



ENVIRONMENTAL AUDIT, INC.

1000-A ORTEGA WAY • PLACENTIA, CA 92670-7125

714/632-8521 • FAX: 714/632-6754

March 11, 1993

Project No. 1233

Mr. Ravi Arulanantham
Alameda County Department of Environmental Health
80 Swan Way, #200
Oakland, CA 94621

**RE: QUARTERLY GROUND WATER MONITORING REPORT
First Quarter 1993
Montgomery Ward Auto Service Center
7575 Dublin Boulevard, Dublin, CA**

Dear Mr. Arulanantham:

Enclosed herewith is a copy of our report titled "Quarterly ground Water Monitoring Report, First Quarter 1993, Montgomery Ward Auto Service Center, 7575 Dublin Boulevard, Dublin, California", dated March 10, 1993.

Please call if you have any questions or need additional information.

Sincerely,

ENVIRONMENTAL AUDIT, INC.

Frank S. Muramoto, R.G.
Senior Geologist

FSM:SAB:ss

enclosure

cc: C. West, Montgomery Ward (w/enclosure)
P. Delk, Montgomery Ward (w/enclosure)
M. Gilmartin, Straw & Gilmartin (w/enclosure)

SAB:WORD:1233-005

11-30

QUARTERLY GROUND WATER MONITORING REPORT
First Quarter 1993
Montgomery Ward Auto Service Center
7575 Dublin Boulevard
Dublin, California

Project No. 1233

March 10, 1993



ENVIRONMENTAL AUDIT, INC.

Planning, Environmental Analysis and Hazardous
Substances Management and Remediation

1000-A ORTEGA WAY
PLACENTIA, CA 92670-7125

714/632-8521
FAX: 714/632-6754

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SAB:WORD:MWDTC

1.0 INTRODUCTION

This document constitutes a quarterly ground water monitoring report for the Montgomery Ward Auto Service Center property located at 7575 Dublin Boulevard, Dublin, California (see Figure 1). The monitoring period covered by this report is November 1992 through January 1993. The report represents the first quarterly monitoring report for 1993.

A ground water extraction and treatment system (System) is operated and maintained at the site by others. Well B-12 is the only extraction well associated with the System (see Figure 2). All other wells function only as monitoring wells at this time.

2.0 FIELD WORK

2.1 Ground Water Elevation Survey

The System was temporarily out of service at the time Environmental Audit, Inc. (EAI) obtained ground water samples from the wells for analytical testing. The System was reportedly put back into operation by Montgomery Ward on or about January 22, 1993.

On January 15, 1993, EAI obtained ground water depth measurements from the wells associated with the site using an Oil Recovery Systems' interface probe. No free-product was detected in the wells during gauging activities. The measured water levels were converted to elevations by subtracting the measured water level from the ground level datum for each well (see Table 1). Ground water elevation data obtained from the wells were used to construct a ground water elevation map (see Figure 2). Interpretation of the elevation data indicates that the predominant direction of ground water flow, at the time of measurement, was easterly.

2.2 Ground Water Sampling

On January 15, 1993, ground water samples were obtained from the wells for analytical testing. Prior to sampling, all wells except extraction well B-12 were purged using a Whale Supersub 88 submersible pump. Purging activities continued until the temperature, conductivity and pH of the extracted water had stabilized (see Table 2).

The wells were sampled in the order that purging activities were completed. The water samples were collected from just below the water surface using Voss Technologies disposable bottom bailers equipped with volatile organic compound samplers. Use of these bailers precludes the potential for cross-contamination. The water samples were sealed in two 40-milliliter (ml) VOA vials with Teflon septa lined lids and in one-liter plastic bottles. The containers were completely filled so that no head space existed between the samples and the lids. The samples were labeled with the sample point identification, date, time and EAI project number, and immediately placed into an ice chest chilled using frozen blue ice. The samples were kept chilled until delivered to the laboratory for analytical testing. All samples were logged on a chain of custody record form (see Appendix A).

2.3 Sampling Equipment Cleaning Protocol

The submersible pump and hose (Equipment) used only to purge the wells prior to sampling was decontaminated between each purging activity using the following procedure:

1) the Equipment was flushed in a solution of Alconox detergent and tap water; and 2) the Equipment was flushed with tap water.

2.4 Effluent Handling

All effluent generated during purging, sampling and equipment decontamination activities was temporarily stored in a 55-gallon drum which was then emptied into the System for treatment.

3.0 ANALYTICAL TESTING

All samples were delivered for analytical testing to Sequoia Analytical, a state certified hazardous waste testing laboratory (Certificate No. 1271) located in Concord, California. The samples were tested for total petroleum hydrocarbons as gasoline (TPH-G) using modified EPA Method 8015, benzene, toluene, xylenes and ethylbenzene (BTXE) using EPA Method 602, and total lead using EPA Method 7420. The results of the testing are shown in Table 3 along with the results from previous period's testing. The laboratory reports are contained in Appendix B.

4.0 DISCUSSION

The concentrations of total petroleum hydrocarbons as gasoline (TPH-G) and benzene, toluene, xylenes, and ethylbenzene (BTXE) in the ground water at the site this quarter are generally lower than in previous quarters. It is EAI's opinion that the reduction in concentrations of these constituents in the ground water is due in part to the recent rains which caused the ground water elevation to increase.

Lead was detected at levels near the detection limit in all samples collected this quarter, including the laboratory blank. Lead has never been detected in ground water samples previously collected from the site. It is EAI's opinion that the lead detected in the samples collected during this sampling event may be the result of laboratory contamination. Future testing results will provide better information on the presence or absence of lead in ground water.

5.0 LIMITATION

Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities. No other warranty, expressed or implied, is made as to the information contained in this report.

BHM:FSM:SAB:pb

BHM:WORD:MWDR01.931

TABLES

TABLE 1

GROUND WATER ELEVATIONS FROM DATA
 OBTAINED ON JANUARY 15, 1993
 MONTGOMERY WARD AUTO SERVICE CENTER
 7575 DUBLIN BOULEVARD, DUBLIN, CA

WELL NUMBER	ELEVATION OF TOP SURFACE OF PVC WELL CASING*	MEASURED DEPTH OF GROUND WATER (in ft. bgs)	GROUND WATER ELEVATION (FT)
B-5	100.95	9.75	91.20
B-10	100.60	9.48	91.12
B-12	100.00	8.66	91.34
B-15	101.50	10.22	91.28
B-16	100.70	9.79	90.91

NOTES: bgs = below ground surface.

* An arbitrary reference elevation of 100 feet for MW-12 was used.

** Measured from top of PVC well casing.

BHM:WORD:MWD01.931

TABLE 2

TEMPERATURE, CONDUCTIVITY, AND pH READINGS
 DURING PURGING ACTIVITIES
 MONTGOMERY WARD AUTO SERVICE CENTER
 7575 DUBLIN BOULEVARD, DUBLIN, CA

WELL NUMBER	GALLONS PURGED	TEMPERATURE (Fahrenheit)	CONDUCTIVITY (Micromhos/cm)	pH
B-5	5	67.5	5.93x10 ²	7.63
	10	64.8	1.02x10 ³	7.84
	15	64.8	1.05x10 ³	7.95
	20	65.6	1.05x10 ³	7.07
	25	65.0	1.07x10 ³	7.19
	30	66.0	1.06x10 ³	7.10
	35	66.0	1.09x10 ³	7.15
B-10	5	61.6	1.05x10 ³	7.79
	10	64.6	1.09x10 ³	7.99
	15	65.7	1.09x10 ³	7.06
	20	66.0	1.09x10 ³	7.07
	25	66.7	1.09x10 ³	7.09
B-15	5	64.1	1.27x10 ³	7.78
	10	66.1	1.29x10 ³	7.49
	15	66.4	1.10x10 ³	7.43
	20	66.8	1.10x10 ³	7.43
	25	66.8	1.11x10 ³	7.45
	30	66.6	1.09x10 ³	7.50
	35	66.6	1.09x10 ³	7.43
	40	66.6	1.10x10 ³	7.42
B-16	5	68.1	1.74x10 ³	7.52
	10	69.2	1.13x10 ³	7.95
	15	66.8	1.11x10 ³	7.94
	20	66.8	1.11x10 ³	7.88
	25	67.4	1.11x10 ³	7.81
	30	66.8	1.10x10 ³	7.23
	35	67.0	1.11x10 ³	7.24
	40	67.2	1.11x10 ³	7.25

NOTE: Measurements were made using a Hydac conductivity, temperature, pH tester.

BHM:WORD:MWD01.932

TABLE 3

**ANALYTICAL TESTING RESULTS FOR GROUND WATER SAMPLES
MONTGOMERY WARD AUTO SERVICE CENTER
7575 DUBLIN BOULEVARD, DUBLIN, CA**

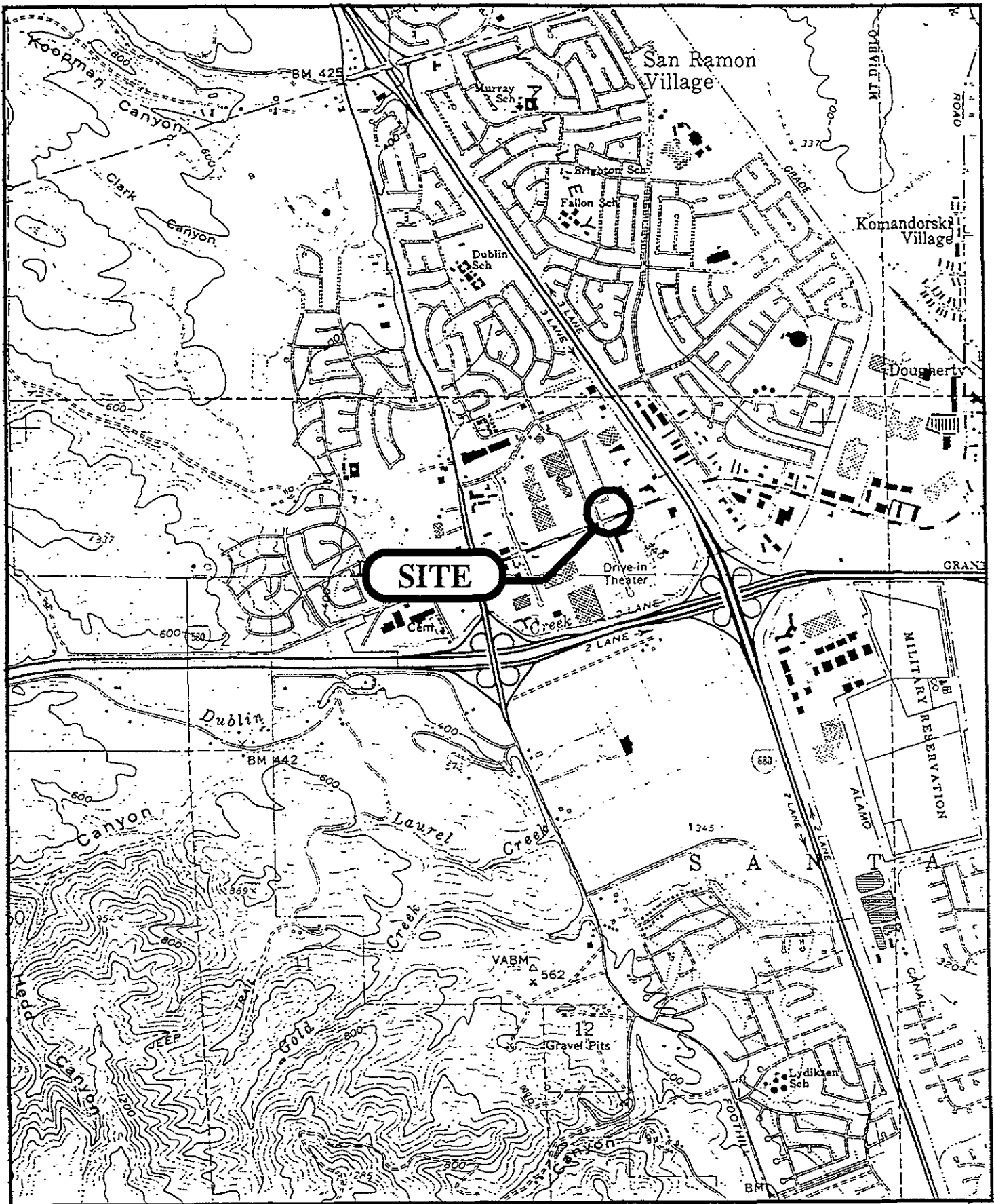
Parts per Billion (ppb)

Well I.D.	Date	TPH-G	Benzene	Toluene	Total Xylenes	Ethyl- Benzene	Lead
B-5	04/16/92	4,400	670	160	320	280	ND*
	07/24/92	31,000	5,400	2,600	5,800	2,200	ND
	10/22/92	9,100	1,100	190	740	520	ND
	01/15/93	2,300	530	160	470	300	7.9
B-10	04/16/92	7,300	1,400	640	1,100	880	ND
	07/24/92	27,000	3,800	1,600	4,000	2,000	ND
	10/22/92	16,000	2,300	340	1,200	1,100	ND
	01/15/93	10,000	1,400	310	1,100	730	13
B-12	04/17/92	12,000	1,300	1,100	1,200	510	ND
	07/24/92	12,000	1,000	630	1,000	520	ND
	10/22/92	11,000	370	230	940	400	ND
	01/15/93	120	2.8	ND	3.6	1.6	11
B-15	04/17/92	65	4.4	2.4	2.8	6.1	ND
	07/24/92	ND	3.6	1.5	1.6	3.1	ND
	10/22/92	ND	1.7	0.89	0.88	0.78	ND
	01/15/93	ND	ND	ND	ND	ND	13
B-16	04/17/92	1,300	390	1.7	9.3	35	ND
	07/24/92	1,600	120	5.7	410	120	ND
	10/22/92	1,000	76	ND	130	55	ND
	01/15/93	160	6.5	0.86	2.6	2.3	5.5

* ND = Not Detected.

BHM:WORD:MWDT01.933

FIGURES



ENVIRONMENTAL AUDIT, INC.

LOCATION MAP
MONTGOMERY WARD AUTO SERVICES CENTER
7575 DUBLIN BOULEVARD, DUBLIN, CA

USGS DUBLIN 7.5 MINUTE QUADRANGLE,
 1961, PHOTOREVISED 1980.



DATE: 5-92

FNM=1233LM01

FIGURE: 1

STORM DRAIN
FIRE MAIN

MONTGOMERY WARD
AUTO SERVICE CENTER

91.30 91.20 91.10 91.00 90.90

B-15
91.28

B-12
91.34

REMOVED
U.S.T.'S

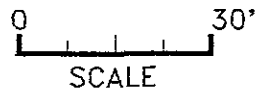
FORMER
FUEL DISPENSER
ISLANDS

B-16
90.91

B-5
91.20

B-10
91.12

DUBLIN BLVD.



LEGEND

- GROUND WATER MONITORING WELL
- GROUND WATER EXTRACTION WELL

NOTE:

CONTOUR INTERVAL = 0.10 FEET
AN ARBITRARY REFERENCE DATUM OF 100 FEET WAS USED



ENVIRONMENTAL AUDIT, INC.
1000-A ORTEGA WAY • PLACENTIA, CA 92670-7125
714/632-8521 • FAX: 714/632-6754

MONTGOMERY WARD SERVICE CENTER
7575 DUBLIN BLVD., DUBLIN, CA

DRAWN BY P. Leets	DATE CREATED 01/25/93
CHECKED	LAST REV 02/19/93
SIZE 8.5 x 11	FIGURE 2
FILE NAME !:\DRAWINGS\M-W\08\14308005	

**GROUND WATER
ELEVATION MAP
JANUARY 15, 1993**

APPENDIX A

Chain of Custody Record Form



Environmental Audit, Inc.

Planning, Environmental Analyses and Hazardous Substances Management and Remediation

1000-A ORTEGA WAY
PLACENTIA, CA 92670-7125

(714) 632-8521
(714) 632-6754

CHAIN OF CUSTODY RECORD

SAMPLING REQUIREMENTS: RCRA NPDES SDWA

WRITTEN QC REPORT
ROUTINE OCC
RWOCB OCC

TURNAROUND TIME:

SAME DAY 24hr 48hr NORMAL

PROJECT NO. <i>1233</i>	PROJECT NAME <i>Montgomery Ward Dublin</i>	CONTR TYPE	ANALYSES REQUESTED	REMARKS
----------------------------	---	------------	--------------------	---------

SAMPLER: (Signature) <i>Brent Meckem</i>	PROJECT MANAGER:
---	------------------

SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION	GLASS	PLASTIC	BRASS/SS TUBE	TPHD 8015M	TPHG 8015M	TRPH 418.1	BTEX 602 8020	VOCs 624 8240	EOCs 625 8270	OIL & GREASE	CAM METALS TOT WET	LAB	NUMBER OF CONTAINERS	REMARKS
B-5	1/15/93	9:50			Water 3010345AC													3	1 - liter for total Pb, Plastics 2 - 40 ml vials for PH-C/B/TKE
B-10	1/15/93	11:30			346AC													3	
B-15	1/15/93	11:50			347AC													3	
B-16	1/15/93	14:00			348AC													3	
B-12	1/15/93	16:30			349AC													3	

TOTAL NUMBER OF CONTAINERS *15*

RELINQUISHED BY: (Signature) <i>B Meckem</i>	DATE/TIME <i>1-15-93 17:25</i>	RECEIVED BY: (Signature) <i>[Signature]</i>	RELINQUISHED BY: (Signature) <i>[Signature]</i>	DATE/TIME <i>1/15/93 18:00</i>	RECEIVED BY: (Signature) <i>[Signature]</i>
---	-----------------------------------	--	--	-----------------------------------	--

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
------------------------------	-----------	--------------------------	------------------------------	-----------	--------------------------

SAMPLES SHIPPED VIA: FEDEX <input type="checkbox"/> UPS <input type="checkbox"/> AIRBORNE <input type="checkbox"/> RUS <input type="checkbox"/> HAND <input type="checkbox"/>	SHIPPED BY: (Signature)	COURIER: (Signature)	RECEIVED FOR BY: (Signature)	DATE/TIME
---	-------------------------	----------------------	------------------------------	-----------

LAB:

APPENDIX B
Laboratory Reports



SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

RECEIVED

FEB 19 1993

ENVIRONMENTAL AUDIT

Environmental Audit, Inc. 1000 - A Ortega Way Placentia, CA 92670-7125 Attention: Frank Muramoto	Client Project ID: #1233 - Montgomery Ward Dublin Sample Matrix: Water Analysis Method: EPA 5030/8015/8020 First Sample #: 301-0345	Sampled: Jan 15, 1993 Received: Jan 15, 1993 Reported: Jan 29, 1993
---	--	---

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 301-0345 B - 5	Sample I.D. 301-0346 B - 10	Sample I.D. 301-0347 B - 15	Sample I.D. 301-0348 B - 16	Sample I.D. 301-0349 B - 12
Purgeable Hydrocarbons	50	2,300	10,000	N.D.	160	120
Benzene	0.5	530	1,400	N.D.	6.5	2.8
Toluene	0.5	160	310	N.D.	0.86	N.D.
Ethyl Benzene	0.5	300	730	N.D.	2.3	1.6
Total Xylenes	0.5	470	1,100	N.D.	2.6	3.6
Chromatogram Pattern:		Gasoline	Gasoline	--	Gasoline	Gasoline

Quality Control Data

Report Limit Multiplication Factor:	4.0	40	1.0	1.0	1.0
Date Analyzed:	1/25/93	1/20/93	1/25/93	1/25/93	1/26/93
Instrument Identification:	HP-4	HP-4	HP-5	HP-4	HP-5
Surrogate Recovery, %: (QC Limits = 70-130%)	104	105	104	98	101

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

SEQUOIA ANALYTICAL

Please Note: REVISED REPORT 2/8/93

Karen L. Enstrom
Project Manager



SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

Environmental Audit, Inc.
1000 - A Ortega Way
Placentia, CA 92670-7125
Attention: Frank Muramoto

Client Project ID: #1233 - Montgomery Ward Dublin
Sample Descript: Water
Analysis for: Lead
First Sample #: 301-0345

Sampled: Jan 15, 1993
Received: Jan 15, 1993
Extracted: Jan 27, 1993
Analyzed: Jan 28, 1993
Reported: Jan 29, 1993

LABORATORY ANALYSIS FOR: Lead

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L
301-0345	B - 5	0.0050	0.0079
301-0346	B - 10	0.0050	0.013
301-0347	B - 15	0.0050	0.013
301-0348	B - 16	0.0050	0.0055
301-0349	B - 12	0.0050	0.011

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL


Karen L. Enstrom
Project Manager

Please Note:

REVISED REPORT 2/8/93



SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

Environmental Audit, Inc.
1000 - A Ortega Way
Placentia, CA 92670-7125
Attention: Frank Muramoto

Client Project ID: #1233 - Montgomery Ward Dublin

QC Sample Group: 3010345-349

Reported: Jan 29, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-Benzene	Xylenes	Lead
---------	---------	---------	---------------	---------	------

Method:	EPA 8015/8020	EPA 8015/8020	EPA 8015/8020	EPA 8015/8020	EPA 7421
Analyst:	A.T.	A.T.	A.T.	A.T.	K.V.S.
Reporting Units:	µg/L	µg/L	µg/L	µg/L	mg/L
Date Analyzed:	Jan 20, 1993	Jan 20, 1993	Jan 20, 1993	Jan 20, 1993	Jan 28, 1993
QC Sample #:	301-0295	301-0295	301-0295	301-0295	301-0345

Sample Conc.: N.D. N.D. N.D. N.D. 0.0079

Spike Conc. Added: 20 20 20 60 0.10

Conc. Matrix Spike: 20 20 20 71 0.11

Matrix Spike % Recovery: 100 100 100 118 102

Conc. Matrix Spike Dup.: 21 21 21 72 0.11

Matrix Spike Duplicate % Recovery: 105 105 105 120 102

Relative % Difference: 4.9 4.9 4.9 1.4 0.0

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$


Karen L. Enstrom
Project Manager

3010345.EEE <3>