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Mr. Ernest Cerini  
Officer in Charge of Construction, Southwest  
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San Diego, CA 92132-5190

VERIFICATION STEP PLAN OF ACTION, CONFIRMATION STUDY;  
MCAS EL TORO AND TUSTIN

Dear Mr. Cerini:

We have completed our review of the March 1988 Verification Step Plan of Action for the Marine Corps Air Stations at El Toro and Tustin. This Plan outlines the proposed field activities and techniques to verify the presence or absence of contamination at the potentially hazardous sites located at the two air stations. This Plan was prepared by your contractor, James M. Montgomery Consulting Engineers, Inc.

In general, we believe the proposed site investigations and methodology are well supported by site-specific information or known hydrogeologic details. However, with the objective of verification in mind, our general concern about the Plan is for the adequacy of the scope and extent of the proposed investigations at the individual sites. Under the Installation and Restoration Program, the results of these investigations will be used to justify or eliminate the need for additional characterization work at the sites. For those sites where contamination is confirmed, further site characterization activities will be performed. However, our primary concern is that the proposed investigations must be adequate to sufficiently characterize the site and justify the elimination of further investigation, for those sites where no contamination is found.

Our additional comments on the Plan of Action are attached. These comments represent items that warrant expansion of the proposed Plan of Action or additional justification. These comments are referenced by page number where applicable.

If you should have any questions, please call me or Steven Overman of our Pollutant Investigation Section.

VERIFICATION STEP PLAN OF ACTION - CONFIRMATION STUDY  
MARINE CORPS AIR STATIONS TUSTIN AND EL TORO

SPECIFIC COMMENTS

1. (Table 3-1) Chemical analyses

Table 3-1 of the Plan of Action summarizes all of the proposed chemical analyses for either soil or ground water samples that will be collected during the field investigations. In addition to Table 3-1, Section 2 of the Plan of Action describes the site specific sampling activities and analytical procedures.

According to these references, the proposed site investigations described by the Plan of Action do not include soil or ground water analyses for Total Petroleum Hydrocarbons. Board staff believes that this omission is not appropriate and that the proposed analytical procedure for Oil and Grease is not a valid substitute. Therefore, The Plan of Action should be expanded to include soil and/or ground water analyses for Total Petroleum Hydrocarbons (TPH) by EPA Methods 8015, Modified 8015, and Method 418.1, as appropriate. The appropriate analytical procedure for TPH should be included for any soil or ground water samples collected from any site that may potentially include jet fuel, oil, gasoline, or any other petroleum product waste.

2. Vadose zone soil sampling at MCAS El Toro

According to Table 4-1 and the descriptions of the individual site investigations, the verification of either soil or ground water contamination is heavily dependent on either shallow soil samples (surface to 18 inches) or ground water samples collected from either monitoring wells or the Hydropunch method. The selection of either shallow soil samples or ground water samples as a basis for the site investigations was the result of an evaluation of the respective sources of contamination, the transport mechanisms, and the probable extent of any contamination.

While Board staff agrees with this approach, the proposed investigations at MCAS El Toro eliminate any verification or characterization of the vadose zone below 18 inches (with the exception of Site 9). Unlike MCAS Tustin, with shallow ground water at a depth of approximately 15 feet, the depth to ground water at MCAS El Toro is least 45 feet. In addition, MCAS El Toro is characterized by several subsurface sources of potential contamination that may have

resulted in contamination that extends throughout the soil column. As a result, the proposed investigations at MCAS El Toro will not address and cannot verify any vadose zone contamination below 18 inches unless that contamination has already extended to the ground water and can be detected in the ground water.

3. (pg. 3-4) Monitoring well installation

The Plan of Action, page 3-4, describes the monitoring well installation activities that will be performed during the site investigations. According to this description, soil samples will be collected at 10-foot intervals for lithologic logging and to accurately determine the depth at which ground water is encountered.

Board staff believes that the installation of the monitoring wells presents an excellent opportunity to obtain deeper vadose zone soil samples for verification screening, testing or analysis. Therefore, in light of the concerns expressed by Comment No. 2 above, Board staff believes that the monitoring well installation procedures should at least incorporate field-screening of the soil samples by an H-Nu meter or similar device to characterize any volatile aromatic compounds that may be present in the deeper vadose zone. Based on the field instrument readings, the monitoring well installation procedures should incorporate a provision to collect soil samples by a split-spoon sampler for analysis.

4. (pg. 2-16) MCAS El Toro Crash Crew Pit No. 1, Site 9

According to the Plan of Action, page 2-16, the site investigations for Site 9 include 4 deep soil samples (10 feet) and one hydropunch sample. Due to the nature of the source, Board staff believes that the investigations for Site 9 should include the installation of a minimum of three monitoring wells.

5. (pg. 2-23) MCAS Crash Crew Pit No. 2, Site 16

According to the Plan of Action, page 2-23, the site investigations for Site 16 will include the collection of 3 sediment samples and the installation of three monitoring wells. Board staff believes that the investigations for Site 16 should include the collection of deeper vadose zone soil samples during the installation of the monitoring wells or by additional deeper borings.