

# ***ENVIRONMENTAL AUDIT, INC.***®

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

714/632-8521 • FAX: 714/632-6754

April 28, 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, CA**


Dear Mr. Arulanantham:

Pursuant to your request, enclosed herewith are extra copies of our work plan for additional site assessment activities, dated March 17, 1993 and letter regarding the revised locations of the proposed hydropunches, dated March 26, 1993, for the Montgomery Ward Auto Service Center, Dublin, California.

As you already know, field activities for the additional assessment is scheduled to begin on Tuesday, May 4, 1993. Please call me if you have any questions or need additional information.

Sincerely,

ENVIRONMENTAL AUDIT, INC.

  
Jimmy L. Avancena  
Project Geologist

JLA:SAB:ss

enclosures

cc: C. West, Montgomery Ward (w/o enclosure)  
G. Jonas, Montgomery Ward (w/o enclosure)  
S. Sommerhalter, Buchalter, et. al., (w/o enclosure)

JLA:WORD:MWDUB-1



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## **FILE COPY**

March 17, 1993

Project No. 1233

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

**RE: WORK PLAN FOR ADDITIONAL ASSESSMENT ACTIVITIES  
Montgomery Ward Auto Service Center  
7575 Dublin Boulevard, Dublin, CA**

Dear Mr. Arulanantham:

Enclosed herewith for your review and approval is a copy of our report titled "Work Plan for Additional Assessment Activities, Montgomery Ward Auto Service Center, 7575 Dublin Boulevard, Dublin, California", dated March 17, 1993. Montgomery Ward is prepared to initiate the field work outlined in the plan within 30 days of receipt of all permits/approvals.

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

Sincerely,

ENVIRONMENTAL AUDIT, INC.

Frank S. Muramoto, R.G.  
Senior Geologist

FSM:SAB:ss

enclosure

cc: C. West, Montgomery Ward (w/enclosure)  
P. Delk, Montgomery Ward (w/enclosure)  
S. Sommerhalter, Buchalter, et. al., (w/enclosure)

SAB:WORD:1233-006.DOC

bcc: Mark Gilmartin

**WORK PLAN FOR ADDITIONAL ASSESSMENT ACTIVITIES**  
**Montgomery Ward Auto Service Center**  
**7575 Dublin Boulevard**  
**Dublin, California**

**Project No. 1233**

**March 17, 1993**



***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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- Figure 1: Location Map
- Figure 2: Site Plan
- Figure 3: Chain of Custody Record Form
- Figure 4: Monitoring Well Construction Details

**WORK PLAN FOR ADDITIONAL ASSESSMENT ACTIVITIES**  
**Montgomery Ward Auto Service Center**  
**7575 Dublin Boulevard**  
**Dublin, California**

**1.0 INTRODUCTION**

Montgomery Ward & Co., Incorporated (Montgomery Ward) retained Environmental Audit, Inc. (EAI) to prepare a work plan for additional assessment activities associated with the former operation of underground tanks (USTs) removed in 1988 from 7575 Dublin Boulevard, Dublin, California (see Figure 1). A ground water extraction and treatment system is operated at the site by Montgomery Ward. The purpose of the investigation is to provide additional information on the extent of hydrocarbons in soil and ground water.

The scope of the investigation will consist of: 1) drilling, logging, constructing and sampling four ground water monitoring wells; 2) advancing six hydropunches; 3) collecting soil and ground water samples for analytical testing; 4) analytical testing of soil and ground water samples for total petroleum hydrocarbons (TPH), and benzene, toluene, xylenes and ethylbenzene (BTXE); and 5) preparing a report presenting the findings of the investigation.

**2.0 PROPOSED FIELD WORK**

All work will be conducted under the supervision of an EAI California registered civil engineer and/or geologist experienced in conducting subsurface (hydrogeologic) contaminant investigations. A copy of EAI's Health and Safety Plan for this investigation is available upon request. All of the approvals/permits required to complete the investigation will be obtained prior to initiating drilling and sampling activities.

**2.1 DRILLING AND SOIL SAMPLING**

Montgomery Ward proposes to drill, log and sample four borings as approximately shown on Figure 2. Since all of the borings will be converted to ground water monitoring wells, and since ground water at the site is encountered at approximately 10 feet below grade surface (bgs), the planned termination depth of each boring is 30 feet bgs. The borings will be drilled by a California licensed C-57 Water Well Driller, under the supervision of EAI staff, using 8-inch diameter continuous flight hollow augers. The borings will be logged in accordance with the Unified Soil Classification System.

Soil samples will be obtained from the borings beginning at approximately five feet bgs and at approximately five-foot intervals thereafter, until termination. The samples will be collected using six 2.5-inch diameter by 3-inch long brass tubes mounted within a 2.5-inch inside diameter split-spoon drive sampler employed in advance of the augers. After sample recovery, the ends of the lowermost 3-inch long tube will be covered with aluminum foil and plastic caps taped over the ends. Prior to use, all tubes will be washed in a solution of Alconox detergent and tap water, rinsed with tap water and then rinsed with distilled water. The samples will be labeled with the sample point identification, depth interval, EAI project number, time and date, individually sealed in "Ziploc" plastic bags, and

immediately placed into an ice chest chilled using frozen blue ice or crushed ice. The samples will be kept chilled until delivered to the laboratory for analytical testing. All samples will be logged on a chain of custody record form (see Figure 3).

A HNU Model DL-101 photoionization detector (PID) calibrated against an isobutene standard (or equivalent instrument) will be used on the soil contained in the second tube from the bottom of the shoe, at each sampling interval within the borings, to determine if volatile hydrocarbon vapors are emanating directly from the soil. Each sample will be placed in an airtight "Ziploc" plastic bag. The sample will be allowed to sit in the sun for approximately five minutes, and then the head space in the plastic bags will be analyzed using the PID. The results of this field testing will be recorded on the boring logs.

## 2.2 GROUND WATER MONITORING WELL CONSTRUCTION

The four borings associated with this investigation will be converted to four-inch diameter polyvinyl chloride (PVC) ground water monitoring wells. All well casing materials will be steam cleaned prior to use. The wells will be constructed of a slotted section (0.02-inch x 2-inch slots) which will extend approximately 20 feet below the water table and 5 feet above the highest anticipated fluid level. However, in the event that a laterally extensive clay layer is encountered below the water table that is at least 5 feet thick, the wells will be terminated one-to-two feet into the clay layer. The annular space between the borehole wall and the well casing will be backfilled with grade #3 Monterey sand to about two feet above the slotted section. A 1.5-foot thick layer of hydrated bentonite will be placed on top of the sand pack, and the remaining annular space grouted to the surface. Lockable well monuments will be placed on all well heads and installed to prevent sheet flow from entering the wells. Figure 4 is a cross section of a typical shallow ground water monitoring well.

The wells will be allowed to set after construction at least 24 hours, prior to initiating development activities. The wells will be developed until the water is relatively free of settleable solids. A survey also will be completed to determine well elevations. Well elevations will be determined using an established or arbitrary reference datum.

Prior to purging and sampling activities, depth measurements to fluid levels will be obtained from the wells using an interface probe accurate to 0.01 feet. The obtained water level measurements will be converted to mean sea level (MSL) data by subtracting the measured water level from the ground level datum for each well. These data will be used to construct a ground water elevation map.

Prior to sampling, approximately four well volumes of water will be purged from each well. Temperature, pH and conductivity will be recorded to evaluate the effectiveness of purging activities. The water samples will be collected from just below the water surface using Voss Technologies' disposable bottom bailers equipped with volatile organic compound samplers. Use of these samplers precludes the potential for cross contamination. The samples will be sealed in 40-milliliter (ml) VOA vials with Teflon septa lined lids. Each vial will be completely filled so that no head space exists between the sample and the lid. The samples will be labeled, handled and transported as described in Section 3.1.

## 2.3 HYDROPUNCHES

Six two-inch diameter hydropunches will be advanced as approximately shown on Figure 2 to depths of 10 to 15 feet bgs to allow for the collection of ground water samples. The hydropunches will be allowed to stabilize for approximately two hours. Then, pursuant to Alameda County Department of Environmental Health (County) requirements, three casing volumes of water will be removed prior to collecting a sample for analytical testing. The samples will be labeled, handled and transported as described in Section 3.1.

The boreholes will be backfilled from termination depth to grade using a ten to one ratio of cement to water with three to five percent bentonite added.

## 2.4 SAMPLING EQUIPMENT CLEANING PROTOCOL

The augers will be steam cleaned prior to the drilling of each boring. The drive sampler will be disassembled and decontaminated prior to each sampling by the following procedure:

- All excess soil will be scraped off the sampler parts;
- The sampler will be washed in a solution of Alconox detergent and tap water; and
- The sampler will be rinsed with tap water and then distilled water.

The submersible pump and hose system (equipment) used only to develop and purge the wells will be decontaminated using the following procedure:

- The equipment will be flushed in a solution of Alconox detergent and tap water;
- The equipment will be flushed with tap water; and
- The equipment will be flushed with distilled water.

## 2.5 EFFLUENT HANDLING

All effluent generated during the course of the investigation, e.g., development and purge water, soil cuttings and decontamination fluids will be sealed in labelled 55-gallon drums which will be transported to the site. The drums will remain on the site pending the results of the analytical testing, at which time the appropriate disposal method will be determined.

## 2.6 QUALITY CONTROL SAMPLES

In addition to the quality assurance and quality control procedures previously described herein, two types of blanks (trip and equipment) will be prepared and obtained to determine whether sample collection and handling procedures affected the quality of samples. The analytical laboratory will not be informed that these samples are blanks.

### 3.0 PROPOSED ANALYTICAL TESTING

The soil and ground water samples will be delivered for analytical testing to Sequoia Analytical, a state certified hazardous waste testing laboratory, located in Concord, California. The laboratory is certified for all tests to be completed as part of this investigation. Sequoia will be instructed to use minimum detection limits for all tests.

#### 3.1 SOIL SAMPLES

Unsaturated zone contamination is not anticipated to be encountered during this investigation. However, soil samples at 5 feet bgs and at the soil/water interface (capillary fringe) from each of the four borings drilled as part of this investigation will be analytically tested for TPH using modified EPA Method 8015, and BTXE using EPA Method 8020.

#### 3.2 GROUND WATER SAMPLES/BLANKS

The ground water samples and blanks will be analytically tested for TPH using modified EPA Method 8015, and BTXE using EPA Method 602. In the event that free-product is encountered in any of the wells, a sample of the free-product will be obtained and tested by simulated distillation to determine its chemical composition.

### 4.0 PROPOSED PROCEDURE

After receipt of written approval from the County of this plan, the procedure (steps) to be implemented by EAI are as follows:

- Contact Underground Service Alert regarding the proposed drilling;
- Obtain the permits/approvals needed from other agencies/property owners to complete the investigation;
- Drill and sample the borings and hydropunches;
- Analytically test samples; and
- Prepare and submit a written report.

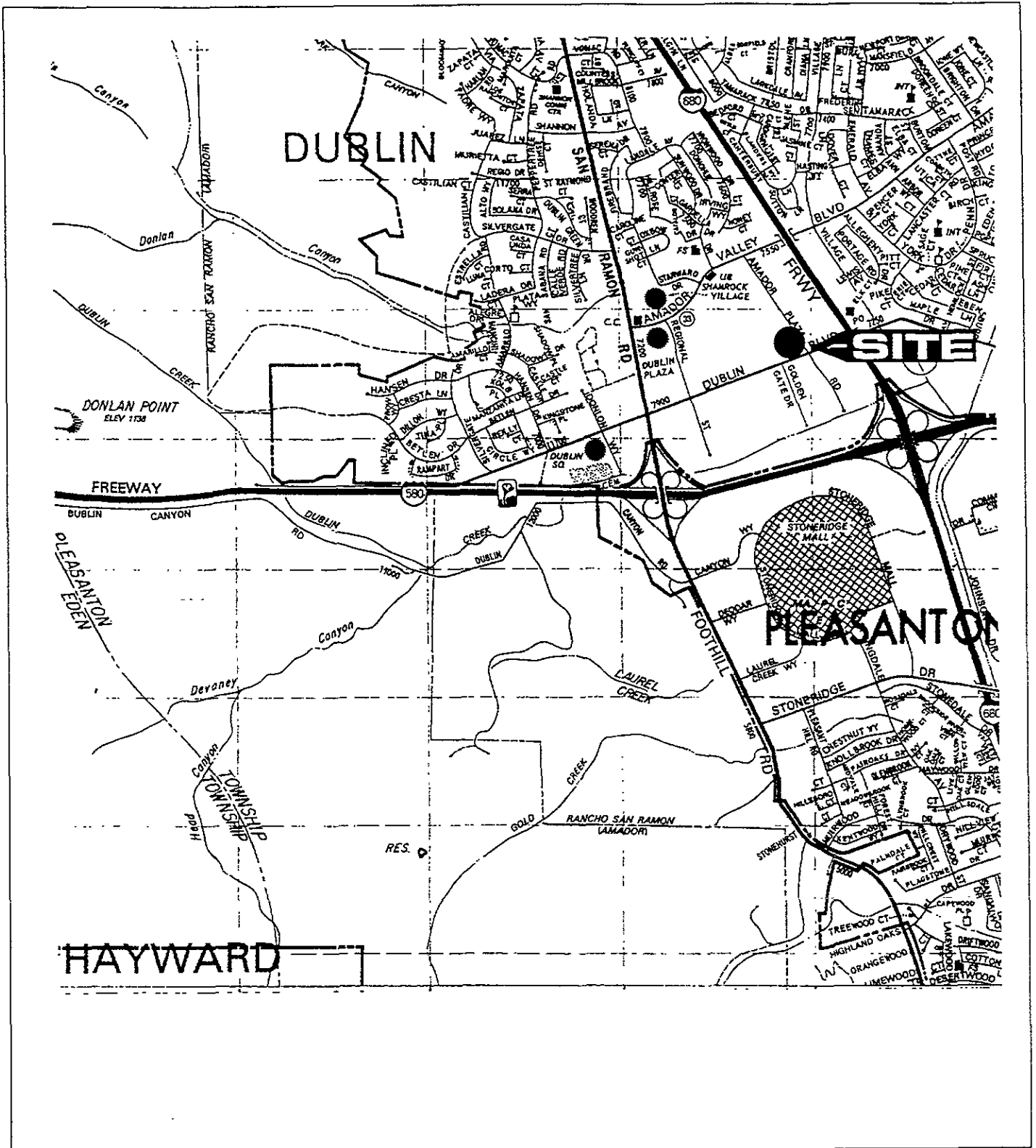
Montgomery Ward has instructed EAI to initiate drilling activities within 30 days of receipt of all the permits/approvals needed to complete this investigation. It will take about 5 days to drill, construct and sample the wells, another 14 days for the laboratory to complete the analytical testing of the samples and another 20 to 30 days for EAI to review and evaluate the data and prepare a written report presenting the findings of this investigation. EAI will notify Alameda County at least 72 hours in advance of initiating drilling activities.

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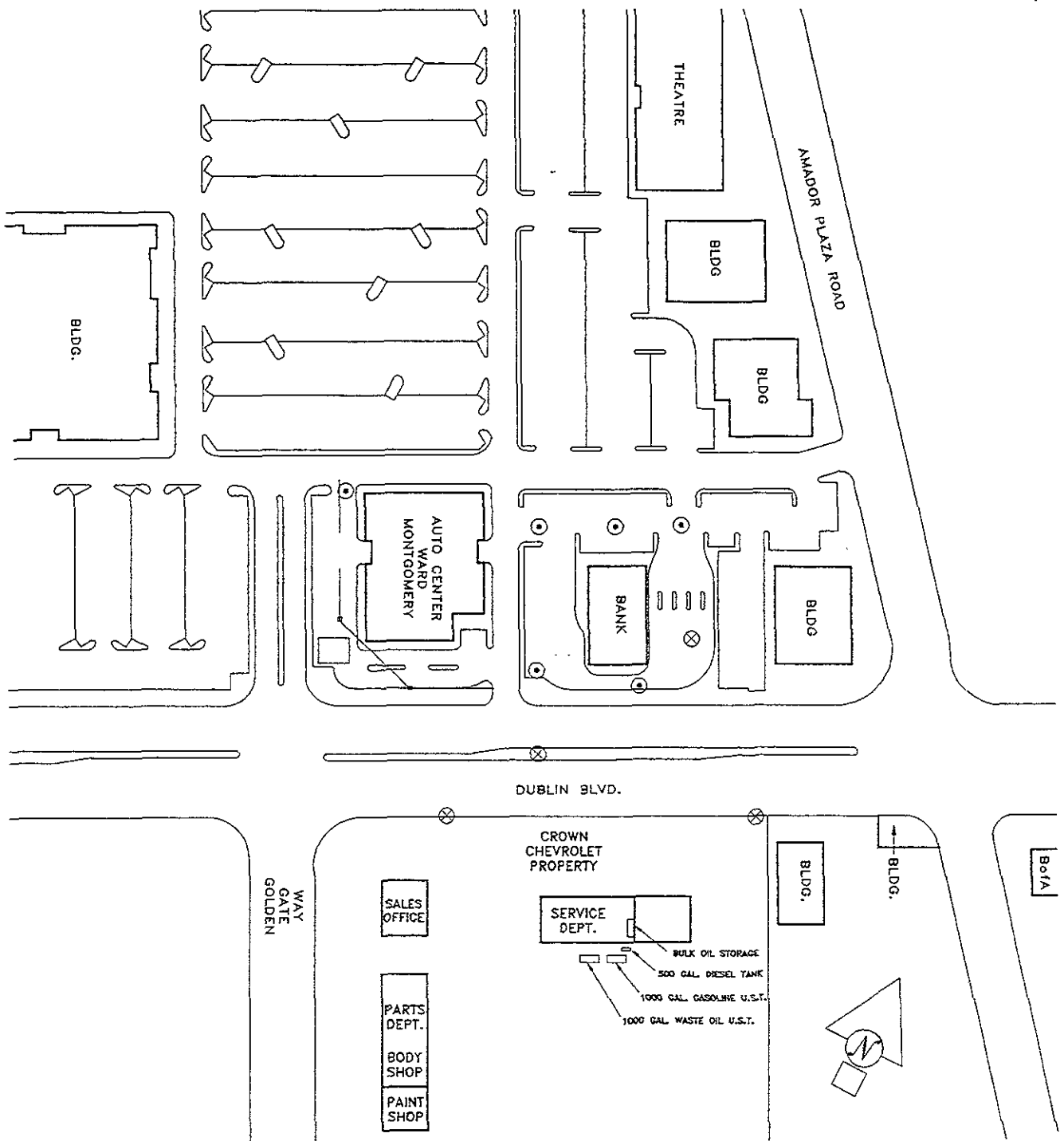


Environmental Audit, Inc.®

LOCATION MAP  
 Montgomery Ward  
 7575 Dublin Blvd.  
 Dublin, California

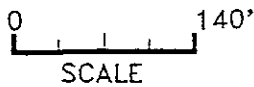



Figure 1



EXPLANATION

- ⊗ PROPOSED MONITORING WELL
- ⊙ PROPOSED HYDROPUNCH



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<b>MONTGOMERY WARD DUBLIN, CA</b>	
DRAWN BY P. Leets CHECKED SIZE 8.5 x 11 FILE NAME E:\MONTGOM\08\14308006	DATE CREATED 01/25/93 LAST REV 03/15/93 FIGURE 2
<b>SITE PLAN</b>	



