-13093

JOB NAME:	SAMPLER(S) NAME:
RIFKIN PROPERTY	D. CHUNG AND T. GHIGLIOTTO

LOCATION: 4525-4563 HORTON STREET, EMERYVILLE, CALIFORNIA

WELL HEAD CONDITIONS: [X] CAPPED [X] LOCKED [X] DRY [ ] WATER [ ] DEBRIS [ ] REPLACE CAP [ ] REPLACE LOCK [X] OTHER: strong solvent odor

TIME MEASURED	1406	1420				
DEPTH TO WATER (MEASURE TO .01 FEET)	7.64'	7.64'				

WELL PURGING METHOD

TOTAL DEPTH OF WELL:	DEPTH TO WATER:	DIAMETER OF WELL:
16.06'	7.64'	2"

VOLUME FACTOR = 0.17 FOR 2" CASING; 0.65 FOR 4" CASING; 1.47 FOR 6" CASING

PURGE VOLUME = 4.5 GALLONS

PURGE METHOD:	OVA -FID VAPOR READING, ppm:
NEW DISPOSABLE BAILER	

WELL PURGING PARAMETERS

GALLONS	TIME	TEMPERATUTE degrees F	CONDUCTIVITY X 1000	pH	VISUAL TURBIDITY
0	1420	66.7	4.95	3.64	Clear
1.5	1425	64.3	4.88	3.38	Slightly Cloudy
3.0	1429	63.9	4.96	3.33	Slightly Cloudy
4.5	1433	63.6	4.93	3.39	Slightly Cloudy

SAMPLING METHOD:	SAMPLE TURBIDITY:	TIME COLLECTED:
NEW DISPOSABLE BAILER	158.0	1445

PURGE WATER DESCRIPTION: [ ] SHEEN [X] ODOR [X] SILTY [ ] OTHER:

RECORD OF WATER SAMPLE COLLECTION

WELL LABEL:	DATE COLLECTED:	JOB NUMBER:
MW-5	6-8-95	1-13093

JOB NAME:	SAMPLER(S) NAME:
RIFKIN PROPERTY	D. CHUNG AND T. GHIGLIOTTO

LOCATION: 4525-4563 HORTON STREET, EMERYVILLE, CALIFORNIA

WELL HEAD CONDITIONS: [X] CAPPED [X] LOCKED [X] DRY [ ] WATER [ ] DEBRIS [ ] REPLACE CAP [ ] REPLACE LOCK [X] OTHER: strong solvent odor

TIME MEASURED	0950	1409				
DEPTH TO WATER (MEASURE TO .01 FEET)	7.43'	7.44'				

WELL PURGING METHOD

TOTAL DEPTH OF WELL:	DEPTH TO WATER:	DIAMETER OF WELL:
16.34'	7.44'	2"

VOLUME FACTOR = 0.17 FOR 2" CASING; 0.65 FOR 4" CASING; 1.47 FOR 6" CASING

PURGE VOLUME = 4.5 GALLONS

PURGE METHOD:	OVA -FID VAPOR READING, ppm:
NEW DISPOSABLE BAILER	

WELL PURGING PARAMETERS

GALLONS	TIME	TEMPERATUTE degrees F	CONDUCTIVITY X 1000	pH	VISUAL TURBIDITY
0	1500	61.9	2.19	4.40	Slightly Turbid
1.5	1503	61.7	2.38	4.60	Turbid, Brown
3.0	1505	61.6	2.16	4.66	Turbid, Brown
4.5	1512	61.4	2.80	4.43	Turbid, Brown

SAMPLING METHOD:	SAMPLE TURBIDITY:	TIME COLLECTED:
NEW DISPOSABLE BAILER	>200	1517

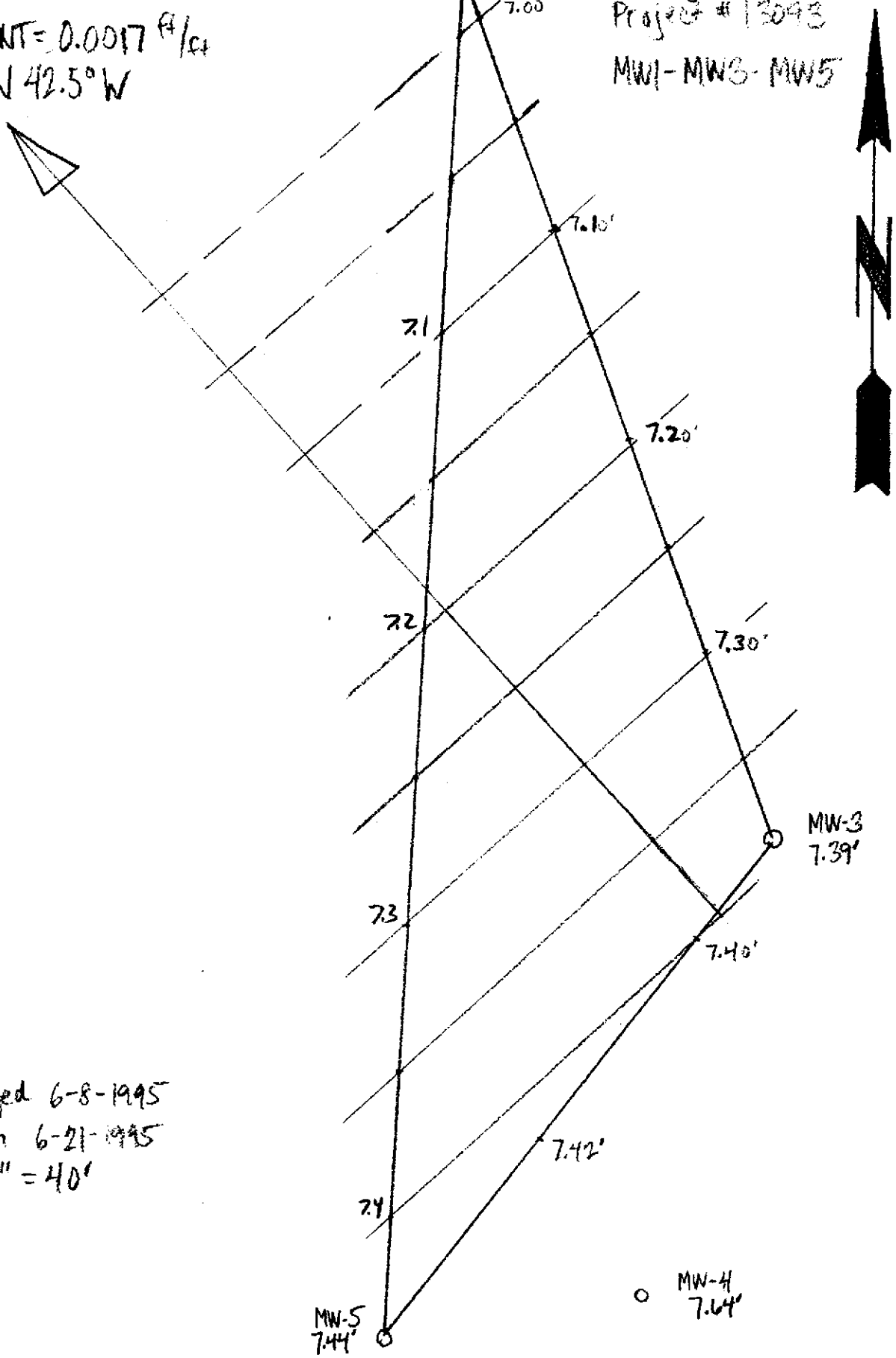
PURGE WATER DESCRIPTION: [ ] SHEEN [X] ODOR [X] SILTY [ ] OTHER:

ATTACHMENT 3

GROUND WATER GRADIENT WORKSHEETS

GROUNDWATER GRADIENT WORKSHEET

RIFKIN PROPERTY
4525-4563 Horton St.
Emeryville, CA
Project # 13093
MW1-MW3-MW5

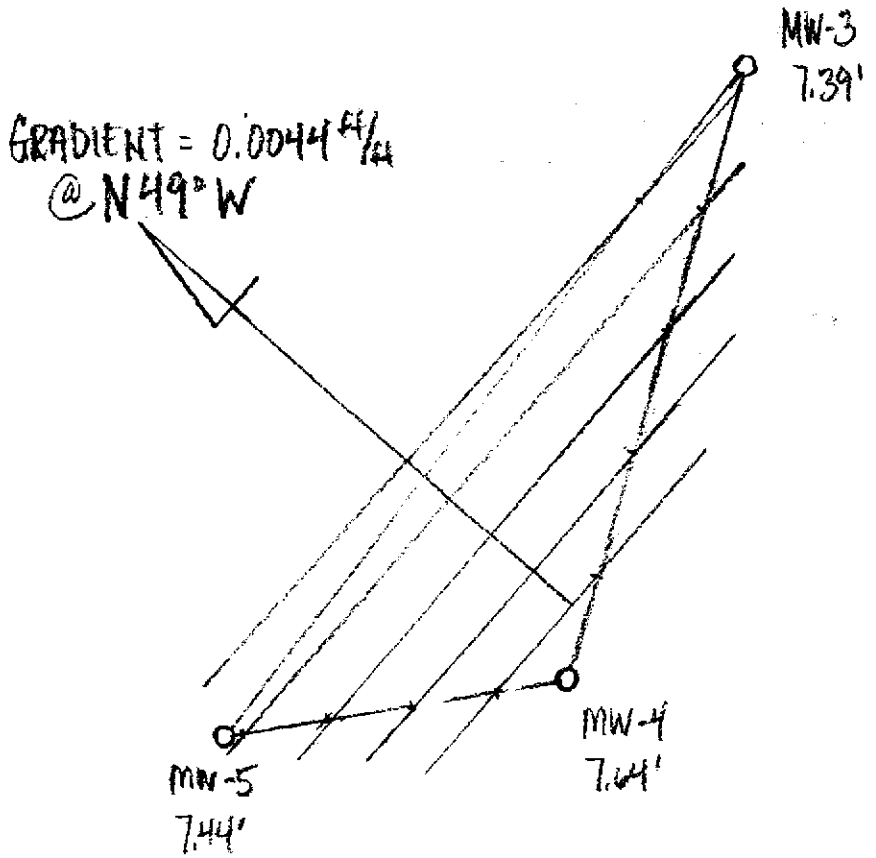


GRADIENT = 0.0017 ft/ft
@ N 42.5° W

Wells Gauged 6-8-1995
Map Drawn 6-21-1995
SCALE: 1" = 40'

GROUNDWATER GRADIENT WORKSHEET

RITKIN PROPERTY
4525 - 4563 Horton St.
Emeryville, CA
Project # 13093
MW3 - MW4 - MW5



Wells Gauged 6-8-95
Map Drawn 6-21-95
SCALE: 1" = 40'