

# ENVIRONMENTAL AUDIT, INC. HAZMAT

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

714/632-8521 • FAX: 714/632-6754

February 24, 1994

Project No. 1233

Ms. Eva Chu Alameda County Department of Environmental Health 80 Swan Way, #200 Oakland, CA 94621

RE: OUARTERLY GROUND WATER MONITORING REPORT

Montgomery Ward Auto Service Center 7575 Dublin Boulevard, Dublin, California

Dear Ms. Chu:

Enclosed herewith are two copies of our report entitled, "Ground Water Monitoring Report, First Quarter 1994, Montgomery Ward Auto Service Center, 7575 Dublin Boulevard, Dublin, California," dated February 24, 1994.

ERED GEOLOGIS

FRANK S. MURAMOTO

No. 4248

OF CALIFO

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

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)

S. Sommerhalter, Buchalter, Nemer, Fields & Younger (w/enclosure)

CHRIS 1233M94A.DOC (c)

# QUARTERLY GROUND WATER MONITORING REPORT

First Quarter 1994
Montgomery Ward Auto Service Center
7575 Dublin Boulevard
Dublin, California

February 24, 1994

Project No. 1233

Prepared for:

Montgomery Ward & Co. 39201 Fremont Boulevard Fremont, CA 94538

# ENVIRONMENTAL AUDIT, INC. ®

Planning, Environmental Analyses and Hazardous Substances Management and Remediation 1000-A ORTEGA WAY PLACENTIA, CA 92670-7125 714/632-8521

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CHRIS:1233M94A.DOC (b)

## GROUND WATER MONITORING REPORT FIRST QUARTER 1994

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 first quarter 1994 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

On January 13, 1993, Environmental Audit, Inc. obtained ground water depth measurements from the wells associated with the site using an 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 January 13 and 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 ES-40 submersible pump. Purging activities continued until the temperature, conductivity and pH of the extracted water had stabilized (see Appendix A).

Since the System remained active during this quarter's monitoring event, purging of well B-12 prior to sampling was unnecessary. Well B-12 was sampled first, and all other 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. 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 B).

# 2.3 SAMPLING EQUIPMENT CLEANING PROTOCOL

The ES-40 submersible pump and hose (Equipment) used 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 2 along with the results from previous period's testing. The laboratory reports are contained in Appendix C.

### 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. As directed by Montgomery Ward, EAI's scope of work was limited to generating and summarizing data. No other warranty, expressed or implied, is made as to the professional advice contained in this report.

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# TABLE 1 GROUND WATER ELEVATIONS

Montgomery Ward Auto Service Center 7575 Dublin Boulevard Dublin, California

	·····				Page 1 of 3
Date Measured	Elevation of top surface of PVC well casing (feet MSL)	Measured depth to ground water (feet bgs)	Measured depth to Product	Product Thickness	Ground water elevation (feet MSL)
B-5					
	340.05				
04-16-92		10.62	-	0	329.43
07-24-92		11.91	- ,	0	328.14
10-22-92		12.97	-	0	327.08
01-15-93		12.97	=	0	327.08
04-15-93		9. <i>7</i> 5	-	0	330.30
05-14-93		10.07	~	0	329.98
07-14-93		10.80	-	0	329.25
10-14-93		12.08	-	0	327.97
01-13-94		12.23	-	0	327.82
B-10					
	339.70				
04-16-92		10.32	-	0	329.38
07-24-92		11.69	-	0	328.01
10-22-92		12.67	-	0	327.03
01-15-93		9.48	-	. 0	330.22
04-15-93		9.49	-	0	330.21
05-14-93		9.87	-	0	329.83
07-14-93		10.64	-	0	329.06
10-14-93		11.80	-	0	32 <i>7.</i> 90
01-13 <b>-</b> 94		11.94	-	0	32 <i>7.7</i> 6
B-12					
D-12	339.10				
04-16-92		9.95	-	0	329.15
07-24-92		11 <b>.</b> 57	-	0	327.53
10-22-92		12.82	-	0	326.28
01-15-93		8.66	-	0	330.44
04-15-93		8.70	-	0	330.40
05-14-93		9.32	-	0	329.78
07-14-93		9.95	-	0	329.15
10-14-93		10.94	-	0	328.16
		11.28		0	327.82

# TABLE 1 GROUND WATER ELEVATIONS

Montgomery Ward Auto Service Center 7575 Dublin Boulevard Dublin, California

					Page 2 of 3
Date	Elevation of top surface of PVC well casing	Measured depth to ground water	Measured depth	Product	Ground water elevation
Measured	(feet MSL)	(feet bgs)	to Product	Thickness	(feet MSL)
B-15					
	340.62				
04-16-92		11.09	-	0	329.53
07-24-92		12.33	-	0	328.29
10-22-92		13.25	~	0	327.37
01-15-93		10.22	-	0	330.40
04-15-93		10.26	-	0	330.36
05-14-93		10.64	-	0	329.98
07-14-93		11.35	-	0	329.27
10-14-93		12.41	-	0	328.21
01-13-94		12.59	-	0	328.03
B-16					
•	339.82				
04-16-92		10.63	•	0	329.19
07-24-92		11.90	-	0	327.92
10-22-92		12.88	-	0	326. <del>9</del> 4
01-15-93		9.79	-	0	330.03
04-15-93		9.83	-	0	329.99
05-14-93		10.20	~	0	329.62
07-14-93		10.92	-	0	328.90
10-14-93		11.99	-	0	327.83
01-13-94		12.16	-	0	327.66
MW-100					
	339.61				
05-14-93		10.34	-	0	329.27
07-14-93		11.00	-	0	328.61
10-14-93		12.12	-	0	327.49
01-13-94		12.25	-	0	327.36

# TABLE 1 GROUND WATER ELEVATIONS

Montgomery Ward Auto Service Center 7575 Dublin Boulevard Dublin, California

					Page 3 of 3
Date Measured	Elevation of top surface of PVC well casing (feet MSL)	Measured depth to ground water (feet bgs)	Measured depth to Product	Product Thickness	Ground water elevation (feet MSL)
MW-101					
	338.54				
05-14-93		9.91	-	0	328.63
07-14-93		10.38	-	0	328.16
10-14-93		11.30	-	0	327.24
01-13-94		11.21	-	0	327.33
MW-102					<u> </u>
	339.23				
05-14-93		9.60	-	0	329.63
07-14-93		10.31	-	0	328.92
10-14-93		11.57	-	0	327.66
01-13-94		11. <i>7</i> 1	-	0	327.52
NOTES:					
MSL -	Mean Sea Level				
bgs -	below ground surface				
-	Depth to water is as meas	ured from the cut notch top r	north side of each PVC well	casing.	
-		were surveyed in October 1 located along Dublin Boulev			
-	The elevation of all depth elevation datum surveyed	to water measurements were on October 14, 1993.	e converted to mean sea lev	rel elevations usin	g well casing

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# TABLE 2 ANALYTICAL TESTING RESULTS

Montgomery Ward Auto Service Center 7575 Dublin Boulevard Dublin, California Parts per billion (ppb)

Page 1 of 2

Wei	I B-5

Compounds	TPH-G	Benzene	Toluene	Ethylbenzene	Xylenes	Lead
04-16-92	4400	670	160	280	320	ND
07-24-92	31000	5400	2600	2200	5800	ND
10-22-92	9100	1100	190	520	740	ND
01-15-93	2300	530	160	300	470	<i>7</i> .9
04-15-93	4900	600	160	470	390	ND
07-14-93	8800	590	210	840	1100	9.9
10-14-93	4500	530	46	490	350	ND
01-13-94	120	15	1.9	12	11	ND

Well B-10									
Compounds	TPH-G	Benzene	Toluene	Ethylbenzene	Xylenes	Lead			
04-16-92	7300	1400	640	880	1100	ND			
07-24-92	27000	3800	1600	2000	4000	ND			
10-22-92	16000	2300	340	1100	1200	ND			
01-15-93	10000	1400	310	730	1100	13			
04-15-93	8100	580	2 <i>7</i> 0	810	580	19			
07-14-93	6400	840	120	<i>7</i> 50	800	7.			
10-14-93	100000	<i>7</i> 20	120	930	1100	ND			
01-13-94	18000	990	180	1300	2400	ND			

## Well B-12

Compounds	TPH-G	Benzene	Toluene	Ethylbenzene	Xylenes	Lead
04-16-92	12000	1300	1100	510	1200	ND
07-24-92	12000	1000	630	520	1000	ND
10-22-92	11000	370	230	400	940	ND
01-15-93	120	2.8	ND	1.6	3.6	11
04-15-93	<i>7</i> 100	730	240	350	570	ND
07-14-93	4500	540	97	380	610	ND
10-14-93	11000	<i>7</i> 10	170	650	1600	ND
01-13-94	6000	330	100	330	620	24

# Well B-15

Compounds	TPH-G	Benzene	Toluene	Ethylbenzene	Xylenes	Lead
04-16-92	65	4.4	2.4	6.1	2.8	ND
07-24-92	ND	3.6	1.5	3.1	1.6	ND
10-22-92	ND	1.7	0.89	0.78	88.0	ND
01-15-93	ND	ND	ND	ND	ND	13
04-15-93	ND	2.8	ND	3.0	1.5	ND
07-14-93	ND	ND	ND	0.57	0.74	7.8
10-14-93	ND	0.96	2.6	1.3	3.6	25
01-13-94	ND	ND	0.92	0.70	2	ND

# TABLE 2 ANALYTICAL TESTING RESULTS

Montgomery Ward Auto Service Center
7575 Dublin Boulevard
Dublin, California
Parts per billion (ppb)

Page 2 of 2

## Well B-16

Compounds	TPH-G	Benzene	Toluene Eth	nylbenzene	Xylenes	Lead
04-16-92	1300	390	1.7	35	9.3	ND
07-24-92	1600	120	5. <i>7</i>	120	410	ND
10-22-92	1000	<i>7</i> 6	ND	55	130	ND
01-15-93	160	6.5	0.86	2.3	2.6	5.5
04-15-93	300	65	ND	13	2	ND
07-14-93	1 <i>7</i> 0	5.9	ND	4.6	12	ND
10-14-93	390	11	2.4	16	45	21
01-13-94	350	8.7	0.62	25	68	ND

#### Well MW-100

Compounds	TPH-G	Benzene	Toluene	Ethylbenzene	Xylenes	Lead
05-13-93	13000	83	ND	960	820	NA
07-14-93	13000	32	ND	1400	<i>7</i> 90	8
10-14-93	<i>7</i> 500	48	16	900	520	22
01-13-94	7000	51	ND	590	330	ND

## Well MW-101

Compounds	TPH-G	Benzene	Toluene	Ethylbenzene	Xylenes	Lead
05-13-93	ND	ND	ND	ND	ND	NA
07-14-93	ND	ND	ND	, ND	ND	11
10-14-93	ND	0.65	0.89	) ND	1.1	ND
01-13-94	ND	ND	ND	ND	ND	28

## Well MW-102

Compounds	TPH-G	Benzene	Toluene	Ethylbenzene	Xylenes	Lead
05-13-93	3600	17	ND	130	63	NA
07-14-93	1500	13	ND	64	4.9	ND
10-14-93	24000	9.6	5.2	60	60	ND
01-13-94	2000	22	ND	26	55	ND

## **EFFLUENT**

Compounds	TPH-G	Benzene	Toluene	Ethylbenzene	Xylenes	Lead
04-15-93	ND	ND	ND	ND	ND	ND
0 <i>7-</i> 14-93	ND	ND	ND	ND	ND	ND
10-14-93	ND	ND	ND	ND	0.97	48
01-13-94	ND	ND	ND	ND	ND	ND

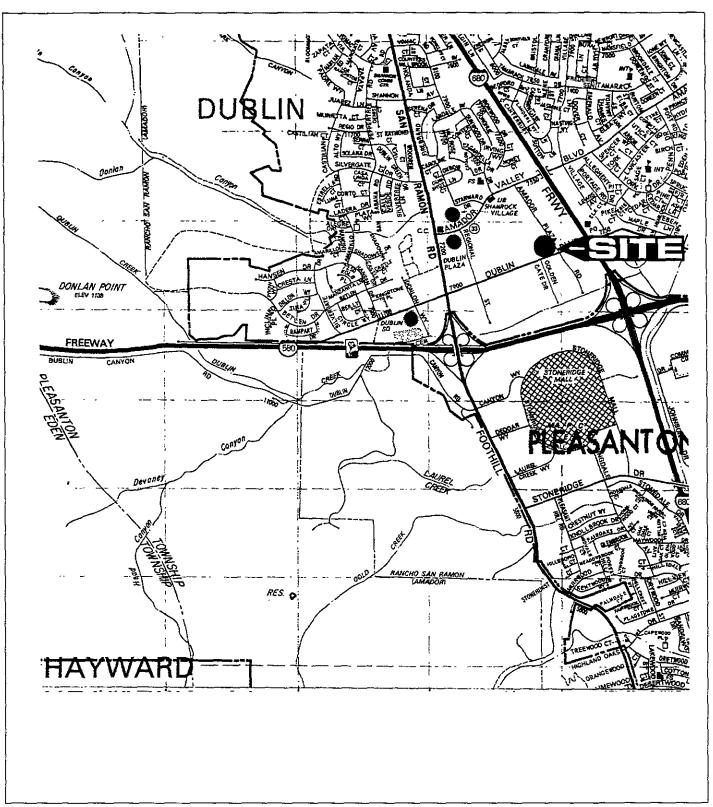
#### NOTE:

ND Not Detected

NA Not Analyzed

DTP:1233:ANALYTIC.DOC





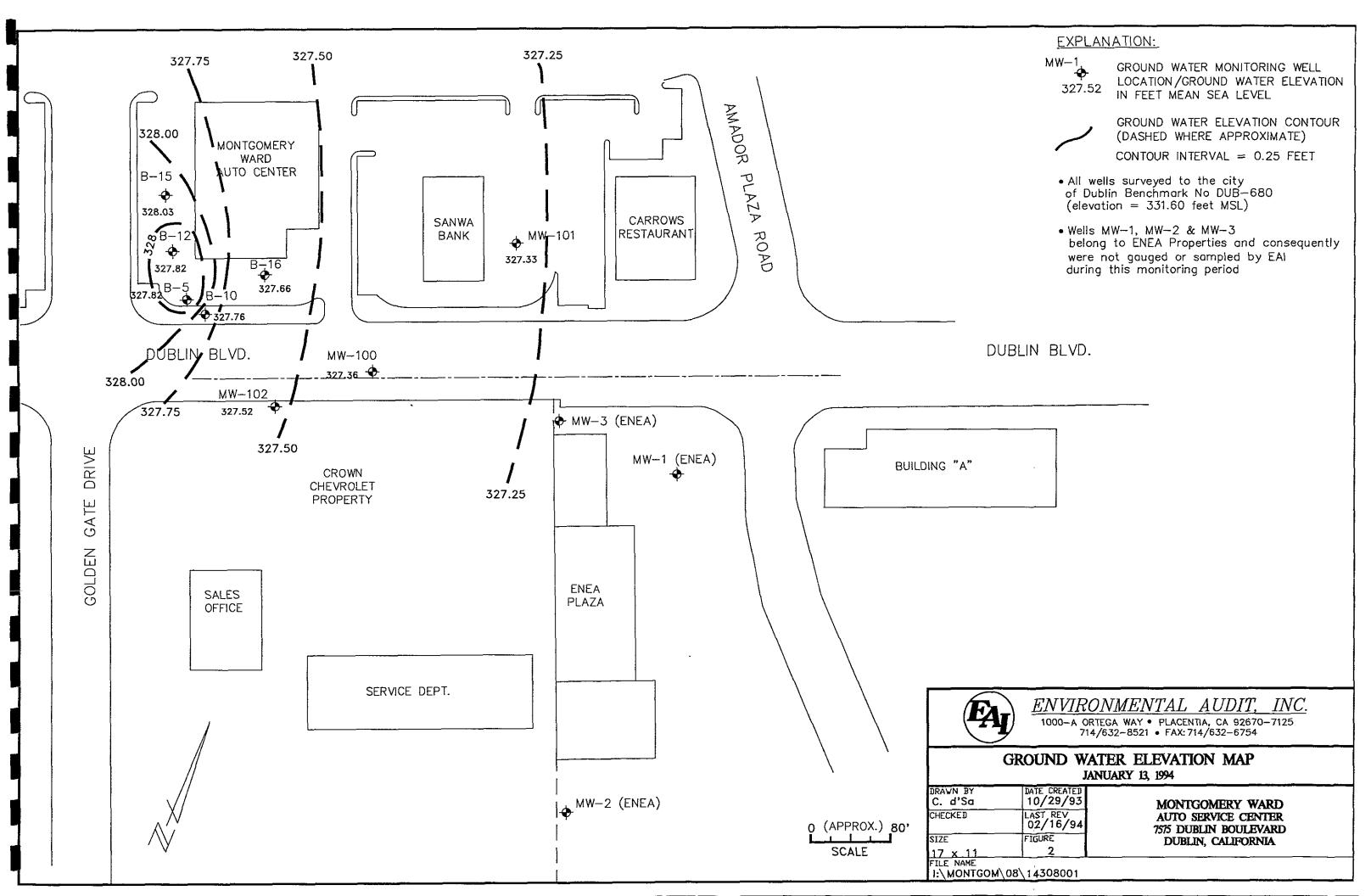


Environmental Audit, Inc.

LOCATION MAP 7575 Dublin Blvd. Dublin, California



Figure 1



# **APPENDIX A**

Ground Water Sampling Log Forms



# Environmental Audit, Inc.

Planning Environmental Analyses and Hazardous Substances Management and Remediation

1000-A ORTEGA WAY PLACENTIA, CA 92670-7125

DATE:	1/14/94
PROJECT NO.:	1233
CLIENT: Montgo	mery Ward, Dublin
WELL NO.:	B-5
WELL DIAMETER (INCHES):	۵"
SAMPLED BY:	CPD

					SAMITLEU	DI:	
	V	VELL P	URGI	NG IN	<b>FORM</b>	<b>10ITA</b>	J
TOTAL DEPTH O DEPTH TO FREE DEPTH TO GROUN	PRODUCT (ft. 1	- •		\(\lambda\)	V	WELL \VEIL CASING   2.0 4.0	OLUME FACTORS   D (inches) VOLUME FACTOR   0.16   0.65
ONE CASING VO 2\ TOTAL DEPTH OF WELL  PURGE TIME:	- DEP LE ST/	TH TO WATER VEL ART (0	USING THE 8.0	FOLLOWING: 27 X	105	6.0  DIUME = EFACTOR  2	ONE CASING VOLUME OF WATER (GALLONS)
PURGE METHOD: TYPE/MODEL:	_	MP 💢 X ES-40	DEDICATED PU	MP 🛄	BAILER 🗀	OTHER [	
GALLONS PURGED	TEMP (°F)	CONDUCT (Micro-ohn		, pH	TURBIDIT (NTU)	Y	REMARKS
1·5 3	63.7	7·60 7·80	) x 10 <sup>2</sup>	8.08 7.90	11.01		
L <sub>1</sub> ·5	63·8 6 <b>2</b> ·0	7.8	8 x 10 <sup>2</sup> x 10 <sup>2</sup>	7.90	6-0° 2·1	1	
			x 10 <sup>2</sup> x 10 <sup>2</sup> x 10 <sup>2</sup>				
			x 10 <sup>2</sup> x 10 <sup>2</sup> x 10 <sup>2</sup>				
	W	/ELLS/	x 10 <sup>2</sup>	NG IN	NFORM	ATIO	N
TIME SAMPLED. SAMPLE METHOD TYPE/MODEL: COMMENTS:		11 OC	DEDICATED P	UMP 🔲	BAILER 🛛	OTHER	



# Environmental Audit, Inc.

Planning Environmental Analyses and Hazardous Substances Management and Remediation

1000-A ORTEGA WAY PLACEΝΠΑ, CA 92670-7125

DATE:	1/14/94
PROJECT NO.:	1233 <sup>\</sup>
CLIENT: Montgo	mery Ward, Dublin
WELL NO.:	B-10
WELL DIAMETER (INCHES):	۵"
SAMPLED BY:	CPD

	V	VELL PU	RGII	VG IN	FORA	10ITAN	V
TOTAL DEPTH O	F WELL (ft.):		[ ک	.0		WELL \	OLUME FACTORS
DEPTH TO FREE	PRODUCT (ft. l	ogs.):		- 1	_	WELL CASING	ID (inches) VOLUME FACTOR
DEPTH TO GROUN	•	• •		94		2.0	0.6
DET THE TO GROOM	s much (m sgs.	<i>j•</i>		74	i	4.0 6.0	0.65 1.47
ONE CASING VO	LUME OF WATE	R CALCULATED US	SING THE	FOLLOWING:	Į	0.0	1.77
20	[ ]	1.94	ે જે	06		) · 16	1.29
TOTAL DEPTH OF WELL		TH TO WATER = Vel	=	χ	WELL	. Volume = Jme factor	ONE CASING VOLUME OF WATER (GALLONS)
PURGE TIME:		IRT 1015	<u>-</u>	STOP	103		TOLOME OF WATER (ORELOTS)
TOROL TIME.	<i>51,</i>	[				^	
PURGE METHOD:	DOWN HOLE PU	MP 🔀 x 🛮 DED	ICATED PU	MP 🗀	BAILER 🔲	OTHER [	3
TYPE/MODEL:		ES-40		·			
GALLONS	TEMP	CONDUCTIVIT	ry 1		TURBIC	ITY	DELLIBRO
PURGED	(°F)	(Micro-ohms/c		pН	UTM)	)	REMARKS
1.5	60.0	7.67	x 10 <sup>2</sup>	8.19	. 57·L	+	
3	63.3	8.12	x 10 <sup>2</sup>	7.62	20.0	7	
4.5	63.0	8. 38	x 10 <sup>2</sup>	7.39	9.7	9	
6	63.5	8.30	x 10 <sup>2</sup>	7.38	5.9	14	
			x 10 <sup>2</sup>				
			x 10 <sup>2</sup>				
		•	x 10 <sup>2</sup>				
			x 10 <sup>2</sup>				
			x 10 <sup>2</sup> x 10 <sup>2</sup>				
_			x 10 <sup>-</sup>				
			x 10 <sup>2</sup>				
	7.5						
		/ELL SA/	MSF.	NG II	VFOR	MAIIO	N
TIME SAMPLED	:	10 25					
SAMPLE METHOD	): DOWN HOLE !		DICATED P		BAILER 🖸	OTHER	
TYPE/MODEL:	l	Voss Technologies	Disposabl	e			
COMMENTS:					•	<u> </u>	



# Environmental Audit, Inc.

Planning. Environmental Analyses and Hazardous Substances Management and Remediation

1000-A ORTEGA WAY PLACENTIA, CA 92670-7125

	<del></del>		_			
	DATE:	1/14/94				
	PROJECT NO.:	1233				
•	CLIENT: Montgomery Ward, Dublin					
	WELL NO.:	B-15				
	WELL DIAMETER (INCHES):	4"				
	SAMPLED BY:	CPD				

	V	VELL PL	RGIN	VG IN		ATION	
TOTAL DEPTH OF WELL PURGE TIME:	F WELL (ft.):  PRODUCT (ft. 1  D WATER (ft. bgs.  LUME OF WATI  DEP LE  STA	ogs.): ): ER CALCULATED I 2 · 59 TH TO WATER VEL ART \_ \@QL	20. 12 13 WSING THE 8.	FOLLOWING:  O5  X	O-95	WELL V WELL CASING I 2.0 4.0 6.0  CS OLUME AE FACTOR	OLUME FACTORS D (inches) VOLUME FACTOR  0.16 0.65 1.47  S-23  ONE CASING VOLUME OF WATER (GALLONS)
PURGE METHOD: TYPE/MODEL:		MP 🔯 x DE ES-40	DICATED PU/	WP 🔃	BAILER 🗀	OTHER [	<b>.</b>
GALLONS PURGED	TEMP (°F)	CONDUCTIV (Micro-ohms)		pН	TURBIDI (NTU)	ТҮ	REMARKS
5	62·q	7.66	x 10 <sup>2</sup>	7.86	5.94		
10	63.5	7-71	x 10 <sup>2</sup>	7.63	ર. <i>૧</i> ૪		
15	63.7	7.70	x 10 <sup>2</sup>	7.60	1.71		
20	63.6	7.70	x 10 <sup>2</sup>	7.61	.50	)	
			x 10 <sup>2</sup>				
			x 10 <sup>2</sup>				
		-	x 10 <sup>2</sup>				
			x 10 <sup>2</sup>				
			x 10 <sup>2</sup>				
			x 10 <sup>2</sup>				TEL-144-1
			x 10 <sup>2</sup>				
			x 10 <sup>2</sup>				
	W	/ELL SA	MPLI	NG I	JFOR/	ΛΔΤΙΟ	N
TIME SAMPLED: SAMPLE METHOD TYPE/MODEL: COMMENTS:		0955	DEDICATED P	имр 🗀	BAILER 🛽		·



# Environmental Audit, Inc.

Planning, Environmental Analyses and Hazardous Substances Management and Remediation

1000-A ORTEGA WAY PLACENTIA, CA 92670-7125

	DATE:	1/1 3/94		
	PROJECT NO.:	1233		
•	CLIENT: Montgo	mery Word, Dublin		
	WELL NO.:	B-16		
	WELL DIAMETER (INCHES):	4"		
	SAMPLED BY:	CPD		

		JAMP	LED RI:	נוט	
WELL P	URGING	INFOR/	OITAN	N _	
TOTAL DEPTH OF WELL (ft.):	<u> </u>	}	WELL	VOLUME F	ACTORS
DEPTH TO FREE PRODUCT (ft. bgs.):		ì	WELL CASING		VOLUME FACTOR
DEPTH TO GROUND WATER (ft. bgs.):	12.1/	.a `b	2.0		916
DEI III 10 OROGID TIMIER (II. BYS.).	12.16	J	4.0		(0.65)
ONE CASING VOLUME OF WATER CALCULATED	USING THE FOLLO	OWING:	6.0		1.47
23.36 12.16	11.19		0.65	7.27	7
TOTAL DEPTH - DEPTH TO WATER	=		L VOLUME =	ONE CASINO	
OF WELL LEVEL PURGE TIME: START 154	.6		UME FACTOR	YOLUME OF	WATER (GALLONS)
TORRE TIME: START 132	+5	3101 76	:15		
PURGE METHOD: DOWN HOLE PUMP 🔊 x	DEDICATED PUMP [	BAILER 🔲	OTHER		
TYPE/MODEL: ES-40		•			
<u> </u>				·	
GALLONS TEMP CONDUCTI		H TURBI	1	REMAR	KS
PURGED (°F) (Micro-ohm	is/till)	luit	-		
5 67.8 8.54		.63 26.5	<u> </u>		
10 67.4 8.44		. 35 21.3	<u> </u>		
15 66.9 8.37	<del></del>	. 31 12.7			
20 65.9 8.20	· · · · · · · · · · · · · · · · · · ·	.24 3.9			
15 65.9 8.24	x 10 <sup>2</sup>	1.30 1.8			
30 65.8 8.27	x 10 <sup>2</sup> 7	.29 1.6	7		
	. x 10 <sup>2</sup>				
	x 10 <sup>2</sup>	_			
	x 10 <sup>2</sup>				
	x 10 <sup>2</sup>				
	x 10 <sup>2</sup>				
	x 10 <sup>2</sup>				
WELL SA	AMPLIN	<b>3 INFOR</b>	MATIC	N	
TIME SAMPLED: 1652					
SAMPLE METHOD: DOWN HOLE PUMP	DEDICATED PUMP (	BAILER [	X) OTHE	2 🗀	
	ies Disposable	DAILEN C	_ VIIILI	· <b>_</b>	
COMMENTS:					



# Environmental Audit, Inc.

Planning, Environmental Analyses and Hazardous Substances Management and Remediation

1000-A ORTEGA WAY PLACENTIA, CA 92670-7125

		_		
	DATE:	1/1/3/94		
	PROJECT NO.:	1233		
,	CLIENT: Montgo	omery Ward, Dublin		
	WELL NO.:	MW-100		
	WELL DIAMETER (INCHES):	4"		
	SAMPLED BY:	CPD		

	V	VELL PUR	RGII	VG IN	FORM	ATION	
TOTAL DEPTH O	F WELL (ft.):		28	· 00		WELL V	OLUME FACTORS
DEPTH TO FREE	PRODUCT (ft. l	gs.):				WELL CASING 1	
DEPTH TO GROUN	D WATER (ft. bgs.	):	12.	٦5		2.0 4.0	0.16 (0.65)
ONE CASING VO  28  TOTAL DEPTH OF WELL PURGE TIME:  PURGE METHOD:	DEP LE STA		NG THE	FOLLOWING: 75 X	WELL	6.0  OLUME = AE FACTOR  OTHER	1.47  NE CASING VOLUME OF WATER (GALLONS)
TYPE/MODEL:	_	ES-40					_
GALLONS PURGED	TEMP (°F)	CONDUCTIVITY (Micro-ohms/cm		рН	TURBIDI (NTU)	ТҮ	REMARKS
5	70.2	7.80	x 10 <sup>2</sup>	7.41	27.	9	
10	70.5	8.80	x 10 <sup>2</sup>	7. 28	VO.		
15	70.8	<u>୫ ·</u> ୫୦	x 10 <sup>2</sup>	7.21	<u> </u>	)3	
20	70.6	8.78	x 10 <sup>2</sup>	7.27	3- 8	(	
25	70.7	8.56	x 10 <sup>2</sup>	7.25	ع. و	23	
30	70.7	8.71	x 10 <sup>2</sup>	7.21	( • (	)&	
35	70.8	8.72.	x 10 <sup>2</sup>	7.95		0	
40	70.7	8.73	x 10 <sup>2</sup>	7.21	1. (	)5	
			x 10 <sup>2</sup>				
			x 10 <sup>2</sup>				
			x 10 <sup>2</sup>				
		<u>/ELL SAN</u>		NGI	<b>VFORM</b>	MATIO	N
TIME SAMPLED	: [	14 25					
SAMPLE METHOD TYPE/MODEL : COMMENTS:	: DOWN HOLE F	UMP DED Voss Technologies	OICATED P Disposabl		BAILER 🗓	OTHER	



# Environmental Audit, Inc.

Planning, Environmental Analyses and Hazardous Substances Management and Remediation

1000-A ORTEGA WAY PLACENTIA, CA 92670-7125

DATE:	1/1,3/94
PROJECT NO.:	1233
CLIENT: Montgo	mery Ward, Dublin
WELL NO.:	MW-101
WELL DIAMETER (INCHES):	T <sub>II</sub>
SAMPLED BY:	CPD

	V	/ELL PUI	RGII	NG IN	<b>FORMA</b>	TION	
TOTAL DEPTH OI DEPTH TO FREE	` '	as.):	28	- 00		WELL VO . CASING ID (	LUME FACTORS (inches) VOLUME FACTOR
DEPTH TO GROUN	*	•	11.	21		2.0 4.0	0.16
ONE CASING VO  ONE CASING VO  TOTAL DEPTH OF WELL  PURGE TIME:	- DEP	R CALCULATED US ・ みヽ H TO WATER = VEL RT	16.	FOLLOWING:  79  x  STOP	O.65  WELL VOLUME FAM  VOLUME FAM	ξ =	1.47  ONE CASING VOLUME OF WATER (GALLONS)
PURGE METHOD: TYPE/MODEL:	DOWN HOLE PU	L	CATED PU		BAILER 🗀	OTHER	
GALLONS PURGED	TEMP (°F)	CONDUCTIVIT (Micro-ohms/cn		рH	TURBIDITY (NTU)		REMARKS
5	65.5	8.75	x 10 <sup>2</sup>	7.48	14.02		
10	65.7	8.74	x 10 <sup>2</sup>	7,42	13.44		
15	66.1	8.80	x 10 <sup>2</sup>	7.41	17.08		
20	64.4	8.62	x 10 <sup>2</sup>	7.49	24.20		
25	649	8.75	x 10 <sup>2</sup>	7.43	20.8		
30	66.1	8-82	x 10 <sup>2</sup>	7.40	21.4		
35	66.5	8.85	x 10 <sup>2</sup>	7.39	21.1		
40	66.6	8.88	x 10 <sup>2</sup>	₹.38	21.6		
45	66.5	8.86	x 10 <sup>2</sup>	7.38	20.1		
			x 10 <sup>2</sup>				
			x 10 <sup>2</sup>				
			x 10 <sup>2</sup>				
	V	<b>IELL SAN</b>	ΛPLI	NG IN	<b>IFORM</b>	MOITA	
TIME SAMPLED:		1710	_				
SAMPLE METHOD TYPE/MODEL : COMMENTS:	E DOWN HOLE P	<del></del>	DICATED P Disposabl		BAILER 🛽	OTHER 🗆	



# Environmental Audit, Inc.

Planning, Environmental Analyses and Hazardous Substances Management and Remediation

1000-A ORTEGA WAY PLACENTIA, CA 92670-7125

	DATE:	1/13/94
	PROJECT NO.:	1233
•		gomery Ward, Dublin
	WELL NO.:	MW-102
	WELL DIAMETER (INCHES	): 44
	SAMPLED BY:	CPD

	V	VELL PU	RGI	<u>IG IN</u>	<b>FORM</b>	ATION	
TOTAL DEPTH O	F WELL (ft.):		15	<u> </u>		WELL V	OLUME FACTORS
DEPTH TO FREE	PRODUCT (ft. I	bgs.):		<u> </u>	_ '	WELL CASING II	
DEPTH TO GROUN	D WATER (ft. bas	.):	11.	71		2.0	0.16
	- ····· <b>(</b> ··· - <b>3</b> ··	7		11		4.0 6.0	<u>@</u> \$> 1.47
ONE CASING VO	LUME OF WAT	ER CALCULATED (	JSING THE	FOLLOWING:			
28		1.71	16.	29		65	10.58
TOTAL DEPTH OF WELL		TH TO WATER VEL	=	Х	METT A	olume = e factor	ONE CASING VOLUME OF WATER (GALLONS)
PURGE TIME:		ART 1209	<u> </u>	STOP	124		rocome or marek (oncome)
	· · ·		<b>J</b>				
PURGE METHOD:		<del></del>	DICATED PUA	MP 🗀	BAILER 🔲	OTHER [	נ
TYPE/MODEL:		ES-40					
GALLONS	TEMP	CONDUCTIV	ITY		TURBIDIT	Y	
PURGED	(°F)	(Micro-ohms/		рН	(NTU)		REMARKS
5	68.0	8.11	x 10 <sup>2</sup>	7.58-	16.92		1.4 9pm
10	68.4	8.13	x 10 <sup>2</sup>	7.28	4.99		- O4
15	69∙♦	8.19	x 10 <sup>2</sup>	7.21	1.97		
20	69.2	8.71	x 10 <sup>2</sup>	2.91	1.03		
25	69.2	8.31	x 10 <sup>2</sup>	7.21	1.02		
30	69.1	8.51	x 10 <sup>2</sup>	7.21	1.10		
35	68.9	8.70	x 10 <sup>2</sup>	7.19	<u>() ,55</u>		
40	64.0	8.22	x 10 <sup>2</sup>	7.17	Ø-1€		
45	69.0	8.91	x 10 <sup>2</sup>	7.18	0.1	<b>I</b>	<del></del>
			x 10 <sup>2</sup>				
			x 10 <sup>2</sup>				
			x 10 <sup>2</sup>				
	V	/ELL SA	MPLI	NG IN	IFORA	MATIO	N
TIME SAMPLED	Г	1250					
SAMPLE METHOD	7		EDICATED PI	IMP 🗀	BAILER 🛽	OTHER I	<b>1</b>
TYPE/MODEL:	. DOTH HULL 3	Voss Technologie			DAILER C	OTHER (	
COMMENTS:	<u>_</u>		•				

# **APPENDIX B**

Chain of Custody Record Forms

		Ξn	vir	onr	nei	ntal	Au	dit,		n	C.	®			C	ho	ii	n (	of	C	ับร	stod	y R	ec	ord ·	
$(\mathcal{L}_{\mathbf{A}_{\mathbf{I}}})$	ſ						nalyses nt and <mark>l</mark>					us	5	AME	PLING	REO	UIRE	MENT	S: F	CRA (	<u></u> ν	IPDES 🗆	SDWA 🛭	)	a	
		1000-	A OR	TEGA A, CA	WAY			(714) (714)	632	2 - 8	352	1 4	ŀ	ROU	TEN : TINE ICB	OC [	-	T	TURN		UND T	IME: 24hr 🔲	48hr	<b>□</b>	IORMAL 🗓	
PROJECT NO. 1233		P	٨	T NAME Aontgo Dublin		Ward,		- 1	COI TYPI	NTR E				ΑN	ALYS!	ES RE	QUES	STED			83		REM	ARKS		
SAMPLER: (Signature)						CT MANA Ink Mui				STUBE	3015M	3015M	\$ 8020	4 8240	OIL & GREASE	TALS TOT WET					R OF CONTAINER	Call at EA	Chris I if a		uestions	
SAMPLE NUMBER DA	NTE	TIME	COMP		Sampi.	E DESCRIF	TION	234		BRASS/ S	TPH-D 8	TPH-G 8	BTEX 60:	VOCS 62	OIL & GF	CAM ME					NUMBER		<del></del>			
B-12 1	13	1033		,	Water ———			/		_		/				/			<u> </u>		3	One two 4	1-Liter Pla 10-ml VOA	stic Bottl Vials (F	le (lead) PIEX/TPH) OGAAAA	
EFFLUENT		1040								_											3		···-	1	0664	
MW-102		1250							//	/		$/\!$									3				0665	
MW-100		1425	И	1																	3				0666	
B-16		1620						/	//												3	1			0667	
MW-101	. 1	1710	M	V					//												3	V		/	0668.	$\Psi^{\mathbf{c}}$
																		TOTA	NUA	IRER						
RELINCUISHED BY: (Sign	nature	}	-	DATE/T	<i>i</i>	1 1	BY:  Signat		J			RELI	NQU	ISHE	D BY:	(S)gr	e ature		NUA NTAI E	NERS DATE/		RECEIVE	D BY:  Sig	nature)		
RELINOUISHED BY: (Sign	nature	)		DATE/T			BY: ((S)gnat					RELI	NQU	ISHE	D BY:	(Sigr	ature	:)	ı	DATE/	TIME	RECEIVE	D BY: (Sig	nature)		
SAMPLES SHIPPED VIA: FEDEX UPS BUS HAN			RBORN	.L JE [] []		SHIPPED E	3Y; (Signatu	ıre)				COL	IRIER	(\$Ig	natur	e)					( )	OR BY: (Signatura)		J	DATE/TIME 01   14   9	4

É	\					l Audit	_		-	= (2)	)		(	С	hc	iir	า	o	F (	Cı	US	stod	y F	Rec	or	ď	
$(L\Delta_T)$						Analyses and ent and Rem					IS	S/	MP	LING	REQ	JIREI	MENT	rs:	RCR	Α 🗆	} ^	IPDES 🔲	SDWA	Ø		0	
	/	1000-	A OR	TEGA W	•	<b>2</b> (714)	63	32 -	85	521		R	OUT	INE	OC K	ì	T		RNAF ME D			riME: 24hr 🗌	481	nr 🔲 🕕	NORM	IAL 🔯	
PROJECT NO. 1233		1	٨	T NAME Aontgom Dublin	ery Ward	•		DNT PE					AN/	\LYS!	ES REC	DUES	TED	,			兇	·	RE	MARKS			
SAMPLER: (Signature)				F	PROJECT MAI Frank M			10. C.	SO TOBE	8015M	TRPH 418.1	BTEX 602) 8020	25 8270	REASE	ETALS TOT WET						ER OF CONTAINERS	Call at EA]		s d'Sa any		tions	
	ATE	TIME	COMP	S/	MPLE DESCI	RIPTION	GLASS	PLASTIC	SK-NS/ ST	7 F	TRPH 4	18TEX 6/		OIL & C	2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3						NUMBER						
B-15 1	14	0955		W	ater		$\mathbb{Z}$	4		/					$\bot\!$						3		0-ml VC	lostic Bot DA Vials (	(BŢEX <u>/</u> T		
8-10		1025			· · · · · · · · · · · · · · · · · · ·		I	/]	_ _	/									_ _		3				070		_
B-115	V	1100					1/	4	-			/	-		/						3	V		V 00	67	1 V	_
										-												* ID				•	)
								_	_			_			_							is Corr D'SA		45 f		Chris	_
																	TO1/	VE VI	JMBI AINE	R	9			·			
RELINQUISHED BY: (SIG	natur	el		DATE/TIM	1	D BY; (Signature)				. R	ELIN	QUIS	HEC	BY:	(Sign	ature	OF C	ŌЙÌ	DA			RECEIVE	DBY: (	Signatur	e)		
RELINGUISHED BY: (SIG	natur	e)		DATE/IM		D BY: [Signature]			·	R	ELIN	QUIS	HE	BY:	(Sign	ature	:}		DA	TE/T	IME	RECEIVE	D BY: (	Signatur	e)		
SAMPLES SHIPPED VIA: FEDEX			RBORN		SHIPPEC	BY: (Signature)				c	OUR	IER:	(Sign	natur	e)	•			REC	Ū	) lm	OR BY: (Sign	MA	<u> </u>		DATE/TIME 81 /14/9 15:00	13

\*

# **APPENDIX C**

Laboratory Reports



RECEIVED

FEB - 4 1994

# ENVIHUNMENTAL AUDIT

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

STRUCK CONTRACTOR STRUCKS CONTRACTOR

Client Project ID: Sample Matrix: Analysis Method:

First Sample #:

(510) 686-9600 • FAX (510) 686-9689

Montgomery Ward 1233

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Water

EPA 5030/8015/8020

401-0663

Sampled: Received:

Jan 13, 1994 Jan 14, 1994

Reported:

Jan 28, 1994

### TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit μg/L	Sample I.D. 401-0663 B-12	Sample I.D. 401-0664 EFFLUENT	Sample I.D. 401-0665 MW-102	Sample I.D. 401-0666 MW-100	Sample I.D. 401-0667 B-16	Sample I.D. 401-0668 MW-101
Purgeable Hydrocarbons	50	6,000	N.D.	2,000	7,000	350	N.D.
Benzene	0.5	330	N.D.	22	51	8.7	N.D.
Toluene	0.5	100	N.D.	N.D.	N.D.	0.62	N.D.
Ethyl Benzene	0.5	330	N.D.	26	590	25	N.D.
Total Xylenes	0.5	620	N.D.	55	330	68	N.D.
Chromatogram Patt	ern:	Gasoline		Gasoline	Gasoline	Gasoline	

**Quality Control Data** 

Report Limit Multiplication Factor:	20	1.0	10	10	1.0	1.0
Date Analyzed:	1/20/94	1/20/94	1/20/94	1/20/94	1/21/94	1/20/94
Instrument Identification:	HP-5	HP-5	HP-5	HP-5	HP-2	HP-5
Surrogate Recovery, %: (QC Limits = 70-130%)	87	101	95	84	104	99

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 Client Project ID: Sample Matrix: Montgomery Ward 1233 Water

Sampled: Received: Jan 14, 1994 Jan 14, 1994

Attention: Frank Muramoto

Analysis Method:

EPA 5030/8015/8020

Reported:

Jan 28, 1994

Aπention: Frank Muramoto

First Sample #: 401-0669

# TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit μg/L	Sample I.D. 401-0669 B-15	Sample I.D. 401-0670 B-10	Sample I.D. 401-0671 B-5		_
Purgeable Hydrocarbons	50	N.D.	18,000	120		
Benzene .	0.5	N.D.	990	15		
Toluene	0.5	0.92	180	1.9		
Ethyl Benzene	0.5	0.70	1,300	12		
Total Xylenes	0.5	2.0	2,400	11		
Chromatogram Pat	tern:		Gasoline	Gasoline	,	

#### **Quality Control Data**

Report Limit Multiplication Factor:	1.0	40	1.0
Date Analyzed:	1/20/94	1/20/94	1/20/94
Instrument Identification:	HP-5	HP-5	HP-5
Surrogate Recovery, %: (QC Limits = 70-130%)	98	99	104

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



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

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

Sample Descript: Water Analysis for:

First Sample #:

Client Project ID: Montgomery Ward 1233

Lead

Lead 401-0663

Sampled: Jan 13-14, 1994 Received: Jan 14, 1994 :: Extracted: Jan 24, 1994

Analyzed: Jan 26, 1994 Reported: Jan 28, 1994) Septimization sessional and septimization of the second section of the second second second second second second

#### LABORATORY ANALYSIS FOR:

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L	
401-0663	B-12	0.020	0.024	
401-0664	EFFLUENT	0.020	N.D.	
401-0665	MW-102	0.020	N.D.	
401-0666	MW-100	0.020	N.D.	
401-0667	B-16	0.020	N.D.	
401-0668	MW-101	0.020	0.028	
401-0669	B-15	0.020	N.D.	
401-0670	B-10	0.020	N.D.	
401-0671	B-5	0.020	N.D.	

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

SEQUOIA ANALYTICAL

Karen L. Enstrom Project Manager



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

Environmental Audit 1000-A Ortega Way

Montgomery Ward 1233 Client Project ID:

Matrix: Liquid

Placentia, CA 92670 Attention: Frank Muramoto

QC Sample Group: 4010663-71

Reported: องเมายน และเกิด เพียงอย่าย ของเมายน ของ เมษายน เมื่อ เพิ่มเหมือน เมาะ เมยาน เมษายน และ เมษายน เหมือน เทิง และ ใ

### QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl	Xylenes
			Benzene	
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	J. Fontecha	J. Fontecha	J. Fontecha	J. Fontecha
MS/MSD				
Batch#:	4010664	4010664	4010664	4010664
Date Prepared:	1/20/94	1/20/94	1/20/94	1/20/94
Date Analyzed:	1/20/94	1/20/94	1/20/94	1/20/94
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5
Conc. Spiked:	20 μg/L	20 μg/L	$20\mu\mathrm{g/L}$	60 μg/L
Matrix Spike				
% Recovery:	115	105	95	100
Matrix Spike				
Duplicate %				
Recovery:	120	110	100	102
Relative %		•		
Difference:	4.3	4.7	5.1	2.0

LCS Batch#:	3LCS012094	3LCS012094	3LCS012094	3LCS012094		
Date Prepared:	1/20/94	1/20/94	1/20/94	1/20/94		
Date Analyzed:	1/20/94	1/20/94	1/20/94	1/20/94		
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5		
LCS <sup>*</sup> %						
Recovery:	116	105	92	94		
% Recovery	<del></del>	<del></del>			<del></del>	 
Control Limits:	71-133	72-128	72-130	71-120		

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 matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.



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

**Environmental Audit** 1000-A Ortega Way Placentia, CA 92670 Client Project ID: ID: Montgomery Ward 1233

Matrix:

Liquid

Attention: Frank Muramoto

QC Sample Group: 4010663-71 ewarana a rangeritiwa ayan ingungara ka marakaran nini kaban mirakawa mana usi ya na ninaraka kasa ingarahani. Ma

Reported:

Jan 28, 1994.

#### **QUALITY CONTROL DATA REPORT**

ANALYTE	Cadmium	Chromium	Lead	Nickel	Zinc		
Method:	EPA 200.7						
Analyst:	K.A./J.D.	K.A./J.D.	K.A./J.D.	K.A./J.D.	K.A./J.D.		
MS/MSD							
Batch#:	4010870	4010870	4010870	4010870	4010870		
Date Prepared:	1/24/94	1/24/94	1/24/94	1/24/94	1/24/94		•
Date Analyzed:	1/26/94	1/26/94	1/26/94	1/26/94	1/26/94		
Instrument I.D.#:	Liberty-100	Liberty-100	Liberty-100	Liberty-100	Liberty-100		
Conc. Spiked:	1.0 mg/L						
Matrix Spike							
% Recovery:	109	109	110	112	111		
Matrix Spike							
Duplicate %						•	
Recovery:	110	112	111	114	114		
Relative %							
Difference:	0.91	2.7	0.90	1.8	2.7		

100 5 1 1 11							
LCS Batch#:	BLK012494	BLK012494	BLK01,2494	BLK012494	BLK012494		
Date Prepared:	1/24/94	1/24/94	1/24/94	1/24/94	1/24/94		
Date Analyzed:	1/26/94	1/26/94	1/26/94	1/26/94	1/26/94		
Instrument I.D.#:	Liberty-100	Liberty-100	Liberty-100	Liberty-100	Liberty-100		
LCS %							
Recovery:	95	98	99	103	100		
·							
% Recovery					<u> </u>		
Control Limits:	75-125	75-125	75-125	75-125	75-125		

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 matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.