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May 18, 1995

Ms. Eva Chu
Alameda County Health Care Services Agency
1131 Harbor Way Parkway, 2nd Floor
Alameda, California 94502

RE: Subsurface Investigation Work Plan
Unocal Service Station No. 7176
7850 Amador Valley Road
Dublin, California

Dear Ms. Chu:

Enviros, Inc. is pleased to submit this Subsurface Investigation Work Plan for the above site as per ACHCSA requirements.

If you have any questions, please call me at 707-935-4856.

Sincerely,
Enviros, Inc.

David J. Vossler
Project Manager

Enclosure

cc: Mr. Ed Ralston, Unocal
95132.02 files

Enviros, Inc. 270 Perkins Street P.O. Box 259 Sonoma, California 95476-0259 Tel 707 / 935-4850 Fax 707 / 935-6649

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May 18, 1995

Mr. Ed Ralston
Unocal Corporation-CERT
P.O. Box 5155
San Ramon, California 94583

Re: **Work Plan - Subsurface Investigation**
Unocal Service Station No. 7176
7850 Amador Valley Road
Dublin, California

Dear Mr. Ralston:

Enviros, Inc. (Enviros) is pleased to submit this work plan to perform a subsurface investigation at the above referenced location. The objectives of this proposal are to:

- Delineate the extent of petroleum hydrocarbons in the subsurface identified during the environmental services performed by Enviros during tank replacement at the site (Enviros *Storage Tank Replacement Observation Report* dated March 23, 1995,
- Evaluate soil and ground-water quality beneath the service station property,
- Evaluate remedial options, and
- Comply with appropriate state and local regulatory requirements.

Site Background

The subject property is located northwest of the 680/580 Freeway interchange on the southwest corner of Amador Valley Road and Regional Street in Dublin, California (Plate 1). In November 1994, three gasoline, one diesel, and one waste oil underground storage tanks (USTs) and related product lines and dispensers were removed. One sand/water separator was also decommissioned. Three fuel USTs and related product lines and dispensers were later installed during station remodeling (Plate 2).

Soil sampling results indicated that no petroleum hydrocarbons were detected in the vicinity of the former waste oil tank or the sand/water separator. Concentrations of up to 230 ppm TPH-G and 75 ppm TPH-D were encountered in the UST overexcavation sidewalls and up to 1,300 ppm TPH-G and 50 ppm TPH-D were encountered in the southeast dispenser overexcavation. Groundwater was encountered in the UST overexcavation at approximately 20 feet below grade (fbg).

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Scope of Work

The scope of work presented in this work plan has been developed to meet Unocal's objectives. Proposed groundwater monitoring well locations are shown on Plate 2. The proposed scope of work has been presented as specific tasks.

Task 1: Prepare and submit a Work Plan to the ACHCSA.

Task 2: Obtain all necessary permits and pay fees.

Task 3: Obtain all necessary approvals for off site access.

Task 4: Prepare a Health and Safety Plan.

Task 5: Locate all known underground utilities and structures utilizing Underground Services Alert (USA), or the company's responsible for a specific utility. Each boring will be hand dug to a depth of approximately 5 feet.

Task 6: Drill three exploratory soil borings to approximately 34 feet below grade (fbg) and five soil borings to 20 fbg, utilizing a hollow-stem auger drill rig.

During drilling, the exploratory soil borings will be lithologically logged by an Enviros geologist and soil samples will be collected at five (5) foot intervals as a maximum with a split-spoon sampler. Retrieved soil samples will be field screened using an Organic Vapor Meter (OVM). Head-space vapor measurements will be recorded on the exploratory boring logs. An exploratory boring log will be prepared for each boring.

Soil samples will be labeled, logged onto a Chain-of-Custody record and placed on ice for transport to a Unocal contract environmental laboratory. Two soil samples from each boring will be submitted for chemical analysis. Soil samples from the borings will be analyzed for total petroleum hydrocarbons calculated as gasoline (TPH-G) and diesel (TPH-D) according to EPA Method 8015 (Modified), and benzene, toluene, ethylbenzene and xylenes (BTEX) according to EPA Method 8020. Upon completion, the five 20-foot borings will be backfilled with neat cement to the surface as per state and local regulations.

include reporting of [MTBE]

Task 7: Three ground-water monitoring wells will be installed upon completion of the 34-foot soil borings to a total depth of approximately 34 fbg. The wells will be constructed using 2-inch Schedule 40 PVC with 0.02-inch machine slotted well screen. The screened interval will extend from approximately 14 to 34 fbg. Lonestar #2/12 graded sand will be placed in the annular space to approximately to the top of the well screen followed by a one-foot thick hydrated bentonite seal placed above the sand pack. A neat cement seal will be placed from the top of the bentonite seal to approximately 1 fbg. A water-proof locking well cap and lock will be installed on the well casing. Each well will be protected by a traffic-rated vault set in concrete.

Task 8: The monitoring wells will be properly developed following their installation. Development purge water will be contained in 55-gallon storage drums and the volumes will be documented and recorded.

Task 9: Following monitoring well installation and development, each well will be sampled and analyzed for TPH-G, TPH-D, and BTEX.

Task 10: Soil cuttings generated from the drilling effort will be either stockpiled or drummed on-site, sampled and analyzed for TPH-G, TPH-D, BTEX, Total Threshold Limit Concentration (TTLC) lead, and reactivity, corrosivity. These analytical results will be submitted to the appropriate landfill for acceptance. Soil disposal will be coordinated and transportation arranged for the hauling of the stockpiled soils.

Groundwater generated from well development and sampling activities will be drummed, labeled, and stored on-site. Based on the analytical results from the monitoring wells, Enviros will recommend disposal options.

Task 11: Following the well installations, a level survey including horizontal and vertical control will be performed to determine top of casing (TOC) elevations and locations. TOC elevations will be referenced to Mean Sea Level.

Task 12: A technical report will be prepared documenting field procedures and findings associated with the drilling of soil borings and installation of the monitoring wells, and chemical analytical results.

This work plan does not include any additional work that may be required beyond the tasks described above. Enviros will notify the Unocal Engineer if field conditions require a change in scope of work.

If you have any questions or comments, please call.

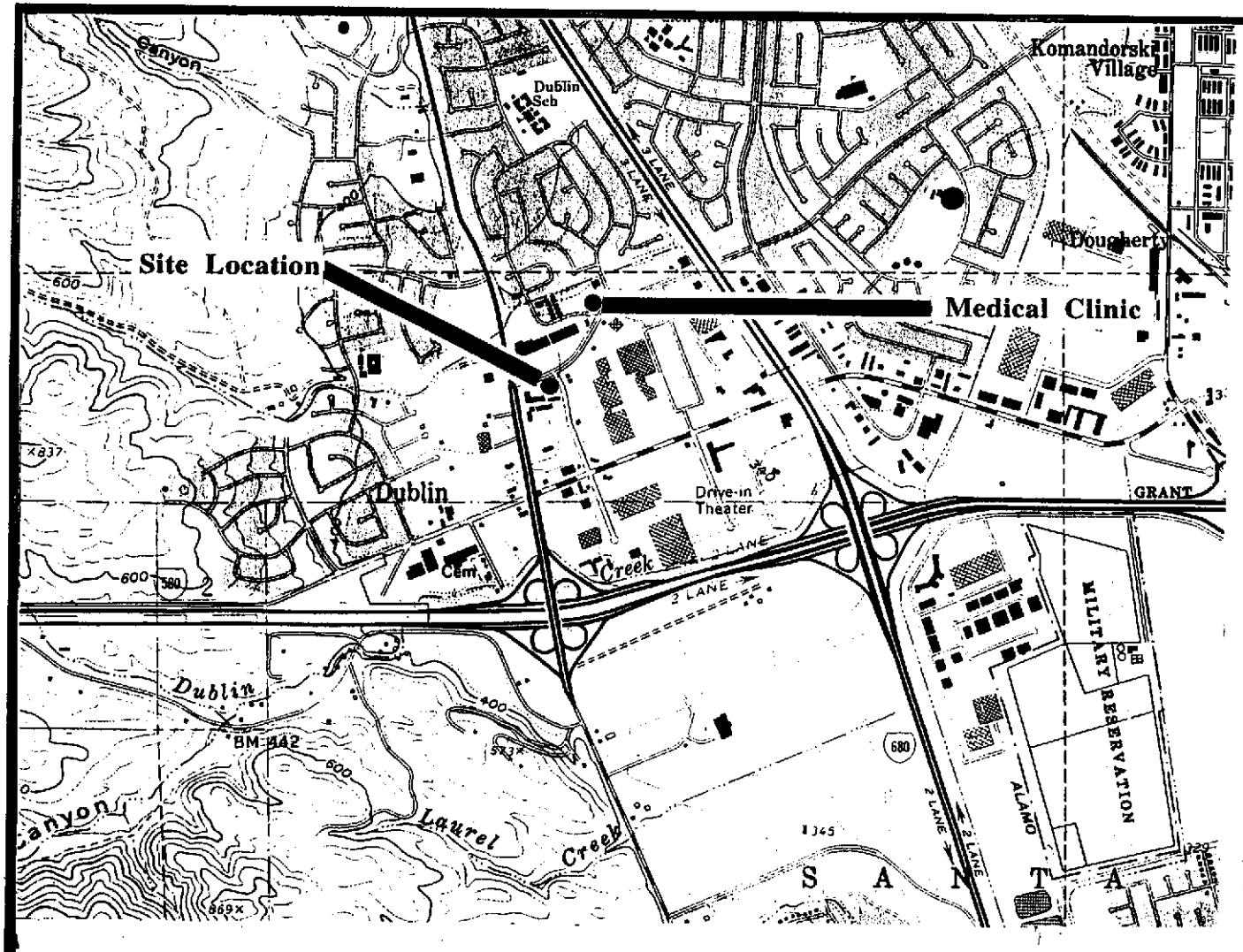
Sincerely,

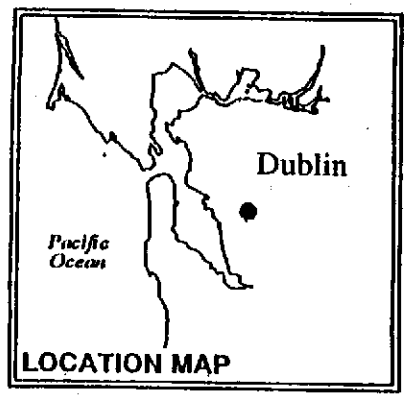
Clyde J. Galantine
Project Geologist

David J. Vossler
Project Manager

Attachment: Plate 1: Vicinity Map
Plate 2: Proposed Boring/Well Location Map

cc: 95132.02 files
Ms. Eva Chu, ACHSCA





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Scale in Feet

Base Map: USGS 7.5 Minute Topographic Map

PLATE

1

VICINITY MAP
Unocal Service Station No. 7176
7850 Amador Valley Road
Dublin, California

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E4/94132

Drawn By: CJG Date: 12-22-94

Approved By: CJG Date: 12/22/94

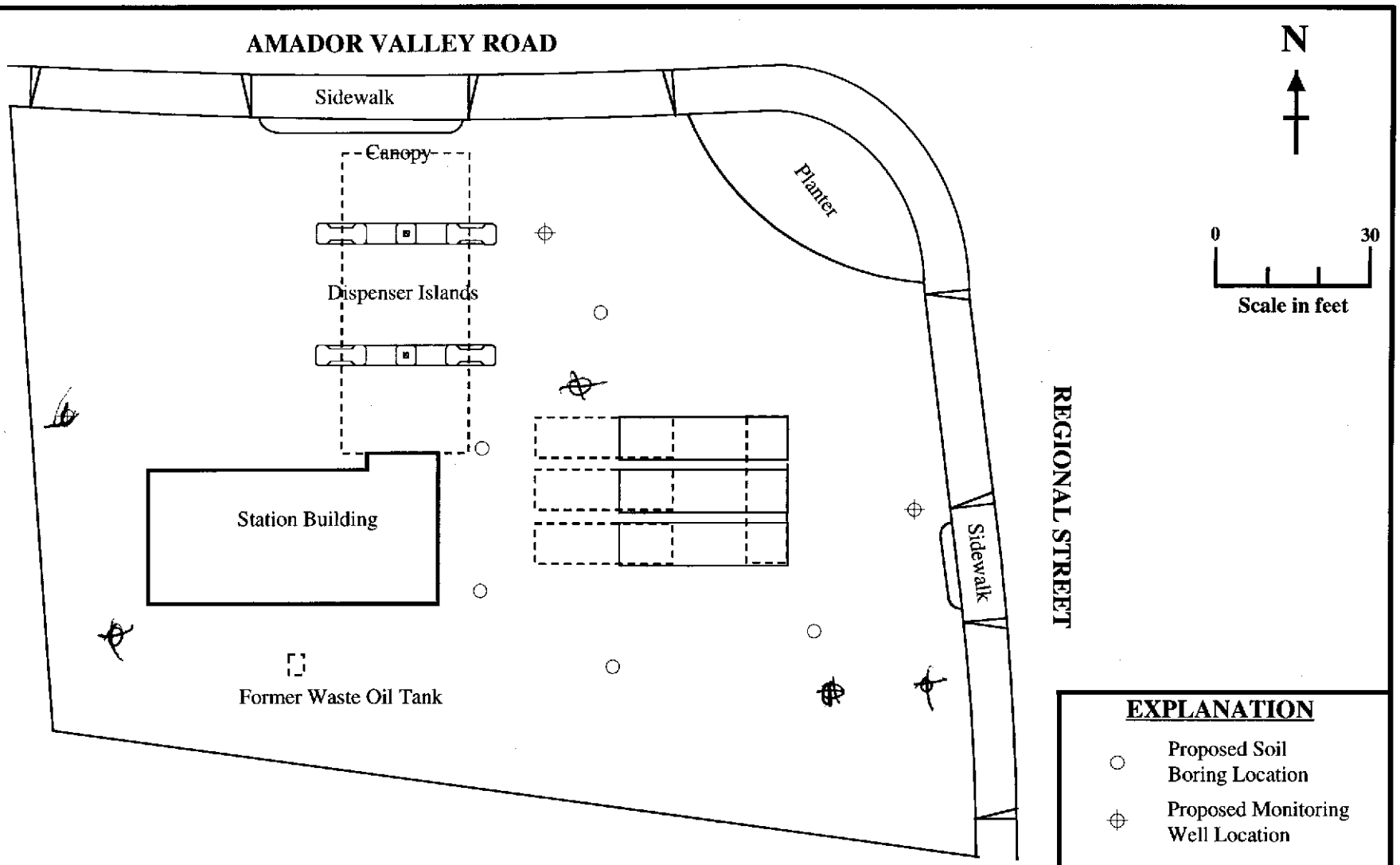

PLATE
2

PROPOSED SOIL BORING/MONITORING WELL MAP
Unocal SS No. 7176
7850 Amador Valley Boulevard
Dublin, California

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Drawn By: GLV | Date: 11-26-94 | Approved By: CJG | Date: 5/18/95