



# ENVIRONMENTAL AUDIT, INC.®

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

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APR 29 1994  
PROJECT NO. 1233  
ALCO  
MAY - 20  
HAZMAT

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

**RE: QUARTERLY 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, Second Quarter 1994, Montgomery Ward Auto Service Center, 7575 Dublin Boulevard, Dublin, California," dated April 29, 1994. We are in the process of finalizing a status report for the site and it will be forwarded to you upon completion.

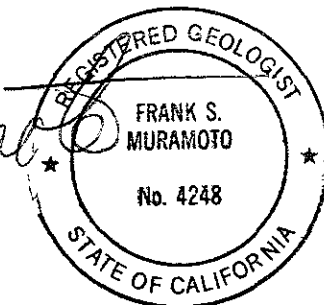
Please call the undersigned or Steven Bright if you have any questions or need additional information. *x 250*

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)
- R. Enea, Enea Properties (w/enclosure)

CHRIS:1233M94B.DOC (c)

**QUARTERLY GROUND WATER  
MONITORING REPORT**

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

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**April 29, 1994**

**Project No. 1233**

*Prepared for:*

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

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**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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**GROUND WATER MONITORING REPORT  
SECOND 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 second 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.

As requested by the Montgomery Ward & Company, Inc., the wells at the ENEA Properties site located at the immediately south of the intersection of Amador Plaza Road and Dublin Boulevard were also gauged and sampled as part of this quarter's monitoring activities.

**2.0 FIELD INVESTIGATION**

**2.1 GROUND WATER ELEVATION SURVEY**

On April 4, 1994, Environmental Audit, Inc. obtained ground water depth measurements from the wells associated with the site and the Enea Properties ground water monitoring wells 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 April 4 and 5, 1994, 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 921 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 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 seven 55-gallon drums which were then emptied into the System for treatment and subsequent discharge into the sanitary sewerage system.

## **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.

The analytical results for Enea well MW-1 and MW-2 have been interchanged in Table 2 for this period, since it is believed that these samples were mislabeled by EAI's field personnel.

## **4.0 SYSTEM OPERATION/MAINTENANCE**

On April 14 and 15, 1994, EAI personnel visited the site to evaluate System extraction efficiency. Examination of the System indicated that the extraction pump in well B-12, a Grundfos four-inch submersible pump, was not working at full capacity. A new 0.5 horsepower, 10 gallon per minute (gpm) rated Grundfos, four-inch submersible pump, Model No. 7S05-10, was installed in the extraction well in order to eliminate as much downtime as possible. The pump also was installed with a five-inch diameter PVC cooling shroud and a filter bag to prevent fines from being pumped into the treatment system.

A Franklin Pumptec pump controller also was installed. The Pumptec controls the pump by sensing when an electrical load is on the pump, i.e., the pump is pumping water. When the Pumptec senses that there is no load present on the pump (that is when the pump is out of water), the pump is shut-off. The Pumptec controller has an adjustable timer which

allows the pump to remain off for a predetermined period of time ranging from 2 minutes to 90 minutes. After the time period has expired, pumping of ground water is resumed.

Since lithology at the site is mostly silts and clays, 90 minutes was selected as the period of time for the pump to remain off which in turn would allow for sufficient recharge in the well. This recharge period will be monitored and, if necessary, appropriate adjustments will be made.

Table 3 presents the flowmeter measurements obtained on April 15, 22, and 26, 1994, following installation of the new extraction pump. The data show that, over this 11 day period (at 24 hours per day), the pump is extracting on average about 5.5 gpm. However, EAI estimates that the Pumptec controller shuts down the pump about five times per day (approximately 7.5 hours/24 hour period). Therefore, since an eight gpm rated flow regulator is present on the discharge side of the ground water pump to limit flow to the maximum capacity of the oil/water separator, the pump is believed to be extracting ground water at a rate of eight gpm.

## 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. 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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**TABLES**

**TABLE 1****GROUND WATER ELEVATIONS**

Montgomery Ward Auto Service Center

ENE Properties

Dublin, California

Page 1 of 4

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>B-5</b>					
	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		9.75	-	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
04-04-94		11.30	-	0	328.75
<b>B-10</b>					
	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	327.90
01-13-94		11.94	-	0	327.76
04-04-94		11.00	-	0	328.70
<b>B-12</b>					
	339.10				
04-16-92		9.95	-	0	329.15
07-24-92		11.57	-	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
01-13-94		11.28	-	0	327.82
04-04-94		10.32	-	0	328.78



# TABLE 1

## GROUND WATER ELEVATIONS

Montgomery Ward Auto Service Center  
ENE Properties  
Dublin, California

Page 2 of 4

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>B-15</b>					
	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
04-04-94		11.74	-	0	328.88
<b>B-16</b>					
	339.82				
04-16-92		10.63	-	0	329.19
07-24-92		11.90	-	0	327.92
10-22-92		12.88	-	0	326.94
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
04-04-94		11.28	-	0	328.54
<b>MW-100</b>					
	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
04-04-94		11.36	-	0	328.25

# TABLE 1

## GROUND WATER ELEVATIONS Montgomery Ward Auto Service Center ENE A Properties Dublin, California

Page 3 of 4

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>MW-101</b>					
	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
04-04-94		10.69	-	0	327.85
<b>MW-102</b>					
	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		11.71	-	0	327.52
04-04-94		10.83	-	0	328.40
<b>ENE A MW-1</b>					
	335.84				
10-14-93		9.05	-	0	326.79
01-13-94		NM	-	0	NM
04-04-94		8.36	-	0	327.48
<b>ENE A MW-2</b>					
	335.61				
10-14-93		8.90	-	0	326.71
01-13-94		NM	-	0	NM
04-04-94		8.05	-	0	327.56
<b>ENE A MW-3</b>					
	336.93				
10-14-93		9.89	-	0	327.84
01-13-94		NM	-	0	NM
04-04-94		9.19	-	0	327.74

# TABLE 1

## GROUND WATER ELEVATIONS

Montgomery Ward Auto Service Center

Enea Properties

Dublin, California

Page 4 of 4

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>ENEa MW-4</b>					
	335.76				
10-14-93		NI	-	0	NI
01-13-94		NM	-	0	NM
04-04-94		8.55	-	0	327.21
<b>ENEa EW-1</b>					
	336.08				
10-14-93		NI	-	0	NI
01-13-94		NM	-	0	NM
04-04-94		8.62	-	0	327.46

**NOTES:**

- NI - Not installed, NM - Not measured
- MSL - Mean Sea Level
- bgs - below ground surface
- Depth to water is as measured from the cut notch at the top side of each PVC well casing.
- The elevations of all wells were surveyed in October 1993 to City of Dublin Benchmark No. DUB-680 (elevation=331.60 MSL), located along Dublin Boulevard, 0.60 miles easterly from San Ramon Road.
- The elevation of all depth to water measurements were converted to mean sea level elevations using well casing elevation datum surveyed on October 14, 1993.
- Wells B-5, B-12, B-15, B-16, MW-100, MW-101 and MW-102 are owned by Montgomery Ward and are associated with 7575 Dublin Boulevard.
- Wells MW-1, MW-2, MW-3, MW-4 and EW-1 are owned by Enea Properties and are located at the Enea Plaza located on the intersection of Amador Plaza Road and Dublin Boulevard.

DTP:1233:ELEV.DOC

## TABLE 2

### ANALYTICAL TESTING RESULTS

Montgomery Ward Auto Service Center

Enea Properties

Dublin, California

Parts per billion (ppb)

Page 1 of 3

#### Well 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	7.9
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
04-04-94	5700	450	39	350	400	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	270	810	580	19
07-14-93	6400	840	120	750	800	7.1
10-14-93	100000	720	120	930	1100	ND
01-13-94	18000	990	180	1300	2400	ND
04-04-94	12000	370	96	900	1800	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	7100	730	240	350	570	ND
07-14-93	4500	540	97	380	610	ND
10-14-93	11000	710	170	650	1600	ND
01-13-94	6000	330	100	330	620	24
04-04-94	8700	350	58	350	660	ND

**TABLE 2**

**ANALYTICAL TESTING RESULTS**

Montgomery Ward Auto Service Center  
 ENEA Properties  
 Dublin, California  
 Parts per billion (ppb)

**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	0.88	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
04-04-94	ND	ND	ND	0.56	1	ND

**Well B-16**

Compounds	TPH-G	Benzene	Toluene	Ethylbenzene	Xylenes	Lead
04-16-92	1300	390	1.7	35	9.3	ND
07-24-92	1600	120	5.7	120	410	ND
10-22-92	1000	76	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	170	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
04-04-94	550	8.7	ND	35	81	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	790	8
10-14-93	7500	48	16	900	520	22
01-13-94	7000	51	ND	590	330	ND
04-04-94	9800	69	ND	540	410	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
04-04-94	ND	ND	ND	ND	ND	ND

## TABLE 2

### ANALYTICAL TESTING RESULTS

Montgomery Ward Auto Service Center  
 ENEA Properties  
 Dublin, California  
 Parts per billion (ppb)

Page 3 of 3

#### 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
04-04-94	2100	16	2.5	15	35	ND

#### EFFLUENT

Compounds	TPH-G	Benzene	Toluene	Ethylbenzene	Xylenes	Lead
04-15-93	ND	ND	ND	ND	ND	ND
07-14-93	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
04-04-94	ND	ND	ND	ND	ND	33

#### ENEA MW-1

Compounds	TPH-G	Benzene	Toluene	Ethylbenzene	Xylenes	Lead
10-14-93	5700	76	19	160	460	ND
04-04-94*	7000	27	ND	260	49	ND

#### ENEA MW-2

Compounds	TPH-G	Benzene	Toluene	Ethylbenzene	Xylenes	Lead
10-14-93	ND	ND	ND	1.1	0.71	21
04-04-94*	ND	ND	ND	ND	ND	21

#### ENEA MW-3

Compounds	TPH-G	Benzene	Toluene	Ethylbenzene	Xylenes	Lead
10-14-93	2600	26	30	100	130	ND
04-04-94	2600	13	3.4	90	140	ND

#### ENEA MW-4

Compounds	TPH-G	Benzene	Toluene	Ethylbenzene	Xylenes	Lead
04-04-94	ND	ND	ND	ND	ND	23

NOTE:

- ND Not Detected
- NA Not Analyzed
- \* The results for ENEA wells MW-1 & MW-2 have been interchanged for the April 1994 period since it is believed that these samples were mislabeled by EAI's field personnel.

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### TABLE 3

#### FLOW METER READINGS Montgomery Ward Auto Service Center Dublin, California

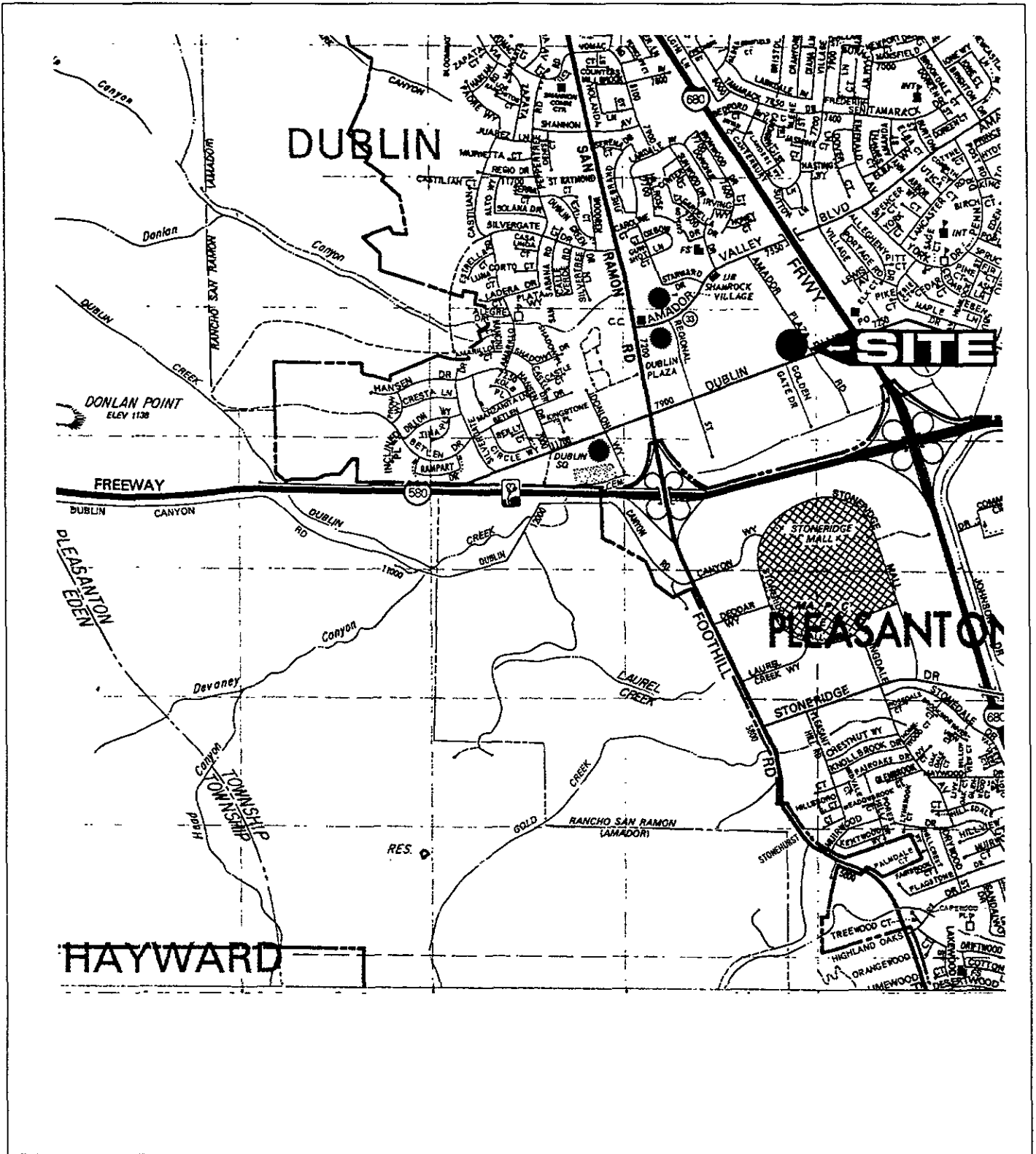
DATE	FLOW METER READING (in gallons)	AVERAGE GPM*
April 15, 1994	402,210	
April 22, 1994	458,320	5.57
April 26, 1994	488,950	5.32
		AVERAGE 5.48

\*GPM = Gallons Per Minute

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# FIGURES






**Environmental Audit, Inc.**


**LOCATION MAP  
7575 Dublin Blvd.  
Dublin, California**



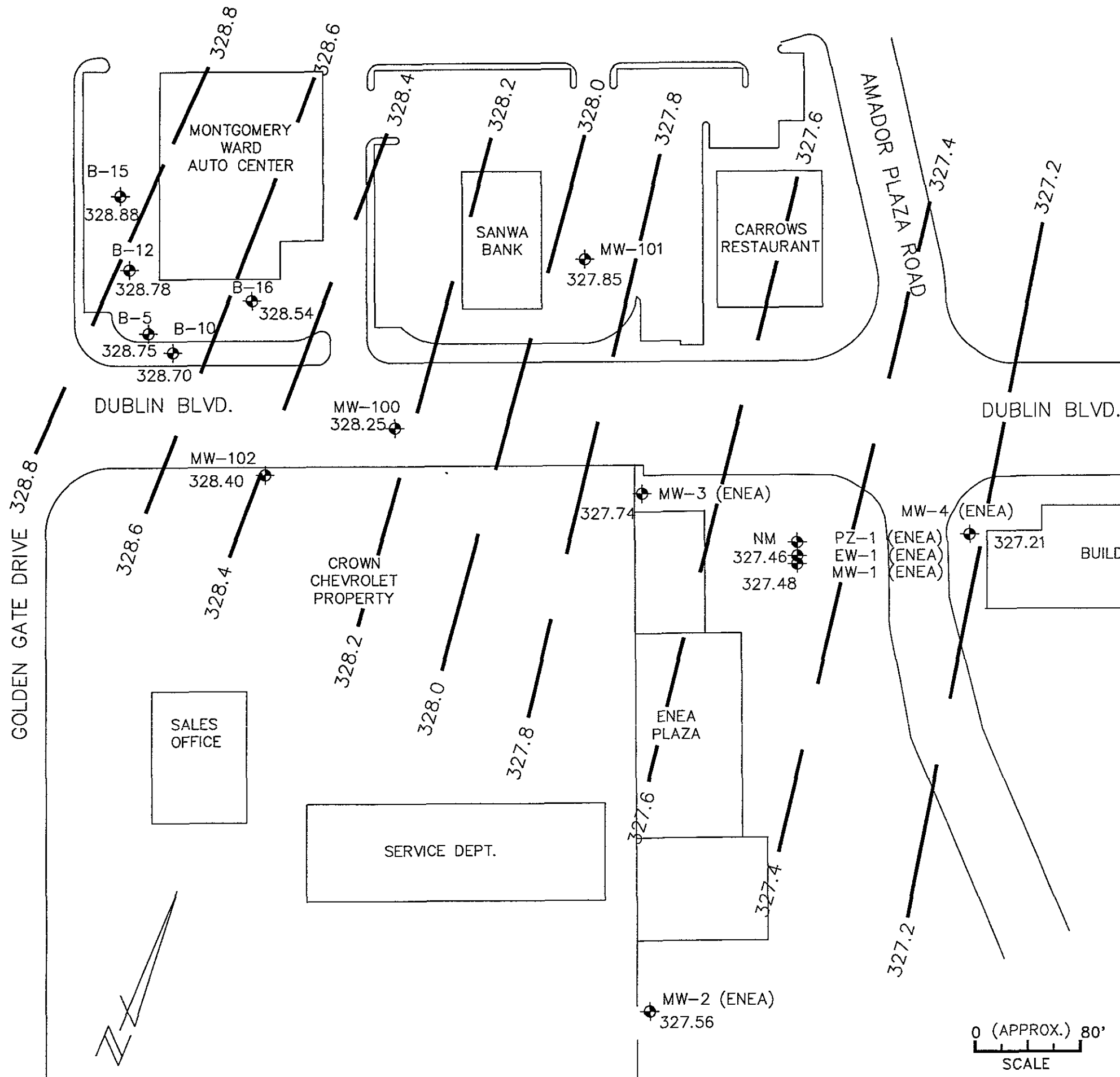
Figure 1


**EXPLANATION:**

MW-1  GROUND WATER MONITORING WELL  
 LOCATION/GROUND WATER ELEVATION  
 IN FEET MEAN SEA LEVEL  
 327.52

 GROUND WATER ELEVATION CONTOUR  
 (DASHED WHERE APPROXIMATE)  
 CONTOUR INTERVAL = 0.2 FEET

- All wells surveyed to the city of Dublin Benchmark No DUB-680 (elevation = 331.60 feet MSL)
- Wells MW-1, MW-2, MW-3, PZ-1 & EW-1 belong to ENEA Properties.
- NM - Not Measured



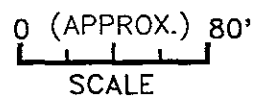
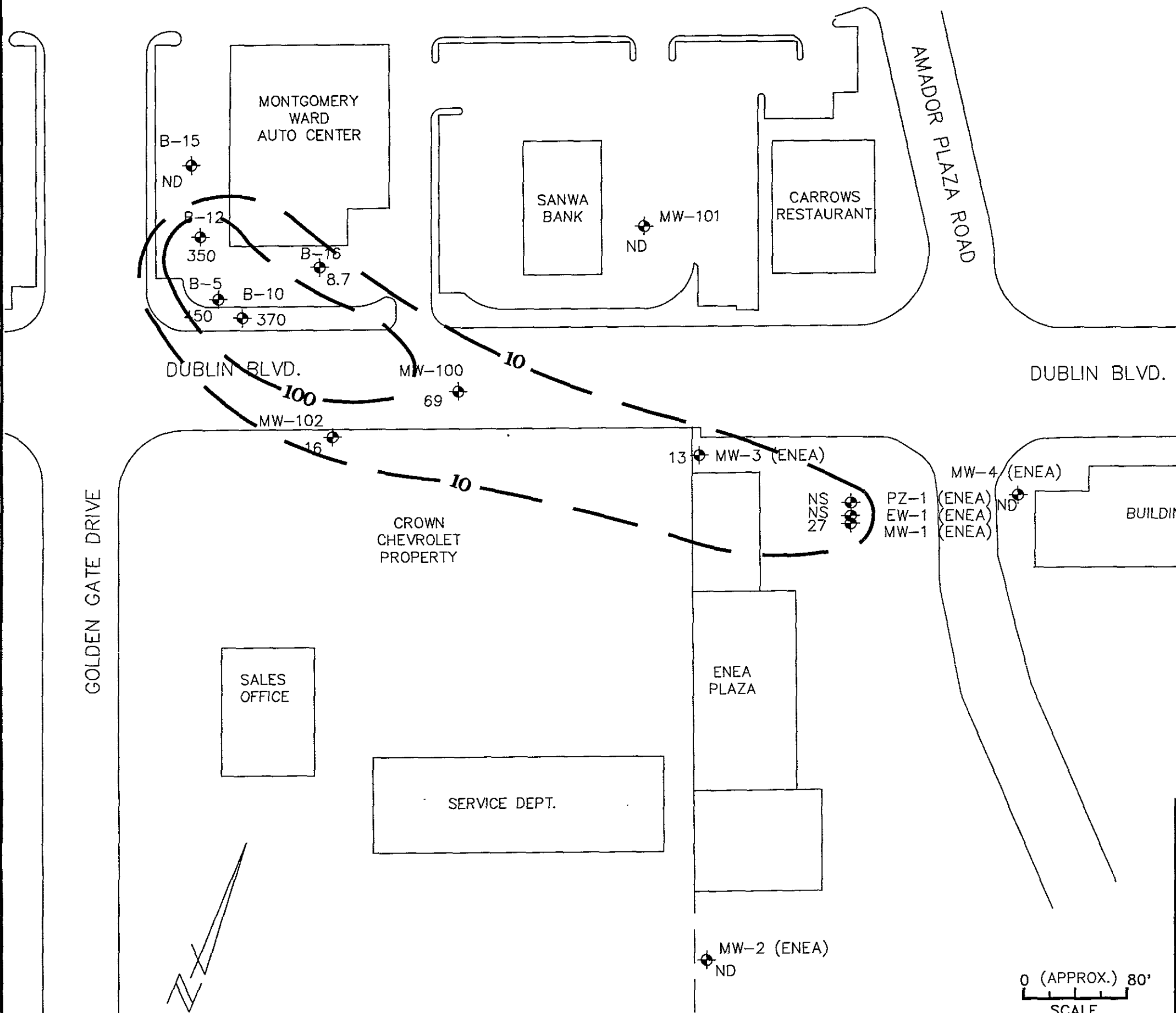
		<b>ENVIRONMENTAL AUDIT, INC.</b>	
1000-A ORTEGA WAY • PLACENTIA, CA 92670-7125 714/632-8521 • FAX: 714/632-6754			
<b>GROUND WATER ELEVATION MAP</b>			
APRIL 4, 1994			
DRAWN BY C.P.D.	DATE CREATED 10/29/93	<b>MONTGOMERY WARD AUTO SERVICE CENTER 7575 DUBLIN BOULEVARD DUBLIN, CALIFORNIA</b>	
CHECKED F.S.M.	LAST REV 04/28/94		
SIZE 17 x 11	FIGURE 2		
FILE NAME I:\MONTGOM\08\14308001			
SCALE 0 (APPROX.) 80'			

**EXPLANATION:**

MW-1  
 327.52  
 GROUND WATER MONITORING WELL  
 LOCATION /DISSOLVED BENZENE  
 IN PARTS PER BILLION

ISOCONCENTRATION CONTOUR  
 (DASHED WHERE APPROXIMATE)

- All wells surveyed to the city of Dublin Benchmark No DUB-680 (elevation = 331.60 feet MSL)
- Wells MW-1, MW-2, MW-3, PZ-1 & EW-1 belong to ENEA Properties.
- NS - Not Sampled



		<b>ENVIRONMENTAL AUDIT, INC.</b> 1000-A ORTEGA WAY • PLACENTIA, CA 92670-7125 714/632-8521 • FAX: 714/632-6754	
		<b>DISSOLVED BENZENE ISOCONCENTRATION MAP</b> APRIL 4, 1994	
DRAWN BY CPD	DATE CREATED 10/29/93	<b>MONTGOMERY WARD          AUTO SERVICE CENTER          7575 DUBLIN BOULEVARD          DUBLIN, CALIFORNIA</b>	
CHECKED FSM	LAST REV 04/28/94		
SIZE 17 x 11	FIGURE 3		
FILE NAME I:\MONTGOM\08\14308003			



# **APPENDIX A**

## **Ground Water Sampling Log Forms**

# GROUND WATER Sampling Log


**Environmental Audit, Inc.**

 Planning, Environmental Analyses and Hazardous  
 Substances Management and Remediation

 1000 ORTEGA WAY, SUITE A ☎ (714) 632 - 8521  
 PLACENTIA, CA 92670-7125 FAX (714) 632 - 6754

DATE:	4/5/94
PROJECT NO.:	1233
CLIENT:	Montgomery Ward, Dublin
WELL NO.:	B-5
WELL DIAMETER (INCHES):	2"
SAMPLED BY:	CPD

## WELL PURGING INFORMATION

ONE CASING VOLUME OF WATER CALCULATED USING THE FOLLOWING:

TOTAL DEPTH OF WELL (ft.)	DEPTH TO WATER LEVEL (ft. bgs)	DEPTH TO FREE PRODUCT (ft. bgs)	WELL VOLUME FACTORS	
			WELL CASING ID (inches)	VOLUME FACTOR
21.00	11.30	—	2.0	0.16
			4.0	0.65
			6.0	1.47

$21.00 - 11.30 = 9.7$

$9.7 \times 0.16 = 1.55$

ONE CASING VOLUME OF WATER (GALLONS)

PURGE TIME (hrs.): START 1007 STOP 1011

 METHOD: DOWN HOLE PUMP  DEDICATED PUMP  BAILER  OTHER 

TYPE/MODEL: Whale Supersub 921

GALLONS PURGED	TEMP (°F)	CONDUCTIVITY (Micro-ohms/cm) x 10 <sup>3</sup>	pH	TURBIDITY (NTU)	REMARKS
2	66.7	1.01	6.91	132.7	
4	67.8	1.06	6.61	26.4	
6	67.7	1.07	6.42	17.3	
8	67.9	1.08	6.35	14.7	

## WELL SAMPLING INFORMATION

TIME SAMPLED (hrs.): 1020

 METHOD: DOWN HOLE PUMP  DEDICATED PUMP  BAILER  OTHER 

TYPE/MODEL : Voss Technologies Disposable

COMMENTS:

# GROUND WATER Sampling Log



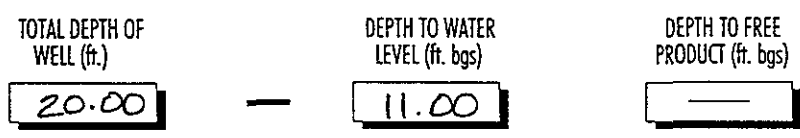
**Environmental Audit, Inc.**

Planning, Environmental Analyses and Hazardous Substances Management and Remediation  
 1000 ORTEGA WAY, SUITE A (714) 632 - 8521  
 PLACENTIA, CA 92670-7125 (714) 632 - 6754

DATE:	4/5/94
PROJECT NO.:	1233
CLIENT:	Montgomery Ward, Dublin
WELL NO.:	B-10
WELL DIAMETER (INCHES):	2"
SAMPLED BY:	CPD

## WELL PURGING INFORMATION

ONE CASING VOLUME OF WATER CALCULATED USING THE FOLLOWING:



WELL CASING ID (inches)	VOLUME FACTOR
2.0	0.16
4.0	0.65
6.0	1.47

$9 \times 0.16 = 1.44$   
 WELL VOLUME FACTOR = ONE CASING VOLUME OF WATER (GALLONS)

PURGE TIME (hrs.): START **0937** STOP **0941**

METHOD: DOWN HOLE PUMP  DEDICATED PUMP  BAILER  OTHER

TYPE/MODEL: **Whale Supersub 921**

GALLONS PURGED	TEMP (°F)	CONDUCTIVITY (Micro-ohms/cm) x 10 <sup>3</sup>	pH	TURBIDITY (NTU)	REMARKS
1	65.7	1.01	6.87	189	
2	65.8	1.04	6.70	74.5	
3	65.7	1.03	6.45	71.5	
4	65.7	1.04	6.35	6.7	
5	65.6	1.03	6.51	5.3	
6	65.6	1.02	6.49	4.1	

## WELL SAMPLING INFORMATION

TIME SAMPLED (hrs.): **0950**

METHOD: DOWN HOLE PUMP  DEDICATED PUMP  BAILER  OTHER

TYPE/MODEL : **Voss Technologies Disposable**

COMMENTS: \_\_\_\_\_

# GROUND WATER Sampling Log



**Environmental Audit, Inc.**

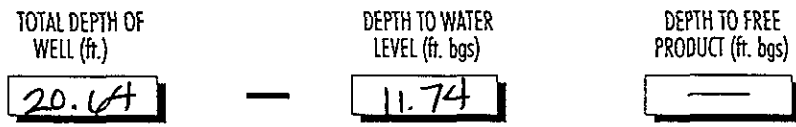
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 (714) 632 - 8521  
 FAX (714) 632 - 6754

DATE:	4/5/94
PROJECT NO.:	1233
CLIENT:	Montgomery Ward, Dublin
WELL NO.:	B-15
WELL DIAMETER (INCHES):	4"
SAMPLED BY:	CPD

## WELL PURGING INFORMATION

ONE CASING VOLUME OF WATER CALCULATED USING THE FOLLOWING:



WELL CASING ID (inches)	VOLUME FACTOR
2.0	0.16
4.0	0.65
6.0	1.47

8.9 x 0.65 = 5.79  
 WELL VOLUME FACTOR = ONE CASING VOLUME OF WATER (GALLONS)

PURGE TIME (hrs.): START 1410 STOP 1424

METHOD: DOWN HOLE PUMP  DEDICATED PUMP  BAILER  OTHER

TYPE/MODEL: Whale Supersub 921

GALLONS PURGED	TEMP (°F)	CONDUCTIVITY (Micro-ohms/cm) x 10 <sup>3</sup>	pH	TURBIDITY (NTU)	REMARKS
5	70.6	1.10	7.44	41.6	
10	70.7	1.01	6.94	15.4	
15	70.2	1.06	6.67	13.8	
20	70.1	1.04	6.63	7.5	
25	69.8	1.04	6.59	5.1	

## WELL SAMPLING INFORMATION

TIME SAMPLED (hrs.): 1430

METHOD: DOWN HOLE PUMP  DEDICATED PUMP  BAILER  OTHER

TYPE/MODEL : Voss Technologies Disposable

COMMENTS:

# GROUND WATER Sampling Log



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 (714) 632 - 6754

DATE:	4/5/94
PROJECT NO.:	1233
CLIENT:	Montgomery Ward, Dublin
WELL NO.:	B-16
WELL DIAMETER (INCHES):	4"
SAMPLED BY:	CPD

## WELL PURGING INFORMATION

ONE CASING VOLUME OF WATER CALCULATED USING THE FOLLOWING:

TOTAL DEPTH OF WELL (ft.) **23.35**      DEPTH TO WATER LEVEL (ft. bgs) **11.28**      DEPTH TO FREE PRODUCT (ft. bgs) **—**

WELL CASING ID (inches)	VOLUME FACTOR
2.0	0.16
4.0	0.65
6.0	1.47

$$23.35 - 11.28 = 12.07$$

$$12.07 \times 0.65 = 7.85$$

WELL VOLUME FACTOR = ONE CASING VOLUME OF WATER (GALLONS)

PURGE TIME (hrs.): START **0900** STOP **0917**

METHOD: DOWN HOLE PUMP  DEDICATED PUMP  BAILER  OTHER

TYPE/MODEL: **Whale Supersub 921**

GALLONS PURGED	TEMP (°F)	CONDUCTIVITY (Micro-ohms/cm) x 10 <sup>3</sup>	pH	TURBIDITY (NTU)	REMARKS
5	60.7	1.02	7.63	4.4	
10	65.1	1.08	6.75	2.8	
15	67.1	1.10	6.55	1.8	
20	67.2	1.09	6.47	1.5	
25	67.1	1.10	6.33	1.4	
30	67.5	1.11	6.29	1.1	
35	67.7	1.10	6.31	1.0	

## WELL SAMPLING INFORMATION

TIME SAMPLED (hrs.): **0920**

METHOD: DOWN HOLE PUMP  DEDICATED PUMP  BAILER  OTHER

TYPE/MODEL : **Voss Technologies Disposable**

COMMENTS: \_\_\_\_\_



# GROUND WATER Sampling Log


**Environmental Audit, Inc.**

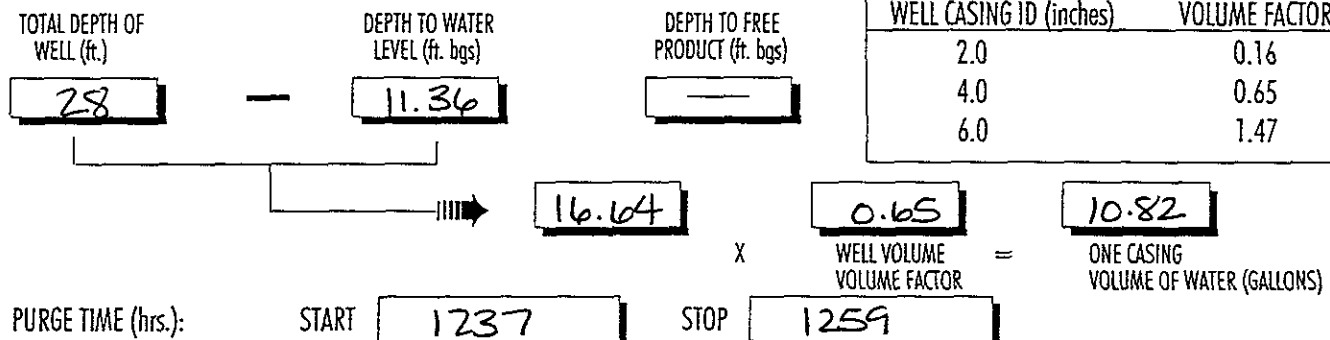
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 Substances Management and Remediation

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 PLACENTIA, CA 92670-7125 (714) 632 - 6754

DATE:	4/5/94
PROJECT NO.:	1233
CLIENT:	Montgomery Ward, Dublin
WELL NO.:	MW-100
WELL DIAMETER (INCHES):	4"
SAMPLED BY:	CPD

## WELL PURGING INFORMATION

ONE CASING VOLUME OF WATER CALCULATED USING THE FOLLOWING:


 METHOD: DOWN HOLE PUMP  DEDICATED PUMP  BAILER  OTHER 

 TYPE/MODEL: Whale Supersub 921

GALLONS PURGED	TEMP (°F)	CONDUCTIVITY (Micro-ohms/cm) x 10 <sup>3</sup>	pH	TURBIDITY (NTU)	REMARKS
5	74.8	1.20	7.20	12.4	
10	75.6	1.19	6.32	10.5	
15	75.3	1.16	6.40	8.2	
20	74.1	1.16	6.15	3.3	
25	74.3	1.12	6.14	2.6	
30	74.2	1.14	6.13	2.6	
35	74.3	1.15	6.07	1.9	
40	74.1	1.14	6.08	2.0	
45	73.9	1.15	6.04	1.7	

## WELL SAMPLING INFORMATION

 TIME SAMPLED (hrs.): 1310

 METHOD: DOWN HOLE PUMP  DEDICATED PUMP  BAILER  OTHER 

 TYPE/MODEL : Voss Technologies Disposable

COMMENTS: \_\_\_\_\_

# GROUND WATER Sampling Log



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DATE:	4/5/94
PROJECT NO.:	1233
CLIENT:	Montgomery Ward, Dublin
WELL NO.:	MW-101
WELL DIAMETER (INCHES):	4"
SAMPLED BY:	CPD

## WELL PURGING INFORMATION

ONE CASING VOLUME OF WATER CALCULATED USING THE FOLLOWING:

TOTAL DEPTH OF WELL (ft.) **28** — DEPTH TO WATER LEVEL (ft. bgs) **10.69** — DEPTH TO FREE PRODUCT (ft. bgs) **—**

WELL CASING ID (inches)	VOLUME FACTOR
2.0	0.16
4.0	0.65
6.0	1.47

$$28 \times 0.65 = 17.31 \times 0.65 = 11.25$$

WELL VOLUME FACTOR = ONE CASING VOLUME OF WATER (GALLONS)

PURGE TIME (hrs.): START **1652** STOP **1614**

METHOD: DOWN HOLE PUMP  DEDICATED PUMP  BAILER  OTHER

TYPE/MODEL: **Whale Supersub 921**

GALLONS PURGED	TEMP (°F)	CONDUCTIVITY (Micro-ohms/cm) x 10 <sup>3</sup>	pH	TURBIDITY (NTU)	REMARKS
5	66.2	1.12	7.94	6.0	
10	66.8	1.15	7.01	7.0	
15	66.7	1.07	6.80	8.8	
20	66.4	1.10	6.55	8.9	
25	66.5	1.14	6.68	7.01	
30	66.6	1.15	6.61	5.03	
35	66.7	1.13	6.60	2.1	
40	66.5	1.12	6.56	1.4	
45	66.4	1.11	6.50	1.1	

## WELL SAMPLING INFORMATION

TIME SAMPLED (hrs.): **1750**

METHOD: DOWN HOLE PUMP  DEDICATED PUMP  BAILER  OTHER

TYPE/MODEL : **Voss Technologies Disposable**

COMMENTS: \_\_\_\_\_

# GROUND WATER Sampling Log


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 Substances Management and Remediation

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DATE:	4/5/94
PROJECT NO.:	1233
CLIENT:	Montgomery Ward, Dublin
WELL NO.:	MW-102
WELL DIAMETER (INCHES):	4"
SAMPLED BY:	CPD

## WELL PURGING INFORMATION

ONE CASING VOLUME OF WATER CALCULATED USING THE FOLLOWING:

TOTAL DEPTH OF WELL (ft.)	DEPTH TO WATER LEVEL (ft. bgs)	DEPTH TO FREE PRODUCT (ft. bgs)	WELL VOLUME FACTORS	
			WELL CASING ID (inches)	VOLUME FACTOR
28	10.83	—	2.0	0.16
			4.0	0.65
			6.0	1.47
$28 - 10.83 = 17.17$			0.65	11.16
			WELL VOLUME FACTOR	ONE CASING VOLUME OF WATER (GALLONS)

PURGE TIME (hrs.): START 1037 STOP 1100

 METHOD: DOWN HOLE PUMP  DEDICATED PUMP  BAILER  OTHER 

TYPE/MODEL: Whale Supersub 921

GALLONS PURGED	TEMP (°F)	CONDUCTIVITY (Micro-ohms/cm) x 10 <sup>3</sup>	pH	TURBIDITY (NTU)	REMARKS
5	68.2	6.99	7.34	8.8	
10	68.6	1.05	6.66	5.0	
15	68.8	1.03	6.28	3.1	
20	67.9	1.04	6.41	3.0	
25	68.7	1.05	6.16	2.1	
30	69.2	1.06	6.12	1.7	
35	69.1	1.02	6.09	1.6	
40	68.9	1.03	6.05	1.6	
45	69.0	1.03	6.06	1.4	

## WELL SAMPLING INFORMATION

TIME SAMPLED (hrs.): 1115

 METHOD: DOWN HOLE PUMP  DEDICATED PUMP  BAILER  OTHER 

TYPE/MODEL: Voss Technologies Disposable

COMMENTS:

# GROUND WATER Sampling Log



**Environmental Audit, Inc.**

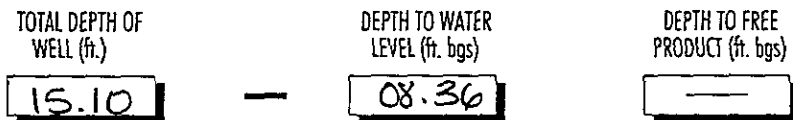
Planning, Environmental Analyses and Hazardous Substances Management and Remediation

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PLACENTIA, CA 92670-7125 FAX (714) 632 - 6754

DATE:	4/4/94
PROJECT NO.:	1233
CLIENT:	Montgomery Ward, Dublin
WELL NO.:	(EAEA) MW-1
WELL DIAMETER (INCHES):	4"
SAMPLED BY:	CPD

## WELL PURGING INFORMATION

ONE CASING VOLUME OF WATER CALCULATED USING THE FOLLOWING:



WELL CASING ID (inches)	VOLUME FACTOR
2.0	0.16
4.0	0.65
6.0	1.47

6.74 x 0.65 = 4.38

WELL VOLUME FACTOR = ONE CASING VOLUME OF WATER (GALLONS)

PURGE TIME (hrs.):      START 1617      STOP 1623

METHOD: DOWN HOLE PUMP       DEDICATED PUMP       BAILER       OTHER

TYPE/MODEL:      Whale Supersub 921

GALLONS PURGED	TEMP (°F)	CONDUCTIVITY (Micro-ohms/cm) x 10 <sup>3</sup>	pH	TURBIDITY (NTU)	REMARKS
5	71.5	1.31	6.75	1.03	
10	70.1	1.16	6.61	1.02	
15	70.4	1.28	6.44	4.2	
20	70.1	1.27	6.41	3.3	

## WELL SAMPLING INFORMATION

TIME SAMPLED (hrs.):      1630

METHOD: DOWN HOLE PUMP       DEDICATED PUMP       BAILER       OTHER

TYPE/MODEL :      Voss Technologies Disposable

COMMENTS: \_\_\_\_\_

# GROUND WATER Sampling Log



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Substances Management and Remediation

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PLACENTIA, CA 92670-7125 ☎ (714) 632 - 6754

DATE:	4/4/94
PROJECT NO.:	1233
CLIENT:	Montgomery Ward, Dublin
WELL NO.:	(Enea) MW2
WELL DIAMETER (INCHES):	4"
SAMPLED BY:	CPD

## WELL PURGING INFORMATION

ONE CASING VOLUME OF WATER CALCULATED USING THE FOLLOWING:

TOTAL DEPTH OF WELL (ft.)	DEPTH TO WATER LEVEL (ft. bgs)	DEPTH TO FREE PRODUCT (ft. bgs)	WELL VOLUME FACTORS	
			WELL CASING ID (inches)	VOLUME FACTOR
14.71	08.05	—	2.0	0.16
			4.0	0.65
			6.0	1.47

$$14.71 - 08.05 = 6.66$$

$$6.66 \times 0.65 = 4.33$$

ONE CASING VOLUME OF WATER (GALLONS)

PURGE TIME (hrs.): START 1539 STOP 1548

METHOD: DOWN HOLE PUMP  DEDICATED PUMP  BAILER  OTHER

TYPE/MODEL: Whale Supersub 921

GALLONS PURGED	TEMP (°F)	CONDUCTIVITY (Micro-ohms/cm) x 10 <sup>3</sup>	pH	TURBIDITY (NTU)	REMARKS
5	71.4	1.23	7.03	15.5	
10	71.4	1.20	6.18	4.4	
15	70.9	1.19	6.09	2.5	
20	71.0	1.18	5.98	1.9	

## WELL SAMPLING INFORMATION

TIME SAMPLED (hrs.): 1557

METHOD: DOWN HOLE PUMP  DEDICATED PUMP  BAILER  OTHER

TYPE/MODEL : Voss Technologies Disposable

COMMENTS:

# GROUND WATER Sampling Log



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Substances Management and Remediation

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PLACENTIA, CA 92670-7125 FAX (714) 632 - 6754

DATE:	4/4/94
PROJECT NO.:	1233
CLIENT:	Montgomery Ward, Dublin
WELL NO.:	(ENE A) MW-3
WELL DIAMETER (INCHES):	4"
SAMPLED BY:	CPD

## WELL PURGING INFORMATION

ONE CASING VOLUME OF WATER CALCULATED USING THE FOLLOWING:

TOTAL DEPTH OF  
WELL (ft.)

1510

DEPTH TO WATER  
LEVEL (ft. bgs)

09.19

DEPTH TO FREE  
PRODUCT (ft. bgs)

—

### WELL VOLUME FACTORS

WELL CASING ID (inches)	VOLUME FACTOR
2.0	0.16
4.0	0.65
6.0	1.47

5.91

0.65

3.84

x

WELL VOLUME  
VOLUME FACTOR

=

ONE CASING  
VOLUME OF WATER (GALLONS)

PURGE TIME (hrs.):

START

1454

STOP

1503

METHOD: DOWN HOLE PUMP

DEDICATED PUMP

BAILER

OTHER

TYPE/MODEL:

Whole Supersub 921

GALLONS PURGED	TEMP (°F)	CONDUCTIVITY (Micro-ohms/cm) x 10 <sup>3</sup>	pH	TURBIDITY (NTU)	REMARKS
4	71.9	1.26	9.41	8.18	
8	70.1	1.20	8.20	0.10	
12	69.8	1.19	8.00	0.10	
16	69.4	1.15	7.52	1.21	

## WELL SAMPLING INFORMATION

TIME SAMPLED (hrs.):

1510

METHOD: DOWN HOLE PUMP

DEDICATED PUMP

BAILER

OTHER

TYPE/MODEL :

Voss Technologies Disposable

COMMENTS:

# GROUND WATER Sampling Log



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1000 ORTEGA WAY, SUITE A PLACENTIA, CA 92670-7125  
 (714) 632 - 8521 (714) 632 - 6754

DATE:	4/4/94
PROJECT NO.:	1233
CLIENT:	Montgomery Ward, Dublin
WELL NO.:	(ENEA) MW-4
WELL DIAMETER (INCHES):	2"
SAMPLED BY:	CPD

## WELL PURGING INFORMATION

ONE CASING VOLUME OF WATER CALCULATED USING THE FOLLOWING:

TOTAL DEPTH OF WELL (ft.) **22.30**      DEPTH TO WATER LEVEL (ft. bgs) **8.55**      DEPTH TO FREE PRODUCT (ft. bgs) **—**

WELL CASING ID (inches)	VOLUME FACTOR
2.0	0.16
4.0	0.65
6.0	1.47

$$\begin{aligned}
 & \text{22.30} - \text{8.55} = \text{12.75} \\
 & \text{12.75} \times \text{0.16} = \text{2.2} \\
 & \text{ONE CASING VOLUME OF WATER (GALLONS)}
 \end{aligned}$$

PURGE TIME (hrs.): START **1700** STOP **1710**

METHOD: DOWN HOLE PUMP  DEDICATED PUMP  BAILER  OTHER

TYPE/MODEL: **Whale Supersub 921**

GALLONS PURGED	TEMP (°F)	CONDUCTIVITY (Micro-ohms/cm) x 10 <sup>3</sup>	pH	TURBIDITY (NTU)	REMARKS
4	69.8	1.25	6.61	200	
8	67.5	1.18	6.44	161	
12	67.8	1.18	6.23	150	
14	66.1	1.14	6.07	81	
20	66.2	1.14	6.01	0.09	

## WELL SAMPLING INFORMATION

TIME SAMPLED (hrs.): **1715**

METHOD: DOWN HOLE PUMP  DEDICATED PUMP  BAILER  OTHER

TYPE/MODEL : **Voss Technologies Disposable**

COMMENTS: \_\_\_\_\_



## **APPENDIX B**

### **Chain of Custody Record Forms**





# 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 OC REPORT  
ROUTINE OC   
RWOCB OC

TURNAROUND TIME:  
SAME DAY  24hr  48hr  NORMAL

PROJECT NO. 1233		PROJECT NAME Montgomery Ward, Dublin			CONTR TYPE	ANALYSES REQUESTED												REMARKS	
SAMPLER: (Signature) 			PROJECT MANAGER: Frank Muramoto			GLASS	PLASTIC	BRASS/SS TUBE	TPH-D 8015M	TPH-G 8015M	TRPH 418.1	BTEX (602) 8020	VOCS 624 8240	EOCS 625 8270	OIL & GREASE	CAM METALS TOT WET	LEAD		NUMBER OF CONTAINERS
SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION														
ENEVA MW-3	4/4	1510	/	/	Water	/	/	/	/	/	/	/	/	/	/	/	/	4040123AC 3	Call Chris d'Sa Ext 248, at EAI if any questions
ENEVA MW-2		1557	/	/	↓	/	/	/	/	/	/	/	/	/	/	/	/	0124 3	↓
ENEVA MW-1		1630	/	/	↓	/	/	/	/	/	/	/	/	/	/	/	/	0125 3	↓
ENEVA MW-4		1715	/	/	↓	/	/	/	/	/	/	/	/	/	/	/	/	0126 3	↓
TOTAL NUMBER OF CONTAINERS																	12		
RELINQUISHED BY: (Signature) 			DATE/TIME 4/5/94 1916	RECEIVED BY: (Signature)			RELINQUISHED BY: (Signature)			DATE/TIME	RECEIVED BY: (Signature)								
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"/> BUS <input type="checkbox"/> HAND <input checked="" type="checkbox"/>				SHIPPED BY: (Signature)			COURIER: (Signature)			RECEIVED FOR BY: (Signature) 			DATE/TIME 4/5/94 1916						
											LAB: Sequoia Analytical								



# 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 OC  TURNAROUND TIME:  
 RWOCB OC  SAME DAY  24hr  48hr  NORMAL

PROJECT NO. 1233		PROJECT NAME Montgomery Ward, Dublin			CONTR TYPE	ANALYSES REQUESTED											REMARKS	
SAMPLER: (Signature) 			PROJECT MANAGER: Frank Muramoto			GLASS	PLASTIC	BRASSY SS TUBE	TPH-D 8015M	TPH-G 8015M	TPRH 418.1	BTEX(602) 8020	VOCs 624 8240	EOCs 625 8270	OIL & GREASE	CAM METALS TOT WET		LEAD
SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION													
B-16	4/5	0920			Water	/	/	/	/	/	/	/	/	/	/	/	/	40ml 0127 AC 3
B-5		0950				/	/	/	/	/	/	/	/	/	/	/	/	0128 3
B-10		1020				/	/	/	/	/	/	/	/	/	/	/	/	0129 3
MW-102		1115				/	/	/	/	/	/	/	/	/	/	/	/	0130 3
MW-100		1310				/	/	/	/	/	/	/	/	/	/	/	/	0131 3
B-15		1430				/	/	/	/	/	/	/	/	/	/	/	/	0132 3
B-12	✓	1440				/	/	/	/	/	/	/	/	/	/	/	/	0133 3
TOTAL NUMBER OF CONTAINERS																	21	

RELINQUISHED BY: (Signature) 	DATE/TIME 4/5/94 1916	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
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"/> BUS <input type="checkbox"/> HAND <input checked="" type="checkbox"/>		SHIPPED BY: (Signature)	COURIER: (Signature)	RECEIVED FOR BY: (Signature) 	DATE/TIME 4/5/94 1916
				LAB: Sequoia Analytical	





# **APPENDIX C**

## **Laboratory Reports**



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

Client Project ID: 1233/Montgomery Ward, Dublin  
Sample Matrix: Water  
Analysis Method: EPA 5030/8015/8020  
First Sample #: 404-0123

Sampled: Apr 4 & 5, 1994  
Received: Apr 6, 1994  
Reported: Apr 18, 1994

**TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION**

Analyte	Reporting Limit µg/L	Sample I.D. 404-0123 ENEAWW-3	Sample I.D. 404-0124 ENEAWW-2	Sample I.D. 404-0125 ENEAWW-1	Sample I.D. 404-0126 ENEAWW-4	Sample I.D. 404-0127 B-16	Sample I.D. 404-0128 B-5
Purgeable Hydrocarbons	50	2,600	7,000	N.D.	N.D.	550	5,700
Benzene	0.5	13	27	N.D.	N.D.	8.7	450
Toluene	0.5	3.4	N.D.	N.D.	N.D.	N.D.	39
Ethyl Benzene	0.5	90	260	N.D.	N.D.	35	350
Total Xylenes	0.5	140	49	N.D.	N.D.	81	400
Chromatogram Pattern:		Gasoline	Gasoline	--	--	Gasoline	Gasoline

**Quality Control Data**

Report Limit Multiplication Factor:	10	20	1.0	1.0	1.0	10
Date Analyzed:	4/15/94	4/14/94	4/13/94	4/13/94	4/13/94	4/14/94
Instrument Identification:	HP-4	HP-2	HP-2	HP-2	HP-2	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	121	113	105	101	101	105

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

**SEQUOIA ANALYTICAL, #1271**

Karen L. Enstrom  
Project Manager





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

Client Project ID: 1233/Montgomery Ward, Dublin  
Sample Matrix: Water  
Analysis Method: EPA 5030/8015/8020  
First Sample #: 404-0129

Sampled: Apr 4 & 5, 1994  
Received: Apr 6, 1994  
Reported: Apr 18, 1994

**TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION**


Analyte	Reporting Limit µg/L	Sample I.D. 404-0129 B-10	Sample I.D. 404-0130 MW-102	Sample I.D. 404-0131 MW-100	Sample I.D. 404-0132 B-15	Sample I.D. 404-0133 B-12	Sample I.D. 404-0134 Effluent
Purgeable Hydrocarbons	50	12,000	2,100	9,800	N.D.	8,700	N.D.
Benzene	0.5	370	16	69	N.D.	350	N.D.
Toluene	0.5	96	2.5	N.D.	N.D.	58	N.D.
Ethyl Benzene	0.5	900	15	540	0.56	350	N.D.
Total Xylenes	0.5	1,800	35	410	1.0	660	N.D.
Chromatogram Pattern:		Gasoline	Gasoline	Gasoline	--	Gasoline	--

**Quality Control Data**

Report Limit Multiplication Factor:	100	4.0	100	1.0	100	1.0
Date Analyzed:	4/13/94	4/14/94	4/13/94	4/13/94	4/13/94	4/13/94
Instrument Identification:	HP-2	HP-2	HP-2	HP-2	HP-2	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	104	120	107	99	104	100

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

SEQUOIA ANALYTICAL, #1271

  
Karen L. Enstrom  
Project Manager





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

Client Project ID: 1233/Montgomery Ward, Dublin  
Sample Matrix: Water  
Analysis Method: EPA 5030/8015/8020  
First Sample #: 404-0135

Sampled: Apr 5, 1994  
Received: Apr 6, 1994  
Reported: Apr 18, 1994

**TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION**

Analyte	Reporting Limit µg/L	Sample I.D. 404-0135 MW-101
Purgeable Hydrocarbons	50	N.D.
Benzene	0.5	N.D.
Toluene	0.5	N.D.
Ethyl Benzene	0.5	N.D.
Total Xylenes	0.5	N.D.

Chromatogram Pattern: --

**Quality Control Data**

Report Limit Multiplication Factor:	1.0
Date Analyzed:	4/15/94
Instrument Identification:	HP-5
Surrogate Recovery, %: (QC Limits = 70-130%)	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, #1271

Karen L. Enstrom  
Project Manager





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

Client Project ID: 1233/Montgomery Ward, Dublin  
Sample Descript: Water  
Analysis for: Lead  
First Sample #: 404-0123

Sampled: Apr 4 & 5, 1994  
Received: Apr 6, 1994  
Extracted: Apr 12, 1994  
Analyzed: Apr 14, 1994  
Reported: Apr 18, 1994

**LABORATORY ANALYSIS FOR:      Lead**

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L
404-0123	ENEAWW-3	0.020	N.D.
404-0124	ENEAWW-2	0.020	N.D.
404-0125	ENEAWW-1	0.020	0.021
404-0126	ENEAWW-4	0.020	0.023
404-0127	B-16	0.020	N.D.
404-0128	B-5	0.020	N.D.
404-0129	B-10	0.020	N.D.
404-0130	MW-102	0.020	N.D.
404-0131	MW-100	0.020	N.D.
404-0132	B-15	0.020	N.D.
404-0133	B-12	0.020	N.D.

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

SEQUOIA ANALYTICAL, #1271

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

Client Project ID: 1233/Montgomery Ward, Dublin  
Sample Descript: Water  
Analysis for: Lead  
First Sample #: 404-0134

Sampled: Apr 5, 1994  
Received: Apr 6, 1994  
Extracted: Apr 12, 1994  
Analyzed: Apr 14, 1994  
Reported: Apr 18, 1994

## LABORATORY ANALYSIS FOR: Lead

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L
404-0134	Effluent	0.020	0.033
404-0135	MW-101	0.020	N.D.

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

SEQUOIA ANALYTICAL, #1271

  
Karen L. Enstrom  
Project Manager





Environmental Audit  
1000-A Ortega Way  
Placentia, CA 92670

Client Project ID: 1233/Montgomery Ward, Dublin  
Matrix: Liquid

Attention: Frank Muramoto

QC Sample Group: 4040123-135

Reported: Apr 18, 1994

**QUALITY CONTROL DATA REPORT**

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes	Lead
<b>Method:</b>	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 200.7
<b>Analyst:</b>	J.F., A.T.	J.F., A.T.	J.F., A.T.	J.F., A.T.	K.A.

MS/MSD					
<b>Batch#:</b>	4040134	4040134	4040134	4040134	4040123
<b>Date Prepared:</b>	4/13/94	4/13/94	4/13/94	4/13/94	4/12/94
<b>Date Analyzed:</b>	4/13/94	4/13/94	4/13/94	4/13/94	4/14/94
<b>Instrument I.D.#:</b>	HP-2	HP-2	HP-2	HP-2	Liberty 100
<b>Conc. Spiked:</b>	20 µg/L	20 µg/L	20 µg/L	60 µg/L	1.0 mg/L
<b>Matrix Spike % Recovery:</b>	110	105	105	105	87
<b>Matrix Spike Duplicate % Recovery:</b>	105	105	105	105	86
<b>Relative % Difference:</b>	4.7	0.0	0.0	0.0	1.2

LCS Batch#:	1LCS041394	1LCS041394	1LCS041394	1LCS041394	BLK041294
<b>Date Prepared:</b>	4/13/94	4/13/94	4/13/94	4/13/94	4/12/94
<b>Date Analyzed:</b>	4/13/94	4/13/94	4/13/94	4/13/94	4/14/94
<b>Instrument I.D.#:</b>	HP-2	HP-2	HP-2	HP-2	Liberty 100
<b>LCS % Recovery:</b>	100	99	99	101	91

% Recovery Control Limits:	71-133	72-128	72-130	71-120	75-125
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**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.

SEQUOIA ANALYTICAL, #1271

*Karen L. Enstrom*  
Karen L. Enstrom  
Project Manager

