Western Operations

1252 Quarry Lane
Pleasanton, CA 94566
(415) 426-2600
Fax (415) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

Work Plan for Soil and Groundwater Remediation at Valley Nissan/Dodge 5787 Scarlett Court Dublin, California

Clayton Project No. 28947.00
June 8, 1990

CONTENTS

1.0 INTRODUCTION

Clayton Environmental Consultants, Inc. was retained by Valley Nissan/Dodge to develop and implement a remediation program for its property located at 5787 Scarlett Court in Dublin, California (site). Clayton conducted a subsurface soil and groundwater investigation at the site, and the results were presented in Clayton's report titled "Additional Soil and Groundwater Investigation at 5787 Scarlett Court, Dublin, California," dated February 22, 1990, Project No 27399.00. Previous subsurface investigation reports prepared by Atlas Hydraulics indicated the possible presence of gasoline in the shallow soil and groundwater in the area of a former underground storage tank at the site.

In January 1990 Clayton installed four shallow monitoring wells to maximum depth of nineteen feet. The four monitoring wells at the site were surveyed for locations and water elevations by a licensed land surveyor in May 1990 (Appendix A). Based on the surveying results and triangulation between MW-2, MW-3, and MW-4, groundwater flow gradient was calculated to be 0.04 feet/100 feet towards the south-southwest (Figure 1).

In Clayton's sampling, a concentration of 3,000 micrograms per liter (μg/L) of benzene was detected in monitoring well MW-2. This concentration is above the State of California Department of Health Services (DHS) action level of 0.7 μg/L for groundwater. Certain soil samples collected from boreholes also contained petroleum hydrocarbons and volatile aromatics or BTEX (benzene, toluene, ethylbenzene, and xylene) in excess of California Leaking Underground Fuel Tank (LUFT) manual guidelines.

This work plan is developed based upon Regional Water Quality Control Board (RWQCB) guidelines for investigation at fuel leak sites and an Alameda County Health Care Services (ACHCS) letter, dated April 30, 1990 (Appendix B).

2.0 OBJECTIVE

The objective of the remediation program is to remove the petroleum hydrocarbons and BTEX contamination from the soil and groundwater to levels below the LUFT guidelines in the soil and below DHS action levels in water.

3.0 APPROACH

Clayton proposes remediation of the soils by excavation and controlled onsite aeration. The groundwater also will be treated onsite by air stripping or carbon adsorption. Upon completion of the laboratory analysis and achievement of acceptable soil concentrations, the aerated soil will be replaced in the excavation pit and compacted to 90% relative compaction of maximum density. Extracted groundwater will be treated prior to discharge into the local sanitary sewer system.

The following tasks describe Clayton's approach.

- **Task 1: Site Preparation**

  Remove the existing asphalt and concrete that caps the contaminated soil area (Figure 1) and stockpile onsite pending laboratory analysis for proper disposal.

- **Task 2: Soil Remediation**

  Supervise the excavation of contaminated soil by a subcontractor (Decon), as outlined in Figure 1. Monitoring wells MW-1 and MW-2 will be properly destroyed during the excavation. Excavated soil will be spread on the ground to a maximum thickness of 1 foot and allowed to aerate. An aeration permit will be secured from the Bay Area Air Quality Monitoring Board (BAAQMD). Aerated soil will be turned over and mixed each week for a period of four weeks or longer depending upon weather and BAAQMD permit requirements. Soil samples will then be collected from the excavation pit and aeration piles to ensure that the contaminants are below the LUFT manual category 2. Soil samples collected will be analyzed for total petroleum hydrocarbons as gasoline (TPH-G) and BTEX.

- **Task 3: Groundwater Remediation**

  Groundwater will be allowed to collect in the excavation pit. The groundwater will then be pumped into a 10,000-gallon storage tank located on the site, and the water will be air sparged to remove the volatiles. When analysis of treated groundwater shows TPH-G and BTEX concentrations below action levels, a permit for one time discharge into the sewer system will be obtained and the water will subsequently be discharged. Hydrocarbon contaminated air will be passed through activated carbon before discharge to the atmosphere (Figure 2). The spent carbon will be regenerated or properly disposed of according to the proper waste classification.

  Groundwater samples will be collected from the remaining onsite monitoring wells, MW-3 and MW-4. These samples will be analyzed to monitor the effectiveness of the groundwater remediation.

  At the completion of these tasks, and with the approval of the ACHCS, the excavation pit will be backfilled with the aerated soils and compacted to 90% of maximum relative density.

- **Task 4: Report Preparation and Recommendations**

  Upon completion of Tasks 1 through 3, Clayton will prepare a report summarizing the findings and completion of each task. The report will include a discussion of the field activities and techniques, soil and groundwater sampling, analytical results, and treatment. Conclusions and appropriate recommendations, if necessary, will be included in the report.

- **Task 5: Post Remediation Monitoring**

  According to the surveyed location, MW-4 is directly downgradient from MW-2. MW-3 and MW-4 will, therefore, be monitored and tested for TPH-G and

BTEX quarterly for a period of one year. Quarterly reports will be submitted to the ACMCS and the RWQCB.

4.0 SCHEDULE

The work on this project can start immediately upon receiving authorization to proceed from ACHCS. All field equipment can be mobilized to the site within 3 weeks. Permitting and other regulatory liaison is anticipated to be completed within the same time period.

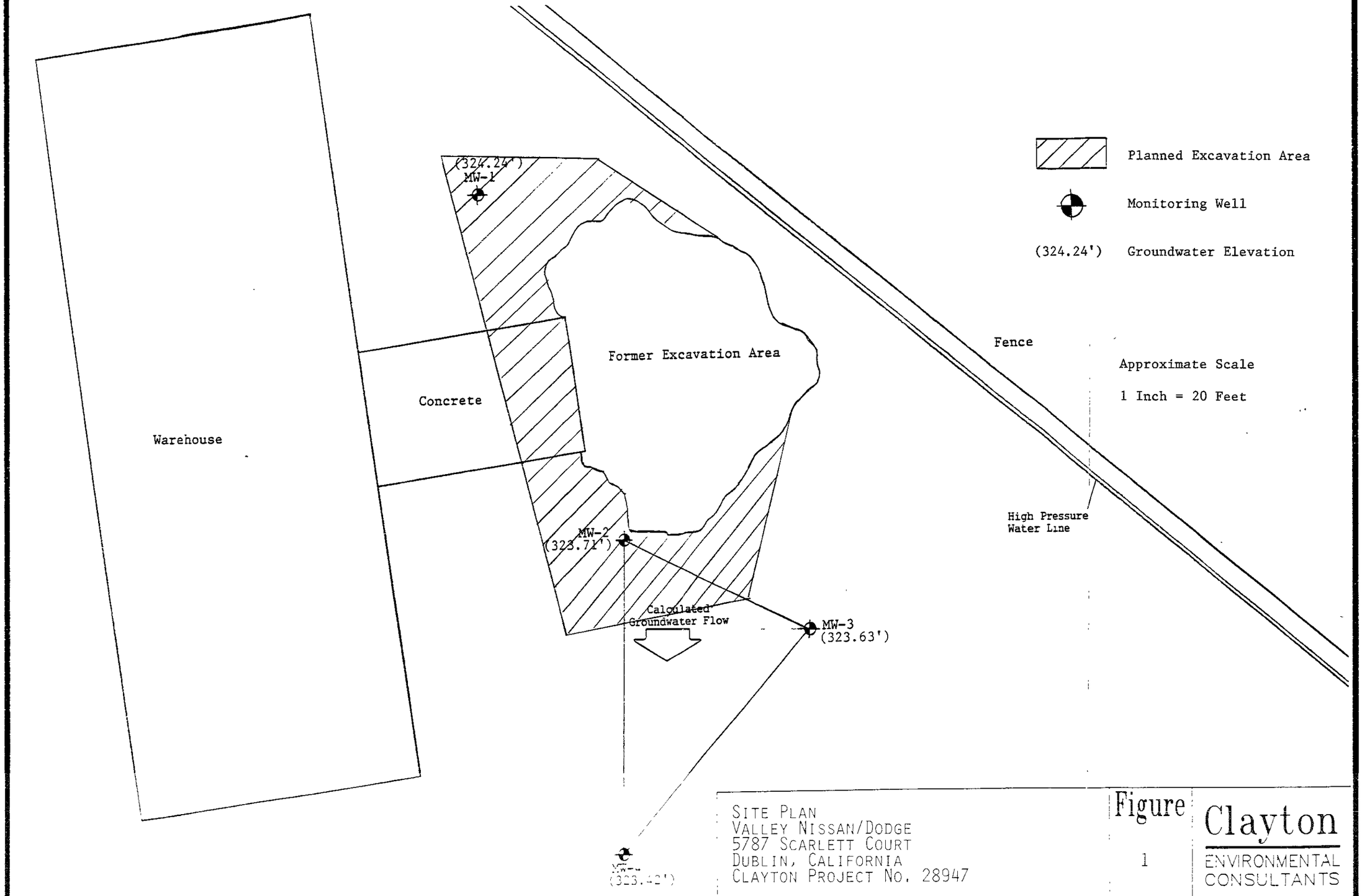
We anticipate that the project can be completed within 16 weeks of receipt of authorization from ACHCS.

This work plan prepared by: _____ P.G. for Dariush
Dariush Dastmalchi
Geologist

This work plan reviewed by: _____ Frederick G. Moss
Frederick G. Moss, P.E.
Supervisor, Remediation
Western Operations

June 8, 1990

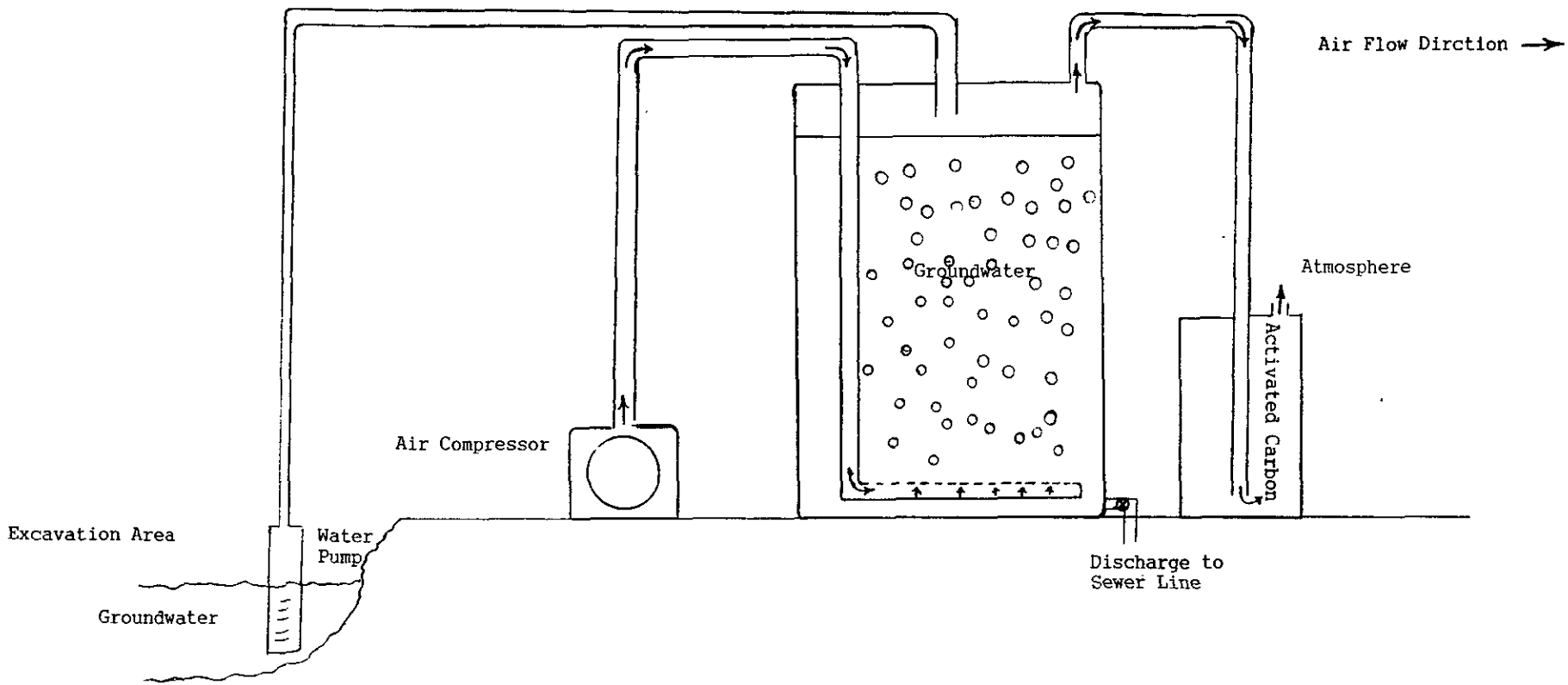
FIGURES



SITE PLAN
VALLEY NISSAN/DODGE
5787 SCARLETT COURT
DUBLIN, CALIFORNIA
CLAYTON PROJECT NO. 28947

Figure 1

Clayton
ENVIRONMENTAL
CONSULTANTS



Groundwater Treatment Schematic
Valley Nissan/Dodge
5787 Scarlett Court
Dublin, California

Figure 2

Clayton ENVIRONMENTAL CONSULTANTS

Note: Drawing not to scale

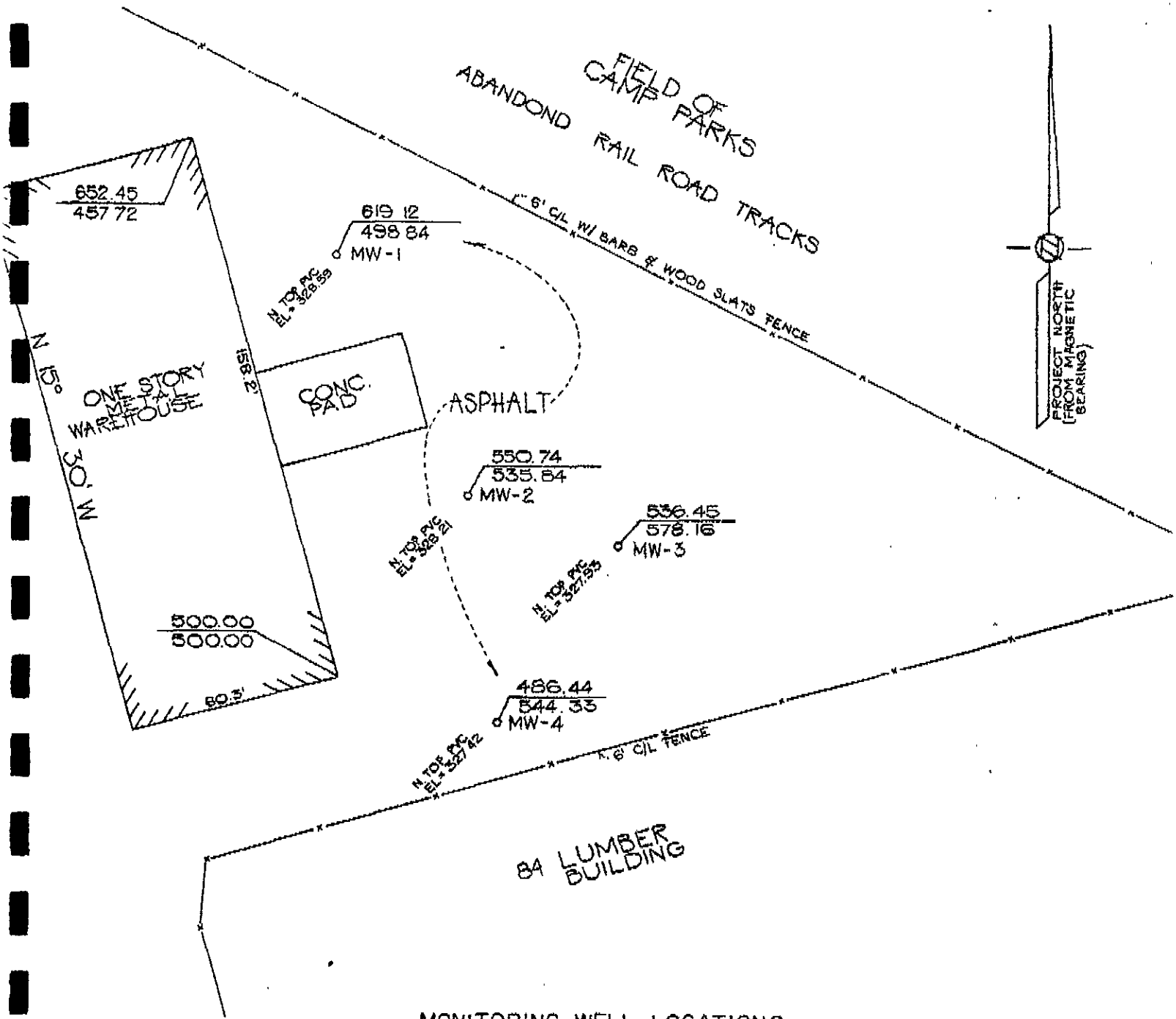
APPENDIX A

LAND SURVEYOR REPORT

TRONOFF ASSOCIATES

LAND SURVEYING • CONSTRUCTION ENGINEERING SURVEYS

560 PINE STREET, THIRD FLOOR, SAN FRANCISCO, CALIFORNIA 94108 (415) 392-3215



MONITORING WELL LOCATIONS
FOR

CLAYTON ENVIRONMENTAL

5787 SCARLETT COURT
DUBLIN, CALIFORNIA
DATUM: MEAN SEA LEVEL
SCALE : 1" = 40'

TRONOFF ASSOCIATES
LAND SURVEYING • CONSTRUCTION ENGINEERING SURVEYS
560 PINE STREET, THIRD FLOOR, SAN FRANCISCO, CALIFORNIA 94108 (415) 392-3215

Survey No. 3749
5758 Scarlett Ct.
Dublin

Monitoring Well #1	to	Monitoring Well #2	77.75
Monitoring Well #1	to	Monitoring Well #3	114.57
Monitoring Well #1	to	Monitoring Well #4	140.26
Monitoring Well #2	to	Monitoring Well #3	44.67
Monitoring Well #2	to	Monitoring Well #4	64.86
Sly. Bldg. Corner	to	Monitoring Well #4	46.36
Nly. Bldg. Corner	to	Monitoring Well #1	52.93

APPENDIX B

LETTER FROM ALAMEDA COUNTY HEALTH CARE SERVICES

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

DEPARTMENT OF ENVIRONMENTAL HEALTH
Hazardous Materials Program
30 Swan Way, Rm. 200
Oakland, CA 94621
(415)

April 30, 1990

Mr. Christopher M. Regalia
Valley Nissan
6015 Scarlett Ct.
Dublin, CA 94568

RE: **Clayton Environmental Consultants' report on the old Lew Doty property, 5787 Scarlett Ct., Dublin**

Dear Mr. Regalia:

The Alameda County Department of Environmental Health, Hazardous Materials Division has reviewed the report referenced above, and has the following comments to make on it.

As you're probably aware, extensive soil excavation and aeration has occurred at this site since the two underground gasoline tanks were removed in late 1988. The Clayton report implies that significant volumes of contaminated soil still need to be excavated from the site; however, except for a small amount of residual contamination around MW-2, we feel that the soil issue has been dealt with adequately. Our concern focuses instead on groundwater.

Monitoring well MW-2 shows moderate amounts of TPH contamination and fairly high levels of benzene contamination. Wells MW-3 and MW-4, which are presumed to be downgradient, show no contamination, but for some inexplicable reason Clayton omits any discussion of groundwater levels in site wells, so that we can only guess the actual direction of shallow water flow. It turns out that good hydrological data has been collected at the nearby Scotsman Corp. site, and groundwater seems to flow to the south-southwest, not south-southeast as Clayton assumes. This would mean that monitoring wells MW-3 and MW-4 are not actually downgradient and that another well or wells would need to be drilled to define the "zero edge" of the hydrocarbon plume.

Therefore, water levels must be taken at this site as soon as possible (if this has not already been done), to enable a bona-fide determination of the groundwater gradient to be made. If the results confirm a south-southwest flow, you will have to install at least one additional monitoring well downgradient of well MW-2. Defining the plume is a first step that must be taken before consideration of a remedial plan.

In the report, Clayton recommends quarterly sampling only for wells MW-1 and MW-2, since the other wells contained no detectable hydrocarbons. It is Regional Water Board policy that all monitoring wells associated with a fuel leak case undergo quarterly sampling at

a minimum, and we see no reason to waive such a requirement in this case. All wells must be sampled quarterly, and have their water levels measured to 0.01 foot.

Our office requires an additional deposit of $300 to complete oversight of this case. Please remit this amount, along with a revised work plan that takes site-specific groundwater levels into account, by **May 30, 1990**. As always, all documents sent to this office must also be submitted to the Regional Water Quality Control Board in Oakland (attn: Lester Feldman). All documents must also be signed by a California-registered geologist or engineering geologist in order to be accepted by this office.

If you have any questions about this letter, please contact the undersigned at 271-4320.

Sincerely,

Gil Wistar
Hazardous Materials Specialist

cc: **Dariush Dastmalchi, Clayton Environmental Consultants (1252 Quarry Ln., Pleasanton, CA 94566)**
Tom Hathcox, Dougherty Regional FD
Lester Feldman, RWQCB
Gil Jensen, Alameda County District Attorney, Consumer and Environmental Protection Division
Rafat A. Shahid, Asst. Agency Director, Environmental Health
files