



**DEPARTMENT OF THE NAVY**  
SOUTHWEST DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
1220 PACIFIC HIGHWAY  
SAN DIEGO, CA 92132-5190

M60050.002417  
MCAS EL TORO  
SSIC #5090.3

5090  
Ser 06CC.DG/595  
September 6, 2000

Mr. John Broderick  
California Regional Quality Control Board  
Santa Ana Region  
3737 Main Street, Suite 500  
Riverside, CA 92501-3339

Dear Mr. Broderick:

The Navy received your letter entitled, 'Review of Final Work Plan MPE Pilot Study, Site 16, Former Marine Corps Air Station, El Toro' on 16 August 2000. The letter indicates the Navy provided insufficient time for resolution of the pertinent design issues from the draft work plan. The letter also includes two follow-up comments regarding design issues related to your comments on the draft final work plan. The following provides the rationale for submittal of the final work plan on 31 July 2000 and responds to the two comments provided in your letter.

#### **Final Work Plan Submittal**

At the BCT meeting held on 26 July 2000 with representatives from the RWQCB, DTSC, U.S. EPA, the Navy, and the Navy's contractor, a conference call was held. The purpose of the conference call was to discuss the best approach to resolving remaining design issues with the RWQCB without impacting the pilot study schedule. The Navy suggested that the installation of monitoring wells should be allowed to be initiated, as the unresolved design issues pertained to the multi-phase extraction (MPE) well and not the monitoring wells. The Navy stated that the MPE well would not be installed until the RWQCB, Navy, and Navy contractor had conducted a conference call to discuss the unresolved design issues. In the interim, the Navy and their contractor could address the remaining comments previously raised by RWQCB. Ms. Ann Sturdivant from your office was attending in your absence and agreed with the other regulators on this approach. The BCT agreed to allow the final work plan to be submitted provided the text of the work plan included the stipulation that slot size of the well screens for MPE would be reevaluated based on sieve analysis results from monitoring well screening intervals.

Subsequently, the Navy held a conference call with you on 10 August 2000 to discuss the remaining design issues for MPE as well as providing additional rationale for the selection of the design parameters. The outstanding issues were related to the slot size, the boring size, and vacuum blower size for the MPE well. Based on the discussion, you requested that the Navy notify you at least two days prior to installation of the MPE extraction well as well as notify you prior to the pilot study start-up. The Navy agreed to notify you as well as the other members of the BCT prior to commencing these activities.

## **Basic Design For The Pilot Study**

The Navy instructed their contractor to reevaluate the slot size and boring diameter selected for the MPE well location based on your comments on the draft final work plan. The contractor used site-specific soil data as well as the Site 24 information and calculated the most appropriate slot size as 0.02 inches (same as initial calculation). Additionally, the contractor has received the results from sieve analysis for the recently installed monitoring wells. Design calculations for slot size were completed and indicated that 0.02-inch casing slots was in fact the most appropriate size.

An MPE well of similar design has been proven successful in removing contaminants at Site 24 and the same design approach was used for the MPE well design at Site 16. The additional site-specific sieve analysis conducted for newly installed wells confirms the slot-size selected is appropriate for the design of the MPE well. Based on the information provided, the Navy plans to install the MPE well using the design in the final work plan.

## **Removal of Total Petroleum Hydrocarbons (TPH)**

The system design for the MPE pilot study is based on the contamination of VOCs, specifically trichloroethene (TCE), in the groundwater and vadose zone immediately above the groundwater. The design is consistent with the remedial action objectives stated in the Feasibility Study (FS) for Site 16. The TPH mass present in the vadose zone was determined in the Remedial Investigation (RI) for Site 16 as not being a threat to the groundwater, as the TPH was generally immobile due to low rainfall and net infiltration. Therefore, the removal of TPH from the soil has not been considered as a design factor since the objective of the pilot study is to evaluate MPE in removing VOCs from groundwater and the vadose zone.

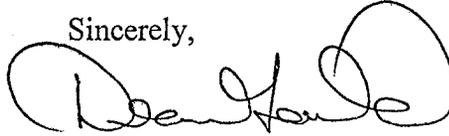
The MPE pilot study results will include an evaluation of the effects of the MPE system to determine whether petroleum hydrocarbons in the vadose zone are being biologically degraded. The results of this evaluation will be incorporated into the design for the full-scale treatment system.

## **Summary**

The Navy appreciates the Regional Water Quality Control Board's comments on the Final Work Plan MPE Pilot Study, Site 16, at MCAS El Toro. However, we believe that the design presented in the work plan and as supported in this document will meet the pilot study objective of evaluating MPE technology at Site 16 since the design is based on site-specific information and experience with an MPE system at an adjacent site.

Should you have any questions or comments, please feel free to contact Mr. Marc Smits at (619) 532-0793, or myself at (619) 532-0784.

Sincerely,

A handwritten signature in black ink, appearing to read "Dean Gould". The signature is fluid and cursive, with a large loop at the end.

DEAN GOULD  
Base Realignment and Closure  
Environmental Coordinator  
By direction of the Commander

Copy to:

Mr. Glenn Kistner  
U.S. Environmental Protection Agency  
Region IX  
Mail Code STD-8-2  
75 Hawthorne Street  
San Francisco, CA 94105-3901

Ms. Triss Chesney  
California Environmental Protection Agency  
Department of Toxic Substances Control  
5796 Corporate Avenue  
Cypress, CA 90630-4700

Mr. Michael Lapin  
El Toro Master Development Program  
10 Civic Center Plaza, Second Floor  
Santa Ana, CA 92701

Dr. Chuck Bennett  
Restoration Advisory Board Subcommittee Chairman  
224 Jacaranda Street  
Fullerton, CA 92632

Mr. Gregory F. Hurley  
Restoration Advisory Board Co-Chair  
Kutak Rock  
620 Newport Center Drive, Suite 450  
Newport Beach, CA 92660