REPORT OF FINDINGS
SECOND QUARTER 1994
GROUND WATER MONITORING
HERTZ SERVICE CENTER
NO. 1 AIRPORT DRIVE
OAKLAND, ALAMEDA COUNTY, CALIFORNIA

ESE PROJECT #6-93-5181

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

August 9, 1994

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 No. 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 regarding professional advice provided in this report.

REPORT PREPARED BY:

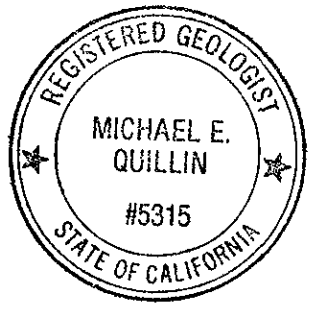
Christopher H. Valcheff
Staff Geologist

SEPT. 22, 1994
DATE

UNDER THE PRIMARY REVIEW AND SUPERVISION OF:

Michael E. Quillin
Senior Hydrogeologist
California Registered Geologist No. 5315

SEPT. 22, 1994
DATE



ESE PROJECT #6-93-5181

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1.0 INTRODUCTION

This report presents the results of the Second Quarter 1994 ground water monitoring activities conducted by Environmental Science & Engineering, Inc. (ESE) at the Hertz Service Center, No. 1 Airport Drive, Oakland, Alameda County, California ("site"). The site is an active rental car service and fueling facility located at the Oakland International Airport (Figure 1 - Site Plan). Ground water monitoring activities included the collection of depth to ground water measurements and collecting and analyzing ground water samples from five existing on-site wells (MW-1, MW-2, MW-3, MW-4, and MW-5; Figure 1) and four existing off-site wells (MW-6, MW-7, MW-8, and MW-9; Figure 1). Field activities were conducted in June 1994.

ESE summarized the 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 investigations conducted by ESE, including the installation of ground water monitoring well MW-4 in February 1992 and wells MW-5 and MW-6 in October 1992, were summarized in the First Quarter 1992 Monitoring Report (1992a) and Fourth Quarter 1992 Monitoring Report (ESE, 1992b), respectively. Three additional wells (MW-7, MW-8, and MW-9) were installed in May 1993 in association with an additional subsurface investigation. The results of that investigation are summarized in the Second Quarter 1993 Ground Water Monitoring and Subsurface Investigation Report (ESE, 1993). ESE has conducted quarterly monitoring activities at the site since August 1991.

During ESE's investigation at the site, two off site underground storage tanks (USTs), operated by the Port of Oakland and the FAA for emergency fuel storage, were identified. These USTs, of 8000- and 1000-gallon capacity, respectively, are shown on Figure 1. It has not been determined if these USTs are routinely tested for integrity. they are routinely tested.

2.0 GROUND WATER MONITORING

2.1 GROUND WATER ELEVATIONS

On June 6, 1994, ESE measured static water levels in the nine wells using an electric water level tape. Measurements were made relative to the surveyed datum for each well. ESE calculated relative ground water elevations for the purpose of preparing a ground water elevation contour map, from which ESE estimated the general direction and magnitude of the ground water gradient in the vicinity of the site. Field documentation of water level measurements are included with well purging results in Appendix A - Well Purging and Sampling Data.

2.2 GROUND WATER SAMPLING AND ANALYSIS

Ground water samples were collected from each of the wells after they were purged of approximately three casing volumes in accordance with ESE Standard Operating Procedure (SOP) No. 3 for Ground Water Monitoring and Sampling from Monitoring Wells (Appendix B). Samples were analyzed by Sequoia Analytical (Sequoia), a State-certified laboratory, for total petroleum hydrocarbons as gasoline (TPHg) with benzene, toluene, ethylbenzene, and total xylenes (BTEX) distinction using EPA Method 5030/8015/8020, and for total extractable petroleum hydrocarbons (TPHd) using EPA Method 3510/3520/8015. Analysis for TPHd is intended to identify diesel fuels and other non-volatile petroleum hydrocarbons outside the gasoline range.

As a measure of field quality assurance and quality control (QA/QC), ESE collected a duplicate sample from well MW-6 as a means of evaluating sample homogeneity and to provide a check on ESE's sample collection procedures. The duplicate sample also serves as check on analytical laboratory procedures. In addition, a laboratory-supplied trip blank consisting of deionized water was kept and transported to Sequoia in the same cooler with the ground water samples for the purpose of evaluating ESE's sample handling and transport procedures.

3.0 RESULTS

3.1 GROUND WATER PHYSICAL RESULTS

Table 1 presents a historical summary of ground water elevation data, inclusive of the current monitoring event. Ground water elevation contours based on the June 1994 monitoring data are shown on Figure 2 - Ground Water Elevations, June 6, 1994. The ground water elevation in all wells at the site except MW-7 decreased between 0.04 and 0.21 feet since the March 1994 monitoring event. The ground water elevation in well MW-7 increased 0.03 feet over the same period. The direction of ground water flow was estimated to be generally to the southwest at a gradient of approximately 0.02 (106 feet/mile). The ground water flow direction and gradient are generally consistent with previous findings. No free phase petroleum hydrocarbons (free product) were observed in any of the wells.

3.2 GROUND WATER CHEMICAL RESULTS

Current analytical results are summarized along with historical data in Table 1 and graphically presented on Figure 3 - Concentrations of Petroleum Hydrocarbons in Ground Water, June 6, 1994. The laboratory report and chain of custody documentation are presented in Appendix C - Laboratory Reports and Chain of Custody Documentation for Ground Water Samples. Based on these laboratory results, the estimated extent of petroleum hydrocarbons in ground water in the vicinity of the site is shown on Figure 4.

The results presented in Table 1 show no notable change in the TPHg and BTEX range constituent concentrations since the March 1994 monitoring event, with the exception of wells MW-4 and MW-6. Well MW-4 showed an increase in concentrations of TPHg and BTEX and well MW-6 showed a decrease in TPHg and BTX. There was no change in ethylbenzene concentration in ground water samples collected from well MW-6 during this and the March 1994 sampling events. TPHd concentrations increased in wells MW-6 and MW-9 and decreased in wells MW-1 and MW-5 since the March 1994 sampling event.

Based on the laboratory report presented in Appendix C, TPHd detected in ground water samples collected from wells located directly downgradient of the former USTs and existing fuel dispenser at the site (MW-4, MW-5, MW-6, and MW-9) were identified by Sequoia as a diesel and unidentified hydrocarbon (<C14) mixture.

Analytical results for the duplicate sample collected from MW-6 for QA/QC purposes (Dup; Table 1 and Appendix C) were within an acceptable range of relative percent difference when compared to the results for MW-6.

4.0 CONCLUSIONS

- Consistent with previous findings, the direction of ground water flow beneath the site is toward the southwest, at a gradient of 0.02. This flow direction is expected to also represent the general direction of migration for dissolved petroleum hydrocarbons in ground water. This interpretation is consistent with the observed lateral extent of petroleum hydrocarbons in ground water beneath the site.

- TPHg and BTEX concentrations and distribution in ground water beneath the site have generally remained consistent with the March 1994 monitoring event results.

- The decrease in TPHd constituent concentrations in samples from wells MW-1 and MW-5, and the concurrent increase in TPHd concentrations in wells MW-6 and MW-9, implies that TPHd in ground water is migrating downgradient.

- The source of TPHg and BTEX in ground water samples collected from wells MW-4 and MW-6 at the site appears to be the area of the former Hertz USTs and/or the existing fuel dispensers. The source of TPHd in ground water has not been identified, however diesel fuel USTs are located immediately off site to the west.

5.0 REFERENCES

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

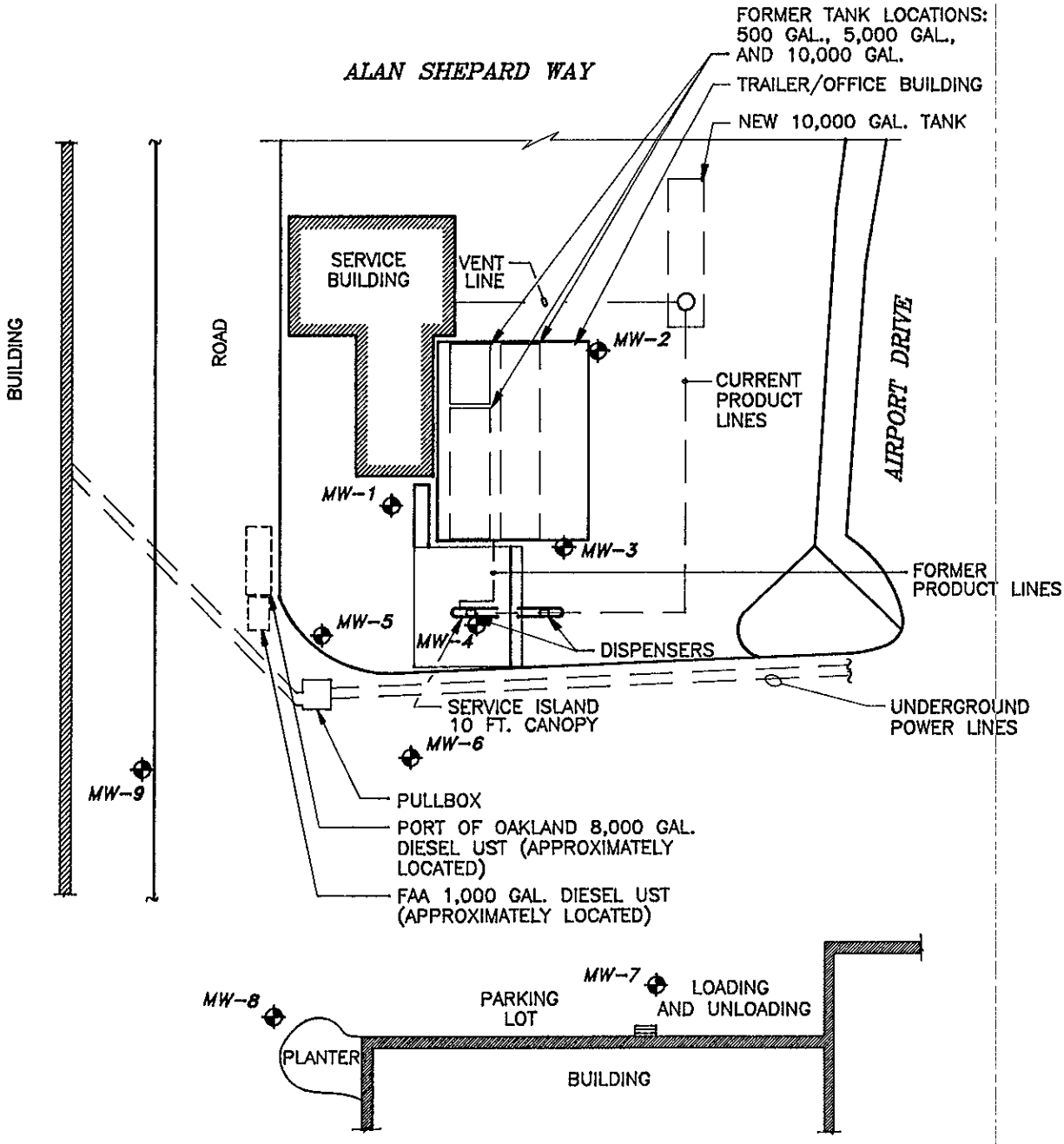
_____ , 1991b, November 1991 Quarterly Monitoring Report for Hertz Service Center, #1 Airport Drive, Oakland, Alameda County, California, December 11, 1991.

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

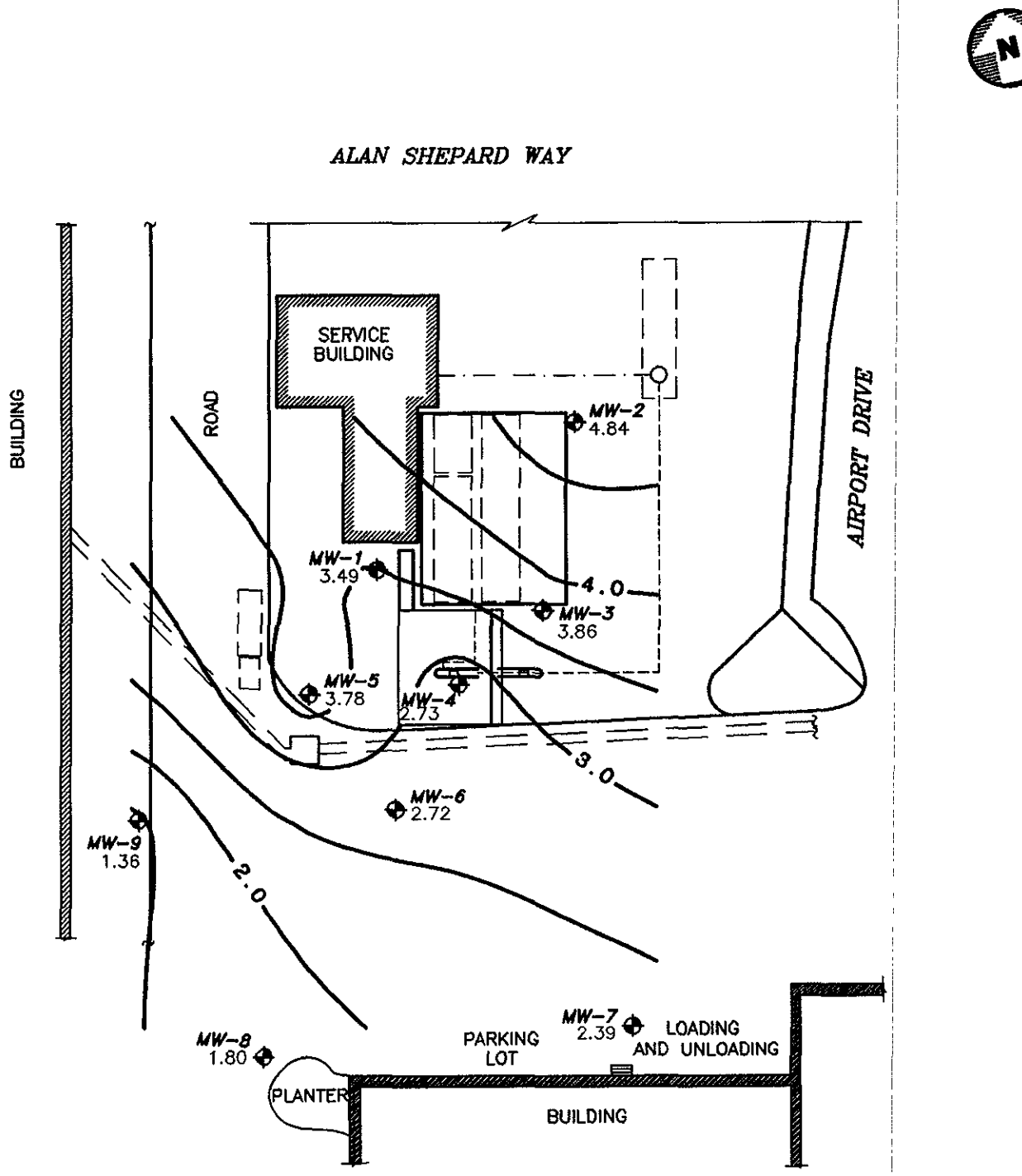
_____ , 1992b, December 1992 Quarterly Monitoring Report for Hertz Service Center, #1 Airport Drive, Oakland, Alameda County, California, December 9, 1992.

_____ , 1993, Second Quarter 1993 Ground Water Monitoring and Subsurface Investigation Report for Hertz Service Center, #1 Airport Drive, Oakland, Alameda County, California, July 1, 1993.

FIGURES



Environmental Science & Engineering, Inc. (A CILCORP Company)	DATE 1/94	SITE PLAN	FIGURE NO. 1
4090 NELSON AVENUE, SUITE J CONCORD, CA 94520	REVISED	HERTZ/OAKLAND AIRPORT OAKLAND, CALIFORNIA	PROJ. NO. 6-93-5181
	CAD FILE 51814004		

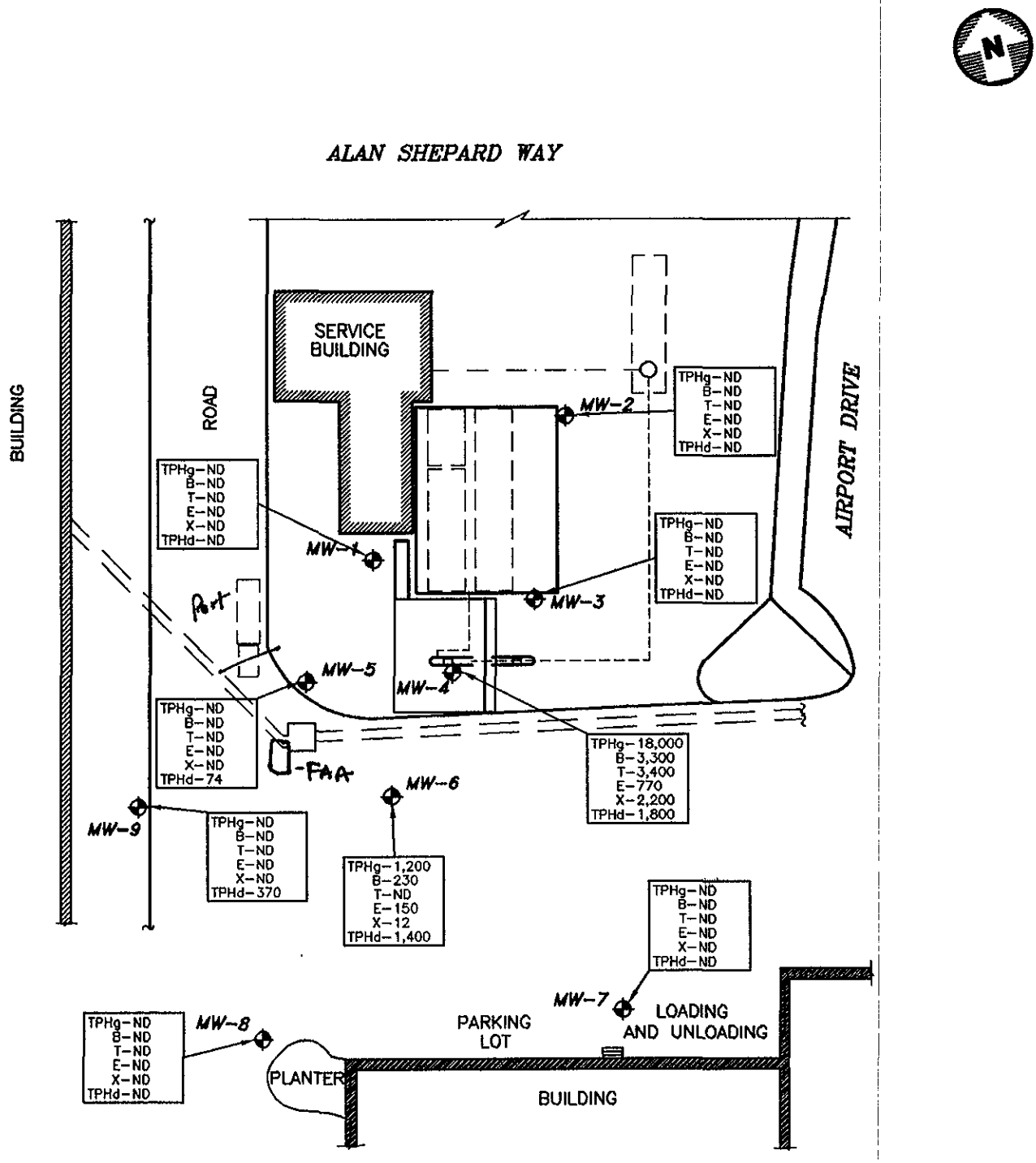


LEGEND

- EXISTING MONITORING WELLS AND GROUND WATER ELEVATIONS
- GROUND WATER ELEVATION CONTOUR IN FEET
- INTERPRETED GENERAL DIRECTION OF GROUND WATER FLOW

SCALE
0 40 FEET

Environmental Science & Engineering, Inc. A CDM Company	DATE 1/94 REVISED 6/28/94	GROUND WATER ELEVATIONS JUNE 6, 1994	FIGURE NO. 2
4090 NELSON AVENUE, SUITE J CONCORD, CA 94520	CAD FILE 51814001	HERTZ OAKLAND AIRPORT OAKLAND, CALIFORNIA	PROJ. NO. 6-93-5181



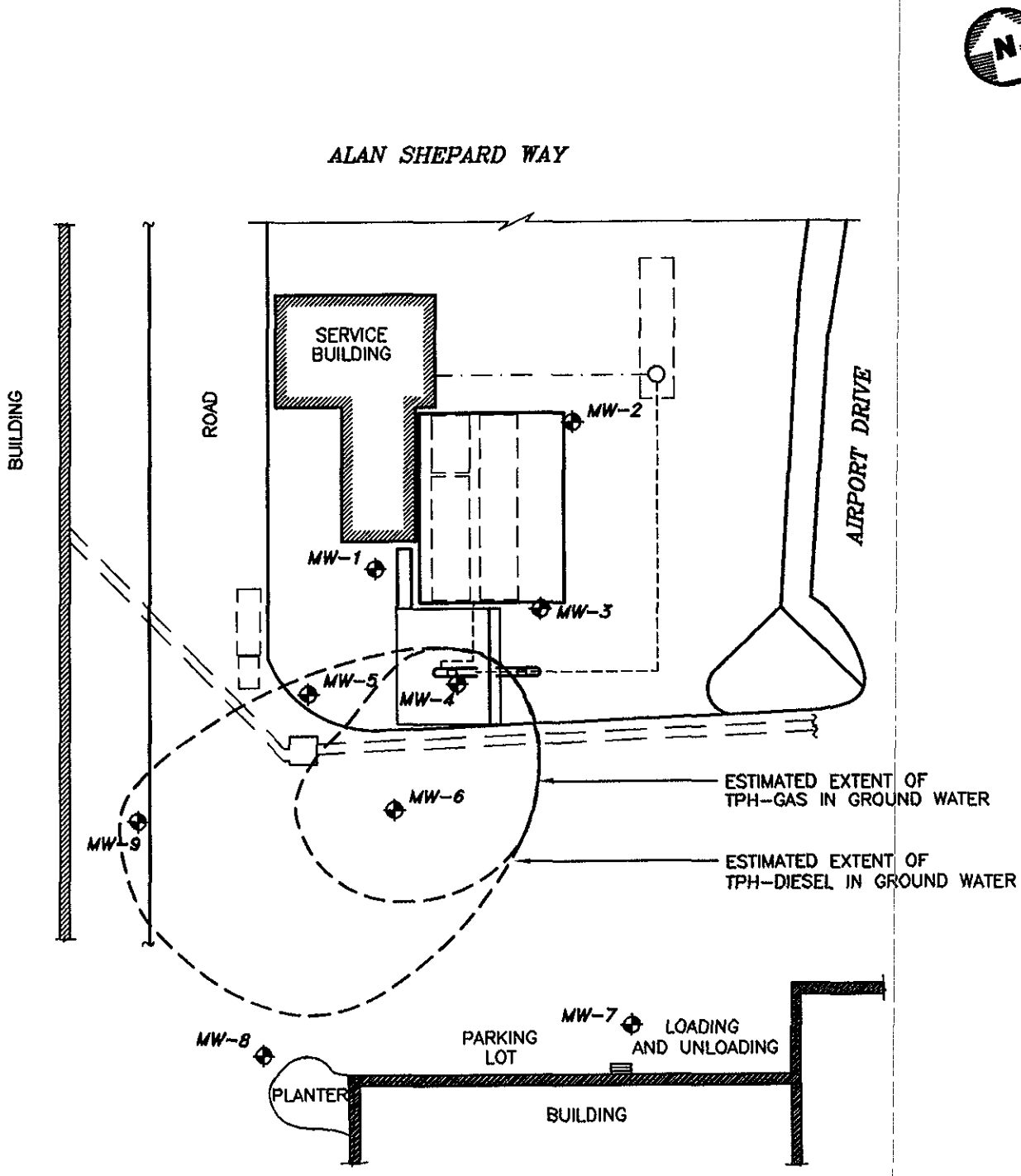
LEGEND

◈ EXISTING MONITORING WELLS

TPHg	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE (ppb)
B	BENZENE (ppb)
T	TOLUENE (ppb)
E	ETHYLBENZENE (ppb)
X	TOTAL XYLENES (ppb)
TPHd	TOTAL PETROLEUM HYDROCARBONS AS DIESEL (ppb)

SCALE
0 40 FEET

Environmental Science & Engineering, Inc. A CH2M HILL Company 4090 NELSON AVENUE, SUITE J CONCORD, CA 94520	DATE 1/94 REVISED 6/29/94 CAD FILE 51814002	CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUND WATER JUNE 6, 1994 HERTZ OAKLAND AIRPORT OAKLAND, CALIFORNIA	FIGURE NO. 3 PROJ. NO. 6-93-5181



ESE Environmental Science & Engineering, Inc.	DATE 1/94	APPROXIMATE EXTENT OF PETROLEUM HYDROCARBONS IN GROUND WATER JUNE 6, 1994	FIGURE NO. 4
4090 NELSON AVENUE, SUITE J CONCORD, CA 94520	REVISED 6/29/94	HERTZ OAKLAND AIRPORT OAKLAND, CALIFORNIA	PROJ. NO. 6-93-5181
	CAD FILE 51814003		

TABLE

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		
06/06/94	MW-1	3.49						--	ND	--	ND	ND	ND	ND	ND	--	--
	MW-2	4.84						--	ND	--	ND	ND	ND	ND	ND	--	--
	MW-3	3.86						--	ND	--	ND	ND	ND	ND	ND	--	--
	MW-4	2.73						--	18,000	--	1,800	3,300	3,400	770	2,200	--	--
	MW-5	3.78			Not			--	ND	--	74	ND	ND	ND	ND	--	--
	MW-6	2.72			Analyzed			--	1,200	--	1,400	230	ND	150	12	--	--
	DUP	-						--	1,400	--	1,000	490	3.4	180	16	--	--
	MW-7	2.39						--	ND	--	ND	ND	ND	ND	ND	--	--
	MW-8	1.80						--	ND	--	ND	ND	ND	ND	ND	--	--
	MW-9	1.36						--	ND	--	370	ND	ND	ND	ND	--	--
	TRIP	-						--	-	--	--	--	--	--	--	--	--
03/01/94	MW-1	3.53						--	ND	--	110	ND	ND	ND	ND	--	--
	MW-2	4.89						--	ND	--	ND	ND	ND	ND	ND	--	--
	MW-3	3.97						--	ND	--	ND	ND	ND	ND	ND	--	--
	MW-4	2.81						--	680	--	1,800	150	130	40	90	--	--
	MW-5	3.90			Not			--	ND	--	97	ND	ND	ND	ND	--	--
	DUP	--			Analyzed			--	ND	--	97	ND	ND	ND	ND	--	--
	MW-6	2.82						--	1,300	--	990	250	8.4	150	24	--	--
	MW-7	2.36						--	ND	--	ND	ND	ND	ND	ND	--	--
	MW-8	1.86						--	ND	--	ND	ND	ND	ND	ND	--	--
	MW-9	1.57						--	ND	--	ND	ND	ND	ND	ND	--	--
	TRIP	--						--	--	--	--	ND	ND	ND	ND	--	--
12/02/93	MW-1	2.91						--	ND	--	ND	ND	ND	ND	ND	--	--
	MW-2	4.44						--	ND	--	ND	ND	ND	ND	ND	--	--
	MW-3	3.60						--	ND	--	ND	ND	ND	ND	ND	--	--
	MW-4	2.39						--	21,000	--	770	3,500	3,800	640	2,000	--	--
	MW-5	3.40			Not			--	ND	--	60	ND	ND	ND	ND	--	--
	MW-6	2.36			Analyzed			--	280	--	700	11	1.0	65	3.0	--	--
	MW-7	2.15						--	ND	--	ND	ND	ND	ND	ND	--	--
	MW-8	1.31						--	ND	--	54	ND	ND	ND	ND	--	--
	DUP	--						--	ND	--	ND	ND	ND	ND	ND	--	--
	MW-9	1.02						--	ND	--	72	ND	ND	ND	ND	--	--
	TRIP	--						--	--	--	--	ND	ND	ND	ND	--	--

TABLE 1 (Continued...)

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		
05/27/93	MW-1	3.31						–	ND	–	ND	ND	ND	ND	ND	–	–
	MW-2	4.82						–	ND	–	ND	ND	ND	ND	ND	–	–
	MW-3	3.84						–	ND	–	55	ND	ND	ND	ND	–	–
	MW-4	2.78						–	48,000	–	4,900	6,300	7,200	1,600	6,800	–	–
	MW-5	3.88			Not			–	ND	–	75	ND	ND	ND	ND	–	–
	MW-6	2.82			Analyzed			–	1,300	–	960	370	ND	87	19	–	–
	MW-7	2.35						–	ND	–	76	ND	ND	ND	ND	–	–
	MW-8	1.91						–	ND	–	91	ND	ND	ND	ND	–	–
	MW-9	1.58						–	ND	–	72	ND	ND	ND	ND	–	–
	DUP (MW-9)	–						–	ND	–	85	ND	ND	ND	ND	–	–
02/03/93	MW-1	3.34						–	ND	–	–	ND	ND	ND	ND	–	–
	MW-2	4.84						–	ND	–	–	ND	ND	ND	ND	–	–
	MW-3	4.03						–	ND	–	–	ND	ND	ND	ND	–	–
	MW-4	2.89			Not			–	50,000	–	–	4,700	5,000	1,500	6,600	–	–
	MW-5	–			Analyzed			–	–	–	–	–	–	–	–	–	–
	MW-6	2.90						–	330	–	–	120	2.8	19	5.3	–	–
	DUP (MW-6)	–						–	2,100	–	–	110	5.2	19	14	–	–
11/05/92	MW-1	2.39						–	ND	–	–	ND	ND	ND	ND	–	–
	MW-2	4.05						–	ND	–	–	ND	ND	ND	ND	–	–
	MW-3	3.07						–	ND	–	–	ND	ND	ND	ND	–	–
	MW-4	1.88			Not			–	24,000	–	–	2,600	3,300	510	2,100	–	–
	MW-5	3.00			Analyzed			–	ND	ND	170	ND	ND	ND	ND	–	–
	MW-6	1.89						–	820	240	D	250	ND	5.9	ND	–	–
	DUP (MW-4)	–						–	14,000	–	–	2,100	1,400	370	1,100	–	–

TABLE 1 (Continued...)

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						–	ND	–	–	ND	ND	ND	ND	–	–
	MW-2	4.15						–	56	–	–	2.0	3.0	0.8	3.1	–	–
	MW-3	3.21			Not			–	ND	–	–	1.1	1.6	ND	1.9	–	–
	MW-4	3.14			Analyzed			–	120,000	–	–	8,800	14,000	2,100	11,000	–	–
	DUP (MW-2)	–						–	68	–	–	2.8	4.2	1.0	4.3	–	–
05/13/92	MW-1	2.93						–	ND	–	–	ND	ND	ND	ND	–	–
	MW-2	4.66						–	ND	–	–	ND	ND	ND	ND	–	–
	MW-3	3.64			Not			–	ND	–	–	ND	ND	ND	ND	–	–
	MW-4	3.57			Analyzed			–	62,000	–	–	3,400	5,200	990	5,200	–	–
	DUP	–						–	61,000	–	–	3,300	5,200	920	5,200	–	–
	TRIP	–						–	ND	–	–	ND	ND	ND	ND	–	–
Historical Data Archived in ESE Report of January 1994																	

Notes:

MSL = Mean Sea Level
ND = Not detected
ppm = Parts per million
ppb = Parts per billion
– = Not analyzed
+ = Detection limit for TPH-D is 50 ppb. Duplicate sample analyzed contained ND or <50 ppb.
D = Diesel range not reported. Quantified as kerosene range.
' = Trip blank was broken in transit to laboratory

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

APPENDIX A

WELL PURGING AND SAMPLING DATA

Environmental Science & Engineering, Inc.
A CILCORP Company

SAMPLE COLLECTION LOG

PROJECT NAME: HERTZ-OAKLAND
PROJECT NO.: 6-93-5181
DATE: JUNE 6, 1994

SAMPLE LOCATION I.D.: MW-1
SAMPLER: CHRIS VALCHEFF
PROJECT MANAGER: MIKE QUILLIN

CASING DIAMETER

2" X
4"
Other

SAMPLE TYPE

Ground Water X
Surface Water
Treat. Influent
Treat. Effluent
Other

WELL VOLUMES PER UNIT

Well Casing I.D. (inches)	Gal/Ft.
2.0	0.1632
4.0	0.6528
6.0	1.4690

DEPTH TO PRODUCT: NA (ft.)
DEPTH TO WATER: 3.96 (ft.)
DEPTH OF WELL: 14.88 (ft.)

PRODUCT THICKNESS: NA (ft.)
WATER COLUMN: 10.92 (ft.)
WELL CASING VOLUME: 1.78 (gal)

MINIMUM PURGE VOLUME (3 or 4 WCV): 5.35 (gal)
ACTUAL VOLUME PURGED: 5.5 (gal)

TIME	Volume (GAL)	pH (Units)	E.C. (Micromhos)	Temperature (F°)	Turbid. (NTU)	Other
1050	0	8.89	1.04	66.8	—	BLACK-SILTY
1053	1.5	8.68	1.08	67.5	—	"
1055	3.0	8.56	1.16	66.9	—	"

INSTRUMENT CALIBRATION

pH/COND./TEMP.:	TYPE HYDAC	UNIT# 9308B	DATE: 6-6-94	TIME: 0700	BY: CHV
TURBIDITY:	TYPE	UNIT#	DATE:	TIME:	BY:

PURGE METHOD

___Displacement Pump
___Bailer (Teflon/PVC/SS)
X Other-DISP. BAILER
___Submersible Pump

SAMPLE METHOD

___Bailer (Teflon/PVC/SS)
X Bailer (Disposable)
___Dedicated
___Other

SAMPLES COLLECTED

	ID	TIME	DATE	LAB	ANALYSES
SAMPLE	MW-1	1105	6-6-94	SEQUOIA	TPH-G/BTEX/TPH-D
DUPLICATE					
SPLIT					
FIELD BLANK					

COMMENTS:

SAMPLER: Chris Valcheff
PROJECT MANAGER: M. Quillin

4080 Nelson Avenue, Suite J Concord, CA 94520 Phone (510) 685-4855 Fax (510) 685-5323

Environmental Science & Engineering, Inc.
A CRCORP Company

SAMPLE COLLECTION LOG

PROJECT NAME: HERTZ- OAKLAND
PROJECT NO.: 6-93-5181
DATE: JUNE 6, 1994

SAMPLE LOCATION I.D.: MW-2
SAMPLER: CHRIS VALCHEFF
PROJECT MANAGER: MIKE QUILLIN

CASING DIAMETER

2" X
4"
Other

SAMPLE TYPE

Ground Water X
Surface Water
Treat. Influent
Treat. Effluent
Other

WELL VOLUMES PER UNIT

Well Casing I.D. (inches)	Gal/Ft.
2.0	0.1632
4.0	0.6528
6.0	1.4690

DEPTH TO PRODUCT: NA (ft.)
DEPTH TO WATER: 3.25 (ft.)
DEPTH OF WELL: 14.12 (ft.)

PRODUCT THICKNESS: NA (ft.)
WATER COLUMN: 10.87 (ft.)
WELL CASING VOLUME: 1.77 (gal)

MINIMUM PURGE VOLUME (3 or 4 WCV): 5.32 (gal)
ACTUAL VOLUME PURGED: 5.50 (gal)

TIME	Volume (GAL)	pH (Units)	E.C. x1000 (Micromhos)	Temperature (F°)	Turbid. (NTU)	Other
0936	0	7.04	1.71	67.6	—	CLEAR
0938	2	6.19	1.30	67.0	~	"
0941	4	6.15	1.76	66.5	—	"

INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE HYDAC UNIT# 93083 DATE: 6-6-94 TIME: 0700 BY: CHV
TURBIDITY: TYPE ____ UNIT# ____ DATE: ____ TIME: ____ BY: ____

PURGE METHOD

___Displacement Pump
___Bailer (Teflon/PVC/SS)
X Other- DISP. BAILER
___Submersible Pump

SAMPLE METHOD

___Bailer (Teflon/PVC/SS)
X Bailer (Disposable)
___Dedicated
___Other

SAMPLES COLLECTED

	ID	TIME	DATE	LAB	ANALYSES
SAMPLE	MW-2	0951	6-6-94	SEQUOIA	TPH-G/BTEX/TPH-D
DUPLICATE					
SPLIT					
FIELD BLANK					

COMMENTS:

SAMPLER: Chris Valcheff
PROJECT MANAGER: M. Quillin

4080 Nelson Avenue, Suite J Concord, CA 94520 Phone (510) 685-4057 FAX (510) 685-5323

Environmental Science & Engineering, Inc.
A CILCORP Company

SAMPLE COLLECTION LOG

PROJECT NAME: HERTZ- OAKLAND
PROJECT NO.: 6-93-5181
DATE: JUNE 6, 1994

SAMPLE LOCATION I.D.: MW-3
SAMPLER: CHRIS VALCHEFF
PROJECT MANAGER: MIKE QUILLIN

CASING DIAMETER

2" X
4"
Other

SAMPLE TYPE

Ground Water X
Surface Water
Treat. Influent
Treat. Effluent
Other

WELL VOLUMES PER UNIT

Well Casing I.D. (inches)	Gal/Ft.
2.0	0.1632
4.0	0.6528
6.0	1.4690

DEPTH TO PRODUCT: NA (ft.)
DEPTH TO WATER: 3.90 (ft.)
DEPTH OF WELL: 14.45 (ft.)

PRODUCT THICKNESS: NA (ft.)
WATER COLUMN: 10.65 (ft.)
WELL CASING VOLUME: 1.74 (gal)

MINIMUM PURGE VOLUME (3 or 4 WCV): 5.21 (gal)
ACTUAL VOLUME PURGED: 5.25 (gal)

TIME	Volume (GAL)	pH (Units)	E.C. x1000 (Micromhos)	Temperature (F°)	Turbid. (NTU)	Other
1003	0	9.01	9.62	69.6	—	CLEAR
1008	2	8.76	3.32	69.0	—	"
1011	4	8.77	5.64	69.3	—	"

INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE HYDAC UNIT# 93008 DATE: 6-6-94 TIME: 0700 BY: CHV
TURBIDITY: TYPE ____ UNIT# ____ DATE: ____ TIME: ____ BY: ____

PURGE METHOD

___Displacement Pump
___Bailer (Teflon/PVC/SS)
X Other- DISP. BAILER
___Submersible Pump

SAMPLE METHOD

___Bailer (Teflon/PVC/SS)
X Bailer (Disposable)
___Dedicated
___Other

SAMPLES COLLECTED

	ID	TIME	DATE	LAB	ANALYSES
SAMPLE	MW-3	1015	6-6-94	SEQUOIA	TPH-G/BTEX/TPH-D
DUPLICATE					
SPLIT					
FIELD BLANK					

COMMENTS:

SAMPLER: C. H. Valcheff
PROJECT MANAGER: M. Quillin

4090 Nelson Avenue, Suite I Concord, CA 94520 Phone (510) 685-4057 Fax (510) 685-5323

Environmental Science & Engineering, Inc.
A CILCORP Company

SAMPLE COLLECTION LOG

PROJECT NAME: HERTZ- OAKLAND
PROJECT NO.: 6-93-5181
DATE: JUNE 6 , 1994

SAMPLE LOCATION I.D.: MW-4
SAMPLER: CHRIS VALCHEFF
PROJECT MANAGER: MIKE GUILLIN

CASING DIAMETER

2" X
4"
Other

SAMPLE TYPE

Ground Water X
Surface Water
Treat. Influent
Treat. Effluent
Other

WELL VOLUMES PER UNIT

Well Casing I.D. (inches)	Gal/Ft.
2.0	0.1632
4.0	0.6528
6.0	1.4690

DEPTH TO PRODUCT: NA (ft.)
DEPTH TO WATER: 4.38 (ft.)
DEPTH OF WELL: 7.83 (ft.)

PRODUCT THICKNESS: NA (ft.)
WATER COLUMN: 3.45 (ft.)
WELL CASING VOLUME: 0.56 (gal)

MINIMUM PURGE VOLUME (3 or 4 WCV): 1.69 (gal)
ACTUAL VOLUME PURGED: 2.0 (gal)

TIME	Volume (GAL)	pH (Units)	E.C. (Micromhos)	Temperature (F°)	Turbid. (NTU)	Other
1124	0	7.81	1.69	65.2		CLEAR
1126	0.5	8.10	1.73	66.5	-	LT. BLACK/GREY - ODOR
1127	1.0	8.25	1.78	66.7	-	"

INSTRUMENT CALIBRATION

pH/COND./TEMP.:	TYPE HYDAC	UNIT#	DATE: 6-6-94	TIME: 0700	BY: CHV
TURBIDITY:	TYPE	UNIT#	DATE:	TIME:	BY:

PURGE METHOD

___Displacement Pump
X Other- DISP. BAILER
___Bailer (Teflon/PVC/SS)
___Submersible Pump

SAMPLE METHOD

___Bailer (Teflon/PVC/SS)
X Bailer (Disposable)
___Dedicated
___Other

SAMPLES COLLECTED

	ID	TIME	DATE	LAB	ANALYSES
SAMPLE	MW-4	1137	6-6-94	SEQUOIA	TPH-G/BTEX/TPH-D
DUPLICATE					
SPLIT					
FIELD BLANK					

COMMENTS:

SAMPLER: Chris Valcheff
PROJECT MANAGER: M. Guillin

4080 Nelson Avenue, Suite I Concord, CA 94520 Phone (510) 685-4035 Fax (510) 685-5023

Environmental Science & Engineering, Inc.
A CILCORP Company

SAMPLE COLLECTION LOG

PROJECT NAME: HERTZ- OAKLAND
PROJECT NO.: 6-93-5181
DATE: JUNE 6 , 1994

SAMPLE LOCATION I.D.: MW-5
SAMPLER: CHRIS VALCHEFF
PROJECT MANAGER: MIKE GUILLIN

CASING DIAMETER

2" X
4"
Other

SAMPLE TYPE

Ground Water X
Surface Water
Treat. Influent
Treat. Effluent
Other

WELL VOLUMES PER UNIT

Well Casing I.D. (inches)	Gal/Ft.
2.0	0.1632
4.0	0.6528
6.0	1.4690

DEPTH TO PRODUCT: NA (ft.)
DEPTH TO WATER: 3.98 (ft.)
DEPTH OF WELL: 10.84 (ft.)

PRODUCT THICKNESS: NA (ft.)
WATER COLUMN: 6.86 (ft.)
WELL CASING VOLUME: 1.12 (gal)

MINIMUM PURGE VOLUME (3 or 4 WCV): 3.36 (gal)
ACTUAL VOLUME PURGED: 3.5 (gal)

TIME	Volume (GAL)	pH (Units)	E.C. (Micromhos) x1000	Temperature (F°)	Turbid. (NTU)	Other
1027	0	8.55	2.17	69.7		clear
1029	1.5	8.00	1.91	69.8		TRANSLUCENT
1032	3.0	7.81	3.29	69.7		TI

INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE HYDAC UNIT# 73083 DATE: 6-6-94 TIME: 0700 BY: CHV
TURBIDITY: TYPE UNIT# DATE: TIME: BY:

PURGE METHOD

___Displacement Pump
___Bailer (Teflon/PVC/SS)
X Other- DISP. BAILER
___Submersible Pump

SAMPLE METHOD

___Bailer (Teflon/PVC/SS)
X Bailer (Disposable)
___Dedicated
___Other

SAMPLES COLLECTED

	ID	TIME	DATE	LAB	ANALYSES
SAMPLE	MW-5	1037	6-6-94	SEQUOIA	TPH-G/BTEX/TPH-D
DUPLICATE					
SPLIT					
FIELD BLANK					

COMMENTS:

SAMPLER: Chr H. Valch
PROJECT MANAGER M. Guill

4080 Nelson Avenue, Suite 1 Concord, CA 94520 Phone (510) 685-4075 Fax (510) 685-5253

Environmental Science & Engineering, Inc.

A CRCORP Company

SAMPLE COLLECTION LOG

PROJECT NAME: HERTZ - OAKLAND
PROJECT NO.: 6-93-5181
DATE: JUNE 6, 1994

SAMPLE LOCATION I.D.: MW-6
SAMPLER: CHRIS VALCHEFF
PROJECT MANAGER: MIKE GUILLIN

CASING DIAMETER

2" X
4" ____
Other ____

SAMPLE TYPE

Ground Water X
Surface Water ____
Treat. Influent ____
Treat. Effluent ____
Other ____

WELL VOLUMES PER UNIT

Well Casing I.D. (inches)	Gal/Ft.
2.0	0.1632
4.0	0.6528
6.0	1.4690

DEPTH TO PRODUCT: NA (ft.)
DEPTH TO WATER: 4.45 (ft.)
DEPTH OF WELL: 11.85 (ft.)

PRODUCT THICKNESS: NA (ft.)
WATER COLUMN: 7.4 (ft.)
WELL CASING VOLUME: 1.21 (gal)

MINIMUM PURGE VOLUME (3 or 4 WCV): 3.62 (gal)
ACTUAL VOLUME PURGED: 9.0 (gal)

TIME	Volume (GAL)	pH (Units)	E.C. (Micromhos) x1000	Temperature (F°)	Turbid. (NTU)	Other
9:13	0	7.56	3.65	71.3°		
9:14	3	5.40	3.34	69.1°		
9:45	6	5.13	3.05	68.4°		

INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE HYDAC UNIT# ____ DATE: 6-6-94 TIME: 0700 BY: CHV
TURBIDITY: TYPE ____ UNIT# ____ DATE: ____ TIME: ____ BY: ____

PURGE METHOD

___Displacement Pump
X Other - DISP. BAILER
___Bailer (Teflon/PVC/SS)
___Submersible Pump

SAMPLE METHOD

___Bailer (Teflon/PVC/SS)
X Bailer (Disposable)
___Dedicated
___Other

SAMPLES COLLECTED

	ID	TIME	DATE	LAB	ANALYSES
SAMPLE	MW-6	9:56	6-6-94	SEQUOIA	TPH-G/BTEX/TPH-D
DUPLICATE	DUP	9:56	6-6-94	"	"
SPLIT					
FIELD BLANK					

COMMENTS: ____

SAMPLER: Chris Valcheff
PROJECT MANAGER: M. Guillin

4080 Nelson Avenue, Suite 1 Concord, CA 94520 Phone (510) 685-4051 Fax (510) 685-5853

Environmental Science & Engineering, Inc.
A CILCORP Company

SAMPLE COLLECTION LOG

PROJECT NAME: HERTZ- OAKLAND
PROJECT NO.: 6-93-5181
DATE: JUNE 6 , 1994

SAMPLE LOCATION I.D.: MW-7
SAMPLER: CHRIS VALCHEFF
PROJECT MANAGER: MIKE GUILLIN

CASING DIAMETER

2" X
4"
Other

SAMPLE TYPE

Ground Water X
Surface Water
Treat. Influent
Treat. Effluent
Other

WELL VOLUMES PER UNIT

Well Casing I.D. (inches)	Gal/Ft.
2.0	0.1632
4.0	0.6528
6.0	1.4690

DEPTH TO PRODUCT: NA (ft.)
DEPTH TO WATER: 4.54 (ft.)
DEPTH OF WELL: [redacted] (ft.)

PRODUCT THICKNESS: NA (ft.)
WATER COLUMN: 5.69 (ft.)
WELL CASING VOLUME: 0.92 (gal)

MINIMUM PURGE VOLUME (3 or 4 WCV): 2.76 (gal)
ACTUAL VOLUME PURGED: 3.0 (gal)

TIME	Volume (GAL)	pH (Units)	E.C. (Micromhos) X1000	Temperature (F°)	Turbid. (NTU)	Other
10:10	0	7.57	1.45	70.7°		
10:16	1	7.41	1.42	69.1°		
10:25	2	7.39	1.40	69.3°		
10:28	3	7.38	1.40	69.9°		

INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE HYDAC UNIT#____ DATE: 6-6-94 TIME: 0700 BY: CHV
TURBIDITY: TYPE____ UNIT#____ DATE:____ TIME:____ BY:____

PURGE METHOD

___Displacement Pump
___Bailer (Teflon/PVC/SS)
X Other- DISP. BAILER
___Submersible Pump

SAMPLE METHOD

___Bailer (Teflon/PVC/SS)
X Bailer (Disposable)
___Dedicated
___Other

SAMPLES COLLECTED

	ID	TIME	DATE	LAB	ANALYSES
SAMPLE	MW-7	10:30	6-6-94	SEQUOIA	TPH-G/BTEX/TPH-D
DUPLICATE					
SPLIT					
FIELD BLANK					

COMMENTS:

SAMPLER: C. H. Valcheff
PROJECT MANAGER: M. Guillin

4080 Nelson Avenue, Suite I Concord, CA 94520 Phone (510) 685-4015 Fax (510) 685-5225

Environmental Science & Engineering, Inc.
A CILCORP Company

SAMPLE COLLECTION LOG

PROJECT NAME: HERTZ- OAKLAND
PROJECT NO.: 6-93-5181
DATE: JUNE 6, 1994

SAMPLE LOCATION I.D.: MW-8
SAMPLER: CHRIS VALCHEFF
PROJECT MANAGER: MIKE GUILLIN

CASING DIAMETER

2" X
4" _____
Other ___

SAMPLE TYPE

Ground Water X
Surface Water ____
Treat. Influent ____
Treat. Effluent ____
Other ____

WELL VOLUMES PER UNIT

Well Casing I.D. (inches)	Gal/Ft.
2.0	0.1632
4.0	0.6528
6.0	1.4690

DEPTH TO PRODUCT: NA (ft.)
DEPTH TO WATER: 4.95 (ft.)
DEPTH OF WELL: 11.55 (ft.)

PRODUCT THICKNESS: NA (ft.)
WATER COLUMN: 6.60 (ft.)
WELL CASING VOLUME: 1.08 (gal)

MINIMUM PURGE VOLUME (3 or 4 WCV): 3.23 (gal)
ACTUAL VOLUME PURGED: 4.0 (gal)

TIME	Volume (GAL)	pH (Units)	E.C. (Micromhos)	Temperature (F°)	Turbid. (NTU)	Other
10:42	0	6.86	x1000 5.25	70.8°		
10:45	1	6.81	4.93	65.7°		
10:48	2	6.81	5.00	65.6°		
10:50	3	6.82	4.98	65.6°		

INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE HYDAC UNIT#____ DATE: 6-6-94 TIME: 0700 BY: CHV
TURBIDITY: TYPE____ UNIT#____ DATE:____ TIME:____ BY:____

PURGE METHOD

___Displacement Pump
___Bailer (Teflon/PVC/SS)
X Other- DISP. BAILER
___Submersible Pump

SAMPLE METHOD

___Bailer (Teflon/PVC/SS)
X Bailer (Disposable)
___Dedicated
___Other

SAMPLES COLLECTED

	ID	TIME	DATE	LAB	ANALYSES
SAMPLE	MW-8		6-6-94	SEQUOIA	TPH-G/BTEX/TPH-D
DUPLICATE					
SPLIT					
FIELD BLANK					

COMMENTS: _____

SAMPLER: C. H. Valcheff
PROJECT MANAGER: M. Guillin

4080 Nelson Avenue, Suite J Concord, CA 94520 Phone (510) 685-4053 FAX (510) 685-5323

Environmental Science & Engineering, Inc.
A CILCORP Company

SAMPLE COLLECTION LOG

PROJECT NAME: HERTZ-OAKLAND
PROJECT NO.: 6-93-5181
DATE: 6-6-94

SAMPLE LOCATION I.D.: MW-9
SAMPLER: CHRIS VALCHEFF
PROJECT MANAGER: MIKE QUILLIN

CASING DIAMETER

2" X
4"
Other

SAMPLE TYPE

Ground Water X
Surface Water
Treat. Influent
Treat. Effluent
Other

WELL VOLUMES PER UNIT

Well Casing I.D. (inches)	Gal/Ft.
2.0	0.1632
4.0	0.6528
6.0	1.4690

DEPTH TO PRODUCT: — (ft.)
DEPTH TO WATER: 5.19 (ft.)
DEPTH OF WELL: 9.73 (ft.)

PRODUCT THICKNESS: — (ft.)
WATER COLUMN: 4.54 (ft.)
WELL CASING VOLUME: 0.74 (gal)

MINIMUM PURGE VOLUME (3 or ~~4~~ WCV): 2.22 (gal)
ACTUAL VOLUME PURGED: 2.25 (gal)

TIME	Volume (GAL)	pH (Units)	E.C. (X1000 Micromhos)	Temperature (F°)	Turbid. (NTU)	Other
1110	0	8.55	0.62	69.8	—	BROWN/SILTY
1117	0.75	8.50	0.63	69.5	—	↓
1112	1.50	8.48	0.68	69.5	—	↓

INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE HYDAC UNIT# 9308A DATE: 6-6-94 TIME: 0700 BY: CHV
TURBIDITY: TYPE ____ UNIT# ____ DATE: ____ TIME: ____ BY: ____

PURGE METHOD

___Displacement Pump
___Bailer (Teflon/PVC/SS)
X Other - DISP. BAILER
___Submersible Pump

SAMPLE METHOD

___Bailer (Teflon/PVC/SS)
X Bailer (Disposable)
___Dedicated
___Other

SAMPLES COLLECTED

	ID	TIME	DATE	LAB	ANALYSES
SAMPLE	MW-9	1117	6-6-94	SEQUOIA	
DUPLICATE					
SPLIT					
FIELD BLANK					

COMMENTS:

SAMPLER: [signature] PROJECT MANAGER [signature]

4090 Nelson Avenue, Suite J Concord, CA 94520 Phone (510) 685-4053 Fax (510) 685-5323

APPENDIX B

ESE STANDARD OPERATING PROCEDURE NO. 3 FOR GROUND WATER MONITORING AND SAMPLING FROM MONITORING WELLS

ENVIRONMENTAL SCIENCE & ENGINEERING, INC.
CONCORD, CALIFORNIA OFFICE

STANDARD OPERATING PROCEDURE NO. 3
FOR GROUND-WATER MONITORING AND SAMPLING FROM MONITORING WELLS

Environmental Science & Engineering, Inc. (ESE) typically performs ground-water monitoring at project sites on a quarterly basis. As part of the monitoring program an ESE staff member will first gauge the depth to water and free product (if present) in each well, then collect ground-water samples from each well. Depth to water measurements are taken by lowering an electric fiberglass tape measure into the well and recording the occurrence of water in feet below a fixed datum set on the top of the well-casing. If free-phase liquid hydrocarbons (free product) are known or suspected to be present in the well, then an electric oil/water interface probe is used to determine the depth to the occurrence of ground-water and the free product in feet below the fixed datum on the top of the well-casing. Depth to water and depth to product measurements are measured and recorded within an accuracy of 0.005-foot. The electric tape and the electric oil/water interface probe are washed with an Alconox® detergent and tap water solution then rinsed with tap water between uses in different wells.

Ground-water samples are collected from a well subsequent to purging a minimum of three to four well-casing volumes of ground water from the well, if the well bails dry prior to the removal of the required minimum volume, then the samples are collected upon the recovery of the ground water in that well to 80% of its initial static level. Ground water is typically purged from monitoring wells using either a hand-operated positive displacement pump, constructed of polyvinylchloride (PVC); a new (precleaned), disposable polyethylene bailer; or, a variable-flow submersible pump, constructed of stainless steel and Teflon®. The hand pumps and the submersible pumps are cleaned between each use with an Alconox® detergent and tap water solution followed by a tap water rinse. During the well purging process the conductivity, pH and temperature of the ground water are monitored by the ESE staff member. Ground-water samples are collected from the well subsequent to the stabilization of the of the conductivity, pH and temperature of the purge water, and the removal of four well-casing volumes of ground-water (unless the well bails dry). The parameters are deemed to have stabilized when two consecutive measurements are within 10% of each other, for each respective parameter. The temperature, pH, conductivity and purge volume measurements, and observations of water clarity and sediment content will be documented by the ESE staff member on ESE Ground-Water Sampling Data Forms.

Ground-water samples are collected by lowering a new (precleaned), disposable polyethylene bailer into the well using new, disposable nylon cord. The filled bailer is retrieved, emptied, then filled again. The ground water from this bailer is decanted into appropriate laboratory supplied glassware and/or plastic containers (if sample preservatives are required, they are added to the empty containers at the laboratory prior to the sampling event). The containers are filled carefully so that no headspace is present to avoid volatilization of the sample. The filled sample containers are then labeled and placed in a cooler with ice for transport under chain of custody documentation to the designated analytical laboratory. The ESE staff member will document the time and method of sample collection, and the type of sample containers and preservatives (if any) used. These facts will appear on the ESE Ground-Water Sampling Data Forms. ESE will collect a duplicate ground-water sample from one well for every ten wells sampled at each site. The duplicate will be a blind sample (its well designation will be unknown to the laboratory). The duplicate sample is for Quality Assurance and Quality Control (QA/QC) purposes, and provides a check on ESE sampling procedures and laboratory sample handling procedures. When VOCs are included in the laboratory analyses, ESE will include a trip blank, if required, in the cooler with the ground-water samples for analysis for the identical VOCs. The trip blank is supplied by the laboratory and consists of deionized water. The trip blank is for QA/QC purposes and provides a check on both ESE and laboratory sample handling and storage procedures. Since disposable bailers are used for sample collection, and are not reused, no equipment blank (rinsate) samples are collected.

APPENDIX C

LABORATORY REPORTS AND CHAIN OF CUSTODY DOCUMENTATION FOR GROUND WATER SAMPLES

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
1900 Bates Avenue, Suite L, Concord, CA 94520, (510) 686-9600, FAX (510) 686-9689
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Environmental Science & Engineering, Inc.	Client Project ID:	6-93-5181/Hertz-Oakland	Sampled: Jun 6, 1994
4090 Nelson Ave., Ste J	Sample Matrix:	Water	Received: Jun 6, 1994
Concord, CA 94520	Analysis Method:	EPA 5030/8015/8020	Reported: Jun 20, 1994
Attention: Mike Quillin	First Sample #:	406-0248	

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 406-0248 MW-1	Sample I.D. 406-0249 MW-2	Sample I.D. 406-0250 MW-3	Sample I.D. 406-0251 MW-4	Sample I.D. 406-0252 MW-5	Sample I.D. 406-0253 MW-6
Purgeable Hydrocarbons	50	N.D.	N.D.	N.D.	18,000	N.D.	1,200
Benzene	0.5	N.D.	N.D.	N.D.	3,300	N.D.	230
Toluene	0.5	N.D.	N.D.	N.D.	3,400	N.D.	N.D.
Ethyl Benzene	0.5	N.D.	N.D.	N.D.	770	N.D.	150
Total Xylenes	0.5	N.D.	N.D.	N.D.	2,200	N.D.	12
Chromatogram Pattern:		--	--	--	Gasoline	--	Gasoline

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	20	1.0	10
Date Analyzed:	6/16/94	6/15/94	6/15/94	6/15/94	6/15/94	6/15/94
Instrument Identification:	HP-2	HP-5	HP-5	HP-5	HP-5	HP-5
Surrogate Recovery, %: (QC Limits = 70-130%)	90	101	95	86	95	99

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Karen L. Enstrom
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
1900 Bates Avenue, Suite L, Concord, CA 94520, (510) 686-9600, FAX (510) 686-9689
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Environmental Science & Engineering, Inc.	Client Project ID:	6-93-5181/Hertz-Oakland	Sampled: Jun 6, 1994
4090 Nelson Ave., Ste J	Sample Matrix:	Water	Received: Jun 6, 1994
Concord, CA 94520	Analysis Method:	EPA 5030/8015/8020	Reported: Jun 20, 1994
Attention: Mike Quillin	First Sample #:	406-0254	

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 406-0254 MW-7	Sample I.D. 406-0255 MW-8	Sample I.D. 406-0256 MW-9	Sample I.D. 406-0257 DUP
Purgeable Hydrocarbons	50	N.D.	N.D.	N.D.	1,400
Benzene	0.5	N.D.	N.D.	N.D.	490
Toluene	0.5	N.D.	N.D.	N.D.	3.4
Ethyl Benzene	0.5	N.D.	N.D.	N.D.	180
Total Xylenes	0.5	N.D.	N.D.	N.D.	16
Chromatogram Pattern:		--	--	--	Gasoline

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	5.0
Date Analyzed:	6/15/94	6/15/94	6/16/94	6/15/94
Instrument Identification:	HP-5	HP-5	HP-2	HP-5
Surrogate Recovery, %: (QC Limits = 70-130%)	110	95	95	130

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Karen L. Enstrom
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
1900 Bates Avenue, Suite L, Concord, CA 94520, (510) 686-9600, FAX (510) 686-9689
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Environmental Science & Engineering, Inc.	Client Project ID:	6-93-5181/Hertz-Oakland	Sampled: Jun 6, 1994
4090 Nelson Ave., Ste J	Sample Matrix:	Water	Received: Jun 6, 1994
Concord, CA 94520	Analysis Method:	EPA 3510/3520/8015	Reported: Jun 20, 1994
Attention: Mike Quillin	First Sample #:	406-0248	

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit µg/L	Sample I.D. 406-0248 MW-1	Sample I.D. 406-0249 MW-2	Sample I.D. 406-0250 MW-3	Sample I.D. 406-0251 MW-4	Sample I.D. 406-0252 MW-5	Sample I.D. 406-0253 MW-6
Extractable Hydrocarbons	50	N.D.	N.D.	N.D.	1,800	74	1,400
Chromatogram Pattern:		--	--	--	Diesel and Unidentified Hydrocarbons <C14	Diesel and Unidentified Hydrocarbons <C14	Diesel and Unidentified Hydrocarbons <C14

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	1.0	1.0
Date Extracted:	6/8/94	6/8/94	6/8/94	6/8/94	6/8/94	6/8/94
Date Analyzed:	6/14/94	6/14/94	6/14/94	6/14/94	6/14/94	6/14/94
Instrument Identification:	HP-3A	HP-3A	HP-3A	HP-3A	HP-3A	HP-3A

Extractable Hydrocarbons are quantitated against a fresh diesel standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Karen L. Enstrom
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
1900 Bates Avenue, Suite L, Concord, CA 94520, (510) 686-9600, FAX (510) 686-9689
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Environmental Science & Engineering, Inc.	Client Project ID:	6-93-5181/Hertz-Oakland	Sampled: Jun 6, 1994
4090 Nelson Ave., Ste J	Sample Matrix:	Water	Received: Jun 6, 1994
Concord, CA 94520	Analysis Method:	EPA 3510/3520/8015	Reported: Jun 20, 1994
Attention: Mike Quillin	First Sample #:	406-0254	

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit µg/L	Sample I.D. 406-0254 MW-7	Sample I.D. 406-0255 MW-8	Sample I.D. 406-0256 MW-9	Sample I.D. 406-0257 DUP
Extractable Hydrocarbons	50	N.D.	N.D.	370	1,000
Chromatogram Pattern:		--	--	Diesel and Unidentified Hydrocarbons >C20	Diesel and Unidentified Hydrocarbons <C14

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0
Date Extracted:	6/8/94	6/8/94	6/8/94	6/8/94
Date Analyzed:	6/14/94	6/14/94	6/14/94	6/14/94
Instrument Identification:	HP-3A	HP-3A	HP-3A	HP-3A

Extractable Hydrocarbons are quantitated against a fresh diesel standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

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Environmental Science & Engineering, Inc.
4090 Nelson Ave., Ste J
Concord, CA 94520
Attention: Mike Quillin

Client Project ID: 6-93-5181/Hertz-Oakland
Matrix: Liquid
QC Sample Group: 4060248-57
Reported: Jun 21, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes	Diesel
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015 Mod.
Analyst:	J. Fontecha	J. Fontecha	J. Fontecha	J. Fontecha	K. Wimer
MS/MSD Batch#:	4060595	4060595	4060595	4060595	BLK060894
Date Prepared:	6/16/94	6/16/94	6/16/94	6/16/94	6/8/94
Date Analyzed:	6/16/94	6/16/94	6/16/94	6/16/94	6/14/94
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2	HP-3B
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	300 µg/L
Matrix Spike % Recovery:	95	95	95	96	85
Matrix Spike Duplicate % Recovery:	98	95	95	97	82
Relative % Difference:	3.1	0.0	0.0	1.0	2.8
LCS Batch#:	1LCS061694	1LCS061694	1LCS061694	1LCS061694	BLK060894
Date Prepared:	6/16/94	6/16/94	6/16/94	6/16/94	6/8/94
Date Analyzed:	6/16/94	6/16/94	6/16/94	6/16/94	6/14/94
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2	HP-3B
LCS % Recovery:	102	100	100	102	85
% Recovery Control Limits:	71-133	72-128	72-130	71-120	28-122

SEQUOIA ANALYTICAL, #1271

Karen L. Enstrom
Project Manager

Please Note:
The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

DATE June 6, 1994 PAGE 1 OF 1

CHAIN OF CUSTODY RECORD

PROJECT NAME Herst-Oakland

ADDRESS No. 1 Airport Drive
Oakland, CA

PROJECT NO. 6-93-5181

SAMPLED BY Chris Valchoff

LAB NAME Sequoia

ESE Environmental Science & Engineering, Inc.
A CRCORP Company
4090 Nelson Avenue
Suite J
Concord, CA 94520
Phone (510) 685-4053
Fax (510) 685-5323

SAMPLE #	DATE	TIME	LOCATION	TPH-G	BTEX	TPH-D	ANALYSES TO BE PERFORMED	MATRIX	NUMBER OF CONTAINERS	REMARKS (CONTAINER, SIZE, ETC.)
MW-1	6-6-94	1105	Oakland	X	X	X	4060248	H_2O	4	3 VOA w/HCl, 1 Amber Liter
MW-2		0951		X	X	X	4060249		4	
MW-3		1015		X	X	X	4060250		4	
MW-4		1137		X	X	X	4060251		4	
MW-5		1037		X	X	X	4060252		4	
MW-6		0956		X	X	X	4060253		4	
MW-7		1030		X	X	X	4060254		4	
MW-8		1058		X	X	X	4060255		4	
MW-9		1117		X	X	X	4060256		4	
DUP		0956		X	X	X	4060257		4	
~~TRIP~~					X				1	TVOA w/HCl

RELINQUISHED BY: (signature)	RECEIVED BY: (signature)	date	time
1. John H. Valchoff	Melissa Creasure	6/6/94	420 PM
2.			
3.			
4.			
5.			

41 TOTAL NUMBER OF CONTAINERS

REPORT RESULTS TO: Mike Quillin

SPECIAL SHIPMENT REQUIREMENTS: Cold Transport

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

Standard TAT

SAMPLE RECEIPT

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