ALCO
HAZMAT

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Chevron

Chevron U.S.A. Products Company
2410 Camino Ramon
San Ramon, CA 94583
P.O. Box 5004
San Ramon, CA 94583-0804

Marketing Department
Phone 510 842 9500

January 20, 1994

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

Re : Former Chevron Service Station No. 9-2621
7667 Amador Valley Blvd., Dublin, CA 94568

Dear Ms. Chu :

Enclosed is RESNA's workplan dated January 18, 1994. Please review the enclosed work plan on the additional investigation you requested. If you have no objections, please send a written letter approving the work plan. If you have any questions or comments, please call me at (510) 842-8752.

Sincerely,

Chevron U.S.A. Products Co.

Kenneth Kan
Engineer

LKAN/MacFile 9-2621R6

cc : Mr. Richard Hiett
RWQCB-S.F.Bay Region
2101 Webster Street, Suite 500
Oakland, CA 94612

Mr. Jerry Lemm
J. L. Lemm & Associates
5506 Sunol Blvd., Suite 203
Pleasanton, CA 94566-7779

Ms. Bette Owen
Chevron U.S.A. Products Co.

1) consider 4" MW-5

2) If ~~MW~~ B-10 has ab vens contam, can it be turned into MW ?

3) check HP conc.

JAN 20 '94 KLN

RESNA
Working to Restore Nature

73 Digital Drive
Novato, CA 94949
Phone. (415) 382-7400
Fax· (415) 382-7415

WORK PLAN
for
SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

Former Chevron Service Station No. 9-2621
7667 Amador Valley Boulevard
Dublin, California

Prepared for

Mr. Kenneth Kan
Chevron U.S.A. Products Company
P.O. Box 5004
San Ramon, California 94583

by
RESNA Industries Inc.
73 Digital Drive
Novato, California
94949

Erich A. Neupert
Staff Geologist

REGISTERED GEOLOGIST
MICHAEL L. SIEMBIEDA
No: 4007
STATE OF CALIFORNIA

Michael L. Siembieda, R.G. 4007
Geoscience Manager

January 18, 1994

RESNA
Working to Restore Nature

73 Digital Drive
Novato, CA 94949
Phone: (415) 382-7400
Fax: (415) 382-7415

January 18, 1994

Mr. Kenneth Kan
Chevron U.S.A. Products Company
P.O. Box 5004
San Ramon, California 94583

Subject: Executive Summary of Work Plan
Supplemental Environmental Assessment
Former Chevron Service Station No. 9-2621,
7667 Amador Valley Boulevard, Dublin, California.

Mr. Kan:

At the request of Chevron U.S.A. Products Company (Chevron), RESNA Industries Inc. (RESNA) has prepared this work plan to evaluate soil and groundwater conditions downgradient of former underground storage tanks (USTs) at the above referenced site. Chevron requested that RESNA perform this investigation after hydrocarbons were detected in soil and groundwater during previous environmental work at the site.

Specific tasks associated with the investigation include the following:

- Updating the site safety plan and obtaining appropriate drilling permits.
- Engaging a utility locator service prior to drilling at the site.
- Providing traffic control.
- Drilling one onsite and one offsite soil boring into first encountered groundwater; collecting soil samples from the borings at five-foot intervals, where subjective evidence of hydrocarbons is observed, at obvious changes in sediment type, and from just above groundwater;
- Constructing a 2-inch-diameter monitoring well in the onsite boring and constructing a 2-inch-diameter temporary well in the offsite boring.

- Collecting groundwater samples from the temporary well and then grouting the boring to the ground surface.

- Developing, purging and sampling the newly installed groundwater monitoring well.

- Submitting selected soil and groundwater samples to Chevron's contracted laboratory for analysis.

- Contracting a licensed land surveyor to survey the tops of casing relative to mean sea level of the newly installed well and one existing well.

- Preparing a report summarizing our field and laboratory procedures and findings.

We recommend signed copies of this work plan be forwarded to:

Ms. Eva Chu,
Alameda County Health Agency, Division of Hazardous Materials
Department of Environmental Health
80 Swan Way, Room 200, Oakland, California, 94621

and to:

Mr. Richard Hiett
California Regional Water Quality Control Board, San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, California, 94612.

RESNA
Working to Restore Nature

Please call if you have questions regarding this work plan.

Sincerely,
RESNA Industries Inc.

Justin M. Power
Project Manager

Michael L. Siembieda, R.G. 4007
Geoscience Manager

Enclosure: Work Plan: Supplemental Environmental Assessment

RESNA
Working to Restore Nature

73 Digital Drive
Novato, CA 94949
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Fax: (415) 382-7415

WORK PLAN
for
SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

Former Chevron Service Station No. 9-2621
7667 Amador Valley Boulevard
Dublin, California

for

Chevron U.S.A. Products Company

INTRODUCTION

Chevron U.S.A. Products Company (Chevron) requested that RESNA Industries, Inc. (RESNA) prepare this work plan to further evaluate the extent of residual hydrocarbons in soil and the lateral extent of dissolved hydrocarbons in groundwater downgradient of the former underground storage tanks (USTs) at Former Chevron Service Station No. 9-2621 in Dublin, California after previous environmental investigations detected hydrocarbons in soil and groundwater at the site.

BACKGROUND

Former Chevron Station No. 9-2621 is located at 7667 Amador Valley Boulevard in Dublin, as depicted on the Site Vicinity Map (Plate 1). From approximately 1960 to 1976, Chevron operated a service station at the site. In 1976 Chevron removed the service station building, underground storage tanks (USTs), dispenser islands, and associated piping. The approximate locations of the former station facilities, USTs, and other pertinent site features are shown on the Generalized Site Plan (Plate 2). In 1992 RESNA Industries drilled four soil borings at the site (RESNA, November

1992. Project No. F1036.01). Residual hydrocarbons were detected in the soil beneath the site. In March 1993, Pacific Environmental Group (PEG) collected soil and groundwater samples at six temporary well locations onsite. Hydrocarbons were not detected in soil samples collected from the borings. Hydrocarbons were detected in groundwater samples collected from each temporary well location, except from the temporary well located adjacent to the former waste oil underground storage tank. (PEG, April 26, 1993. Project 325-35.01). In September 1993 RESNA Industries drilled two additional onsite and two offsite soil borings and constructed monitoring wells in the borings. Low concentrations of toluene were detected in the soil sample analyzed from onsite boring B-5. Hydrocarbons were not detected in water samples collected from monitoring wells MW-1 through MW-4 (RESNA, November 23,1993).

PROPOSED WORK

This investigation is designed to further evaluate soil and groundwater conditions downgradient of the former USTs for the presence of hydrocarbons. The specific tasks are summarized below and discussed in the sections that follow. RESNA will perform the following tasks:

- Update the site safety plan and obtain appropriate well permits.
- Engaging a utility locator service prior to drilling at the site.
- Providing traffic control.
- Drill one onsite soil boring (B-9) to approximately 17 feet below ground surface, and one offsite soil boring (B-10) to approximately 10 feet below grade. We expect to encounter groundwater at approximately 7 feet below grade. The locations of the proposed soil borings are shown on Plate 2.
- Collect and classify relatively undisturbed soil samples at 5-foot intervals, at obvious changes in soil type, where subjective evidence of hydrocarbons is observed, and just above first encountered groundwater.
- Construct a 2-inch-inner-diameter monitoring wells (MW-5) in boring B-9 and a 2-inch-diameter temporary well in boring B-10.
- Collect a groundwater sample from the temporary well (B-10), remove the well casing and then grout the boring to the surface.
- Develop, purge and sample the newly installed monitoring well MW-5.

- Submit selected soil samples to a laboratory certified by the state of California for analyses of total petroleum hydrocarbons as gasoline (TPHg) using U.S. Environmental Protection Agency (EPA) Method 8015 (modified), for benzene, toluene, ethyl-benzene, and total xylene isomers (BTEX) using EPA Method 8020, and for total organic carbon (TOC) by the California Fertilizer Association Method S 18.0. Groundwater samples will be submitted to a laboratory for analyses for TPHg using EPA Method 8015 (modified), and for BTEX using EPA Method 8020.

- Contract a licensed land surveyor to survey the locations and elevations of the tops of the well casings relative to mean sea level of the newly installed well and one existing well.

- Prepare a report summarizing our field and laboratory procedures and findings.

Site Safety Plan and Permits

A Site-Specific Health and Safety Plan will be prepared by RESNA as required by the Occupational Health and Safety Administration (OSHA) Standard "Hazardous Waste Operations and Emergency Response" guidelines (29 CFR 1910.120). The Site-Specific Health and Safety Plan will be prepared by RESNA personnel, following a complete review of site conditions and any existing Site-Specific Health and Safety Plans for the site with the Project Manager. The document will be reviewed by RESNA personnel and subcontractors performing work at the site. A copy of the Site-Specific Health and Safety Plan will be kept at the work site and will be available for reference by appropriate parties during the work. The RESNA geologist will act as the Site Safety Officer.

Applicable state and local permits related to the work to be performed at the site will be obtained. This will include monitoring well permits, encroachment permits, and access agreements.

Soil Borings and Sampling

RESNA will contact Underground Services Alert before drilling to help locate public utility lines at the site. RESNA will hand auger boring locations to a depth of approximately 3 feet to 5 feet before drilling to reduce the risk of damaging underground structures. Locations of the proposed soil borings and monitoring and temporary wells are shown on Plate 2. Chevron selected the soil

boring locations to further evaluate if gasoline hydrocarbons are present in soil and whether dissolved hydrocarbons are present in groundwater off-site downgradient of the former UST location.

Soil borings will be drilled with a B-53 (or similar) Mobile drill rig equipped with 8-inch-diameter, hollow-stem augers. Augers and sampling equipment will be steam cleaned before use and between borings to minimize the possibility of crosshole contamination. The rinseate will be transferred to RESNA's purge water trailer and taken to Chevron's Richmond, California refinery for recycling. Drilling will be performed under the observation of a geologist, and the earth materials in the borings will be classified while drilling using the visual and manual methods according to the Unified Soil Classification System.

RESNA expects to drill soil boring B-9 to approximately 17 feet below grade, and soil boring B-10 to approximately 10 feet below grade. The soil boring for the monitoring well will be drilled to approximately 10 feet below the first-encountered groundwater or at least 5 feet into any confining layer encountered beneath the uppermost water-bearing zone, and the soil boring for the temporary well will be drilled to approximately 4 feet below first-encountered groundwater. If a confining layer is encountered, the boring will be terminated and backfilled with bentonite to the top of the confining layer before installing a groundwater monitoring well. During drilling soil samples will be collected every 5 feet, at obvious changes in soil stratigraphy, at obvious signs of hydrocarbons, and just above groundwater. Samples will be collected with a California-modified, split-spoon sampler equipped with laboratory-cleaned brass sleeves. Samples will be collected by advancing the auger to a point just above the sampling depth and driving the sampler into the soil. The sampler will be driven 18 inches with a standard 140-pound hammer repeatedly dropped 30 inches. The number of blows required to drive the sampler each successive 6-inch interval will be counted and recorded to give an indication of soil consistency.

Soil samples will be monitored with a photoionization detector (PID), which measures hydrocarbon concentrations in the ambient air or headspace above the soil sample. Field instruments such as the PID are useful for indicating relative levels of volatile hydrocarbons, but do not detect concentrations of hydrocarbons with the same precision as laboratory analyses. Soil samples selected for possible chemical analysis will be sealed promptly with aluminum foil, plastic caps, and duct tape. The samples will be labeled and placed in iced storage for transport to the

laboratory. Chain of Custody Records will be initiated by the geologist in the field, updated throughout handling of the samples, and sent with the samples to the laboratory. Copies of these records will be included in the final report. Cuttings generated during drilling will be stored on plastic sheeting pending characterization and disposal. The drill cuttings will be removed to an appropriate disposal facility by a contractor selected by Chevron upon receipt of analytic results.

Well Construction

Monitoring well MW-5 will be constructed of thread-jointed, 2-inch-inner-diameter, Schedule 40 polyvinyl chloride (PVC) casing in borings B-9. No chemical cements, glues, or solvents will be used in well construction. The screened portion of each well will consist of factory-perforated casing with 0.020-inch-wide slots. We expect that the well screen will be installed from the total depth of the well to approximately 4 feet below grade. The well screen for the monitoring well will be installed approximately five feet above (or in such a way as to allow for a proper surface seal) and ten feet below the current water table to permit entry of separate-phase hydrocarbons, if present, and to allow for fluctuations in the groundwater elevation. Unperforated casing will be installed from the top of the screen to the ground surface. The annular space in the well will be packed with #3 sand to approximately 1 foot above the slotted interval. A bentonite plug will be constructed above the sand pack to prevent cement from entering the filter pack. The remaining annulus will be backfilled to grade with a slurry of cement and bentonite powder. The monitoring well will be protected with traffic-rated, cast-aluminum utility boxes equipped with PVC skirts. The box has a seal to minimize surface-water infiltration and must be opened with a wrench. The design of this box reduces the possibility of accidental disturbance of the well.

Temporary Well Installation and Sampling

New 2-inch diameter groundwater monitoring well screen and blank casing will be temporarily installed in boring B-10 through the hollow stem of the augers; the augers will be pulled up five to six feet to allow groundwater to enter the well screen. The temporary well will be constructed of schedule 40 PVC casing with flush treads and 0.020-inch-slot well screen. The well screen for the temporary monitoring well will be placed approximately one foot above and four feet below the current water table to permit entry of separate-phase hydrocarbons, if present. If no separate-phase hydrocarbons are present, a water sample will be collected from the temporary well using a clean

Teflon bailer. Following collection of groundwater samples, the temporary well casing will be removed from the boring and the boring will be backfilled to the surface with a cement/bentonite slurry.

Monitoring Well Development and Sampling

RESNA will wait a minimum of 72 hours before development of the monitoring well MW-5 to allow the grout to harden. Initially, a water sample will be collected for subjective analysis before development of the monitoring well. This sample will be collected from near the water surface in the well with a new Teflon bailer. The well will be developed with a surge block and pump. Well development will continue until the discharge water is relatively clear of silt and sand. Clay-size sediments derived from the screened portion of the formation cannot be eliminated by well development. After the water level has been allowed to stabilize, the well will be checked for separate-phase hydrocarbons using an interface probe. The thickness of any product detected in the well will be recorded. If separate-phase hydrocarbons are encountered in the well, the well will not be purged, and the water will not be sampled for chemical analysis. Separate-phase hydrocarbons will be bailed from the well and stored in labeled drums onsite. RESNA will apprise Chevron of appropriate disposal options for separate-phase hydrocarbons bailed from the well.

If separate-phase hydrocarbons greater than 0.02-inches thick are not detected after development, the well will be purged of approximately 4 to 5 casing volumes of water with a bailer, or until pH, conductivity, and temperature of the purged water have stabilized. Water purged from the well will be directed to a tank trailer and transported to Chevron's Richmond Refinery for recycling. The wells will be allowed to recover to at least 80 percent of static conditions, and a sample of the groundwater will be collected with a new Teflon bailer. The water will be transferred slowly from the bailer to laboratory-cleaned, 40-milliliter glass vials for analyses by the laboratory. The glass vials will contain hydrochloric acid as a preservative. Our geologist will check to see if headspace is present. If headspace is present, we will collect more samples until none is present. Chain of Custody Records will be initiated in the field by the geologist, updated throughout handling of the samples, and sent along with the samples to the laboratory. Copies of Chain of Custody Records will be included in our final report.

Evaluation of Potentiometric Surface

The groundwater gradient and direction of groundwater flow at the site will be evaluated. The elevation of the top of the newly installed well casing and one existing well casing will be measured relative to mean sea level by a licensed land surveyor. Water-depth measurements will be made from the top of the casing in the new and existing wells to the nearest 0.01 foot with an electronic water-level indicator. The wells will be vented to the atmosphere for a minimum of 1 hour before obtaining depth-to-water measurements. Venting is conducted to allow the ground water to equilibrate with barometric pressure. These data will be combined to evaluate the relative elevation of the groundwater surface in each well and the slope of the groundwater surface across the site.

Laboratory Analyses

Soil samples selected for analyses from each boring will generally include the sample with the highest reading on the PID, any sample with visual evidence of hydrocarbons, and the sample collected from just above first encountered water. Analysis of soil and groundwater samples will be performed for TPHg using modified EPA Method 8015, and for BTEX using EPA Methods 8020. In addition, one non-hydrocarbon impacted soil sample selected from the offsite soil boring will be analyzed for TOC by the California Fertilizer Association Method S 18.0. Detection limits for the tests requested and concentrations present will be stated on the laboratory reports. Analytical methods and detection limits will conform to guidelines specified in the latest edition of the Tri-Regional Recommendations. Laboratory analyses will be performed by a laboratory certified by the State of California and selected by Chevron.

Report Preparation

A report summarizing our field and laboratory procedures and findings will be prepared.

Project Schedule

RESNA is prepared to begin work on this project immediately. The field investigation can commence within two weeks of approval of the work plan by regulatory agencies and authorization from Chevron.

REFERENCES

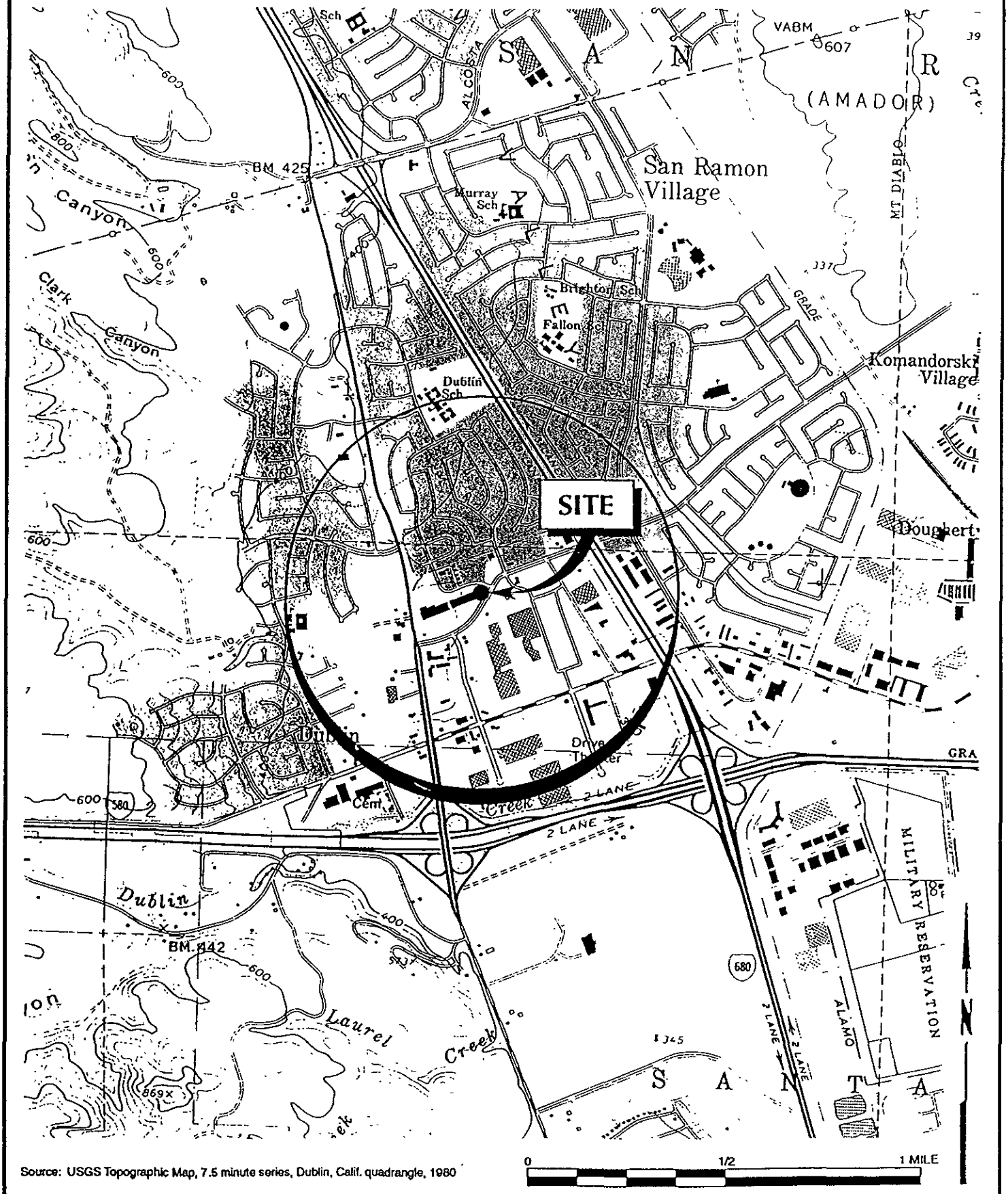
United States Geological Survey, 1980. Dublin, California, 7.5-Minute Topographic Quadrangle Map.

RESNA Industries. November 1992. Phase II Investigation at Amador Valley Medical Center (Former Chevron Service Station 9-2621), 7667 Amador Valley Boulevard, Dublin, California. Project No. F1036.01.

Pacific Environmental Group, Inc. April 26, 1993. Report: Soil and Groundwater Investigation at Former Chevron Service Station 9-2621, 7667 Amador Valley Boulevard at Starward Drive, Dublin, California. Project 325-35.01.

RESNA Industries. November 23, 1993. Report: Additional Subsurface Investigation at Former Chevron Service Station 9-2621, 7667 Amador Valley Boulevard, Dublin, California. 17011102w.

Attachments: Plate 1 - Site Vicinity Map
Plate 2 - Generalized Site Plan



Source: USGS Topographic Map, 7.5 minute series, Dublin, Calif. quadrangle, 1980

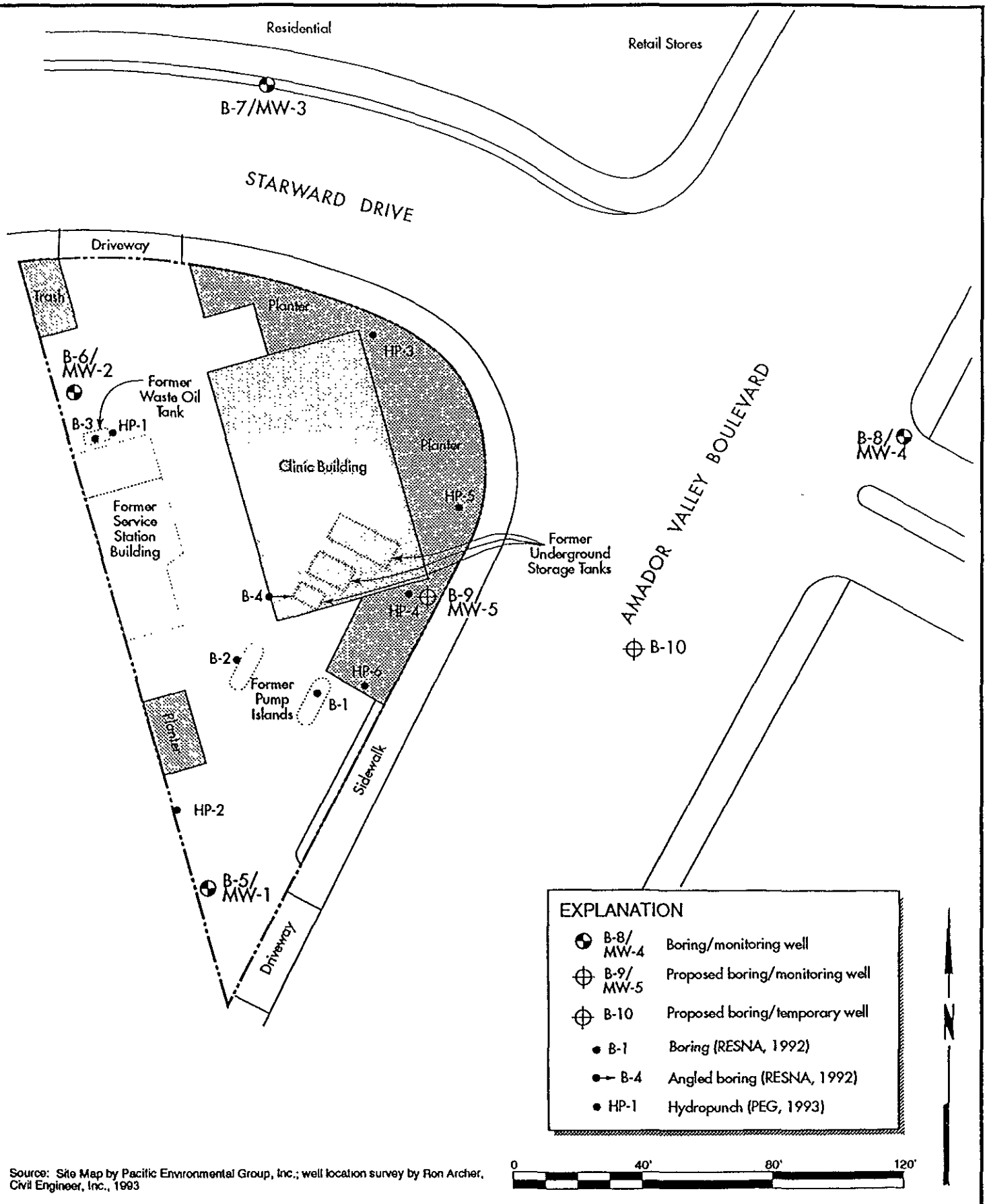
RESNA

PROJECT NO. 170111.02 | 6/93

SITE VICINITY MAP

Amador Valley Medical Center
7667 Amador Valley Boulevard
Dublin, California

PLATE 1



Source: Site Map by Pacific Environmental Group, Inc.; well location survey by Ron Archer, Civil Engineer, Inc., 1993

RESNA

PROJECT NO. 170111.02 | 1/94

GENERALIZED SITE PLAN

Amador Valley Medical Center
7667 Amador Valley Boulevard
Dublin, California

PLATE
2