

ENVIRONMENTAL AUDIT, INC.

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

August 20, 1993

Project No. 1233

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

RE: MONTGOMERY WARD AUTO SERVICE CENTER 7575 Dublin Boulevard, Dublin, California

Dear Mr. Arulanantham:

Enclosed herewith are two copies of our report entitled, "Ground Water Monitoring Report, Third Quarter 1993, Montgomery Ward Auto Service Center, 7575 Dublin Boulevard, Dublin, California," dated August 20, 1993.

Please call the undersigned or Steven Bright if you have any questions.

FRANK S. MURAMOTO

No. 4248

E OF CALIFO

Sincerely,

ENVIRONMENTAL AUDIT, INC.

Christopher P.R. d'Sa, R.E.A.

Project Geologist

Frank S. Muramoto, R.G.

Senior Geologist

CPD:FSM:SAB:sss

enclosure

cc: C. West, Montgomery Ward (w/enclosure)

G. Jonas, Montgomery Ward (w/enclosure)

M. Gilmartin, Straw & Gilmartin (w/enclosure)

CHRIS:1233M93C.DOC (c)

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QUATERLY GROUND WATER MONITORING REPORT

Third Quarter 1993

Montgomery Ward Auto Service Center 7575 Dublin Boulevard Dublin, California

Project No. 1444

August 23, 1993



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GROUND WATER MONITORING REPORT THIRD QUARTER 1993

Montgomery Ward Auto Service Center 7575 Dublin Boulevard Dublin, California

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). This report represents the third quarter 1993 monitoring report.

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. Wells MW-100, MW-101 and MW-102 were installed in May 1993, pursuant to a request by the Alameda County Department of Environmental Health and were subsequently included in the quarterly ground water monitoring.

2.0 FIELD INVESTIGATION

2.1 GROUND WATER ELEVATION SURVEY

The System was temporarily shut down by Environmental Audit, Inc. (EAI) personnel on July 14, 1993 in order to obtain ground water samples from the wells for analytical testing. After shutting down the system, EAI personnel obtained ground water depth measurements from the wells associated with the site using a Oil Recovery Systems' interface probe accurate to 0.01 feet. 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).

2.2 GROUND WATER AND EFFLUENT SAMPLING

On July 14, 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 Whales Supersub Two stage Model 187 submersible pump. Purging activities continued until the temperature, conductivity and pH of the extracted water had stabilized (see Table 2). Well B-12 was purged last, for approximately one hour prior to sampling by reactivating the ground water extraction pump associated with the System.

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 ground water sample from well B-12 was obtained from the System's piping prior to the water entering the

System's oil/water separator. A treated effluent sample was obtained from the sampling port located downstream of the two 2,000-pound carbon canisters. 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). The System was restarted on July 14, 1993 following sampling of the ground water wells.

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 five 55-gallon drums which were 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 8020, 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 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.

CPD:SAB:FSM:ss

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TABLE 1

Ground Water Elevations from Data Obtained on July 14, 1993

Well Number	Elevation of top surface of PVC well casing (feet mean sea level)	Measured depth of ground water (feet below ground surface)	Ground water elevation (feet mean sea level)
B-5	100.95	10.80	90.15
B-10	100.60	10.64	89.96
B-12	100.00	9.95	90.05
B-15	101.50	11.35	90.15
B-16	100.70	10.92	89.78
MW-100	100.49	11.00	89.49
MW-101	99.43	10.38	89.05
MW-102	100.12	10.31	89.81

Notes:

- No free-product was detected in any monitoring well gauged
- Depth to water is as measured from the top of each PVC well casing.
- A previously established arbitrary datum of 100 feet was used for well MW-12, and the obtained water level measurements were than referenced to this datum.



TABLE 2

TEMPERATURE, pH and CONDUCTIVITY READINGS DURING PURGING ACTIVITIES

Well	Cumulative Purged	Temperature	Conductivity	рΗ
Number	(Gallons)	(Fahrenheit)	(Microhms/cm)	
B-5	2	70.0	10.38 x 10 ²	7.66
	4	70.1	10.01 x 10 ²	7.35
	6	70.7	10.00 x 10 ²	7.24
	8	71.3	10.02 x 10 ²	7.22
	10	71.1	10.01 x 10 ²	7.23
	12	71.2	10.01 x 10 ²	7.22
B-10	2	68.9	10.13 x 10 ²	7.22
	4	68.2	10.00 x 10 ²	7.24
	6	67.2	10.00 x 10 ²	7.15
	8	67.8	9.95 x 10 ²	7.21
	10	67.8	9.95 x 10 ²	7.20
	12	67.8	9.96 x 10 ²	7.20
B-15	5	72.8	10.08 x 10 ²	7.77
	10	72.9	10.08 x 10 ²	7.76
	15	70.7	10.09 x 10 ²	7.28
	20	70.7	10.10 x 10 ²	7.25
	25	70.6	10.08 x 10 ²	7.26
B-16	5	71.9	10.93 x 10 ²	7.74
	10	70.6	10.78 x 10 ²	7.62
	15	70.0	10.76 x 10 ²	7.55
	20	70.0	10.75 x 10 ²	7.50
	25	70.0	10.74 x 10 ²	7.50
	30	69.9	10.75 x 10 ²	7.49



TABLE 2 (Continued)

TEMPERATURE, pH and CONDUCTIVITY READINGS DURING PURGING ACTIVITIES

Well Number	Cumulative Purged (Gallons)	Temperature (Fahrenheit)	Conductivity (Microhms/cm)	рН
	(Camono _j	(. d	(**************************************	
MW-100	5	70.9	10.93 x 10 ²	7.66
	10	70.6	10.57 x 10 ²	7.56
4.	15	70.4	10.46 x 10 ²	7.35
**	20	70.1	10.32 x 10 ²	7.38
	25	69.9	10.16 x 10 ²	7.41
	30	70.7	10.29 x 10 ²	7.40
	35	70.5	10.45 x 10 ²	7.39
7774	40	71.0	10.37 x 10 ²	7.41
****	45	71.0	10.39 x 10 ²	7.40
MW-101	5	71.00	11.15 x 10 ²	7.64
	10	69.20	10.92 x 10 ²	7.64
****	15	68.60	10.82 x 10 ²	7.63
	20	68.10	10.74 x 10 ²	7.71
	25	68.23	10.24 x 10 ²	7.61
	30	68.17	10.72 x 10 ²	7.58
	35	68.15	10.72 x 10 ²	7.57
	40	68.14	10.73 x 10 ²	7.49
	45	68.16	10.71 x 10 ²	7.52
MW-102	5	74.1	10.32 x 10 ²	7.52
	10	70.5	9.49 x 10 ²	7.58
	15	69.9	9.45 x 10 ²	7.38
	20	69.8	9.45 x 10 ²	7.40
	25	69.5	9.40 x 10 ²	7.53
	30	69 <u>.</u> 6	9.41 x 10 ²	7.54
	35	69.5	9.40 x 10 ²	7.53
- 	40	69.6	9.40×10^2	7.53

Note: • Conductivity, temperature, pH measurements were made using a Hydac tester.



SITE: MONTGOMERY WARD AUTO SERVICE CENTER DUBLIN, CALIFORNIA

TABLE 3

ANALYTICAL TESTING RESULTS

Parts per billion (ppb)

Well B-5

Compounds	TPH-G	Benzene	Toluene	Xylenes	Ethylbenzene	Lead
04/16/92	4400	670	160	320	280	ND
07/24/92	31000	5400	2600	5800	2200	ND
10/22/92	9100	1100	190	740	520	ND
01/15/93	2300	530	160	470	300	7.9
04/15/93	4900	600	160	390	470	ND
07/14/93	8800	590	210	1100	840	9.9

Well B-10

Compounds	TPH-G	Benzene	Toluene	Xylenes	Ethylbenzene	Lead
04/16/92	7300	1400	640	1100	880	ND
07/24/92	27000	3800	1600	4000	2000	ND
10/22/92	16000	2300	340	1200	1100	ND
01/15/93	10000	1400	310	1100	730	13
04/15/93	8100	580	270	580	810	19
07/14/93	6400	840	120	800	750	7.

Well B-12

Compounds	TPH-G	Benzene	Toluene	Xylenes	Ethylbenzene	Lead
04/16/92	12000	1300	1100	1200	510	ND
07/24/92	12000	1000	630	1000	520	ND
10/22/92	11000	370	230	940	400	ND
01/15/93	120	2.8	ND	3.6	1.6	11
04/15/93	7100	730	240	570	350	ND
07/14/93	4500	540	97	610	380	ND

Well B-15

Compounds	TPH-G	Benzene	Toluene	Xylenes	Ethylbenzene	Lead
04/16/92	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
04/15/93	ND	2.8	ND	1.5	3.0	ND
07/14/93	ND	ND	ND	0.74	0.57	7.8



SITE: MONTGOMERY WARD AUTO SERVICE CENTER

DUBLIN, CALIFORNIA

TABLE 3 (continued) ANALYTICAL TESTING RESULTS

Parts per billion (ppb)

Well B-16

Compounds	TPH-G	Benzene	Toluene	Xylenes	Ethylbenzene	Lead
04/16/92	1300	390	1.7	9.3	35	ND
07/24/92	1600	120	5.7	410	120	ND
10/22/92	1000	76	ND	130	55	ND
01/15/93	160	6.5	0.86	2.6	2.3	5.5
04/15/93	300	65	ND	2	13	ND
07/14/93	170	5.9	ND	12	4.6	ND

Well MW-100

Compounds	TPH-G	Benzene	Toluene	Xylenes	Ethylbenzene	Lead
05/13/93	13000	83	ND	820	960	NA
07/14/93	13000	32	ND	790	1400	8

Well MW-101

Compounds	TPH-G	Benzene	Toluene	Xylenes	Ethylbenzene	Lead
05/13/93	ND	ND	ND	ND	ND	NA
07/14/93	ND	ND	ND	ND	ND	11

Well MW-102

Compounds	TPH-G	Benzene	Toluene	. Xylenes	Ethylbenzene	Lead
05/13/93	3600	17	ND	63	130	NA
07/14/93	1500	13	ND	4.9	64	ND

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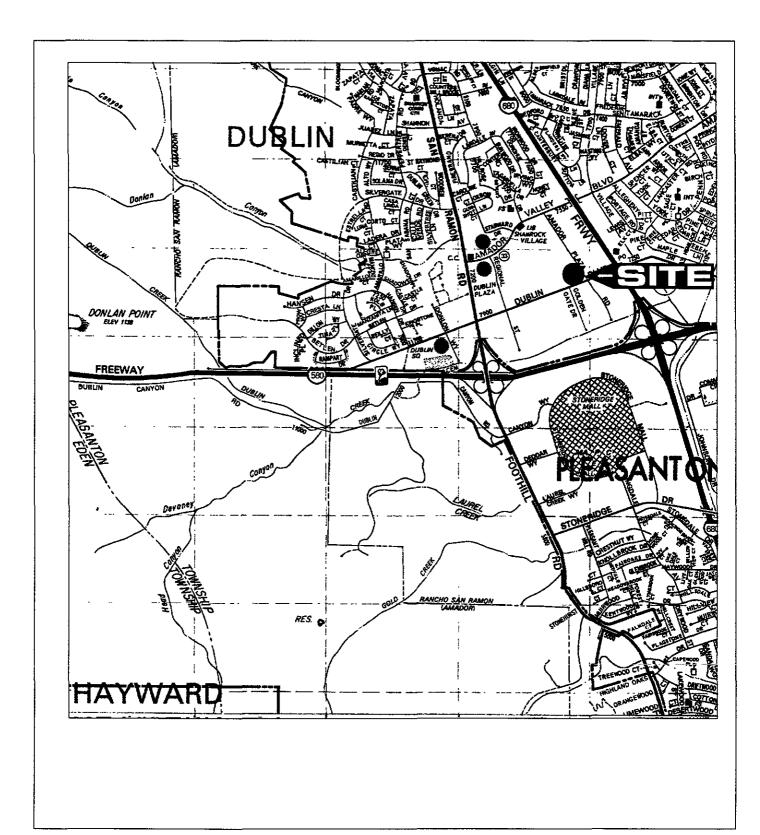
Compounds	TPH-G	Benzene	Toluene	Xylenes	Ethylbenzene	Lead
04/15/93	ND	ND	ND	ND	ND	ND
07/14/93	ND	ND	ND	ND	ND	ND

NOTE:

ND - Not Detected NA - Not Analyzed







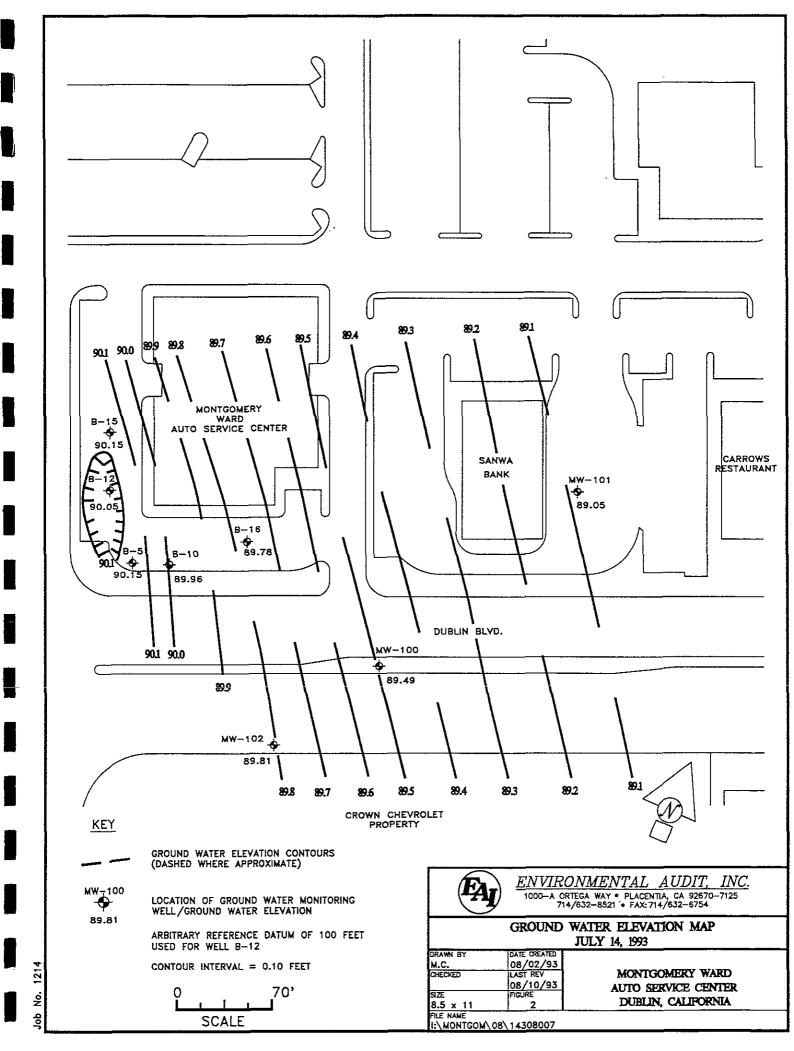


Environmental Audit, Inc

LOCATION MAP Montgomery Ward 7575 Dublin Blvd. Dublin, California



Figure 1



APPENDIX A

CHAIN OF CUSTODY RECORD FORMS

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Environmental Audit, Inc.

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APPENDIX B

LABORATORY REPORTS



SEQUOIA ANALYTICAL

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

RECEIVED

JUL 3 1 1993

IN THE LENTAL AUDIT

Environmental Audit

1000-A Ortega Way Placentia, CA 92670 Client Project ID:

#1233/Montgomery Ward - Dublin

Sampled:

Jul 14, 1993

Sample Matrix: Analysis Method:

Water EPA 5030/8015/8020 Received:

Jul 14, 1993

Attention: Frank Muramoto

First Sample #:

307-0647

Reported:

Jul 27, 1993

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit μg/L	Sample I.D. 307-0647 B-5	Sample I.D. 307-0648 B-10	Sample I.D. 307-0649 MW-100	Sample I.D. 307-0650 B-12	Sample I.D. 307-0651 Effluent	
Purgeable Hydrocarbons	50	8,800	6,400	13,000	4,500	N.D.	
Benzene	0.5	590	840	32	540	N.D.	
Toluene	0.5	210	120	N.D.	97	N.D.	
Ethyl Benzene	0.5	840	750	1,400	380	N.D.	
Total Xylenes	0.5	1,100	800	790	610	N.D.	
Chromatogram Pat	tern:	Gasoline	Gasoline	Gasoline	Gasoline		

Quality Control Data

Report Limit Multiplication Factor:	20	20	40	10	1.0
Date Analyzed:	7/21/93	7/21/93	7/21/93	7/21/93	7/20/93
Instrument Identification:	HP-4	HP-4	HP-2	HP-4	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	97	95	112	89	98

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

SEQUOIA ANALYTICAL

Karen L. Enstrom Project Manager



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

Client Project ID: Sample Descript: Analysis for:

First Sample #:

#1233/Montgomery Ward - Dublin Water Lead

307-0647

Sampled: Jul 14, 1993 Received: Jul 14, 1993 Extracted: Jul 19, 1993

Analyzed: Jul 20, 1993 Reported: Jul 27, 1993

LABORATORY ANALYSIS FOR:

Lead

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L
307-0647	B-5	0.0050	0.0099
307-0648	B-10	0.0050	0.0071
307-0649	MW-100	0.0050	0.0080
307-0650	B-12	0.0050	N.D.
307-0651	Effluent	0.0050	N.D.

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

SEQUOIA ANALYTICAL

Karen L Enstrom **Project Manager**

Environmental Audit 1000-A Ortega Way

Client Project ID:

#1233/Montgomery Ward - Dublin

Placentia, CA 92670

Matrix:

Water

Attention: Frank Muramoto

QC Sample Group: 3070647-651

Reported: Jul 27, 1993

QUALITY CONTROL DATA REPORT

ANALYTE			Ethyl-			
	Benzene	Toluene	Benzene	Xylenes	Lead	
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 7421	
Analyst:	J.F.	J.F.	J.F.	J.F.	K.V.S.	
Conc. Spiked:	20	20	20	60	0.10	
Units:	μg/L	μg/L	μg/L	μg/L	, mg/L	
LCS Batch#:	1LCS072093	1LCS072093	1LCS072093	1LCS072093	BLK071993	
Date Prepared:	7/20/93	7/20/93	7/20/93	7/20/93	7/19/93	
Date Analyzed:	7/20/93	7/20/93	7/20/93	7/20/93	7/20/93	
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2	SpectrAA-400	
LCS %						
Recovery:	93	92	95	97	84	
Control Limits:	70-130	70-130	70-130	70-130	75-125	
MS/MSD						
Batch #:	3070667	307'0667	3070667	3070667	3070656	
Date Prepared:	7/20/93	7/20/93	7/20/93	7/20/93	7/19/93	
Date Analyzed:	7/20/93	7/20/93	7/20/93	7/20/93	7/20/93	
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2	SpectrAA-400	
Matrix Spike						
% Recovery:	100	100	100	102	117	
Matrix Spike						
Duplicate %						
Recovery:	100	100	100	103	117	
Relative %						
Difference:	0.0	0.0	0.0	0.98	0.0	

SEQUOIA ANALYTICAL

Karen L Enstrom Project Manager Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery data is used for validation of sample batch results. Due to matrix effects, the QC limits for MS/MSD's are advisory only and are not used to accept or reject batch results.

Environmental Audit 1000-A Ortega Way Placentia, CA 92670 Client Project ID:

Montgomery Ward #1233

Sampled: Received: Jul 14, 1993 Jul 15, 1993

Attention: Frank Muramoto

Sample Matrix: Analysis Method:

Water EPA 5030/8015/8020

Reported:

Jul 28, 1993

First Sample #:

307-0743

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit μg/L	Sample 1.D. 307-0743 MW-102	Sample I.D. 307-0744 B-16	Sample I.D. 307-0745 B-15	Sample I.D. 307-0746 MW-101	
Purgeable Hydrocarbons	50	1,500	170	N.D.	N.D.	RECEIPED
Benzene	0.5	13	5.9	N.D.	N.D.	JUL 3 1 1993
Toluene	0.5	N.D.	N.D.	N.D.	N.D.	ENV'ROV I
Ethyl Benzene	0.5	64	4.6	0.57	N.D.	
Total Xylenes	0.5	4.9	12	0.74	N.D.	
Chromatogram Patt	ern:	Gasoline	Gasoline			

Quality Control Data

Report Limit Multiplication Factor:	4.0	1.0	1.0	1.0
Date Analyzed:	7/22/93	7/22/93	7/22/93	7/22/93
Instrument Identification:	HP-2	HP-4	HP-4	HP-4
Surrogate Recovery, %: (QC Limits = 70-130%)	119	91	97	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

Karen L. Enstrom Project Manager



Environmental Audit Client Project ID: 1000-A Ortega Way Placentia, CA 92670 Attention: Frank Muramoto

Sample Descript: Analysis for:

Montgomery Ward #1233 Water

Sampled: Received: Extracted:

Jul 14, 1993 Jul 15, 1993 Jul 19, 1993

First Sample #:

Lead 307-0743

Analyzed: Jul 20, 1993 Jul 28, 1993 Reported: le province en comprese de casa de provincia de comprese de comprese de comprese de comprese de la comprese de

LABORATORY ANALYSIS FOR: Lead

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L
307-0743	MW-102	0.0050	N.D.
307-0744	B-16	0.0050	N.D.
307-0745	B-15	0.0050	0.0078
307-0746	MW-101	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

Environmental Audit 1000-A Ortega Way Client Project ID:

Placentia, CA 92670

Matrix: Water

Attention: Frank Muramoto

QC Sample Group 3070743-46

Reported: Jul 28, 1993

QUALITY CONTROL DATA REPORT

Montgomery Ward #1233

ANALYTE			Ethyl-			
	Benzene	Toluene	Benzene	Xylenes	Lead	
	· · · · · · · · · · · · · · · · · · ·					
Method:	EDA 0000	EB# 0000	EDA 0000	EDA 0000	ED\$ 7404	
Analyst:	EPA 8020 J.F.	EPA 8020 J.F.	EPA 8020 J.F.	EPA 8020 J.F.	EPA 7421 K.V.S.	
Conc. Spiked:	J.F. 20	J.F. 20	э.г. 20	J.F. 60	0.10	
Units:	- -				* *	
omis.	μg/L	μg/L	μg/L	μg/L	mg/L	
LCS Batch#:	2LCS072293	2LCS072293	2LCS072293	2LCS072293	BLK071993	
Date Prepared:	7/22/93	7/22/93	7/22/93	7/22/93	7/19/93	
Date Analyzed:	7/22/93	7/22/93	7/22/93	7/22/93	7/20/93	
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4	SpectrAA-400	
1.00 %						
LCS %						
Recovery:	90	90	90	94	84	
Control Limits:	70-130	70-130	70-130	70-130	75-125	
MS/MSD						
Batch #:	3070798	3070798	3070798	3070798	3070656	
Date Prepared:	7/22/93	7/22/93	7/22/93	7/22/93	7/19/93	
Date Analyzed:	7/22/93	7/22/93	7/22/93	7/22/93	7/20/93	
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4	SpectrAA-400	
Matrix Calles						
Matrix Spike		••				
% Recovery:	90	90	95	96	117	
Matrix Spike						
Duplicate %						
Recovery:	90	90	95	96	117	
Relative %						
Difference:	0.0	0.0	0.0	0.0	0.0	

SEQUOIA ANALYTICAL

Karen L. Enstrom Project Manager Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery data is used for validation of sample batch results. Due to matrix effects, the QC limits for MS/MSD's are advisory only and are not used to accept or reject batch results.