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AGENCY
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RO0000295

May 15, 2003

Ms. Karen Petryna
Shell Oil Products US
P.O. Box 7869
Burbank, CA 91510-7869

RE: Preferential Pathway Study and SCM for Shell Station, 29 Wildwood Avenue, Piedmont

Dear Ms. Petryna:

This letter follows a review of the historic fuel leak case file for the above referenced site, in response to a request from your consultant, Cambria Environmental Technology, Inc. (Cambria), to reduce the sampling frequency of many of the wells in the limited monitoring well network. This request is denied at this time, as the body of work completed to date appears inadequate to monitor the release(s) from this site. This office is concerned with the continued presence, and periodically elevated concentrations, of the fuel oxygenate Methyl tert-Butyl Ether (MtBE). We are also concerned that the MtBE plume has not been adequately defined. Further, we are concerned about the presence of potential preferential flow pathways, both geogenic and anthropogenic, that may be contributing to the dispersal of contaminants away from the site, skirting the current monitoring network.

This letter presents a request to complete a Preferential Pathway Study and Site Conceptual Model (SCM) for the subject site in accordance with the breadth of California Code of Regulations (CCR), Title 23, Division 3, Chapter 16, Article 11, "Corrective Action Requirements"; State Water Resources Control Board Resolution 9249, "Policies and Procedure for Investigation, Cleanup and Abatement of Discharges Under Water Code Section 13304"; and the Regional Water Quality Control Board (Regional Board) Water Quality Control Plan for the basin.

The following technical comments address investigation and related performance objectives that shall be considered as part of the required technical reports. **We request that you submit a Preferential Pathway Study and SCM.**

TECHNICAL COMMENTS

1. Preferential Pathway Study

   Although we understand that Weiss Associates (WA) conducted a limited utility conduit evaluation in 1992 in preparation for the installation of additional off-site wells, few data specific to this current request were actually evaluated. Consequently, a conduit / preferential pathway survey shall be prepared for the site that identifies potential migration pathways and potential conduits (utilities, storms drains, etc.) that may be present in the vicinity of the site. Geogenic pathways need also be evaluated. Professional interpretations shall be rendered. This survey must include, among other components, the submittal of comprehensive map(s) clearly showing the location and depth of all utility lines and trenches identified in the study, utility/trench slope or grade, flow directions, backfill materials present, and how such characteristics may or may not affect plume dispersal from the site.

You shall also identify the presence of all wells within a ½ mile radius of the site (i.e., monitoring and production wells; active, inactive, standby, destroyed, abandoned).

Using the results of the conduit / preferential pathway study, tank operational histories and records, and data from previous investigations at the site, you are to develop the initial three-dimensional *Site Conceptual Model* (SCM) of site conditions.

2. Site Conceptual Model

Starting with a critical review of the pending conduit study and data from previous investigations and tank operational records for this site, you are to develop the initial three-dimensional SCM of site conditions. A SCM is a set of working hypotheses pertaining to all aspects of the contaminant release, including site geology, hydrogeology, release history, residual and dissolved contamination, attenuation mechanisms, pathways to nearby receptors, and likely impacts to receptors. The SCM is used to identify data gaps that are subsequently filled as the investigation proceeds. As the data gaps are filled, the working hypotheses are modified, and the overall SCM is refined and strengthened. Subsurface investigations continue until the SCM no longer changes as new data are collected. At this point the SCM is considered "validated". The validated SCM forms the foundation for developing the most cost-effective final Corrective Action Plan (CAP). The SCM will also be the basis for determining if additional assessment is warranted and contemplating a reduction in sampling frequencies.

Your attention is directed to *"Strategies for Characterizing Subsurface Releases of Gasoline Containing MtBE"*, American Petroleum Institute Publication No. 4699 dated February 2000 as a resource for development of the SCM. Your attention is also directed to the State Water Resources Control Board (SWRCB) *"Guidelines for Investigation and Cleanup of MTBE and Other Ether-Based Oxygenates, Final Draft"*, dated March 27, 2000, as well as the June 2002 ChevronTexaco Energy Research and Technology Company technical bulletin entitled *"Mass Flux Estimates to Assist Decision-Making"* to help in development and strategies for refinement of the SCM.

TECHINCAL REPORT REQUEST

Please submit technical reports according to, or otherwise comply with, the following schedule:

July 15, 2003 – SCM and Preferential Pathway Study report

July 15, 2003 – Quarterly Report for the Second Quarter 2003

October 15, 2003 – Quarterly Report for the Third Quarter 2003

January 15, 2004 – Quarterly Report for the Fourth Quarter 2003

April 15, 2004 – Quarterly Report for the First Quarter 2004

These reports and work plans are being requested pursuant to the Regional Board's authority under Section 13267(b) of the California Water Code. **Each technical report shall include conclusions and recommendations for the next phases of work required at the site should more appear necessary to refine the SCM.** We request that all required work be performed in a prompt and timely manner, as suggested by the noted schedule, above. Revisions to this schedule shall be requested in writing with appropriate justification for anticipated delays.

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that all work plans and technical reports containing professional geologic or engineering evaluations and/or judgments be completed under the direction of an appropriately registered or certified professional. This registered or certified professional shall sign and wet stamp all such reports and work plans.

All reports and work plans are to be submitted under cover, signed under penalty of perjury, by the Responsible Party(ies) who have taken a lead role in compliance with corrective action directives.

AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the Alameda County District Attorney, for possible enforcement follow up. Enforcement follow up may include administrative action or monetary penalties of up to $10,000 per day for each day of violation of the California Health and Safety Code, Division 20, Chapter 6.76.

If you have any questions, I can be reached at (510) 567-6783.

Sincerely,

Scott O. Seery, CHMM
Hazardous Materials Specialist

c: Betty Graham, RWQCB
Dave Charter, SWRCB UST Fund
John Speakman, Chief, Piedmont Fire Dept., 120 Vista Ave., Piedmont, CA 94611
Matthew Derby, Cambria Env. Technology, 1144-65th St., Ste. B, Oakland, CA 94608
D. Drogos, R. Weston