

ENVIRONMENTAL AUDIT, INC.

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

714/632-8521 • FAX: 714/632-6754

x245

ALCO
HAZMAT
MAY 31 PM 2:15

May 27, 1994

Project No. 1233

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

**RE: STATUS REPORT AND WORK PLAN
Montgomery Ward Auto Service Center
and ENEA Properties Sites, Dublin, California**

Dear Ms. Chu:

Enclosed herewith are two copies of our report entitled, "Status Report and Work Plan, Montgomery Ward Auto Service Center and ENEA Properties Sites, Dublin, California," dated May 27, 1994.

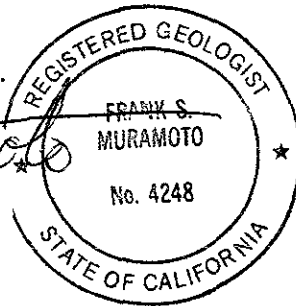
Please call the undersigned or Steven Bright if you have any questions or need additional information.

Sincerely,

ENVIRONMENTAL AUDIT, INC.

Frank S. Muramoto

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 1233COVI DOC

STATUS REPORT AND WORK PLAN
Montgomery Ward Auto Service Center
and
Enea Properties Sites
Dublin, California

May 27, 1994

Project No. 1233

ENVIRONMENTAL AUDIT, INC. ®

Planning, Environmental Analyses and Hazardous
Substances Management and Remediation

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

TABLE OF CONTENTS

	Page
1.0 INTRODUCTION.....	1
2.0 BACKGROUND	1
2.1 MONTGOMERY WARD SITE.....	1
2.1.1 Initial Site Assessment	1
2.1.2 Removal of the USTs	2
2.1.3 Additional Site Assessment.....	2
2.1.4 Ground Water Recovery/Treatment System	2
2.1.5 Ground Water Pumping Tests.....	2
2.1.6 Quarterly Ground Water Monitoring.....	2
2.1.7 Supplemental Off-Site Assessment	3
2.2 ENEA PROPERTIES	3
2.2.1 Records Search/Audits	3
2.2.2 Assessment Activities by EMI	3
2.2.3 Assessment Activities by Harding Lawson Associates	3
2.2.4 Additional Site Assessment.....	3
2.2.5 Installation of Monitoring Well MW-4	3
2.2.6 Ground Water Pumping Tests.....	4
3.0 PETROLEUM HYDROCARBON DISTRIBUTION IN SOIL AND GROUND WATER.....	4
3.1 DISTRIBUTION IN SOIL	4
3.2 DISTRIBUTION IN GROUND WATER.....	4
4.0 GEOLOGY.....	5
5.0 PROPOSED SCOPE OF WORK	5
5.1 CONE PENETROMETER TESTING.....	5
5.2 RISK ASSESSMENT	6
6.0 REPORTING	7
7.0 LIMITATION.....	8
8.0 REFERENCES CITED.....	9

TABLES:

- Table 1: Analytical Testing Results for Ground Water Samples -
Montgomery Ward Site
- Table 2: Analytical Testing Results for Soil Samples Collected by EAI
- Table 3: Analytical Testing Results for Ground Water Samples -
ENEA Plaza Sites

**TABLE OF CONTENTS
(Continued)**

FIGURES:

Figure 1:	Location Map
Figure 2:	Site Plan
Figure 3:	Cross Section Location Map
Figure 4:	Cross Section A-A'
Figure 5:	Cross Section B-B'
Figure 6:	Cross Section C-C'
Figure 7:	Estimated Extent of Dissolved Benzene Concentrations

SAB:WORD:1233CAP

STATUS REPORT AND WORK PLAN
Montgomery Ward Auto Service Center
and
ENEA Properties Sites
Dublin, California

1.0 INTRODUCTION

As requested by the Alameda County Health Care Services Agency, Department of Environmental Health (County Health), this report provides a summary of the investigation and remedial activities completed in association with the Montgomery Ward Auto Service Center property, 7575 Dublin Boulevard, Dublin, California (Montgomery Ward Site) and at the Enea Properties Sites located at various addresses on Amador Plaza Road (see Figures 1 and 2). Also, this report outlines the additional assessment work proposed to further investigate the lithology and extent of contamination on the properties and the risk associated therewith.

2.0 BACKGROUND

2.1 MONTGOMERY WARD SITE

In or about November 1988, it was determined that one of the three 10,000-gallon capacity underground storage tanks (USTs) located at the Montgomery Ward Site did not have integrity (see Figure 2). These USTs were located in a common excavation and stored unleaded, premium and regular gasoline. Montgomery Ward ceased using the USTs in November 1988 and retained A.D. Selditch & Associates, Inc. (ADS) to assist them in assessing the extent of petroleum hydrocarbons in the soil and ground water. *up to 10K gasoline loss*

2.1.1 Initial Site Assessment

Between December 1, 1988 and February 8, 1989, ADS drilled and sampled eight borings on the Montgomery Ward Site, i.e., borings 5, 6, 7, 8, 9, 10, 12 and 13. These borings were converted into ground water monitoring wells B-5, B-6, B-7, B-8, B-9, B-10, B-12 and B-13, respectively. These borings/wells were installed prior to the removal of the USTs; however, there is no drawing in the ADS report which shows the location of all these wells. Figure 2 shows the location of the wells presently situated on the Montgomery Ward Site.

Selected soil samples from each boring were analytically tested for total petroleum hydrocarbons (TPH) using EPA Method 8015, and benzene, toluene, xylenes and ethylbenzene (BTXE) using EPA Method 8020. TPH concentrations ranging from not detected to 2,180 parts per million (ppm) were detected in the soil samples. Benzene was detected in the soil samples and ranged in concentration from 0.18 to 55 ppm. Toluene, xylenes and ethylbenzene also were detected. Water samples collected from the wells contained dissolved concentrations of TPH and BTXE, lead was detected at 2.6 ppm in the sample collected from well B-13, and well B-12 reportedly contained free-product (see ADS, 1989).

2.1.2 Removal of the USTs

On or about May 18, 1989, the three gasoline USTs and two associated fueling islands were removed from the Montgomery Ward Site. Soils containing petroleum hydrocarbons reportedly were present throughout most of the excavation. The soil excavated in association with removal of the USTs was disposed of off-site and the excavation backfilled with gravel. Wells B-6, B-7, B-8, B-9 and B-13 were destroyed during removal of the USTs (see ADS, 1989).

2.1.3 Additional Site Assessment

In August 1989, ADS supervised the installation of two additional ground water monitoring wells (B-15 and B-16) at the Montgomery Ward Site (see Figure 2). Composite soil samples from each boring (i.e., the soil samples collected from each boring at 5, 10, 15 and 20 feet were composited) were tested for TPH and BTXE. TPH concentrations ranged from 6.3 to 10.2 ppm and the BTXE concentrations ranged from 0.26 to 6.5 ppm. TPH and BTXE also were detected in ground water samples collected from wells B-15 and B-16 (see ADS, 1989).

2.1.4 Ground Water Recovery/Treatment System

In or about the early part of 1990, an ADS designed extraction system began to recover ground water using a 15-inch diameter ground water extraction well (well B-12) (see Figure 2). The extracted ground water was filtered to remove suspended particles, treated using two 2,500-pound activated carbon canisters connected in series, and discharged to the sanitary sewer system pursuant to a permit issued by the Dublin/San Ramon Services District (see ADS, 1989).

2.1.5 Ground Water Pumping Tests

Environmental Audit, Inc. (EAI) was retained by Montgomery Ward in 1991 to conduct ground water pumping tests on wells located on the Montgomery Ward Site to determine whether the existing extraction rate was sufficient to capture contaminated ground water located beneath the site. The results of the pumping tests revealed that extraction at a rate of eight gallon per minute (gpm) from extraction well B-12 should be sufficient to contain ground water beneath the Montgomery Ward Site (see EAI, 1991). However, the hydraulic response of the shallow ground water encountered in the wells on the Montgomery Ward Site was more indicative of a silty sand and sand type lithology rather than the silty clays and clays which were actually encountered during investigation activities.

Some changes to the ground water pumping system were made after the pumping tests were completed. These consisted of installation of an eight gpm oil/water separator, product and surge tanks, transfer pump, and filter system. These changes were completed in February 1992.

2.1.6 Quarterly Ground Water Monitoring

Quarterly ground water monitoring activities were initiated by EAI at the Montgomery Ward Site in April 1992. Quarterly ground water monitoring consists of the gauging and sampling of the wells associated with the site, and the analytical testing of the obtained samples (see Table 1).

2.1.7 Supplemental Off-Site Assessment

In May 1993, EAI installed three off-site ground water monitoring wells (MW-100, MW-101 and MW-102) and advanced and sampled eight hydropunches (HP-1 through HP-8) (see Figure 2) (see EAI, 1993). Soil and ground water samples were tested for total petroleum hydrocarbons as gasoline (TPH-G) and BTXE. Table 1 shows the results of testing ground water testing, and Table 2 the results for soil samples..

2.2 ENEA PROPERTIES

2.2.1 Records Search/Audits

In May 1988, Earth Metrics Incorporated (EMI) completed for Enea Properties a Preliminary Environmental Screening Analysis of 7460 Dublin Boulevard and 6770 Amador Plaza Road, Dublin, California to determine if there was any known contamination associated with these sites (see EMI, 1988). In August 1991, EMI completed a Level One Environmental Site Assessment of 6700/6766/6780 Amador Plaza Road, Dublin, California which recommended that soil sampling and testing should be considered based on the data associated with the Montgomery Ward Site (see EMI, 1991).

2.2.2 Assessment Activities by EMI

In October 1991, EMI drilled and sampled five borings on what will be referred to herein as "Enea Parcel 1" (see Figure 2). Note that the EMI sampling locations are not shown on Figure 2. Temporary monitoring wells were constructed in each boring to allow for the collection of ground water samples. A composite soil sample and ground water samples were tested for TPH-G and BTXE. No TPH-G or BTXE were detected in the composite soil sample; however, TPH-G and BTXE were detected in the ground water samples.

2.2.3 Assessment Activities by Harding Lawson Associates

On January 29, 1993, Harding Lawson Associates (HLA) drilled and constructed ground water monitoring wells MW-1, MW-2, and MW-3 which were 15, 14, and 16 feet deep, respectively, on Enea Parcel 1 (see Figure 2). Except for boring logs and well construction details, EAI has no other information regarding these wells or the work completed by HLA.

2.2.4 Additional Site Assessment

In August 1993, Epigene International (Epigene) advanced and sampled five hydropunches on Enea Parcels 1 and 2 (HP-1 through HP-5) (see Figure 2). All the samples were analytically tested for TPH-G, total petroleum hydrocarbons as diesel (TPH-D) and BTXE (see Table 3) (see Epigene, 1993).

2.2.5 Installation of Monitoring Well MW-4

In December 1993, monitoring well MW-4 was installed by Epigene (see Figure 2). Except for the boring log and the well construction details, EAI has no other information regarding this well. Table 3 summarizes the testing results made available to EAI associated with ground water samples obtained from the Enea Parcels.

2.2.6 Ground Water Pumping Tests

On February 4, 1994, preparatory to conducting ground water pumping tests, Cypress Environmental (Cypress) installed one extraction well (EW-1) and one piezometer (PZ-1) near Enea monitoring well MW-1 (see Cypress, 1994) (see Figure 2). On February 7 and 8, 1994, using the extraction well and five observation wells (MW-1 through MW-4 and PZ-1), Cypress conducted both a step-discharge and a constant-discharge pumping test. Calculated hydraulic conductivities obtained from the pumping tests for the observation well MW-1 and the piezometer PZ-1 ranged from 0.591 to 0.536 centimeters per second (cm/sec). The pumping well had a calculated hydraulic conductivity of 0.192 to 0.152 cm/sec. These values are high when compared to the silts, clays, and clayey sands that were identified on the lithologic boring logs for Enea Parcel 1. Hydraulic conductivities of this range are more typical of clean sands. Higher than anticipated hydraulic conductivities also were observed on the Montgomery Ward Site in relation to the type of soils penetrated by the wells at the site, suggesting that the hydrogeology of Montgomery Ward and Enea Properties Sites may not be fully understood at this time.

3.0 PETROLEUM HYDROCARBON DISTRIBUTION IN SOIL AND GROUND WATER

3.1 DISTRIBUTION IN SOIL

Cross sections A-A', B-B', and C-C' show the geologic interpretation of the shallow soils encountered at the Montgomery Ward Site (see Figures 3, 4, 5, and 6). Also shown on the cross sections are the analytical testing results of soil samples obtained to date. The data show that petroleum hydrocarbons were detected in unsaturated and saturated zone soils in borings/wells B-10, B-12, B-15, and B-16.

No unsaturated zone soil contamination has been detected to date on the Enea Properties Sites.

3.2 DISTRIBUTION IN GROUND WATER

Dissolved petroleum hydrocarbons as TPH-G and BTXE are present in the ground water beneath the Montgomery Ward and the Enea Properties Sites. The dissolved petroleum hydrocarbons using benzene as the indicator compound on Enea Properties Sites appears to be defined in the northerly, southerly, and easterly directions, based on analytical data obtained from water samples collected from Epigene hydropunch locations HP-3 through HP-5, from Enea well MW-2, and water samples collected from Montgomery Ward wells/hydropunches MW-101 HP-1, HP-2, HP-5 through HP-8 and MW-101 (see EAI, 1993) (see Figure 7). The dissolved benzene in the ground water immediately south of the Montgomery Ward Site is fairly well defined based on analytical data (well MW-102). The northerly extent of the dissolved benzene on the Montgomery Ward Site is defined based on well B-15 and EAI hydropunch locations HP-6 and HP-7 (see Figure 7).

4.0 GEOLOGY

The City of Dublin is located on the western side of the Livermore Valley, which occupies the northern and eastern portion of the Alameda Creek watershed. The Montgomery Ward and Enea Properties Sites are located in the Dublin sub-basin which is one of the twelve sub-basins of the Livermore Valley Ground Water Basin. The sub-basins are demarcated based on fault traces and hydrogeologic discontinuities. (see CSDWR, 1974). The Dublin sub-basin is drained by San Ramon Creek. To the north is a fault separating the Dublin sub-basin from the Bishop sub-basin, to the east is the Pleasanton fault, and to the south is the Parks fault. Ground water in the Dublin sub-basin is reported to be both unconfined and confined. The geological units immediately underlying the Montgomery Ward and Enea Properties Sites are reported to be comprised of valley-fill sediment of Holocene age.

The entire Livermore Valley is composed of water-bearing sediments. The oldest water-bearing formation in the Livermore Valley area is reported to be the Tassajara Formation, which is Pliocene in age. These sediments consist of bedded deposits of sandstone, tuffaceous sandstone, tuff and shale. The next youngest geologic unit in the Livermore Valley is the Livermore Formation, which is of Plio-Pleistocene age. This is a significant water-bearing formation which supplies most of the drinking water for the Livermore Valley. Recent surficial valley-fill consists of unconsolidated clay, silt, sand, and gravel which overlie the Tassajara and Livermore Formations.

Aquifer materials within the sub-basin are generally flat lying, multi-layered sediments consisting of an unconfined shallow aquifer overlaying a sequence of leaky or semiconfined aquifers. The regional ground water flow in the area is approximately southeast (CSDWR, 1974).

Native soil encountered in the borings drilled on the Montgomery Ward Site predominantly consists of olive brown and gray to dark gray clay with a trace of silt. Ground water encountered in January 1994 in the wells associated with the Montgomery Ward Site ranged from 11 to 12 feet below ground surface (bgs).

5.0 PROPOSED SCOPE OF WORK

EAI purposes that additional site assessment work must be conducted to better characterized lithologies and hydrogeologic conditions at the Montgomery Ward and Enea Properties Sites. Once characterization is complete, an effective remediation system/method can be designed and installed to clean-up the affected soils and ground water to levels established by the responsible agencies. The following outlines the additional work proposed.

All work will be completed under the supervision of an EAI California registered geologist or registered civil engineer experienced in conducting hydrogeological investigations. A copy of ears Health and Safety Plan for completing this investigation is available upon request.

5.1 CONE PENETROMETER TESTING

EAI proposes to use Cone Penetrometer Testing (CPT) to further evaluate the lithologic characteristics of the soils in the area of the plume. There are several advantages in using a CPT over hollow-stem augers; namely: repeatability, accuracy, and nearly continuous data collection.

A total of eight CPT soundings are proposed for the Montgomery Ward and Enea Properties Sites (see Figure 2). Several of the CPT locations will be placed along the axis of the dissolved hydrocarbon plume, and the remaining locations based on the obtainment of maximum lithologic and hydrogeologic information cross gradient to the plume axis. The depth of the CPT soundings will range from 25 to 40 feet bgs.

A cone penetrometer will be pushed into the soil using a hydraulic ram pressing against the dead weight of the CPT rig. Soil parameters to be measured at five centimeter intervals include cone bearing, sleeve friction, friction ratio, pore water pressure, and resistivity. These measurements will be sent upscale through the cone rods to an on-board data acquisition system. Measurement of these parameters will allow for identification of the capillary fringe, the ground water table, and soil lithology. All data will be processed in real time so that critical field decisions can be made in a timely manner which will allow for additional testing or relocation of proposed CPT locations. Soil samples will be collected at tested for TPH-G and BTXE.

After completion of the CPT soundings, ^{two} ~~three~~ Hydropunch ground water samples will be obtained. The ground water sampling locations were selected to attempt to define the down-gradient extent of the dissolved hydrocarbons plume in the easterly and southeasterly directions on the Enea Properties Site, and the southerly and westerly (up-gradient) directions on the Montgomery Ward Site (see Figure 2). The Hydropunch operates by pushing a 1.75 inch diameter hollow, steel tipped rod into the soil. A filter screen is attached to the tip. At the appropriate depth, the rods will be retracted, exposing the screen and allowing ground water to enter the sample collection chamber. A small diameter bailer will then be lowered into the hollow rod and a ground water sample will be obtained from the sample chamber. Ground water samples will be tested for TPH-G and BTXE.

All CPT sounding and sample holes will be grouted by pushing or vibrating a hollow CPT rod with a "knockout plug" down the test hole to termination depth. Bentonite grout will then be pumped into the hole as the CPT rod is extracted. The holes will be filled to within six inches of the surface with bentonite and capped with asphalt or concrete.

All equipment that is inserted into the ground (rods, screens, cones etc.) will be steam cleaned between each CPT sounding or Hydropunch. The effluent will be collected and sealed in labeled 55-gallon drums, pending analytical test results at which time the appropriate disposal method will be determined.

After evaluation of the CPT testing, a determination will be made as to whether additional ground water pump tests are required.

5.2 RISK ASSESSMENT

In order to establish appropriate cleanup levels for the soil and ground water beneath the Montgomery Ward and Enea Properties sites, EAI proposes to prepare a risk assessment. Based on the results of the risk assessment, EAI will propose cleanup levels for the sites.

6.0 REPORTING

A comprehensive report will be submitted to County Health documenting the results of the field investigation and risk assessment. The report will include a description of the lithology and aquifer parameters derived from the CPT and the results of all analytical testing. Based on the existing analytical data for ground water samples collected from the Enea Properties Sites and current County Health guidelines, ground water remediation at the Enea Properties Sites may not be necessary if it can be demonstrated through the risk assessment that the contaminants present in the ground water beneath the Enea Properties Sites do not represent an unacceptable risk to human health and/or the environment.

7.0 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 professional advice contained in this report.

8.0 REFERENCES CITED

- A.D. Selditch & Associates, Inc., "Proposed Plan Groundwater Cleanup, Montgomery Ward, 7575 Dublin Blvd., Dublin, CA 94568", dated 1989 (ADS, 1989).
- Environmental Audit, Inc., "Ground Water Pumping Tests and a Review of Ground Water Treatment System, 7575 Dublin Boulevard, Dublin, California," dated November 1, 1991 (EAI, 1991).
- Environmental Audit, Inc., "Phase II Soil and Ground Water Investigation, Montgomery Ward Auto Service Center, 7575 Dublin Boulevard, Dublin, California," dated June 16, 1993 (EAI, 1993).
- Earth Metrics Incorporated, "Preliminary Environmental Screening Analysis of 7460 Dublin Boulevard and 6770 Amador Plaza Road, Dublin, California," dated May 26, 1988 (EMI, 1988).
- Earth Metrics Incorporated, "Level One Environmental Site Assessment, 6700/6766/6780 Amador Plaza Road, Dublin, California," dated August 8, 1991 (EMI, 1991).
- Epigene International, "Results of Hydropunch Sampling and Analysis for Enea Plaza in Dublin", Letter Report dated September 17, 1993. (Epigene, 1993).
- Cypress Environmental, "Groundwater Pumping Test Results, Enea Plaza, 6700-6780 Amador Plaza Road, Dublin, California," dated February 11, 1994 (Cypress, 1994).
- California State Department of Water Resources, 1974. Evaluation of Ground Water Resources: Livermore and Sunnily Valleys, Bull 118-2 (CSDWR, 1974).

FSM:SAB:ss

SAB:WORD:1233CAP.DEC

TABLES

TABLE 1

**ANALYTICAL TESTING RESULTS
FOR GROUND WATER SAMPLES**

Montgomery Ward Site

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 1

**ANALYTICAL TESTING RESULTS
FOR GROUND WATER SAMPLES**

Montgomery Ward Site

Parts per billion (ppb)

Page 2 of 3

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	0.022
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 1

ANALYTICAL TESTING RESULTS
FOR GROUND WATER SAMPLES

Montgomery Ward Site

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

5-13-93

Hydropunch ID	TPH-G	Benzene	Toluene	Ethylbenzene	Xylenes	Lead
HP-1	ND	ND	ND	ND	ND	ND
HP-2	ND	ND	ND	ND	ND	ND
HP-3	5700	12	ND	180	50	ND
HP-4	680	6.6	ND	4.1	15	ND
HP-5	ND	ND	ND	ND	ND	ND
HP-6	ND	ND	ND	ND	ND	ND
HP-7	ND	ND	ND	ND	ND	ND
HP-8	ND	ND	ND	ND	ND	ND

ND Not Detected
NA Not Analyzed

KA1233\ANAL-MW.DOC

TABLE 3

**ANALYTICAL TESTING RESULTS
FOR GROUND WATER SAMPLES**

Enea Plaza Sites

Parts per billion (ppb)

Page 1 of 1

Well 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

Well 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

Well 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

Well MW-4

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

8-11-93

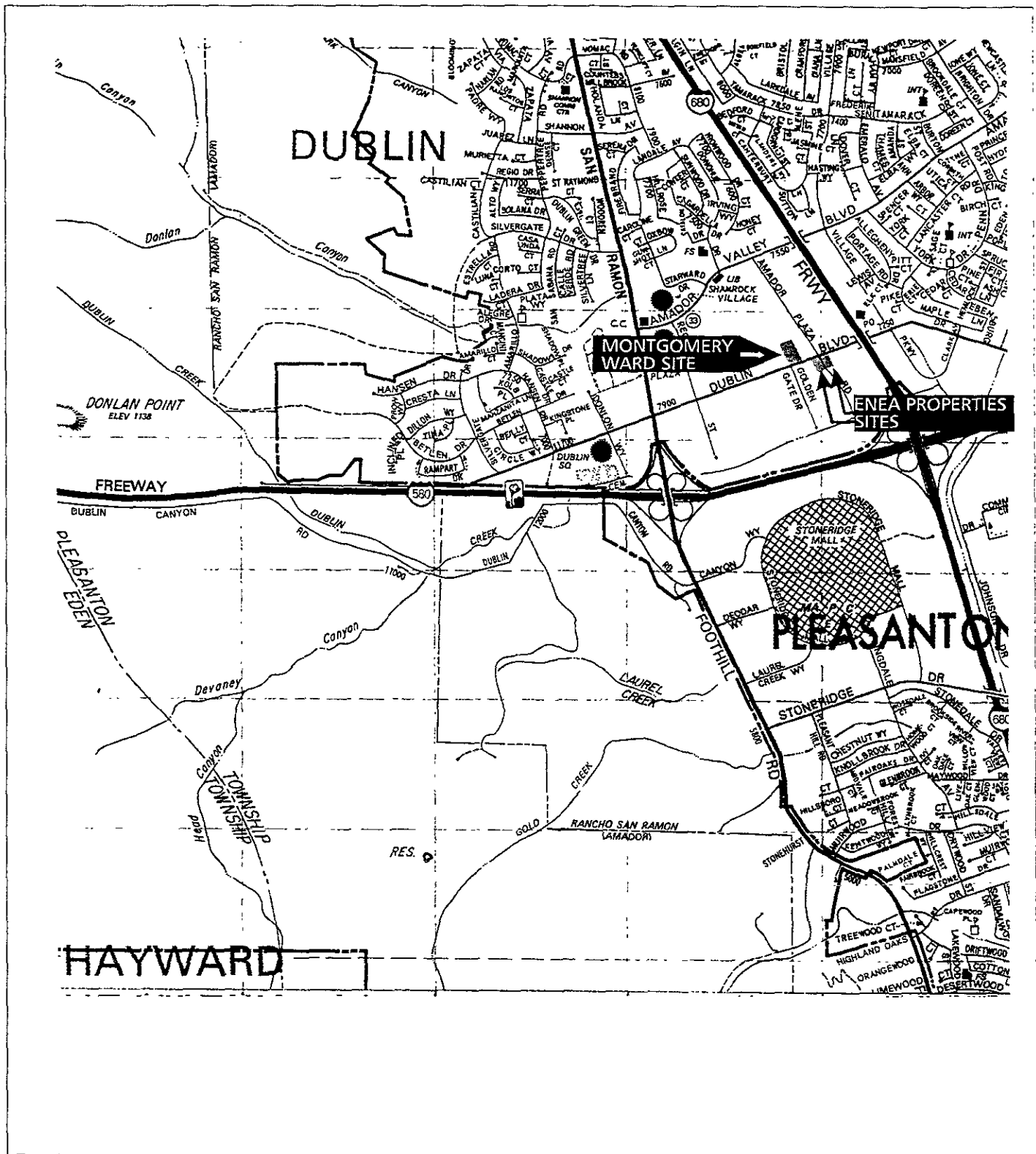
Hydropunch ID	TPH-G	Benzene	Toluene	Ethylbenzene	Xylenes	TPH-D
HP-1	98	1.4	ND	ND	ND	51
HP-2	260	0.87	0.64	ND	0.63	69
HP-3	ND	ND	ND	ND	ND	ND
HP-4	ND	ND	ND	ND	0.52	ND
HP-5	ND	ND	ND	ND	ND	81
HP-6 (blank)	ND	ND	ND	ND	ND	140

Note: ENEA samples HP-1 through HP-6 were also analyzed for VOCs using EPA Method 8240. No VOCs were detected.

ND Not Detected
NA Not Analyzed

K:\1233\ANAL-EN.DOC

FIGURES



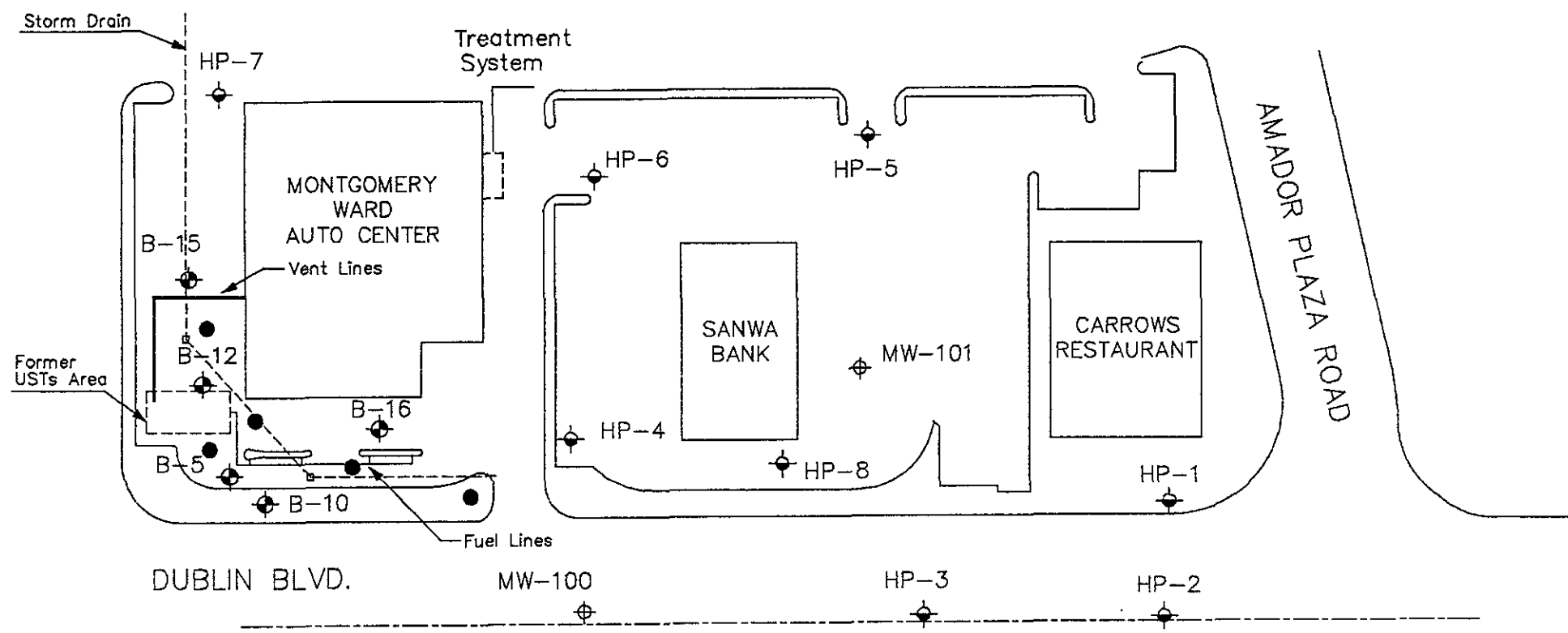
Environmental Audit, Inc.

LOCATION MAP

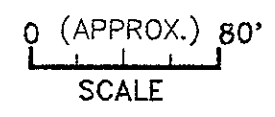
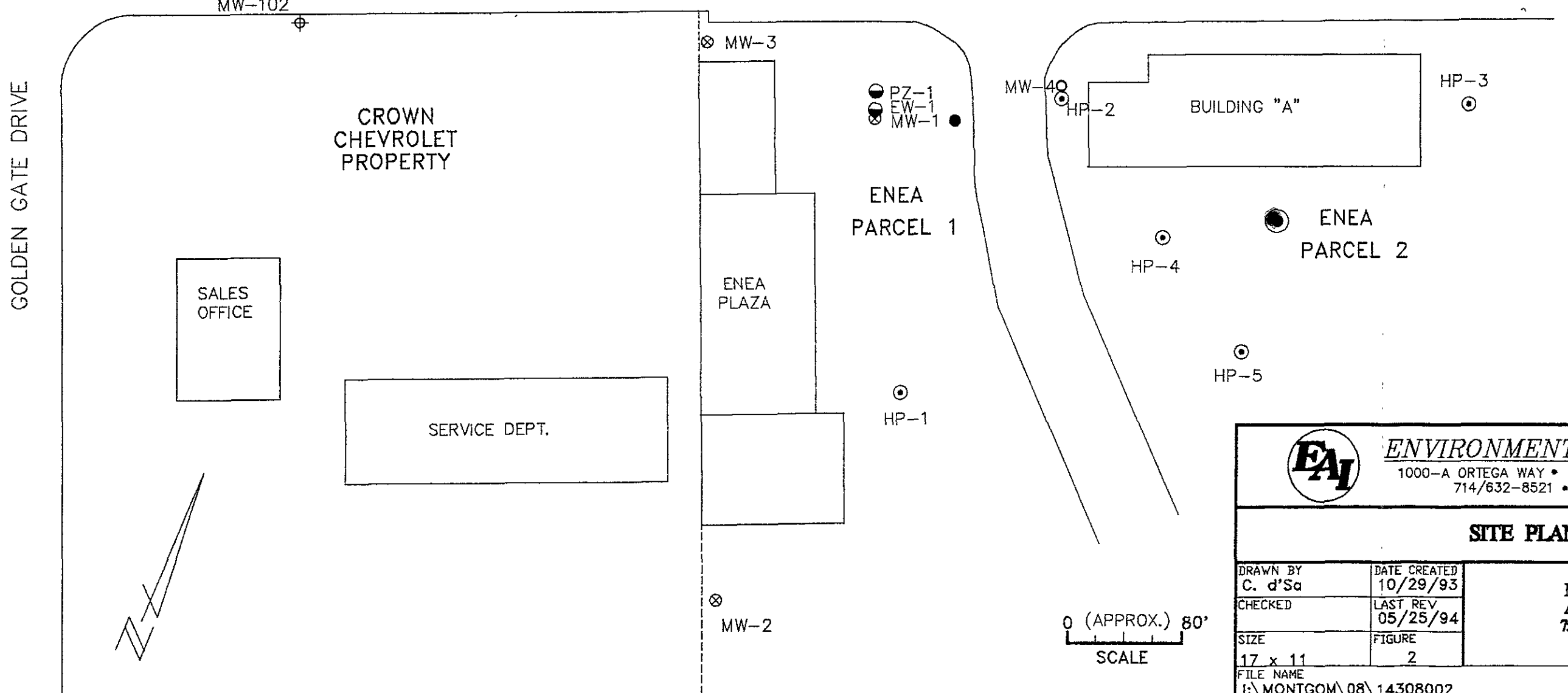
Dublin, California




Figure 1



- EXPLANATION:**
- ⊕ ADS GROUND WATER MONITORING WELL
 - ⊕ EAI GROUND WATER MONITORING WELL
 - ⊕ EAI HYDROPUNCH LOCATION
 - ⊗ HLA GROUND WATER MONITORING WELL
 - ⊙ EPIGENE HYDROPUNCH
 - EPIGENE GROUND WATER MONITORING WELL
 - CYPRESS GROUND WATER MONITORING WELL
 - PROPOSED CPT LOCATION
 - ⊙ PROPOSED CPT WATER SAMPLING LOCATION
- All wells surveyed to the city of Dublin Benchmark No DUB-680 (elevation = 331.60 feet MSL)



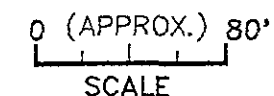
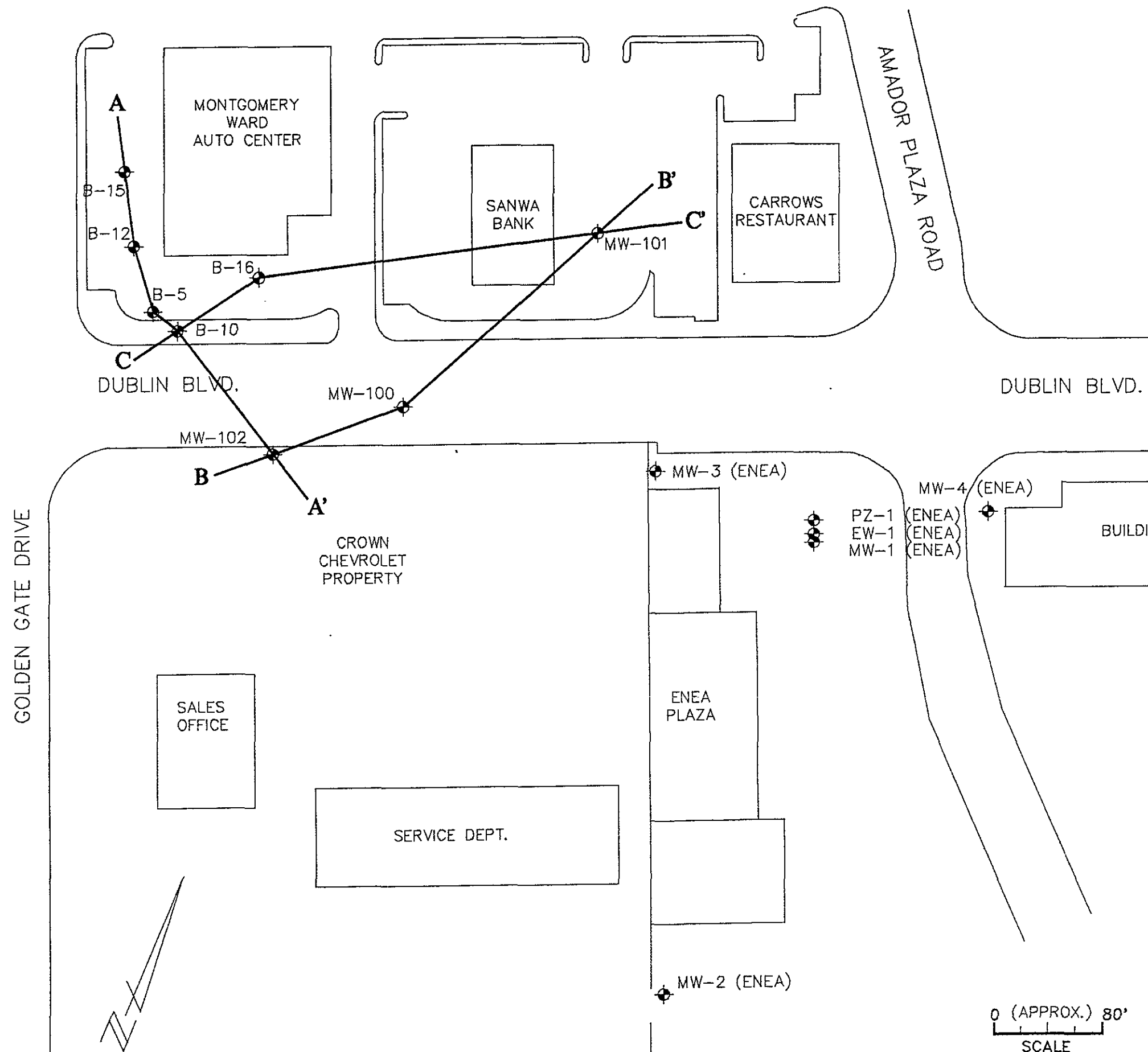
 ENVIRONMENTAL AUDIT, INC. 1000-A ORTEGA WAY • PLACENTIA, CA 92670-7125 714/632-8521 • FAX: 714/632-6754		SITE PLAN	
DRAWN BY C. d'Sa	DATE CREATED 10/29/93	MONTGOMERY WARD AUTO SERVICE CENTER 7575 DUBLIN BOULEVARD DUBLIN, CALIFORNIA	
CHECKED	LAST REV 05/25/94		
SIZE 17 x 11	FIGURE 2		
FILE NAME I:\MONTGOM\08\14308002			


EXPLANATION:

MW-1  GROUND WATER MONITORING WELL LOCATION

NOTES:

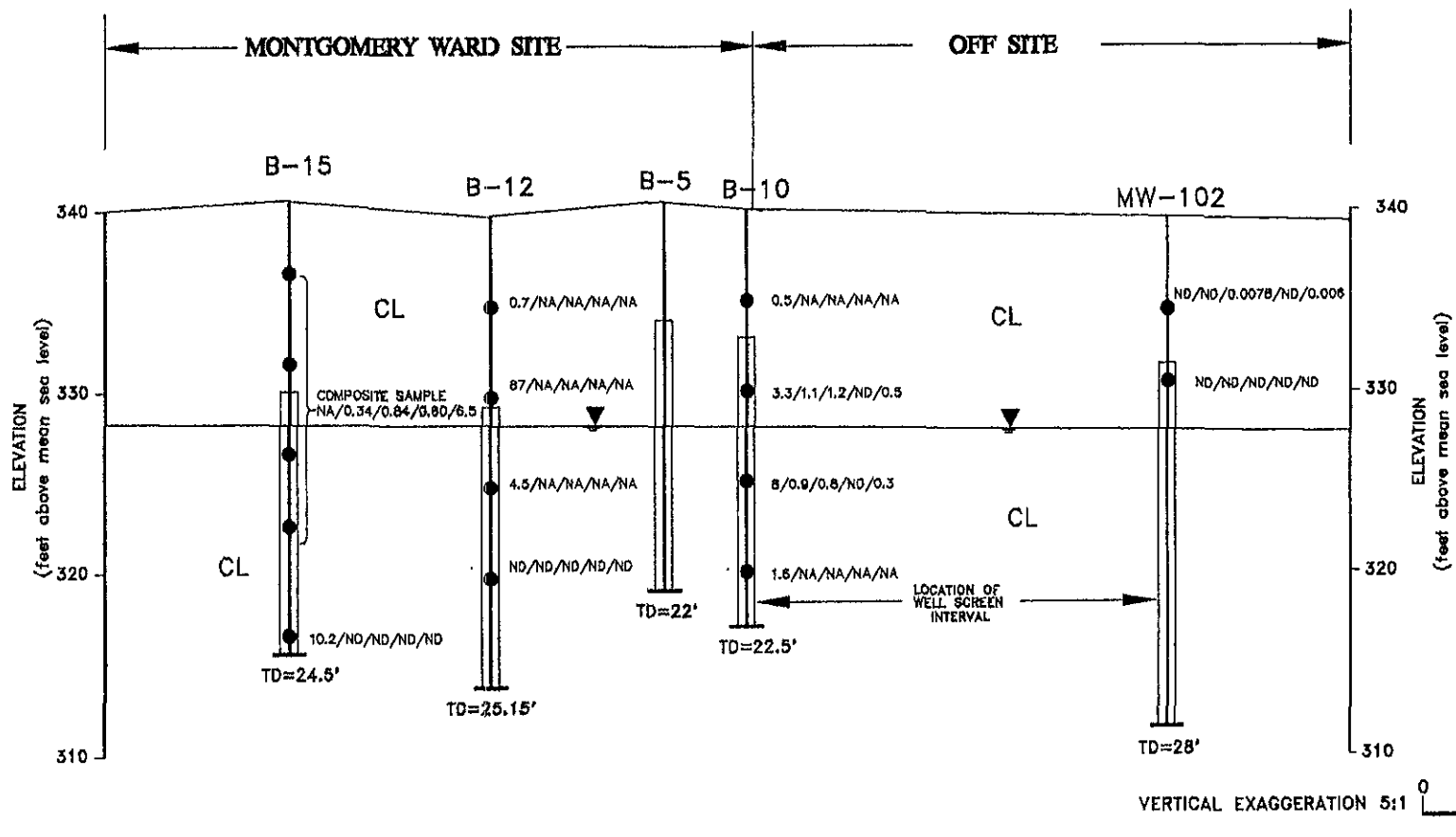
- All wells surveyed to the city of Dublin Benchmark No DUB-680 (elevation = 331.60 feet MSL)
- Wells MW-1, MW-2, MW-3, PZ-1 & EW-1 belong to ENEA Properties.



 ENVIRONMENTAL AUDIT, INC. 1000-A ORTEGA WAY • PLACENTIA, CA 92670-7125 714/632-8521 • FAX: 714/632-6754		MONTGOMERY WARD AUTO SERVICE CENTER 7575 DUBLIN BOULEVARD DUBLIN, CALIFORNIA
DRAWN BY C.P.D.	DATE CREATED 10/29/93	
CHECKED F.S.M.	LAST REV 04/28/94	
SIZE 17 x 11	FIGURE 3	
FILE NAME I:\MONTGOM\08\14308001		

A
NORTHWEST

A'
SOUTHEAST



VERTICAL EXAGGERATION 5:1
HOR. SCALE 0 50'

EXPLANATION:

- CH - CLAY, HIGH PLASTICITY
- CL - SILTY CLAY, LOW PLASTICITY
- ND - NOT DETECTED
- NA - NOT ANALYZED
- ▼ - WATER TABLE (01-13-94)
- - SOIL SAMPLE LOCATION

CONSTITUENTS SHOWN: TPH/B/T/E/X (parts per million)

- TPH = TOTAL PETROLEUM HYDROCARBONS
- B = BENZENE
- T = TOLUENE
- E = ETHYLBENZENE
- X = XYLENES



ENVIRONMENTAL AUDIT, INC.

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

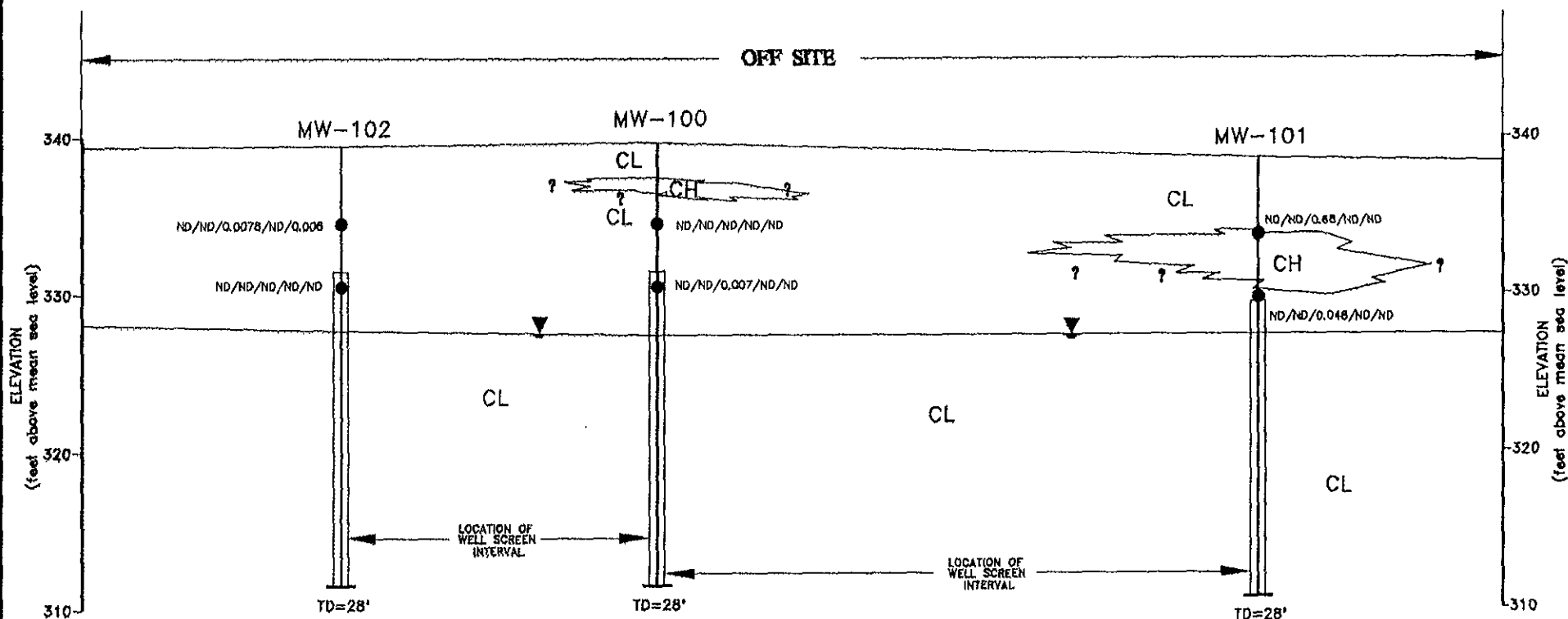
CROSS SECTION A-A'

DRAWN BY M.C.	DATE CREATED 03/11/94
CHECKED B.H.M.	LAST REV 05/06/94
SIZE 11 x 8.5	FIGURE 4
FILE NAME I:\MONTGOM\08\14308008	

MONTGOMERY WARD
AUTO SERVICE CENTER
DUBLIN, CALIFORNIA

B
SOUTHWEST

B'
NORTHEAST



EXPLANATION:

- CH - CLAY, HIGH PLASTICITY
- CL - SILTY CLAY, LOW PLASTICITY
- ND - NOT DETECTED
- ▽ - WATER TABLE (01-13-94)
- - SOIL SAMPLE LOCATION

CONSTITUENTS SHOWN: TPH/B/T/E/X (parts per million)

- TPH = TOTAL PETROLEUM HYDROCARBONS
- B = BENZENE
- T = TOLUENE
- E = ETHYLBENZENE
- X = XYLENES



ENVIRONMENTAL AUDIT, INC.

1000-A ORTEGA WAY • PLACENTIA, CA 92670-7125
714/832-8821 • FAX: 714/632-6754

CROSS SECTION B-B'

DRAWN BY M.C.	DATE CREATED 03/14/94
CHECKED B.H.M.	LAST REV 04/29/94
SIZE 11 x 8.5	FIGURE 5
FILE NAME I:\MONTGOM\08\14308008	

MONTGOMERY WARD
AUTO SERVICE CENTER
DUBLIN, CALIFORNIA

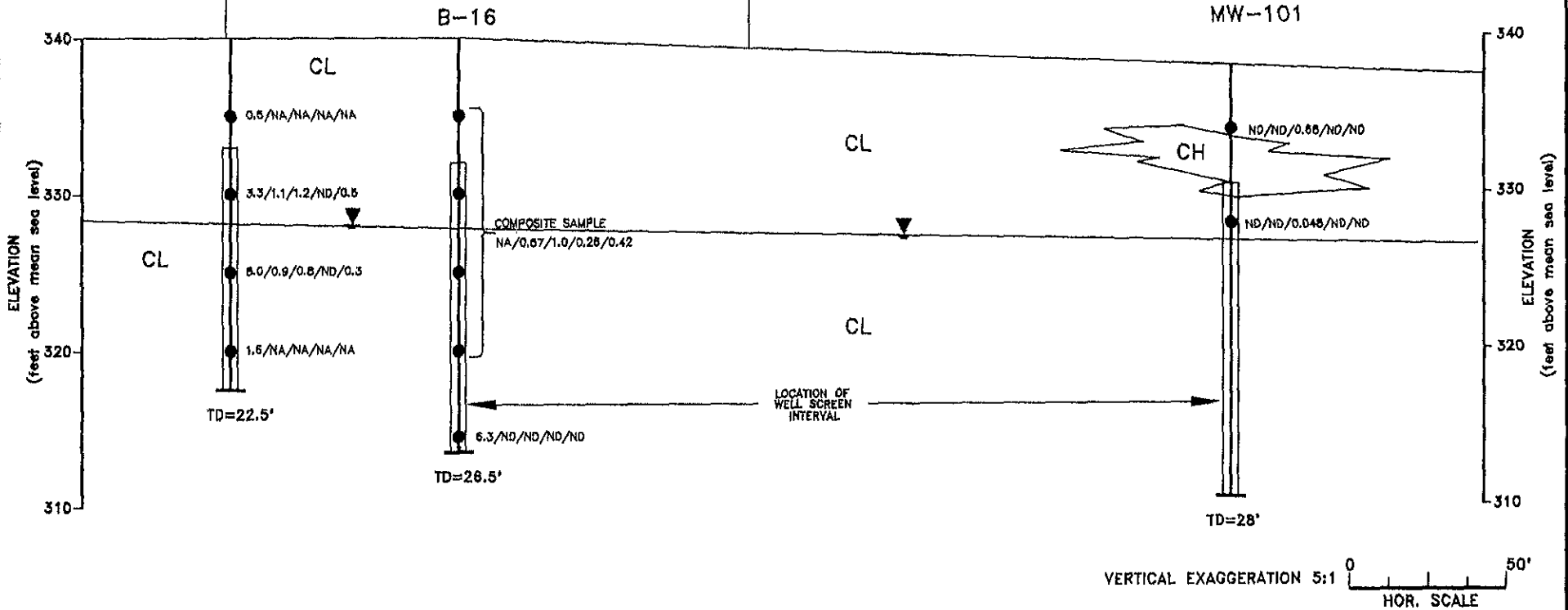
C
WEST

B-10

MONTGOMERY WARD SITE

OFF SITE

C'
EAST



EXPLANATION:

- CH - CLAY, HIGH PLASTICITY
- CL - SILTY CLAY, LOW PLASTICITY
- ND - NOT DETECTED
- NA - NOT ANALYZED
- ▽ - WATER TABLE (01-13-94)
- - SOIL SAMPLE LOCATION

CONSTITUENTS SHOWN: TPH/B/T/E/X (parts per million)

- TPH = TOTAL PETROLEUM HYDROCARBONS
- B = BENZENE
- T = TOLUENE
- E = ETHYLBENZENE
- X = XYLENES



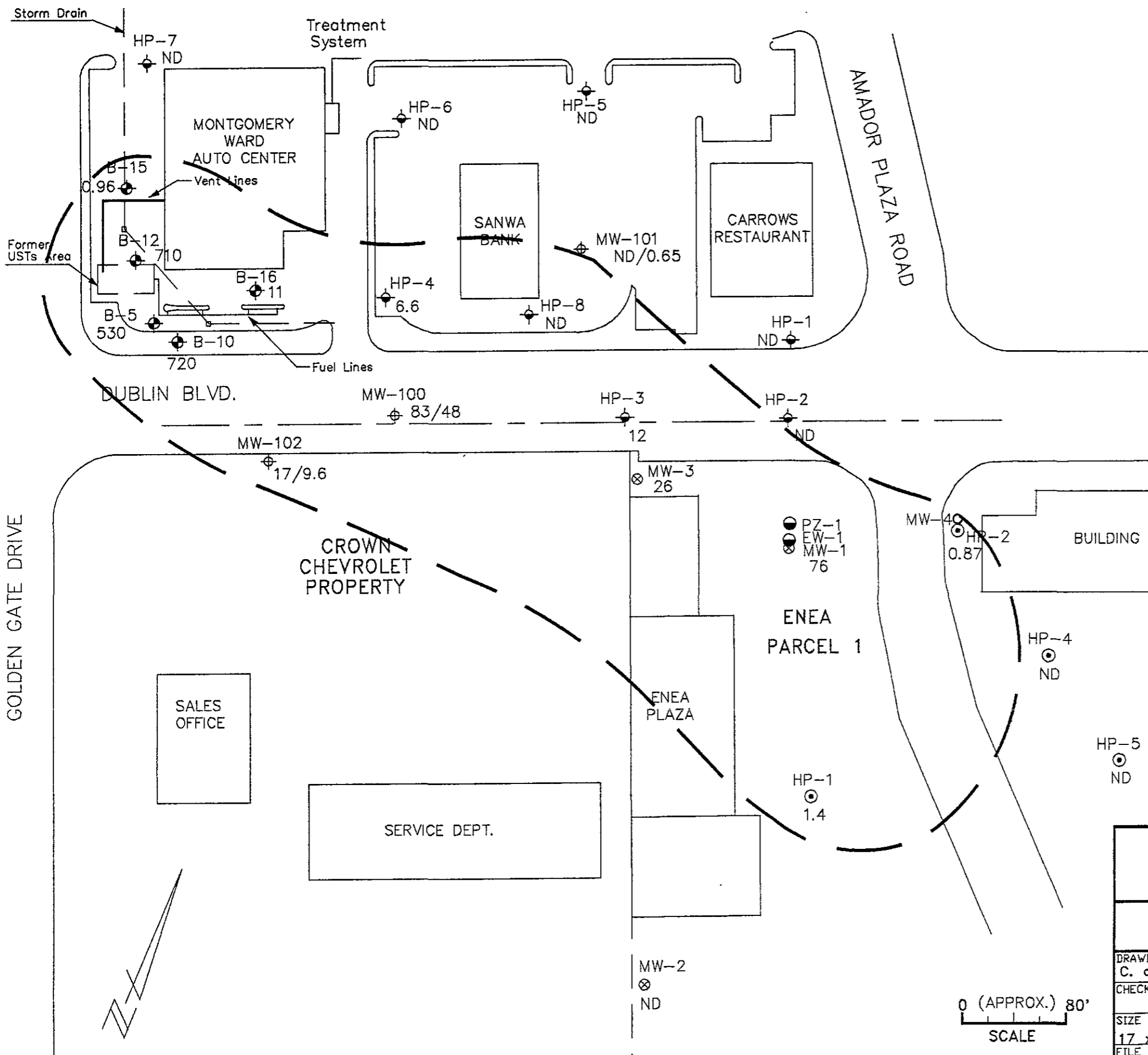
ENVIRONMENTAL AUDIT, INC.

1000-A ORTEGA WAY • PLACENTIA, CA 92670-7126
714/632-8521 • FAX: 714/632-6754

CROSS SECTION C-C'

DRAWN BY M.C.	DATE CREATED 03/14/94
CHECKED B.H.M.	LAST REV 05/06/94
SIZE 11 x 8.5	FIGURE 6
FILE NAME I:\MONTGOM\08\14308010	

**MONTGOMERY WARD
AUTO SERVICE CENTER
DUBLIN, CALIFORNIA**



- EXPLANATION:**
- ⊕ ADS GROUND WATER MONITORING WELL
Oct. 13 & 14, 1993*
 - ⊕ EAI GROUND WATER MONITORING WELL
May 13 & 14, 1993*/Oct. 13 & 14, 1993*
 - ⊕ EAI HYDROPUNCH LOCATION
May 5 & 6, 1993*
 - ⊗ HLA GROUND WATER MONITORING WELL
Oct. 13 & 14, 1993*
 - ⊙ EPIGENE HYDROPUNCH
Aug. 11, 1993*
 - EPIGENE GROUND WATER MONITORING WELL
 - CYPRESS GROUND WATER MONITORING WELL
 - ~ ESTIMATED LIMIT OF BENZENE
- * Denotes Date Ground Water Sample was Obtained
- All wells surveyed to the city of Dublin Benchmark No DUB-680 (elevation = 331.60 feet MSL)
- Concentration in parts per billion (ppb).

DUBLIN BLVD.

HP-3
ND

ENE A PARCEL 2

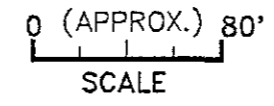
HP-5
ND

EAI ENVIRONMENTAL AUDIT, INC.
1000-A ORTEGA WAY • PLACENTIA, CA 92670-7125
714/632-8521 • FAX: 714/632-6754

ESTIMATED EXTENT OF DISSOLVED BENZENE IN GROUND WATER

DRAWN BY C. d'Sa	DATE CREATED 10/29/93
CHECKED	LAST REV 05/06/94
SIZE 17 x 11	FIGURE 7
FILE NAME I:\MONTGOM\08\14308004	

**MONTGOMERY WARD
AUTO SERVICE CENTER
7575 DUBLIN BOULEVARD
DUBLIN, CALIFORNIA**



MW-2
ND

HP-1
1.4

HP-4
ND

MW-40
HP-2
0.87

PZ-1
EW-1
MW-1
76

ENE A PARCEL 1

ENE A PLAZA

MW-100
83/48

MW-102
17/9.6

CROWN CHEVROLET PROPERTY

SALES OFFICE

SERVICE DEPT.

DUBLIN BLVD.

GOLDEN GATE DRIVE

AMADOR PLAZA ROAD

MONTGOMERY WARD AUTO CENTER

SANWA BANK

CARROWS RESTAURANT

Treatment System

Storm Drain

Former USTs Area

Fuel Lines

Vent Lines

HP-7
ND

HP-6
ND

HP-5
ND

HP-4
6.6

HP-8
ND

HP-1
ND

HP-3
12

HP-2
ND

B-15
C.96

B-12
710

B-5
530

B-10
720

B-16
11

MW-101
ND/0.65

MW-3
26

MW-2
ND

