The Hertz Corporation
225 Brae Boulevard, Park Ridge, NJ 07656-0713

Certified Mail

November 20, 1992

Mr. Barney Chan
Alameda County Health Care Services
Department of Environmental Health
80 Swan Way, #200
Oakland, CA 94621

Re: Hertz Service Center
#1 Airport Drive
Oakland, CA

Dear Mr. Chan:

Enclosed for your review, please find a copy of the September Monitoring Report. As the report indicates, the findings of the latest round of sampling indicate that the origin of the petroleum hydrocarbon contamination in the groundwater is in the vicinity of the fuel dispensers and former product lines.

If you have any questions regarding the report, I may be contacted at (201)307-2526. Thank you.

Sincerely,

Patricia A. Woods
Project Manager
Environmental Affairs

SEPTEMBER 1992 QUARTERLY MONITORING REPORT
FOR
HERTZ SERVICE CENTER
#1 AIRPORT DRIVE
OAKLAND
ALAMEDA COUNTY
CALIFORNIA

#2264

Prepared For:

THE HERTZ CORPORATION
225 BRAE BOULEVARD
PARK RIDGE, NEW JERSEY 07656-0713

Prepared By:

ENVIRONMENTAL SCIENCE & ENGINEERING, INC.
4090 NELSON AVENUE, SUITE J
CONCORD, CALIFORNIA 94520

PROJECT NO. 6-91-5228

October 23, 1992

This report has been prepared by Environmental Science & Engineering, Inc. for the exclusive use of The Hertz Corporation as it pertains to their site located at #1 Airport Drive, Oakland, California. Our professional services have been performed using that degree of care and skill ordinarily exercised under similar circumstances by other geologists and engineers practicing in this field. No other warranty, express or implied, is made as to professional advice in this report.

REPORT PREPARED BY:

Kerry Lefever

10/26/92

Kerry Lefever
Senior Staff Geologist

DATE

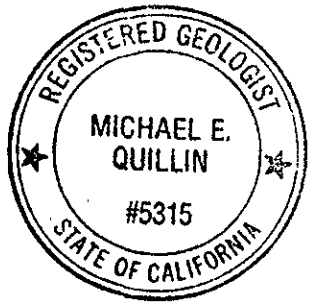
UNDER THE PRIMARY REVIEW AND SUPERVISION OF:

Michael E. Quillin

10/27/92

Michael E. Quillin, RG 5315
Senior Hydrogeologist

DATE



PROJECT NO. 6-91-5228

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1.0 INTRODUCTION

This report presents the results of quarterly ground water monitoring and sampling conducted on September 1, 1992 by Environmental Science & Engineering, Inc. (ESE) at the Hertz Service Center, No. 1 Airport Drive, Oakland, Alameda County, California. The site is an active rental car service and fueling facility located at the Oakland International Airport (See Figure 1 - Site Plan).

ESE summarized site investigation background in the August 1991 Quarterly Monitoring Report (ESE, 1991a) and the November 1991 Quarterly Monitoring Report (ESE, 1991b). The results of additional site investigation conducted by ESE, which included installation of a fourth ground water monitoring well at the site, were summarized in the February 1992 Quarterly Monitoring Report (ESE, 1992).

2.0 SEPTEMBER 1992 MONITORING AND SAMPLING RESULTS

2.1 Ground Water Elevations

ESE measured ground water levels in site wells and calculated ground water elevations relative to mean sea level (MSL). The results are presented in Table 1 - Summary of Ground Water Elevation and Analytical Data. These data show that ground water elevations decreased in the four wells (MW-1, MW-2, MW-3, and MW-4) by as much as 0.51 feet relative to the previous monitoring event. Field documentation for water level measurements, including well purging results, are presented in Appendix A - Well Purging and Sampling Data.

Ground water elevations for the current monitoring event are contoured in Figure 2 - Ground Water Elevations. These results demonstrate that the overall ground water gradient is oriented generally west-southwest, with an approximate magnitude of 140 feet/mile (0.026 ft/ft), which is higher than the gradient noted in May 1992 (80.6 feet/mile or 0.015 ft/ft).

2.2 Ground Water Chemistry

Ground water samples were collected from each of the wells after they were purged of approximately four casing volumes (See Appendix A). Samples were analyzed by Curtis & Tompkins, Ltd. for Total Petroleum Hydrocarbons as Gasoline (TPH-Gas) and Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) using EPA Method 5030/8020 (modified). Current analytical results are summarized with historical data in Table 1 and graphically presented in Figure 3 - Concentrations of Petroleum Hydrocarbons in Ground Water. The laboratory report and chain of custody documentation are presented as Appendix B - Analytical Results and Chain of Custody Documentation. The data presented in Table 1 show that concentrations of petroleum hydrocarbons in Well MW-4 increased significantly relative to May and February 1992 findings. The concentration of TPH-Gas and Benzene doubled relative to the previous monitoring period in May 1992. Concentrations of petroleum hydrocarbons remained at their historically nondetectable levels in well MW-1. However, petroleum hydrocarbons were detected at concentrations slightly above detection limits in samples collected from wells MW-2 and MW-3. These findings tend to confirm that the origin of petroleum hydrocarbons in ground water is in the vicinity of the fuel dispensers and former product lines. These findings also suggest that, based on the historical preferred direction of ground water flow, there is the potential for off-site migration to the west.

For project quality assurance and quality control (QA/QC) purposes, ESE collected a duplicate sample from well MW-2 and had it analyzed for TPH-Gas and BTEX. Results for sample MW-2 and its duplicate (DUP; Table 1) can be compared using relative percent differences (RPDs). For TPH-Gas, Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX), the RPDs between the two samples were 19, 33, 33, 22, and 32, respectively. These results are considered fair agreement between ground water samples, and indicate that ESE's sample collection procedures were consistent and in accordance with standard practices.

3.0 REFERENCES

Environmental Science & Engineering, Inc. (ESE), 1991, August 1991 Quarterly Monitoring Report for Hertz Service Center, #1 Airport Drive, Oakland, Alameda County, California, September 16, 1991.

——— 1991, November 1991 Quarterly Monitoring Report for Hertz Service Center, #1 Airport Drive, Oakland, Alameda County, California, December 11, 1991.

——— 1992, February 1992 Quarterly Monitoring Report for Hertz Service Center, #1 Airport Drive, Oakland, Alameda County, California, March 24, 1992.

TABLE 1

SUMMARY OF GROUND-WATER ELEVATION AND ANALYTICAL DATA
HERTZ/OAKLAND AIRPORT, OAKLAND, CALIFORNIA

GROUND WATER		Ground-Water Elevation (feet above MSL)	Metals (ppm)					Oil & Grease (ppm)	Total Petroleum Hydrocarbons (ppb)							Purgeable Halocarbons (EPA 8010) (ppb)	Semi-Volatile Organics (EPA 8270) (ppb)
Date	Well		Cd	Cr	Pb	Ni	Zn		as Gasoline	as Kerosene	as Diesel	B	T	E	X		
09/01/92	MW-1	2.55	Not Analyzed					--	ND	--	--	ND	ND	ND	ND	--	--
	MW-2	4.15						--	56	--	--	2.0	3.0	0.8	3.1	--	--
	MW-3	3.21						--	ND	--	--	1.1	1.6	ND	1.9	--	--
	MW-4	3.14						--	120,000	--	--	8800	14000	2100	11000	--	--
	DUP (MW-2)	--						--	68	--	--	2.8	4.2	1.0	4.3	--	--
05/13/92	MW-1	2.93	Not Analyzed					--	ND	--	--	ND	ND	ND	ND	--	--
	MW-2	4.66						--	ND	--	--	ND	ND	ND	ND	--	--
	MW-3	3.64						--	ND	--	--	ND	ND	ND	ND	--	--
	MW-4	3.57						--	62,000	--	--	3400	5200	990	5200	--	--
	DUP	--						--	61,000	--	--	3300	5200	920	5200	--	--
	TRIP	--						--	ND	--	--	ND	ND	ND	ND	--	--
02/18/92	MW-1	3.06	Not Analyzed					--	ND	--	ND	ND	ND	ND	ND	--	--
	MW-2	3.86						--	ND	--	ND	ND	ND	ND	ND	--	--
	MW-3	2.92						--	ND	--	ND	ND	ND	ND	ND	--	--
	MW-4	3.43						--	6,600	--	ND	910	1900	280	1700	--	--
11/12/91	MW-1	3.06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	all ND	all ND
	MW-2	3.86	ND	ND	ND	ND	ND	ND	ND	ND	52 †	ND	ND	ND	ND	all ND	all ND
	MW-3	2.92	7.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	all ND	all ND
08/20/91	MW-1	2.30	all ND					ND	ND	ND	ND	ND	ND	ND	ND	all ND	all ND
	MW-2	4.09	all ND					ND	ND	ND	ND	ND	ND	ND	ND	all ND	all ND
	MW-3	3.06	all ND					ND	ND	ND	ND	ND	ND	ND	ND	all ND	all ND
12/22/89	MW-1	2.9 est.	--					--	ND	--	ND	ND	ND	ND	ND	all ND	all ND *
	MW-2	3.6 est.	--					--	ND	--	ND	ND	ND	ND	ND	all ND	all ND *
	MW-3	2.7 est.	--					--	ND	--	ND	ND	ND	ND	ND	all ND	all ND *
11/25/88	Water Sample A5 from excavation							--	7,400	--	--	63	570	250	1900	--	--

NOTES:

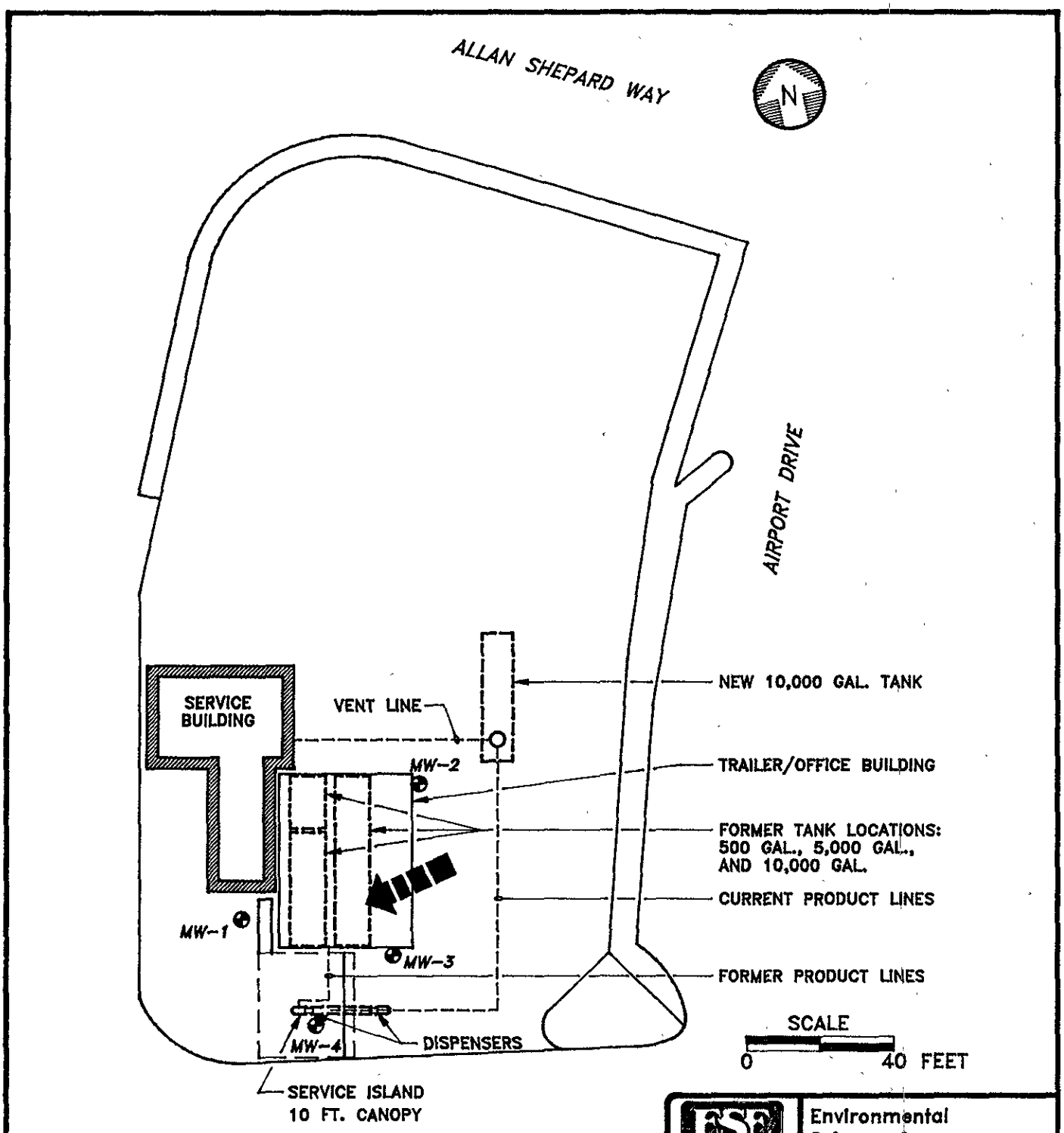
ND = Not detected. -- = Not Analyzed ppm = parts per million (mg/L) ppb = parts per billion (ug/L)

B = Benzene T = Toluene E = Ethylbenzene X = Xylenes

† = Detection limit for TPH as Diesel is 50 ppb. Duplicate sample analyzed contained ND<50 ppb.

* An open scan reported two "tentatively identified compounds": (iodomethyl) benzene at 30 ppb in MW-1 and 40 ppb in MW-3; and 4-4' butylidenebis [2-(1,1-dimethyl -ethyl) 5-methyl] phenol at 20 ppb in MW-2 and MW-3. The identity and concentrations of these compounds are not considered reliable.

A:\PKG\5228 10-92



LEGEND

- APPROXIMATE LOCATION OF MONITORING WELLS
- APPROXIMATE GROUND WATER FLOW DIRECTION – 9/92

ESE A CH2MHILL COMPANY

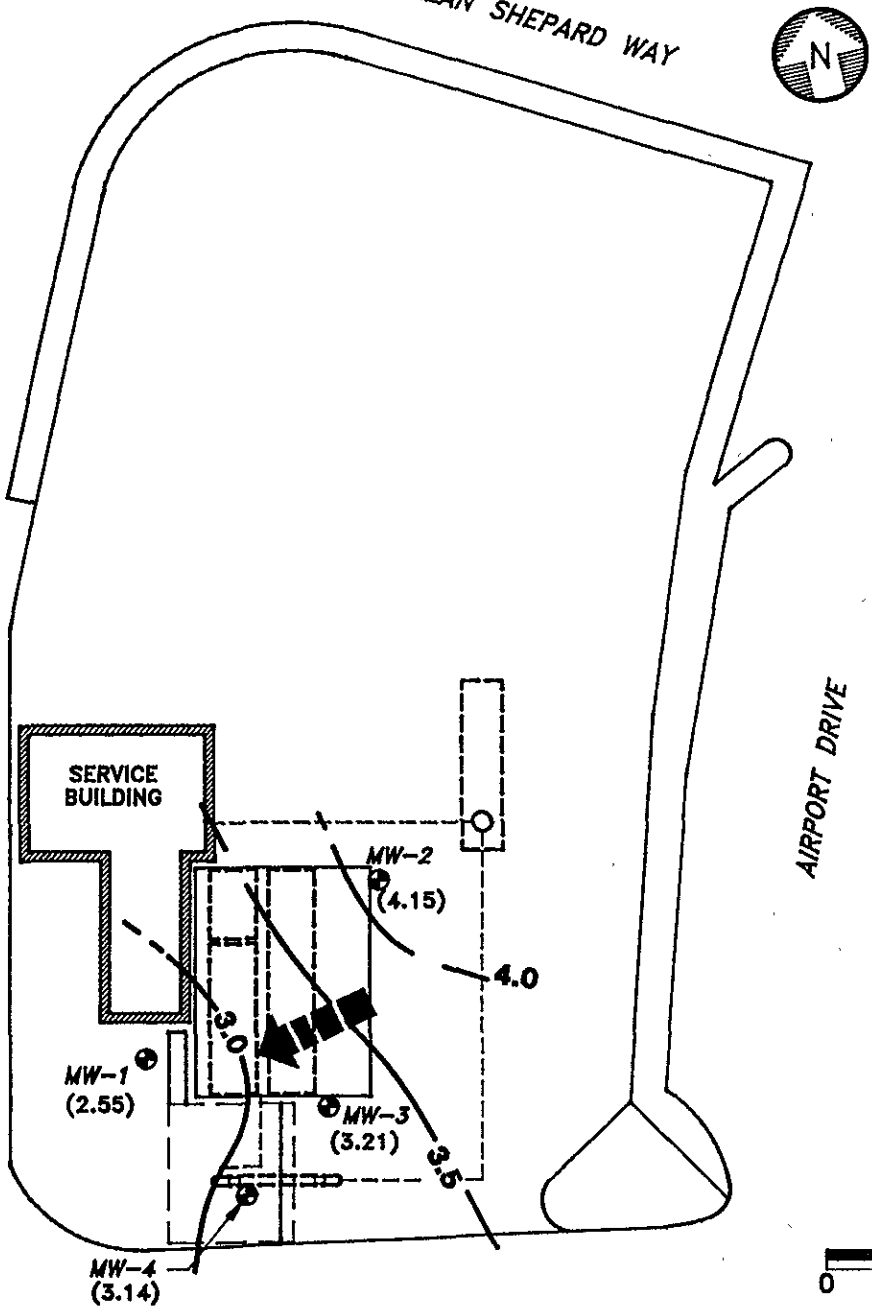
Environmental Science & Engineering, Inc.

HERTZ/OAKLAND AIRPORT
OAKLAND, CALIFORNIA

FIGURE 1
SITE PLAN

DRAWN BY	APPROVED BY	REVISED
CVS		DWR 9/92

DATE	FILE NAME	PROJ. NO.
8/91	52284001	6-91-5228



WELL	WELL ELEV(ft)	GW DEPTH(ft)	GW ELEV(ft)
MW-1	7.45	4.90	2.55
MW-2	8.09	3.94	4.15
MW-3	7.66	4.45	3.21
MW-4	8.23	5.09	3.14

CONTOUR INTERVAL: 0.50 FEET

LEGEND

- APPROXIMATE LOCATION OF MONITORING WELLS (4)
- 3.5 — GROUND WATER ELEVATION CONTOUR (IN FEET ABOVE MSL)
- APPROXIMATE DIRECTION OF GROUND WATER FLOW

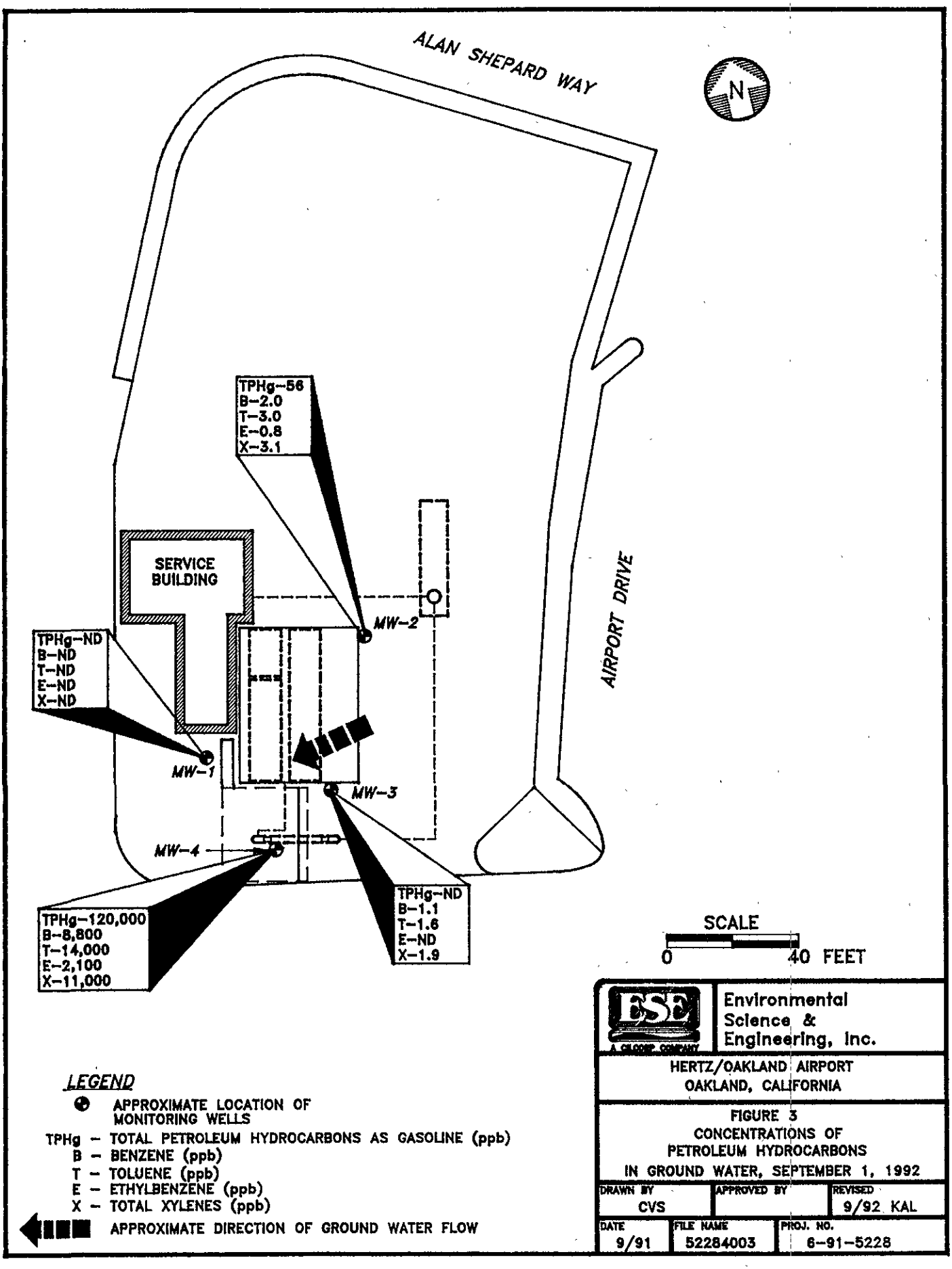
ESE A GILCORP COMPANY
Environmental Science & Engineering, Inc.

HERTZ/OAKLAND AIRPORT
OAKLAND, CALIFORNIA

FIGURE 2
GROUND WATER ELEVATIONS
SEPTEMBER 1, 1992

DRAWN BY	APPROVED BY	REVISED
CVS		DWR 9/92

DATE	FILE NAME	PROJ. NO.
9/91	52284002	6-91-5228


ALAN SHEPARD WAY
N
AIRPORT DRIVE
SERVICE BUILDING
TPHg–56
B–2.0
T–3.0
E–0.8
X–3.1
MW–2
TPHg–ND
B–ND
T–ND
E–ND
X–ND
MW–1
MW–3
MW–4
TPHg–120,000
B–8,800
T–14,000
E–2,100
X–11,000
TPHg–ND
B–1.1
T–1.6
E–ND
X–1.9
SCALE
0
40 FEET
LEGEND
APPROXIMATE LOCATION OF MONITORING WELLS
TPHg – TOTAL PETROLEUM HYDROCARBONS AS GASOLINE (ppb)
B – BENZENE (ppb)
T – TOLUENE (ppb)
E – ETHYLBENZENE (ppb)
X – TOTAL XYLENES (ppb)
APPROXIMATE DIRECTION OF GROUND WATER FLOW
ESE
A GLEGG COMPANY
Environmental Science & Engineering, Inc.
HERTZ/OAKLAND AIRPORT
OAKLAND, CALIFORNIA
FIGURE 3
CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUND WATER, SEPTEMBER 1, 1992
DRAWN BY CVS
APPROVED BY
REVISED 9/92 KAL
DATE 9/91
FILE NAME 52284003
PROJ. NO. 6–91–5228

APPENDIX A

WELL PURGING AND SAMPLING DATA

WELL PURGING AND SAMPLING DATA

Date: 9/1/92 Project Number: 6-91-5228 Project Name: Hertz

Well Number: MW-7 Boring Diameter: _____ Casing Diameter: 2"

Column of Fluid in Well

MW-2

depth to product	Ø
depth to water	3.94
total depth of well	14.22
column of product	Ø
column of water	10.28

Volume to be Removed

gal per ft Annular Space	=
column of water	X
volume of annular space	=
gal per ft of casing	=
column of water	X
volume of casing	= 1.70
total volume	=
number of vol to remove	X 3
total vol to remove	= 5

method of measuring fluid Well Sounder

method of purging well 2" Grundfos rate _____

method of decon Alconox & Water

Physical appearance of water (clarity, color, particulates, odor)

Initial	Cloudy	Brown	Yes	No
During				
Final				

Field Analysis

	Initial	During		Final
time				
conductivity	2.98	3.09		4.06
pH	7.74	7.55		7.42
temperature	75.2 (2)	75.1 (4)		74.8 (6)

method of measurement Hydac 9.

Total volume purged 6.8 gal. Comments _____

Sample Number MW-7 Amount of Sample 6 Vocs.

Signed/Sampler [signature] Date _____

Signed/Reviewer _____ Date _____

WELL PURGING AND SAMPLING DATA

Date: 9/1/92 Project Number: 6-91-5228 Project Name: Hertz

Well Number: MW-2 Boring Diameter: _____ Casing Diameter: 2"

Column of Fluid in Well

MW-1

depth to product	Ø
depth to water	4.90'
total depth of well	14.86'
column of product	Ø
column of water	9.96

Volume to be Removed

gal per ft Annular Space	=
column of water	X
volume of annular space	=
gal per ft of casing	=
column of water	X 9.96
volume of casing	=
total volume	= 1.65
number of vol to remove	X 3
total vol to remove	= 5gal.

method of measuring fluid Well Sounder

method of purging well 2" Grundfos. rate 2gpm

method of decon Alconox & Water

Physical appearance of water (clarity, color, particulates, odor)

Initial	Clear	Clear	NO	NO
During				
Final				

Field Analysis	Initial	During		Final
time				
conductivity	2067	2046		2062
pH	8.13	8.04		~~7.78~~ 7.69
temperature	80.5 (2)	80.1 (4)		77.2 (6)

method of measurement Hydac 9

Total volume purged 6gal Comments _____

Sample Number MW-2 Dup Amount of Sample 3 VOAs

Signed/Sampler _____ Date _____

Signed/Reviewer _____ Date _____

WELL PURGING AND SAMPLING DATA

Date: 9/1/92 Project Number: 6-97-5228 Project Name: Hurtz

Well Number: MW-3 Boring Diameter: _____ Casing Diameter: 2"

Column of Fluid in Well

depth to product	Ø
depth to water	4.45'
total depth of well	14.44
column of product	Ø
column of water	9.99

Volume to be Removed

gal per ft Annular Space =	
column of water X	
volume of annular space =	
gal per ft of casing =	
column of water X	
volume of casing =	
total volume =	1.65
number of vol to remove X	3
total vol to remove =	4.95

method of measuring fluid Well Sounder

method of purging well 2" Grund fos. rate _____

method of decon Alconox & Water

Physical appearance of water (clarity, color, particulates, odor)

Initial	Cloudy	Gray	Yes	NO
During	Clear	Clear	NO	NO
Final				

Field Analysis	Initial	During		Final
time				
conductivity	11.20	5.70		6.11
pH	7.80	7.65		7.56
temperature	75.8 (2)	75.1 (4)		74.9° (6)

method of measurement Hydac 9v

Total volume purged 6 gal Comments _____

Sample Number MW-3 Amount of Sample 3 Vials

Signed/Sampler Dan Mason Date _____

Signed/Reviewer _____ Date _____

WELL PURGING AND SAMPLING DATA

Date: 9/1/92 Project Number: 6-91-5228 Project Name: Hart

Well Number: MW-4 Boring Diameter: _____ Casing Diameter: 4"

Column of Fluid in Well

depth to product 0

depth to water 5.09'

total depth of well 7.82'

column of product 0

column of water 2.73'

Volume to be Removed

gal per ft Annular Space	=	
column of water	X	
volume of annular space	=	
gal per ft of casing	=	
column of water	X	
volume of casing	=	
total volume	=	.45
number of vol to remove	X	3
total vol to remove	=	1.35

method of measuring fluid Well Sounder

method of purging well 2" Grund fos. rate _____

method of decon Alconox & Water

Physical appearance of water (clarity, color, particulates, odor)

Initial Clear Clear NO ~~Yes~~ Yes (Strong) Gas

During _____

Final _____

Field Analysis	Initial	During		Final
time				
conductivity				
pH				
temperature				

method of measurement _____

Total volume purged 2 gal. Comments _____

Sample Number MW-4 Amount of Sample 3 Vials

Signed/Sampler _____ Date _____

Signed/Reviewer _____ Date _____

APPENDIX B

ANALYTICAL RESULTS AND CHAIN OF CUSTODY DOCUMENTATION

DUPLICATE

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

DATE RECEIVED: 09/02/92
DATE REPORTED: 09/15/92

LABORATORY NUMBER: 108521

CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING

PROJECT ID: 6-91-5228

LOCATION: HERTZ OAKLAND

RESULTS: SEE ATTACHED

Reviewed by

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 108521
CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING
PROJECT ID: 6-91-5228
LOCATION: HERTZ OAKLAND

DATE SAMPLED: 09/01/92
DATE RECEIVED: 09/02/92
DATE ANALYZED: 09/10/92
DATE REPORTED: 09/15/92

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)
108521-4	MW-4	120,000	8,800	14,000	2,100	11,000

QA/QC SUMMARY

RPD, %	10
RECOVERY, %	112

Curtis & Tompkins, Ltd

LABORATORY NUMBER: 108521
CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING
PROJECT ID: 6-91-5228
LOCATION: HERTZ OAKLAND

DATE SAMPLED: 09/01/92
DATE RECEIVED: 09/02/92
DATE ANALYZED: 09/09/92
DATE REPORTED: 09/15/92

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)
108521-5	DUP	68	2.8	4.2	1.0	4.3

QA/QC SUMMARY

RPD, %	3
RECOVERY, %	120

Curtis & Tompkins, Ltd

LABORATORY NUMBER: 108521
CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING
PROJECT ID: 6-91-5228
LOCATION: HERTZ OAKLAND

DATE SAMPLED: 09/01/92
DATE RECEIVED: 09/02/92
DATE ANALYZED: 09/05/92
DATE REPORTED: 09/15/92

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)
108521-1	MW-1	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)
108521-2	MW-2	56	2.0	3.0	0.8	3.1
108521-3	MW-3	ND(50)	1.1	1.6	ND(0.5)	1.9

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

QA/QC SUMMARY

RPD, %	1
RECOVERY, %	122

10852.

CHAIN OF CUSTODY RECORD

DATE 9/1/92 PAGE 1 OF 1

PROJECT NAME Hertz Oakland

ADDRESS Oakland Airport

PROJECT NO. 6-91-5228

SAMPLED BY Paul Marsden

LAB NAME C & T

Environmental Science & Engineering, Inc.

A CH2M HILL Company

4090 Nelson Avenue
Suite J
Concord, CA 94520

(415) 685-4053

Fax (415) 685-5323

ANALYSES TO BE PERFORMED

SAMPLE #	DATE	TIME	LOCATION	TPHgas BTEX	MATRIX	NUMBER OF CONTAINERS	REMARKS (CONTAINER, SIZE, ETC.)
MW-1	9/1/92	1605	Oakland	X	Water	3	Voas.
MW-2	|	1550	|	X	|	3	|
MW-3	|	1600	|	X	|	3	|
MW-4	|	1610	|	X	|	3	|
Dup	|	1550	|	X	|	3	|

15 TOTAL NUMBER OF CONTAINERS

RELINQUISHED BY: (signature)	RECEIVED BY: (signature)	date	time
1. M. Quill FOR PFM	M. Quill	9/1/92	1600
2. M. Quill	Mary Carpenter	9/2/92	0750
3. Mary Carpenter	[illegible signature]	9-2-92	10:25
4.			
5.			

REPORT RESULTS TO: Mike Q.

SPECIAL SHIPMENT REQUIREMENTS

SAMPLE RECEIPT

CHAIN OF CUSTODY SEALS	
REC'D GOOD CONDTN/COLD	✓
CONFORMS TO RECORD	✓

INSTRUCTIONS TO LABORATORY (handling, analyses, storage, etc.):

Standard Turnaround.