



UNITED STATES MARINE CORPS

MARINE CORPS AIR STATION
EL TORO (SANTA ANA), CALIFORNIA 92709-5010

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c. D. H. et al

IN REPLY REFER TO:
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APR 09 1992

U. S. Environmental Protection Agency
Region IX
Attn: Ms. Nahid Zoueshtiagh (H-3-3)
75 Hawthorne Street
San Francisco, CA 94105

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ACTIVITY FILE

Dear Ms. Zoueshtiagh:

We will investigate conditions at the MCAS El Toro Explosive Ordnance Disposal (EOD) range as part of our current CERCLA remedial investigation (RI). The portion of the RI work plan that Mrs. Chrisa Mitchell discussed with you on 11 March is enclosed.

The EOD range no longer is used for disposal and we have no plans to use it as a disposal facility in the future. Consequently, we believe that our CERCLA-based Installation Restoration Program is the most appropriate way to address EOD range analysis and cleanup.

MCAS El Toro is a National Priority List site covered by a signed Federal Facilities Agreement (FFA). The FFA provides for all substantive measures needed to analyze and, if necessary, clean up the EOD range. We believe that the closure plan described in your 3 July 1991 letter (H-3-3 ID# CA 6170023208) is an administrative requirement that does not apply to the current situation. You may wish to contact Mr. John Hamill, EPA Region 9 Federal Facility Enforcement Branch, for further information about the FFA.

Preparation of a RCRA closure plan for the EOD range would be costly, time-consuming, and would duplicate work currently underway. We are convinced that our FFA will provide an equivalent level of environmental protection. If you disagree, please advise us immediately. Please contact Chrisa Mitchell at (714) 726-6607 if you have any questions.

Sincerely,

WAYNE D. LEE
Environmental Director
Facilities Management Department

Copy to:
CMC (LFL)
COMCABWEST (AQ2)
EOD (1DF7)
SOUTHWESTINAVFACENGGCOM (18)

4.7 Sampling Strategies at Operable Unit 3

4.7.1 Introduction

OU-3 consists of 16 sites at which various types of contaminants and wastes were used, leaked, spilled, disposed, burned, or which may have otherwise contributed to local contamination. Information on potential contamination at these sites was based on records review and employee interviews. Except for Site 19 (ACER Site), no analytical data have been obtained to confirm or characterize contamination at any of these sites. Exact locations of some of the sites are in question because the associated area has been filled in, paved over, or otherwise altered.

4.7.2 Explosive Ordnance Disposal Range (Site 1)

The purpose of sampling and analysis at the EOD Range is to evaluate whether FS smoke disposal operations and EOD operations have had an impact on soils or shallow groundwater. Figure 4-8 shows the proposed sampling locations for this site. Table 4-15 summarizes the analyses that will be performed on these samples. Twenty drums containing FS smoke were disposed here in 1982. Various types of explosives and small munitions are still being detonated and buried here. Because of the dam located immediately upgradient from the site, the permeable soil, and the obliteration of the natural drainage way through disking, surface water is not expected to be a significant contaminant pathway.

Therefore, no surface water or drainage sediment samples will be collected at the EOD Range during Phase I.

4.7.2.1 Groundwater

Three monitoring wells are proposed, one upgradient and two downgradient of the disposal area. The upgradient well, located along a tributary to Borrego Canyon Wash above the EOD Range, will also serve as a background well for the regional VOC investigation. This well will be drilled first, as part of sequencing activities during Phase I. The downgradient wells will be located outside the fence to the south of the site. No drilling will be conducted within the site itself, because of the potential safety risk posed by buried but unexploded ordnance. These wells will be screened across the water table, and analyses of the groundwater will include the same parameters proposed for groundwater at all OU-2 and -3 sites: TCL and TAL compounds (volatiles, semivolatiles, metals, pesticides and PCBs); major anions (chloride, sulfate, alkalinity, and nitrate); pH; specific conductivity; TDS; TPH; and TFH. Gross alpha and beta radionuclides have been added to the list for Site 1 because of the possibility that low-level radioactive materials may have been disposed of here at one time. The rationale for selection of these groundwater analyses is to provide an initial indication of the presence of contamination relating to the operations at the site and to characterize the groundwater geochemistry.

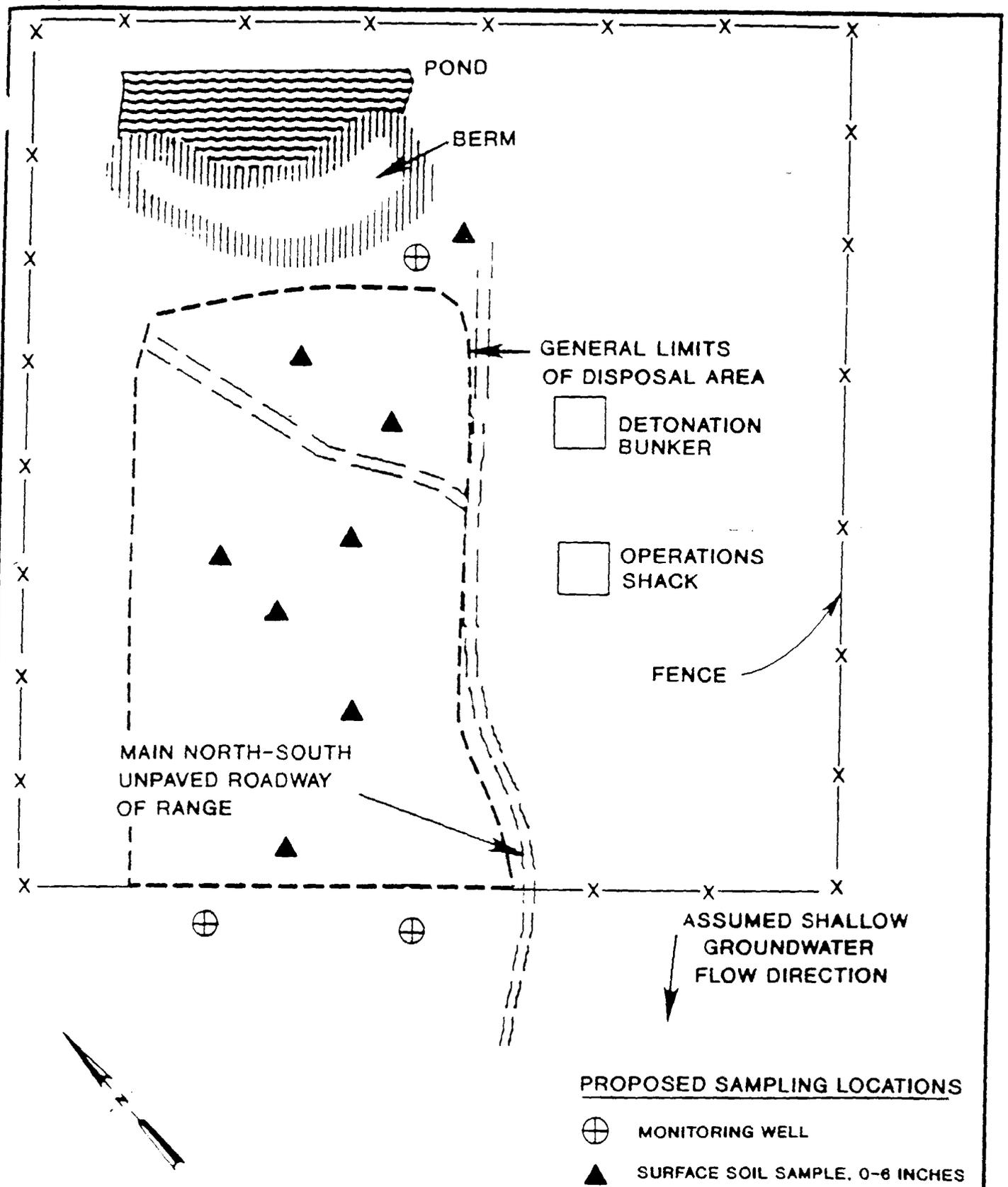
In addition, a sample of groundwater will be collected during development and analyzed for volatiles, to provide an early indication of the presence of

**Table 4-15
Sample Analyses: Site 1 - Explosive Ordnance Disposal Range**

Type of Sample	Number of Samples	Volatile Organics	Semivolatile Organics	Metals	TPH	Fuel Hydrocarbons	Pesticides/PCBs	pH	Specific Conductivity	TDS	Selected Anions	Gross Alpha/Beta	Dioxins and Furans	TOC	TKN and Ammonia
GW	3 ^a	X	X	X	X	X	X	X	X	X	X	X			
S	11 ^b	X	X	X	X	X		X					X ^c	X ^d	X

^a First round samples only
^b Additional samples may be collected and analyzed, based on field evidence
^c Three samples to be analyzed
^d A soil sample collected below the water table at each well will be analyzed for TOC. Total of 3 analyses

NOTE
 GW = Groundwater
 S = Soil



DRAWING NOT TO SCALE
 ALL DISTANCES APPROXIMATE

FIGURE 4-8
 SAMPLING PLAN FOR OU-3: SITE 1
 EXPLOSIVE ORDNANCE
 DISPOSAL RANGE

MODIFIED FROM JMM. 1988



contaminants. Fast turnaround will be requested, since results may influence the placement of wells. Monitoring wells are located to intercept potential contamination and derive groundwater flow directions.

Geophysical surveys will be conducted at the EOD Range as an early activity of Phase I. These surveys will be used to locate disposal area and establish site boundaries. Well locations may be altered, based on the results of the surveys. For example, a well may be relocated to lie downgradient from a specific disposal area.

4.7.2.2 Soils

Eight surface soil samples will be collected as part of the sampling plan, to characterize the distribution of contaminants and assess the risk to Marine personnel working at the site. All soil samples will be collected from 0 to 6 inches in depth. Because of the disking activities and the dispersion caused by explosions, contaminants may be well-mixed in surface soil at the EOD Range. Analyses will include volatile and semivolatile organics, metals, TPH, TFH, ammonia, Total Kjeldahl Nitrogen (TKN), and soil pH. The laboratory will be asked to look for and identify TICs among nitrogen-containing semivolatile compounds. If Phase I results indicate the need, samples collected in Phase II may be analyzed for specific compounds found in explosives, such as nitrated toluenes. The upgradient soil sample will be analyzed for TAL metals only.

Soil samples will also be collected during the drilling of monitoring wells. In up- and downgradient monitoring wells, drive samples will be collected at 10-foot intervals to a depth of 60 feet, to continue at 20-foot intervals. These samples will be given soil headspace analyses with an OVA or similar field instrument, and the results recorded in a field notebook. As the boring advances to within 30 feet of the water table, drive samples will be taken at 10-foot intervals and subjected to headspace analysis. Based on the results of this analysis and on visual evidence, one sample will be selected from this 30-foot zone and submitted to the laboratory for analysis of the general suite of parameters for Site 1, as shown in Table 4-15.

In addition, one sample will be driven from the zone beneath the water table that will be screened in the well. Based on the results of the field headspace analysis, the sample may be analyzed for volatiles. In any case, the sample will be given TOC and grain-size analyses.

4.7.3 Ferrocene Spill Area (Site 4)

Figure 4-9 gives the locations and types of environmental samples to be collected as part of the initial investigation of Site 4. Table 4-16 summarizes the sample analyses at Site 4. Site 4 has been included in the RI/FS because of a five-gallon ferrocene spill that took place in 1983. In addition, Building 658 is an engine testing facility and may be a potential source of solvent contamination. A soil stain lies just east of Building 658 and along the ditch that receives runoff from this building (see Figure 4-9).