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MCAS EL TORO  
SSIC NO. 5090.3.A

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## ORANGE COUNTY WATER DISTRICT

November 6, 1990

Mr. Larry L. Nuzum  
Remedial Project Manager  
Southwest Division Naval Facilities Engineering Command  
Code 018C, 1220 Pacific Highway  
San Diego, California 92132-5190

Subject: Comments on Draft Documents Describing the Remedial Investigation/Feasibility Study at and in the vicinity of MCAS El Toro

Dear Mr. Nuzum:

The Orange County Water District (OCWD) staff has reviewed the following draft documents provided by the Navy regarding the RI/FS at MCAS El Toro: Work Plan, Sampling and Analysis Plan (SAP), and Community Relations Plan (CRP). This letter presents OCWD's comments on these documents based on our review. Many of the comments were already discussed during our meetings on October 25 and 26, 1990.

OCWD supports the Navy's recognition of the regional groundwater VOC contamination (Operable Unit 1 or Site 18) as the number one priority for this investigation, as stated recently by the Assistant Secretary of the Navy. The groundwater within the Irvine Subbasin has been designated by the California Regional Water Quality Control Board as a potable supply. OCWD is currently in the design phase of the Irvine Desalter Project, the water from which will be used to further offset Orange County's dependence on imported supplies, particularly under continued drought conditions. OCWD has expended a significant effort since 1985 to investigate and implement initial remedial actions for groundwater contamination that we believe emanated from MCAS El Toro. In fact, the data collected by OCWD was instrumental in MCAS El Toro being placed on the National Priorities List by the EPA, as well as by the Marines in the preparation of the Draft RI/FS Workplan. Based on these considerations, OCWD's concerns/comments presented herein are primarily focused on the investigation and ultimate cleanup of the off-base VOC contamination.

**RI/FS WORK PLAN COMMENTS:**

1. References in the work plan (p. 5, 39) indicated that the OCWD-installed wells will not be included in the RI/FS, however "future" data collected by OCWD would be incorporated into the RI/FS. The work plan also states "the downgradient extent of the VOC plume has been fairly well delineated" (p. 39). The ten "MCAS" wells, constructed by OCWD and used to delineate the plume, should formally be included into the RI/FS, pending approval by regulatory agencies of OCWD's construction and data collection standards. This includes all historical piezometric levels and chemical data collected and all future piezometric level monitoring and water quality sampling and analysis activities, which should be performed by the Navy's contractors. OCWD agrees with the statements made by the EPA at the Technical Review Committee (TRC) meeting on October 26 that, regardless of the ultimate source area, the Navy is responsible for the delineating known or suspected areas of contamination on and near MCAS El Toro. References to the Navy's responsibilities and stated goals for fully evaluating the extent of contamination during RI/FS are also described in Section 6.2(a) of the Federal Facilities Agreement and in Section 4.5.18.1 of the Sampling and Analysis Plan.
2. The northwest edge of the TCE plume has not been defined. TCE has been found in trace levels at two irrigation wells (TIC 78 and TIC 113) along Culver Drive. These wells are over 2,500 feet apart, indicating that the plume is at least this wide. Because these irrigation wells are screened over several hundred feet, it is not known which aquifer zones are contaminated or what the actual TCE concentrations are. Therefore, at least one multi-point or cluster well should be constructed near the corner of Culver Drive and Irvine Center Drive (the axis of the plume) to determine the depth-specific TCE concentrations and to measure the rate of plume migration. In addition, three downgradient "clean" wells, spaced approximately 1,500 feet apart, should be constructed northwest of and parallel to Culver Drive to ensure that the plume has been delineated and to indicate the presence of further northwestward plume migration. To the extent that the specific contaminated aquifer zones can be determined from the multi-point well(s) on Culver Drive, it may only be necessary to screen the outer three downgradient wells at those specific depth intervals.
3. No mention is made of the several active irrigation wells in the study area. Their importance as pumping points and the resulting affects on the groundwater flow patterns and possible use as "qualitative indicator" sampling points should be addressed. A particular question to answer is whether the active wells within the plume (ET-1, TIC 78, TIC 113, and the Woodbridge North Lake well) will halt the migration of the VOC plume.

4. Please describe what criteria the Navy (and regulatory agencies) will use to determine if/when an interim remedial action is to be undertaken. Statements made by the Assistant Secretary of the Navy, confirmed at the Project Managers and TRC meetings, indicated that interim cleanup would be implemented if contamination poses a threat to the public.
5. Following the initial comprehensive sampling and analysis, all monitoring wells should be sampled quarterly for prior detected or suspected VOCs. After four quarters, the sampling frequency may be decreased to semi-annually for specific wells/constituents if little change in concentrations is observed. In addition, primary cations/anions should be sampled/analyzed at least annually. In the Irvine Subbasin, the inorganic parameters are particularly useful in identifying different water quality types, indicating hydrologic connection/separation.
6. Water levels should be measured and analyzed quarterly for all monitoring wells. Due to seasonal pumping, piezometric levels in the Irvine Subbasin change rapidly. Changes in gradient resulting from the seasonal pumping should be monitored for potential plume migration impacts.
7. The phased approach of the RI/FS, alluded to at the TRC meeting, is not well defined on page 1. The second phase is defined here as the FS. Is a second phase of the RI planned? If so, please describe it's objectives.
8. P. 4, last paragraph: Chlorinated VOCs should be listed here as "suspected soil contaminants", in addition to petroleum products and PCBs. The stated "inconsistency" between the suspected soil contaminants and the VOCs detected in groundwater should be explained here.
9. P. 5, Sect. 2.2.4: The RI/FS investigation boundary should extend beyond Culver Drive, as groundwater VOC contamination already occurs along Culver Drive. OCWD suggests extending the study area's western boundary to about 1/3 mile northwest of and parallel to Culver Drive.
10. P. 5, Sect. 2.2.5: Contrary to what this section states, the OCWD MCAS wells were included in the well inventory, as described in Appendix A.
11. P. 9, first paragraph: The second sentence should state "Along the southern perimeter of the base...". The depth to groundwater is unknown along most of the other base boundaries.

12. P. 23, Sect. 2.4.8.2: The presence of VOCs in shallow groundwater in nearby well PS-3, as well as the storage of "containerized liquids of UNKNOWN composition" support placing this site in OU-2, as a suspected source of VOC contamination. Please comment.
13. P. 31, Sect. 2.4.14.2: Contaminants of concern at Site 14 include methylene chloride and "other solvents from paint products". Please comment on why this site should not be included in OU-2.
14. P. 39, Sect. 2.4.18.1: It is conjecture to state that prior investigations have "delineated three separate areas of VOC contamination in shallow groundwater". Sufficient data are not available to support this statement.
15. P. 39, Sect. 2.4.18.2: Correct/explain the statement that excludes the OCWD wells from being utilized during the RI/FS. This contradicts other portions of the work plan that include these wells in the study.
16. P. 40, Fig. 21: Wells MCAS-4, -5, -6, -8, -9, and -10 are not multi-point wells, as illustrated in this figure. They are single-point wells.
17. P. 54, Sect. 3.4: ARARs for groundwater remediation should include California Title 22 drinking water standards, as this basin is designated as a potable supply source.

#### SAMPLING AND ANALYSIS PLAN (SAP) COMMENTS:

1. P. 1, first paragraph: The last sentence states that no sampling and analysis have been conducted at any of the 21 sites, except Site 19. This is misleading, as it ignores the Perimeter Study wells constructed and sampled by J. M. Montgomery in 1989 (now included in Site 18).
2. P. 1, 3rd paragraph: OU-1 includes OCWD wells. As stated above, OCWD requests that future sampling/analysis of the "MCAS" wells be performed by Navy contractors who are equipped and trained in the methods described in the Quality Assurance Project Plan.
3. P. 19, 2nd paragraph: Last sentence appears to contradict statements made on page 1 regarding use of OCWD-installed wells.
4. PP. 75,76 , Figures 24 and 25: Please correct single-point MCAS well designation, as described in comment #16 above.

5. P. 136, Sect. 4.5.18.1: The statement that OCWD has delineated the horizontal and vertical plume extent is not correct. As stated above, the northwest edge of the plume has not been defined past Culver Drive.

COMMUNITY RELATIONS PLAN (CRP) COMMENTS:

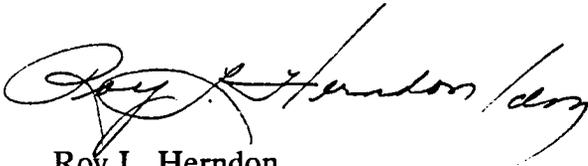
1. A paragraph describing the present/future uses of the groundwater beneath Irvine should be included in the CRP, possibly under Sect. 2.4. This should discuss the present sources of drinking water for the residents within the study area (i.e. the Dyer Road well field and imported water) and should mention the proposed Irvine Desalter Project, which will provide additional potable supply from within the study area.
2. A brief description should be included on the roles/responsibilities of the regulatory agencies (EPA, DOHS, RWQCB) and local agencies (OCWD, IRWD, OCHCA). All of these agencies have important responsibilities and receive numerous inquiries pertaining to this project. A description such as this will hopefully decrease the understandable confusion that may exist in the public on "who is doing what". Each agency should be contacted to provide a brief statement on its role/responsibilities.
3. P. 12, Site 18: The word "possible", in front of "offsite plume", should be deleted. An off-site plume is known to exist.
4. P. 14, Sect. 2.3.3: No mention is made of the TCE pumpout project undertaken by OCWD and the City of Irvine. Under mitigation measures, the following statement should be included: "OCWD and the City of Irvine initiated interim cleanup of the off-site portion of the groundwater VOC contamination by constructing a 1 million-gallon-per-day extraction well and treatment system at the corner of Jeffrey Road and Irvine Center Drive."
5. P. 17, last paragraph: As far as OCWD is concerned, the TCE Cleanup Citizens Advisory Committee may be a defunct group, as it has not met in well over a year. Most of the "members" were selected by the City of Irvine and may reside on the City's Hazardous Materials Advisory Committee. The City or each individual should be contacted as to membership status.
6. P. 26, Sect. 4.4: Please correct/delete, as appropriate, mention of the OCWD TCE Cleanup Advisory Committee per Item 3.

Mr. Larry L. Nuzum  
November 6, 1990  
Page 6

7. P. A-5: Substitute Roy Herndon, Project Hydrogeologist, for James Reilly on the address list for OCWD.

OCWD appreciates the magnitude of the scope of work ahead of the Navy on this project. We believe a proactive stance by the Navy will keep the project on schedule and moving toward the ultimate goal of final remediation. Because of its long-term involvement in this project, OCWD staff have become very familiar with the local hydrogeology and groundwater production activities in the area. We would like to extend our support to the Navy in its efforts on this project and look forward to future meetings to discuss technical issues. Please contact me at (714) 693-8167 if there are any questions regarding these comments.

Sincerely,



Roy L. Herndon  
Project Hydrogeologist

/rlh

cc: Ken Williams, Santa Ana Regional Water Quality Control Board  
Manny Alonzo, California Department of Health Services  
John Hamill, Environmental Protection Agency  
Sat Tamaribuchi, The Irvine Company  
Ron Young, Irvine Ranch Water District  
Fran Winslow, City Of Irvine

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