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

ENVIRONMENTAL HEALTH SERVICES
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
(510) 337-9335 (FAX)

June 2, 1997

Tina Berry
Tosco
P.O. Box 5155
San Ramon, CA 94583

STID 1129

Re: Work plan for investigations related to a former oil/water separator at 3101 98th Avenue & Las Vegas, Oakland, California 94605

Dear Ms. Berry,

This office has reviewed Pacific Environmental Group, Inc.'s workplan, dated March 31, 1997, for proposed soil and groundwater investigations related to a former oil/water separator at the above site. This workplan is acceptable to this office. Please notify this office at least one week in advance of field activities. The work should be conducted within 60 days of the date of this letter and a report documenting the work should be submitted to this office within 60 days after completing field activities.

Per our conversation on May 28, 1997, you requested on behalf of TOSCO that TOSCO be billed for all the County's oversight costs (at a rate of $94.00 per hour) due to the difficulties TOSCO would have in submitting an initial deposit for the County's oversight time. The County has gone ahead and made an exception for TOSCO with your word that TOSCO will pay for, in a timely manner, all the oversight costs when the County chooses to bill TOSCO. TOSCO may be billed more than once depending on the length of this project.

If you have any questions or comments, please contact me at (510) 567-6763.

Sincerely,

Juliet Shin
Senior Hazardous Materials Specialist

cc: Joseph Muzzio
Pacific Environmental Group, Inc.
2025 Gateway Place, Ste 440
San Jose, CA 95110

PACIFIC
ENVIRONMENTAL
GROUP, INC.

March 31, 1997
Project 304-014.1B

Ms. Juliet Shin
Alameda County Environmental Health Services
Local Oversight Program
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Re: **Work Plan for Subsurface Investigation**
Tosco Service Station 11122
3101 98th Avenue at Las Vegas Avenue
Oakland, California

Dear Ms. Shin:

On behalf of Tosco Corporation (Tosco), Pacific Environmental Group, Inc. (PACIFIC) has prepared this work plan to investigate soil and groundwater conditions at the above referenced site. This work plan was prepared in response to a letter to Tosco from the Alameda County Environmental Health Services (ACEHS) dated February 14, 1997. The ACEHS requested that an additional investigation be performed to further define the extent and severity of petroleum hydrocarbon-impacted groundwater in the vicinity of the former oil/water separator located on the service station property.

BACKGROUND

On December 12, 1996, PACIFIC monitored the closure of an oil/water separator located in the floor of the vehicle service bay at the west side of the service station building (Figure 1). Groundwater was encountered directly beneath the bottom of the oil/water separator. One groundwater sample (OWS-1) was collected from beneath an oil/water separator and analyzed. Total recoverable petroleum hydrocarbons (TRPH) were detected in sample OWS-1 at a concentration of 200 parts per million (ppm). In addition, total petroleum hydrocarbons calculated as gasoline (TPH-g) and benzene were detected at concentrations of 45,000 and 460 parts per billion (ppb), respectively. Other benzene, toluene, ethylbenzene, and xylenes (BTEX compounds) were detected at concentrations up to 6,800 ppb (xylenes). Halogenated volatile organic compounds (HVOCs) and TPH

calculated as diesel (TPH-d) were not detected at concentrations above the laboratory method reporting limits.

The subject facility is located within the low foothills bordering the eastern margin of the San Francisco Bay. The facility lies at an elevation of approximately 200 feet above mean sea level. Previous baseline subsurface investigations performed at the facility by Tosco, encountered bedrock underlying the site at depths ranging from 2 to 17 feet below ground surface (bgs). Groundwater was not encountered in these investigations. Given these subsurface conditions it appears that the groundwater encountered beneath the oil/water separator may be "perched" above shallow bedrock.

PROPOSED SCOPE OF WORK

To assess the extent of hydrocarbons in the subsurface, PACIFIC proposes to perform a limited subsurface exploration program to evaluate the occurrence of groundwater and to further define the extent of hydrocarbon-impacted soil and/or groundwater in the area of the oil/water separator. The investigation will include the collection of soil and groundwater samples from four direct-push borings (GP-1 through GP-4) completed in the vicinity of the oil/water separator. The proposed locations of direct-push Borings GP-1 through GP-4 are shown on Figure 1.

The following tasks represent activities proposed to address the request of the ACEHS. Please note that all work performed and reports submitted shall be completed under the direct supervision of an appropriately registered professional engineer or geologist.

Task 1 - Prefield Activities

After approval of this work plan has been granted by the ACEHS and prior to conducting field activities, PACIFIC will obtain all of the necessary permits and will notify the station manager of the proposed site activities. In addition, PACIFIC will visit the site to mark the proposed boring locations, and will contact Underground Services Alert at least 48-hours before the start of field activities.

Task 2 - Direct-Push Borings and Sample Collection

Direct-push Borings GP-1 through GP-4 will be advanced to a maximum depth of 10 feet bgs using a truck-mounted Geoprobe unit. The borings will be sampled continuously for geologic logging, field hydrocarbon vapor screening, and to determine the depth to first groundwater. A detailed log of each boring will be recorded by a PACIFIC geologist using the Unified Soil Classification System (ASTM D2488).

Where possible, groundwater samples will collected from the boreholes using a 1/2-inch diameter stainless steel bailer that will be steam cleaned prior to sampling each boring.

The groundwater samples will be placed in containers appropriate to each U.S. EPA analytical method being employed. After collection, the soil and groundwater samples will be labeled and stored in an ice-cooled insulated container and transported to a state-certified analytical laboratory along with chain-of-custody documentation. Upon completion of sampling, each boring will be backfilled to the ground surface with neat cement (Portland Type I/II Cement).

Task 3 - Laboratory Analyses

Soil Samples

If shallow groundwater is not encountered, up to two soil samples shall be analyzed from each of the borings. The samples will be analyzed for TPH-g and benzene, toluene, ethylbenzene, and xylenes (BTEX compounds) by EPA Methods 8015 (modified) and 8020, respectively. In addition, the samples will be analyzed for TRPH by EPA Method 418.1, and for TPH-d by EPA Method 8015 (modified).

Groundwater Samples

If shallow groundwater is encountered, groundwater samples shall be analyzed from each of the borings. The samples will be analyzed for TPH-g, BTEX compounds, TRPH, and TPH-d.

Task 4 - Report Preparation

Following completion of the field activities and receipt of the analytical results, the data will be evaluated. A summary report of the findings will be prepared that will include the following information:

- Description of previous site investigation activities.
- Description of field procedures.
- Exploratory boring logs.
- Tabulated results of chemical analyses of soil and groundwater samples, with copies of certified analytical reports and chain-of-custody documentation.
- Site maps showing the lateral extent of hydrocarbon-impacted soil and groundwater.
- A discussion of findings and conclusions.

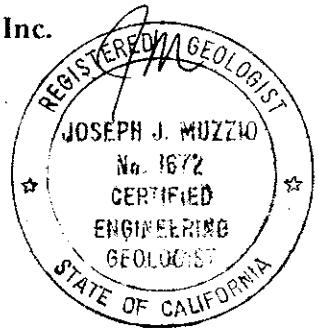
SCHEDULE

PACIFIC is prepared to implement the scope of work upon approval of the work plan by ACEHS, and authorization from Tosco to proceed.

Should you have any questions regarding this work plan or require additional information, please call.

Sincerely,

Pacific Environmental Group, Inc.

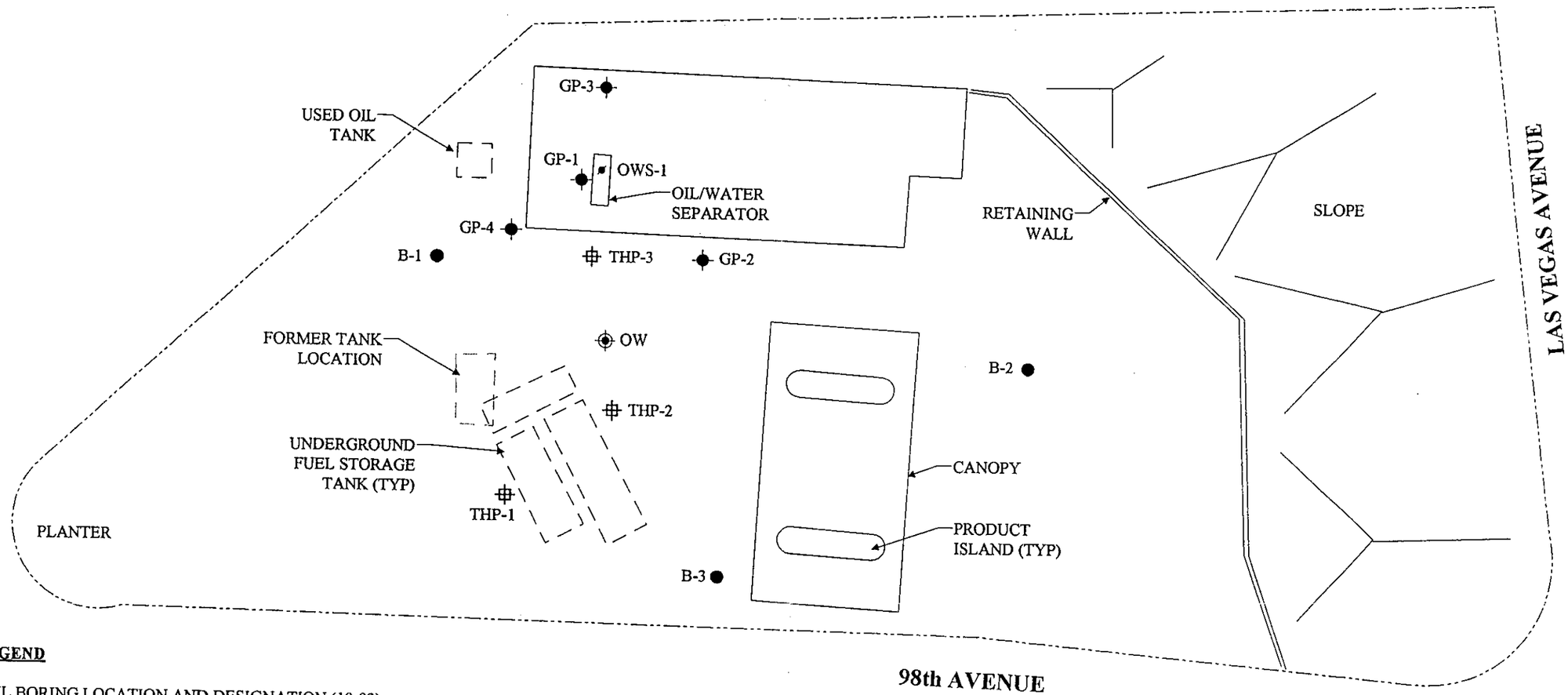


Joseph Muzzio
Project Geologist
C.E.G. 1672

Attachments: Figure 1 - Proposed Direct-Push Boring Location Map

cc: Mr. Tim Johnson, Tosco Northwest Company
Mr. Scott Hooton, British Petroleum
Mr. Kevin Graves, California Regional Water Quality Control Board, San Francisco Bay Region

N



LEGEND

- B-1 ● SOIL BORING LOCATION AND DESIGNATION (10-92)
- THP-1 ⌗ HYDOPUNCH BORING LOCATION AND DESIGNATION (9-94)
- OW ⊕ OBSERVATION WELL LOCATION AND DESIGNATION
- OWS-1 OIL/WATER SEPARATOR GROUNDWATER SAMPLE POINT (12-96)
- GP-1 ✦ PROPOSED DIRECT PUSH BORING LOCATION AND DESIGNATION

SCALE

0 20 40 FEET

Reference: 304/014/Sitemp20.vsd

PACIFIC ENVIRONMENTAL GROUP, INC.

TITLE:

PROPOSED DIRECT-PUSH BORING LOCATION MAP

PREPARED FOR:

TOSCO SERVICE STATION 11122
3101 98th Avenue at Las Vegas Avenue
Oakland, California

DATE: 3-6-97 | PROJECT: 304-014.1B | FIGURE: 1