# FACSIMILE TRANSMITTAL

CALIFORNIA DEPARTMENT OF TRANSPORTATION
DISTRICT 4
ENVIRONMENTAL ENGINEERING

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Oakland, CA 94623-0660

Cover sheet plus 10 pages to follow

DATE : **August 18, 1995**

TO : **Barney Chan**

ORGANIZATION : **Alameda County Env Health**

TELEPHONE # : **567-6765**

FAX # : **337-9335**

FROM : **Ronald Dong**

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REMARKS : This is the work plan for 555 Hegenberger in Oakland. Please call me to discuss it.

# DRAFT SITE INVESTIGATION WORKPLAN

FOR

HEGENBERGER MAINTENANCE STATION
OAKLAND, CALIFORNIA

PREPARED FOR

CALTRANS DISTRICT 4
P.O. BOX 23660
OAKLAND, CALIFORNIA

PREPARED BY

GEOCON ENVIRONMENTAL CONSULTANTS
SACRAMENTO, CALIFORNIA

CALTRANS CONTRACT NO. 53W202
TASK ORDER NO. 04-5T9000-01

GEOCON PROJECT NO. S8100-06-34

AUGUST 1995

Project No. S8100-06-34
August 16, 1995

California Department of Transportation
P.O. Box 23660
Oakland, California 94623

Attention: Mr. Ron Dong

Subject: HEGENBERGER MAINTENANCE STATION
OAKLAND, CALIFORNIA
CONTRACT NO. 53W202
TASK ORDER NO. 04-5T9000-01
DRAFT SITE INVESTIGATION WORKPLAN

Dear Mr. Dong:

In accordance with Caltrans Contract No. 53W202 and Task Order No. 04-5T9000-01, Geocon Environmental Consultants is submitting this Workplan for site assessment work to be conducted at the above referenced project site. This Workplan describes the scope of work requested by Caltrans and outlines procedures and methods to be employed by Geocon to complete the project.

## PROJECT LOCATION

The site investigation will be performed at the Caltrans Oakland Maintenance Station located east of Route 880 at 555 Hegenberger Road, Oakland, California. The site location is depicted on the Vicinity Map, Figure 1. The site boundaries are shown on the Site Plan, Figure 2.

## BACKGROUND

Between September 19, 1994 and September 22, 1994, four underground storage tanks (USTs) and the associated product piping and pump island were removed from the site under the supervision of GHH Engineering Incorporated. The USTs consisted of two 2,000-gallon diesel USTs and two 6,500-gallon gasoline USTs. At the direction of the Alameda County Environmental Health Department, GHH Engineering collected eight soil samples (TE1 through TE8) from the USTs excavation and two soil samples (PI1 and PI2) beneath the pump island.

The excavation soil samples (TE1 through TE8) were collected at depths ranging from 8 to 18 feet below ground surface (bgs). Total petroleum hydrocarbon as gasoline (TPHg) concentrations ranged from below test method detection limits to 480 milligrams per kilogram (mg/kg), with the highest concentration detected in sample TE8 at a depth of 8 feet bgs. Total petroleum hydrocarbon as diesel (TPHd) was detected in samples TE1 and TE3 at concentrations of 27 mg/kg and 11 mg/kg, respectively. Samples TE1 through TE8 all contained oil and grease (O&G) with concentrations ranging from 76 mg/kg to 1,900 mg/kg. The highest O&G concentration was detected in sample TE1 at a depth of 8 feet bgs.

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The pump island soil samples (P11 and P12) were collected at a depth of 4 feet bgs. Sample P11, contained TPHd and O&G at concentrations of 380 mg/kg and 2,200 mg/kg, respectively.

Approximately 280 cubic yards of stockpiled soil was transported for disposal to the BFI Vasco Road Landfill, a Class III facility, in Livermore, California. ✓

## PURPOSE

The objective of this Task Order is to provide information regarding the potential for petroleum hydrocarbon impacts to soil and groundwater in the vicinity of the former USTs. The work requested by Caltrans consists of the drilling and construction of five groundwater monitoring wells and the drilling of six soil borings to facilitate the collection of soil and groundwater analytical data that will allow for an evaluation of current site conditions relative to potential soil and groundwater impacts.

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Five groundwater monitoring wells (MW1 through MW5) are proposed in order to evaluate the groundwater flow direction and gradient, to evaluate the groundwater quality, and as an attempt to define the lateral limits of potential groundwater impacts in the vicinity of the former USTs. The proposed monitoring well locations are depicted on Figure 3.

again not necessary if done need to take either soil or gw spec.

In addition, six soil borings (BH1 through BH6) are proposed in an attempt to define the vertical and lateral extent of petroleum hydrocarbon impacts to soil surrounding the former UST excavation. Boring BH1 will be located within the former UST excavation and boring BH6 will be located within the former pump island to aid in determining the maximum petroleum hydrocarbon concentrations in soil beneath the UST excavation and pump island, respectively. The proposed soil boring locations are depicted on Figure 3.

## PROJECT SCOPE

Task 1 - Prefield Activities

- A pre-work site visit was conducted on July 5, 1995, with the Caltrans Contract Manager, Mr. Ron Dong, to inspect the work area. At the pre-work site visit, the Site Visit Checklist and Completion Schedule were discussed and signed by the Geocon project manager and the Caltrans contract manager.

- Obtained a well permit (Permit No. 95458) dated July 26, 1995 from the Alameda County Flood Control and Water Conservation District for the proposed groundwater monitoring wells and soil borings.

- Prepare a Health and Safety Plan for the proposed field activities. The Health and Safety Plan will provide guidelines on the use of personal protective equipment (PPE) and the health and safety procedures to be implemented during the proposed field activities.

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- Contact the local public utilities via Underground Service Alert, to attempt to delineate subsurface public utilities and conduits in proximity to the proposed boring/well locations.

- Retain the services of a Caltrans approved and C-57 licensed drilling company to install the wells.

Task II - Drilling Activities

- Advance six soil borings (BH1 through BH6) at locations proposed by Caltrans and agreed to by Alameda County. The proposed locations of the soil borings are depicted on Figure 3. The borings will be advanced utilizing a truck-mounted drill rig equipped with 8-inch outside diameter hollow stem augers. The shallow borings will be advanced to a maximum depth of approximately 20 feet bgs.

- Advance five soil borings for completion as groundwater monitoring wells (MW1 through MW5) at locations proposed by Caltrans and agreed to by Alameda County. The proposed locations of the groundwater monitoring wells are depicted on Figure 3. The borings will be advanced utilizing a truck-mounted drill rig equipped with 10-inch outside diameter hollow stem augers. The borings will be advanced to a maximum depth of approximately 20 feet bgs, which equates to a depth of approximately 10 feet below the groundwater surface. 4" well

- Collect relatively undisturbed soil samples at five foot intervals using a split spoon sampler equipped with two 6-inch-long by 2-inch diameter brass sample tubes and one 6-inch-long by 2-inch diameter stainless steel sample tube. The stainless steel sample tubes will be capped, labeled, chilled, and transported to a California-certified environmental laboratory utilizing standard chain-of-custody procedures.

- Logging of all borings in the field will be performed by a geologist under the supervision of a California Certified Engineering Geologist utilizing the Unified Soil Classification System.

- The soil cores will be field screened with a photolonization detector (PID) to assess possible qualitative indicators of volatile organic compounds (VOCs).

- Quality assurance/quality control procedures will be provided during the field exploration activities. These procedures included cleansing/rinsing of the sampling equipment between sampling intervals, steam cleaning augers prior to and between borings and providing chain-of-custody documentation for each soil sample transferred to the laboratory. Cleansing/rinsing of the sampling equipment will be performed prior to the collection of each soil sample by washing the equipment with a trisodium phosphate solution followed by subsequent tap water and deionized water rinses.

- Rinsate water will be stored onsite in 55-gallon drums pending rinsate sample collection, analysis and disposal evaluation.

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- Soils generated during the excavation activities will be stored onsite in 55-gallon drums pending the results of the laboratory analyses and subsequent disposal following regulatory protocol.

Task III - Installation of Groundwater Monitoring Wells

- Install groundwater monitoring wells (MW1 through MW5) within five borings to a maximum depth of approximately 10 feet below the groundwater surface. The monitoring wells will be constructed using 4-inch diameter polyvinyl chloride (PVC) casing. The lower portion of the wells will be constructed using 15 feet of 0.020-inch slotted screen PVC casing. A filter pack consisting of No. 3 Monterey sand will be placed around the screen from the bottom of the boring to an elevation of two feet above the screen zone.

- After the completion of filter pack placement, the wells will be surged with a surge block to allow for settlement of the filter pack and ensure that bridging has not occurred. Additional sand will be added if settlement occurs.

- A two foot thick seal consisting of hydrated bentonite chips will be placed above the filter packs. Above the seal a mixture of bentonite powder and cement will be placed to within two feet of grade level. A traffic-rated security wellhead cover set in a concrete pad will be used to complete well construction.

- The top of casing elevations for the new groundwater monitoring wells ~~and the four existing wells~~ will be surveyed by a licensed civil engineer relative to MSL. (2) the closest USGS or City of Oakland benchmark.

Task IV - Groundwater Well Development, Purging and Sampling

- Prior to well development, the depth-to-groundwater will be measured with an electronic water level meter. The water level meter will be cleaned with a liquinox solution and triple rinsed prior to introduction into a new well.

- A minimum of 24 hours after the completion of well construction, the groundwater monitoring wells will be developed by using an electric pump to withdraw groundwater and remove sediment that may have infiltrated the wells during construction.

- Three to five casing volumes of groundwater will be purged to allow fresh formation water to infiltrate the wells. During development and purging, the pH, temperature, and electrical conductivity of the groundwater will be measured and recorded.

- Following purging, water will be collected from each well with a pre-cleaned disposable bailer. The collected water will be decanted into appropriate sampling containers supplied by the analytical laboratory. A travel blank will be secured from the analytical laboratory and will accompany the field samples to the laboratory. Upon collection, the sampling containers will be sealed, labeled and placed into an ice-chest cooled with blue ice pending delivery to the

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laboratory. Samples will be collected and transported under standard chain-of-custody documentation.

- The development and purge water will be retained onsite in 55-gallon drums pending the results of the laboratory analyses and subsequent disposal following regulatory protocol.

- Provide QA/QC procedures during the field activities. These procedures would include the cleansing/rinsing of the sampling equipment prior to each sampling effort, and providing chain-of-custody documentation for each sample collected and transferred to the laboratory for analytical testing.

Task V - Laboratory Analyses

- Submit two soil samples per boring/well to a California certified hazardous waste testing laboratory for testing of TPHg and TPHd following EPA Test Method 8015 Modified, benzene, toluene, ethylbenzene and total xylenes (BTEX) following EPA Test Method 8020, oil and grease following EPA Test Method 5520, and organolead.

- Submit groundwater samples to a California certified analytical laboratory for analyses of TPHg and TPHd following EPA Test Method 8015 Modified, BTEX following EPA Test Method 8020, and oil and grease following EPA Test Method 5520.

Quality assurance/quality control (QA/QC) will be performed for each method of analysis with specificity for each analyte listed in the test method's QA/QC. QA/QC will include the following:

- One method blank for every ten samples, batch of samples or type of matrix, whichever is more frequent.

- One sample analyzed in duplicate for every ten samples, batch of samples or type of matrix, whichever is more frequent.

- One spiked sample for every ten samples, batch of samples or type of matrix, whichever if more frequent, with spike made at ten times the detection limit or at the analyte level.

Task VI - Report Preparation

A final report will be prepared to transmit background information, field data, field procedures, scaled field maps, data interpretations and conclusions and recommendations with regard to soil and groundwater impacts identified and/or delineated. The metrication requirements outlined in Special Provision 20 of Contract No. 53W202 will be addressed.

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If there are any questions concerning the contents of this Workplan, or if Geocon may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON ENVIRONMENTAL CONSULTANTS (3)

need signature + stamp

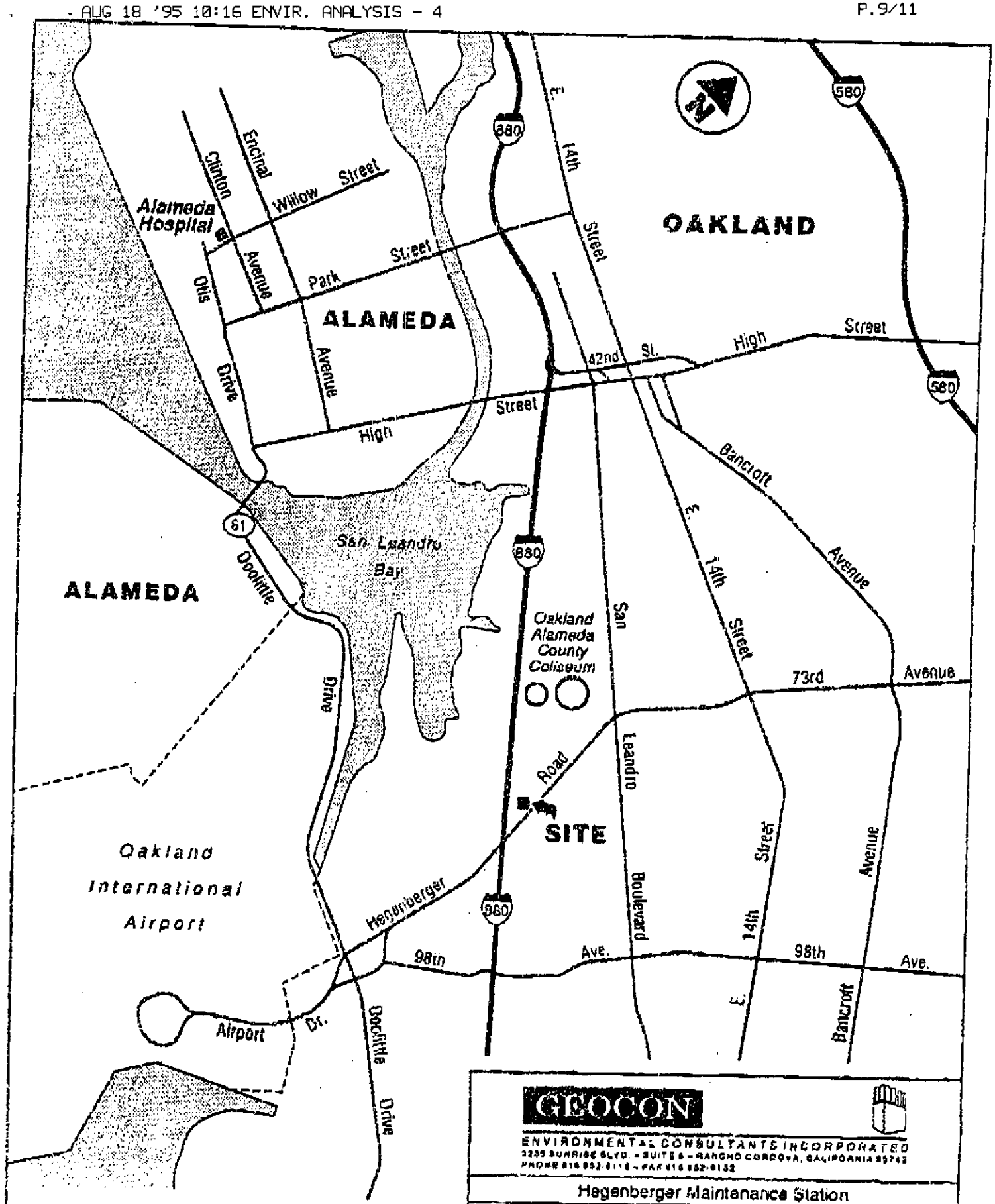
Richard H. Walls, PE
Task Order Manager

Ian P. Moorhead
Project Geologist

IPM/RHW:rs

Attachments: Figure 1 - Vicinity Map
Figure 2 - Site Plan
Figure 3 - Proposed Soil Boring and Well Locations

(3) Addressee

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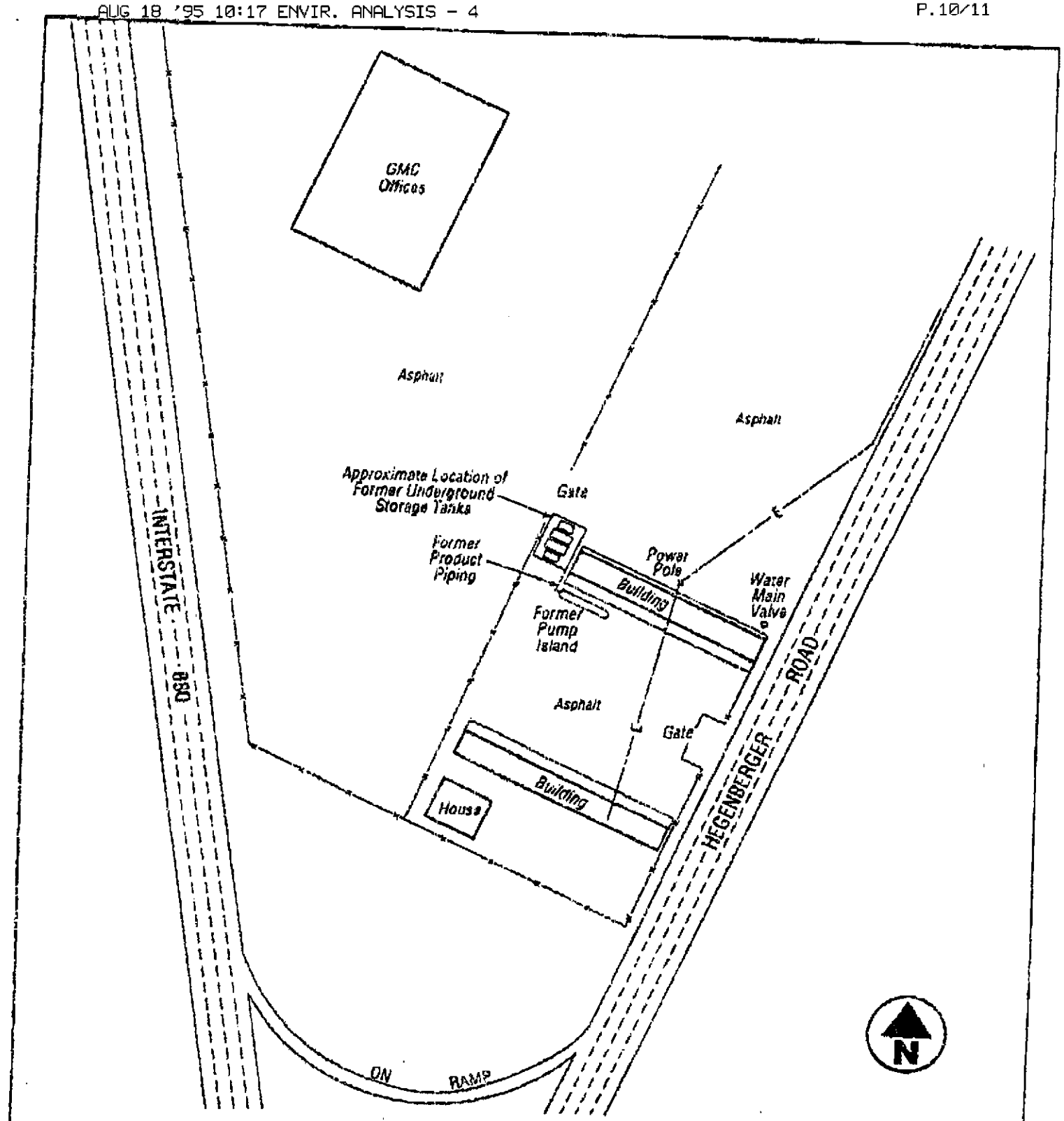
| | | |
|---|---|---|
| Hegenberger Maintenance Station | | |
| Oakland, California | **VICINITY MAP** | |
| GEOCON Proj. No. S8100-06-34 | | |
| Task Order No. 04-5T9000-01 | August 1995 | Figure 1 |




NOT TO SCALE

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Hegenberger Maintenance Station

Oakland, California

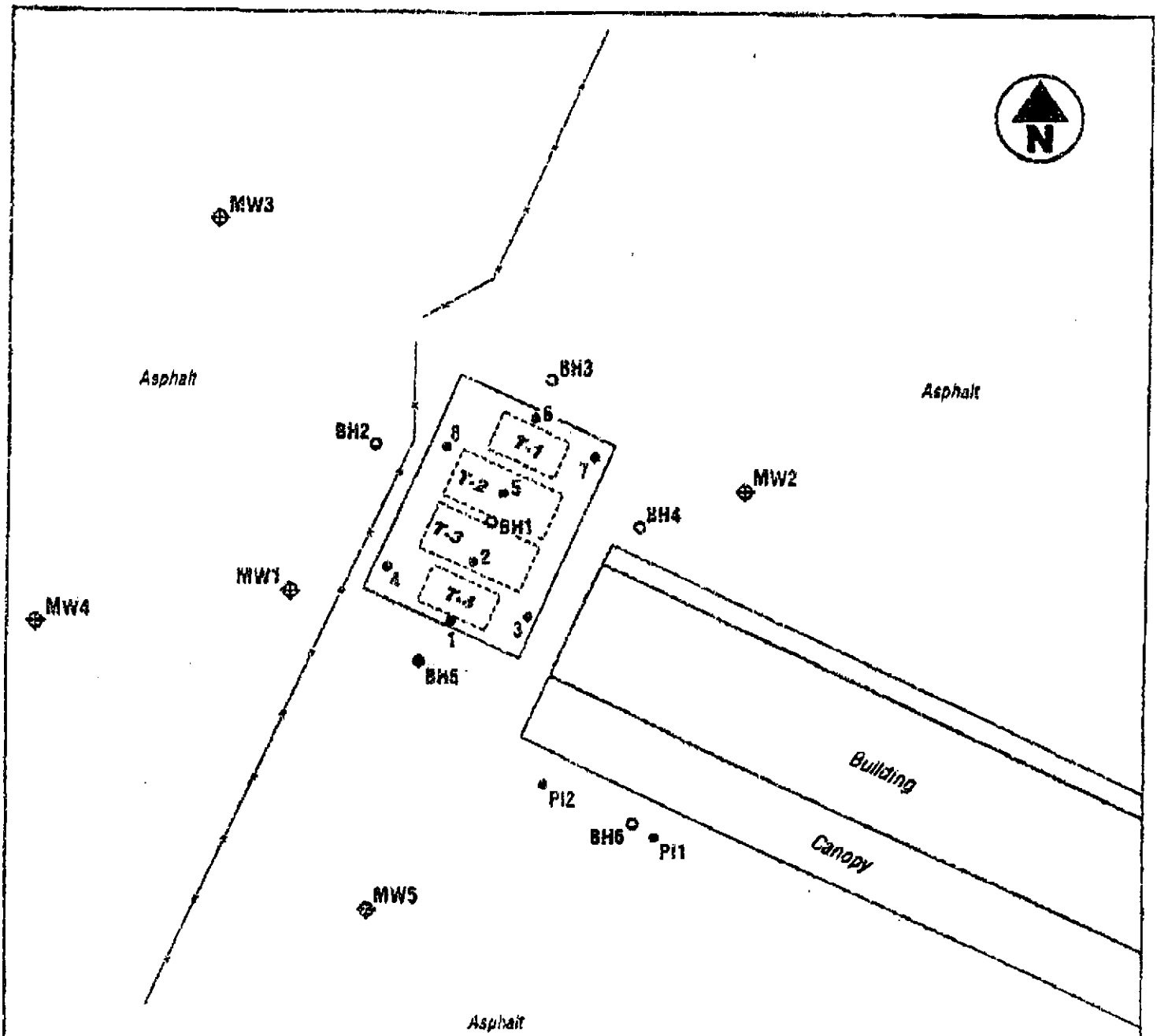
**SITE PLAN**

GEOCON Proj. No. S8100-06-34

Task Order No. 04-5T9000-01

August 1995

Figure 2

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**PROPOSED SOIL BORING AND WELL LOCATIONS**

GEOCON Proj. No. S8100-06-34

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Figure 3