



ENVIRONMENTAL AUDIT, INC.

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

714/632-8521 • FAX: 714/632-6754

SEP 11 1992

September 4, 1992

Project No. 1233

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

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

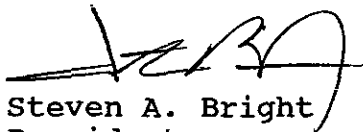
Dear Mr. Arulanantham:

Enclosed herewith is a copy of our report titled "Ground Water Monitoring Report, May through July 1992, Montgomery Ward Auto Service Center, 7575 Dublin Boulevard, Dublin, California", dated September 4, 1992.

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

Sincerely,

ENVIRONMENTAL AUDIT, INC.


Steven A. Bright
President

SAB:ss

enclosure

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

SAB:MWD5.5

*Notes:
Talked to Mr. West.
He will send me a letter of
all past activities (in the
last 4 months).*

*Ravi
10/28/92*

**GROUND WATER MONITORING REPORT
MAY THROUGH JULY 1992
MONTGOMERY WARD AUTO SERVICE CENTER
7575 DUBLIN BOULEVARD
DUBLIN, CALIFORNIA**

PROJECT NO. 1233

SEPTEMBER 4, 1992



ENVIRONMENTAL AUDIT, INC.

Planning, Environmental Analysis and Hazardous
Substances Management and Remediation

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

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FSM:TC6.6

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). Environmental Audit, Inc. (EAI) was retained by Montgomery Ward & Co., Incorporated (Ward) to conduct the quarterly ground water monitoring at the site. The ground water monitoring period covered by this report is May through July 1992. The ground water sampling was conducted in July 1992.

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. As part of this quarterly monitoring, Ward also requested that EAI obtain and analytically test an effluent sample from the System.

2.0 FIELD WORK

2.1 GROUND WATER ELEVATION SURVEY

The System was temporarily shut-down on July 22, 1992 in order for EAI to obtain ground water samples from the wells representative of the formation.

On July 24, 1992, EAI obtained ground water depth measurements from the five wells associated with the site using an Oil Recovery Systems (ORS) interface probe. No free-product was detected in the wells during gauging activities. The measured water levels were converted to elevations by subtracting the measured water level from the ground level datum for each well (see Table 1).

Ground water elevation data obtained from the wells were used to construct a ground water elevation map (see Figure 2). Interpretation of the elevation data indicates that at the time of measurement the ground water table near extraction well B-12 apparently had not fully reached equilibrium conditions as evidenced by the depressed water table around the extraction well.

2.2 GROUND WATER SAMPLING

On July 24, 1992, all five wells were sampled. Prior to sampling, all wells, except well B-12, were purged using a Whale Supersub 88 submersible pump. Purging activities of all wells continued until the temperature, conductivity and pH of the extracted water had stabilized (see Table 2). Well

B-12 was sampled approximately one hour after reactivating the System.

The wells were sampled in the order that purging activities were completed. Water samples from the four wells that were purged using the Supersub 88 submersible pump were obtained from just below the water surface using 1.5-inch diameter Voss Technologies disposable bailers equipped with volatile organic compound samplers. A ground water sample from well B-12 was obtained from the System's piping prior to the water entering the System's oil/water separator.

The water sample from each well was sealed in 40-milliliter (ml) VOA vials with Teflon septa lined lids and in a one-liter plastic bottle. The sample vials and plastic bottle were supplied by the laboratory conducting the analytical testing. Each vial and bottle was completely filled so that no head space existed between the sample and the lid. The samples were labeled with the sample point identification, date and time, and immediately placed into an ice chest chilled using frozen blue ice. The samples were kept chilled until delivered to the laboratory for analytical testing. All samples were logged on a chain of custody record form (see Appendix A).

2.3 SAMPLING OF TREATED EFFLUENT

A treated effluent sample was obtained from the sampling port located downstream of the two 2,000-gallon carbon canisters. The sample was labeled and handled as described above.

2.4 SAMPLING EQUIPMENT CLEANING PROTOCOL

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

- The pump was flushed in a solution of Alconox detergent and tap water; and
- The pump was flushed with tap water.

The vinyl tubing used as a discharge hose also was replaced with new tubing prior to purging each well.

2.5 EFFLUENT HANDLING

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

3.0 ANALYTICAL TESTING

All samples were delivered for analytical testing to Sequoia Analytical, a California Department of Health Services certified hazardous waste testing laboratory (Certificate No. 1271) located in Concord, California. The samples were tested for total petroleum hydrocarbons as gasoline (TPH-G) using modified EPA Method 8015, benzene, toluene, xylenes and ethylbenzene (BTXE) using EPA Method 602, and total lead using EPA Method 7420. The results of the testing are shown on Tables 3 and 4. The laboratory reports are contained in Appendix B.

4.0 DISCUSSION

TPH-G and BTXE were detected in all water samples collected from the wells, except in sample B-15 wherein no TPH-G was detected (see Table 3). The TPH-G concentrations ranged from 65 to 31,000 parts per billion (ppb), and BTXE concentrations ranged from 9.8 to 16,000 ppb. The highest concentrations of dissolved petroleum hydrocarbons were detected in the water sample obtained from well B-5. No lead was detected in any of the ground water samples tested. No contaminants were detected in the effluent sample (see Table 4).

5.0 LIMITATION

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

BHM:FSM:SAB:ss

FSM:MMDR08.92

TABLE 1

GROUND WATER ELEVATIONS FROM DATA
OBTAINED ON JULY 24, 1992

WELL NUMBER	ELEVATION OF TOP SURFACE OF PVC WELL CASING*	MEASURED DEPTH OF GROUND WATER (IN FT. BGS)**	GROUND WATER ELEVATION (FT)
B-5	100.95	11.91	89.04
B-10	100.60	11.69	88.91
B-12	100.00	11.57	88.43
B-15	101.50	12.33	89.17
B-16	100.70	11.90	88.80

NOTES: bgs = below ground surface

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

** Measured from top of PVC well casing.

FSM:MWD08.921

TABLE 2

TEMPERATURE, CONDUCTIVITY, AND pH READINGS
DURING PURGING ACTIVITIES

WELL NUMBER	CUMULATIVE PURGED (Gallons)	TEMPERATURE (Fahrenheit)	CONDUCTIVITY (Micromhos/cm)	pH
B-5	5	69.7	11.75x10 ²	7.44
	10	69.5	11.75x10 ²	7.30
	15	69.1	11.77x10 ²	7.18
	20	69.7	11.68x10 ²	7.12
	25	69.5	11.83x10 ²	7.07
B-10	5	71.2	11.94x10 ²	7.18
	10	69.6	11.81x10 ²	7.02
	15	69.1	11.77x10 ²	6.92
	20	69.1	11.80x10 ²	6.87
	25	68.7	11.46x10 ²	6.85
B-15	5	73.5	12.51x10 ²	7.82
	10	71.0	12.14x10 ²	7.53
	15	70.6	11.85x10 ²	7.42
	20	70.6	12.15x10 ²	7.33
	25	70.1	12.12x10 ²	7.30
	30	70.1	12.10x10 ²	7.26
	40	69.5	12.02x10 ²	7.23
B-16	5	74.4	12.88x10 ²	7.51
	10	72.6	12.60x10 ²	7.33
	15	71.5	12.55x10 ²	7.25
	20	72.3	12.53x10 ²	7.17
	25	71.5	12.26x10 ²	7.12
	30	72.3	12.01x10 ²	7.05

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

FSM:MWD108.922

TABLE 3

TPH-G, BTXE, AND TOTAL LEAD CONCENTRATIONS
IN GROUND WATER SAMPLES

CONCENTRATIONS IN PARTS PER BILLION (ppb)

Well I.D.	Date	TPH-G	Benzene	Toluene	Total Xylenes	Ethyl-Benzene	Lead
B-5	4/16/92	4,400	670	160	320	280	ND*
	7/24/92	31,000	5,400	2,600	5,800	2,200	ND
B-10	4/16/92	7,300	1,400	640	1,100	880	ND
	7/24/92	27,000	3,800	1,600	4,000	2,000	ND
B-12	4/17/92	12,000	1,300	1,100	1,200	510	ND
	7/24/92	12,000	1,000	630	1,000	520	ND
B-15	4/17/92	65	4.4	2.4	2.8	6.1	ND
	7/24/92	ND	3.6	1.5	1.6	3.1	ND
B-16	4/17/92	1,300	390	1.7	9.3	35	ND
	7/24/92	1,600	120	5.7	410	120	ND

* ND = Not Detected

FSM:MWD108.923

TABLE 4

FLOWMETER READING AND EFFLUENT TESTING RESULTS

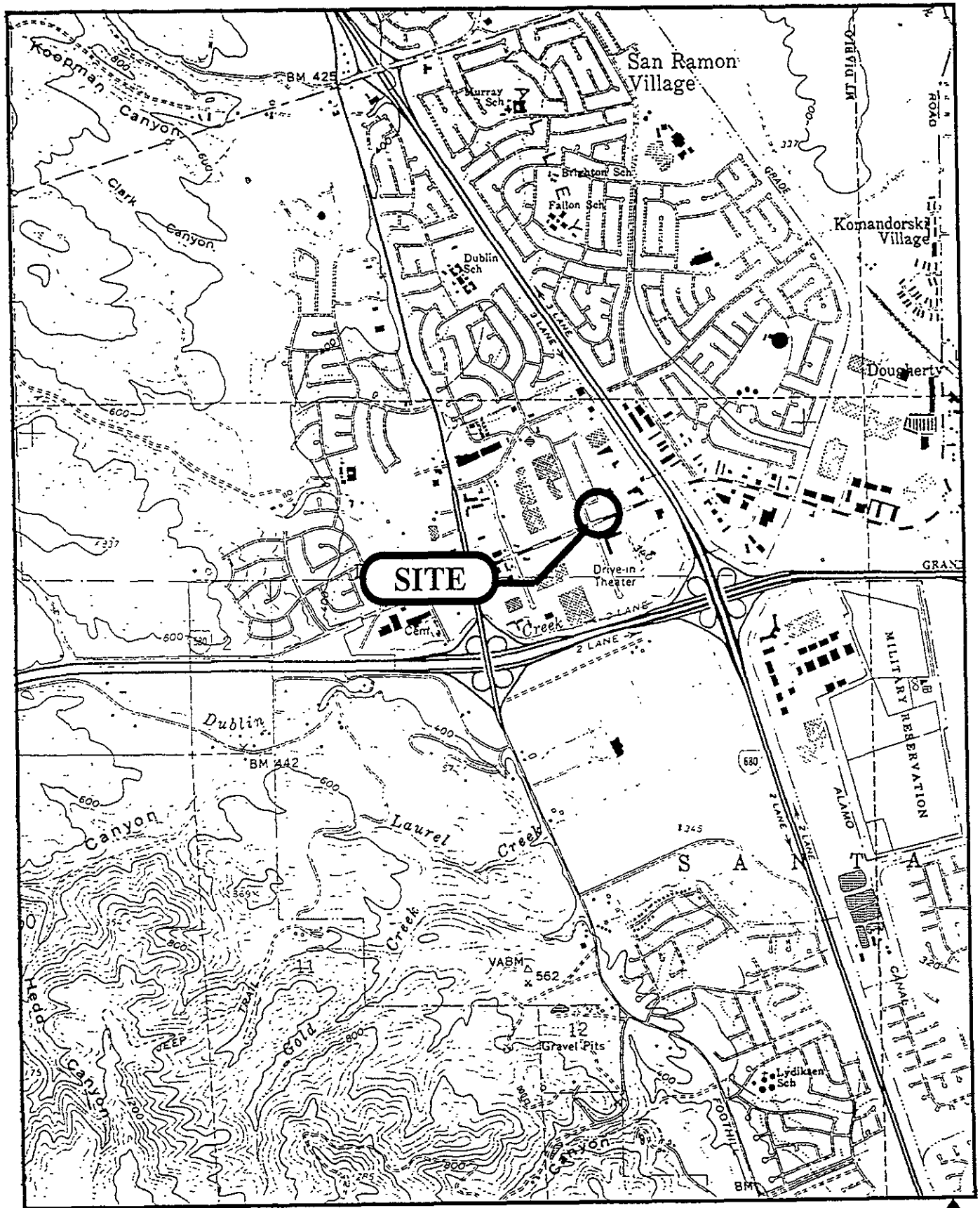
CONCENTRATIONS IN PARTS PER BILLION (ppb)

Date	Flowmeter Reading	TPH-G	Benzene	Toluene	Total Xylenes	Ethyl Benzene	Lead
7/24/92	148,380	ND*	ND	ND	ND	ND	ND

* ND = Not Detected

FSM:MWD08.924

FIGURES



ENVIRONMENTAL AUDIT, INC.

LOCATION MAP

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

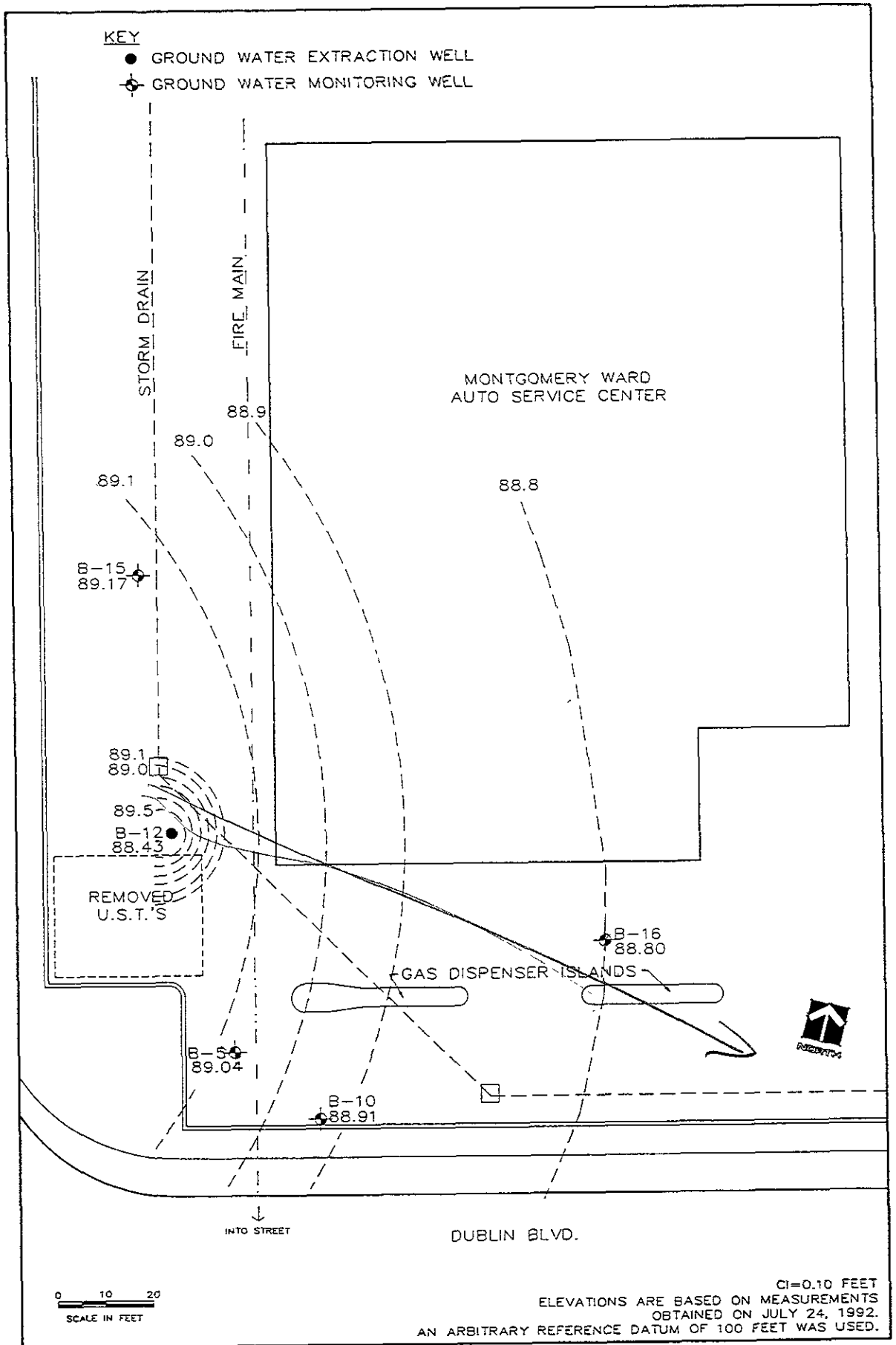
USGS DUBLIN 7.5 MINUTE QUADRANGLE,
1961, PHOTOREVISED 1980.



DATE: 5-92

FIGURE: 1

FNM=1233LM01



ENVIRONMENTAL AUDIT, INC.

GROUND WATER ELEVATION MAP
MONTGOMERY WARD AUTO SERVICE CENTER
7575 DUBLIN BOULEVARD
DUBLIN, CA

DATE: AUGUST, 1992
1233JU02

FIGURE: 2

APPENDIX A
CHAIN OF CUSTODY RECORD FORM



ENVIRONMENTAL AUDIT, INC.

Planning, Environmental Analyses, and Hazardous Substances Management and Remediation

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

CHAIN OF CUSTODY RECORD

PROJECT NO.		PROJECT NAME		TYPE CONTNR		ANALYSIS							OTHER		REMARKS		
1233		Montgomery Ward Dublin		GLASS	PLASTIC	BRASS/SS TUBE	FUEL HC 602/6015	PETROLEUM HC 418.1	BTX 8020	VOLATILE ORGANICS 624 B740	LEAD	EXTRACTABLE ORGANICS 625 B720	OIL & GREASE	LAB METALS		ISOTOPE	NUMBER OF CONTAINERS
SAMPLERS: (Signature) J.S. Minamoto																	
SAMPLE NUMBER	DATE	TIME	SAMPLE DESCRIPTION														
B-5	7/24/92	09:20 hrs	Water	2070981 AC	✓	✓	✓		✓		✓					3	1 - 1.0 liter for total Pb, Plastic 2 - 40ml vials for TPH-G/BIXE
B-10	"	10:10 hrs	Water	982 AC	✓	✓	✓		✓		✓					3	} same
B-15	"	11:30 hrs	Water	983 AC	✓	✓	✓		✓		✓					3	
B-16	"	12:30 hrs	Water	984 AC	✓	✓	✓		✓		✓					3	
Effluent	"	16:30 hrs	Water	985 AC	✓	✓	✓		✓		✓					3	
B-12	"	16:35 hrs	Water	986 AC	✓	✓	✓		✓		✓					3	
															TOTAL NUMBER OF CONTAINERS	18	
RELENGISHED BY: (Signature) J.S. Minamoto		DATE/TIME 7/24/92 5:25		RECEIVED BY: (Signature)		RELENGISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)							
RELENGISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		RELENGISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)							
METHOD OF SHIPMENT:				SHIPPED BY: (Signature)		CARRIER: (Signature)		RECEIVED FOR LAB BY: (Signature) LAD: <i>Sevold Antik</i>				DATE/TIME 7-24-92 5:25 PM					

APPENDIX B
LABORATORY REPORTS



SEQUOIA ANALYTICAL

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

RECEIVED

AUG 15 1992

Environmental Audit, Inc. 1000-A Ortega Way Placentia, CA 92670-7125 Attention: F.S.Muramoto	Client Project ID: #1233/ Montgomery Ward Dublin Sample Matrix: Water Analysis Method: EPA 5030/8015/8020 First Sample #: 207-0981	ROA-1 Sampled: Jul 24, 1992 Received: Jul 24, 1992 Reported: Aug 11, 1992
---	---	--

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 207-0981 B-5	Sample I.D. 207-0982 B-10	Sample I.D. 207-0983 B-15	Sample I.D. 207-0984 B-16	Sample I.D. 207-0985 Effluent	Sample I.D. 207-0986 B-12
Purgeable Hydrocarbons	50	31,000	27,000	N.D.	1,600	N.D.	12,000
Benzene	0.5	5,400	3,800	3.6	120	N.D.	1,000
Toluene	0.5	2,600	1,600	1.5	5.7	N.D.	630
Ethyl Benzene	0.5	2,200	2,000	3.1	120	N.D.	520
Total Xylenes	0.5	5,800	4,000	1.6	410	N.D.	1,000
Chromatogram Pattern:		Gasoline	Gasoline	--	Gasoline	--	Gasoline

Quality Control Data

Report Limit Multiplication Factor:	400	100	1.0	10	1.0	100
Date Analyzed:	7/28/92	7/28/92	7/28/92	7/28/92	7/28/92	7/28/92
Instrument Identification:	HP-4	HP-4	HP-4	HP-2	HP-4	HP-4
Surrogate Recovery, %: (QC Limits = 70-130%)	114	110	106	105	109	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



SEQUOIA ANALYTICAL

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

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

Client Project ID: #1233/ Montgomery Ward Dublin
Sample Descript: Water
Analysis for: Lead
First Sample #: 207-0981

Sampled: Jul 24, 1992
Received: Jul 24, 1992
Extracted: Aug 3, 1992
Analyzed: Aug 10, 1992
Reported: Aug 11, 1992

LABORATORY ANALYSIS FOR: Lead

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L
207-0981	B-5	0.0050	N.D.
207-0982	B-10	0.0050	N.D.
207-0983	B-15	0.0050	N.D.
207-0984	B-16	0.0050	N.D.
207-0985	Effluent	0.0050	N.D.
207-0986	B-12	0.0050	N.D.

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

SEQUOIA ANALYTICAL

Karen L. Enstrom
Project Manager



SEQUOIA ANALYTICAL

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

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

Client Project ID: #1233/ Montgomery Ward Dublin

QC Sample Group: 2070981-986

Reported: Aug 11, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-Benzene	Xylenes	Lead
	EPA 8015/8020	EPA 8015/8020	EPA 8015/8020	EPA 8015/8020	EPA 239.2
Method:	8015/8020	8015/8020	8015/8020	8015/8020	EPA 239.2
Analyst:	J.F.	J.F.	J.F.	J.F.	K.Anderson
Reporting Units:	µg/L	µg/L	µg/L	µg/L	mg/L
Date Analyzed:	Jul 28, 1992	Jul 28, 1992	Jul 28, 1992	Jul 28, 1992	Aug 10, 1992
QC Sample #:	Matrix Blank	Matrix Blank	Matrix Blank	Matrix Blank	207-0986
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	20	20	20	60	0.050
Conc. Matrix Spike:	20	20	20	67	0.049
Matrix Spike % Recovery:	100	100	100	111	98
Conc. Matrix Spike Dup.:	20	20	20	66	0.049
Matrix Spike Duplicate % Recovery:	100	100	100	110	98
Relative % Difference:	0.0	0.0	0.0	1.5	0.0

SEQUOIA ANALYTICAL

Karen L. Enstrom
Project Manager

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

2070981.EAG <3>