CLEARWATER
GROUP, INC.
Environmental Services

ENVIRONMENTAL PROTECTION
00 JAN 31 PM 3:43

Friday, January 28, 2000

Mr. Barney Chan
Alameda County Health Care Services
Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94052-6577

2260

Re: Quarterly Groundwater Monitoring Report
Hertz Service Center
1 Airport Drive, Oakland, California

Dear Mr. Chan,

On behalf of the Hertz Corporation, Clearwater Group submits the *Quarterly Groundwater Monitoring Report* for the Hertz Service Center at the International Airport in Oakland, California. This report presents groundwater monitoring and sampling data for the fourth quarter of 1999.

Please feel free to call me at (510) 893-5160 ext. 15 if you have any questions regarding this report or other project matters.

Sincerely,

Andrew M. Galleni

Andrew M. Galleni
Project Geologist

cc: Roland Costanzo, Hertz Corporation, Park Ridge, New Jersey

520 Third Street, Suite 104 ◆ Oakland, California 94607 ◆ Telephone 510-893-5160 ◆ Fax 510-893-5947

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GROUP, INC.
Environmental Services

GROUNDWATER MONITORING REPORT
FOURTH QUARTER 1999
Hertz Service Center,
1 Airport Drive,
January 11, 2000

BACKGROUND

The property, located adjacent to the passenger terminal at Oakland International Airport, is currently used as a rental car service facility (Figure 1). Reports previously submitted by Environmental Science & Engineering, Inc. (ESE) indicate that one underground storage tank (UST) is present at the site, and that three USTs have been removed from the facility. Two USTs, previously located adjacent to the property (Figure 2), were used by the Federal Aviation Administration (FAA) and the Port of Oakland (Port) for fuel storage. According to Dale Klettke of the Port of Oakland, the two USTs were removed in early 1998 (FAA tank) and September 1998 (Port) and replaced with above ground storage tanks.

Nine monitoring wells were installed as part of the site investigation; groundwater monitoring has been conducted since December 1993. MW-8 has not been located since 1996 and is believed to have been paved over. In accordance with a directive from the Alameda County Environmental Health Services (EHS), a minimum of two monitoring wells (MW-4 and MW-6) are being monitored on a quarterly basis, and wells MW-1, MW-5, MW-7, and MW-9 are being monitored annually. Annual monitoring occurs in the fourth quarter.

For this monitoring event, dissolved oxygen (DO) readings were collected from each well in the field to compare with background concentrations from monitoring in June of 1999. Four ORC (Oxygen Release Compound) socks are currently installed in MW-4 to facilitate aerobic biodegredation of residual fuel compounds. Dissolved oxygen measurements are to be used for comparison with future monitoring events, and to examine biodegredation feasibility at the site.

GROUNDWATER MONITORING AND SAMPLING ACTIVITIES (FOURTH QUARTER, 1999)

Date of groundwater sampling:	November 24, 1999
Wells gauged:	MW-1, MW-3 through MW-7
Field Measurement of Dissolved Oxygen:	MW-1 MW-3 through MW-7
Wells purged and sampled:	MW-1, MW-4 , MW-5, MW-6, and MW-7
Analytes tested:	TPHg (EPA 8015M), BTEX (EPA 8020), and MTBE with Five Fuel oxygenates (MTBE, ETBE, TBA, DIPE, TAME) (EPA 8260B)
Laboratory:	Entech Analytical Labs, Inc. (Sunnyvale, CA)

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GROUNDWATER MONITORING AND SAMPLING RESULTS

Depth to groundwater:	3.68 (MW-3) to 4.50 (MW-7) feet below top of casing
Flow direction/gradient:	South-southwest at 0.015 ft/ft
TPHg concentration range:	<50 µg/l (MW-7) to 9,200 µg/l (MW-4)
Benzene concentration range:	<0.5 µg/l (MW-7) to 1,100 µg/l (MW-4)
MTBE concentration range:	<5.0 µg/l (MW-7) to 120 µg/L (MW-4)
Dissolved Oxygen:	2.10 mg/l (MW-3) to 4.30 mg/l (MW-4)

Remarks:
Analytical results are consistent with recent sampling events. Dissolved oxygen levels have increased significantly in all wells since the last semi-annual monitoring event.

PROJECT STATUS

The EHS has approved the current groundwater monitoring program. Remedial activities currently include the placement of ORC socks in MW-4. Additional remediation has been postponed in response to the possible changes to rental car facility locations which will occur during the upcoming Oakland Airport expansion.

limited O&M GW reports

APPENDIX

- Site Location Map (Figure 1)
- Site Plan (Figure 2)
- Groundwater Contour Map - 11/24/99 (Figure 3)
- Hydrocarbon Distribution Map - 11/24/99 (Figure 4)
- Groundwater Elevations and Analytical Results (Table 1)
- Clearwater Gauging Data/Purge Calculations and Well Purging Data
- Certified Laboratory Reports and Chain-of-Custody Form
- Clearwater Groundwater Monitoring and Sampling Protocols

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CERTIFICATION

This report was prepared under the supervision of a professional registered geologist at Clearwater Group, Inc. All statements, conclusions, and recommendations are based solely upon field observations by Clearwater Group, Inc. and analyses performed by a state-certified laboratory related to the work performed by Clearwater Group, Inc.

Information and interpretation presented herein are for the sole use of the client and regulating agency. The information and interpretation contained in this document should not be relied upon by a third party.

The service performed by Clearwater Group, Inc. has been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the area of the site. No other warranty, expressed or implied, is made.

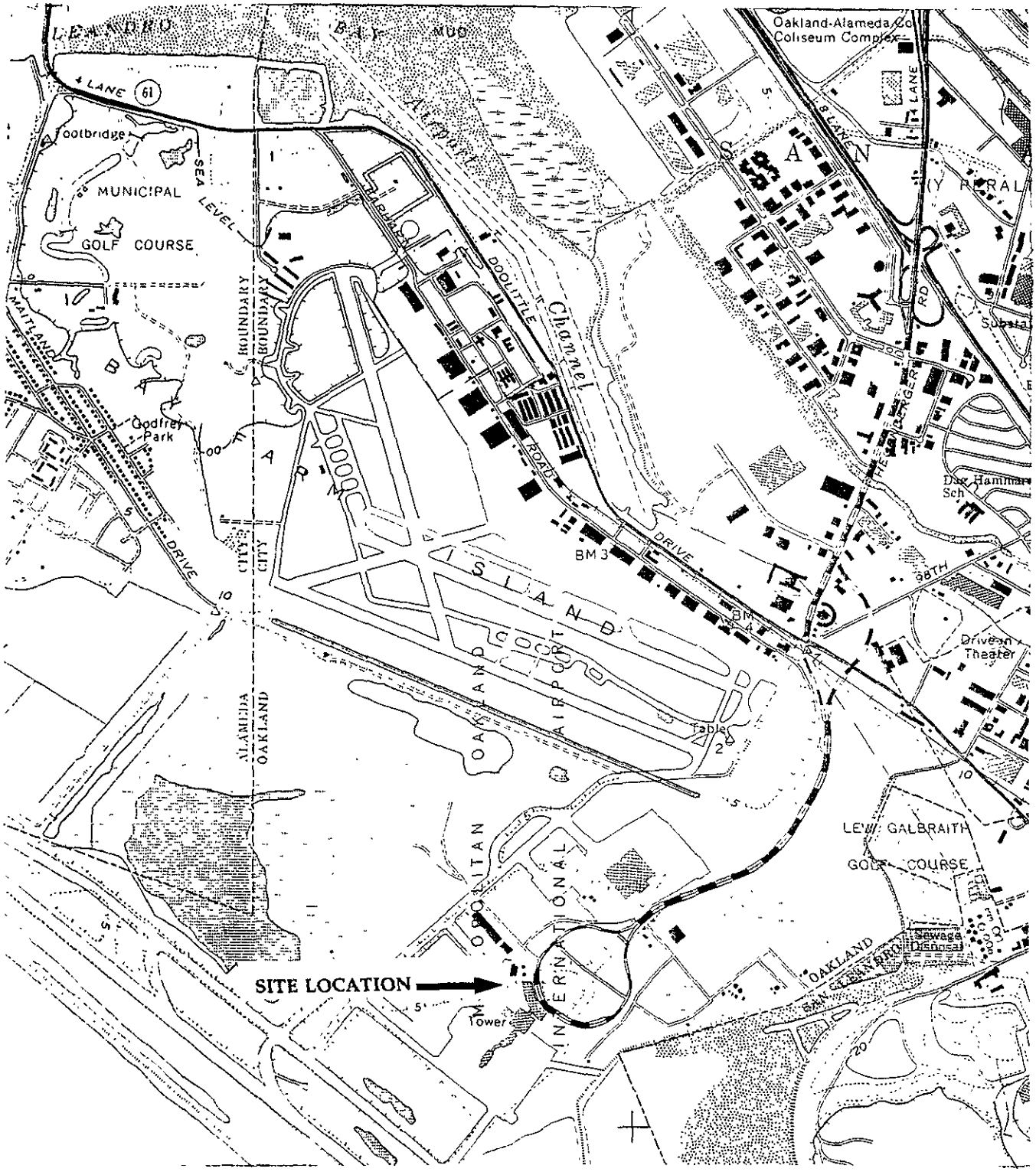
Prepared by:

Benjamin Pink/ Andrew M. Galleni
Staff Geologist/Project Geologist

Reviewed by:

REGISTERED GEOLOGIST
BRIAN M. GWINN
No. 6505
exp. 4/30/01
STATE OF CALIFORNIA

Brian Gwinn, R.G.
Senior Geologist



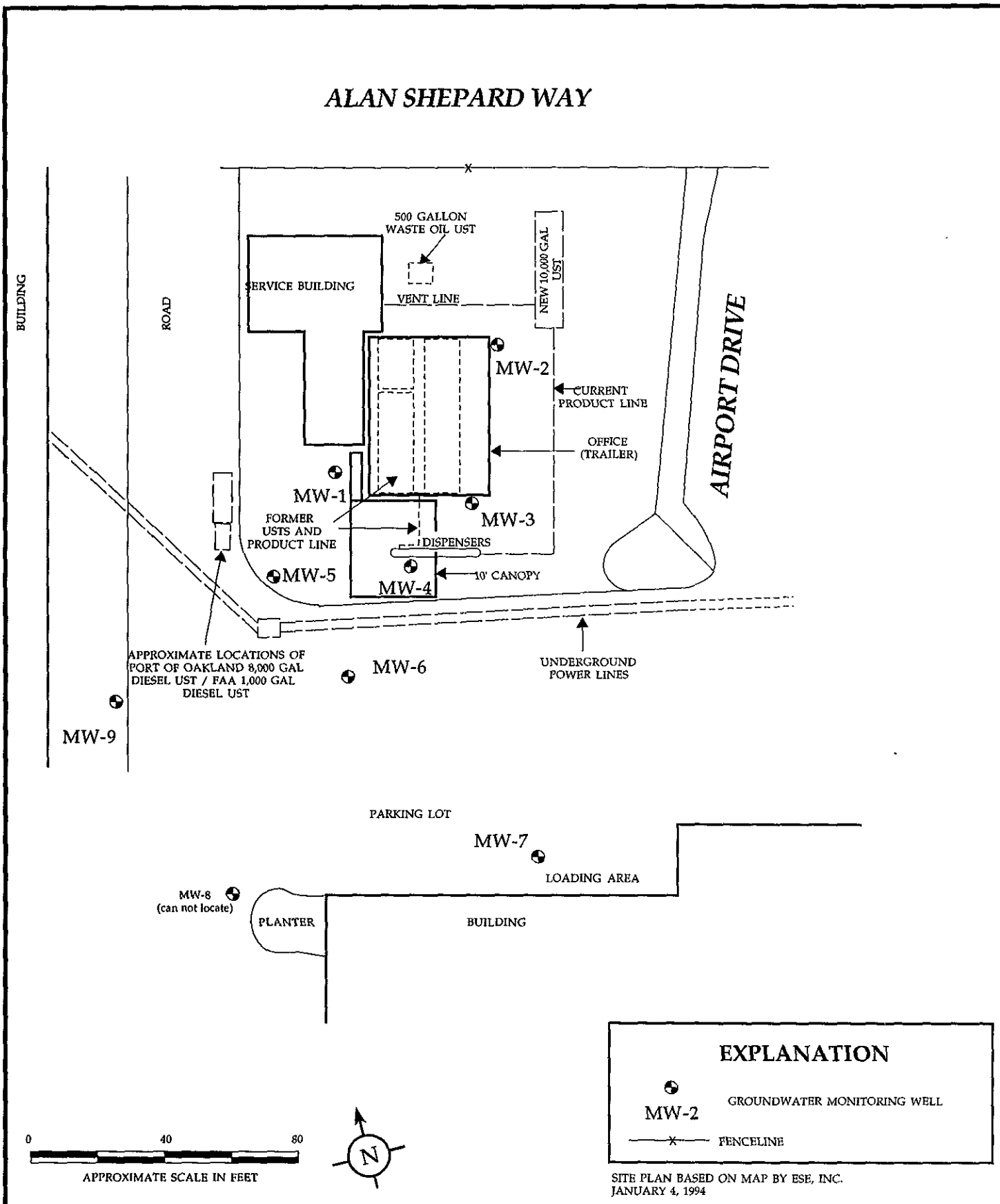
BASE MAP FROM U.S.G.S. 7.5 MINUTE SERIES: SAN LEANDRO, CALIFORNIA

SITE LOCATION MAP

Hertz Service Center,
1 Airport Drive,
Oakland, California

CLEARWATER GROUP, INC.

Project No.	Figure Date	Figure
C-156	10/96	1

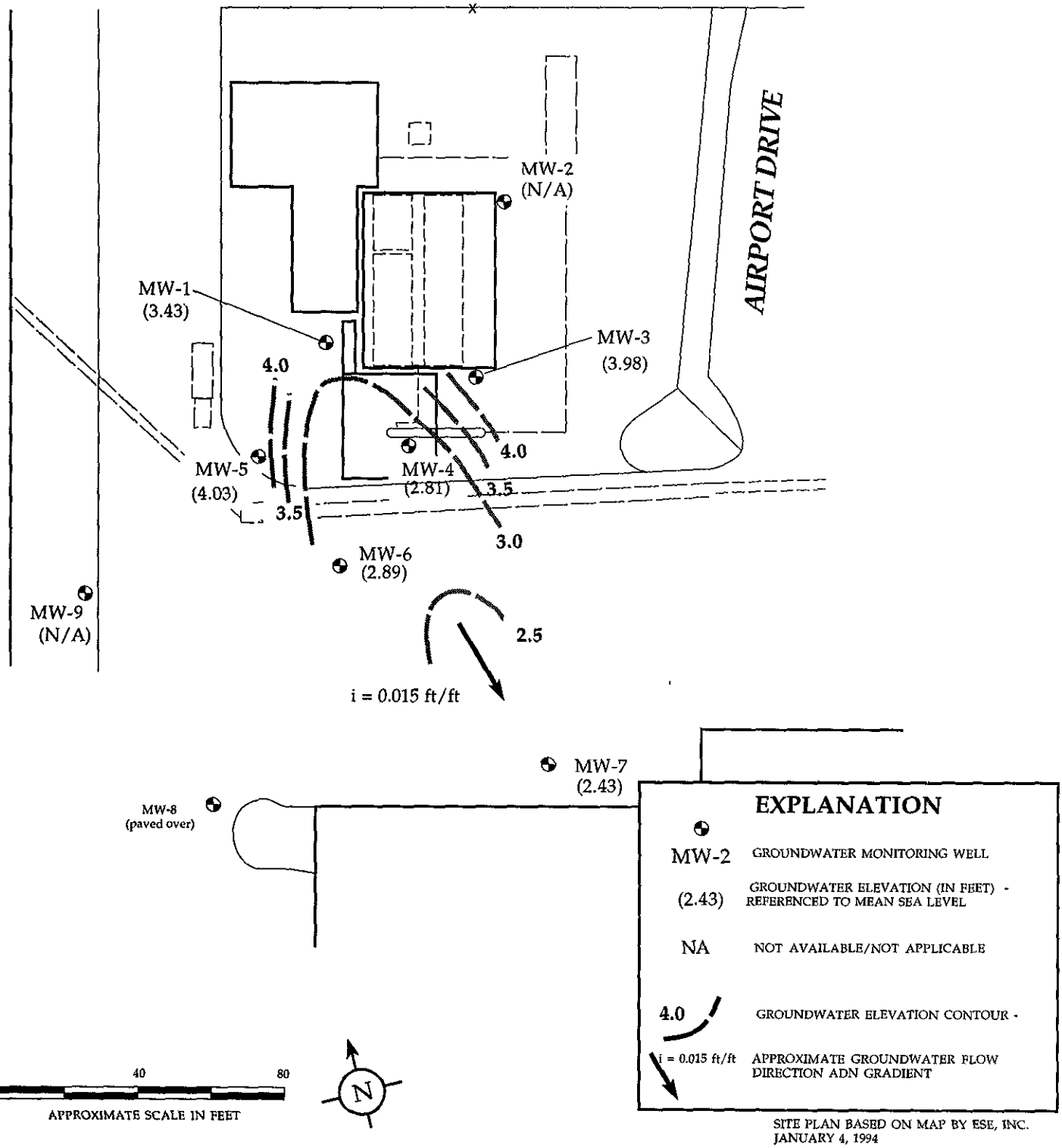


SITE PLAN

Hertz Service Center,
1 Airport Drive,
Oakland, California

CLEARWATER GROUP, INC.

Project No.	Figure Date	Figure
C-156	12/99	2

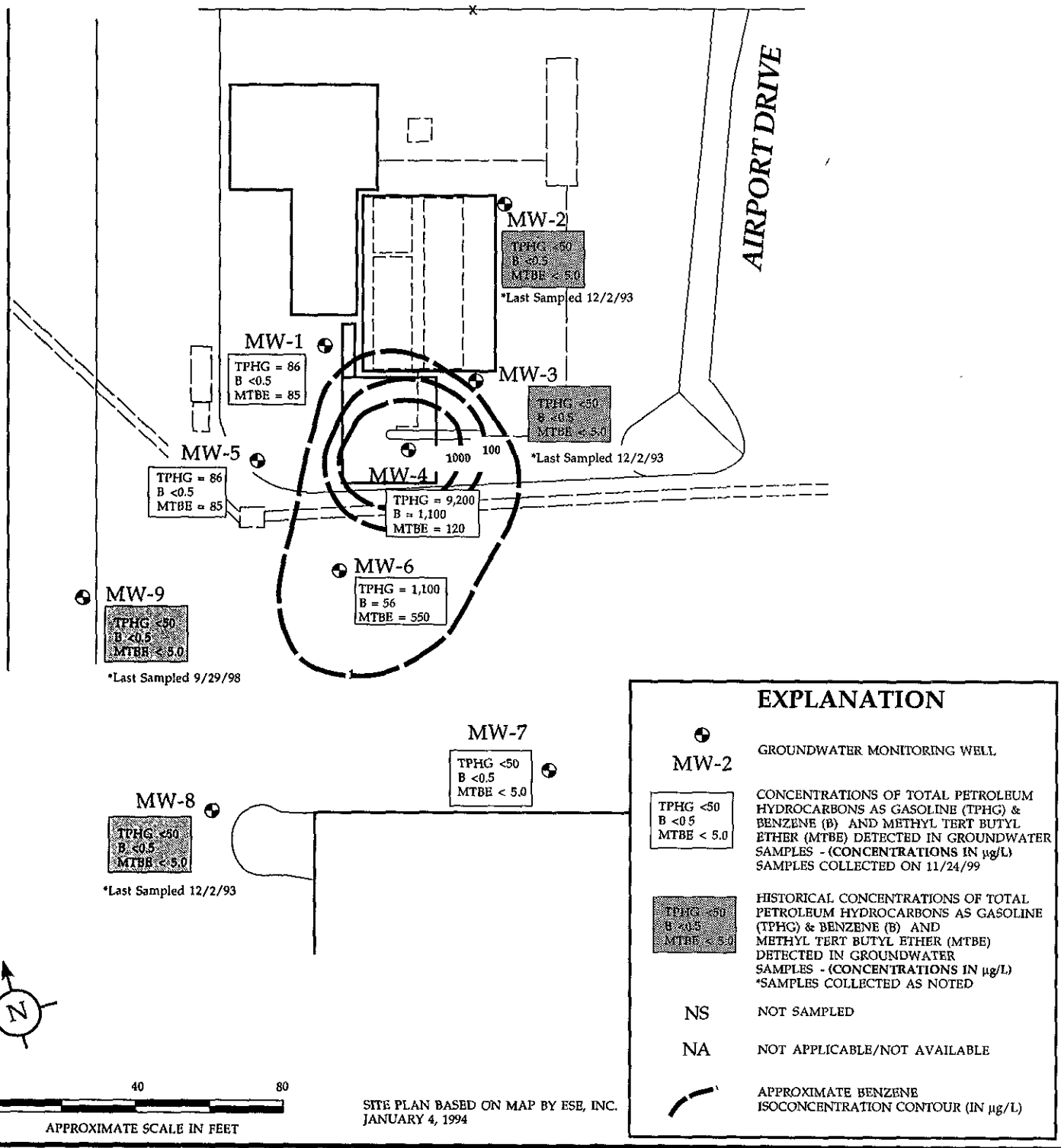


GROUNDWATER CONTOUR MAP- 11/24/99

Hertz Service Center,
1 Airport Drive,
Oakland, California

CLEARWATER GROUP, INC.

Project No.	Figure Date	Figure
C-156	12/99	3



HYDROCARBON DISTRIBUTION MAP
11/24/99

Hertz Service Center,
1 Airport Drive,
Oakland, California

CLEARWATER GROUP, INC.

Project No.	Figure Date	Figure
C-156	12/99	4

TABLE 1
GROUNDWATER ELEVATIONS AND ANALYTICAL RESULTS
Hertz Service Center
1 Airport Drive
Oakland, California

Well #	Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	TPHd (µg/L)	DO (µg/L)
MW-1	8/20/91	7.45	5.15	2.30	ND	ND	ND	ND	ND	--	--	ND	--
	11/12/91	7.45	4.39	3.06	ND	ND	ND	ND	ND	--	--	ND	--
	2/18/92	7.45	4.39	3.06	ND	ND	ND	ND	ND	--	--	ND	--
	5/13/92	7.45	4.52	2.93	ND	ND	ND	ND	ND	--	--	--	--
	9/1/92	7.45	4.90	2.55	ND	ND	ND	ND	ND	--	--	--	--
	11/5/92	7.45	5.06	2.39	ND	ND	ND	ND	ND	--	--	--	--
	2/3/93	7.45	4.11	3.34	ND	ND	ND	ND	ND	--	--	--	--
	5/27/93	7.45	4.14	3.31	ND	ND	ND	ND	ND	--	--	ND	--
	12/2/93	7.45	4.54	2.91	ND	ND	ND	ND	ND	--	--	ND	--
	9/17/96	7.45	4.09	3.36	--	--	--	--	--	--	--	--	--
	11/27/96	7.45	3.82	3.63	--	--	--	--	--	--	--	--	--
	2/14/97	7.45	3.29	4.16	--	--	--	--	--	--	--	--	--
	12/3/97	7.45	3.52	3.93	--	--	--	--	--	--	--	--	--
	3/10/98	7.45	2.68	4.77	<50	<0.5	<0.5	<0.5	<2.0	<5.0	--	--	--
	9/29/98	7.45	4.04	3.41	<50	<0.5	<0.5	<0.5	<0.5	14	--	--	--
	12/9/98	7.45	3.44	4.01	--	--	--	--	--	--	--	--	--
	6/23/99	7.45	3.87	3.58	--	--	--	--	--	--	--	--	0.48
	11/24/99 (c)	7.45	4.02	3.43	86	<0.5	<0.5	<0.5	<0.5	85	180	--	--
MW-2	8/20/91	8.09	4.00	4.09	ND	ND	ND	ND	ND	--	--	ND	--
	11/12/91	8.09	4.23	3.86	ND	ND	ND	ND	ND	--	--	52	--
	2/18/92	8.09	4.23	3.86	ND	ND	ND	ND	ND	--	--	ND	--
	5/13/92	8.09	3.43	4.66	ND	ND	ND	ND	ND	--	--	--	--
	9/1/92	8.09	3.94	4.15	56	2.0	3.0	0.8	3.1	--	--	--	--
	11/5/92	8.09	4.04	4.05	ND	ND	ND	ND	ND	--	--	--	--
	2/3/93	8.09	3.25	4.84	ND	ND	ND	ND	ND	--	--	--	--
	5/27/93	8.09	3.27	4.82	ND	ND	ND	ND	ND	--	--	ND	--
	12/2/93	8.09	3.65	4.44	ND	ND	ND	ND	ND	--	--	ND	--
	9/17/96	8.09	3.35	4.74	--	--	--	--	--	--	--	--	--
	11/27/96	8.09	3.18	4.91	--	--	--	--	--	--	--	--	--
	2/14/97	8.09	2.65	5.44	--	--	--	--	--	--	--	--	--
	12/3/97	8.09	2.95	5.14	--	--	--	--	--	--	--	--	--
	3/10/98	8.09	2.11	5.98	--	--	--	--	--	--	--	--	--
	9/29/98	8.09	--	--	--	--	--	--	--	--	--	--	--
	12/9/98	8.09	2.95	5.14	--	--	--	--	--	--	--	--	--
	6/23/99	8.09	2.99	5.10	--	--	--	--	--	--	--	--	3.76
	11/24/99 (c)	8.09	--	Well Access Restricted			--	--	--	--	--	--	--

TABLE 1
GROUNDWATER ELEVATIONS AND ANALYTICAL RESULTS
Hertz Service Center
1 Airport Drive
Oakland, California

Well #	Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	TPHd (µg/L)	DO (µg/L)
MW-3	8/20/91	7.66	4.60	3.06	ND	ND	ND	ND	ND	--	--	ND	--
	11/12/91	7.66	4.74	2.92	ND	ND	ND	ND	ND	--	--	ND	--
	2/18/92	7.66	4.74	2.92	ND	ND	ND	ND	ND	--	--	ND	--
	5/13/92	7.66	4.02	3.64	ND	ND	ND	ND	ND	--	--	--	--
	9/1/92	7.66	4.45	3.21	ND	1.1	1.6	ND	1.9	--	--	--	--
	11/5/92	7.66	4.59	3.07	ND	ND	ND	ND	ND	--	--	--	--
	2/3/93	7.66	3.63	4.03	ND	ND	ND	ND	ND	--	--	--	--
	5/27/93	7.66	3.82	3.84	ND	ND	ND	ND	ND	--	--	55	--
	12/2/93	7.66	4.06	3.60	ND	ND	ND	ND	ND	--	--	ND	--
	9/17/96	7.66	3.76	3.90	--	--	--	--	--	--	--	--	--
	11/27/96	7.66	3.58	4.08	--	--	--	--	--	--	--	--	--
	2/14/97	7.66	3.01	4.65	--	--	--	--	--	--	--	--	--
	12/3/97	7.66	3.31	4.35	--	--	--	--	--	--	--	--	--
	3/10/98	7.66	2.41	5.25	--	--	--	--	--	--	--	--	--
	9/29/98	7.66	--	--	--	--	--	--	--	--	--	--	--
	12/9/98	7.66	3.44	4.22	--	--	--	--	--	--	--	--	--
	6/23/99	7.66	3.33	4.33	--	--	--	--	--	--	--	--	0.17
	11/24/99 (c)	7.66	3.68	3.98	--	--	--	--	--	--	--	--	2.10
MW-4	2/18/92	7.11	3.68	3.43	6,600	910	1,900	280	1,700	--	--	ND	--
	5/13/92	7.11	3.54	3.57	62,000	3,400	5,200	990	5,200	--	--	--	--
	9/1/92	7.11	3.97	3.14	120,000	8,800	14,000	2,100	11,000	--	--	--	--
	11/5/92	7.11	5.23	1.88	24,000	2,600	3,300	510	2,100	--	--	--	--
	2/3/93	7.11	4.22	2.89	50,000	4,700	5,000	1,500	6,600	--	--	--	--
	5/27/93	7.11	4.33	2.78	48,000	6,300	7,200	1,600	6,800	--	--	4,900	--
	12/2/93	7.11	4.72	2.39	21,000	3,500	3,800	640	2,000	--	--	770	--
	9/17/96	7.11	4.38	2.73	16,000	4,300	1,900	750	1,900	100	--	220	--
	11/27/96	7.11	4.20	2.91	14,000	5,100	2,600	1,300	2,500	<300	--	<200	--
	2/14/97 (b,c)	7.11	3.58	3.53	19,000	3,300	3,100	980	2,600	150	--	210	--
	12/3/97	7.11	3.92	3.19	19,000	3,300	3,100	980	2,600	150	--	210	--
	3/10/98	7.11	2.90	4.21	15,000	2,500	2,600	80	3,900	400	--	--	--
	9/29/98	7.11	4.56	2.55	14,000	2,800	240	390	830	--/370	--	--	--
	12/9/98	7.11	3.78	3.33	7,400	1,100	510	340	1,200	330/360	--	--	--
	6/23/99	7.11	3.97	3.14	29,000	4,900	1,900	1,400	3,600	540/590	--	--	0.19
	11/24/99 (c)	7.11	4.30	2.81	9,200	1,100	490	560	1,100	120	<200	--	4.30
MW-5	11/5/92	7.76	4.76	3.00	ND	ND	ND	ND	ND	--	--	170	--
	2/3/93	7.76	--	--	--	--	--	--	--	--	--	--	--
	5/27/93	7.76	3.88	3.88	ND	ND	ND	ND	ND	--	--	75	--
	12/2/93	7.76	4.36	3.40	ND	ND	ND	ND	ND	--	--	60	--
	9/17/96	7.76	3.99	3.77	--	--	--	--	--	--	--	--	--
	11/27/96	7.76	3.80	3.96	--	--	--	--	--	--	--	--	--
	2/14/97 (b)	7.76	3.16	4.60	100	1.2	<0.5	0.8	<2	95	--	860	--
	3/10/98	7.76	2.52	5.24	--	--	--	--	--	--	--	--	--
	9/29/98	7.76	3.59	4.17	76	<0.5	<0.5	1.7	0.55	170	--	--	--
	12/9/98	7.76	3.35	4.41	--	--	--	--	--	--	--	--	--
	6/23/99	7.76	2.99	4.77	--	--	--	--	--	--	--	--	0.26
	11/24/99 (c)	7.76	3.73	4.03	82	<0.5	<0.5	<0.5	<0.5	81	220	--	2.25

TABLE 1
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Hertz Service Center
1 Airport Drive
Oakland, California

Well #	Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	TPHd (µg/L)	DO (µg/L)
MW-6	11/5/92	7.17	5.28	1.89	820	250	ND	5.9	ND	--	--	--	--
	2/3/93	7.17	4.27	2.90	330	120	2.8	19	5.3	--	--	--	--
	5/27/93	7.17	4.35	2.82	1,300	370	ND	87	19	--	--	960	--
	12/2/93	7.17	4.81	2.36	280	11	1.0	65	3.0	--	--	700	--
	9/17/96	7.17	4.39	2.78	<50	1.0	0.5	<0.5	<2.0	<5	--	270	--
	11/27/96	7.17	4.23	2.94	<50	<0.5	<0.5	<0.5	<2.0	7.0	--	<50	--
	2/14/97 (b)	7.17	3.57	3.60	50	0.9	<0.5	<0.5	<2.0	9.0	--	600	--
	12/3/97	7.17	3.92	3.25	50	0.9	<0.5	<0.5	<2.0	9.0	--	600	--
	3/10/98	7.17	2.88	4.29	<50	<0.5	<0.5	0.6	<2.0	7.0	--	--	--
	9/29/98	7.17	4.40	2.77	<50	<0.5	<0.5	<0.5	<0.5	<5	--	--	--
	12/9/98	7.17	3.88	3.29	<50	<0.5	<0.5	<0.5	<0.5	<5	--	--	--
	6/23/99	7.17	3.93	3.24	530	<1.0	<1.0	90.0	2.3	<10	--	--	0.12
	11/24/99 (c)	7.17	4.28	2.89	1,100	56	<2.5	150	6.0	550	<100	--	3.20
MW-7	5/27/93	6.93	4.58	2.35	ND	ND	ND	ND	ND	--	--	76	--
	12/2/93	6.93	4.78	2.15	ND	ND	ND	ND	ND	--	--	ND	--
	9/17/96	6.93	4.52	2.41	--	--	--	--	--	--	--	--	--
	11/27/96	6.93	4.35	2.58	--	--	--	--	--	--	--	--	--
	2/14/97 (b)	6.93	3.70	3.23	<50	<0.5	<0.5	<0.5	<2	<5	--	140	--
	12/3/97	6.93	4.04	2.89	<50	<0.5	<0.5	<0.5	<2	<5	--	140	--
	3/10/98	6.93	2.98	3.95	<50	<0.5	<0.5	<0.5	<2	<5	--	--	--
	9/29/98	6.93	4.43	2.50	<50	<0.5	<0.5	<0.5	<0.5	<5	--	--	--
	12/9/98	6.93	4.33	2.60	--	--	--	--	--	--	--	--	--
	6/23/99	6.93	4.02	2.91	--	--	--	--	--	--	--	--	1.38
	11/24/99 (c)	6.93	4.50	2.43	<50	<0.5	<0.5	<0.5	<0.5	<5	<20	--	2.54
MW-8	5/27/93	6.75	4.84	1.91	ND	ND	ND	ND	ND	--	--	91	--
	12/2/93	6.75	5.44	1.31	ND	ND	ND	ND	ND	--	--	54	--
	9/17/96 (a)	6.75	--	--	Well Burried by asphalt			--	--	--	--	--	--
	11/24/99 (c)	6.75	--	--	Well Burried by asphalt			--	--	--	--	--	--

TABLE 1
GROUNDWATER ELEVATIONS AND ANALYTICAL RESULTS
Hertz Service Center
1 Airport Drive
Oakland, California

Well #	Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	TPHd (µg/L)	DO (µg/L)
MW-9	5/27/93	6.55	4.97	1.58	ND	ND	ND	ND	ND	--	--	72	--
	12/2/93	6.55	5.53	1.02	ND	ND	ND	ND	ND	--	--	72	--
	9/17/96	6.55	4.95	1.60	--	--	--	--	--	--	--	--	--
	11/27/96	6.55	--	--	--	--	--	--	--	--	--	--	--
	2/14/97 (b)	6.55	4.16	2.39	<50	<0.5	<0.5	<0.5	ND<2	ND<5	--	130	--
	12/3/97	6.55	4.40	2.15	<50	<0.5	<0.5	<0.5	ND<2	ND<5	--	130	--
	3/10/98	6.55	3.50	3.05	<50	<0.5	<0.5	<0.5	ND<2	ND<5	--	--	--
	9/29/98	6.55	4.97	1.58	<50	<0.5	<0.5	<0.5	<0.5	ND<5	--	--	--
	12/9/98	6.55	4.44	2.11	--	--	--	--	--	--	--	--	--
	6/23/99	6.55	4.61	1.94	--	--	--	--	--	--	--	--	0.25
	11/24/99 (c)	6.55	--	Well Access Restricted			--	--	--	--	--	--	--

Notes:

TOC Elevation at the north side of the top of the well casing referenced to mean sea level (wells surveyed by others)

DTW Depth to water

GWE Groundwater elevation: GWE = TOC - DTW

TPHg Total petroleum hydrocarbons as gasoline using EPA Method 8015 (modified)

TPHd Total petroleum hydrocarbons as diesel fuel using EPA Method 8015 (modified)

BTEX Benzene, toluene, ethylbenzene and total xylenes using EPA Method 8020 (modified)

MTBE Methyl tert butyl ether using EPA Method 8260B

TBA tert-Butanol using EPA Method 8260B

DO Dissolved Oxygen measured with a YSI 51B field instrument

µg/L Micrograms per liter: approximately equal to one part per billion

mg /L Milligrams per liter: approximately equal to one part per million

-- Not tested, not measured

ND Not detected in concentrations at or above laboratory reporting limit (indicated if available).

(a) Laboratory chromatograms indicate that samples may contain weathered diesel fuel or a light oil

(b) Reporting limits elevated because of high levels of target compounds; MTBE included in gasoline result Analytical results prior to September 17, 1996 were taken from the Report of Findings, Fourth Quarter 1993 Ground Water Monitoring by Environmental Science & Engineering (January 4, 1994). Analytical results for metals, oil and grease, halogenated volatile compounds, and semi-volatile organics are not included in this table.

(c) Samples taken on 11/24/99 were analyzed for five fuel oxygenates including MTBE by EPA method 8260B. Only two of the five oxygenates are listed in the table, MTBE and TBA, the others were below detection limits for all samples.

CLEARWATER GROUP, INC.

520 3rd Street, Suite 104 Oakland CA, 94607
Phone: (510)893-5160 Fax: (510) 893-5947

WELL GAUGING/PURGING CALCULATIONS
SITE DATA SHEET

COPY

Date	Job No.	Location
11/24/14	C-156	Hertz Oakland Airport

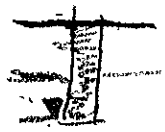
Tech(s): BP

Drums on Site @TOA — Soil: 0 Water: 0

Drums on Site @ TOD — Soil: 0 Water: 1

Well No	Diameter (in)	DTB (ft)	DTW (ft)	ST (ft)	CV (gal)	PV (gal)	SPL (ft)	Notes
MW-1	2	14.8	4.02	10.78	1.72	5.16		
MW-2	2	~~Blocked by CAR~~						~~[illegible]~~
MW-3	2		3.68					DO: 2.10
~~[illegible]~~								
MW-5	2	11	3.73	7.27	1.16	3.48		
MW-6	2	12	4.28	7.72	1.24	3.72		
MW-7	2	10	4.54	5.50	0.88	2.64		
MW-8	Can not locate (BURIED)							
MW-9	2	CAR BLOCKING WELL						
~~[illegible]~~								
MW-4	2	8	4.30	3.70	0.59	1.78		

MW-8 is burried - asphalt surface
forgot metal detector



Explaination:
DTB = Depth to Bottom
DTW = Depth to Water
ST = Saturated Thickness (DTB-DTW)
CV = Casing Volume (ST x cf)
PV = Purge Volume (standard 3 x CV, well development 10 x CV)
SPL = Thickness of Separate Phase Liquid

Conversion Factors (cf)
2 inch diameter well cf=0.16 gal/ft
4 inch diameter well cf=0.65 gal/ft
6 inch diameter well cf=1.44 gal/ft

4
.16
64 8

1.28 x 3 = 3.84 gal

WELL PURGING DATA

SHEET 1 OF

Job No.: C-156 Location: Hertz, Oakland Airport Date: 11/24/99 Tech: BP

WELL No.	TIME (24-hr)	VOLUME (gal)	TEMP. (deg. F.)	X100 COND. (mS/cm)	pH
MW-7	1226	≈0.75	66.1	3.27	7.80
Calc. purge		≈1.5	65.4	3.18	7.66
volume		≈2.25	64.9	3.13	7.59
2.64	1230	≈2.6	64.2	2.78	7.55

Do: 2.54

COMMENTS: color, turbidity, recharge, etc.

Tan, high, good

Sample time: 1240

Sample for: (circle)

(TPHg) TPHd TPHmo

(BTEX) (MTBE) 8010

Other: fuel oxys 8260

Sampling Method:

Dedicated (Disposable bailer)

Purging Method:

(PVC bailer) / Pump

WELL No.	TIME (24-hr)	VOLUME (gal)	TEMP. (deg. F.)	COND. (mS/cm)	pH
MW-5	1253	1	64.4	3.50	7.59
Calc. purge		2	65.6	4.00	7.48
volume		3	66.6	4.11	7.56
3.48	1300	≈3.5	66.3	4.45	7.56

DC: 2.25

COMMENTS: color, turbidity, recharge, etc.

Tan, high, good

Sample time: 1305

Sample for: (circle)

(TPHg) TPHd TPHmo

(BTEX) (MTBE) 8010

Other: 8260

Sampling Method:

Dedicated (Disposable bailer)

Purging Method:

(PVC bailer) / Pump

WELL No.	TIME (24-hr)	VOLUME (gal)	TEMP. (deg. F.)	COND. (mS/cm)	pH
MW-1	1318	2	64.5	3.15	8.23
Calc. purge		3	65.7	3.30	8.05
volume		4	65.6	3.34	7.98
5.16	1325	5+	64.3	3.10	7.98

COMMENTS: color, turbidity, recharge, etc.

Tan, high, good

Sample time: 1330

Sample for: (circle)

(TPHg) TPHd TPHmo

(BTEX) (MTBE) 8010

Other: 8260

Sampling Method:

Dedicated (Disposable bailer)

Purging Method:

(PVC bailer) / Pump

CLEARWATER GROUP INC., 520 Third St., Ste. 104, Oakland, California 94607

Phone: (510) 893-5160 Fax: (510) 893-5947

WELL PURGING DATA

SHEET 2 OF 2

Job No.: C-156 Location: [redacted] Date: 11/24/99 Tech: BP

Flert2

WELL No.	TIME (24-hr)	VOLUME (gal)	TEMP. (deg. F.)	COND. (mS/cm)	pH
MW-3					
Calc. purge volume	DC 2.10				

COMMENTS: color, turbidity, recharge, etc.

Sample time:
Sample for: (circle)
TPHg TPHd TPHmo
BTEX MTBE 8010
Other: 8260
NO Sam
Sampling Method:
Dedicated / Disposable bailer
Purging Method:
PVC bailer / Pump

WELL No.	TIME (24-hr)	VOLUME (gal)	TEMP. (deg. F.)	COND. (mS/cm)	pH
MW-6	1405	1	68.8	7.56	7.55
Calc. purge		2	69.4	8.33	7.52
volume		3	69.0	8.41	7.52
3.72	1412	≈3.7	69.0	8.42	7.53

DO 7.20

COMMENTS: color, turbidity, recharge, etc.
Olive [redacted], high, good

Sample time: 1420
Sample for: (circle)
TPHg TPHd TPHmo
BTEX MTBE 8010
Other: 8260
Sampling Method:
Dedicated / Disposable bailer
Purging Method:
PVC bailer / Pump

WELL No.	TIME (24-hr)	VOLUME (gal)	TEMP. (deg. F.)	COND. (mS/cm)	pH
MW-4	1450	≈1/2	64.4	7.21	8.82
Calc. purge		≈1	65.1	7.75	8.12
volume		≈1 1/2	67.0	8.16	7.90
1.78		≈1.8	67.9	8.18	7.81

COMMENTS: color, turbidity, recharge, etc.
DO 4.30 Olive, moderate, good

Sample time: 1500
Sample for: (circle)
TPHg TPHd TPHmo
BTEX MTBE 8010
Other: 8260
Sampling Method:
Dedicated / Disposable bailer
Purging Method:
PVC bailer / Pump

CLEARWATER GROUP INC., 520 Third St., Ste. 104, Oakland, California 94607
Phone: (510) 893-5160 Fax: (510) 893-5947

11/24 C-156 Hertz

Toc 1045
Sunny, cool

MW-9 had car over it all day, could not access

MW-4: I was able to remove CRC locks, gauge & sample, but it felt like there was an old bailer stuck down hole & left. I tried to remove it but could not.

Done at 1530
Arrive office @

Left one drum (1/3 full) next to MW-1 inside fence

CLEARWATER
GROUP, INC.

FIELDWORK REQUEST FORM

Project Number:	C-156
Project Address:	Hertz Service Center, 1 Airport Drive Oakland CA
Date of Work Request:	November 8, 1999
Type of Field Work:	Annual groundwater monitoring of 8 wells: MW-1 through MW-9. MW-8 is buried. 1) Gauge and measure DO in all wells. 2) Try and locate and mark out MW-8 with metal detector.
	3) Purge and sample all wells EXCEPT MW-2 & MW-3. 4) Purge and sample MW-4 last, and MW-6 second to last.
	Four ORC socks are located in MW-4: you will need to remove them from the well before purging and sampling (obviously).
Special Requirement:	Remember to rent DO meter
Lab:	Entech Analytical
Analyses:	TPHg, BTEX (8015/8020), and Fuel Oxy.s (8260)
Requested by:	Drew Galleni
Attachments:	Tables: Site Map: 1 Other: Old purge sheets with DTBs.
Field Geologist:	Oakland
Date Scheduled:	Anytime in December 1999, but no later than December 23.

CLEARWATER GROUP, INC.

Groundwater Monitoring and Sampling Field Procedures

Groundwater Monitoring

Prior to beginning, a decontamination area is established. Decontamination procedures consist of scrubbing downhole equipment in an Alconox® solution wash (wash solution is pumped through any purging pumps used), and rinsing in a first rinse of potable water and a second rinse of potable water or deionized water if the latter is required. Any non-dedicated down hole equipment is decontaminated prior to use.

Prior to purging and sampling a well, the static water level is measured to the nearest 0.01 feet with an electronic water sounder. Depth to bottom is typically measured once per year, at the request of the project manager, and during Clearwater's first visit to a site. If historical analytical data are not available, with which to establish a reliable order of increasing well contamination, the water sounder and tape will be decontaminated between each well. If floating separate-phase hydrocarbons (SPH) are suspected or observed, SPH is collected using a clear, open-ended product bailer, and the thickness is measured to the nearest 0.01 feet in the bailer. SPH may alternatively be measured with an electronic interface probe. Any monitoring well containing a measurable thickness of SPH before or during purging is not additionally purged and no sample is collected from that well. Wells containing a hydrocarbon sheen are sampled unless otherwise specified by the project manager. Field observations such as well integrity as well as water level measurements and floating product thicknesses are noted on the Gauging Data/Purge Calculations form.

Well Purging

Each monitoring well to be sampled is purged using either a PVC bailer or a submersible pump. Physical parameters (pH, temperature and conductivity) of the purge water are monitored during purging activities to assess if the water sample collected is representative of the aquifer. If required, parameters such as dissolved oxygen, turbidity, salinity etc. are also measured. Samples are considered representative if parameter stability is achieved. Stability is defined as a change of less than 0.25 pH units, less than 10% change in conductivity in micro mhos, and less than 1.0 degree centigrade (1.8 degrees Fahrenheit) change in temperature. Parameters are measured in a discreet sample decanted from the bailer separately from the rest of the purge water. Parameters are measured at least four times during purging; initially, and at volume intervals of one well volume. Purging continues until three well casing volumes have been removed or until the well completely dewaters. Wells which dewater or demonstrate a slow recharge, may be sampled after fewer than three well volumes have been removed. Well purging information is recorded on the Purge Data sheet. All meters used to measure parameters are calibrated daily. Purge water is sealed, labeled, and stored on site in D.O.T.-approved 55-gallon drums. After being chemically profiled, the water is removed to an appropriate disposal facility by a licensed waste hauler.

Groundwater Sample Collection

Groundwater samples are collected immediately after purging or, if purging rate exceeds well recharge rate, when the well has recharged to at least 80% of its static water level. If recharge is extremely slow, the well is allowed to recharge for at least two hours, if practicable, or until sufficient volume has accumulated for sampling. The well is sampled within 24 hours of purging or repurged. Samples are collected using polyethylene bailers, either disposable or dedicated to the well. Samples being analyzed for compounds most sensitive to volatilization are collected first. Water samples are placed in appropriate laboratory-supplied containers, labeled, documented on a chain of custody form and placed on ice in a cooler for transport to a state-certified analytical laboratory. Analytical detection limits match or surpass standards required by relevant local or regional guidelines.

Quality Assurance Procedures

To prevent contamination of the samples, CGI personnel adhere to the following procedures in the field:

- A new, clean pair of latex gloves are put on prior to sampling each well.
- Wells are gauged, purged and groundwater samples are collected in the expected order of increasing degree of contamination based on historical analytical results.
- All purging equipment will be thoroughly decontaminated between each well, using the procedures previously described at the beginning of this section.
- During sample collection for volatile organic analysis, the amount of air passing through the sample is minimized. This helps prevent the air from stripping the volatiles from the water. Sample bottles are filled by slowly running the sample down the side of the bottle until there is a convex meniscus over the mouth of the bottle. The lid is carefully screwed onto the bottle such that no air bubbles are present within the bottle. If a bubble is present, the cap is removed and additional water is added to the sample container. After resealing the sample container, if bubbles still are present inside, the sample container is discarded and the procedure is repeated with a new container.

Laboratory and field handling procedures may be monitored, if required by the client or regulators, by including quality control (QC) samples for analysis with the groundwater samples. Examples of different types of QC samples are as follows:

- Trip blanks are prepared at the analytical laboratory by laboratory personnel to check field handling procedures. Trip blanks are transported to the project site in the same manner as the laboratory-supplied sample containers to be filled. They are not opened, and are returned to the laboratory with the samples collected. Trip blanks are analyzed for purgable organic compounds.

- Equipment blanks are prepared in the field to determine if decontamination of field sampling equipment has been effective. The sampling equipment used to collect the groundwater samples is rinsed with distilled water which is then decanted into laboratory-supplied containers. The equipment blanks are transported to the laboratory, and are analyzed for the same chemical constituents as the samples collected at the site.

- Duplicates are collected at the same time that the standard groundwater samples are being collected and are analyzed for the same compounds in order to check the reproducibility of laboratory data. They are typically only collected from one well per sampling event. The duplicate is assigned an identification number that will not associate it with the source well.

Generally, trip blanks and field blanks check field handling and transportation procedures. Duplicates check laboratory procedures. The configuration of QC samples is determined by CGI depending on site conditions and regulatory requirements.

Entech Analytical Labs, Inc.

CA ELAP# I-2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

December 07, 1999

Drew Galleni
Clearwater Group, Inc.
520 3rd Street, Suite 104
Oakland, CA 94607

ORIGINAL
Analytical

Order: 17827
Project Name:
Project Number: C-156
Project Notes:

Date Collected: 11/24/99
Date Received: 11/29/99
P.O. Number:

On November 29, 1999, 5 samples were received under documentented chain of custody. Results for the following analyses are attached:

Matrix	Test	Method
Liquid	BTEX/Gas	EPA 8015 MOD. (Purgeable)
		EPA 8020
	Oxygenates by EPA 8260B	EPA 8260B

Chemical analysis of these samples has been completed. Summaries of the data are contained on the following pages. USEPA protocols for sample storage and preservation were followed.

Entech Analytical Labs. Inc. is certified by the State of California (#I-2346). If you have any questions regarding procedures or results, please call me at 408-735-1550.

Sincerely,

Michelle L. Anderson
Lab Director

Entech Analytical Labs, Inc.

CA ELAP# I-2346

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Clearwater Group, Inc.
520 3rd Street, Suite 104
Oakland, CA 94607
Attn: Drew Galleni

Date: 12/6/99
Date Received: 11/29/99
Project Name:
Project Number: C-156
P.O. Number:
Sampled By: Ben Pink

Certified Analytical Report

Order ID: 17827 **Lab Sample ID:** 17827-001 **Client Sample ID:** MW-1

Sample Time: 1:30 PM **Sample Date:** 11/24/99 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
tert-Butanol	180		1	20	20	µg/L	12/5/99	WMS991203	EPA 8260B
Methyl-t-butyl Ether	85		1	5	5	µg/L	12/5/99	WMS991203	EPA 8260B
Diisopropyl Ether	ND		1	5	5	µg/L	12/5/99	WMS991203	EPA 8260B
Ethyl-t-butyl Ether	ND		1	5	5	µg/L	12/5/99	WMS991203	EPA 8260B
tert-Amyl Methyl Ether	ND		1	5	5	µg/L	12/5/99	WMS991203	EPA 8260B

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	94	65 - 135
Dibromofluoromethane	100	65 - 135
Toluene-d8	97	65 - 135

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #I-2346)

Michelle L. Anderson, Laboratory Director

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

CA ELAP# I-234

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Clearwater Group, Inc.
520 3rd Street, Suite 104
Oakland, CA 94607
Attn: Drew Galleni

Date: 12/6/99
Date Received: 11/29/99
Project Name:
Project Number: C-156
P.O. Number:
Sampled By: Ben Pink

Certified Analytical Report

Order ID: 17827 **Lab Sample ID:** 17827-002 **Client Sample ID:** MW-4

Sample Time: 3:00 PM **Sample Date:** 11/24/99 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
tert-Butanol	ND		10	20	200	µg/L	12/4/99	WMS991203	EPA 8260B
Methyl-t-butyl Ether	120		10	5	50	µg/L	12/4/99	WMS991203	EPA 8260B
Diisopropyl Ether	ND		10	5	50	µg/L	12/4/99	WMS991203	EPA 8260B
Ethyl-t-butyl Ether	ND		10	5	50	µg/L	12/4/99	WMS991203	EPA 8260B
tert-Amyl Methyl Ether	ND		10	5	50	µg/L	12/4/99	WMS991203	EPA 8260B

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	113	65 - 135
Dibromofluoromethane	94	65 - 135
Toluene-d8	99	65 - 135

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #I-2346)

Michelle L. Anderson, Laboratory Director

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Clearwater Group, Inc.
520 3rd Street, Suite 104
Oakland, CA 94607
Attn: Drew Galleni

Date: 12/7/99
Date Received: 11/29/99
Project Name:
Project Number: C-156
P.O. Number:
Sampled By: Ben Pink

Certified Analytical Report

Order ID: 17827 **Lab Sample ID:** 17827-003 **Client Sample ID:** MW-5

Sample Time: 1:05 PM **Sample Date:** 11/24/99 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
tert-Butanol	220		1	20	20	µg/L	12/5/99	WMS991205	EPA 8260B
Methyl-t-butyl Ether	81		1	5	5	µg/L	12/5/99	WMS991205	EPA 8260B
Diisopropyl Ether	ND		1	5	5	µg/L	12/5/99	WMS991205	EPA 8260B
Ethyl-t-butyl Ether	ND		1	5	5	µg/L	12/5/99	WMS991205	EPA 8260B
tert-Amyl Methyl Ether	ND		1	5	5	µg/L	12/5/99	WMS991205	EPA 8260B

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	102	65 - 135
Dibromofluoromethane	103	65 - 135
Toluene-d8	100	65 - 135

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #I-2346)

Michelle L. Anderson, Laboratory Director

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Clearwater Group, Inc.
520 3rd Street, Suite 104
Oakland, CA 94607
Attn: Drew Galleni

Date: 12/6/99
Date Received: 11/29/99
Project Name:
Project Number: C-156
P.O. Number:
Sampled By: Ben Pink

Certified Analytical Report

Order ID: 17827 **Lab Sample ID:** 17827-004 **Client Sample ID:** MW-6

Sample Time: 2:20 PM **Sample Date:** 11/24/99 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
tert-Butanol	ND		5	20	100	µg/L	12/3/99	WMS991203	EPA 8260B
Methyl-t-butyl Ether	550		5	5	25	µg/L	12/3/99	WMS991203	EPA 8260B
Diisopropyl Ether	ND		5	5	25	µg/L	12/3/99	WMS991203	EPA 8260B
Ethyl-t-butyl Ether	ND		5	5	25	µg/L	12/3/99	WMS991203	EPA 8260B
tert-Amyl Methyl Ether	ND		5	5	25	µg/L	12/3/99	WMS991203	EPA 8260B

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	115	65 - 135
Dibromofluoromethane	105	65 - 135
Toluene-d8	103	65 - 135

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #I-2346)

Michelle L. Anderson, Laboratory Director

Environmental Analysis Since 1983

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Clearwater Group, Inc.
520 3rd Street, Suite 104
Oakland, CA 94607
Attn: Drew Galleni

Date: 12/6/99
Date Received: 11/29/99
Project Name:
Project Number: C-156
P.O. Number:
Sampled By: Ben Pink

Certified Analytical Report

Order ID: 17827 **Lab Sample ID:** 17827-005 **Client Sample ID:** MW-7

Sample Time: 12:40 PM **Sample Date:** 11/24/99 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
tert-Butanol	ND		1	20	20	µg/L	12/3/99	WMS991203	EPA 8260B
Methyl-t-butyl Ether	ND		1	5	5	µg/L	12/3/99	WMS991203	EPA 8260B
Diisopropyl Ether	ND		1	5	5	µg/L	12/3/99	WMS991203	EPA 8260B
Ethyl-t-butyl Ether	ND		1	5	5	µg/L	12/3/99	WMS991203	EPA 8260B
tert-Amyl Methyl Ether	ND		1	5	5	µg/L	12/3/99	WMS991203	EPA 8260B

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	112	65 - 135
Dibromofluoromethane	103	65 - 135
Toluene-d8	111	65 - 135

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #I-2346)

Michelle L. Anderson, Laboratory Director

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

CA ELAP# I-234

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Clearwater Group, Inc.
520 Third Street, Suite No. 104
Oakland, CA 94607
Attn: Drew Galleni

Date: 12/6/99
Date Received: 11/29/99
Project: C-156
PO #:
Sampled By: Client

Certified Analytical Report

Liquid Sample Analysis:

Sample ID	MW-1			MW-4			MW-5				
Sample Date	11/24/99			11/24/99			11/24/99				
Sample Time	13:30			15:00			13:05				
Lab #	17827-001			17827-002			17827-003				
	Result	DF	DLR	Result	DF	DLR	Result	DF	DLR	PQL	Method
Results in µg/Liter:											
Analysis Date	11/30/99			11/30/99			11/30/99				
TPH-Gas	**86**	1.0	50	**9,200**	50	2500	**82**	1.0	50	50	8015M
Benzene	**ND**	1.0	0.50	**1,100**	50	25	**ND**	1.0	0.50	0.50	8020
Toluene	**ND**	1.0	0.50	**490**	50	25	**ND**	1.0	0.50	0.50	8020
Ethyl Benzene	**ND**	1.0	0.50	**560**	50	25	**ND**	1.0	0.50	0.50	8020
Xylenes (total)	**ND**	1.0	0.50	**1,100**	50	25	**ND**	1.0	0.50	0.50	8020

DF=Dilution Factor ND= None Detected above DLR PQL=Practical Quantitation Limit DLR=Detection Reporting Limit

· Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #I-2346)

Michelle L. Anderson, Lab Director

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

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Clearwater Group, Inc.
520 Third Street, Suite No. 104
Oakland, CA 94607
Attn: Drew Galleni

Date: 12/6/99
Date Received: 11/29/99
Project: C-156
PO #:
Sampled By: Client

Certified Analytical Report

Liquid Sample Analysis:

Sample ID	**MW-6**			**MW-7**							
Sample Date	11/24/99			11/24/99							
Sample Time	14:20			12:40							
Lab #	**17827-004**			**17827-005**							
	Result	DF	DLR	Result	DF	DLR				PQL	Method
Results in µg/Liter:											
Analysis Date	11/30/99			11/30/99							
TPH-Gas	**1,100**	5.0	250	**ND**	1.0	50				50	8015M
Benzene	**56**	5.0	2.5	**ND**	1.0	0.50				0.50	8020
Toluene	**ND**	5.0	2.5	**ND**	1.0	0.50				0.50	8020
Ethyl Benzene	**150**	5.0	2.5	**ND**	1.0	0.50				0.50	8020
Xylenes (total)	**6.0**	5.0	2.5	**ND**	1.0	0.50				0.50	8020

DF=Dilution Factor ND= None Detected above DLR PQL=Practical Quantitation Limit DLR=Detection Reporting Limit

· Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #I-2346)

Michelle L. Anderson, Lab Director

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

METHOD: Gas Chromatography
Laboratory Control Sample

QC Batch #: GBG1991130
Matrix: Liquid
Units: µg/Liter

Date Analyzed: 11/30/99
Quality Control Sample: Blank Spike

PARAMETER	Method #	MB µg/Liter	SA µg/Liter	SR µg/Liter	SP µg/Liter	**SP % R**	SPD µg/Liter	**SPD %R**	RPD	QC LIMITS RPD	QC LIMITS %R
Benzene	8020	<0.50	6.6	ND	6.3	**95**	6.4	**97**	2.4	25	77-129
Toluene	8020	<0.50	29.0	ND	28	**95**	28	**96**	1.0	25	82-122
Ethyl Benzene	8020	<0.50	5.7	ND	5.0	**87**	5.0	**88**	0.8	25	77-114
Xylenes	8020	<0.50	30.6	ND	29	**95**	29	**95**	0.8	25	85-125
Gasoline	8015	<50.0	500	ND	511	**102**	514	**103**	0.7	25	75-125
aaa-TFT(S.S.)-PID	8020			101%	97%		97%				65-135
aaa-TFT(S.S.)-FID	8015			98%	99%		99%				65-135

Definition of Terms:

- na: Not Analyzed in QC batch
- MB: Method Blank
- SA: Spike Added
- SR: Sample Result
- RPD(%): Duplicate Analysis - Relative Percent Difference
- SP: Spike Result
- SP (%R): Spike % Recovery
- SPD: Spike Duplicate Result
- SPD (%R): Spike % Recovery
- nc: Not Calculated

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E
Sunnyvale, CA 94086

QUALITY CONTROL RESULTS SUMMARY

Volatile Organic Compounds
Laboratory Control Sample

QC Batch #: WMS991205
Matrix: Liquid
Units: µg/L

Date analyzed: 12/05/99
Spiked Sample: Blank Spike

PARAMETER	Method #	SA µg/L	SR µg/L	SP µg/L	SP %R	SPD µg/L	SPD %R	RPD	QC LIMITS RPD	QC LIMITS %R
1,1- Dichloroethene	8240/8260	40	ND	44.3	**111**	46.7	**117**	5.3	25	50-150
Methyl-tert-butyl ether	8240/8260	40	ND	35.1	**88**	36.3	**91**	3.4	25	50-150
Benzene	8240/8260	40	ND	40.3	**101**	41.2	**103**	2.2	25	50-150
Trichloroethene	8240/8260	40	ND	39.4	**99**	38.4	**96**	2.6	25	50-150
Toluene	8240/8260	40	ND	39.7	**99**	41.9	**105**	5.4	25	50-150
Chlorobenzene	8240/8260	40	ND	40.0	**100**	42.7	**107**	6.5	25	50-150
Surrogates										
Dibromofluoromethane	8240/8260		93%	114%		106%				65-135
MTBE-d3	8240/8260		107%	101%		99%				65-135
Toluene -d8	8240/8260		102%	100%		104%				65-135
4-Bromofluorobenzene	8240/8260		98%	110%		107%				65-135

Definition of Terms:

- na: Not Analyzed in QC batch
- SA: Spike Added
- SR: Sample Result
- RPD(%): Duplicate Analysis - Relative Percent Difference
- SP: Spike Result
- SP (%R): Spike % Recovery
- SPD: Spike Duplicate Result
- SPD (%R): Spike Duplicate % Recovery

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QUALITY CONTROL RESULTS SUMMARY

Volatile Organic Compounds
Laboratory Control Sample

QC Batch #: WMS991203
Matrix: Liquid
Units: µg/L

Date analyzed: 12/03/99
Spiked Sample: Blank Spike

PARAMETER	Method #	SA µg/L	SR µg/L	SP µg/L	SP %R	SPD µg/L	SPD %R	RPD	QC LIMITS RPD	QC LIMITS %R
1,1- Dichloroethene	8240/8260	40	ND	41.5	**104**	46.4	**116**	11.1	25	50-150
Methyl-tert-butyl ether	8240/8260	40	ND	35.0	**88**	34.6	**87**	1.1	25	50-150
Benzene	8240/8260	40	ND	38.3	**96**	41.7	**104**	8.5	25	50-150
Trichloroethene	8240/8260	40	ND	37.7	**94**	36.8	**92**	2.4	25	50-150
Toluene	8240/8260	40	ND	42.7	**107**	44.9	**112**	5.0	25	50-150
Chlorobenzene	8240/8260	40	ND	39.9	**100**	41.0	**103**	2.7	25	50-150
Surrogates										
Dibromofluoromethane	8240/8260		100%	100%		117%				65-135
MTBE-d3	8240/8260		105%	98%		95%				65-135
Toluene -d8	8240/8260		105%	107%		112%				65-135
4-Bromofluorobenzene	8240/8260		116%	115%		117%				65-135

Definition of Terms:

- na: Not Analyzed in QC batch
- SA: Spike Added
- SR: Sample Result
- RPD(%): Duplicate Analysis - Relative Percent Difference
- SP: Spike Result
- SP (%R): Spike % Recovery
- SPD: Spike Duplicate Result
- SPD (%R): Spike Duplicate % Recovery

Entech Analytical Labs, Inc.

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • Telephone: (408) 735-1550 (800) 287-1799 • Fax: (408) 735-1554

Chain of Custody/Analysis Work Order

Client: CGI

Address:

Contact: Drew Galleni

Telephone #: 5108935160

Date Received:

Turn Around: NORM

Project ID: C-156

Purchase Order #:

Sampler/Company: Ben Pink CGI

Telephone #: 5108935160

Special Instructions/Comments: Samples have been in refrigerator since taken on 11/24/99

LAB USE ONLY

Samples arrived chilled and intact: Yes No

Notes:

Sample Information								Requested Analysis							
Lab #	Sample ID	Grab/ Composite	Matrix	Date Collected	Time Collected	Pres.	Sample Container	TPHG 5108	BTEX 8020	Fuel Oxys 8260					
	MW-1	Grab	H_2O	11/24/99	1330	HCL	6X40ml	X	X	X		17827-001			
	MW-4	↓	↓		1500	↓	VOA	X	X	X				-002	
	MW-5				1305		↓	X	X	X				-003	
	MW-6				1420			X	X	X				-004	
	MW-7	↓	↓		1240	↓	↓	X	X	X				-005	

Relinq. By:	Received By:	Date	Time
Ben Pink	595 Mike - World Courier	11-29-9	1015
595 Mike - World Courier	Paulinehal	11/29/99	1115
Relinq/ By:	Received By:	Date	Time