AUGUST 1991 QUARTERLY MONITORING REPORT
FOR
HERTZ SERVICE CENTER
#1 AIRPORT DRIVE
OAKLAND
ALAMEDA COUNTY
CALIFORNIA

Prepared For:

THE HERTZ CORPORATION
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PROJECT NO. 6-91-5228

September 16, 1991

This report, including all related activities, was prepared or conducted by Paul K. Graff, Senior Project Geologist, under the direct supervision of Susan S. Wickham, RG, Senior Hydrogeologist, of the Concord office of Environmental Science & Engineering, Inc. Our professional services have been performed using that degree of care and skill ordinarily exercised under similar circumstances by other hydrogeologists and engineers practicing in this field. No other warranty, expressed or implied, is made as to the professional advice in this report.

Paul Graff

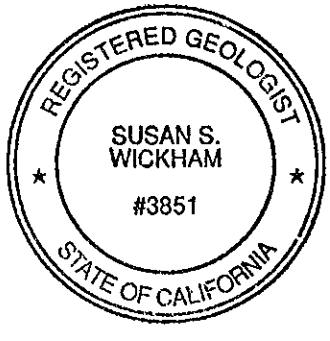
Paul K. Graff
Senior Project Geologist

Date 9/16/91

Susan S. Wickham

Susan S. Wickham, RG 3851
Senior Hydrogeologist

Date 9/16/91



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1.0 INTRODUCTION

This Quarterly Monitoring Report describes ground water measurement and sampling activities at the Hertz Service Center, #1 Airport Drive, Oakland, Alameda County, California. The site is an active rental car service and fueling facility located at the Oakland Airport.

1.1 Background

Figure 1 - Site Plan shows the former locations of underground fuel tanks (gasoline tanks of 10,000 and one 5,000 gallon capacity, and a waste oil tank of 500 gallon capacity) and piping removed in November 1988 by Paradiso Construction (Woodward-Clyde, 1990). Six soil samples (A1 - A6) and one ground water sample (A5) were collected from the excavation by Paradiso at the time of tank removal. Soil samples B1 and B2 were collected from the piping trenches, and a composite sample (C1, C2, and C3) was collected from stockpiled soil from thhe excavation. The soil and ground water samples were analyzed for Total Petroleum Hydrocarbons as gasoline (TPHg) and Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX). Table 1 - Summary of Soil and Ground Water Sampling Analytical Results shows that soil sample B2 contained 1,300 ppm (parts per million) TPHg and BTEX concentrations ranging from 19 to 200 ppm. None of the other soil samples contained detectable concentrations of TPHg or BTEX. Soil sample A1 was also analyzed for Halogenated Volatile Organics (HVO, using EPA Method 8010), however, none were detected. The ground water sample contained 7,400 ppb (parts per billion) TPHg, and BTEX concentrations ranging from 63 to 1,900 ppb (results are presented in Table 1).

Because ground water had been impacted by hydrocarbons, Woodward-Clyde Consultants installed three ground water monitoring wells in December 1989. Ground water was found at a depth of approximately five feet in these wells. Soil types found were poorly-graded to well-graded sand fill to a depth of approximately 13 feet, and sand and clay to total depth (16.5 feet). Soil samples collected during well drilling did not contain detectable concentrations of Semi-volatile Organics (EPA 8270), TPHg, TPH as diesel (TPHd), or

BTEX. The soil samples were also analyzed for metals; none were detected at concentrations above state-defined hazardous waste levels (TTLC or Total Threshold Limit Concentrations).

The ground water flow direction was estimated to be to the southwwest, towards San Francisco Bay. None of the ground water samples from the three wells contained detectable concentrations of TPHg, TPHd, BTEX, HVO, or Semivolatile Organics, although several tentatively identified compounds from this latter group were noted (Woodward-Clyde, 1990).

Based upon these results, Hertz requested case closure of the site in March 1991 from the lead regulatory agency, Alameda County Department of Environmental Health (ACDEH). ACDEH denied the request; replying instead that one year of quarterly monitoring and sampling at the site would be necessary before closure could be considered (ACDEH, 1991).

Environmental Science & Engineering, Inc. (ESE) was contracted by Hertz to perform the quarterly sampling and reporting. This report presents the results of the first quarter (August 1991) of monitoring and sampling.

2.0 METHODS AND PROCEDURES

On August 20, 1991, depth to ground water was measured in the three wells before each was purged of 10 gallons of water (approximately 5 casing volumes) with a hand pump until pH, temperature, and conductivity measurements stabilized. Water samples were collected from each well with clean disposable bailers and stored on ice in labeled 40 ml VOA vials for transport to Curtis & Tompkins, a State-certified analytical laboratory. The samples were analyzed for TPHg, using EPA Method 5030/8015-modified, TPHd, usinng EPA Method 3550/8015-modified, BTEX, using EPA Method 5030/8020, Oil & Grease, using SMWW 5520, metal Cadmium (Cd), Chromium (Cr), Lead (Pb), Nickel (Ni), and Zinc (Zi), Semi-volatile Organics, using EPA Method 8270, and Halogenated Volatile Organics, using EPA Method 8010.

Purge water was stored on site in drums pending analytical results for disposal.

3.0 RESULTS

3.1 Ground Water Elevations

Depth to ground water in the wells ranged from 4.00 to 5.13 feet below grade. Figure 2 - Ground Water Elevation Contours shows that the ground water gradient is approximately 0.03 ft/ft towards the southwest, similar to the flow direction estimated in December 1989.

3.2 Ground Water Sampling Results

Table 1 shows the results of ground water analyses for all wells in August 1991. None of the ground water samples contained detectable concentrations of the analytes. Laboratory reports and chain of custody documents for the August 1991 sampling are included in Appendix A.

4.0 CONCLUSIONS

- No hydrocarbons or metals were detected in the August 1991 ground water samples.

- The ground water flow direction in August 1991 was towards the southwest, similar to that estimated in December 1989.

5.0 REFERENCES

Alameda County Department of Environmental Health, 1991, Letter to Jane Woodwell of Hertz concerning Request to Close Monitoring Wells.

Woodward-Clyde Consultants, 1990, Preliminary Soil and Groundwater Contamination Assessment, Hertz Service Center, #1 Airport Drive, Oakland, California., February 1990.

TABLE 1 - SUMMARY OF SOIL AND GROUND-WATER SAMPLING ANALYTICAL RESULTS AT HERTZ/OAKLAND AIRPORT, OAKLAND, CALIFORNIA

GROUND WATER

Date	Well	Ground-Water Depth (feet)	Metals (ppm)	Oil & Grease (ppm)	Total Petroleum Hydrocarbons (ppb) as Gasoline	as Kerosene	as Diesel	B	T	E	X	Purgeable Halocarbons (EPA 8010) (ppb)	Semi-Volatile Organics (EPA 8270) (ppb)
08/20/91	MW-1	5.15	all ND	ND	ND	ND	ND	ND	ND	ND	ND	all ND	all ND
	MW-2	4.00	all ND	ND	ND	ND	ND	ND	ND	ND	ND	all ND	all ND
	MW-3	4.60	all ND	ND	ND	ND	ND	ND	ND	ND	ND	all ND	all ND
12/22/89	MW-1	4.5 est.	--	--	ND	--	ND	ND	ND	ND	ND	all ND	all ND*
	MW-2	4.5 est.	--	--	ND	--	ND	ND	ND	ND	ND	all ND	all ND*
	MW-3	5.0 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	--	--

SOIL

Date	Sample ID	Sample Depth (feet)	Metals (ppm) Cd	Cr	Pb	Ni	Oil & Grease (ppm)	Total Petroleum Hydrocabons (ppb) as Gasoline	as Kerosene	as Diesel	B	T	E	X	Purgeable Halocarbons (EPA 8010) (ppb)	Semi-Volatile Organics (EPA 8270) (ppb)
12/20/89	MW 1-2	2	--	19.7	2.5	23.5	--	ND	--	ND	ND	ND	ND	ND	all ND	all ND
	MW 1-5	5	--	--	--	--	--	ND	--	ND	ND	ND	ND	ND	all ND	all ND
	MW 2-2	2	--	18.1	1.5	12.3	--	ND	--	ND	ND	ND	ND	ND	all ND	all ND
	MW 2-5	5	--	--	--	--	--	ND	--	ND	ND	ND	ND	ND	all ND	all ND
	MW 3-2	2	--	19.8	1.5	11.0	--	ND	--	ND	ND	ND	ND	ND	all ND	all ND
	MW 3-5	5	--	--	--	--	--	ND	--	ND	ND	ND	ND	ND	all ND	all ND
11/25/88	A1	From	--				ND	ND	--	ND	ND	ND	ND	ND	all ND	--
	A2	Tank	--				--	ND	--	--	ND	ND	ND	ND	--	--
	A3	Exca-	--				--	ND	--	--	ND	ND	ND	ND	--	--
	A4	vation	--				--	ND	--	--	ND	ND	ND	ND	--	--
	A5		--				--	ND	--	--	ND	ND	ND	ND	--	--
	A6		--				--	ND	--	--	ND	ND	ND	ND	--	--

A:\PKG\5228.gm 9/

TABLE 1 (Continued. . .) - SUMMARY OF SOIL AND GROUND-WATER SAMPLING ANALYTICAL RESULTS AT HERTZ/OAKLAND AIRPORT, OAKLAND, CALIFORNIA

SOIL					Total Petroleum Hydrocabons (ppb)									
Date	Sample ID	Sample Depth (feet)	Metals (ppm)	Oil & Grease (ppm)	as Gasoline	as Kerosene	as Diesel	B	T	E	X	Purgeable Halocarbons (EPA 8010) (ppb)	Semi-Volatile Organics (EPA 8270) (ppb)
11/25/89	B-1	Piping	--	--	ND	--	--	ND	ND	ND	ND	all ND	all ND
	B-2	Excavation	--	--	1,300	--	--	55	51	19	200	--	--
	C1,C2, C3	Composite from soil stockpiled from excavation	--	--	ND	--	--	ND	ND	ND	ND	all ND	all ND

ND = Not detected. For detection limits see Appendix A - Laboratory Reports and Chain of Custody Documents.

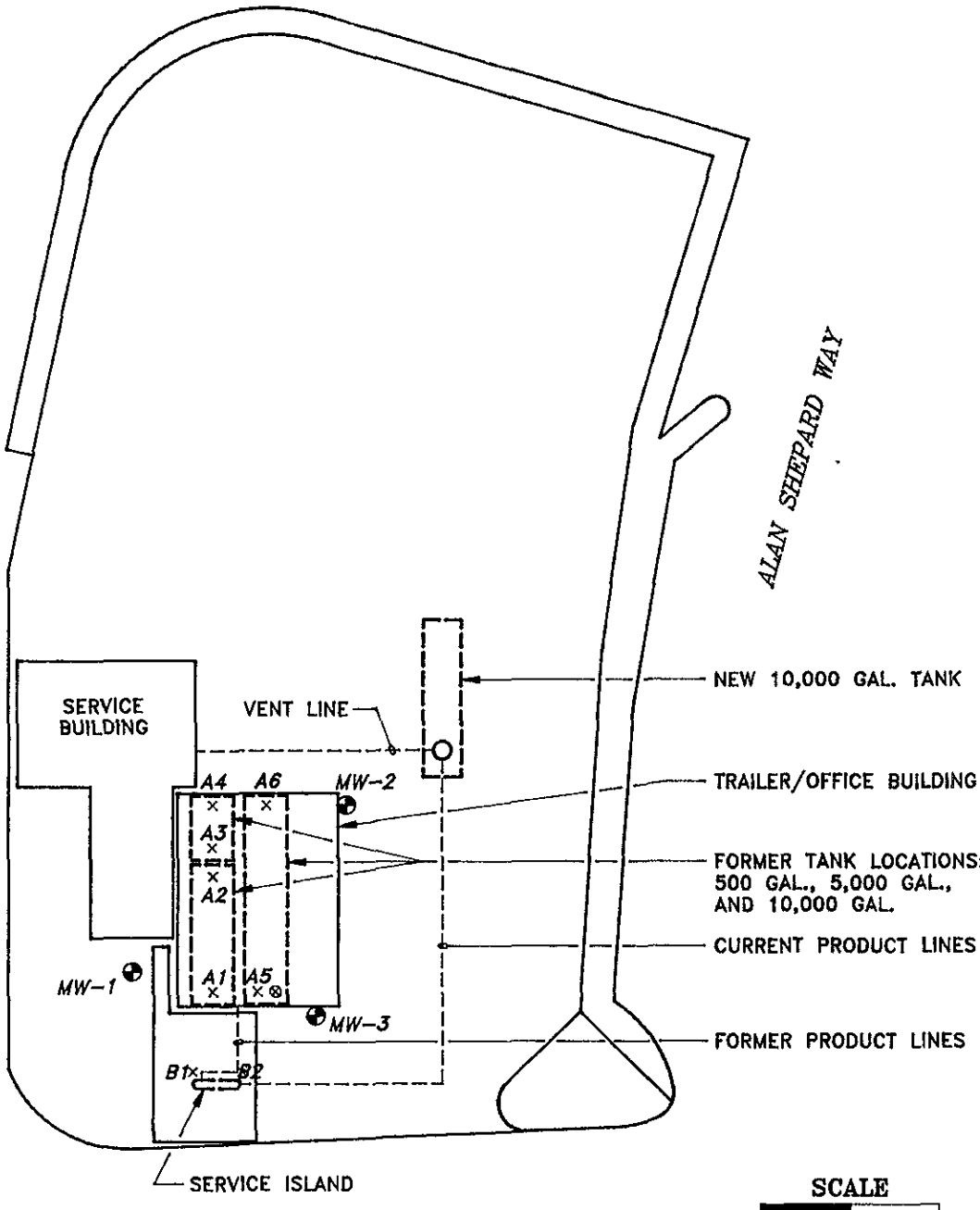
-- = Not Analyzed or reported.

* 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.

ppm = parts per million (mg/L)

ppb = parts per billion (ug/L)

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



LEGEND

- ◓ APPROXIMATE LOCATION OF MONITORING WELLS
- × SOIL SAMPLING LOCATION FROM 11/88 UNDERGROUND TANK AND PIPING EXCAVATION
- ⊗ GROUND-WATER SAMPLE FROM 11/88 UNDERGROUND TANK EXCAVATION

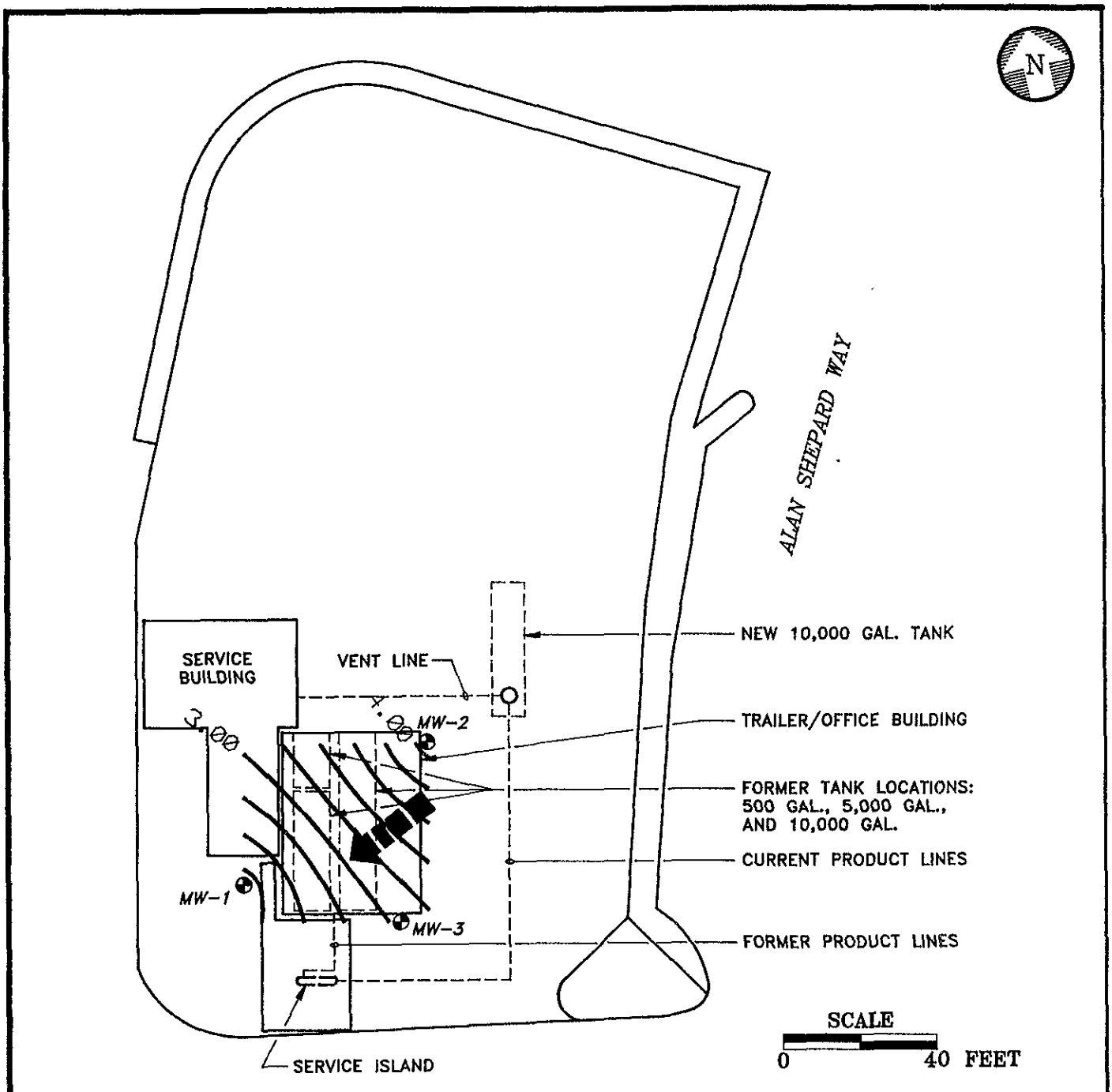
ESE A CRLCORP COMPANY
Environmental Science & Engineering, Inc.

HERTZ/OAKLAND AIRPORT
OAKLAND, CALIFORNIA

FIGURE 1
SITE PLAN

DRAWN BY	APPROVED BY	REVISED
CVS		

DATE	FILE NAME	PROJ. NO.
8/91	F1SP40	6-91-5228



WELL	WELL ELEV(ft)	GW DEPTH(ft)	GW ELEV(ft)
MW-1	7.45	5.15	2.30
MW-2	8.09	4.00	4.09
MW-3	7.66	4.60	3.06

CONTOUR INTERVAL: 0.20 FEET

LEGEND

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

ESE A CILCORP COMPANY
Environmental Science & Engineering, Inc.

HERTZ/OAKLAND AIRPORT
OAKLAND, CALIFORNIA

FIGURE 2
GROUND-WATER ELEVATION CONTOURS, 8/20/91

DRAWN BY	APPROVED BY	REVISED
CVS	WS	

DATE	FILE NAME	PROJ. NO.
9/91	F2GWE40	6-91-5228

APPENDIX A

LABORATORY REPORTS AND CHAIN OF CUSTODY DOCUMENTS

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

DATE RECEIVED: 08/20/91
DATE REPORTED: 08/27/91

LABORATORY NUMBER: 104896

CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING

PROJECT ID: 6-91-5228

LOCATION: HERTZ

RESULTS: SEE ATTACHED

QA/QC Approval

Final Approval

Curtis & Tompkins, Ltd.

Client: Environmental Science & Engineering **Laboratory Login Number: 104896**

Project Name: Hertz
Project Number: 6-91-5228

Report Date: 27 August 91

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

Lab ID	Sample ID	Matrix	Sampled	Received	Analyzed	Result	Units	RL	Analyst	QC Batch
104896-001	MW-1	Water	20-AUG-91	20-AUG-91	23-AUG-91	ND	mg/L	5	TR	2423
104896-002	MW-2	Water	20-AUG-91	20-AUG-91	23-AUG-91	ND	mg/L	5	TR	2423
104896-003	MW-3	Water	20-AUG-91	20-AUG-91	23-AUG-91	ND	mg/L	5	TR	2423

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

Curtis & Tompkins, Ltd.

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

Client: Environmental Science & Engineering Laboratory Login Number: 104896
Project Name: Hertz Report Date: 27 August 91
Project Number: 6-91-5228

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric) QC Batch Number: 2423

Blank Results

Sample ID	Result	MDL	Units	Method	Date Analyzed
BLANK	ND	5	mg/L	SMWW 17:5520BF	23-AUG-91

Spike/Duplicate Results

Sample ID	Recovery	Method	Date Analyzed
BS	85%	SMWW 17:5520BF	23-AUG-91
BSD	85%	SMWW 17:5520BF	23-AUG-91

		Control Limits
Average Spike Recovery	85%	80% - 120%
Relative Percent Difference	1.1%	< 20%

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 104896
CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING
PROJECT ID: 6-91-5228
LOCATION: HERTZ

DATE RECEIVED: 08/20/91
DATE ANALYZED: 08/26/91
DATE REPORTED: 08/27/91

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)
104896-1	MW-1	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)
104896-2	MW-2	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)
104896-3	MW-3	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)

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

QA/QC SUMMARY

RPD, %	3
RECOVERY, %	109

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 104896
CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING
PROJECT ID: 6-91-5228
LOCATION: HERTZ

DATE RECEIVED: 08/20/91
DATE EXTRACTED: 08/22/91
DATE ANALYZED: 08/24/91
DATE REPORTED: 08/27/91

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

LAB ID	CLIENT ID	KEROSENE RANGE (ug/L)	DIESEL RANGE (ug/L)	REPORTING LIMIT* (ug/L)
104896-1	MW-1	ND	ND	50
104896-2	MW-2	ND	ND	50
104896-3	MW-3	ND	ND	50

ND = Not detected at or above reporting limit.

*Reporting limit applies to all analytes.

QA/QC SUMMARY

RPD, %	13
RECOVERY, %	100

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 104896-1
CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING
PROJECT ID: 6-91-5228
LOCATION: HERTZ
SAMPLE ID: MW-1

DATE RECEIVED: 08/20/91
DATE ANALYZED: 08/23,26/91
DATE REPORTED: 08/27/91

PARAMETER	RESULT	UNITS	REPORTING LIMIT	METHOD
CADMIUM	ND	ug/L	10.0	EPA 6010
CHROMIUM	ND	ug/L	10.0	EPA 6010
LEAD	ND	ug/L	3.0	EPA 7421
NICKEL	ND	ug/L	32.0	EPA 6010
ZINC	ND	ug/L	20.0	EPA 6010

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

	RPD, %	Recovery, %
CADMIUM	2	97
CHROMIUM	3	101
LEAD	2	101
NICKEL	6	101
ZINC	<1	98

Curtis & Tompkins, Ltd

LABORATORY NUMBER: 104896-2
CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING
PROJECT ID: 6-91-5228
LOCATION: HERTZ
SAMPLE ID: MW-2

DATE RECEIVED: 08/20/91
DATE ANALYZED: 08/23,26/91
DATE REPORTED: 08/27/91

PARAMETER	RESULT	UNITS	REPORTING LIMIT	METHOD
CADMIUM	ND	ug/L	10.0	EPA 6010
CHROMIUM	ND	ug/L	10.0	EPA 6010
LEAD	ND	ug/L	3.0	EPA 7421
NICKEL	ND	ug/L	32.0	EPA 6010
ZINC	ND	ug/L	20.0	EPA 6010

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

	RPD, %	Recovery, %
CADMIUM	2	97
CHROMIUM	3	101
LEAD	2	101
NICKEL	6	101
ZINC	<1	98

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 104896-3
CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING
PROJECT ID: 6-91-5228
LOCATION: HERTZ
SAMPLE ID: MW-3

DATE RECEIVED: 08/20/91
DATE ANALYZED: 08/23,26/91
DATE REPORTED: 08/27/91

PARAMETER	RESULT	UNITS	REPORTING LIMIT	METHOD
CADMIUM	ND	ug/L	10.0	EPA 7130
CHROMIUM	ND	ug/L	10.0	EPA 6010
LEAD	ND	ug/L	3.0	EPA 7421
NICKEL	ND	ug/L	32.0	EPA 6010
ZINC	ND	ug/L	20.0	EPA 6010

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

	RPD, %	Recovery, %
CADMIUM	2	97
CHROMIUM	3	101
LEAD	2	101
NICKEL	6	101
ZINC	<1	98

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 104896-1
CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING
PROJECT ID: 6-91-5228
LOCATION: HERTZ
SAMPLE ID: MW-1

DATE RECEIVED: 08/20/91
DATE ANALYZED: 08/21/91
DATE REPORTED: 08/27/91

EPA 8010
Purgeable Halocarbons in Water

Compound	Result ug/L	Reporting Limit ug/L
chloromethane	ND	2.0
bromomethane	ND	2.0
vinyl chloride	ND	2.0
chloroethane	ND	2.0
methylene chloride	ND	2.0
trichlorofluoromethane	ND	1.0
1,1-dichloroethene	ND	1.0
1,1-dichloroethane	ND	1.0
cis-1,2-dichloroethene	ND	1.0
trans-1,2-dichloroethene	ND	1.0
chloroform	ND	1.0
freon 113	ND	1.0
1,2-dichloroethane	ND	1.0
1,1,1-trichloroethane	ND	1.0
carbon tetrachloride	ND	1.0
bromodichloromethane	ND	1.0
1,2-dichloropropane	ND	1.0
cis-1,3-dichloropropene	ND	1.0
trichloroethylene	ND	1.0
1,1,2-trichloroethane	ND	1.0
trans-1,3-dichloropropene	ND	1.0
dibromochloromethane	ND	1.0
2-chloroethyl vinyl ether	ND	2.0
bromoform	ND	1.0
tetrachloroethene	ND	1.0
1,1,2,2-tetrachloroethane	ND	1.0
chlorobenzene	ND	1.0
1,3-dichlorobenzene	ND	1.0
1,2-dichlorobenzene	ND	1.0
1,4-dichlorobenzene	ND	1.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	15
RECOVERY, %	85

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 104896-2
CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING
PROJECT ID: 6-91-5228
LOCATION: HERTZ
SAMPLE ID: MW-2

DATE RECEIVED: 08/20/91
DATE ANALYZED: 08/21/91
DATE REPORTED: 08/27/91

EPA 8010
Purgeable Halocarbons in Water

Compound	Result ug/L	Reporting Limit ug/L
chloromethane	ND	2.0
bromomethane	ND	2.0
vinyl chloride	ND	2.0
chloroethane	ND	2.0
methylene chloride	ND	2.0
trichlorofluoromethane	ND	1.0
1,1-dichloroethene	ND	1.0
1,1-dichloroethane	ND	1.0
cis-1,2-dichloroethene	ND	1.0
trans-1,2-dichloroethene	ND	1.0
chloroform	ND	1.0
freon 113	ND	1.0
1,2-dichloroethane	ND	1.0
1,1,1-trichloroethane	ND	1.0
carbon tetrachloride	ND	1.0
bromodichloromethane	ND	1.0
1,2-dichloropropane	ND	1.0
cis-1,3-dichloropropene	ND	1.0
trichloroethylene	ND	1.0
1,1,2-trichloroethane	ND	1.0
trans-1,3-dichloropropene	ND	1.0
dibromochloromethane	ND	1.0
2-chloroethyl vinyl ether	ND	2.0
bromoform	ND	1.0
tetrachloroethene	ND	1.0
1,1,2,2-tetrachloroethane	ND	1.0
chlorobenzene	ND	1.0
1,3-dichlorobenzene	ND	1.0
1,2-dichlorobenzene	ND	1.0
1,4-dichlorobenzene	ND	1.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	15
RECOVERY, %	85

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 104896-3
CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING
PROJECT ID: 6-91-5228
LOCATION: HERTZ
SAMPLE ID: MW-3

DATE RECEIVED: 08/20/91
DATE ANALYZED: 08/21/91
DATE REPORTED: 08/27/91

EPA 8010
Purgeable Halocarbons in Water

Compound	Result ug/L	Reporting Limit ug/L
chloromethane	ND	2.0
bromomethane	ND	2.0
vinyl chloride	ND	2.0
chloroethane	ND	2.0
methylene chloride	ND	2.0
trichlorofluoromethane	ND	1.0
1,1-dichloroethene	ND	1.0
1,1-dichloroethane	ND	1.0
cis-1,2-dichloroethene	ND	1.0
trans-1,2-dichloroethene	ND	1.0
chloroform	ND	1.0
freon 113	ND	1.0
1,2-dichloroethane	ND	1.0
1,1,1-trichloroethane	ND	1.0
carbon tetrachloride	ND	1.0
bromodichloromethane	ND	1.0
1,2-dichloropropane	ND	1.0
cis-1,3-dichloropropene	ND	1.0
trichloroethylene	ND	1.0
1,1,2-trichloroethane	ND	1.0
trans-1,3-dichloropropene	ND	1.0
dibromochloromethane	ND	1.0
2-chloroethyl vinyl ether	ND	2.0
bromoform	ND	1.0
tetrachloroethene	ND	1.0
1,1,2,2-tetrachloroethane	ND	1.0
chlorobenzene	ND	1.0
1,3-dichlorobenzene	ND	1.0
1,2-dichlorobenzene	ND	1.0
1,4-dichlorobenzene	ND	1.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	15
RECOVERY, %	85

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 104896-1
CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING
PROJECT ID: 6-91-5228
LOCATION: HERTZ
CLIENT ID: MW-1

DATE RECEIVED: 08/20/91
DATE EXTRACTED: 08/22/91
DATE ANALYZED: 08/26/91
DATE REPORTED: 08/27/91

EPA 8270: Base/Neutral and Acid Extractables in Water
Extraction Method: EPA 3520 Continuous Liquid/Liquid

	RESULT ug/L	REPORTING LIMIT ug/L
ACID COMPOUNDS		
Phenol	ND	5.0
2-Chlorophenol	ND	5.0
Benzyl Alcohol	ND	5.0
2-Methylphenol	ND	5.0
4-Methylphenol	ND	5.0
2-Nitrophenol	ND	25
2,4-Dimethylphenol	ND	5.0
Benzoic Acid	ND	25
2,4-Dichlorophenol	ND	25
4-Chloro-3-methylphenol	ND	5.0
2,4,6-Trichlorophenol	ND	5.0
2,4,5-Trichlorophenol	ND	25
2,4-Dinitrophenol	ND	25
4-Nitrophenol	ND	25
4,6-Dinitro-2-methylphenol	ND	25
Pentachlorophenol	ND	25
BASE/NEUTRAL COMPOUNDS		
N-Nitrosodimethylamine	ND	5.0
Aniline	ND	5.0
Bis(2-chloroethyl)ether	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
Bis(2-chloroisopropyl)ether	ND	5.0
N-Nitroso-di-n-propylamine	ND	5.0
Hexachloroethane	ND	5.0
Nitrobenzene	ND	5.0
Isophorone	ND	5.0
Bis(2-chloroethoxy)methane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Naphthalene	ND	5.0
4-Chloroaniline	ND	5.0
Hexachlorobutadiene	ND	5.0
2-Methylnaphthalene	ND	5.0
Hexachlorocyclopentadiene	ND	5.0
2-Chloronaphthalene	ND	5.0
2-Nitroaniline	ND	25

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 104896-1
CLIENT ID: MW-1

EPA 8270

BASE/NEUTRAL COMPOUNDS	RESULT ug/L	REPORTING LIMIT ug/L
Dimethylphthalate	ND	5.0
Acenaphthylene	ND	5.0
2,6-Dinitrotoluene	ND	5.0
3-Nitroaniline	ND	25
Acenaphthene	ND	5.0
Dibenzofuran	ND	5.0
2,4-Dinitrotoluene	ND	5.0
Diethylphthalate	ND	5.0
4-Chlorophenyl-phenylether	ND	5.0
Fluorene	ND	5.0
4-Nitroaniline	ND	25
N-Nitrosodiphenylamine	ND	5.0
Azobenzene	ND	5.0
4-Bromophenyl-phenylether	ND	5.0
Hexachlorobenzene	ND	5.0
Phenanthrene	ND	5.0
Anthracene	ND	5.0
Di-n-butylphthalate	ND	5.0
Fluoranthene	ND	5.0
Benzidine	ND	5.0
Pyrene	ND	5.0
Butylbenzylphthalate	ND	5.0
3,3'-Dichlorobenzidine	ND	25
Benzo(a)anthracene	ND	5.0
Chrysene	ND	5.0
Bis(2-ethylhexyl)phthalate	ND	5.0
Di-n-octylphthalate	ND	5.0
Benzo(b)fluoranthene	ND	5.0
Benzo(k)fluoranthene	ND	5.0
Benzo(a)pyrene	ND	5.0
Indeno(1,2,3-cd)pyrene	ND	5.0
Dibenzo(a,h)anthracene	ND	5.0
Benzo(g,h,i)perylene	ND	5.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: SURROGATE RECOVERIES

2-Fluorophenol	62 %	Nitrobenzene-d5	61 %
Phenol-d6	92 %	2-Fluorobiphenyl	61 %
2,4,6-Tribromophenol	69 %	Terphenyl-d14	44 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 104896-2
CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING
PROJECT ID: 6-91-5228
LOCATION: HERTZ
CLIENT ID: MW-2

DATE RECEIVED: 08/20/91
DATE EXTRACTED: 08/22/91
DATE ANALYZED: 08/26/91
DATE REPORTED: 08/27/91

EPA 8270: Base/Neutral and Acid Extractables in Water
Extraction Method: EPA 3520 Continuous Liquid/Liquid

ACID COMPOUNDS	RESULT ug/L	REPORTING LIMIT ug/L
Phenol	ND	5.0
2-Chlorophenol	ND	5.0
Benzyl Alcohol	ND	5.0
2-Methylphenol	ND	5.0
4-Methylphenol	ND	5.0
2-Nitrophenol	ND	25
2,4-Dimethylphenol	ND	5.0
Benzoic Acid	ND	25
2,4-Dichlorophenol	ND	25
4-Chloro-3-methylphenol	ND	5.0
2,4,6-Trichlorophenol	ND	5.0
2,4,5-Trichlorophenol	ND	25
2,4-Dinitrophenol	ND	25
4-Nitrophenol	ND	25
4,6-Dinitro-2-methylphenol	ND	25
Pentachlorophenol	ND	25
BASE/NEUTRAL COMPOUNDS		
N-Nitrosodimethylamine	ND	5.0
Aniline	ND	5.0
Bis(2-chloroethyl)ether	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
Bis(2-chloroisopropyl)ether	ND	5.0
N-Nitroso-di-n-propylamine	ND	5.0
Hexachloroethane	ND	5.0
Nitrobenzene	ND	5.0
Isophorone	ND	5.0
Bis(2-chloroethoxy)methane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Naphthalene	ND	5.0
4-Chloroaniline	ND	5.0
Hexachlorobutadiene	ND	5.0
2-Methylnaphthalene	ND	5.0
Hexachlorocyclopentadiene	ND	5.0
2-Chloronaphthalene	ND	5.0
2-Nitroaniline	ND	25

Curtis & Tompkins, Ltd

LABORATORY NUMBER: 104896-2
CLIENT ID: MW-2

EPA 8270

BASE/NEUTRAL COMPOUNDS	RESULT ug/L	REPORTING LIMIT ug/L
Dimethylphthalate	ND	5.0
Acenaphthylene	ND	5.0
2,6-Dinitrotoluene	ND	5.0
3-Nitroaniline	ND	25
Acenaphthene	ND	5.0
Dibenzofuran	ND	5.0
2,4-Dinitrotoluene	ND	5.0
Diethylphthalate	ND	5.0
4-Chlorophenyl-phenylether	ND	5.0
Fluorene	ND	5.0
4-Nitroaniline	ND	25
N-Nitrosodiphenylamine	ND	5.0
Azobenzene	ND	5.0
4-Bromophenyl-phenylether	ND	5.0
Hexachlorobenzene	ND	5.0
Phenanthrene	ND	5.0
Anthracene	ND	5.0
Di-n-butylphthalate	ND	5.0
Fluoranthene	ND	5.0
Benzidine	ND	5.0
Pyrene	ND	5.0
Butylbenzylphthalate	ND	5.0
3,3'-Dichlorobenzidine	ND	25
Benzo(a)anthracene	ND	5.0
Chrysene	ND	5.0
Bis(2-ethylhexyl)phthalate	ND	5.0
Di-n-octylphthalate	ND	5.0
Benzo(b)fluoranthene	ND	5.0
Benzo(k)fluoranthene	ND	5.0
Benzo(a)pyrene	ND	5.0
Indeno(1,2,3-cd)pyrene	ND	5.0
Dibenzo(a,h)anthracene	ND	5.0
Benzo(g,h,i)perylene	ND	5.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: SURROGATE RECOVERIES

2-Fluorophenol	65 %	Nitrobenzene-d5	47 %
Phenol-d6	93 %	2-Fluorobiphenyl	55 %
2,4,6-Tribromophenol	64 %	Terphenyl-d14	37 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 104896-3
CLIENT: ENVIRONMENTAL SCIENCE & ENGINEERING
PROJECT ID: 6-91-5228
LOCATION: HERTZ
CLIENT ID: MW-3

DATE RECEIVED: 08/20/91
DATE EXTRACTED: 08/22/91
DATE ANALYZED: 08/26/91
DATE REPORTED: 08/27/91

EPA 8270: Base/Neutral and Acid Extractables in Water
Extraction Method: EPA 3520 Continuous Liquid/Liquid

ACID COMPOUNDS	RESULT ug/L	REPORTING LIMIT ug/L
Phenol	ND	5.0
2-Chlorophenol	ND	5.0
Benzyl Alcohol	ND	5.0
2-Methylphenol	ND	5.0
4-Methylphenol	ND	5.0
2-Nitrophenol	ND	25
2,4-Dimethylphenol	ND	5.0
Benzoic Acid	ND	25
2,4-Dichlorophenol	ND	25
4-Chloro-3-methylphenol	ND	5.0
2,4,6-Trichlorophenol	ND	5.0
2,4,5-Trichlorophenol	ND	25
2,4-Dinitrophenol	ND	25
4-Nitrophenol	ND	25
4,6-Dinitro-2-methylphenol	ND	25
Pentachlorophenol	ND	25
BASE/NEUTRAL COMPOUNDS		
N-Nitrosodimethylamine	ND	5.0
Aniline	ND	5.0
Bis(2-chloroethyl)ether	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
Bis(2-chloroisopropyl)ether	ND	5.0
N-Nitroso-di-n-propylamine	ND	5.0
Hexachloroethane	ND	5.0
Nitrobenzene	ND	5.0
Isophorone	ND	5.0
Bis(2-chloroethoxy)methane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Naphthalene	ND	5.0
4-Chloroaniline	ND	5.0
Hexachlorobutadiene	ND	5.0
2-Methylnaphthalene	ND	5.0
Hexachlorocyclopentadiene	ND	5.0
2-Chloronaphthalene	ND	5.0
2-Nitroaniline	ND	25

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 104896-3 EPA 8270
CLIENT ID: MW-3

BASE/NEUTRAL COMPOUNDS	RESULT ug/L	REPORTING LIMIT ug/L
Dimethylphthalate	ND	5.0
Acenaphthylene	ND	5.0
2,6-Dinitrotoluene	ND	5.0
3-Nitroaniline	ND	25
Acenaphthene	ND	5.0
Dibenzofuran	ND	5.0
2,4-Dinitrotoluene	ND	5.0
Diethylphthalate	ND	5.0
4-Chlorophenyl-phenylether	ND	5.0
Fluorene	ND	5.0
4-Nitroaniline	ND	25
N-Nitrosodiphenylamine	ND	5.0
Azobenzene	ND	5.0
4-Bromophenyl-phenylether	ND	5.0
Hexachlorobenzene	ND	5.0
Phenanthrene	ND	5.0
Anthracene	ND	5.0
Di-n-butylphthalate	ND	5.0
Fluoranthene	ND	5.0
Benzidine	ND	5.0
Pyrene	ND	5.0
Butylbenzylphthalate	ND	5.0
3,3'-Dichlorobenzidine	ND	25
Benzo(a)anthracene	ND	5.0
Chrysene	ND	5.0
Bis(2-ethylhexyl)phthalate	ND	5.0
Di-n-octylphthalate	ND	5.0
Benzo(b)fluoranthene	ND	5.0
Benzo(k)fluoranthene	ND	5.0
Benzo(a)pyrene	ND	5.0
Indeno(1,2,3-cd)pyrene	ND	5.0
Dibenzo(a,h)anthracene	ND	5.0
Benzo(g,h,i)perylene	ND	5.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: SURROGATE RECOVERIES

2-Fluorophenol	72 %	Nitrobenzene-d5	58 %
Phenol-d6	102 %	2-Fluorobiphenyl	69 %
2,4,6-Tribromophenol	84 %	Terphenyl-d14	48 %

04096

CHAIN OF CUSTODY RECORD

DATE Aug. 20, 91 PAGE 1 OF 1

PROJECT NAME Hurt

ADDRESS Oakland

PROJECT NO. 6-91-5228

SAMPLED BY J. Marsden

LAB NAME Curtis & Tompkins

ESE Environmental Science & Engineering, Inc.
A CILCORP Company
4090 Nelson Avenue
Suite J
Concord, CA 94520
(415) 685-4053
Fax (415) 685-5323

SAMPLE #	DATE	TIME	LOCATION	TPH gas / BTEX	TPH diesel	TPH diesel w/ silica gel	EPA 8010	EPA 8270	Metals: Cd, Cr, Pb, Ni				MATRIX	NUMBER OF CONTAINERS	REMARKS (CONTAINER, SIZE, ETC.)
													MATRIX		
MW-1	8/20	1358	Oakland	X	X	X	X	X	X				Water	8	5 liters, 3 VOAs per
MW-2	"	1423	"	X	X	X	X	X	X				Water	8	
MW-3	"	1406	"	X	X	X	X	X	X				Water	8	
Trip	"	800	Office										Water	1	Hold.

RELINQUISHED BY: (signature)	RECEIVED BY: (signature)	date	time
1. [signature]	Nancy Ward	8/20	1525
2.			
3.			
4.			
5.			

REPORT RESULTS TO: Tom Graff

TOTAL NUMBER OF CONTAINERS

SPECIAL SHIPMENT REQUIREMENTS

SAMPLE RECEIPT

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

INSTRUCTIONS TO LABORATORY (handling, analyses, storage, etc.):
Preserve 0&G liters & Metals liters upon reciept at Lab.