

ENVIRONMENTAL AUDIT, INC.

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

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DEC 20 PH 3:27

December 14, 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, Fourth Quarter 1993, Montgomery Ward Auto Service Center, 7575 Dublin Boulevard, Dublin, California," dated December 14, 1993.

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)

CHRIS:1233M93D.DOC (c)

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

December 14, 1993

Project No. 1233

Prepared for:

Montgomery Ward
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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**GROUND WATER MONITORING REPORT
FOURTH 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 fourth 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.

As requested by the Montgomery Ward & Company, Inc., the wells at the ENEA Properties site located at the intersection of Amador Plaza Road and Dublin Boulevard were also gauged and sampled as part of the fourth quarter 1993 monitoring activities.

2.0 FIELD INVESTIGATION

2.1 GROUND WATER ELEVATION SURVEY

The System was temporarily shut down by Montgomery Ward on October 7, 1993 in order for Environmental Audit, Inc. (EAI) to gauge and then obtain ground water samples for analytical testing from the wells. On October 14, 1993, EAI obtained ground water depth measurements from the wells associated with the site and the ENEA Properties 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 October 14 and 15, 1993, ground water samples were obtained from the wells for analytical testing. Prior to sampling, all wells except extraction well B-12 were purged using a ES-40 submersible pump. Purging activities continued until the temperature, conductivity and pH of the extracted water had stabilized (see Appendix A). 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. 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). Due to electrical problems, the System was not restarted 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 MONITORING WELL SURVEY

Kier and Wright Civil Engineers and Surveyors, Inc., California licensed land surveyors, were retained by Montgomery Ward to survey well locations and elevations with respect to mean sea level of the wells associated with the Montgomery Ward and the ENEA Properties site. These wells were surveyed on October 14, 1993, in conjunction with the quarterly monitoring activities. The elevation of all the wells were surveyed to the City of Dublin Benchmark No. DUB-680 (elevation = 331.60 feet Mean Sea Level), located along Dublin Boulevard, 0.60 miles easterly from San Ramon Road (See Appendix C)

4.0 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 D.

5.0 LIMITATION

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

CPD:SAB:FSM:ss

CHRIS 1233M93D.DOC

TABLES

Table 1
GROUND WATER ELEVATIONS
 Montgomery Ward Auto Service Center
 ENEA Properties

Date Measured	Elevation of top surface of PVC well casing (feet MSL)	Measured depth of ground water (feet bgs)	Measured depth of Product	Product Thickness	Ground water elevation (feet MSL)
B-5					
	340.05				
04-16-92		10.62	0	0	329.43
07-24-92		11.91	0	0	328.14
10-22-92		12.97	0	0	327.08
01-15-93		12.97	0	0	327.08
04-15-93		9.75	0	0	330.30
05-14-93		10.07	0	0	329.98
07-14-93		10.80	0	0	329.25
10-14-93		12.08	0	0	327.97
B-10					
	339.70				
04-16-92		10.32	0	0	329.38
07-24-92		11.69	0	0	328.01
10-22-92		12.67	0	0	327.03
01-15-93		9.48	0	0	330.22
04-15-93		9.49	0	0	330.21
05-14-93		9.87	0	0	329.83
07-14-93		10.64	0	0	329.06
10-14-93		11.80	0	0	327.90
B-12					
	339.10				
04-16-92		9.95	0	0	329.15
07-24-92		11.57	0	0	327.53
10-22-92		12.82	0	0	326.28
01-15-93		8.66	0	0	330.44
04-15-93		8.70	0	0	330.40
05-14-93		9.32	0	0	329.78
07-14-93		9.95	0	0	329.15
10-14-93		10.94	0	0	328.16

Table 1
GROUND WATER ELEVATIONS
 Montgomery Ward Auto Service Center
 ENEA Properties

Date Measured	Elevation of top surface of PVC well casing (feet MSL)	Measured depth of ground water (feet bgs)	Measured depth of Product	Product Thickness	Ground water elevation (feet MSL)
B-15					
	340.62				
04-16-92		11.09	0	0	329.53
07-24-92		12.33	0	0	328.29
10-22-92		13.25	0	0	327.37
01-15-93		10.22	0	0	330.40
04-15-93		10.26	0	0	330.36
05-14-93		10.64	0	0	329.98
07-14-93		11.35	0	0	329.27
10-14-93		12.41	0	0	328.21
B-16					
	339.82				
04-16-92		10.63	0	0	329.19
07-24-92		11.90	0	0	327.92
10-22-92		12.88	0	0	326.94
01-15-93		9.79	0	0	330.03
04-15-93		9.83	0	0	329.99
05-14-93		10.20	0	0	329.62
07-14-93		10.92	0	0	328.90
10-14-93		11.99	0	0	327.83
MW-100					
	339.61				
05-14-93		10.34	0	0	329.27
07-14-93		11.00	0	0	328.61
10-14-93		12.12	0	0	327.49
MW-101					
	338.54				
05-14-93		9.91	0	0	328.63
07-14-93		10.38	0	0	328.16
10-14-93		11.30	0	0	327.24

Table 1
GROUND WATER ELEVATIONS
 Montgomery Ward Auto Service Center
 ENEA Properties

Date Measured	Elevation of top surface of PVC well casing (feet MSL)	Measured depth of ground water (feet bgs)	Measured depth of Product	Product Thickness	Ground water elevation (feet MSL)
MW-102					
	339.23				
05-14-93		9.60	0	0	329.63
07-14-93		10.31	0	0	328.92
10-14-93		11.57	0	0	327.66
MW-1					
	335.84				
10-14-93		9.05	0	0	326.79
MW-2					
	335.61				
10-14-93		8.90	0	0	326.71
MW-3					
	336.93				
10-14-93		9.89	0	0	327.04

NOTES:

- MSL - Mean Sea Level
- bgs - below ground surface
- Depth to water is as measured from the cut notch top north side of each 4-inch 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.
- Wells B-5, B-10, B-12, B-15, B-16, MW-100, MW-101 and MW-2 are owned by Montgomery Ward and are located on 7575 Dublin Boulevard.
- Wells MW-1, MW-2 and MW-3 are owned by ENEA Properties and are located on Amador Plaza 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.

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	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
10/14/93	4500	530	46	350	490	ND

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	7.1
10/14/93	100000	720	120	1100	930	ND

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
10/14/93	11000	710	170	1600	650	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
10/14/93	ND	0.96	2.6	3.6	1.3	0.025

TABLE 2
ANALYTICAL TESTING RESULTS
 Montgomery Ward Auto Service Center
 ENEA Properties
 Dublin, California
 Parts per billion (ppb)

Page 2 of 3

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
10/14/93	390	11	2.4	45	16	0.021

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
10/14/93	7500	48	16	520	900	0.022

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
10/14/93	ND	0.65	0.89	1.1	ND	ND

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
10/14/93	24000	9.6	5.2	60	60	ND

EFFLUENT

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
10/14/93	ND	ND	ND	0.97	ND	0.048

TABLE 2
ANALYTICAL TESTING RESULTS
 Montgomery Ward Auto Service Center
 ENEA Properties
 Dublin, California
 Parts per billion (ppb)

Well MW-1

Compounds	TPH-G	Benzene	Toluene	Xylenes	Ethylbenzene	Lead
10/14/93	5700	76	19	160	460	ND

Well MW-2

Compounds	TPH-G	Benzene	Toluene	Xylenes	Ethylbenzene	Lead
10/14/93	ND	ND	ND	1.1	0.71	0.021

Well MW-3

Compounds	TPH-G	Benzene	Toluene	Xylenes	Ethylbenzene	Lead
10/14/93	2600	26	30	100	130	ND

NOTE:

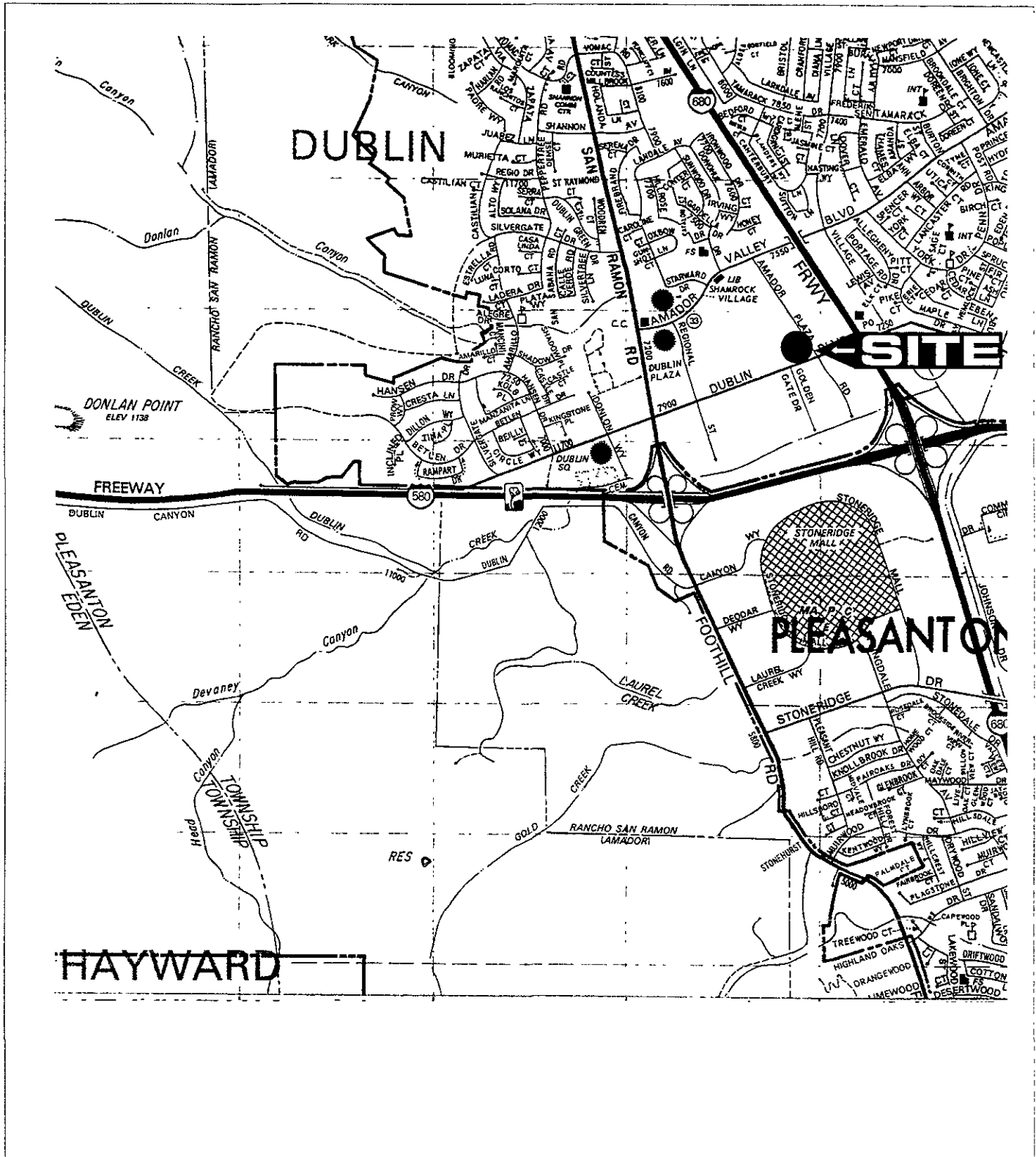
ND Not Detected

NA Not Analyzed

- Wells B-5, B-10, B-12, B-15, B-16, MW-100, MW-101 and MW-2 are owned by Montgomery Ward and are located on 7575 Dublin Boulevard.

- Wells MW-1, MW-2 and MW-3 are owned by ENEA Properties and are located on Amador Plaza Road.

FIGURES

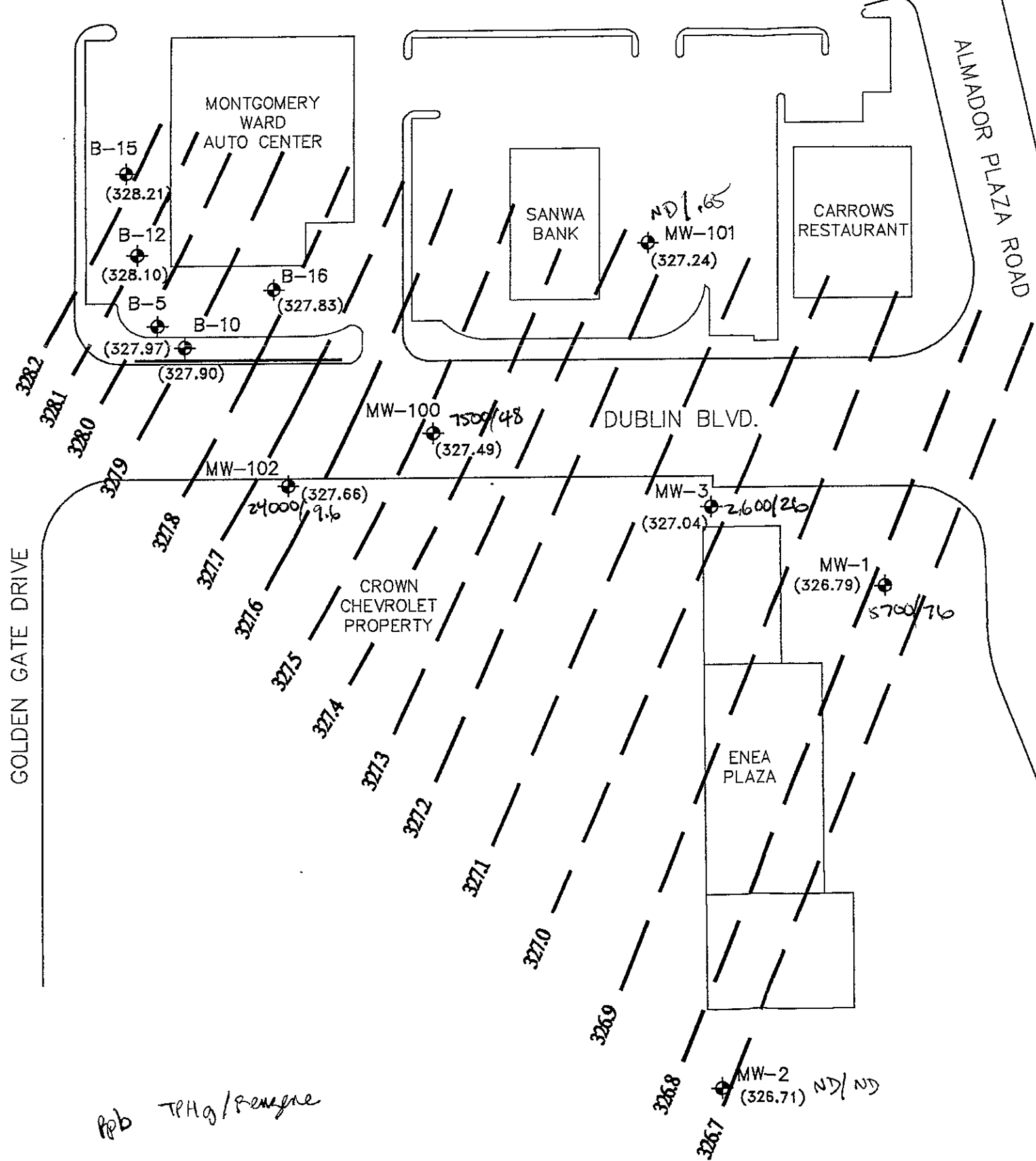


EAI Environmental Audit, Inc.®

LOCATION MAP
7575 Dublin Blvd.
Dublin, California



Figure 1




EXPLANATION:

- MW-1 (326) GROUND WATER MONITORING WELL LOCATION/GROUND WATER ELEVATION IN FEET MEAN SEA LEVEL
- (---) GROUND WATER ELEVATION CONTOUR (DASHED WHERE APPROXIMATE) CONTOUR INTERVAL = 0.10 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 belong to ENEA Properties



ppb TPHg/Benzene

		ENVIRONMENTAL AUDIT, INC.	
1000-A ORTEGA WAY • PLACENTIA, CA 92670-7125 714/632-8521 • FAX: 714/632-6754			
GROUND WATER ELEVATION MAP OCTOBER 14, 1993			
DRAWN BY M.C	DATE CREATED 10/29/93	MONTGOMERY WARD AUTO SERVICE CENTER DUBLIN, CALIFORNIA	
CHECKED	LAST REV 11/01/93		
SIZE 17 x 11	FIGURE 2		
FILE NAME I:\MONTGOM\08\14308011			

APPENDIX A

Ground Water Sampling Log Forms

GROUND WATER Sampling Log



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

DATE:	10/14/93
PROJECT NO.:	1233
CLIENT:	Montgomery Ward, Dublin
WELL NO.:	MW-1
WELL DIAMETER (INCHES):	4"
SAMPLED BY:	CPD/jc

PURGE LOG INFORMATION

TOTAL DEPTH OF WELL (ft.): 15.10
 DEPTH TO FREE PRODUCT (ft. bgs.): —
 DEPTH TO GROUND WATER (ft. bgs.): 9.05

WELL CASING ID (inches)	VOLUME FACTOR
2.0	0.16
4.0	<u>0.65</u>
6.0	1.47

ONE CASING VOLUME OF WATER CALCULATED USING THE FOLLOWING:

15.10 - 9.05 = 6.05 x .65 = 3.9
 TOTAL DEPTH OF WELL - DEPTH TO WATER LEVEL = WELL VOLUME VOLUME FACTOR = ONE CASING VOLUME OF WATER (GALLONS)

PURGE TIME: START 1230 STOP 1238

PURGE METHOD: DOWN HOLE PUMP DEDICATED PUMP BAILER OTHER

TYPE/MODEL: ES-40

GALLONS PURGED	TEMP (°F)	CONDUCTIVITY (Micro-ohms/cm)	pH	TURBIDITY (NTU)	REMARKS
3	72.4	9.46 x 10 ²	7.93	11.80	
6	72.4	9.44 x 10 ²	7.62	9.72	
9	72.2	9.49 x 10 ²	7.50	11.45	
12	72.1	9.50 x 10 ²	7.55	5.89	
15	71.9	9.49 x 10 ²	7.33	3.69	
18	72.1	9.51 x 10 ²	7.34	2.92	
21	72.0	9.51 x 10 ²	7.35	2.10	
		x 10 ²			
		x 10 ²			
		x 10 ²			
		x 10 ²			
		x 10 ²			

PURGE LOG INFORMATION

TIME SAMPLED: 1240

SAMPLE 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-A ORTEGA WAY PLACENTIA, CA 92670-7125 ☎ (714) 632-8521 ☒ (714) 632-6754

DATE:	10/14/93
PROJECT NO.:	1233
CLIENT:	Montgomery Ward, Dublin
WELL NO.:	MW-2
WELL DIAMETER (INCHES):	4"
SAMPLED BY:	CPD/jc

WELL PURGE INFORMATION

TOTAL DEPTH OF WELL (ft.): 14.71
 DEPTH TO FREE PRODUCT (ft. bgs.): —
 DEPTH TO GROUND WATER (ft. bgs.): 8.90

WELL CASING ID (inches)	VOLUME FACTOR
2.0	0.16
4.0	<u>0.65</u>
6.0	1.47

ONE CASING VOLUME OF WATER CALCULATED USING THE FOLLOWING:

$$\boxed{14.71} \text{ TOTAL DEPTH OF WELL} - \boxed{8.90} \text{ DEPTH TO WATER LEVEL} = \boxed{5.81} \times \boxed{.65} \text{ WELL VOLUME VOLUME FACTOR} = \boxed{3.8} \text{ ONE CASING VOLUME OF WATER (GALLONS)}$$

PURGE TIME: START 1304 STOP 1312

PURGE METHOD: DOWN HOLE PUMP DEDICATED PUMP BAILER OTHER

TYPE/MODEL: ES-40

GALLONS PURGED	TEMP (°F)	CONDUCTIVITY (Micro-ohms/cm)	pH	TURBIDITY (NTU)	REMARKS
3	72.8	10.22 x 10 ²	7.96	78.8	
6	73.5	10.24 x 10 ²	7.61	131.3	
9	73.1	10.18 x 10 ²	7.61	95.5	
12	73.2	10.16 x 10 ²	7.59	96.6	
15	73.1	10.20 x 10 ²	7.58	55.1	
18	72.9	10.20 x 10 ²	7.48	35.5	
		x 10 ²			
		x 10 ²			
		x 10 ²			
		x 10 ²			
		x 10 ²			

WELL SAMPLING INFORMATION

TIME SAMPLED: 1315

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

DATE:	10/14/93
PROJECT NO.:	1233
CLIENT:	Montgomery Ward, Dublin
WELL NO.:	MW-3
WELL DIAMETER (INCHES):	4"
SAMPLED BY:	CPD/jc

WELL-BURDEN INFORMATION

TOTAL DEPTH OF WELL (ft.): 15.10
 DEPTH TO FREE PRODUCT (ft. bgs.): —
 DEPTH TO GROUND WATER (ft. bgs.): 9.89

WELL CASING ID (inches)	VOLUME FACTOR
2.0	0.16
4.0	<u>0.65</u>
6.0	1.47

ONE CASING VOLUME OF WATER CALCULATED USING THE FOLLOWING:

$$\begin{matrix}
 \boxed{15.10} & - & \boxed{9.89} & = & \boxed{5.21} & \times & \boxed{.65} & = & \boxed{3.39} \\
 \text{TOTAL DEPTH} & & \text{DEPTH TO WATER} & & & & \text{WELL VOLUME} & & \text{ONE CASING} \\
 \text{OF WELL} & & \text{LEVEL} & & & & \text{VOLUME FACTOR} & & \text{VOLUME OF WATER (GALLONS)}
 \end{matrix}$$

PURGE TIME: START 1156 STOP 1212

PURGE METHOD: DOWN HOLE PUMP DEDICATED PUMP BAILER OTHER

TYPE/MODEL: ES-40

GALLONS PURGED	TEMP (°F)	CONDUCTIVITY (Micro-ohms/cm)	pH	TURBIDITY (NTU)	REMARKS
3	70.8	9.17 x 10 ²	7.43	37.2	
6	70.9	9.19 x 10 ²	7.32	11.68	
9	71.3	9.27 x 10 ²	7.19	7.70	
12	70.9	9.19 x 10 ²	7.30	5.16	
15	71.1	9.20 x 10 ²	7.25	3.62	
18	71.2	9.24 x 10 ²	7.22	3.05	
		x 10 ²			
		x 10 ²			
		x 10 ²			
		x 10 ²			
		x 10 ²			
		x 10 ²			

WELL SAMPLING INFORMATION

TIME SAMPLED: 1215

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

DATE:	10/13/93
PROJECT NO.:	1233
CLIENT:	Montgomery Ward, Dublin
WELL NO.:	B-5
WELL DIAMETER (INCHES):	2"
SAMPLED BY:	CPD/jc

WELL PURGING INFORMATION

TOTAL DEPTH OF WELL (ft.): 21
 DEPTH TO FREE PRODUCT (ft. bgs.): —
 DEPTH TO GROUND WATER (ft. bgs.): 12.05

WELL CASING ID (inches)	VOLUME FACTOR
2.0	<u>0.16</u>
4.0	0.65
6.0	1.47

ONE CASING VOLUME OF WATER CALCULATED USING THE FOLLOWING:

21 TOTAL DEPTH OF WELL - 12.05 DEPTH TO WATER LEVEL = 8.95 x .16 WELL VOLUME FACTOR = 1.43 ONE CASING VOLUME OF WATER (GALLONS)

PURGE TIME: START 1640 STOP 1645

PURGE METHOD: DOWN HOLE PUMP DEDICATED PUMP BAILER OTHER

TYPE/MODEL: ES-40

GALLONS PURGED	TEMP (°F)	CONDUCTIVITY (Micro-ohms/cm)	pH	TURBIDITY (NTU)	REMARKS
2	69.5	8.86 x 10 ²	8.08	15.68	
4	69.6	8.82 x 10 ²	7.72	9.52	
6	69.5	8.81 x 10 ²	7.66	6.78	
8	69.5	8.82 x 10 ²	7.64	5.45	
		x 10 ²			
		x 10 ²			
		x 10 ²			
		x 10 ²			
		x 10 ²			
		x 10 ²			
		x 10 ²			

WELL SAMPLING INFORMATION

TIME SAMPLED: 1652

SAMPLE 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:	10/14/93
PROJECT NO.:	1233
CLIENT:	Montgomery Ward, Dublin
WELL NO.:	B-10
WELL DIAMETER (INCHES):	2"
SAMPLED BY:	CPD/jc

WELL-BURDEN INFORMATION

TOTAL DEPTH OF WELL (ft.):

DEPTH TO FREE PRODUCT (ft. bgs.):

DEPTH TO GROUND WATER (ft. bgs.):

WELL CASING ID (inches)	VOLUME FACTOR
2.0	<u>0.16</u>
4.0	0.65
6.0	1.47

ONE CASING VOLUME OF WATER CALCULATED USING THE FOLLOWING:

$$\begin{array}{ccccccc}
 \boxed{20} & - & \boxed{11.80} & = & \boxed{8.2} & \times & \boxed{.16} & = & \boxed{1.31} \\
 \text{TOTAL DEPTH} & & \text{DEPTH TO WATER} & & & & \text{WELL VOLUME} & & \text{ONE CASING} \\
 \text{OF WELL} & & \text{LEVEL} & & & & \text{VOLUME} & & \text{VOLUME OF WATER (GALLONS)} \\
 & & & & & & \text{FACTOR} & &
 \end{array}$$

PURGE TIME: START STOP

PURGE METHOD: DOWN HOLE PUMP DEDICATED PUMP BAILER OTHER

TYPE/MODEL:

GALLONS PURGED	TEMP (°F)	CONDUCTIVITY (Micro-ohms/cm)	pH	TURBIDITY (NTU)	REMARKS
2	69.3	8.92 x 10 ²	7.44	23.70	
4	69.7	8.97 x 10 ²	7.39	16.04	
6	69.8	8.97 x 10 ²	7.31	12.72	
8	69.9	8.94 x 10 ²	7.29	9.54	
		x 10 ²			
		x 10 ²			
		x 10 ²			
		x 10 ²			
		x 10 ²			
		x 10 ²			
		x 10 ²			

WATER SAMPLING INFORMATION

TIME SAMPLED:

SAMPLE METHOD: DOWN HOLE PUMP DEDICATED PUMP BAILER OTHER

TYPE/MODEL:

COMMENTS: _____

GROUND WATER Sampling Log



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DATE:	10/14/93
PROJECT NO.:	1233
CLIENT:	Montgomery Ward, Dublin
WELL NO.:	B-15
WELL DIAMETER (INCHES):	4"
SAMPLED BY:	CPD/jc

TOTAL DEPTH OF WELL (ft.): 20.64
 DEPTH TO FREE PRODUCT (ft. bgs.): —
 DEPTH TO GROUND WATER (ft. bgs.): 12.41

WELL VOLUME FACTORS	
WELL CASING ID (inches)	VOLUME FACTOR
2.0	0.16
4.0	<u>0.65</u>
6.0	1.47

ONE CASING VOLUME OF WATER CALCULATED USING THE FOLLOWING:

$$\frac{\text{TOTAL DEPTH OF WELL}}{\text{DEPTH TO WATER LEVEL}} = \text{WELL VOLUME VOLUME FACTOR} = \text{ONE CASING VOLUME OF WATER (GALLONS)}$$

20.64 / 12.41 = 8.23 x 0.65 = 5.35

PURGE TIME: START 1525 STOP 1547

PURGE METHOD: DOWN HOLE PUMP DEDICATED PUMP BAILER OTHER

TYPE/MODEL: ES-40

GALLONS PURGED	TEMP (°F)	CONDUCTIVITY (Micro-ohms/cm)	pH	TURBIDITY (NTU)	REMARKS
5	69.4	8.56 x 10 ²	7.68	12.85	
10	69.3	8.69 x 10 ²	7.51	4.72	
15	69.3	8.69 x 10 ²	7.51	3.31	
20	69.4	8.64 x 10 ²	7.53	2.87	
25	69.4	8.69 x 10 ²	7.51	2.74	
30	69.3	8.71 x 10 ²	7.53	2.71	
		x 10 ²			
		x 10 ²			
		x 10 ²			
		x 10 ²			
		x 10 ²			
		x 10 ²			

TIME SAMPLED: 1550

SAMPLE METHOD: DOWN HOLE PUMP DEDICATED PUMP BAILER OTHER

TYPE/MODEL: Voss Technologies Disposable

COMMENTS: _____

GROUND WATER Sampling Log



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

DATE:	10/13/93
PROJECT NO.:	1233
CLIENT:	Montgomery Ward, Dublin
WELL NO.:	B-16
WELL DIAMETER (INCHES):	4"
SAMPLED BY:	CPD/jc

WELL PURGING INFORMATION

TOTAL DEPTH OF WELL (ft.): 23.35
 DEPTH TO FREE PRODUCT (ft. bgs.): —
 DEPTH TO GROUND WATER (ft. bgs.): 11.99

WELL CASING ID (inches)	VOLUME FACTOR
2.0	0.16
4.0	<u>0.65</u>
6.0	1.47

ONE CASING VOLUME OF WATER CALCULATED USING THE FOLLOWING:

$$\frac{\text{TOTAL DEPTH OF WELL (23.35)}}{\text{DEPTH TO WATER LEVEL (11.99)}} = \frac{11.36}{0.65} \times 7.38 = \text{ONE CASING VOLUME OF WATER (GALLONS)}$$

PURGE TIME: START 1548 STOP 1614

PURGE METHOD: DOWN HOLE PUMP DEDICATED PUMP BAILER OTHER

TYPE/MODEL: ES-40

GALLONS PURGED	TEMP (°F)	CONDUCTIVITY (Micro-ohms/cm)	pH	TURBIDITY (NTU)	REMARKS
5	72.2	9.30 x 10 ²	7.70	5.84	
10	72.8	9.16 x 10 ²	7.36	4.01	
15	72.4	9.16 x 10 ²	7.31	2.49	
20	73.0	9.14 x 10 ²	7.26	2.12	
25	72.8	9.13 x 10 ²	7.26	2.04	
30	72.0	9.11 x 10 ²	7.34	1.67	
35	71.8	9.11 x 10 ²	7.28	1.73	
40	71.6	9.10 x 10 ²	7.31	1.58	
		x 10 ²			
		x 10 ²			
		x 10 ²			
		x 10 ²			

WELL SAMPLING INFORMATION

TIME SAMPLED: 1617

SAMPLE 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:	10/14/93
PROJECT NO.:	1233
CLIENT:	Montgomery Ward, Dublin
WELL NO.:	MW-100
WELL DIAMETER (INCHES):	4"
SAMPLED BY:	CPD/jc

TOTAL DEPTH OF WELL (ft.): 28
 DEPTH TO FREE PRODUCT (ft. bgs.): —
 DEPTH TO GROUND WATER (ft. bgs.): 12.12

WELL VOLUME FACTORS	
WELL CASING ID (inches)	VOLUME FACTOR
2.0	0.16
4.0	<u>0.65</u>
6.0	1.47

ONE CASING VOLUME OF WATER CALCULATED USING THE FOLLOWING:

$$\boxed{28} \text{ TOTAL DEPTH OF WELL} - \boxed{12.12} \text{ DEPTH TO WATER LEVEL} = \boxed{15.88} \times \boxed{.65} \text{ WELL VOLUME VOLUME FACTOR} = \boxed{10.32} \text{ ONE CASING VOLUME OF WATER (GALLONS)}$$

PURGE TIME: START 1441 STOP 1505

PURGE METHOD: DOWN HOLE PUMP DEDICATED PUMP BAILER OTHER

TYPE/MODEL: ES-40

GALLONS PURGED	TEMP (°F)	CONDUCTIVITY (Micro-ohms/cm)	pH	TURBIDITY (NTU)	REMARKS
5	70.3	9.28 x 10 ²	7.72	13.80	
10	70.0	9.19 x 10 ²	7.50	8.24	
15	70.1	9.11 x 10 ²	7.38	8.15	
20	70.0	9.09 x 10 ²	7.29	7.75	
25	69.9	9.09 x 10 ²	7.29	5.44	
30	69.8	9.04 x 10 ²	7.28	3.42	
35	69.9	9.00 x 10 ²	7.25	3.00	
40	70.0	8.98 x 10 ²	7.20	2.94	
		x 10 ²			
		x 10 ²			
		x 10 ²			
		x 10 ²			

TIME SAMPLED: 1510

SAMPLE METHOD: DOWN HOLE PUMP DEDICATED PUMP BAILER OTHER

TYPE/MODEL: Voss Technologies Disposable

COMMENTS: _____

GROUND WATER Sampling Log


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DATE:	10/13/93
PROJECT NO.:	1233
CLIENT:	Montgomery Ward, Dublin
WELL NO.:	MW-101
WELL DIAMETER (INCHES):	4"
SAMPLED BY:	CPD/jc

WELL PURGE INFORMATION

 TOTAL DEPTH OF WELL (ft.):
 DEPTH TO FREE PRODUCT (ft. bgs.):
 DEPTH TO GROUND WATER (ft. bgs.):

WELL VOLUME FACTORS	
WELL CASING ID (inches)	VOLUME FACTOR
2.0	0.16
4.0	<u>0.65</u>
6.0	1.47

ONE CASING VOLUME OF WATER CALCULATED USING THE FOLLOWING:

$$\begin{array}{ccccccc}
 \boxed{28} & - & \boxed{11} & = & \boxed{17} & \times & \boxed{.65} & = & \boxed{11.05} \\
 \text{TOTAL DEPTH} & & \text{DEPTH TO WATER} & & & & \text{WELL VOLUME} & & \text{ONE CASING} \\
 \text{OF WELL} & & \text{LEVEL} & & & & \text{VOLUME} & & \text{VOLUME OF WATER (GALLONS)} \\
 & & & & & & \text{FACTOR} & &
 \end{array}$$

 PURGE TIME: START STOP

 PURGE METHOD: DOWN HOLE PUMP DEDICATED PUMP BAILER OTHER

 TYPE/MODEL:

GALLONS PURGED	TEMP (°F)	CONDUCTIVITY (Micro-ohms/cm)	pH	TURBIDITY (NTU)	REMARKS
5	68.5	9.48 x 10 ²	8.16	9.79	
10	68.6	9.44 x 10 ²	7.64	8.63	
15	68.3	9.40 x 10 ²	7.56	10.61	
20	68.4	9.42 x 10 ²	7.54	19.1	
25	68.5	9.42 x 10 ²	7.47	28.4	
30	68.3	9.43 x 10 ²	7.49	39.3	
35	68.2	9.40 x 10 ²	7.50	24.7	
40	68.1	9.41 x 10 ²	7.50	23.1	
		x 10 ²			
		x 10 ²			
		x 10 ²			
		x 10 ²			

WELL SAMPLING INFORMATION

 TIME SAMPLED:

 SAMPLE METHOD: DOWN HOLE PUMP DEDICATED PUMP BAILER OTHER

 TYPE/MODEL:

COMMENTS: _____

GROUND WATER Sampling Log



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DATE:	10/14/93
PROJECT NO.:	1233
CLIENT:	Montgomery Ward, Dublin
WELL NO.:	MW-102
WELL DIAMETER (INCHES):	4"
SAMPLED BY:	CPD/jc

TOTAL DEPTH OF WELL (ft.):

28

DEPTH TO FREE PRODUCT (ft. bgs.):

—

DEPTH TO GROUND WATER (ft. bgs.):

11.57

WELL VOLUME FACTORS	
WELL CASING ID (inches)	VOLUME FACTOR
2.0	0.16
4.0	<u>0.65</u>
6.0	1.47

ONE CASING VOLUME OF WATER CALCULATED USING THE FOLLOWING:

28
TOTAL DEPTH
OF WELL

11.57
DEPTH TO WATER
LEVEL

16.43

.65
WELL VOLUME
VOLUME FACTOR

10.7
ONE CASING
VOLUME OF WATER (GALLONS)

PURGE TIME:

START

1050

STOP

1115

PURGE METHOD: DOWN HOLE PUMP DEDICATED PUMP BAILER OTHER

TYPE/MODEL:

ES-40

GALLONS PURGED	TEMP (°F)	CONDUCTIVITY (Micro-ohms/cm)	pH	TURBIDITY (NTU)	REMARKS
5	69.3	8.49 x 10 ²	7.65	37.6	
10	70.4	8.55 x 10 ²	7.34	20.3	
15	70.5	8.58 x 10 ²	7.33	24.7	
20	70.9	8.60 x 10 ²	7.29	25.6	
25	70.8	8.61 x 10 ²	7.30	19.8	
30	70.6	8.59 x 10 ²	7.29	15.78	
35	70.7	8.58 x 10 ²	7.29	14.96	
40	70.5	8.58 x 10 ²	7.33	11.50	
45	70.5	8.59 x 10 ²	7.34	10.78	
		x 10 ²			
		x 10 ²			
		x 10 ²			

TIME SAMPLED:

1120

SAMPLE METHOD: DOWN HOLE PUMP DEDICATED PUMP BAILER OTHER

TYPE/MODEL:

Voss Technologies Disposable

COMMENTS:



APPENDIX B

Chain of Custody Record Forms



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Chain of Custody Record

SAMPLING REQUIREMENTS: RCRA NPDES SDWA _____

WRITTEN QC REPORT: ROUTINE QC RWOCB QC 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	REMARKS Call Chris d'Sa at EAI if any questions		
--------------------------	------------------------------------	--	--	--

SAMPLE NUMBER	DATE	TIME	COMP GRAB	SAMPLE DESCRIPTION	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	REMARKS		
B-16	10/13/193	1617	/	Water	/	/	/	/	/	/	/	/	/	/	/	/	3100867 A-C	One 1-Liter Plastic Bottle (lead) two 40-ml VOA Vials (BTEX/TPH)		
B-5	10/13	1652	/	↓	/	/	/	/	/	/	/	/	/	/	/	/	868	3	↓	
MW-101	10/13	1740	/		/	/	/	/	/	/	/	/	/	/	/	/	/	869		3
B-10	10/14	1020	/		/	/	/	/	/	/	/	/	/	/	/	/	/	870		3
EFFLUENT	10/14	1040	/		/	/	/	/	/	/	/	/	/	/	/	/	/	871		3
MW-102	10/14	1120	/		/	/	/	/	/	/	/	/	/	/	/	/	/	872		3
MW-3	10/4	1215	/		/	/	/	/	/	/	/	/	/	/	/	/	/	873		3
TOTAL NUMBER OF CONTAINERS																	21			

RELINQUISHED BY: (Signature) 	DATE/TIME	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) Melissa Crews	DATE/TIME 10/14/193 5pm
			LAB: Sequoia Analytical	



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Chain of Custody Record

SAMPLING REQUIREMENTS: RCRA NPDES SDWA _____

WRITTEN QC REPORT
ROUTINE QC
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																	
MW-1	10/14/93	1240	/	Water				/	/	/	/	/	/	/	/	/	/	/	/	30080743A-C	One 1-Liter Plastic Bottle (lead) two 40-ml VOA Vials (BTEX/TPH)
MW-2	10/14	1315	/	↓				/	/	/	/	/	/	/	/	/	/	/	875	3	↓
MW-100	10/14	1510	/	↓				/	/	/	/	/	/	/	/	/	/	/	876	3	↓
B-15	10/14	1550	/	↓				/	/	/	/	/	/	/	/	/	/	/	877	3	↓
B-12	10/14	1640	/	↓				/	/	/	/	/	/	/	/	/	/	/	878	3	↓
																			TOTAL NUMBER OF CONTAINERS	15	

RELINQUISHED BY: (Signature) 	DATE/TIME	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 10/14/93 5 pm	LAB: Sequoia Analytical



APPENDIX C

Monitoring Well Survey Data

October 14, 1993
Job No. 93557

Monitoring Well Survey
Table of Coordinates and Elevations
Montgomery Ward Site
7575 Dublin Boulevard
Dublin, California

<u>Well No.</u>	<u>Northing</u>	<u>Easting</u>	<u>Elevation</u>	
MW-1	4903.95	4922.70	336.29 335.84	Top North rim of box at punch mark Top of PVC casing at notch
MW-2	4575.17	4812.34	336.09 335.61	Top North rim of box at punch mark Top of PVC casing at notch
MW-3	4956.92	4806.92	337.48 336.93	Top North rim of box at punch mark Top of PVC casing at notch
MW-100	5006.17	4622.54	339.92 339.61	Top North rim of box at punch mark Top of PVC casing at notch
MW-101	5130.19	4765.11	338.75 338.54	Top North rim of box at punch mark Top of PVC casing at notch
MW-102	4972.23	4526.57	339.52 339.23	Top North rim of box at punch mark Top of PVC casing at notch
B-5	5076.96	4439.62	340.45 340.05	Top North rim of box at punch mark Top of PVC casing at notch
B-10	5062.84	4457.80	340.23 339.70	Top North rim of box at punch mark Top of PVC casing at notch
B-12	5123.86	4425.88	339.97 339.10	Top North rim of box at punch mark Top of PVC casing at notch
B-15	5178.24	4418.93	341.29 340.62	Top North rim of box at punch mark Top of PVC casing at notch
B-16	5100.74	4517.07	340.37 339.82	Top North rim of box at punch mark Top of PVC casing at notch

Benchmark: City of Dublin benchmark. "DUB-680" "T" painted yellow on top center Northerly concrete curb above D.I. located 0.60 miles Easterly along Dublin Blvd. from San Ramon Road; 121.5 feet Westerly of centerline I-680 measured along the Northerly curb line of Dublin Blvd. and 43± feet Northerly of Old centerline of Dublin Blvd.

Elevation = 331.60 M.S.L.



APPENDIX D

Laboratory Reports



SEQUOIA ANALYTICAL

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

Client Project ID: Montgomery Ward 1233
Sample Matrix: Water
Analysis Method: EPA 5030/8015/8020
First Sample #: 310-0867

Sampled: Oct 13 & 14/93
Received: Oct 14, 1993
Reported: Oct 29, 1993

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 310-0867 B-16	Sample I.D. 310-0868 B-5	Sample I.D. 310-0869 MW-101	Sample I.D. 310-0870 B-10	Sample I.D. 310-0871 EFFLUENT	Sample I.D. 310-0872 MW-102
Purgeable Hydrocarbons	50	390	4,500	N.D.	100,000	N.D.	24,000
Benzene	0.5	11	530	0.65	720	N.D.	9.6
Toluene	0.5	2.4	46	0.89	120	N.D.	5.2
Ethyl Benzene	0.5	16	490	N.D.	930	N.D.	60
Total Xylenes	0.5	45	350	1.1	1,100	0.97	60
Chromatogram Pattern:		Gasoline	Gasoline	--	Gasoline	--	Gasoline

Quality Control Data

Report Limit Multiplication Factor:	1.0	20	1.0	50	1.0	50
Date Analyzed:	10/21/93	10/21/93	10/21/93	10/21/93	10/21/93	10/21/93
Instrument Identification:	ML #2	ML #2	ML #2	ML #2	ML #2	ML #2
Surrogate Recovery, %: (QC Limits = 70-130%)	109	106	105	112	103	117

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



SEQUOIA ANALYTICAL

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

Client Project ID: Montgomery Ward 1233
Sample Matrix: Water
Analysis Method: EPA 5030/8015/8020
First Sample #: 310-0873

Sampled: Oct 13 & 14/93
Received: Oct 14, 1993
Reported: Oct 29, 1993

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 310-0873 MW-3	Sample I.D. 310-0874 MW-1	Sample I.D. 310-0875 MW-2	Sample I.D. 310-0876 MW-100	Sample I.D. 310-0877 B-15	Sample I.D. 310-0878 B-12
Purgeable Hydrocarbons	50	2,600	5,700	N.D.	7,500	N.D.	11,000
Benzene	0.5	26	76	N.D.	48	0.96	710
Toluene	0.5	30	19	N.D.	16	2.6	170
Ethyl Benzene	0.5	130	460	0.71	900	1.3	650
Total Xylenes	0.5	100	160	1.1	520	3.6	1,600
Chromatogram Pattern:		Gasoline	Gasoline	--	Gasoline	Gasoline	Gasoline

Quality Control Data

Report Limit Multiplication Factor:	20	20	1.0	20	1.0	10
Date Analyzed:	10/22/93	10/22/93	10/21/93	10/22/93	10/22/93	10/22/93
Instrument Identification:	ML #2	ML #2	ML #2	ML #2	ML #2	ML #2
Surrogate Recovery, %: (QC Limits = 70-130%)	104	103	96	100	90	120

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



SEQUOIA ANALYTICAL

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

Client Project ID: Montgomery Ward 1233
Sample Descript: Water
Analysis for: Lead
First Sample #: 310-0867

Sampled: Oct 13 & 14/93
Received: Oct 14, 1993
Extracted: Oct 27, 1993
Analyzed: Oct 28, 1993
Reported: Oct 29, 1993

LABORATORY ANALYSIS FOR: Lead

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L
310-0867	B-16	0.020	0.021
310-0868	B-5	0.020	N.D.
310-0869	MW-101	0.020	N.D.
310-0870	B-10	0.020	N.D.
310-0871	EFFLUENT	0.020	0.048
310-0872	MW-102	0.020	N.D.
310-0873	MW-3	0.020	N.D.
310-0874	MW-1	0.020	N.D.
310-0875	MW-2	0.020	0.021
310-0876	MW-100	0.020	0.022
310-0877	B-15	0.020	0.025
310-0878	B-12	0.020	N.D.

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

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Environmental Audit
1000-A Ortega Way
Placentia, CA 92670

Client Project ID: Montgomery Ward 1233
Matrix: Water

Attention: Frank Muramoto

QC Sample Group: 3100867-878

Reported: Oct 29, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl- Benzene	Xylenes	Lead
	Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	J.D.	J.D.	J.D.	J.D.	K.A.
Conc. Spiked:	20	20	20	60	0.10
Units:	µg/L	µg/L	µg/L	µg/L	mg/L
LCS Batch#:	GBLK102193	GBLK102193	GBLK102193	GBLK102193	BLK102793
Date Prepared:	10/21/93	10/21/93	10/21/93	10/21/93	MS-1 10/27/93
Date Analyzed:	10/21/93	10/21/93	10/21/93	10/21/93	10/28/93
Instrument I.D.#:	ML #2	ML #2	ML #2	ML #2	Liberty 100
LCS % Recovery:	108	101	104	105	101
Control Limits:	±30	±30	±30	±30	75-125
MS/MSD Batch #:	G3100871	G3100871	G3100871	G3100871	3100867
Date Prepared:	10/21/93	10/21/93	10/21/93	10/21/93	10/27/93
Date Analyzed:	10/21/93	10/21/93	10/21/93	10/21/93	10/28/93
Instrument I.D.#:	ML #2	ML #2	ML #2	ML #2	Liberty 100
Matrix Spike % Recovery:	135	125	130	130	103
Matrix Spike Duplicate % Recovery:	120	110	110	112	72
Relative % Difference:	12	13	17	15	35

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.