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MCAS EL TORO
SSIC # 5090.3

MARINE CORPS AIR STATION EL TORO, CALIFORNIA

INSTALLATION RESTORATION PROGRAM SUMMARY OF AGENCY COMMENTS AND RESPONSES TO THE RI/FS WORK PLAN, SAMPLING AND ANALYSIS PLAN, AND SITE SAFETY AND HEALTH PLAN

29 APRIL 1991

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Addendum A

AGENCY COMMENTS TO MCAS EL TORO

DRAFT FINAL RI/FS WORK PLAN

Project:	MCAS El Toro RI/FS	**Comment Date:**	29 March 1991
Reviewer:	United States Environmental Protection Agency (EPA)	**Project No.:**	LAO28730.18.RF
Document:	Draft Final Work Plan	**Response Date:**	24 April 1991

SPECIFIC COMMENTS

Reference Page/ Comment No.: 1.

Comments: Specific Comment 32 on the Draft Work Plan (10 September 1990) discusses the need for quantitation limits lower than Contract Laboratory Program (CLP) limits when risk assessment considerations require them. The responsiveness summary (21 January 1991) states that special analytical services (SAS) will be requested for those chemicals that have risk assessment required detection limits lower than CLP quantitation limits." It is assumed that the FSP will detail which chemicals require SAS. It is also assumed that future data evaluations, from both a risk assessment and applicable or relevant and appropriate requirements (ARARs) perspective, will uncover additional chemicals requiring SAS. Because of this EPA requests that SAS be added to the list of potential Phase II activities found in Section 5.3.3, pages 5-23 through 5-24.

Action: The RI/FS Work Plan specifies which parameters require SAS analysis during Remedial Investigation (RI) Phase I (Section 4.4.2, Page 4-22). SAS analysis will not be required for VOCs in RI Phase I water samples. Routine analytical services analysis (e.g., GC/MS) with a detection limit of 1 ppb is instead specified. The SAS analysis will be requested for RI Phase II samples, to achieve detection limits below ARARs or risk assessment based criteria for observed chemicals.

Reference Page/ Comment No.: 2.

Specific Comment 57 has not been addressed in the Work Plan. It is understood that the addition of a Data Management Plan (DMP) (Section 5.5, pages 5-25 through 5-28) could act as the vehicle to answer the concerns raised in the specific comment. However, this material was supposed to be contained in the Work Plan. The Work Plan should also contain a report format outline and a schedule for review and approval by EPA.

Any of the specific comments which are not addressed in the DMP should be addressed in the RI/Feasibility Study (FS) Work Plan.

Action: Comment 57 on the Draft Work Plan requested the specifics of how and when the Phase I data will be assessed and evaluated. Specific analyses and data evaluations that will be completed as part of Phase I were added to the Draft Final Work Plan in Section 5.5 (page 5-25 to 5-28). This discussion provides most of the detail needed to answer this comment. Geologic cross-sections and contaminant distribution maps will be updated periodically during Phase I to focus the remaining field work. Computer modeling of groundwater, surface water, or air transport is not included in Phase I, but will be considered for Phase II based on the Phase I results. The RI report outline is provided in Table 5-3 (page 5-43) of the Work Plan.

Technical memoranda will be prepared to summarize individual tasks completed during the field investigation to document work as it is completed. A formal agency review of these technical memorandums and subsequent revision of the documents is not required by the Federal Facilities Agreement (FFA), but the Navy is anxious to share all Phase I information with the agencies. The content of the technical memornadum will be incorporated into the Phase I technical memorandum, and agency comments on these documents would be incorporated at that time. Technical memoranda are anticipated on the following topics:

- Review of Orange County Water District (OCWD) well data
- Review of aerial photographs
- Assessment of depth of waste at landfill sites
- Review of SWAT reports, Tank 398 investigation, and NPDES monitoring data
- Summary of geophysical investigations
- Summary of aquifer test analysis

Data and updates to the conceptual site model will be shared with the agencies during the monthly progress meetings. These meetings will provide the opportunity for detailed exchanges of the findings of the field program. Updates on the field work may be provided in community relations fact sheets as determined by consensus between the Navy and regulatory agencies.

ADDITIONAL COMMENTS

Reference Page/ Comment No.: 1.

Comments: No discussion of tentatively identified compounds (TICs) appears in the Work Plan except for a mention on page 5-32. No elaboration has been found in the FSP. Will the laboratory report and identify any and/or all compounds detected that are not found on the TCL/TAL? Will EPA be notified of the detection of any unknown compounds in any analysis?

Action: All analyses for volatile organic compounds and semivolatile organic compounds will be analyzed for TICs. The laboratories will be requested to search specifically for nitrated toluenes at Site 1. All TICs reported by the laboratories will be included in the validated data packets. All TICs and estimated concentrations will be entered into the environmental data base. An updated list of TICs will be maintained by the data entry personnel, so that printouts of TICs identified throughout the base may be summarized in tabular or graphical format.

Reference Page/ Comment No.: 2.

Comments: What items are anticipated to be covered with Phase I Technical Memorandum? Will the Navy provide a list?

Action: The following items will be covered in the RI Phase I Technical Memorandum:

- Geology
- Hydrology
- RI Phase I data summary
- Nature and extent of contamination
- Preliminary baseline risk assessment
- Updated conceptual site model
- Assessment of potential contaminant migration

Reference Page/ Sheet No.: Page 3-5 and 3-7, Table 3-2 and Table 3-3

Comments: No chemical constituents are provided for the various formulated waste types suspected to have been disposed of at MCAS El Toro, such as brake fluid, transmission fluid, etc. See Appendix II, "Listing of Common Pollutants Generated by Seven Industries," Guidance for Data Useability in Risk Assessment, Interim Final (USEPA, October 1990).

Action: The RI Phase I analytical methods proposed are comprehensive and will indicate the presence of all organic compounds listed in Appendix II for munitions/explosives and petroleum refining. RI Phase II analytical methods will be focused on chemical constituents identified in Phase I.

Reference Page/ Comment No.: Page 4-13, Table 4-6

Comments:

- The Unified Soil Classification System (USCS) is okay for soils, but a recognized system is also mandatory to describe the geologic data, including: textures, grain size, color, etc.
- The data quality objective (DQO) for the water table aquifer is okay, but what about an artesian aquifer?
- Flow direction can be more precise than 30 degrees.

Action:

- Soil samples will receive a lithologic description in addition to the USCS class. Descriptions of surface soil samples, drill cuttings, and drive samples will include color, texture, grain size, moisture content, density or consistency, mineralogy (if apparent), and bedding structures (when visible in drive samples).
- Where single monitoring wells are installed, the well will be completed at the water table (or at the uppermost confined aquifer). The uppermost aquifer is suspected of having the greatest contaminant concentrations at locations directly downgradient from potential sources. If dense, non-aqueous phase liquids (DNAPLs) were the source of contaminants, then higher concentrations may potentially exist at greater depth, but contaminants should be detectable in the uppermost aquifer. At cluster locations, monitoring wells will be completed into deeper permeable units to assess the vertical extent of contamination. These units may be confined.
- Groundwater flow directions can usually be defined more accurately than 30 degrees where the flow field is relatively uniform and a sufficient number of monitoring wells are present. If an insufficient number of monitoring wells is present at MCAS El Toro by the end of Phase I to assess groundwater flow directions and contaminant migration, then additional monitoring wells will be installed during Phase II to fill these data needs.

Reference Page/ Comment No.: Pages 4-16 and 5-22

Comments: Explain the inconsistencies in defining what a "clean" site is. Note that a problem may arise in the determination of "clean" with respect to ARARs for soils. A site will be deemed as "clean" by a joint determination of the parties. Modify Figure 4-1, page 4-17) to include another decision point box to reflect this determination. If the decision is that a site is not "clean," that site will be moved to OU 4 for further investigation.

Action: Figure 4-1 shows the Phase I and II site characterization strategy and does not attempt to define what a "clean" site is. This definition is intentionally vague

since it is dependent on a "joint determination of parties." The sampling strategy for sites targeted as "clean" will be discussed in the amended SAP and is subject to the RPM's review.

Reference Page/ Comment No.: 6.

Comments: Figure 8.1 conflicts with Figure 3.1 in the QAPP. Please provide consistent organizational charts reflecting correct identification of project management individuals and their position of responsibility.

Action: Figure 8-1 is the correct organizational chart. Figure 3-1 of the QAPP should be replaced with this Figure.

Reference Page/ Sheet No.:

Comments: Because the RI/FS process is just beginning, it is probably a good idea in the Work Plan to use a caveat, when technologies and processes are being listed for FS purposes. The caveat used in the Barstow Work Plan is good, as follows:

"For groundwater" (or soils or landfills) "remediation, typical processes and technologies and their related data needs are presented in Figure _____. The process options listed are typical for the technologies. Listing these specific process options should not be construed as limiting the detailed process option evaluation and remedial alternative development during the feasibility study."

Action: The initial screening of remedial technologies is preliminary in nature and is designed to focus on the most likely remedial technologies. Additional data can be obtained during Phase II if additional data needs are identified during Phase I Feasibility Study.

Reference Page/ Comment No.: Page 3-69, Figure 3-3

Comments: It would be helpful to indicate options for disposal of treated (or untreated) water, such as 1) reuse for irrigation in reclaimed water line and 2) reinjection into the aquifer to accelerate groundwater cleanup, etc. Also add ultraviolet/oxidation treatment for groundwater.

Action:

- Groundwater disposal options will be added to Figure 3-3 as requested and considered for the FS.

- o Ultraviolet/oxidation treatments is categorized under "advanced oxidation" technologies.

Reference Page/ Comment No.: Page 3-71, Figure 3-4

Comments:

- o Add ultraviolet/oxidation treatment for groundwater.
- o Soil gas could be treated by activated carbon. Thermal treatment may not be feasible for soil gases with low concentrations of hydrocarbons.
- o Offsite disposal and/or treatment may be a viable option for smaller volumes of soil.
- o Might mention that some processes could be either in situ or ex situ.
- o The term "consolidation under cap" should probably be changed to "consolidation into a RCRA type cell." A liner would almost surely be required for untreated soil.
- o Add groundwater disposal options. See comment No. 1 above.

Action: These remedial approaches will be added to Figure 3-4 as requested and considered for the FS.

Reference Page/ Sheet No.: Page 3-73, Figure 3-5

Comments: See comments as for No. 2 above, except for soil-gas treatment.

Action: See response to previous comment.

Reference Page/ Sheet No.: Page 3-75, fourth line

Comments: It is doubtful whether BOD would be a useful measurement for groundwater with low halogenated hydrocarbons. The TOC might be used instead.

Action: The BOD would not be used as an indicator of the presence of low concentrations of halogenated organics. The BOD and COD were proposed to determine the probability and severity of fouling occurring in the bed of an air stripper or GAC column. Based on the needs of the hydrogeology investigation, TOC will be used in place of BOD. These analyses will be considered for inclusion into Phase II based on the results of the Phase I analyses.

Reference Page/ Comment No.: Page 3-75, whole page

Comments: Reference is made to what data might be needed to design a groundwater treatment system. However, there is no mention of the data needed to design an effective groundwater extraction system to minimize additional plume migration and reduce contaminant concentration within the plume. The extraction system design usually requires a lot of field data, (e.g., aquifer tests, plume delineation, etc.).

Action: The thrust of groundwater remediation section was to identify data requirements specific to groundwater treatment so that required groundwater analyses could be identified. Aquifer tests have been included for all monitoring wells to provide the needed hydraulic data. For the overall groundwater investigation RI activities and data uses, refer to Tables 3-14 through 3-16 for OUs 1-3.

Reference Page/ Comment No.: Page 3-78 through 82, Table 3-12

Comments: The designation of screened remedial technologies does not seem to follow any perceptible pattern related to waste group. For example, virtually all sites have halogenated volatiles, but only seven out of 22 sites include in situ vacuum/steam extraction as a remedial technology. Why are only rotary kiln and infrared thermal treatment listed? It would be better to just use the generic terms, incineration or thermal treatment, as was done in previous figures. The selection of remedial technologies seems too narrow. For example, it is too soon to eliminate biological treatment (e.g., controlled land farming) which may well be best for soils contaminated with petroleum hydrocarbons, PAHs, etc. Radioactive contamination may call for the consideration of vitrification. Isn't capping a remedial technology? There are about a half a dozen innovation emerging technologies that might be applicable to specific soils and situations. Since the last column in the table lacks sufficient space to adequately list technologies, it is suggested that a separate table be prepared that relates remedial technologies to waste groups (next to last column) independent of specific sites.

Action: For the purposes of a preliminary screening of potential soil remedial technologies, the selection criteria was whether the technology had been successfully used on a commercial scale for treating CERCLA wastes in repeated applications. FS Phase I will consider emerging technologies as well as other technologies that have not necessarily met the above criteria. Table 2 and 3 of Technology Screening Guide for Treatment of CERCLA Soils and Sludges, (EPA, September 1988) relate remedial technologies to waste groups. However, Table 3-12 identifies soil remedial technologies that have been proven effective for the treatment of combination of waste groups present at a given site.

Project:	MCAS El Toro RI/FS	**Comment Date:**	20 March 1991
Reviewer:	California Department of Health Services	**Project No.:**	LAO28730.18.RF
Document:	Draft Final RI/FS Work Plan	**Response Date:**	24 April 1991

Reference Page/ Comment No.:

Comments: We find this document to be adequate.

Action: Acknowledged.

Project:	MCAS El Toro RI/FS	**Comment Date:**	20 March 1991
Reviewer:	California Regional Water Quality Control Board, Santa Ana Region	**Project No.:**	LAO28730.18.RF
Document:	Draft Final RI/FS Work Plan	**Response Date:**	24 April 1991

Reference Page/ Comment No.:

Comments: We find this document to be adequate.

Action: Acknowledged.

Project:	MCAS El Toro RI/FS	**Comment Date:**	20 March 1991
Reviewer:	Orange County Health Care Agency	**Project No.:**	LAO28730.18.RF
Document:	Draft Final RI/FS Work Plan	**Response Date:**	24 April 1991

Reference Page/
Comment No.:

Comments: We find this document to be adequate.

Action: Acknowledged.

Project:	MCAS El Toro RI/FS	**Comment Date:**	26 March 1991
Reviewer:	Orange County Health Care Agency	**Project No.:**	LAO28730.18.RF
Document:	Proposed Contingency Plan	**Response Date:**	24 April 1991

Reference Page/ Comment No.:

Comments:

In addition to these documents, we ask that a separate Contingency Plan be developed for the MCAS El Toro site. While the health and Safety Plan is designed to protect those working on the monitoring and remediation, the purpose of a Contingency Plan is to provide a plan for protection of the residents and others in the vicinity of the contaminated sites, both on- and off-base. It addresses potential problems caused by the release of contaminants from the site and describes actions, solutions, and contacts. Contingency plans have been developed for other major cleanup sites in Orange County. We believe that such a plan is also needed at MCAS El Toro.

Action:

The field work in Phase I includes surface soil sampling, soil borings, monitoring well drilling and sampling, and surface water sampling. None of these activities are expected or likely to produce a release of contaminants that may potentially expose on-base personnel and residents or off-base residents. Drilling activities were planned to not occur into landfills or solid waste in order to greatly reduce the likelihood of air emissions from drilling. The El Toro RI/FS project managers (DHS, RWQCB, EPA, and Navy) have not reached a consensus of opinion on the need for this document. For these reasons, a contingency plan is not currently planned for MCAS El Toro.

The only potential for exposure of on-base personnel/residents or off-base residents appears to be an accident during the transport of drilling mud, soil cuttings, or well purge water. An accident of this type would be relatively localized and not present a hazard to the public if they were kept away from the accident scene. MCAS El Toro has its own internal capabilities for responding, containing, and cleaning up on-base spills of hazardous materials. The Orange County Fire Department has a Hazardous Materials Response Team that is trained and equipped to contain spills off-base. Their services are available to MCAS El Toro if needed as backup. The local fire and police departments will be notified prior to starting field work at MCAS El Toro.

Project:	MCAS El Toro RI/FS	**Comment Date:**	20 March 1991
Reviewer:	South Coast Air Quality Management District	**Project No.:**	LAO28730.18.RF
Document:	Draft Final RI/FS Work Plan	**Response Date:**	24 April 1991

Reference Page/ Comment No.: 1.
Rule 404 - Particulate Matter (Concentration)

Comments: Revise: Rule 404 limits particulate emissions to a range of 0.010 to 0.196 grains per dry standard cubic foot averaged over 1 hour for a given volumetric gas flow rate in cubic feet/minute.

Action: Acknowledged.

Reference Page/ Comment No.: 2.
Rule 409 - Combustion Contaminants

Comments: Revise: Limits the emissions of particulate matter from the burning of fuel to 0.23 grams per cubic meter of gas calculated to 12 percent carbon dioxide (CO_2) at standard conditions averaged over a minimum of 15 consecutive minutes.

Action: Acknowledged.

Reference Page/ Comment No.: 3.
Rule 474 - Fuel Burning Equipment Oxides of Nitrogen

Comments: Revise: Limits the concentration of oxides of nitrogen (as NO_2, not NO_3) to a range of 125 to 300 ppm for gaseous fuels and 225 to 400 ppm for solid or liquid fuels depending on the heat input of the equipment.

Action: Acknowledged.

Reference Page/ Comment No.: 4.

Comments: National Emissions Standards for Hazardous Waste Air Pollutants

a. Should be Regulation X (not IX).
b. Should be Part 61 (not Part 60).

Action: Acknowledged.

Reference Page/ Comment No.: 5.

Comments: Source Specific Standards

a. Should be Regulation XI (not IX).
b. "Executive of Landfill Sites" should be "Excavation of Landfill Sites".

Action: Acknowledged.

Reference Page/ Comment No.: 6.

Comments: Regulation XIII - New Source Review

Add: Also requires modeling to substantiate compliance with the national ambient air quality standards at any receptor in the District and offset for all accumulated emissions in the NSR (New Source Review) Balance.

Action: Acknowledged.

Reference Page/ Comment No.: Rule 212 - Standards for Approving Permits

Comments: Add: Requires distribution of a public notice to each address within 1/4 mile radius of the project for any significant project.

Action: Acknowledged.

Reference Page/ Comment No.: Rule 223 - Air Quality Impact Analysis

Comments: Delete: Was not adopted. Has been incorporated into Rule 1401.

Action: Acknowledged.

Reference Page/ Comment No.: Rule 1401 - New Source Review of Carcinogenic Air Contaminants

Comments: Add: Specifies limits for maximum individual cancer risk and estimated excess cancer cases for units which emit carcinogenic air contaminants.

Action: Acknowledged.

Project:	MCAS El Toro RI/FS	**Comment Date:**	5 April 1991
Reviewer:	United States Department of the Interior - Fish and Wildlife Service	**Project No.:**	LAO28730.18.RF
Document:	Draft Final RI/FS Work Plan	**Response Date:**	11 April 1991

Reference Page/ Comment No.:

Comments: Petroleum hydrocarbons originated from MCAS El Toro and entering San Diego Creek via Borrego Canyon, Agua Chinon Wash, and Bee Canyon Wash, as well as Marshburn Channel need to be assessed for cumulative impacts to biota, in addition to evaluating specific sites' effects on fish and wildlife species. Environmental impacts of hydrocarbons to fish and wildlife would most likely occur offsite (offbase) in the aquatic habitat of San Diego Creek and possibly Newport Bay. The numerous sources of hydrocarbons found at El Toro, including OU-2 (all 5 sites), OU-3 (11 of 16 sites), Tank 398 site, and current base activities, may cumulatively pose a threat to biota, especially during storm events with increased runoff from MCAS El Toro entering San Diego Creek. Petroleum hydrocarbons (especially aromatics) are known to bioaccumulate in fish and wildlife species inhabiting coastal areas of Southern California. The Service will make recommendations on appropriate biotic sampling based on the Phase I data. Total petroleum hydrocarbon (TPH) and portions of the semi-volatile data should be used to determine if further soil, sediment, surface water sampling is needed and if biotic sampling is necessary to determine the impacts of MCAS hydrocarbon sources to aquatic life of San Diego Creek and Newport Bay. The major concerns of Service include the protection of migratory birds and endangered species utilizing Newport Bay (light-footed clapper rail and California least tern) and maintaining quality habitat for these species.

Action: Acknowledged.

Reference Page/ Comment No.:

Comments: Sediment samples should be collected in areas of deposition. These areas typically have high total organic carbon (TOC) and are composed mostly of the silt and clay fractions. For reliable interpretation of the data, TOC and grain size analysis should be part of all routine sediment/soil analysis conducted in the RI/FS.

Action: Sediment sampling in the drainages will focus on areas of deposition where sediment has accumulated. The analysis of TOC and grain-size distribution are worthwhile and will be added to the list of analytes for sediment samples. All sediment samples will receive TOC analysis. Approximately one third of the sediment samples will be submitted for grain-size analysis. Representative sediment samples will be selected from each apparent sediment facies for the grain-size analysis.

Reference Page/ Comment No.:

Comments: Little is known about the effects of TCE on fish and wildlife. Based on the data presented in the RI/FS Draft Final Work Plan, concentrations were below EPA Ambient Water Quality Criteria for freshwater and the more sensitive saltwater species. Due to the rapid photooxidation and volatility of TCE and the lack of evidence of biological impacts, OU-1 may not pose a threat to fish and wildlife. If Phase I samples show levels of TCE elevated above current known concentrations, impacts to biota would need to be reevaluated. Known effects of TCE to aquatic life usually are associated with central nervous system depressant activity. However, long-term low dose effects of TCE to aquatic life have not been adequately addressed.

Action: These issues will be addressed in the Phase I environmental risk assessment.

Reference Page/ Comment No.:

Comments: Sites 1, 2, and 17 are located in the vicinity of habitat utilized by three candidate species (candidate species for listing on the Federal Endangered Species List) of concern. These species are the orange-throated whiptail, San Diego horned lizard, and the California gnatcatcher. The whiptail and horned lizard may be feeding within Sites 1, 2, and 17. This needs to be considered in assessing Phase I soil data. If these species were listed prior to cleanup of these sites and contamination of food sources was determined to exist, there should be possible violation of Section 9 of the Endangered Species Act.

Action: Acknowledged.

Reference Page/ Comment No.:

Comments: If the California gnatcatcher should be listed, future activities involving Sites 1, 2, and 17 related to the Installation Restoration Program (e.g., intensive sampling and/or cleanup activities) may require formal consultation with the Service. Any activity that may result in the destruction of gnatcatcher habitat (coastal sage scrub) or disturbance of that species may

require a Section 7 (Endangered Species Act) formal consultation with the Service. To prevent any conflicts or delays in remedial actions, please keep the Service, as well as MCAS El Toro Natural Resource staff, informed of activities on these matters.

Action: Acknowledged.

Reference Page/ Comment No.:

Comments: The aspects of the Endangered Species Act discussed above should be incorporated into the ARARs section of the RI/FS Work Plan.

Action: Acknowledged. These comments will be attached to the Phase I Work Plan as an addendum and will be considered during the Feasibility Study and future stages.

Addendum B

AGENCY COMMENTS TO MCAS EL TORO

RI/FS DRAFT FINAL SAMPLING AND ANALYSIS PLAN

Project:	MCAS El Toro RI/FS	**Comment Date:**	29 March 1991
Reviewer:	United Stated Environmental Protection Agency (EPA)	**Project No.:**	LAO28730.18.SX
Document:	Draft Final Sampling and Analysis Plan (SAP)	**Response Date:**	April 11, 1991

SPECIFIC COMMENTS

Reference Page/ Comment No.: 7.

Comments: Comment was partially addressed. The SAP still proposes two analytical methods for dioxin analysis, both modifications of EPA Method 8280. One method uses a single column determination with a second column used for confirmation only if a "hit" is found during the first column analysis. The second method uses a dual column determination. The exact method to be used is not clarified in the SAP. Dioxin sampling plans do not account for detection of compounds that have been transported through the air from the burn areas sites.

Action: The proposed dioxin method is presented in the EPA Region IX compendium of analytical methods. The portions of the method that apply are dictated by the selected parameters, for detection of tetra through octa isomers as opposed to 2, 3, 7, 8 dioxin isomer. If dioxins are detected in Phase I samples, RI Phase II will consider the dioxin air transport pathway.

Reference Page/ Comment No.: 9.

Comment was partially addressed. On page 4-77 of the Draft Final SAP, the establishment of a monitoring well network for quarterly sampling is discussed. The text does not state which existing wells (non-OCWD) and new wells will be included in the quarterly groundwater sampling episodes.

Action: The text states that the wells included in the monitoring well network will be selected based on first quarter analyses results and other conclusions drawn from Phase I work. The monitoring network will be described in an addendum to the SAP.

ADDITIONAL COMMENTS

Reference Page/ Comment No.: Page 1-6. Explain the difference in the following statements:

Comments: FSP: (Page 1-6). "At sites where contamination is demonstrated, gather enough data to assess if the site has caused (or has the potential to cause) a risk to human health or environment and evaluate the main pathways of the conceptual site model."

versus

Work Plan: (Page 3-88). "At sites where contamination is demonstrated, gather enough data to confirm the main pathways of the conceptual site model."

(Page 3-88). All of the other statements on the pages noted in both documents are identical, except these two. What is the significance of this change?

Action: The wording in the work plan will be modified to conform to the wording in the SAP.

Reference Page/ Comment No.: 2.

Comments: The analytical methods appearing in the Table of Contents and Sections 5.2 through 5.14 have no method(s) proposed/discussed for radioactivity analysis.

Action: Per EPA Region IX QAMS Guidance, specifying the standard EPA methods should be sufficient for radioactive analysis. These methods have been referenced in Tables 2-2 and 2-3 of the QAPP.

Reference Page/ Comment No.: 3.

Comments: Preliminary data/information indicate probable pesticide and herbicide contamination at El Toro MCAS. No discussion appears to eliminate organophosphorus pesticides or chlorinated herbicides (2.4-D), etc.) as contaminants. Proposed analytical methods are not appropriate for detection of these compounds. The EPA Region 9 SAS Methods Compendium includes:

- Analysis of Organophosphorus Pesticides in Water and Soil by SW 846 Method 8150.
- Analysis of Herbicides in Water and Soil by SW 846 Method 8150.

These methods should be used along with EPA Level IV (or V) Quality Standards.

Action: Pesticide and herbicide contamination has not been mentioned in previous documents at any of the 22 MCAS El Toro sites, but their presence has not been formally eliminated form consideration. The Navy will consider including additional analyses into the second round of quarterly groundwater sampling based on the first round analyses. The analysis of chlorinated herbicides (EPA Method 8150) may be needed to confirm compliance with the EPA primary drinking water standards for 2,4-D and 2,4,5-TP (Silvex). Analysis for the organophosphorus pesticides (EPA Method 8140) is usually used only when other indications of pesticide contamination exist. Many of the pesticides included in EPA Method 8140 are included in the analysis of pesticides and semivolatiles that is included in the list of analytes for Phase I groundwater samples.

Reference Page/ Comment No.: 4.
Page 4-17, Section 4.3

Comments:

- There is some confusion regarding "CLP" terms. The terms routine RAS and SAS do not apply here, because the analyses will not be performed under a contract from the CLP, as administered by the EPA Sample Management Office (SMO). Rather the analyses will be performed in a commercial laboratory with demonstrated capability to comply with the EPA CLP SOWs for Organic Analysis (December 1990), Inorganic Analysis (most recent version), and Dioxins Analysis (09/86, revised 08/87). All reporting and deliverable requirements, as stated in those SOWs, will be met as well. The laboratory will comply with all Laboratory Data Validation Functional Guidelines for Evaluating Organic Analyses (02/01/88) and Inorganic Analyses (July 1, 1988).

- Target Compound List (TCL) and Contract Required Quantitation Limit (CRQL) apply to the SOW for organic analyses only. Target Analyte List (TAL) and Contract Required Detection Limit (CRDL) apply to the SOW for inorganic analyses only. The correct acronyms for use when referring to both SOWs are: TCL/TAL and CRQLs/ CRDLs, respectively.

Action: Acknowledged.

Reference Page/ Comment No.: Page 4-33, Section 4.4.4

Comments: No waste management plan has been provided. Interestingly, the discussion is identical to that found in the MCLB, Barstow Draft Final Work Plan, March 1990. Regardless of the complexity of waste disposal regulation, (e.g., LDR, the Navy should provide a plan for proper waste disposal in the Work Plan). Existing and potential soil cuttings and wastewater are traditional wastes with recognized disposal procedures.

Action: Waste disposal regulation is not only complex, it is changing. TCLP regulations changed in Fall 1990 and land ban regulations were supposed to be released in Spring 1991. The SAP clearly stated that the Waste Management Plan would be prepared as an early Phase I activity and the PjMs have agreed to this decision. The regulatory agencies will receive a copy of the draft and final document. The Waste Management Plan will be completed prior to starting drilling and sampling.

Reference Page/ Comment No.: 6.

Comments: Need a discussion of contingency plans for RI/FS field activities including plans for on/offbase community emergency notification of potential or actual hazards due to field work.

Action: The field work in Phase I includes surface soil sampling, soil borings, monitoring well drilling and sampling, and surface water sampling. None of these activities are expected or likely to produce a release of contaminants that may potentially expose on-base personnel and residents or off-base residents. Drilling activities were planned to not occur into landfills or solid waste in order to greatly reduce the likelihood of air emissions from drilling. The El Toro RI/FS project managers (DHS, RWQCB, EPA, and Navy) have not reached a consensus of opinion on the need for this document. For these reasons, a contingency plan is not currently planned for MCAS El Toro.

The only potential for exposure of on-base personnel/residents or off-base residents appears to be an accident during the transport of drilling mud, soil cuttings, or well purge water. An accident of this type would be relatively localized and not present a hazard to the public if they were kept away from the accident scene. MCAS El Toro has its own internal capabilities for responding, containing, and cleaning up on-base spills of hazardous materials. The Orange County Fire Department has a Hazardous Materials Response Team that is trained and equipped to contain spills off-base. Their services are available to MCAS El Toro if needed as backup. The local fire and police departments will be notified prior to starting field work at MCAS El Toro.

Reference Page/ Comment No.: 7.

Comments: The El Toro RI/FS Project Plans (Work Plan and FSP) do not:

1. Propose DQOs that rigorously define and quantify the objectives.

2. Propose a statistical sampling plan designed to meet the DQOs.

3. Propose any quantitative rationale for selecting stated numbers of sample points at each site, as opposed to any other number.

4. Present any discussion of how to quantitatively assess the study conclusions.

Thus, since conclusions drawn from the RI/FS Phase I sampling and analysis will only be supported in a qualitative manner, MCAS El Toro may have difficulty providing a quantitative statement regarding uncertainty in selecting specific remedies.

Will this statistical approach to quantifying DQOs be utilized in Phase II?

Action: Again, the investigation represents the very first data at most of the sites. DQOs are as quantifiable as possible, and the approach has been discussed at great length at the PjMs meeting. A statistical approach to the collection of samples has been discussed in both the Work Plan (see Section 4.3) and the SAP. A minimum of three samples is being collected in each stratum. Study conclusions will be drawn with the review and concurrence of the TRC. A Data Management Plan is also being prepared as an early Phase I activity. Based on the results of Phase I, the nature and extent of contamination at each site will be estimated. Using this preliminary estimate, a statistical approach will be used to determine the number and location of samples in Phase II.

Project:	MCAS El Toro RI/FS	**Comment Date:**	20 March 1991
Reviewer:	California Department of Health Services	**Project No.:**	LAO28730.18.SX
Document:	Draft Final Sample and Analysis Plan	**Response Date:**	11 April 1991

Reference Page/ Comment No.:

Comments: We find this document to be adequate.

Action: Acknowledged

Project:	MCAS El Toro RI/FS	**Comment Date:**	20 March 1991
Reviewer:	California Regional Water Quality Control Board, Santa Ana Region	**Project No.:**	LAO28730.18.SX
Document:	Draft Final Sample and Analysis Plan	**Response Date:**	11 April 1991

Reference Page/ Verbal Comment:

Comments: What is the threshold concentration for the field soil vapor headspace analysis that will require 1) continued drilling and sampling to greater depths and 2) laboratory analysis of soil samples for VOCs?

Action: Soil samples during drilling will be analyzed by field soil vapor headspace analysis. The specific procedure for this field analysis will be developed prior to starting field work and shared with the regulatory agencies. It is expected that the procedure will consist of extruding a 3-inch sample ring from the modified California soil sampler into an 8-ounce glass jar with Teflon®-lined screw cap and sampling port. After equilibrating for a specific amount of time, the soil vapor headspace would be analyzed by sticking the tip of an OVA (a total organic vapor analyzer with a flame ionization detector) through the sampling port in the cap and reading the total organic vapor concentration in parts per million (ppm). If the soil vapor headspace concentration is 0.3 ppm greater than background, then drilling would continue to a greater depth. This threshold may be modified based on field experience and comparison of field soil vapor headspace analyses and laboratory analyses of soil for VOCs. The regulators would be notified in advance should a modification in procedure be requested.

There is no specific threshold soil vapor headspace concentration that would require laboratory analysis of the soil sample. The results of the field soil vapor headspace analyses will be used to select soil samples that will be forwarded for laboratory analysis. In general, the most contaminated samples will be sent for laboratory analysis to confirm which compound contributed to the total organic vapor. Some soil samples specifically require laboratory analysis, as discussed in the Sampling and Analysis Plan.

Project:	MCAS El Toro RI/FS	**Comment Date:**	20 March 1991
Reviewer:	Orange County Health Care Agency	**Project No.:**	LAO28730.18.SX
Document:	Draft Final Sample and Analysis Plan	**Response Date:**	11 April 1991

Reference Page/ Comment No.:

Comments: We find this document to be adequate.

Action: Acknowledged.

Addendum C

AGENCY COMMENTS TO MCAS EL TORO

RI/FS DRAFT FINAL SITE SAFETY AND HEALTH PLAN

Project:	MCAS El Toro RI/FS	**Comment Date:**	26 March 1991
Reviewer:	Orange County Heath Care Agency	**Project No.:**	LAO28730.18.RH
Document:	Draft Final Site Safety and Health Plan	**Response Date:**	24 April 1991

Reference Page/ Comment No.: Page 3-15, 3-17, 3-20

Comments: The sections marked "Other" under carbon tetrachloride, chloroform, and 1,1-dichloroethylene state that the chemicals are "phytotoxic." The term phytotoxic is defined as poisonous to plants, not animals. Determine what type of toxicity (perhaps fetotoxic - toxic to fetal stages) is known for these chemicals.

Action: Fetotoxic is the correct type of toxicity associated with these chemicals. The term phytotoxic will be replaced with fetotoxic.