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

VIA CERTIFIED MAIL
Return Receipt Requested

November 12, 1996

#2260

Mr. Barney Chan
Alameda County
Environmental Health Services
1131 Harbor Bay Pkwy., #250
Alameda, CA 94502-6577

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

Dear Mr. Chan:

Attached for your files is a copy of the Quarterly Groundwater Monitoring Report for the Hertz property at the International Airport in Oakland, California. The report presents groundwater monitoring and sampling data for the third quarter 1996.

Monitoring wells MW-4 and MW-6 were sampled and gauged by Clearwater Group, Inc. They were unable to locate MW-8, as it has been paved over. The results of sampling, conducted on September 17, 1996, are discussed in the report.

If you have any questions or require additional information, I may be contacted at (201)307-2526.

Sincerely,

Patricia Woods
Project Manager
Environmental Affairs

cc: file

4oakland

96 NOV 15 PM 3:52
ENVIRONMENTAL PROTECTION

CLEARWATER
GROUP, INC
Environmental Services

QUARTERLY GROUNDWATER MONITORING REPORT
THIRD QUARTER 1996
Hertz Service Center, 1 Airport Drive, Oakland, California
October 15, 1996

BACKGROUND

The property, located adjacent to the passenger terminal at Oakland International Airport, is currently used as a rental car service facility. 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 additional USTs, located adjacent to the property, are used by the Port of Oakland and the Federal Aviation Administration for fuel storage.

Nine monitoring wells were installed as part of the site investigation; groundwater monitoring has been conducted since December, 1993. In accordance with a letter dated July 11, 1996 from the Alameda County Environmental Health Services, monitoring wells MW-4 and MW-6 will be monitored on a quarterly basis, and wells MW-5, MW-7, MW-8, and MW-9 will be monitored annually during the first quarter of the year.

GROUNDWATER MONITORING AND SAMPLING ACTIVITIES (THIRD QUARTER, 1996)

Date of groundwater sampling:	September 17, 1996
Wells gauged:	MW-1 through MW-7, MW-9 (MW-8 was not located)
Wells purged and sampled:	MW-4 and MW-6
Analytes tested:	TPHd, TPHg, BTEX, MTBE
Laboratory:	American Environmental Network (Pleasant Hill, CA)

GROUNDWATER MONITORING AND SAMPLING RESULTS

Depth to groundwater:	3.35 to 4.95 feet below top of casing
Flow direction:	South to southwest
TPHd concentration range:	220 ppb (MW-4) to 270 ppb (MW-6)
TPHg concentration range:	<50 ppb (MW-6) to 16,000 ppb (MW-4)
Benzene concentration range:	1.0 ppb (MW-6) to 4,300 ppb (MW-4)
MTBE concentration range:	<5.0 ppb (MW-6) to 100 ppb (MW-4)

PROJECT STATUS

Monitoring well MW-8 could not be located during the third quarter monitoring event. Quarterly groundwater sampling of MW-4 and MW-6 will be conducted during the fourth quarter, 1996.

APPENDIX

- Site Location Map (Figure 1)
- Site Plan (Figure 2)
- Groundwater Contour Map - 9/17/96 (Figure 3)
- 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

CLEARWATER
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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.

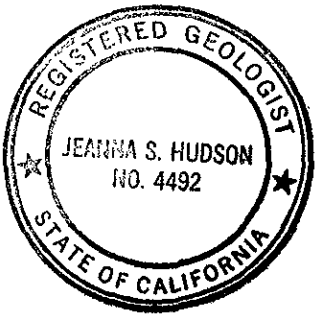
It is possible that variations in the soil or groundwater conditions exist beyond the points explored in this investigation. Also, site conditions are subject to change at some time in the future due to variations in rainfall, temperature, regional water usage or other factors.

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.

Clearwater Group, Inc. includes in this report chemical analytical data from a State-certified laboratory. These analyses are performed according to procedures suggested by the U.S. EPA and the State of California. Clearwater Group, Inc. is not responsible for laboratory errors in procedure or result reporting.

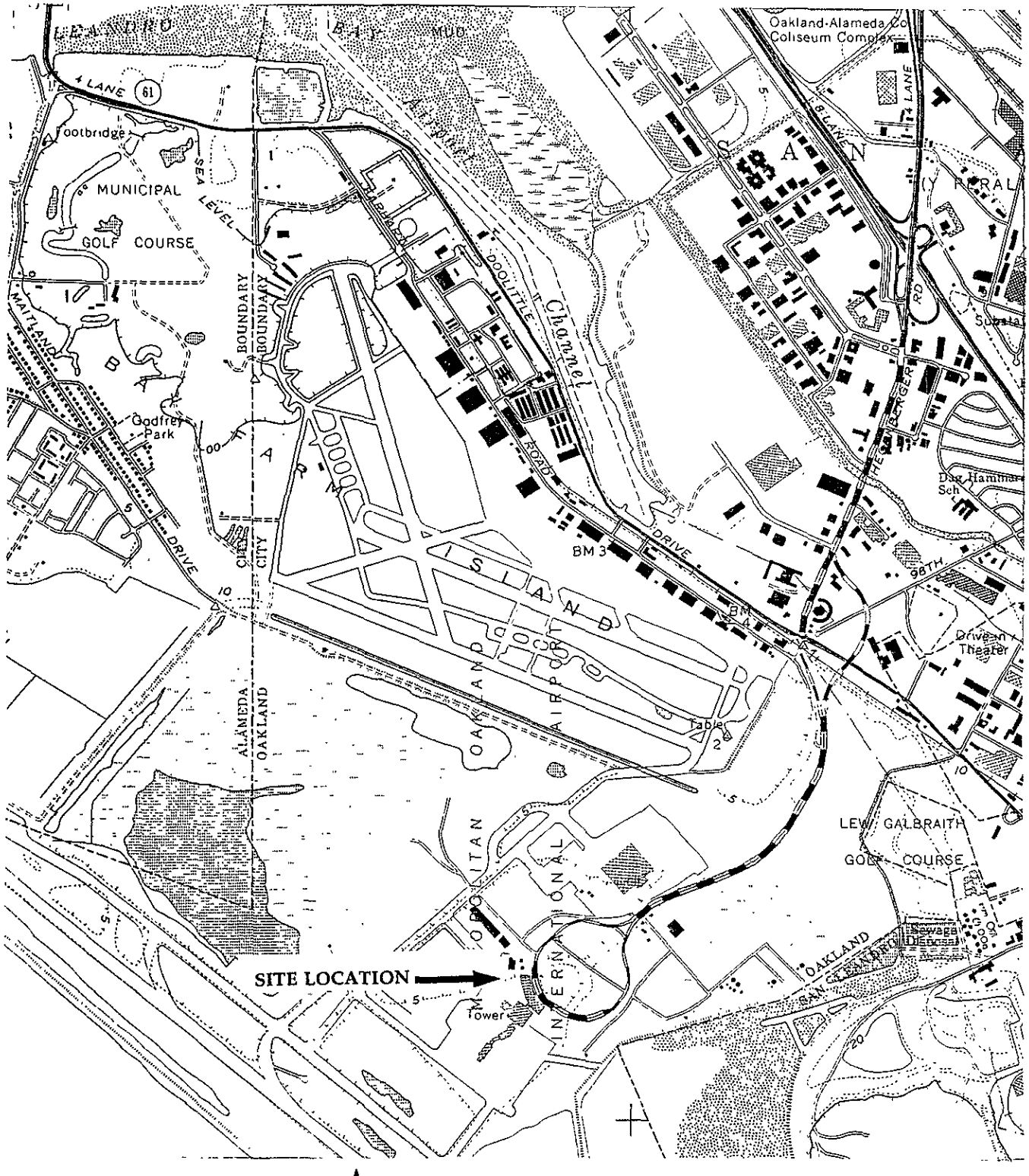
Prepared by:

Jeanna Hudson, R.G.
Senior Geologist



CLEARWATER
GROUP, INC.
Environmental Services

APPENDIX



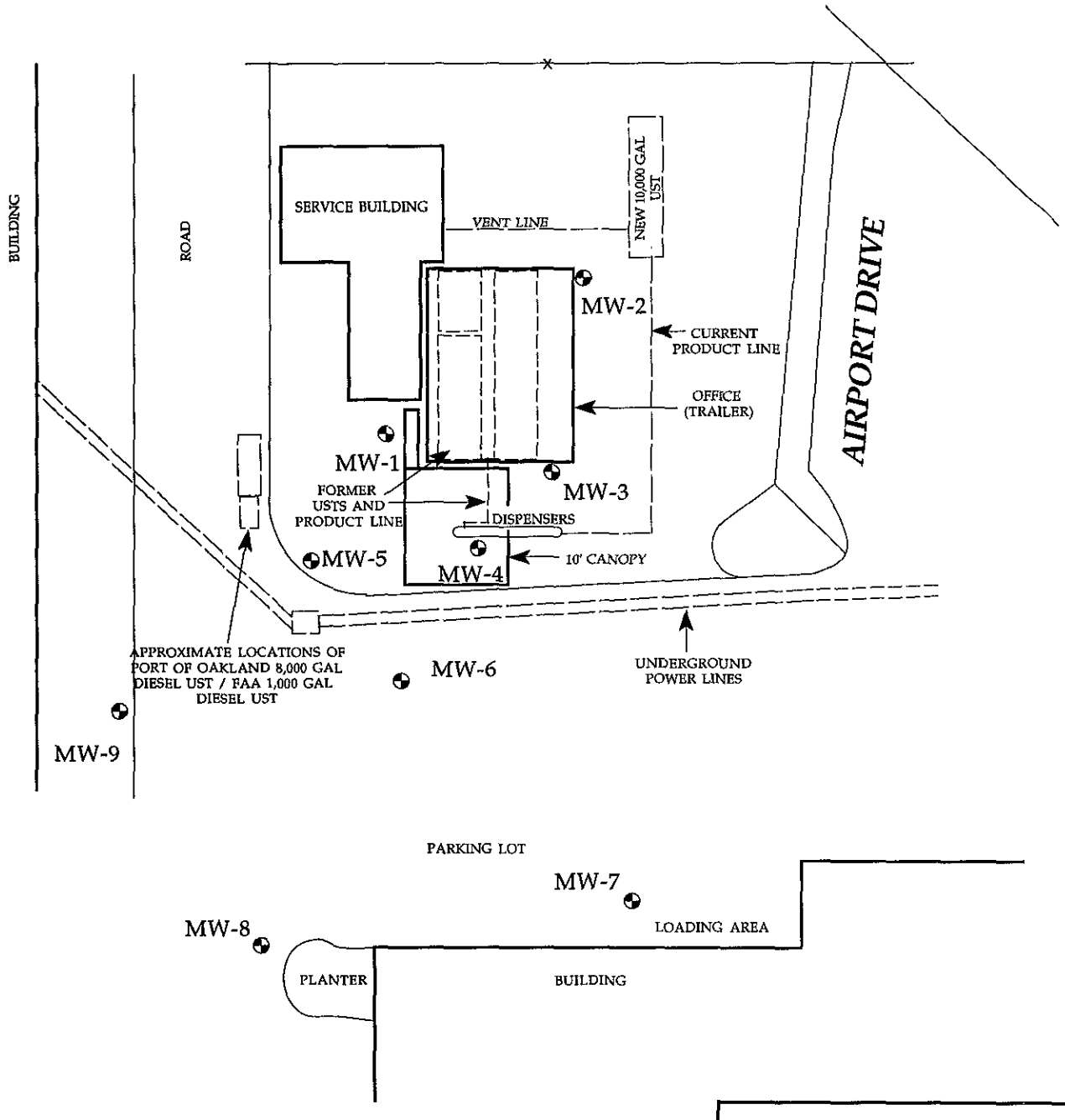
BASE MAP FROM U.S.G.S. 7.5 MINUTE SERIES: SAN LEANDRO, CALIFORNIA

SITE LOCATION MAP

Hertz Service Center,
1 Airport Drive,
Oakland, California

CLEARWATER GROUP, INC.

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

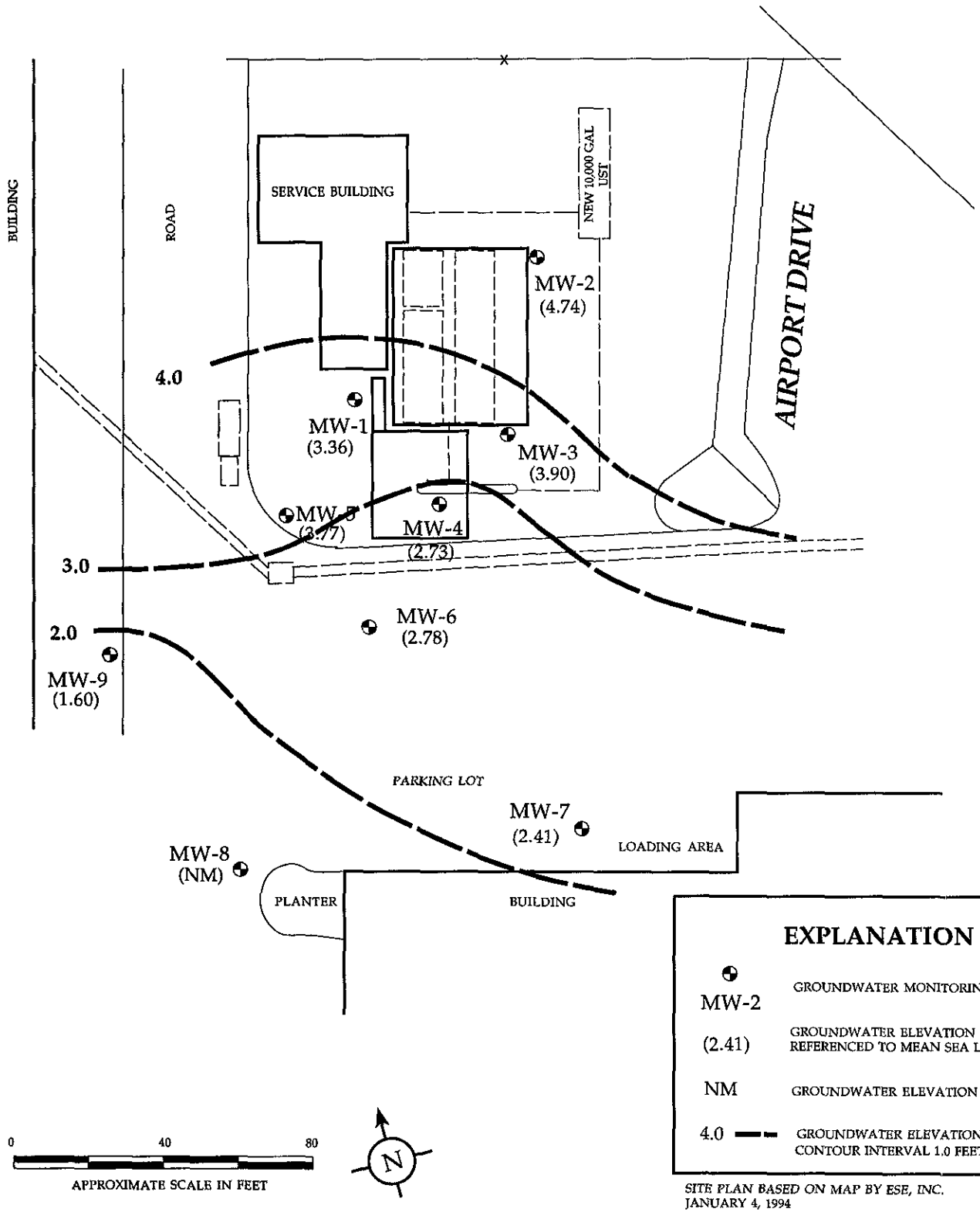


SITE PLAN

Hertz Service Center,
1 Airport Drive,
Oakland, California

CLEARWATER GROUP, INC.

Project No.	Figure Date	Figure
C-156	10/96	2



SITE PLAN BASED ON MAP BY ESE, INC. JANUARY 4, 1994

GROUNDWATER CONTOUR MAP- 9/17/96

Hertz Service Center,
1 Airport Drive,
Oakland, California

CLEARWATER GROUP, INC.

Project No.	Figure Date	Figure
C-156	10/96	3

Table 1
GROUNDWATER ELEVATIONS AND ANALYTICAL RESULTS

Hertz Service Center
1 Airport Drive
Oakland, California

MW-No.	Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHg (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	TPHd (ppb)
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	--	--	--	--	--	--	--
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	--	--	--	--	--	--	--
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	--	--	--	--	--	--	--

Table 1
GROUNDWATER ELEVATIONS AND ANALYTICAL RESULTS

Hertz Service Center
1 Airport Drive
Oakland, California

MW-No.	Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHg (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	TPHd (ppb)
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
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	--	--	--	--	--	--	--
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	ND<50	1.0	0.5	ND<0.5	ND<2.0	ND<5	270
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	--	--	--	--	--	--	--
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	--	--	--	--	--	--	--	--	--

Table 1
GROUNDWATER ELEVATIONS AND ANALYTICAL RESULTS

Hertz Service Center
1 Airport Drive
Oakland, California

MW-No.	Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHg (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	TPHd (ppb)
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	--	--	--	--	--	--	--

Notes:

TOC	Elevation at the north side of the top of the well casing referenced to mean sea level (wells were surveyed by others)
DTW	Depth to water
GWE	Groundwater elevation
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)
ppb	Parts per billion (µg/L)
--	Not tested, not measured
ND	Not detected in concentrations at or above laboratory reporting limit (indicated if available).
(a)	MW-8 could not be located on September 17, 1996.

Clearwater Group, Inc. collected groundwater samples on September 17, 1996. Analytical results prior to that date 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.

WELL GAUGING DATA/PURGE CALCULATIONS

Job No.: C-156 Location: Hertz/Oakland Airport Date: 9-17-96 Tech(s): HH

WELL NO.	DIAM (in)	DTB (ft)	DTW (ft)	ST (ft)	CV (gal)	PV (gal)	SPL (ft)	NOTES
MW-1	2	—	4.09	—	—	—	∅	gauge only
MW-2	2	—	3.35	—	—	—	∅	↓
MW-3	2	—	3.76	—	—	—	∅	↓
MW-4	2	7.9	4.38	3.52	0.56	1.7	∅	gauge & sample
MW-5	2	—	3.99	—	—	—	∅	gauge only
MW-6	2	11.6	4.39	7.21	1.15	3.5	∅	gauge & sample
MW-7	2	—	4.52	—	—	—	∅	gauge only
MW-8	2	—	—	—	—	—	∅	not found maybe asphalted over ↓
MW-9	2	—	4.95	—	—	—	∅	↓
								Calibration of Hydac pH meter 4.00 / 7.00

Explanation:
DIAM = Well Diameter
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

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

WELL PURGING DATA

SHEET 1 OF 1

Job No.: C-156 Location: Hertz / Oakland Airport Date: 9-17-96 Tech: HH

WELL No.	TIME	VOLUME (gal)	TEMP. (deg. F.)	COND. (mS/cm)	pH	Sample time: 1355 Sample for: (circle)
MW-6	1325	0	—	—	—	TPHg (TPHd)
Calc. purge		1	77.3	2.46	7.21	BTEX (8010)
volume		2	77.2	3.81	7.20	Other: (MTBE)
3.5	↓	3	77.2	5.03	7.19	Sampling Method: ↓
	1335	4	77.2	5.47	7.29	Dedicated / (Disposable bailer)
						Purging Method: ↑
COMMENTS: color, turbidity, recharge, etc.						PVC bailer / Pump
olive, moderate, good-fair slight sulfurous/smell						

WELL No.	TIME	VOLUME (gal)	TEMP. (deg. F.)	COND. (mS/cm)	pH	Sample time: 1430 Sample for: (circle)
MW-4	1410	0	—	—	—	TPHg (TPHd)
Calc. purge		0.5	73.8	3.00	7.31	BTEX (8010)
volume	↓	1.0	73.1	2.93	7.38	Other: (MTBE)
1.7	1420	1.7	72.9	2.92	7.44	Sampling Method: ↓
dry						Dedicated / (Disposable bailer)
						Purging Method: ↑
COMMENTS: color, turbidity, recharge, etc.						PVC bailer / Pump
black, ~~strong~~ moderate hydrocarbon odor						

WELL No.	TIME	VOLUME (gal)	TEMP. (deg. F.)	COND. (mS/cm)	pH	Sample time: Sample for: (circle)
						TPHg TPHd
Calc. purge						BTEX 8010
volume						Other:
						Sampling Method:
						Dedicated / Disposable bailer
COMMENTS: color, turbidity, recharge, etc.						Purging Method:
						PVC bailer / Pump

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

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 11134

CLEARWATER GROUP, INC.
520 THIRD ST., STE. 104
OAKLAND, CA 94607

ATTN: JEANNE HUDSON
CLIENT PROJ. ID: C-156
CLIENT PROJ. NAME: HERTZ-OAK AIR

REPORT DATE: 09/30/96

DATE(S) SAMPLED: 09/17/96

DATE RECEIVED: 09/18/96

AEN WORK ORDER: 9609218

PROJECT SUMMARY:

On September 18, 1996, this laboratory received 2 water sample(s).

Client requested sample(s) be analyzed for chemical parameters. Results of analysis are summarized on the following page(s). Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Client Services at (510) 930-9090.

Larry Klein
Laboratory Director

CLEARWATER GROUP, INC.

SAMPLE ID: MW-4
AEN LAB NO: 9609218-01
AEN WORK ORDER: 9609218
CLIENT PROJ. ID: C-156

DATE SAMPLED: 09/17/96
DATE RECEIVED: 09/18/96
REPORT DATE: 09/30/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	4,300 *	10	ug/L	09/24/96
Toluene	108-88-3	1,900 *	10	ug/L	09/24/96
Ethylbenzene	100-41-4	750 *	10	ug/L	09/24/96
Xylenes, Total	1330-20-7	1,900 *	40	ug/L	09/24/96
Purgeable HCs as Gasoline	5030/GCFID	16 *	1	mg/L	09/24/96
Methyl t-Butyl Ether	EPA 8020	100 *	100	ug/L	09/24/96
#Extraction for TPH	EPA 3510	-		Extrn Date	09/24/96
TPH as Diesel	GC-FID	0.22 *	0.05	mg/L	09/25/96

Reporting limits for gas/BTEX/MTBE elevated due to high levels of target compounds. Sample run at dilution.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

CLEARWATER GROUP, INC.

SAMPLE ID: MW-6
AEN LAB NO: 9609218-02
AEN WORK ORDER: 9609218
CLIENT PROJ. ID: C-156

DATE SAMPLED: 09/17/96
DATE RECEIVED: 09/18/96
REPORT DATE: 09/30/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	1.0 *	0.5	ug/L	09/24/96
Toluene	108-88-3	0.5 *	0.5	ug/L	09/24/96
Ethylbenzene	100-41-4	ND	0.5	ug/L	09/24/96
Xylenes, Total	1330-20-7	ND	2	ug/L	09/24/96
Purgeable HCs as Gasoline	5030/GCFID	ND	0.05	mg/L	09/24/96
Methyl t-Butyl Ether	EPA 8020	ND	5	ug/L	09/24/96
#Extraction for TPH	EPA 3510	-		Extrn Date	09/24/96
TPH as Diesel	GC-FID	0.27 *	0.05	mg/L	09/25/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9609218

CLIENT PROJECT ID: C-156

Quality Control and Project Summary

All laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

D: Surrogates diluted out.

#: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

METHOD: EPA 3510 GCFID

AEN JOB NO: 9609218
DATE EXTRACTED: 09/24/96
INSTRUMENT: C
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery n-Pentacosane
09/25/96	MW-4	01	84
09/25/96	MW-6	02	82
QC Limits:			65-125

DATE EXTRACTED: 09/23/96
DATE ANALYZED: 09/24/96
SAMPLE SPIKED: 9608341-20
INSTRUMENT: C

Matrix Spike Recovery Summary

Analyte	Spike Added (mg/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Diesel	4.00	90	1	60-110	15

Daily method blanks for all associated analytical runs showed no contamination at or above the reporting limit.

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9609218
INSTRUMENT: F
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Fluorobenzene
09/24/96	MW-4	01	80
09/24/96	MW-6	02	83
QC Limits:			70-130

DATE ANALYZED: 09/23/96
SAMPLE SPIKED: 9609287-02
INSTRUMENT: F

Matrix Spike Recovery Summary

Analyte	Spike Added (ug/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Benzene	18.6	94	10	85-109	17
Toluene	61.4	105	1	87-111	16
Hydrocarbons as Gasoline	500	99	15	66-117	19

Daily method blanks for all associated analytical runs showed no contamination at or above the reporting limit.

*** END OF REPORT ***

AEN Job No: 09218 Client Project ID: C-156

Project Footnotes

The following footnotes apply to the indicated project samples **and will appear** on the final report (except as noted):

Client IDs	AEN IDs	Test	Footnotes
	1A	GRO (8015)	-04

Footnotes

01: Reporting limits (RLs) elevated due to matrix interference.

02: RL(s) elevated for _____ due to hydrocarbon interference.

03: RL(s) elevated for _____ due to hydrocarbon interference in the _____ range.

04: RL(s) elevated due to high levels of target compounds. Sample(s) run at dilution.

05: RL(s) elevated due to high levels of non-target compounds. Sample(s) run at dilution.

06: RL(s) elevated for _____ due to background contamination.

07: Duplicate analysis showed surrogate recoveries outside of QC limits. Results are estimated concentrations.

08: Due to an apparent matrix effect, it was necessary to dilute sample(s) to achieve adequate surrogate recoveries. RL(s) have been adjusted accordingly.

09: Sample showed non-target compounds. (Will not appear on report unless requested by client).

10: Non-typical _____ pattern observed. (Will not appear on report unless requested by client).

*: _____

**: _____

The following information **will not appear** on the final report unless requested:

If you have any questions, please contact Client Services at (510) 930-9090. *Thank you!*

Revision: July 18, 1995

Reporting Information:

1. Client: Clearwater Group
Address: 520 3rd. St. #104
Oakland CA 94607
Contact: Deanna Hudson
Alt. Contact:

American Environmental Network
3440 Vincent Road, Pleasant Hill, CA 94523
Phone (510) 930-9090
FAX (510) 930-0256

AEN KISA F352

Page 1 of 1

REQUEST FOR ANALYSIS / CHAIN OF CUSTODY

Lab Job Number: 96092-18
Lab Destination:
Date Samples Shipped:
Lab Contact:
Date Results Required: Std. TAT
Date Report Required: Std. TAT
Client Phone No.: (510) 893-5160
Client FAX No.: (510) 893-5947

Address Report To:

2. Hertz
Oakland Airport

Send Invoice To:

3. 1.

Send Report To: (1) or 2 (Circle one)

Client P.O. No.: C-156 Client Project I.D. No.: C-156

Sample Team Member (s) Henry Hurkmans

Lab Number	Client Sample Identification	Air Volume	Date/ Time Collected	Sample Type*	Pres.	No. of Cont.	Type of Cont.	ANALYSIS: TPH 8015	BTEX 8020	TPH diesel 8015	MTBE 8020	Comments / Hazards
01A-E	MW-4		9-17-96 1430	7	HCl none	3 2	VOA amber	X	X	X	X	
02A-E	MW-6		9-17-96 1355	7	HCl none	3 2	VOA amber	X	X	X	X	

Relinquished by: (Signature)	DATE 9-17-96	TIME 2030	Received by: (Signature) DATE 9/18/96 TIME 1200
Relinquished by: (Signature)	DATE 9/18/96	TIME 1315	Received by: (Signature) 9-18-96 1315 DATE TIME
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature) DATE TIME
Method of Shipment			Lab Comments

*Sample type (Specify): 1) 37mm 0.8 µm MCEF 2) 25mm 0.8 µm MCEF 3) 25mm 0.4 µm polycarb. filter
4) PVC filter, diam. ____ pore size ____ 5) Charcoal tube 6) Silica gel tube 7) Water 8) Soil 9) Bulk Sample
10) Other ____ 11) Other ____

COPIES: WHITE - JOB FILE YELLOW - PROJECT FILE PINK - CLIENT

CLEARWATER GROUP, INC.
Groundwater Monitoring and Sampling Protocols

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.