PACIFIC
ENVIRONMENTAL
GROUP INC.

October 20, 1992
Project 325-04.01

Mr. Kenneth Kan
Chevron U.S.A. Products Company
P.O. Box 5004
San Ramon, California 94583-0804

Re: Former Chevron Service Station 9-7127
Highway I-580 at Grantline Road
Tracy, California

Dear Mr. Kan:

This letter has been prepared by Pacific Environmental Group, Inc. (PACIFIC) as an addendum to PACIFIC's July 3, 1991 work plan which proposed additional investigation of soil and groundwater conditions at the site referenced above. This addendum was prepared in response to a letter from Alameda County Environmental Health (ACEH) dated July 10, 1992 regarding the July 3, 1991 work plan. For reference this addendum has been organized by referring to each ACEH comment followed by a PACIFIC response.

1. *A minimum of three monitoring wells is to be installed if ground water gradient cannot be confirmed. One downgradient well each must be installed within 10' of both the fuel underground storage tank (UST) and waste oil/fuel tank pits.*

   The results of site assessment investigation and subsurface tank and product line/island excavation sampling indicate that hydrocarbon-affected soils at the site are limited the northeast and southern portion of the former tank complex.

   In addition, soils beneath the site consist primarily of clayey-fill soils to a depth of approximately 15 feet underlain by consolidated Cretaceous to Tertiary bedrock. The bedrock was not sampled or overexcavated during previous investigations due the consolidated nature of the material.

   PACIFIC recommends that the scope of work outlined in the July 3, 1991 work plan be modified to the scope of work listed below.

Drill one soil boring in the northeastern portion of the former tank complex and one soil boring in the former planter south of the former tank complex.

The purpose of the soil boring in the northeastern portion of the tank complex is to determine if hydrocarbons previously detected in the clayey-fill soils have permeated bedrock and impacted groundwater. The purpose of the boring south of the former tank complex, is to determine the lateral extent of hydrocarbons south of the tank complex.

The northeastern soil boring will be drilled to a depth of approximately 20 to 40 feet below field evidence of hydrocarbons or to groundwater. The southern boring will be drilled to a depth of approximately 20 feet if hydrocarbons based on field evidence are not observed. If hydrocarbons are observed in the boring, the vertical extent of the hydrocarbons will be investigated.

If groundwater is encountered during the soil investigation, one soil boring will be converted to a temporary groundwater monitoring well. This well will be developed and sampled to determine if hydrocarbons from the site have impacted groundwater.

No. MWs are required for this site if GW ≤ 50'

If groundwater has been impacted the temporary well will be completed as a permanent well and two additional permanent wells will be installed in an anticipated downgradient direction of the waste oil tank and the former tank complex.

2. *The work plan makes reference to several field activities performed by EA Engineering Science and Technology (November 1987), Kleinfelder (December 1987, January and March 1988), and Gettler-Ryan, Inc. (September 1989). To our knowledge, these reports were never sent to this office for review. As these reports will help to evaluate the site history and possible appropriate course of action, we are requesting that copies of these reports be sent.*

   Be advised that additional soil borings may be needed east and west of the fuel UST pit an north of the former dispenser island to adequately determine the lateral extent of soil contamination should our review of these reports indicate so.

   The requested reports were submitted to the ACEH accompanying a letter from Chevron dated July 28, 1992.

The lateral extent of hydrocarbon-affected soils appears to be adequately defined with the exception of the area south of the former tank complex. One soil boring is proposed in this location.

During the removal of the subsurface tanks and product line/islands, soils sampled in the northwest and southeast portions of the tank complex ranged in concentration from non-detected to 2.1 ppm. To the east, soils analyzed at a depth of 20 feet in Boring B-2 detected TPH-g at a concentration below 1 ppm.

3. *A proposal should be submitted to address the remediation of contaminated soil under the former fuel UST pit (up to 710 parts per million of total petroleum hydrocarbons as gasoline was detected at a depth of 14' below ground surface).*

A remedial action, which consisted of the removal and overexcavation of the clayey-fill soils which overly the consolidated bedrock beneath the site, was performed during tank and product line/island removal.

Additional evaluation of remedial alternatives if necessary at the site is proposed to be completed after the scope of work of this investigation is performed. This investigation will determine if: (1) hydrocarbon-affected soils at the site were limited to the clayey-fill soils overlying bedrock which were excavated during tank removal and soil overexcavation, or if (2) hydrocarbons beneath the site has permeated the consolidated bedrock.

4. *Monitoring well construction plans should include the rationale for the selection of screen slot size, casing type, diameter, etc. Include plans for characterizing and disposing of cuttings.*

Monitoring well design is based on anticipated stratigraphy, with consideration given to the anticipated well use, and our experience with monitoring and production (or extraction) well design in [this area]. Specifically, well casing slot size and sand pack selection are based on an evaluation of the anticipated grain-size distribution in the thickness and depth of the most permeable portions of the saturated zone.

Proposed groundwater monitoring wells will be constructed of 2-inch diameter, threaded, Schedule 40 PVC casing and 0.020-inch factor slotted screen. Screen will be placed from the bottom of each boring to approximately 5 feet above the static water level if unconfined groundwater conditions are encountered. The annular space will be

packed with 2/12 or 2/16 graded sand across the entire screened interval, extending approximately 2 feet above the top of the screen. The well was then sealed with approximately 2 feet of bentonite above the sand pack, and cement grout to the ground surface. A locking, watertight cap and protective vault box were installed at the top of each well.

Soil cuttings generated during drilling will be sampled and stockpiled on-site pending the result of laboratory analysis. The results of the laboratory analysis will then be evaluated and appropriate disposal of the soil cuttings will be determined.

5. *Ground water sampling proposal should include a Quality Assurance/Quality Control (QA/QC) plan. This QA/QC plan must include appropriate elements identified in Table 3-7, Appendix D, of the State Water Resources Control Board LUFT Field Manual. Also, the sampling plan should include sampling of the on-site domestic well for TPH-d, TPH-g, and BTEX. Discuss the Chain of Custody procedures to be followed.*

The sampling procedure will consist of first measuring the water level in the wells with an electronic water level indicator, and checking the wells for the presence of separate-phase hydrocarbons using a clear Teflon bailer. If no separate-phase hydrocarbons are detected, the well will be purged of approximately four casing volumes of water (or to dryness) using a bailer. During purging, temperature, pH, and electrical conductivity will be monitored in order to document that these parameters are stable prior to collecting the sample. After purging, the water level will be allowed to partially stabilize. The groundwater samples will be collected using a Teflon bailer, placed into appropriate EPA-approved containers, labelled, logged onto chain-of-custody documents, and transported on ice to a state-certified laboratory. Chain-of-custody documentation is then completed by the representative of a state-certified laboratory. Groundwater purged from site wells will be recycled at the Chevron Richmond Refinery.

QA/QC procedures will consist of trip blanks, equipment blanks, and typical laboratory QA/QC procedures (matrix spike, percent recovery, equipment blank, etc.).

The on-site water-supply well has been sampled approximately 25 times from December 1987 to February 1991. During sampling from December 1987 through January 1988, groundwater samples were collected from a drain spigot located approximately 30 feet from

the well head. Groundwater collected at this location contained low levels of benzene which ranged from 1.0 to 4 parts per billion (ppb).

During sampling from August 1989 through February 1991, groundwater samples were collected directly from the well head through a water discharge valve. Twenty-one groundwater samples collected from this location were non-detected for TPH-g and benzene with the exception of one sample which contained 320 ppb TPH-g and one sample which contained 0.07 ppb benzene.

Based on this data, it appears that the low levels of benzene detected during 1987 and 1988 may be from surface utilities or station facilities. Further, it appears that the two concentrations of TPH-g and benzene detected in the groundwater collected directly at the well are questionable.

PACIFIC recommends that groundwater sampling of this well be discontinued; however, for precautionary measures, water from the well should be posted as non-potable water.

6. *A Site Safety Plan must be provided which adheres to criteria outlined in Title 29 of the Code of Federal Regulations, Part 1910.120.*

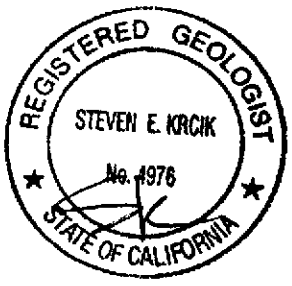
   A Site Safety Plan will be prepared and submitted to the ACEH prior to site work along with well permit applications.

Please call if you have any questions regarding the contents of this letter.

Sincerely,

Pacific Environmental Group, Inc.

Steven E. Krcik
Senior Geologist
RG 4976



3250401/WPADDEN