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MCAS EL TORO
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CLEAN II TRANSMITTAL/DELIVERABLE RECEIPT

Contract No. N-68711-92-D-4670

Document Control No. CTO-0059/000204

File Code: 0202/0321

TO: Jason Ashman, RPM (3 copies)
Code 1831.JA
Naval Facilities Engineering Command
Southwest Division
1220 Pacific Highway
San Diego, CA. 92132-5187

DATE: 09 August 1995
CTO #: 0059

FROM: J. W. Kluesener
J. W. Kluesener, Operations Manager

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DESCRIPTION: Response to Comments for Work Plan and Field Sampling Plan
Phase II Remedial Investigation/Feasibility Study
MCAS El Toro, California, CTO-0059

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CLEAN II Program
Bechtel Job No. 22214
Contract No. N68711-92-D-4670
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IN REPLY REFERENCE: CTO-0059/000204

09 August 1995

Department of the Navy
Southwest Division
Naval Facilities Engineering Command
1220 Pacific Highway
San Diego, CA 92131-5187

Attention: Jason Ashman, RPM
Code 1831.JA

Subject: Response to Comments for Work Plan and Field Sampling Plan
Phase II Remedial Investigation/Feasibility Study,
MCAS El Toro California, CTO-059

Dear Mr. Ashman:

Enclosed are three (3) copies of the Response to Comments for Work Plan and Field Sampling Plan, Phase II RI/FS, MCAS El Toro California, prepared for CTO-059 under Contract No. N68711-92-D-4670.

We have submitted the appropriate number of copies of this plan to individuals on the attached transmittal. The Response to Comments is being delivered at the same time as the Final Work Plan but each document will be delivered with separate transmittals.

If you have any questions, please contact Timothy Latas at (619) 687-8848, or me at (619) 687-8802.

Very truly yours,



David K. Cowser
Project Manager

DC/cg

Attachment: Response to Comments for Final Work Plan and Field Sampling Plan for CTO-059



Bechtel National, Inc. Systems Engineers—Constructors

**RESPONSE TO COMMENTS
REVISED DRAFT
PHASE II REMEDIAL INVESTIGATION/FEASIBILITY STUDY
WORK PLAN, MCAS EL TORO, CALIFORNIA**

<p>Originator: Bonnie Arthur U. S. Environmental Protection Agency, Region IX</p> <p>To: Joseph Joyce, BRAC Environmental Coordinator MCAS El Toro, California</p> <p>Date: 24 May 1995</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>Enclosure A</p> <p><u>GENERAL COMMENTS - WORK PLAN AND FIELD SAMPLING PLAN</u></p> <p>1) Overall, the report is well written and organized. We appreciate the high level of cooperation from the Navy and CLEAN I and II contractors which aided in developing this work plan.</p>	<p><u>GENERAL RESPONSES - WORK PLAN AND FIELD SAMPLING PLAN</u></p> <p>RESPONSE 1): We appreciate your comments. We consider these documents a continuous improvement effort and will continue to maintain a high level of cooperation with the regulatory agencies, contractors, and other interested parties in our efforts to provide a good working document.</p>
<p>2) The use of NFRAP or NFAC is not an appropriate form of no further action certification for sites or units within sites which are in the MCAS El Toro Installation Restoration Program (IRP). As discussed during the April 24, 25 meetings, "no further investigation" decisions regarding units within sites can be documented with the proposed form (Attachment). A no action ROD may be an appropriate option for sites with risk levels below human health and ecological criteria. Please revise the text throughout the report.</p>	<p>RESPONSE 2): A no further investigation (NFI) decision will be applied to site units as discussed in meetings on 24, 25 April and 6 June 1995. A NFRAP decision will be applied to entire sites following the completion of a baseline risk assessment when there is no risk to human health or the environment.</p>
<p>3) Future reports will not be accepted without chemical data from prior investigations included on maps. Review time was increased due to reviewers having to record data on maps from prior reports.</p>	<p>RESPONSE 3): Future reports such as the Phase II Remedial Investigation report will include chemical data.</p>
<p>4) Currently approved immunoassays for PNAs and PCBs are only effective for sites at El Toro where compounds are known to be present and the sampling effort is targeted toward investigating extent of contamination. As discussed in our April 24, 25 meetings, the detection limits for these immunoassays are higher than the risk criteria, either EPA's Preliminary Remediation Goals (PRGs) or the Risk Based Concentrations (RBCs). The sampling strategy for the sites which utilize immunoassay analyses should be reassessed. In all cases, the minimum number of confirmation samples to be analyzed in the mobile or fixed laboratories is not sufficient.</p>	<p>RESPONSE 4): As discussed in the 6 June 1995 meeting on the evaluation of PAH ambient concentrations, we will evaluate the effectiveness of immunoassays against fixed based laboratory analysis for PAHs. Based on those results a decision will be made to run PAH analysis either using immunoassays or a fixed based laboratory. Currently all PCB analysis will be submitted to a fixed based laboratory due to project-required detection limits.</p> <p>As discussed in the 6 June 1995 meeting, the minimum number of confirmation samples has been agreed upon and will be reflected in the Final Work Plan.</p>
<p>5) The selection of the landfill presumptive remedy for Sites 2, 3, 5, 17 at El Toro cannot be made until further data is collected to determine</p>	<p>RESPONSE 5): Agreed. The text introducing the presumptive remedy and its application has been revised to state that landfill presumptive remedies are</p>

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<p>if the landfills present a risk to human health and/or the environment. Presumptive remedies may not be applicable for all four landfill sites for the following reasons: a) groundwater may not be affected, b) soil may not be impacted or c) habitats for special status species may be impacted and can not be successfully mitigated. Please revise the working of Step 1 (Problem Statement) for each of the landfill appendices to reflect only that the landfills are strong candidates for presumptive remedy approach. EPA does agree, with few exceptions as discussed in the site specific comments, with the investigation strategy outlined in the WP and Field Sampling Plan for Sites 2, 3, 5, and 17 (also refers to the "Response to Regulatory Agency Comments," Page 34, Response #40).</p>	<p>preferred but final response actions may need to consider additional actions beyond presumptive remedies in Section 4.2.3.5.</p>
<p>6) Please add a discussion connecting the stratum and unit discussions. If the unit and stratum are identical, then place the unit number in parenthesis each time stratum is used. It would be helpful to summarize the discussion from Page 4-36 of the work plan in each site specific appendix.</p>	<p>RESPONSE 6): The discussion of how Phase I RI strata relate to the Phase II RI is presented in Section 4.2.4.2. A brief summarization of this has been added to site specific appendices.</p>
<p>7) EPA will not be providing comments on Sites 4, 13, and 14 as agreed because the Navy is providing EE/CAs for review in May which address these sites.</p>	<p>RESPONSE 7): Site 4, 13, and 14 site specific appendices will be modified to indicate that these are EE/CA sites.</p>
<p>8) As it appears that residential risk has been calculated for each unit, this should be specified in each FSP site specific Section 4.</p>	<p>RESPONSE 8): Site specific risk(s), if available, will be shown in Field Sampling Plan.</p>
<p>9) Further soil gas may be a useful tool in Site 24 for selection of locations for the SVE and air sparging wells.</p>	<p>RESPONSE 9): Soil gas samples will be taken during deep soil sampling and the results of this sampling will be used to vertically position SVE well screens.</p>
<p>10) Please change the term background to ambient when applied to any organic contaminants.</p>	<p>RESPONSE 10): As discussed in the 6 June 1995 meeting, the term "ambient" will be used for organic compounds derived from anthropogenic sources. The term "background" will be applied to naturally occurring</p>

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	chemicals.
<p>11) The chemical concentration lists should be consistent between the Field Sampling Plan and WP. For example, please review the chemical concentration lists in Field Sampling Plan Attachment B and WP Appendix B (Site 2).</p>	<p>RESPONSE 11): We concur and have updated the text as appropriate.</p>
<p><u>SPECIFIC COMMENTS - REVISED DRAFT PHASE II WORK PLAN</u></p>	<p><u>SPECIFIC RESPONSES - REVISED DRAFT PHASE II WORK PLAN</u></p>
<p><u>Major</u></p>	<p><u>Major</u></p>
<p>1) Page 4-3, Section 4.2.1.3: This discussion should include ecological risk screening. Identify the criteria for completing risk estimates.</p>	<p>RESPONSE 1): We concur and will include the discussion from the Risk Assessment Plan on ecological risk screening.</p>
<p>2) Page 4-4, Section 4.2.2, Step 2, #3: Please revise the phrase starting "to determine if groundwater beneath the site is impacted." This statement implies that the soil investigation is the only factor to determine if groundwater is impacted.</p>	<p>RESPONSE 2): We concur. The text will be revised to reflect that soil sampling will be used to determined the vertical extent of contamination. Soil sampling will not be used to determine if groundwater has been impacted.</p>
<p>3) Page 4-5, Step 2, #7: Please add the evaluation of ARARs.</p>	<p>RESPONSE 3): We concur. The text has been revised to include the evaluation of ARARs.</p>
<p>4) Page 4-5, Step 2, #8: State which air action levels will be used.</p>	<p>RESPONSE 4): SCAQMD Rule 1150.1 and 40 CFR Part 258.23.</p>
<p>5) Page 4-5, Step 2, #9, b: Please define the term "principal threat waste."</p>	<p>RESPONSE 5): U.S. EPA Superfund Publication No. 9380.3-06FS, November 1991, A Guide to Principal Threat and Low Level Threat Wastes, defines a Principal treat waste as follows:</p> <p><u>Principal Treat Wastes</u> are those source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained or would present a significant risk to human health or the environment should exposure occur. They include liquids and other highly mobile materials (e.g., solvents) or materials having high concentrations of toxic compounds. No "threshold level" of toxicity/risk has been established to equate to principal threat.' However, where toxicity and mobility of source material combine to pose a</p>

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	<p>potential risk of 10^{-3} or greater, generally treatment alternatives should be evaluated."</p>
<p>6) Page 4-5, Step 2, #9: It is confusing to state that if the answers to the four questions regarding hot spots are all negative, that no further action would be recommended. Although no further action may be recommended specifically designed as a source action to address the hot spots (as noted), the landfill site may still require remedial action due to the risks posed by the not spots.</p>	<p>RESPONSE 6): This series of questions has been modified to state that if the answer is no to all 4 questions then no further action will be required for the soil gas hotspot, but additional remedial action may be required for the landfill, such as capping, deed restrictions, etc.</p>
<p>7) Page 4-5, Step 2, #10: Have the regulatory agencies approved surface and sediment background or action levels for El Toro?</p>	<p>RESPONSE 7): Based on the 6 June 1995 meeting, agencies did not disagree with soil background concentrations from the Phase I Remedial Investigation and these will be used in the Phase II RI.</p>
<p>8) Page 4-6, Section 4.2.3.1: The citation from the NCP is correct, however, it does not apply for El Toro. EPA has used the NFRAP process for sites in the PA/SI phase which do not rank high enough to qualify for EPA's National Priority List (NPL). Please see General Comment #2.</p>	<p>RESPONSE 8): The Navy will use the Air Force Guidance on NFRAP which allows for NFRAP on sites in the various CERCLA stages (PA, SI, RI/FS, remedial/removal action).</p>
<p>9) Page 4-16, Section 4.2.3.5; a) The Navy should provide new Operable Unit site categories to CLEAN II contractors. These operable unit categorizations were finalized in the revised 3/95 FFA schedule; b) Please revise the presumptive remedy discussion (see General Comment #4).</p>	<p>RESPONSE 9): We concur and will use the March 1995 FFA. We will also revise text to reflect that presumptive remedies are preferred through other remedial alternatives will be considered in this section.</p>
<p>10) Page 4-22: Immunoassay detection limits should be discussed and a table included which compares detection limits and PRGs.</p>	<p>RESPONSE 10): We concur and a discussion and table will be included to clarify immunoassay detection limits with comparison to PRGs.</p>
<p>11) Page 4-32, Section 4.2.3.9: Fate and transport models should be selected in consultation with the regulatory agencies.</p>	<p>RESPONSE 11): We concur. Consultation will occur during the Phase II RI/FS using field meetings.</p>
<p>12) Page 4-35, Section 4.2.3.10: ARARs are also required inputs to the development of cleanup levels.</p>	<p>RESPONSE 12): We concur and ARARs will be included as required inputs to the development of cleanup levels.</p>

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<p>13) Page 4-37: It is anticipated that this section will be revised with the use of PRGs. Please consult with regulatory agencies during revision.</p>	<p>RESPONSE 13): We concur. The section will be revised using PRGs which incorporates EPA methods for risk screening as documented in Region IX PRGs for February 1995.</p>
<p><u>Site 2</u></p> <p>14) Please clarify that trenching to delineate the boundaries of the landfill is proposed.</p>	<p>RESPONSE 14): Trenching is proposed to delineate the boundaries of the landfill. Trenching will be performed after the results of the surface geophysics and discussion with the BCT. These activities are included in Step 7 Unit 1 discussions.</p>
<p>15) Page B-i: Include an evaluation of critical habitats in Step 2.</p>	<p>RESPONSE 15): An evaluation of critical habitats has been included in Step 2.</p>
<p>16) Page B-27: Dioxin analyses should also be included.</p>	<p>RESPONSE 16): One dioxin soil analysis will be performed from proposed groundwater monitoring well (NEW1) borehole. The soil sample will be collected in the vadose zone, near the groundwater table.</p>
<p>17) Investigations should be scheduled around the nesting periods for the special-status species.</p>	<p>RESPONSE 17): Investigations will be scheduled around nesting periods for the special-status species.</p>
<p><u>Site 3</u></p> <p>18) Page C-i, Step 1: Clarify why the first objective for Site 3 investigation is "to determine if the landfill is the source of volatile organic compounds in groundwater." Other contaminants in the groundwater would also be of interest.</p>	<p>RESPONSE 18): The objective statement for Site 3 investigations has been modified.</p>
<p>19) Page C-12, Site 3: The text cites 2 excavations which took place east of Agua Chinon Wash. Are these depicted on a map?</p>	<p>RESPONSE 19): The 2 excavations east of Agua Chinon Wash identified on the 1953 photograph are both located within the Site 3 study boundary, but aren't shown on the site map because the area will be investigated in the Phase II RI.</p>
<p>20) Page C-31: Dioxin analyses should be added for soil samples.</p>	<p>RESPONSE 20): One dioxin analysis will be performed from each vadose zone sampling borehole located beneath the landfill. The samples will be</p>

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	<p>collected at the end of the borehole (at the location of the lysimeter).</p>
<p>21) Page C-41: a) Clarify use and timing of groundwater monitoring data. For example, text states that "no additional wells are proposed for Site 3." However, the second sentence states that "the analytical results of the existing groundwater monitoring wells will be assessed and a determination will be made as to if the existing groundwater monitoring network is sufficient to ascertain if the landfill is the source of the groundwater contamination in the immediate area;" b) qualification that "if groundwater contamination is observed from Site 3, additional Tier 2 field investigations will be performed, as necessary, to obtain site-specific data for . . . objectives," one of which is to document seasonal variations in groundwater elevations. This should be completed sitewide anyway. Also, if there is no groundwater contamination, are angle borings still planned?</p>	<p>RESPONSE 21): The first sentence of that paragraph stating that "No additional wells are proposed for Site 3" has been eliminated.</p> <p>Initially existing Site 3 and Site 4 groundwater monitoring wells will be sampled and analyzed for COPCs and groundwater elevations. The data will be compiled and reviewed with the BCT and a determination will be made as to the adequacy of the existing groundwater monitoring well network.</p> <p>Angle borings are currently planned; however the location of these borings will depend on Tier 1 activity results.</p>
<p>Site 5</p> <p>22) Page E-8: What is the location of the 2 anomalies identified in the EPA survey? a) area of disturbed ground in the SW portion of the landfill; b) impoundments in the NW area? Are these locations included in the landfill site boundary?</p>	<p>RESPONSE 22): The two anomalies are both located within the modified landfill site boundary.</p>
<p>23) Page E-9: There are several areas identified in the SAIC survey from aerials after the late 1960s. Although the landfill only officially operated between 1955 - 1960, these areas should be covered in the estimated landfill boundary.</p>	<p>RESPONSE 23): Agreed. The landfill related anomalies identified in the SAIC report are located within the modified landfill site boundary.</p>
<p>24) Page E-20, Unit 1 discussion: Text states that groundwater is impacted, therefore, clarify meaning of the first sentence.</p>	<p>RESPONSE 24): Initially existing Site 5 groundwater monitoring wells will be sampled and analyzed for COPCs and groundwater elevations. The data will be compiled and reviewed with the BCT and a determination will be made as to the final location of the proposed groundwater monitoring well.</p>
<p>25) Page E-30: Earlier data (page E-19) indicates that groundwater is</p>	<p>RESPONSE 25): The objective statement for Site 5 activities has been</p>

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<p>impacted, therefore, the objective would be to collect additional groundwater samples for confirmation of past results.</p>	<p>amended to state that additional groundwater samples will be collected for confirmation of past results.</p>
<p>26) Page E-33, Unit 2: It is not clear why Unit 2 fill is classified as clean.</p>	<p>RESPONSE 26): The Unit 2 fill should be classified as designated and non-hazardous soil which was investigation-derived waste from the Phase I RI. The correction has been made to the appropriate text and figures. Disposition of this waste will be evaluated as part of the remedial alternatives analysis.</p>
<p><u>Site 6</u></p> <p>27) Page F-5: Please include the locations of SWMU/AOCs 204 and 236 on a map.</p>	<p>RESPONSE 27): Figure F-2 has been revised to include the locations of these two SWMU/AOCs.</p>
<p><u>Site 7</u></p> <p>28) Based on the 4/24-25 meetings, the Navy proposed the following: Unit 3: Navy proposed removal action. EPA concurs with this recommendation.</p>	<p>RESPONSE 28): Agreed and an appropriate removal documents will be prepared.</p>
<p>29) Page G-27, Unit 2: Recommended for "no further investigation (NFI). "EPA does not concur for Unit 2, given the soil gas concentration in samples #355 and 215 (located in SW corner). Additional sampling should be proposed.</p>	<p>RESPONSE 29): The VOCs in the soil gas samples will be investigated as part of Site 24 (Appendix W, Figure W-10).</p>
<p><u>Site 8</u></p> <p>30) Based on the 4/24-25 meetings, the Navy proposed the following: Unit 1 & 4: Navy proposed removals. EPA concurs with this recommendation.</p>	<p>RESPONSE 30): Agreed and appropriate removal documents will be prepared.</p>
<p>31) Page H-28, Unit 2: Navy proposed NFI. EPA does not concur given the limited depth of sampling at 08_GN3 (2 feet), 08_GN2 (4 feet) and 08_ST2. Also, low oil gas levels were detected. Additional sampling should be proposed.</p>	<p>RESPONSE 31): As requested by the EPA, additional sampling has been proposed in Unit 2. Five additional borings will be sampled at depths of 0, 2, 4, and 10 feet below ground surface. Soil samples will be analyzed for VOCs, PAHs, PCBs/pesticides, fuels, and TAL metals (Appendix H, Step 7, Unit 2).</p>

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<p>32) Page H-12: Samples should be screened for radiological activity given that the Marines may have stored small quantities of radium painted parts and gauges at Site 8, according to D. Campbell.</p>	<p>RESPONSE 32): Soil samples collected at Site 8 will be field screened by the on site geologist with a scintillometer for radiological activity (Appendix H, Step 7).</p>
<p>33) Pages H-14, H-21: Site 8 may be a source of VOCs if the list of VOCs are compared from the upgradient and downgradient contaminants' list. For example, benzene, carbon tetrachloride, chloromethane are detected in the downgradient monitoring wells and not in the upgradient ones.</p>	<p>RESPONSE 33): This issue is being addressed by the Site 24 VOC Source Investigation. Further, the "upgradient" well is not hydraulically upgradient of the site. Rather it is "crossgradient". As a crossgradient well, it may not be representative of upgradient conditions.</p>
<p>Site 11</p>	
<p>34) It may be appropriate to consider reorganizing the units within Site 11, given their close proximity to one another.</p>	<p>RESPONSE 34): Units 1 and 2 are presently in the Removal Action process and are not part of the Phase II RI/FS.</p>
<p>35) Page K-7: the depth of sampling for PCBs should be contingent upon the PCB levels found in shallow soils not based upon a general statement that it is not expected that the PCBs "will readily migrate vertically into these media." Many times the carrier compounds which were used with PCBs are very mobile and thus PCBs have been found at significant concentrations at depths below 10 feet.</p>	<p>RESPONSE 35): The proposed sampling plan will allow for sampling below 4 feet bgs if PCBs are detected at or below this depth.</p>
<p>36) Page K-7: It is not appropriate to cite hazardous waste criteria in comparison to site PCB levels. PRGs are the appropriate screening criteria.</p>	<p>RESPONSE 36): This information has been removed from the work plan.</p>
<p>Site 12</p>	
<p>37) Based on the 4/24-25 meetings, the Navy proposed the following: Unit 3: Navy proposed removal. EPA concurs with this recommendation.</p>	<p>RESPONSE 37): Agreed and appropriate removal documents will be prepared.</p>
<p>38) Page L-5: Is location of SWMU/AOC 7 depicted on a map?</p>	<p>RESPONSE 38): Figure L-2 has been revised to show the location of SWMU/AOC 7.</p>

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<p>39) Page L-29, Unit 1: All soil samples should be submitted to mobile or fixed laboratory.</p>	<p>RESPONSE 39): The Navy will use immunoassay (if available detection limit is applicable), mobile and fixed base laboratories to analyze soil samples from this site.</p>
<p><u>Site 15</u></p> <p>40) Based on the 4/24-25 meetings, the Navy proposed the following: Unit 1: Navy proposed removal EPA concurs with this recommendation.</p>	<p>RESPONSE 40): Agreed and appropriate removal documents will be prepared.</p>
<p>41) During the 5/2/95 regulatory site visit, the covered soil piles were observed. Apparently these soil piles have been located at Site 15 for many years. These should be sampled and properly disposed of.</p>	<p>RESPONSE 41): This issue is being addressed as part of the EBS.</p>
<p>42) Page O-2: What is the location of SWMU/AOC 272? RFA sample locations should be shown on a map.</p>	<p>RESPONSE 42): Figure O-2 has been revised to include this information.</p>
<p>43) Page O-9: the "mounded material" observed in the SAIC survey is stated to not be part of Site 15. Which site will it be handled within?</p>	<p>RESPONSE 43): This statement has been removed from the work plan as agreed to at the BCT Meeting on June 2, 1995.</p>
<p><u>Site 16</u></p> <p>44) Page P-2: The text indicates that the evaluation of the current Crash Crew Pits "will be included under the Base Closure Plan." Clarify which Navy RPM and contractor is responsible for this area.</p>	<p>RESPONSE 44): This site will be addressed in the Base Closure Plan (BCP), responsibility for this site has not yet been delegated. The next BCP update will include provision for this site (BCT Meeting of 5/31/95).</p>
<p>45) Page P-2: the text indicates that SWMU/AOCs 288, 289 and 290 will be evaluated under the MCAS El Toro UST Investigation. Please clarify if a Navy RPM was contacted for this information.</p>	<p>RESPONSE 45): The underground storage tanks (USTs) at MCAS El Toro including these SWMU/AOCs at Site 16, will be assessed and remediated under the UST program. Responsibility for this work has not yet been delegated.</p>
<p>46) Page P-7: Which map includes the location of the 27 surface and near surface soil samples?</p>	<p>RESPONSE 46): Figure P-2 indicates the location of the borings from which these samples were collected</p>
<p>47) Page P-26: Are some judgmental sampling locations proposed near 16AB213 where "significant TFH contamination is present to depths</p>	<p>RESPONSE 47): A minimum of three borings will be advanced around this</p>

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<p>Originator: Bonnie Arthur U. S. Environmental Protection Agency, Region IX</p> <p>To: Joseph Joyce, BRAC Environmental Coordinator MCAS El Toro, California</p> <p>Date: 24 May 1995</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
	<p>Previous Investigations).</p>
<p><u>Site 22</u></p> <p>53) Page U-25, Unit 2: Navy proposed NFI. EPA does not agree with this recommendation. Further vertical definition is necessary near Boring 22_2FB3 and 22_25B219 (concentrations at 25 feet).</p>	<p>RESPONSE 53): As per EPA's request one additional boring will be drilled next to the location of 22_2FB3 to vertically delineate the fuel contamination in the area of this boring. Soil samples will be collected and analyzed for VOCs, SVOCs and fuels. Pending the results of the soil analyses from this boring the unit may be recommended for NFI (Appendix U, Step 7, Unit 2).</p>
<p><u>Site 23 - Sewer Lines (Comments same as for Field Sampling Plan)</u></p> <p>54) Page V-1: Specify how the other sewer lines across the base will be handled.</p>	<p>RESPONSE 54): The sewer lines (municipal sewer lines) will not be investigated during the Phase II RI/FS.</p>
<p>55) Page V-1: Was visual inspection completed of the sewer lines?</p>	<p>RESPONSE 55): No visual inspection has been reported by MCAS El Toro or Navy.</p>
<p>56) Page V-1: Silver was detected above action levels in 1 location. Since samples were only collected every 200 feet, any sample location with concentration levels above action levels should be investigated further.</p>	<p>RESPONSE 56): Soil samples were collected and analyzed from the ten borings drilled during the investigation of the Industrial Wastewater Sewer Lines (IWWSL). Only one soil sample exceeded PRGs for one COPC. The sample, BI at 5 feet exceeded the PRG for beryllium and is located at 5 feet below the ground surface. The IWWSL are buried below this depth. In addition, beryllium is not usually associated with metal plating operations. Therefore, it is unlikely that this beryllium concentration is related to the IWWSL. The Navy is requesting that no further action be taken and this site should be removed from the Phase II RI/FS. A figure with RFA boring locations (Figure V-1) and table of RFA results (Table V-1) have been added to Appendix V.</p>
<p>57) Page V-1: Clarify the last sentence starting with "this site is being considered with other OU-3 sites to be addressed in the Work Plan and its associated supporting documents."</p>	<p>RESPONSE 57): This sentence has been reworded. The sentence should have read "Therefore, this site is being discontinued from the list of OU-3 Sites that will be addressed in the Work Plan and its supporting documents (Appendix V).</p>

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<p>Site 24</p> <p>58) Page W-i: Clarify the relationship of Site 24 to the site investigations for individual sites contained within the boundary of Site 24 (Sites 7, 8, 9, 10, 11, 112 and 22).</p>	<p>RESPONSE 58) The investigation at OU-3 Sites (7, 8, 9, 10, 11, 12, and 22) and Site 24 (VOC Source Area) have different objectives. The investigation at Site 24 is concerned with VOC groundwater contamination and sources of VOC groundwater contamination in shallow and subsurface soil. Site 24 covers a relatively large area and the investigation encompasses potential VOC contamination that may be present at OU-3 Sites 7, 8, 9, 10, 11, 12, and 22.</p> <p>The OU-3 site investigations are primarily directed toward characterizing shallow and subsurface soil contamination in localized areas. Groundwater will be investigated if contamination extends to the water table. The decision to investigate groundwater beneath OU-3 Sites will be made by the BCT.</p> <p>Groundwater and subsurface soil data from OU-3 sites and Site 24 will be used interchangeably to satisfy their respective objectives. These objectives are defined in detail in the DQOs of the work plan appendices.</p>
<p>59) Pages W-2, W-9: Please include a map (or refer to map if located elsewhere) with the industrial wastewater sewer lines.</p>	<p>RESPONSE 59) A map showing the location of industrial wastewater lines will be added to show the location of these lines in the final documents.</p>
<p>60) Page W-15: Which map identifies the abandoned water wells?</p>	<p>RESPONSE 60) A map showing the location of abandoned water wells was not shown in the Revised Draft Work Plan or Field Sampling Plan. The abandoned water well locations will be illustrated on the Site Plan of both the Work Plan and Field Sampling Plan.</p>
<p>61) Page W-16: Include reference to the Bee Canyon and Agua Chinon Wash investigations, since sources of contamination to these washes are identified.</p>	<p>RESPONSE 61) A reference will be added to the Site 24 DQO discussion under "Summary of Employee Interviews" citing that the investigations at Bee Canyon and Agua Chinon Washes (Site 25) will consider the potential sources of contamination identified in the employee interviews. Potential solvent disposal in the storm drain system or surface drainage will also be investigated as part of Site 24.</p>

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<p>62) Page W-16: s “liquid wastes were spread over unpaved areas of the flightline for dust suppression” limited surface sampling should be proposed.</p>	<p>RESPONSE 62) Limited surface soil sampling (0 to 10 feet bgs) will occur in the unpaved areas of the flightline in OU-3 and Site 24/25 programs. Surface soil samples will be collected from hollow-stem auger and/or soil gas sampling locations to characterize potential contamination associated with waste liquids spread over unpaved areas of the flightline.</p>
<p>63) Page W-32: Explain the connection between Operable Units 1 and 2 within the “Statement of Phase II RI Problem” section.</p>	<p>RESPONSE 63) The regional VOC groundwater investigation, OU-1, and the investigation of potential VOC source areas, OU-2, are interrelated. The OU-1 characterization of aquifer properties and contaminant distribution has provided the foundation for the OU-2 investigation. The OU-2 investigation will provide an understanding of VOC sources and the mechanism of transport to groundwater. Pilot studies will be completed to help evaluate cleanup technologies for contaminated groundwater (identified as part of OU-1) and for contaminated soil (to be identified during completion of OU-2). The OU-2 aquifer pumping test data will be used to support the OU-1 Interim-Action Feasibility Study.</p>
<p>64) Page W-38: Please revise the decision rules to specifically apply to this Site. For example, as stated on page W-37, there are no background concentrations which have been identified for Site 24. Also, #6 and #7 do not appear to apply given the conceptual model figure which indicates that at Site 24 the higher soil concentrations are deeper due to many factors.</p>	<p>RESPONSE 64)</p> <p>a) Revise Figure W-9 to match text on page W-37 concerning the lack of background concentrations for the VOC source area.</p> <p>b) Although most soil sampling will occur at depths greater than 10 feet, some shallow soil samples will be taken (less than 10 feet bgs). As such, Steps #6 and #7 do apply to the Site 24 investigation, where soil samples are taken at less than 10 bgs. Figure W-7 is not to scale and does not imply that VOC soil concentrations are greater at depth only that a potential migration pathway for VOCs is through the vadose zone.</p>
<p><u>Site 25</u></p> <p>65) Page X-1: It is not appropriate to cite that the contaminant concentrations in stream sediment “were still considered low.” Please compare results to ecological screening criteria.</p>	<p>RESPONSE 65) No COPCs exceeded ecological screening criteria in Agua Chinon Wash, Borrego Canyon Wash, and San Diego Creek. 4,4’-DDE exceeded ecological screening criteria in upstream and downstream sediment in Marshburn Channel. Mercury exceeded criteria in the downstream</p>

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	<p>sediment. 4,4'-DDE exceeded ecological screening criteria in upstream sediment in Bee Canyon Wash. This will be clarified in the text.</p>
<p>66) Page X-5: Which map includes the location of the Phase I RI samples?</p>	<p>RESPONSE 66) Most of the Phase I RI sample locations are the same for the Phase II RI/FS, however one additional surface water sampling station will be added to Borrego Canyon Wash and three deep borings will be added to Agua Chinon and Bee Canyon Washes. These locations will be added to existing Figure X-1.</p>
<p>67) Page X-11: Please clarify if regulatory agencies approved this methodology for deriving the ecological screening criteria for wet wash sediment using ambient water quality criteria and an equilibrium partitioning approach for nonpolar organic compounds.</p>	<p>RESPONSE 67) Regulatory agencies have not approved this methodology.</p>
<p>68) Pages X-18, X-19: Clarify whether there are established background levels for El Toro surface water.</p>	<p>RESPONSE 68) Background levels have not been established for El Toro surface water. A combination of Phase I and Phase II RI data will be used to establish background levels for surface water at MCAS El Toro. This will be clarified in the text of the Final Work Plan.</p>
<p>69) It is not clear from the text for Site 23 (Sewer Lines) if the storm sewers have also been investigated as part of the RFA. The wash maps should clearly show the lined or unlined portions of the wash and the drainage from the following individual sites (mentioned in the site appendices)</p> <ul style="list-style-type: none"> • Site 10 - Petroleum Disposal Area • Page J-9; from Employee interviews . . . "a storm drain trench was located adjacent to the northwest edge of the original parking apron. The drain was used to divert surface runoff away from the apron (assume drainage into Bee Canyon Wash). 	<p>RESPONSE 69) Sewer lines and unlined washes.</p> <p>a) The storm sewers were not investigated as part of the MCAS El Toro RFA.</p> <p>b) The following will be added to the Final Work Plan: a map showing the lined and unlined portions of the major drainages will be included for Site 25.</p> <p>The drainage pattern from Sites 10, 11, and 16 to the major drainages appears to be directed toward Bee Canyon Wash based on the natural topographic gradient and location of the storm sewer conveyance system.</p>
<p>MINOR COMMENTS</p>	
<p>1) Page 2-3: Correct grammar in sentence starting with "VOC-</p>	

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<p>contaminated water is sent to an on-site granular-activated carbon unit for treatment . . . “</p>	<p>RESPONSE 1) The text has been revised.</p>
<p>2) Page 4-33: Other sites in addition to Site 2 have impacted groundwater.</p>	<p>RESPONSE 2) Currently, Site 2 is planned for modeling. Site 24 is the source of the regional groundwater contamination, however, this plume has been extensively modeled. Other tank sites have impacted groundwater, but these sites are not in the scope of work for the Phase II RI/FS.</p>
<p>Site 2</p> <p>3) Page B-i: Correct the typographical error in Step 1.</p>	<p>RESPONSE 3): Correction noted.</p>
<p>4) Page B-5, Figure B-2: It is difficult to identify the surface water sample locations.</p>	<p>RESPONSE 4): Figure has been modified.</p>
<p>Site 3</p> <p>5) Page C-i, Step 3: Typographical error in first sentence - should be Step 2.</p>	<p>RESPONSE 5): Correction noted.</p>
<p>6) Page C-21, Step 3: Typo first sentence. Step 3 should be Step 1.</p>	<p>RESPONSE 6): Correction noted.</p>
<p>7) Figure C-3: Check the labeling of the SWMU/AOC 194 borings.</p>	<p>RESPONSE 7): SWMU/AOC 194 boring labels are consistent with the MCAS El Toro Final RCRA Facility Assessment Report, dated July 16, 1993 (Final RFA).</p>
<p>Site 5</p> <p>8) Page E-30: Correct grammar in the following sentence: “ If groundwater impacts are observed as a result of Phase II well installation and sampling, additional wells may be constructed and sampled to estimate the extent of groundwater degradation.”</p>	<p>RESPONSE 8): The sentence has been modified.</p>
<p>Site 7</p> <p>9) Map G-2: Difficult to tell difference between Units 5 and 2 on the map.</p>	<p>RESPONSE 9): Arrows are drawn from unit label to unit boundary.</p>

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<p>10) Page G-12: Delete the following phrase: “. . . and is of primary interest to this investigation.”</p>	<p>RESPONSE 10): This phrase has been removed from the Work Plan.</p>
<p>11) Page G-29, Unit 4: Please confirm the location of sample 7_NP1 (located in Unit 3 or 4?).</p>	<p>RESPONSE 11): Figure G-2 has been revised to resolve this inconsistency. Sample 7_NP1 is located in Unit 3 and sample 7_DD1 is located in Unit 4.</p>
<p>Site 8</p> <p>12) Page H-ii: Correct the grammar in the last sentence.</p>	<p>RESPONSE 12): This comment has been addressed.</p>
<p>Site 10</p> <p>13) Page J-5: Are the 6 surface soil sample locations depicted on a map?</p>	<p>RESPONSE 13): Figure J-2 has been revised and now includes all previous Phase I RI and proposed Phase II RI/FS sample locations from both the OU-3 Site 10 and the OU-2 Site 24 investigation.</p>
<p>Site 11</p> <p>14) Page K-5: It is difficult to distinguish between the Units 1 and 2 boundaries.</p>	<p>RESPONSE 14): The comment has been noted. Both of these units are presently removal actions, and not included as part of the Phase II RI/FS.</p>
<p>Site 12</p> <p>15) Page L-20: In the “Nature and Extent of Contamination” section, clarify that the additional sampling would take place as Tier 2.</p>	<p>RESPONSE 15): Under the discussion of Tier 2 soil sampling, the objective is to refine extent of contamination if Tier 1 does not delineate extent.</p>
<p>Site 15</p> <p>16) Page O-1: Typographical error in Step 1.</p>	<p>RESPONSE 16): This comment has been addressed in the Work Plan (Appendix O, Step 1).</p>
<p>17) Page O-9: Typographical error in the “SAIC Aerial Photograph Survey section.”</p>	<p>RESPONSE 17): This comment has been addressed in the Work Plan (Appendix O, Step 1, SAIC Aerial Photography Survey).</p>
<p>Site 17</p> <p>18) Page Q-1, Step 1, 2nd sentence: Correct grammar.</p>	<p>RESPONSE 18): The sentence has been modified.</p>

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<p>19) Figure Q-2, Site 17: Missing proposed sampling locations.</p>	<p>RESPONSE 19): The figure has been corrected to indicate sampling locations.</p>
<p>20) Page Q-8, Summary of Employee interviews: Correct grammar in indented paragraph.</p>	<p>RESPONSE 20): The paragraph has modified.</p>
<p><u>Site 19</u></p> <p>21) Page R-7, Figure R-2: Please add the location of AOC/SWMU 20 to the figure.</p>	<p>RESPONSE 21): Figure R-2 has been revised and the locations of SWMU/AOCs 20, 107, and 242 have been included (Appendix R, Figure R-2).</p>
<p><u>Site 20</u></p> <p>22) Page S-5, Figure S-2: Is SWMU/AOC 257 depicted on a map? Also, Unit 4 appears to be mislabeled.</p>	<p>RESPONSE 22): The location of SWMU/AOC 257 is not known. Figure S-2 has been revised to include the proper labeling of Unit 4.</p>
<p>23) Page S-11: Two different depths are cited for depth to groundwater (150 and 190 feet).</p>	<p>RESPONSE 23): The depth to groundwater is approximately 190 feet. The Work Plan has been revised accordingly (Appendix S, Step 1, Conceptual Site Model).</p>
<p><u>Site 21</u></p> <p>24) Page T-5: Pages appear to be misnumbered.</p>	<p>RESPONSE 24): The 11-inch by 17-inch maps as presented in the Work Plan and the Field Sampling Plan take up two pages; one for the front side and one for the backside.</p>
<p><u>Site 22</u></p> <p>25) Page R-2: Which map depicts AOCs 107, 242 and 20?</p>	<p>RESPONSE 25): See Response to Minor Comment 21 (site 19).</p>
<p><u>Site 23</u></p> <p>26) Page V-1, 2nd paragraph: Typographical error-duplicate "none of."</p>	<p>RESPONSE 26): The Work Plan has been revised accordingly.</p>
<p><u>Site 24</u></p> <p>27) Page W-14: Is a map with PCE soil gas levels included in report?</p>	<p>RESPONSE 27) PCE soil gas plumes are outlined on Map W-12, quantitative levels are not contoured on this map. A figure that summarizes all Phase II sampling locations has been included in the final document that illustrates PCE</p>

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	and TCE soil gas plumes and well as the TCE plume in groundwater.
<p>28) Page W-20: State that two rounds of data have been collected from the on-site multipoint monitoring wells.</p>	<p>RESPONSE 28) Text will be corrected to state that two rounds of groundwater analytical data have been collected for inorganics and three rounds of groundwater analytical data have been collected for organics from the on-site multipoint wells.</p>
<p>29) Page W-38: Typographical error in Step 4 section.</p>	<p>RESPONSE 29) Typographical error corrected on Page W-38.</p>
<p>30) Page W-47: Key for VOCs in soil gas, i.e., Freon 113, 1,1-DCE, 1,2-DCE, etc., appears to be in the wrong place.</p>	<p>RESPONSE 30) Key for VOCs in Soil Gas (Freon 113, 1,1-DCE, 1,2-DCE etc.) relocated to correct place on the legend.</p>
<p><u>Site 25</u></p>	
<p>31) Page X-5: Is page X-4 missing?</p>	<p>RESPONSE 31) Page numbers corrected in Appendix X.</p>
<p>32) Page S-15: Not all portions of the washes are lined as indicated in the figure.</p>	<p>RESPONSE 32) Figure X-2 will be clarified to distinguish between lined and unlined portions of the major drainages.</p>
<p>33) Page X-17: Typographical error in the second bullet under "Statement of Phase II RI Problem."</p>	<p>RESPONSE 33) Typographical error corrected on Page X-17.</p>
<p><u>SPECIFIC COMMENTS - DRAFT FIELD SAMPLING PLAN</u></p> <p><u>Major</u></p> <p>1) Page 5-1, Section 5.2 and Page B5-3; Immunoassay detection limits should be discussed and a table included which compares detection limits and PRGs.</p>	<p><u>SPECIFIC RESPONSES - DRAFT FIELD SAMPLING PLAN</u></p> <p><u>Major</u></p> <p>RESPONSE 1) A table has been included to clarify immunoassay detection limits and comparison to PRGs.</p>
<p><u>Site 3</u></p> <p>2) As discussed in the "Response to Regulatory Comments," page 53, comment #7, further investigation must be proposed to identify the location of Abandoned Well 24-4247.</p>	<p>RESPONSE 2): The location of Abandoned Well 24-4247 will be further investigated. Please refer to Work Plan Step 7 Unit 1 Landfill Area discussion and the Field Sampling Plan, Sections 4.1.1 and 4.2.1.2.</p>
<p>3) Page C2-4, Section 2.3; add statement regarding the disposition of</p>	<p>RESPONSE 3): The Final RFA does not provide the final destination of the</p>

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<p>the soil from the 1992 excavation.</p>	<p>1992 excavated soil; however it was likely disposed of in either Site 2 or 17.</p>
<p>4) Page C4-2, Section 4.1.5; are the locations for angle borings selected?</p>	<p>RESPONSE 4): The location for angle borings have not been selected. As described on page C4-6 the location of the angle borings (e.g. lysimeters) will be based on the results of the surface geophysics and soil gas, as well as prelandfill topography. The intent is to locate the lysimeters in areas where there is a stronger likelihood of encountering leachate.</p>
<p>5) Page C4-3, Section 4.2; please clarify if groundwater monitoring is included as part of Tier 1.</p>	<p>RESPONSE 5). As described in the Work Plan, groundwater samplings will be collected from existing Site 3 wells during Tier 1 field activities. Section 4.2.1.5 which describes Tier 1 groundwater sampling, has been added to the Field Sampling Plan.</p>
<p><u>Site 5</u></p>	
<p>6) Page E4-2, Section 4.1.4; are the locations for the groundwater monitoring wells selected?</p>	<p>RESPONSE 6): The proposed location of the one additional groundwater monitoring well has not been determined. For planning purposes it has been located west of the southern end of the landfill area, as shown on Figure E-2. Its location will be based on the horizontal extent of the landfill area as assessed during geophysical surveys and possible trenching.</p>
<p>7) Page E4-3, Section 4.2.1; clarify if groundwater monitoring will be scheduled for Tier 1.</p>	<p>RESPONSE 7): The existing groundwater wells will be sampled during Tier 1 activities.</p>
<p>8) Page E5-6; selected soil samples should be analyzed for dioxins.</p>	<p>RESPONSE 8): Dioxin analyses will be performed on at least one sample collected from each angle boring located beneath the landfill.</p>
<p><u>Site 7</u></p>	
<p>9) Page G2-4; where are monitoring wells 07_DGMW72 and 07_DGMW91 located?</p>	<p>RESPONSE 9): These wells were not originally included on Figure G-2 because they are too far away. Figure G-2 has been revised to include the distances these wells are away from the end of the map.</p>
<p>10) Page G5-1; Page G-1 states that waste fluids were used for dust control. Dioxin analyses may be appropriate?</p>	<p>RESPONSE 10): Dioxin sampling is not planned at Site 7.</p>

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<p>Site 8</p> <p>11) As it is specified that there is 5 feet of fill in the Old Salvage Yard (Unit 5), clarify the depth of the prior sampling.</p>	<p>RESPONSE 11): Prior to excavation, the Phase I RI took samples at depths of 5, 10, 15, 20 and 25 bgs (Step 7: Unit 5).</p>
<p>Site 9</p> <p>12) Page I5-1; see discussion for Site 9 under the work plan comments.</p>	<p>RESPONSE 12): There were no comments.</p>
<p>Site 11</p> <p>13) Page K2-3; it is not appropriate to cite hazardous waste criteria in comparison to site PCB levels. PRGs are the appropriate screening criteria.</p>	<p>RESPONSE 13): See Response to Comment 36 (Major: Specific Comments Site 11).</p>
<p>14) Page K5-3; Unit 3: All samples should be analyzed at the offsite laboratory given the detection limit for PCB immunoassays.</p>	<p>RESPONSE 14): Agreed and incorporated.</p>
<p>Site 12</p> <p>15) Page L2-1; when discussing a possible source of contamination to Bee Canyon Wash, reference should be made to the Site 25 investigation.</p>	<p>RESPONSE 15): Agreed and incorporated.</p>
<p>Site 17</p> <p>16) Page Q1-1, Section 1.1; see General Comment #4 above regarding presumptive remedies for landfills.</p>	<p>RESPONSE 16): The comment has been incorporated into the text.</p>
<p>17) Page Q5-7; selected soil samples should be analyzed for dioxins.</p>	<p>RESPONSE 17): Dioxin analyses will be performed on at least one sample will be collected from each angle borings located beneath the landfill.</p>
<p>Site 20</p> <p>18) Page S5-3, Unit 4; proposed to field screen all soil samples for PCBs and PAHs. No PCBs were detected, so since detection levels are not low enough to verify if PCBs are present, mobile or fixed laboratory should be used.</p>	<p>RESPONSE 18): No PCB sampling is proposed for Unit 4 and text has been revised.</p>

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PHASE II REMEDIAL INVESTIGATION/FEASIBILITY STUDY
WORK PLAN, MCAS EL TORO, CALIFORNIA**

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<p>Site 21</p> <p>19) Page T5-1; all analyses should be sent to fixed laboratory, due to the limited sample number.</p>	<p>RESPONSE 19): As agreed to at the June 6, 1995 BCT meeting, all six samples will be field screened. Three of these samples will be sent to a fixed-base laboratory for confirmation of field screening results.</p>
<p>Site 22</p> <p>20) Page U5-1, Unit 1; please include SVOC, PCB and VOC analyses.</p>	<p>RESPONSE 20): Soil samples will be analyzed for VOCs and SVOCs (Attachment T, Section 5.1.1.1).</p>
<p>Site 24</p> <p>21) Page W4-1, Section 4.2; explain the connection between site specific investigations and the comprehensive Site 24 investigations.</p>	<p>RESPONSE 21) See Draft Work Plan response to comment No. 58.</p>
<p>22) Page W6-5, Section 6.5.2 (page 6-43, Section 6.7); the following components are missing from the discussion of the air sparging (AS) and soil vapor extraction (VE) pilot tests:</p>	<p>RESPONSE 22) Air sparging and soil vapor extraction pilot tests discussion is covered by response to comments Nos. 134 - 142.</p>
<p>a) objectives of the studies (more detail than page 6-43);</p>	<p>RESPONSE a) Objectives of the soil vapor extraction pilot test are:</p> <ul style="list-style-type: none"> • Provide sufficient data so that an SVE system capable of removing VOCs from contaminated soil beneath Site 24 can be designed; • Assess site specific variability in soil gas conductivity, and VOC concentrations in the extracted soil gas; • Characterize the relationship between applied vacuum, volumetric air flow, and radius of influence; • Estimate the effort required to remove VOCs from contaminated soil using SVE (removal efficiency); • Determine treatment requirements for the extracted soil gas; and • Reduce cost and performance uncertainties so a decision can be made whether to implement SVE at Site 24. <p>Objectives of the air sparging pilot test are:</p>

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	<ul style="list-style-type: none"> • Provide sufficient data so that an air sparging system capable of removing VOCs from the contaminated aquifer beneath Site 24 can be designed; • Assess VOC concentrations in the extracted soil gas prior to and during the air sparging pilot test, and estimate the mass of VOCs removed from the contaminated aquifer; • Assess VOC concentrations and dissolved oxygen in groundwater prior to, during, and after the air sparging pilot test; • Characterize the relationship between air flow, bubble flux, and radius of influence; • Estimate the effort required to remove VOCs from the contaminated aquifer using air sparging (removal efficiency); and • Reduce cost and performance uncertainties so a decision can be made whether to implement air sparging at Site 24.
<p>b) estimated area to be treated;</p>	<p>RESPONSE b) The estimated area to be treated for both soil vapor extraction and air sparging is dependent on site specific conditions that will be measured during the pilot testing. The estimated area to be treated will be calculated using pilot test data.</p>
<p>c) proposal to assess water quality in aquifers before and after pilot tests (vertical extent is mentioned on page 6-50)</p>	<p>RESPONSE c) Groundwater samples will be collected and analyzed for VOCs in well 09_DBMW45 and during vertical groundwater characterization before the air sparging pilot test is initiated. Groundwater samples will also be collected during and after the air sparging pilot test. The duration of the pilot test will be based on the rate of decline in groundwater VOC concentration over time.</p>
<p>d) schedule</p>	<p>RESPONSE d) Fieldwork schedules will be prepared and submitted to the BCT for all field activities.</p>
<p>e) will the system controls for each system be integrated to assure AS system only operates when VE is operating?</p>	<p>RESPONSE e) A vacuum switch will be installed in the vapor extraction line such that a loss of vacuum will cause the air sparging blower to de-energize.</p>
<p>f) monitoring and reporting of the following parameters</p>	<p>RESPONSE f) Dissolved oxygen in groundwater and depth to water will be</p>

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<ul style="list-style-type: none"> - dissolved oxygen in groundwater - groundwater elevations - contaminant concentration in extracted vapor stream from the VE wells 	<p>monitored in nearby monitoring wells/piezometers. Extracted vapor stream samples will be collected and submitted for laboratory analyses for VOCs. The samples will also be monitored for VOCs with a portable PID/FID.</p>
<p>g) sample of AS/VE field log</p>	<p>RESPONSE g) Samples of air sparging and vapor extraction pilot test worksheets are included in Section 8 of the Final Revised Field Sampling Plan.</p>
<p>h) frequency of status reports to regulatory agencies</p>	<p>RESPONSE h) Pilot test status reports will be provided to the BCT on a weekly basis.</p>
<p>i) supporting documentation in the RI</p> <ul style="list-style-type: none"> - field notes - laboratory data - site plan - copies of any permits - chain of custody documentation 	<p>RESPONSE i) Supporting documentation to be included in the RI will include field notes, laboratory data, site plans, copies of any permits, and chain-of-custody documentation.</p>
<p>23) Page W6-6, Aquifer Pumping Tests; necessary to add a proposal for the length of time for the pump tests.</p>	<p>RESPONSE 23) The length of aquifer pumping tests will be approximately 24 hours. Conversations with the CLEAN I Team indicate that this length of test will produce the data needed for the Interim-Action Feasibility Study. A detailed Work Plan addendum will be prepared that describes the protocol to be followed for aquifer testing.</p>
<p><u>Site 25</u></p> <p>24) Page X2-1; the short reach adjacent to Site 19 should be shown on the map.</p>	<p>RESPONSE 24) The short unlined section of Agua Chinon Wash adjacent to Site 19 will be added to Map X3-1.</p>
<p>25) Page X2-4, Section 2.2.4.1; please provide the rationale for filtering the surface samples.</p>	<p>RESPONSE 25) Analysis for total and dissolved metals in surface water will be used to assist the human health and ecological risk assessment. The</p>

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	<p>filtering of surface water samples eliminates suspended solids, which when acidified, causes elevated concentrations of naturally occurring metals. When compared with unfiltered samples, the contribution of metals due to suspended solids can be assessed. This is especially important in the ecological risk assessment.</p>
<p>26) Page X4-5, Section 4.1.3; would the SVE wells or piezometers be installed under Tier 1 or Tier 2?</p>	<p>RESPONSE 26) An SVE well or piezometer would be installed at the time a contaminated boring reached total depth. This would be considered a Tier 1 event.</p>
<p>27) Page X5-2, Section 5-3; all samples should be sent to the on-site mobile laboratory for analysis of VOCs.</p>	<p>RESPONSE 27) Soil samples will be collected at minimum 5-foot intervals from four hollow-stem auger borings adjacent to Bee Canyon and Agua Chinon Washes. this represents approximately 104 soil samples. The purpose of the borings is to further characterize previously identified petroleum hydrocarbon contamination. As such, the analyses of all collected soil samples for VOCs in the mobile laboratory is not considered an effective use of resources. Soil samples will be selected for analyses based on field screening using a portable FID, PID and GC as well as lithology, depth, and visual observations. We estimate that approximately 25 percent of the samples will be submitted to the mobile laboratory, but the percentage may be increased based on the soil conditions encountered.</p>
<p><u>Minor</u></p> <p>1) Page C6-2, Section 6.4; please correct the grid discussion, as the soil gas grids are unit dependent. For example, a 20 ft. grid is proposed for Unit 3.</p>	<p>RESPONSE 1): Section 6.4 has been modified to include the grid spacings at both the solvent spill and former incinerator units</p>
<p>2) Page 03-5; name listed incorrectly.</p>	<p>RESPONSE 2): Figure O-2 has been revised.</p>
<p>3) Page Q1-2; soil gas samples shown on what map?</p>	<p>RESPONSE 3): The map has been modified to include the Soil Gas Sample locations.</p>
<p>4) Page W3-7; take proposed fieldwork key off the map.</p>	<p>RESPONSE 4) The key will be revised to contain only information presented</p>

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<p>Enclosure B</p> <p><u>CONCERNS (DRAFT FIELD SAMPLING PLAN AND REVISED DRAFT WORK PLAN)</u></p> <p>1A. [WP Section 4.2.3.5, Tiered Sampling Programs; WP Section 4.2.3.8, Analytical Methods]. It is unclear whether the analytical scheme described in Sections 4.2.3.5 and 4.2.3.8 of the WP, which involves a three-tiered approach that incorporates preliminary field screening analyses, on-site mobile laboratory analyses, and fixed-based laboratory analyses, will provide sufficient sensitivity to meet the RI/FS objectives.</p> <p>The analytical scheme involves submitting samples with positive results from field screening analyses for further analyses (by a mobile laboratory and, possibly, by a fixed-based laboratory). In general, field screening techniques afford less sensitivity than mobile laboratory and fixed-based laboratory analytical techniques. It is possible that samples from site locations may contain contaminants of concern at concentrations below the field screening detection limits, but above the applicable action levels. As a result, definitive data would not be generated for areas of possible regulatory concern.</p> <p>It is recommended that the discussion of the proposed analytical scheme be expanded to indicate how the generation of such data gaps will be avoided or minimized. Actual detection limits should be specified for the various field screening instrumentation/techniques (e.g., portable gas chromatograph, portable scintillometer, x-ray fluorescence, immunoassay test kits). Also, these limits should be discussed in relation to the limits for on-site mobile laboratory and fixed-based laboratory analyses and the applicable regulatory limits or action levels.</p>	<p><u>RESPONSES (DRAFT FIELD SAMPLING PLAN AND REVISED DRAFT WORK PLAN)</u></p> <p>RESPONSE 1A: With the decision to concentrate on PRGs, the field screening program has been modified to assure that PRG levels for the COPCs are attainable with all the field screening instrumentation. A table has been added to the QAPP and the WP describing the field screening instrumentation, their applications and sensitivity levels. In general, if the available field screening instrumentation cannot satisfy PRGs for certain COPCs, it will not be applied to the Phase II fieldwork. Thus, several analyte classes will be submitted directly to the fixed-base laboratory for analysis by CLP methodology (i.e. pesticides/PCBs, explosives, herbicides, etc.).</p>
<p>1B. The text in Section 4.2.3.8 of the WP states that 5% of samples</p>	<p>RESPONSE 1B: Based on the 25 April 1995 meeting, regulators agreed upon</p>

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<p>determined to be free of contamination by preliminary field screening will be submitted to an on-site mobile laboratory for analysis, and that 10% of the samples with positive results and 5% of samples determined to be free of contamination by mobile laboratory analyses will be submitted to a fixed-based laboratory. The procedure by which samples will be selected for submission for mobile laboratory and fixed-based laboratory analyses should be described.</p> <p>In addition, the possibility of using a different approach for determining the number of samples to submit for definitive analyses should be considered for sites where limited samples collection is planned. For some sites, 5 or 10% of the total samples may equate to 1 or 2 samples. It is unclear whether sufficient definitive data will be generated for these sites; it may be necessary to submit a greater percentage of samples for additional analyses.</p>	<p>the minimum number of confirmation samples on a site by site basis. These new figures will be incorporated into the plans.</p>
<p>2A. [WP Table 4-4, Project-Required Detection Limits]: Detection/reporting limits should be added to Table 4-4 of the WP for the following parameters:</p> <ul style="list-style-type: none"> • total Kjeldahl nitrogen (TKN) (E353.3; aqueous samples) • total dissolved solids (TDS) (E160.1; aqueous samples) • total organic carbon (TOC) (E415.1/SW9060; aqueous/solid samples) • biological oxygen demand (BOD) (E405.1; aqueous samples) • chemical oxygen demand (COD) (E410.4; aqueous samples) • total phenolics (SW9065; solid samples) • Sulfate (E375.4; solid samples) 	<p>RESPONSE 2A: Clean II Contract Laboratory detection limits have been incorporated into the appropriate tables throughout the QAPP and WP for the suggested methods which do not contain these parameters within the methods.</p>

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<p>2B. Detection limits should be specified for all target analytes listed in Table 4-4 of the WP. "NL" (Not Listed) or "_" is entered instead of detection limits in the table for many analytes.</p>	<p>RESPONSE 2B: See response to comment 2A.</p>
<p>2C. The analytical methods specified for several of the chemicals of potential concern (COPC) do not provide sufficient sensitivity to detect these chemicals at concentrations below the risk-based concentrations (RBCs) specified in Table 4-4 of the WP. This issue is a concern for the following analytes: carbon tetrachloride, chloroform, dibromochloromethane, 1,2-dichloroethane, 1,2-dichloropropane, and 1,2,2-tetrachloroethane (SW8010); vinyl chloride (SW8240); heptachlor epoxide (SW8080); n-nitrosodipropylamine (SW8270); and arsenic and beryllium (SW6010).</p> <p>In order to reliably quantitate these analytes at concentrations less than RBCs, it may be necessary to use alternative methods or to modify the specified methods. For example, for SW-846 Method 8010 analyses, it may be sufficient to analyze a low level standard daily to demonstrate the ability of the laboratory to detect these analytes at the RBCs. For the analysis of arsenic and beryllium, the use of an atomic absorption spectroscopic method, rather than the specified inductively coupled plasma (ICP) emission spectroscopic method, may be necessary. All method modifications and alternative methods should be specified in the quality assurance project plan (QAPP) for MCAS El Toro.</p>	<p>RESPONSE 2C: The Best Available Technology (BAT) with the lowest possible detection limits obtainable will be used to achieve PRGs. The detection limits listed are derived from the methods themselves and are listed for guidance purposes because the actual detection limits are sample (matrix) specific and may vary. However, to assure that the laboratory has the ability to detect the COPCs at the low PRGs, a low level standard may be run daily. A statement addressing this issue has been added to the QAPP and WP.</p> <p>ICP-MS will be used to analyze for arsenic, beryllium and some other metals with low PRG levels and is capable of satisfying these low detection levels needed.</p> <p>Method modifications and alternative method selection has been addressed in the QAPP.</p>
<p>3. [WP Section 5.5, Data Evaluation]. It is recommended that the discussion of data evaluation in Section 5.5 of the WP be expanded to specify how data collected for each of the individual sites during the Phase II RI/FS will be integrated and evaluated from a basewide investigative perspective.</p>	<p>RESPONSE 3: Phase II RI/FS DQOs were developed on a site specific basis. DQOs were developed to achieve certain objectives depending on type of site, such as landfill data will be used to satisfy California landfill requirements and to evaluate landfill presumptive remedies. All fixed-base laboratories are required to provide NEESA Level D QA/QC.</p>
<p>4. [FSP Section 5.3.1, Quality Control, Field Duplicate Samples]. The</p>	<p>RESPONSE 4: As directed by the BCT, one soil sample duplicate will be</p>

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<p>text in Section 5.3.1 of the WP states that the laboratory will prepare duplicate soil samples, rather than duplicates being collected in the field. It is recommended that duplicates be prepared in the field, from a single core, and submitted "blind" to the laboratory. The analysis of field duplicate soil samples will provide additional information regarding the variability of contaminant concentrations. Field duplicate samples should be collected at a frequency of 10%.</p> <p>It should be noted that field duplicate analyses cannot be used as a means for assessing laboratory accuracy. Accuracy can be determined only if the true concentrations of a target analyte is known.</p>	<p>collected per site, excluding the landfill sites. The duplicate sample will be analyzed for the same analyses as the samples collected.</p>
<p>5. [FSP Section 6.4.12, Field Filtration of Groundwater Samples]. A justification for filtering groundwater samples targeted for metals and gross alpha and beta radioactivity analyses should be provided in Section 6.4.12 of the FSP. In general, the filtering of groundwater samples prior to analysis should be performed only after all other techniques for reducing turbidity (e.g., proper well development, use of low flow pumps) have been tested and proven to be ineffective.</p>	<p>RESPONSE 5: Filtered groundwater samples will be the last sample collected. Purging of wells will attempt to reduce turbidity to its lowest level.</p>
<p>6. [FSP Section 6.7, Pilot Tests]. It is recommended that the discussion of the pilot tests involving soil vapor extraction, air sparging, aquifer pump tests, and bioremediation be expanded to specify the parameters that will be used for measuring the success of each test (i.e., the criteria against which data will be evaluated and/or the statistical tests that will be applied to the data). Additionally, the scope of the database required for evaluating each remedy should be discussed.</p>	<p>RESPONSE 6: The criteria by which the success of the air sparging and soil vapor extraction pilot tests will be measured include the rate of VOC mass removal from contaminated soil and groundwater, and an estimation of the cost and difficulty of achieving the VOC mass removal.</p> <p>The criteria that will be used to judge the aquifer pumping tests will be the relationship between pumping rate, drawdown, and radius of influence. Both vacuum-enhanced and non-enhanced groundwater pumping will be considered.</p> <p>Data requirements are discussed for air sparging, soil vapor extraction, and aquifer testing in the Final Draft Field Sampling Plan. The need for bioremediation pilot testing is still being evaluated. If bioremediation pilot tests are conducted, data requirements will be discussed in a pilot test work</p>

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	<p>plan. A Work Plan addendum that discusses aquifer testing will be prepared.</p>
<p>7. [FSP Section 6.10.2, Decontamination, Wash and Rinse Method]. The equipment decontamination procedure described in Section 6.10.2 of the FSP should include a rinse with nitric acid when cross contamination from metals is a concern.</p>	<p>RESPONSE 7: Nitric acid will not be used in the decontamination process for metals due to the possibility of leaching of metals from the sampling equipment and to avoid the generation of acid waste. Source water blanks and equipment rinseate blanks will be collected and analyzed for all the analyte classes as the samples. If trace metals are detected in the equipment rinseate blanks and not the source water blanks, the decontamination process will be evaluated and addressed accordingly.</p>
<p>8. [FSP Attachment T, Site 21, Materials Management Group). Portions of the Site 21 FSP were omitted, including Sections 4 (Rationale for Sampling Locations), 5 (Request for Analyses), and 6 (Field Methods and Procedures).</p>	<p>RESPONSE 8: Missing pages have been incorporated into the document.</p>
<p>9. [General - Site Specific FSPs]. The use of portable gas chromatograph/mass spectrometers (GC/MS) by the mobile laboratory for volatile organic compound (VOC) and semivolatle organic compound (SVOC) analyses is discussed in several of the site specific FSPs. The actual analytical methods that will be followed by the mobile laboratory should be enumerated.</p>	<p>RESPONSE 9: We concur and will include a discussion of mobile and field analytical methods are discussed for each attachment.</p>
<p>10. [General] It is recommended that the possibility of generating definitive mobile laboratory data for the Phase II RI/FS be considered to reduce the number of required fixed laboratory analyses. The information presented in the FSP and WP indicates that a fairly sophisticated mobile laboratory set-up is planned. Many EPA-approved methods will be used for the mobile laboratory analyses, including SW-846 8010 (VOCs); 8015M (total petroleum hydrocarbons as gasoline and diesel [TPH-G/D]); 8020 (aromatic VOCs); and 6010/7000 series (metals). For these procedures, the analytical efforts of the mobile laboratory essentially will be duplicated by the efforts of the fixed laboratory.</p>	<p>RESPONSE 10: EPA approved methods will be used in the laboratories. However, mobile laboratories currently do not meet NFESC laboratory requirements for Level D QA/QC .</p> <p>Where available, QA/QC data will be provided by the mobile laboratories.</p>

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<p>The generation of definitive data for these methods should be possible for the mobile laboratory provided that sufficient quality control (QC) procedures are incorporated into the analyses, and adequate data deliverables are generated. These requirements will ensure that data of known and documented quality are produced. Although producing definitive data will require a greater effort on the part of the mobile laboratory, this approach should prove to be more cost effective in terms of the overall project.</p>	

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PHASE II REMEDIAL INVESTIGATION/FEASIBILITY STUDY
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<p>Enclosure C</p> <p><u>SPECIFIC COMMENTS (REVISED DRAFT WORK PLAN)</u></p> <p>Estimated Risk, §4.2.1.3, p. 4-3: For sites where risk estimates were completed, the document states that [cancer] risks generally exceeded the excess cancer risk of 1×10^{-6} for a residential exposure scenario. A brief description is needed explaining the significance of this risk level, and the resultant actions which may be triggered by risks which exceed this level. No information was provided on noncancer risks at these sites -- from this the reader assumes that noncancer risks were not significant at any of them. An explanation also needs to be added for why the risk estimates for many sites were not completed, and how and when those unknown risks are to be evaluated, as part of the RI/FS process.</p>	<p><u>SPECIFIC RESPONSES (REVISED DRAFT WORK PLAN)</u></p> <p>RESPONSE: Following the Phase I RI, risk based concentrations (RBCs) for chemicals of potential concern (COPCs) were developed. These RBCs were used in a Preliminary Baseline Risk Assessment to calculate cumulative cancer risk ratios and cumulative non-cancer risk ratios for most of the units within each OU-2 and 3 site. Both the cumulative cancer risk ratios and cumulative non-cancer risk ratios for all units for which they were calculated are presented in Section 4 of the Work Plan, Table 4-7 Summary of Phase II RI/FS Soil Sampling Strategies. Generally, calculated risks for most of the units exceeded the excess cumulative cancer risk of 1×10^{-6} for a residential exposure scenario. During the Phase II RI/FS, both screening risk assessments and baseline risk assessments may be performed for the sites/units in the Phase II RI/FS. Since the work plan was released for regulatory review, the Navy has agreed to allow the use of Region IX Preliminary Remedial Goals (PRGs) rather than RBCs (developed following the Phase I RI) when performing screening risk assessments. A list of one set of cancer risk estimates based on U.S. EPA cancer potency factors (CPF) supplemented by Cal/EPA CPFs for eight chemicals (cadmium, hexavalent chromium, nickel, benzo (a) pyrene, chrysene, benzo (k) fluoranthene, tetrachloroethene, and 1, 2,-dibromo-3 - chloropropane) will be used for the Phase II RI/FS baseline risk assessment. The work plan has been revised to allow the use of the PRGs. For more detail on the Phase II RI/FS human health risk assessment procedures see the Phase II RI/FS Risk Assessment Work Plan (BNI 1994b).</p>
<p>Step 2 - Identify the Decisions, §4.2.2.2, p. 4-5: A description of the term "action level as it is used in Question (8) concerning action levels in air, needs to be provided. If this is the same term as that defined in §4.2.3, this definition needs to be placed further forward in the document, preceding the introduction and use of the term.</p>	<p>RESPONSE: Action levels for air are SCAQMD Rule 1150.1 or 40 CFR 258.23.</p>

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WORK PLAN, MCAS EL TORO, CALIFORNIA**

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<p>Risk-Based Concentrations and Action Levels, §4.2.3.3, p. 4-7: Risk-Based Concentrations (RBCs) were developed as part of a Preliminary Health Risk Assessment (PHRA) performed at 22 sites that compose OU-2 and OU-3. The PHRA, developed by CH₂MHill, was submitted to the USEPA Region IX and Cal/EPA in 1993, and comments on it were submitted to CH₂MHill by the two agencies. At that time EPA Region IX made the recommendation to use the USEPA PRG Tables for the health risk screening criteria, rather than independently developing RBCs.</p>	<p>RESPONSE: PRGs will now be incorporated into the Phase II RI field work.</p>
<p>In our memo of January 20, 1995, in which we reviewed the MCAS El Toro Risk Assessment Plan, we reiterated this comment, and we submit it again here. The USEPA PRGs are recommended for use instead of RBCs for the following reasons:</p>	<p>RESPONSE: See Response to Comment Estimated Risk for Comment above.</p>
<p>(1) Toxicity values, including cancer potency factors (CPFs), Reference Doses (RfDs), and Reference Concentrations (RfCs) have changed for many of the chemicals since the preliminary risk assessment in which the RBCs were developed, was performed. The USEPA Region IX PRGs reflect these changes, and also incorporate Cal-Modified PRGs for those substances for which Cal/EPA toxicity values are required to be used, for sites within the State of California.</p>	<p>RESPONSE (1) The comment has been noted and the text revised. See Response to Comment Estimated Risk above.</p>
<p>(2) It is both more time-efficient and cost-effective to utilize USEPA PRGs. The use of PRGs avoids the need to update the RBCs to reflect changes in toxicity values, and the presence of different Cal/EPA cancer potency factors. In addition, by utilizing the PRGs, which have already been approved by both USEPA Region IX, and Cal/EPA for the purpose of risk screening, further review of proposed risk-screening values by the regulatory agencies may be avoided.</p>	<p>RESPONSE (2) The comment has been noted and the text revised. See Response to Comment Estimated Risk.</p>
<p>It is stated that action levels are calculated for cumulative excess cancer and noncancer risk based on the concentrations of all COPCs detected for each site, and that they are to be used to make preliminary risk</p>	<p>RESPONSE: The clarification on how action levels will be used is presented in work plan Section 4.2.5 - Step 5 Decision Rules.</p>

RESPONSE TO COMMENTS
REVISED DRAFT
PHASE II REMEDIAL INVESTIGATION/FEASIBILITY STUDY
WORK PLAN, MCAS EL TORO, CALIFORNIA

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<p>management decisions during Phase II RI/FS work. As described, action levels appear to be more conservative screening values than either RBCs or PRGs, but further clarification on how they are to be employed to make preliminary risk management decisions during Phase II RI/FS work is needed.</p>	
<p>Cleanup Levels, §4.2.3.10, p. 4-35: It is stated that acceptable exposure levels will be determined on the basis of the results of the baseline risk assessment and the evaluation of the various scenarios, and associated risks for each alternative, and that cleanup levels will be established by comparing contaminant levels in each media to these acceptable levels. This description does not provide enough specific information to discern how exposure levels will be determined. A more complete explanation is needed for the following:</p> <ol style="list-style-type: none"> (1) Will "acceptable" exposure levels be determined on the basis of risk levels, PRGs, RBCs, ARARs, or other criteria? (2) Once a comparison of a contaminant level to an acceptable level is made, how is the cleanup level determined? How will non-health-risk factors, such as cost of remediation be factored in to the final cleanup level? 	<p>RESPONSE (1) COPCs, risk levels, PRGs, ambient/background concentration reuse, ARARs, and best available technologies must be evaluated.</p> <p>RESPONSE (2) See section 5.9 of the Work Plan on how the response activities will be formulated.</p>
<p>Step 5-Decision Rules, §4.2.5, p. 4-37: In this section it is stated that if the purpose of a decision is to make a preliminary risk management decision for a particular unit, then both action levels and RBCs would be used in the decision process. As stated in our comment on §4.2.3.3 above, further clarification on how action levels are to be employed, in conjunction with RBCs, to make preliminary risk management decisions during Phase II RI/FS work is needed.</p>	<p>RESPONSE: See response to comment above.</p>
<p>Human Health Risk Assessments, §5.6.1, p. 5-11 to 5-13: The document states that human health risk assessments performed on IR Program sites</p>	<p>RESPONSE: A streamlined risk assessment is performed to support the decision for removal action. This is documented in to seven draft EE/CAs,</p>

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<p>will be baseline or streamlined risk assessments. In our view the term “streamlined” risk assessment is somewhat of a misnomer. Because the policies and procedures for conducting streamlined risk assessments are less well-developed than those for conducting screening and baseline risk assessments, they often require more rigorous agency review to ensure that human health is being adequately protected. For sites that do not pose an immediate threat to human health or the environment, we do not see any particular advantage to using this type of assessment, and encourage the use of the baseline risk assessment for those sites that did not pass the risk screen.</p>	<p>which have been provided to EPA for Sites 4, 7, 11, 13, 14, 19, and 20. These streamline assessments are a requirement of SWDIV for Non-Time Critical Removal Actions. After a removal action is completed the entire site would be subject to a baseline risk assessment.</p>
<p>There is an apparent typographical error on p. 5-12. The words in the brackets appear to be missing from the following sentence: “The criteria for assessing noncancer risk [are the reference dose] (RfD) or reference concentration (RfC).”</p>	<p>RESPONSE: The text has been revised.</p>
<p><u>Data Quality Objectives, Site 2 - Magazine Road Landfill, Work Plan Appendix B, Conceptual Site Model, p. B-11:</u> Here it is stated that current exposure of workers is unlikely via ingestion of groundwater at the site, but the site conceptual model (Figure B-4) presented on p. B-13 indicates that workers/visitors are current potential receptors for the ingestion of groundwater. An explanation is needed for this apparent contradiction.</p>	<p>RESPONSE: The conceptual site model has been modified to eliminate this exposure route.</p>
<p><u>Data Quality Objectives, Site 2 - Magazine Road Landfill, Work Plan Appendix B, Determination of Risk, p. B-21:</u> As indicated in our comment on §4.2.3.10 above, we prefer that completed baseline risk assessments, which consider all COPCs, and relevant exposure pathways, be used to determine if cleanup action is warranted.</p>	<p>RESPONSE: Clean up levels for groundwater will most likely be based on drinking water standards. If other media require cleanup, the cleanup will be based primarily on presumptive remedies (i.e., capping, groundwater monitoring, landfill gas monitoring and control).</p>
<p><u>Data Quality Objectives, Site 2 - Magazine Road Landfill, Work Plan Appendix B, Identification of Cleanup Levels, p. B-21:</u> As indicated in our comment above, a more complete explanation is needed for the way in</p>	<p>RESPONSE: Determination of clean up levels is part of the feasibility study.</p>

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REVISED DRAFT
PHASE II REMEDIAL INVESTIGATION/FEASIBILITY STUDY
WORK PLAN, MCAS EL TORO, CALIFORNIA**

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which cleanup levels will be determined for the site.	

**RESPONSE TO COMMENTS
REVISED DRAFT
PHASE II DRAFT REMEDIAL INVESTIGATION/FEASIBILITY STUDY
WORK PLAN, MCAS EL TORO, CALIFORNIA**

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<p>Enclosure D <u>REVIEW COMMENTS ON REVISED PHASE II WORK PLAN</u></p>	<p style="text-align: center;"><u>RESPONSE TO COMMENTS ON REVISED PHASE II WORK PLAN</u></p>
<p>1. Page 1-3, Section 1.2. The text should identify sites by the corresponding operable unit for clarity.</p>	<p>RESPONSE 1: We concur and the text has been revised.</p>
<p>2. Page 1-4, Figure 1-2. The figure should include the Remedial Investigation Report and Feasibility Study Report for OU-1.</p>	<p>RESPONSE 2: The text has been revised to illustrate previous and current work at MCAS El Toro.</p>
<p>3. Page 2-44, Section 2.4.3.2. An EE/CA is only part of the process for the implementation of non-time critical removal actions. Also, consider additional statements which explain the reasons why sites proposed for EE/CAs are carried through this Work Plan.</p>	<p>RESPONSE 3: We concur and an expanded discussion of removal actions and rationale for completing EE/CAs will be incorporated into the document.</p>
<p>4. Page 3-2, Table 3-1. The table should specify what the estimated risk represents, e.g., excess lifetime cancer risk or incremental ELCR.</p>	<p>RESPONSE 4: The cancer risk is a cumulative cancer risk based on a cancer ratio formulated in the Draft Phase II WP. Non-cancer cumulative risk ratios (hazard index) are also shown.</p>
<p>5. Page 3-4, Table 3-1. The first note appears to be an error. Consider review and deletion from text.</p>	<p>RESPONSE 5: We concur and the note has been deleted from the text.</p>
<p>6. Page 3-5, Table 3-2. TRPH and TPH are listed as COPCs; however, these are not chemicals. Rather, these are analyses which provide information on a broad spectrum of petroleum and fuel components. Were these analyses specified as COPCs because there were levels of concern at individual sites or simply because the analyses for TRPH and TPH happened to be conducted in Phase I and values above detection levels were reported? The reasons for the analysis of soil samples for both TRPH (418.1) and TPH (8015M) should be identified. It is not cost effective to specify both analyses without justification.</p>	<p>RESPONSE 6: TRPH and TPH will be recognized as not being specific chemicals, and are included to indicate they were detected by using EPA Method 8015M and 418.1. All COPCs were listed because they were detected. Additional justification will be provided when proposing use of 8015M and 418.1 for analysis.</p>
<p>7. Page 3-14, Section 3.3. The text should note that Site 24 includes</p>	<p>RESPONSE 7: The text has been revised in the WP Appendix and FSP</p>

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REVISED DRAFT
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WORK PLAN, MCAS EL TORO, CALIFORNIA**

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<p>(subsumes) Sites 11, 9, 22, 17, 8, 10.</p>	<p>Attachments to reflect this.</p>
<p>8. Page 4-4, Section 4.2.1.3. The text should specify if the risk for consideration was for cumulative, excess lifetime cancer risk alone or noncarcinogenic risk was also included (and apparently found not to be significant.)</p>	<p>RESPONSE 8: A discussion has been added to indicate how cancer and non-cancer risks were estimated.</p>
<p>9. Page 4-4, Section 4.2.1.3. The text should reinforce the fact that this section only contains some of the potential decisions. This is different than 4.2.5, in which all potential the decision rules are listed.</p>	<p>RESPONSE 9: We concur and will clarify that the sections indicate the type of decision that lead to the development of the Decision Rules.</p>
<p>10. Page 4-4, Section 4.2.1.3. The use of the word "impacted" is inconsistently applied throughout the document. In some apparently equivalent applications the word "contaminated" is used. Suggest that "impacted" be deleted and "contaminated" be used throughout for clarity unless data indicate that the medium is not contaminated.</p>	<p>RESPONSE 10: We concur and will revise the text to reflect the recommendation.</p>
<p>11. Page 4-4, Section 4.2.1.3. Decision number 3 requires editing. Soil sampling cannot be used alone to determine if groundwater beneath a site is contaminated. Groundwater sampling should be used for that purpose.</p>	<p>RESPONSE 11: We concur. The text will be revised to reflect that soil sampling will be used to determine the vertical extent of contamination to verify if contaminants have reached groundwater.</p>
<p>12. Page 4-4, Section 4.2.3. Recent discussions with SWDIV representatives have indicated that PRGs will be used for Phase II work rather than RBCs. The document should be modified throughout to reflect this change. In addition, the Quality Assurance Project Plan should be modified accordingly. The text may need to note that PRGs will be calculated when federal PRGs do not exist, e.g., TRPH and TPH.</p>	<p>RESPONSE 12: We concur. Tables in the Field Sampling Plan and QAPP will be modified to include PRGs.</p>
<p>13. Page 4-13. The text should define if the coefficient of variation is based on the estimated mean or the arithmetic mean. The presentation in Table 4-2 does not appear to benefit from the</p>	<p>RESPONSE 13: The coefficient of variation is based on the arithmetic mean. Estimation of variance for lognormal distribution. A lognormal distribution minimum variance unbiased (MVU) estimator is preferred when the coefficient</p>

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<p>inclusion of arithmetic mean values; they tend to diffuse focus on the values of interest and should be removed.</p>	<p>of variation is greater than 1.2. No reference is made to this lognormal MVU in previous documents.</p>
<p>14. Page 4-17. For the Tier 1 and Tier 2 (and Tier 3 of OU-3) portions, the text should be modified to note that limited lists of analytes will be examined using field analytical screening techniques and these will be supported by offsite, fixed laboratory analyses. The difference is not simply a function of cost, as is stated in the text.</p>	<p>RESPONSE 14: We concur and the text will be modified to reflect that specific analytes will be analyzed using field screening methods with additional analysis conducted by an offsite, fixed laboratory, when necessary.</p>
<p>15. Page 4-18. Reorganize the bullet list on the top of the page to correspond with the sequence of presentation of the topics which follows.</p>	<p>RESPONSE 15: We concur and the text will be modified.</p>
<p>16. Page 4-19. Sampling along an axis. Consider redefining the approach to include a provision for discontinuation of sampling under the following conditions. Along an axis, if the probable source is upstream/upgradient and two samples collected in succession downstream/downgradient have analytes concentrations below PRGs or background/ambient levels, then discontinue further sampling.</p>	<p>RESPONSE 16: This sampling will be applied on sites with drainage channels or ditches. Because the location where contamination was introduced into these drainages is not known and the method is a statistically based sampling approach and the suggested method may not provide the desired confidence and power.</p>
<p>17. Page 4-21, field screening. The text should be revised to clarify the definitions and relationships between preliminary field sampling devices, preliminary field screening and the undefined field screening which follows but precedes off site analyses.</p>	<p>RESPONSE 17: We concur and will clarify relationships.</p>
<p>18. Page 4-21, field screening. Correct the text. Samples will be forwarded to laboratories under contract to Bechtel and the United States Navy, not to USEPA's CLP laboratories.</p>	<p>RESPONSE 18: We concur and the text has been revised.</p>
<p>19. Page 4-21, field screening. The text does not mention metals analyses in the field; however, XRF analyses and/or ICP analyses are part of a field program are described elsewhere (DQOs by inference and explicitly in the QAPP). Clarification of the use of these analytical</p>	<p>RESPONSE 19: Field screening for metals will not be done by ICP in the mobile laboratory. XRF will not be used to screen metals as the detection limits do not satisfy residential PRGs and has been deleted from the QAPP,</p>

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REVISED DRAFT
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<p>techniques is needed.</p>	<p>WP and FSP.</p>
<p>20. Page 4-23, Table 4-4. The title should be "Project-Required Detection Limits by Method." This will reduce confusion which could result because HVOCs by 8010 and VOCs by 8240 possess overlapping lists of analytes; however, the respective detection limits are different. For these situations, consider a marker or super/subscript which would indicate, for individual analytes, the lowest detection limit available.</p>	<p>RESPONSE 20: We concur and the text has been revised.</p>
<p>21. Page 4-23, Table 4-4. Correct the listing, benzene is not a halogenated volatile organic compound.</p>	<p>RESPONSE 21: We concur and the text has been revised.</p>
<p>22. Page 4-23, Table 4-4. The analytes listed under HVOCs-Method 8010 and VOCs-Method 8240 are not complete. Clarify with a footnote the reason, or correct the table and include all analytes provided by the method. Please review the rest of the table to assure that this oversight did not affect other methods listed.</p>	<p>RESPONSE 22: A footnote will be included to the table in the WP and QAPP clarifying that only the COPCs for MCAS El Toro are listed by method with detection limits that satisfy the PRGs; however the full compound list for each method will still be analyzed for.</p>
<p>23. Page 4-23, Table 4-4. With respect to the previous comment, also note that TCE, PCE, carbon tetrachloride and benzene are absent from the listing under 8240.</p>	<p>RESPONSE 23: These compounds are listed under other EPA methods which have detection limits that satisfy PRGs such as EPA method 8010 (TCE, PCE) and 8020 (benzene), however, the full compound list for each method being performed will be analyzed (i.e. 8240, 8270...)</p>
<p>24. Page 4-23, Table 4-4. The note footer should contain an explanation of the dash symbol which appears in the table. Does this represent something different from NI-not listed and NV-no value?</p>	<p>RESPONSE 24: We concur and the dash has been revised with NL - not listed.</p>
<p>25. Page 4-31, confirmation methods. See previous comments regarding field screening terminology. Specifically, clarify "quantitative field screening" with respect to "preliminary field screening." Remove the term CLP from the paragraph.</p>	<p>RESPONSE 25: We concur and the text has been revised.</p>
<p>26. Page 4-32, confirmation methods. Remove the term CLP from the</p>	<p>RESPONSE 26: We concur and the text has been revised.</p>

**RESPONSE TO COMMENTS
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<p>paragraph. Provide a statement which explains that statistical comparison techniques may not be used if the number of samples collected are insufficient to conduct the comparison tests. Under these conditions, qualitative comparisons would be necessary.</p>	
<p>27. Page 4-32, Section 4.2.3.9. The discussion of groundwater models clearly states that MODFLOW, MT3D, and MODPATH will be used for some applications. However, the vadose zone modeling discussion does not specify which of the models presented will be used. The text should include a sentence which clarifies this. Additionally, regulatory agencies must be included in this decision.</p>	<p>RESPONSE 27: Selection of the appropriate vadose model will depend on site specific contaminants and conditions. This selection will be made in consultation with the BCT.</p>
<p>28. Page 4-34, additional data requirements for groundwater modeling. The text states that "...confidence could be improved by obtaining..." empirical data listed in the bullets on the page. Although it seems likely that these data will be collected, please clarify that this indeed will occur.</p>	<p>RESPONSE 28: We will collect this data, as available.</p>
<p>29. Several step 5 rules are vague when referring to comparisons with COPC. For example, Rule 7 states that if two consecutive samples are ND then the extent will be considered established. However, this approach ignores the fact that many COPCs such as inorganics and pesticides/herbicides (and as proposed in this review-SVOCs) have background/ambient levels above ND. Thus, the approach presented will not work.</p>	<p>RESPONSE 29: We concur and will revise these rules based upon the 24, 25 April and 6 June 1995 meetings.</p>
<p>30. Rule 14 indicates that cleanup levels will be defined if unacceptable risks are found. The implication is that unacceptable risks are result of exceedence of action levels which are different from cleanup levels. However, the Navy has recently proposed NFAC at several OU-3 Sites and Units based on "Preliminary Risk Values." No explanation was provided for these OU-3 risk values; however, they seem to be</p>	<p>RESPONSE 30: We will incorporate the February 1995 PRGs and the analysis of risk screening as described in the PRGs. "Preliminary Risk Values" are not the same as action levels. The preliminary values were based on Phase I RI results. The proposed action levels will be based on PRGs. Cleanups levels are based on best available technology, ARARs, exposure routes, receptors, and reuse.</p>

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<p>equivalent to action levels (as defined above). If that is true then Rule 14 was not followed for these OU-3 sites. Please clarify.</p>	
<p>31. Page 4-47, Section 4.2.6.3. The text should define the acronym MDRD.</p>	<p>RESPONSE 31: We concur and text will include a definition for MDRD (minimum detectable relative difference).</p>
<p>32. Page 4-49, Section 4.2.6.3. The text should define the acronym MDD.</p>	<p>RESPONSE 32: We concur and text will include a definition for minimum detectable difference (MDD).</p>
<p>33. Page 4-51, Section 4.2.6.4. Table 4-6 was discussed at the BCT meeting in April and the RTM and BNI statistician concurred with deletion or modification of this table. The table should be modified or deleted to reflect the discussions.</p>	<p>RESPONSE 33: Last line of table deleted.</p>
<p>34. Page 4-51, Section 4.2.6.4. The first three paragraphs are unsupported by references and appear to contain logic errors. At a minimum, the text should be recomposed and presented in a manner which clarifies the relationship between risk and the ratio of geometric means.</p>	<p>RESPONSE 34: The work plan has been revised to address this comment.</p>
<p>35. Page 4-56, 57, Table 4-7. Note "e" is based on data presented in Table 4-6 and these data have been questioned in the previous comment. Confirm that the approach presented in Note "e" is applicable and correct.</p>	<p>RESPONSE 35: The work plan has been revised to address this comment.</p>
<p>36. Page 4-63, Table 4-9. Note "f" should be corrected. The number of confirmation samples presented here does not equal the numbers presented in the text and QAPP.</p>	<p>RESPONSE 36: We concur and the text will be revised.</p>
<p>37. Page 4-66, Table 4-12. For Site 24, VOC analyses would be included in the TO-14 analyses; therefore, the VOC analyses indicated would be redundant.</p>	<p>RESPONSE 37: TO-14 will be dropped from Site 24 analysis.</p>

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<p>38. Page 5-5, Section 5.3.1.5. First paragraph and second to last sentence. Change the text to "Generally, VOCs are slightly soluble in water..."</p>	<p>RESPONSE 38: We concur and the text will be revised.</p>
<p>39. Page 5-25, Section 5.9.2.3. Consider adding a description of the ARAR waiver requirements included under CERCLA.</p>	<p>RESPONSE 39: ARAR waiver requirements will be included.</p>
<p>40. Page 6-1. The dates provided for OU-3 are based on a start date of 1996. This is not consistent with the presentations provided to the BCT and therefore, the dates should be checked against the current FFA.</p>	<p>RESPONSE 40: The schedule will be revised to reflect the March 1995 FFA schedule.</p>
<p>41. Page 7-3, Figure 7-1. The Project flow chart does not include the Laboratory Coordinator. The coordinator is responsible for the execution and oversight of all laboratory work and therefore should be included in this section. It is unclear who will be responsible for technical decision-making in the field. This individual and the reporting chain of command should be identified.</p>	<p>RESPONSE 41: The laboratory coordinator reports to the Field Technical Manager.</p>
<p>42. Page A-i, Step 6. Here and throughout the document replace the expression "confidence (0.05) and power (0.20) limits" with "confidence level of 95 percent and power of 80 percent." The current presentation is incorrect. $\alpha \leq 0.05$ represents a maximum acceptable Type I error of 5 percent error and $\beta \leq 0.20$ represents a maximum acceptable Type II error of 20 percent. See page 4-47 of the text for clarification.</p>	<p>RESPONSE 42: This comment has been noted and the Work Plan has been revised appropriately.</p>
<p>43. Page A-1. Within the title of this DQO and all others, identify which OU this site is associated with. For example: Appendix A SITE 1, OU-3 - EXPLOSIVE ORDNANCE DISPOSAL RANGE</p>	<p>RESPONSE 43: The Work Plan has been revised accordingly.</p>
<p>44. Page A-7, 8. The COPC summaries present concentrations that have letter "B" and letter "J" as qualifiers that are explained</p>	<p>RESPONSE 44: The Work Plan has been revised accordingly.</p>

**RESPONSE TO COMMENTS
REVISED DRAFT
PHASE II DRAFT REMEDIAL INVESTIGATION/FEASIBILITY STUDY
WORK PLAN, MCAS EL TORO, CALIFORNIA**

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<p>directly after the summaries. Here and throughout the Plan, the explanation should indicate if the letter is a laboratory or validation qualifier. Also, when giving a range of concentrations that state "from less than X to Y", the value for X should be less than Y. Here and throughout the plan, identify the boring, well, or location of the highest detected value for each contaminant. Also, picocuries should be abbreviated as pCi not pci.</p>	
<p>45. Page A-7, 8. Most DQOs in the Work Plan do not include explanations for the qualifiers. These should be explained prominently on the first page mentioned, as was done for Site 1.</p>	<p>RESPONSE 45: The Work Plan has been revised.</p>
<p>46. Page A-14, Additional Inputs for Early Action; Additional Inputs for Long-term Action. The bullet lists should be developed further. The presentation incorrectly implies that the only difference between Early Action and the RI/FS/RA process is pilot testing</p>	<p>RESPONSE 46: The discussion of Inputs for Early Action and Long-Term Action has been expanded.</p>
<p>47. Page A-15, Figure A-5. Here and elsewhere in the document, correct the statement "Is there a risk?" by replacing with "Is there an unacceptable risk?" Also, the legend should explain that the octagon represents points in the process which require BCT concurrence</p>	<p>RESPONSE 47: The Work Plan has been revised accordingly.</p>
<p>48. Page A-26, 27. Tier 2 and Tier 3 approaches are discussed at a level of detail which is inconsistent with other DQOs in this Plan. Explain why this is necessary since activities conducted under these Tiers is contingent on Tier 1 results.</p>	<p>RESPONSE 48: Currently, most OU-3 sites appear to be near surface contamination. Whether that contamination has a greater vertical or horizontal extent is unknown. Thus, Tier 2 and 3 activities are less certain.</p>
<p>49. Page A- 27. Provide an explanation why two upgradient wells are planned for Site 1.</p>	<p>RESPONSE 49: Two upgradient groundwater monitoring wells are necessary at Site 1 due to the uncertainty of the groundwater flow direction and gradient.</p>
<p>50. Page B-5, Figure B-2. There are several errors within this figure. Well 59 is mislabeled as 58, well 27 is presented in duplicate, and</p>	<p>RESPONSE 50: Figure B-2 has been corrected. However, surface drainage's</p>

**RESPONSE TO COMMENTS
REVISED DRAFT
PHASE II DRAFT REMEDIAL INVESTIGATION/FEASIBILITY STUDY
WORK PLAN, MCAS EL TORO, CALIFORNIA**

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<p>surface drainages do not appear to be consistent with current conditions at the site.</p>	<p>are consistent with the date that the topographic map was generated.</p>
<p>51. Page B-5, Figure B-2. Note "a" should be corrected to be consistent with the main text of the Work Plan and the QAPP, i.e., 10 percent of detects and 5 percent of non detects.</p>	<p>RESPONSE 51: The text has been modified to be consistent with the QAPP and recent BCT decisions.</p>
<p>52. Page B-31, Unit 1, last bullet. The basis for the 300 mg/L cutoff value should be identified. Consider the presentation of isoconcentration lines and reevaluation of this value after the data are assessed in their entirety.</p>	<p>RESPONSE 52: The section has been modified to include further discussion as to the rationale of 300 ug/L, and a reevaluation of this value after the data is assessed.</p>
<p>53. Page B-37. There is no mention of HydroPunch sampling; however, this is apparently part of the program. Confirm the HydroPunch work and include adequate discussion in the text.</p>	<p>RESPONSE 53: A bullet has been added to the Tier 2 activities clarifying that CPT techniques will be utilized to establish the exact locations of the groundwater monitoring wells proposed to define the horizontal extent of groundwater contamination. The CPT locations will be where the proposed wells are shown on Map B-3. Groundwater samples will be analyzed for VOCs in the onsite mobile laboratory.</p>
<p>54. Page B-38. The referenced map, Map B-3 is missing from this report.</p>	<p>RESPONSE 54: The text has been modified to refer to Map 3-2.</p>
<p>ff. Page B-38. The bullet introduction sentence states that the tasks listed are for Tier 3; however, the first bullet identifies Tier 2 tasks.</p>	<p>RESPONSE 55: The first bullet has been removed from the text.</p>
<p>56. Appendix C in general. The presentation does not separate the Tier 1 activities from the Tier 2 and Tier 3 activities. This is confusing and the text should be corrected to be similar to other DQOs (e.g., Site 1) where the distinction is made.</p>	<p>RESPONSE 56: All the landfill sites DQO separate the Tier 1 activities from the Tier 2 activities in similar manners. The text may appear confusing because Site 3 has the Solvent Spill and Former Incinerator Units, whose field activities are unique.</p>
<p>57. Page C-21, Step 3. Here and elsewhere in the Work Plan the expression "...this approach is validated..." requires clarification. It is not clear what approach is being referred to nor the meaning of</p>	<p>RESPONSE 57: Comment noted. Refer to revised text.</p>

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<p>the term "validated."</p>	
<p>58. Page C-21, Step 3. Within other DQOs, inputs for NFRAP, early action, and long-term action were listed and discussed separately. The approach presented here is not consistent with other DQOs.</p>	<p>RESPONSE 58: The inputs for landfill actions are unique to these sites.</p>
<p>59. Page C-21, Step 3. The basis for the statement</p> <p style="padding-left: 40px;">"If a landfill is shown not to be producing gas, a vadose zone monitoring program may not be required by the California [RWQCB]."</p> <p>should be provided. The statement fails to address emission rates, constituents, and concentrations within landfill gas. In addition, the production or absence of gas is not sufficient to make a determination that leachate is not being generated.</p>	<p>RESPONSE 59: Comment noted. Refer to revised text.</p>
<p>60. Page C-21, Step 3. On page C-42 the text states that vadose zone monitoring is dependent on the results of the groundwater monitoring. However, as noted in the previous comment, the text also states that this decision is to be based on landfill gas production. Please clarify the text.</p>	<p>RESPONSE 60: Comment noted. Refer to revised text.</p>
<p>61. Page C-21, Step 3 and page C-41, last paragraph. The text states that gas probes may be installed in the vadose zone; however, on page C-42 the text states that the probes will be used to collect leachate and/or gas. Clarify what will be measured using the probes.</p>	<p>RESPONSE 61: The vadose zone monitoring probe will consist of both a vapor and soil moisture probe (lysimeter).</p>
<p>62. Page C-30, Table C-1, and Page C-31, Table C-2. The Tier 1 description for the number of soil sample locations at the Landfill Area states that NFRAP or no further investigations applies. This appears to be an error since landfill is suspected of leakage.</p>	<p>RESPONSE 62: NFRAP has been deleted.</p>

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<p>63. Page C-30, Table C-1, Page C-31, Table C-2, and page C-36, Table C-7. Here and elsewhere in similar Tables in the Work Plan consider removal of references to Tier 2 and 3 because these activities have yet to be defined. The presentation of limited portions of Tiers 2 and 3 approaches is confusing.</p>	<p>RESPONSE 63: The tables include references for Tier 2 activities to make it clear that in the event these are necessary, provisions have been made to incorporate them into the work plan. It is very likely that some amount of Tier 2 activities will be performed at each of the landfills.</p>
<p>64. Page C-41, first paragraph. Correct the text, substitute "...maximum contaminant levels..." for "...maximum concentration level..." as per the Safe Drinking Water Act.</p>	<p>RESPONSE 64: The correct term is "maximum contaminant level" and has been incorporated.</p>
<p>65. Page Q-1, Step 1. The second sentence "Because this is currently the only groundwater monitoring the landfills impacting water quality on water quality is unknown." is unclear and should be rewritten.</p>	<p>RESPONSE 65: Correction made to indicate that this is the only monitoring well at this site.</p>
<p>66. Page Q-1, Step 1. Provide a reference and definition of what "...allowable levels..." of landfill gas are.</p>	<p>RESPONSE 66: The SCAQMD reference has been incorporated into the text.</p>
<p>67. Page W-15, Abandoned Water Wells.</p> <p>67.1 A separate map should be prepared which identifies the probable locations of these wells.</p> <p>67.2 The relationship between the abandoned wells and groundwater plumes and soil gas plumes has not been evaluated and should be considered. These wells, especially Well 2, have the potential to act as contaminant sources and pathways for deep aquifer migration.</p>	<p>RESPONSE 67:</p> <p>RESPONSE 67.1: A map or figure will be prepared showing the location of abandoned wells on Site 24.</p> <p>RESPONSE 67.2: An attempt will be made to locate (on the ground surface) and sample groundwater from abandoned wells on Site 24. The wells will be surveyed from the map location. An onsite inspection will be performed to locate any surface features indicating a well. If no surface features are found, surface geophysics will be attempted to locate the metal surface casing. Once a geophysical anomaly is located, the area around the anomaly will be excavated or trenched. The well will be accessed and if it has not been abandoned, a groundwater sample will be taken as per the Draft Field Sampling Plan. Abandonment per state regulations can then be completed. If the well has been abandoned the well will be resealed at the surface.</p>

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<p><u>COMMENTS ON THE DRAFT FIELD SAMPLING PLAN</u></p> <p>1. Please correct the following typographical errors: Table of Contents - Section 3-Maps, Site 2-Magazine Road Landfill is listed as both Map 3-4 and 3-5, throwing the following numbering off. Sites 21 and 24 the titles are different than those of the figures. In Section 3, the title of Map 3-17 appears to be wrong. In many of the Attachments, Section 4.2.1.1 (Land Surveying) second paragraph includes the wording "... delineated during by the surface geophysical survey..."</p>	<p><u>RESPONSES TO COMMENTS ON DRAFT FIELD SAMPLING PLAN</u></p> <p>RESPONSE 1: We concur and the text will be revised.</p>
<p>2. In each of the Attachments, in the Section 2.2 the COPC summaries present concentrations that have letter "B" and letter "J" as which are not explained. Here and throughout the Plan, the explanation should follow directly and indicate if the letter is a laboratory or validation qualifier. Also, when giving a range of concentrations that state "from less than X to Y", the value for X should be less than Y. Here and throughout the plan, identify the boring, well, or location of the highest detected value for each contaminant. Also, picocuries should be abbreviated as pCi not pci.</p>	<p>RESPONSE 2: We concur and the text will be revised.</p>
<p>3. In each of the Attachments, Sections 4.2.1.1 and 6.1 addressing Land Surveying, there is a typo in the last sentence and next to last sentence respectively. The sentence should read "...delineated (delete "during") by the surface..."</p>	<p>RESPONSE 3: We concur and the text will be revised.</p>
<p>4. <u>Table of Contents</u></p> <p>4.1 Page iv. Map 3-5 is Site 3-Original Landfill. Rest of Maps are misnumbered. There is no Map 3-26.</p>	<p>RESPONSE 4.1: We concur and the text will be revised.</p>

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	<p>be delineated with EM-31 in-phase data, while variations in terrain conductivity will be enhanced through data processing of EM-31 and EM-34 quadrature data, with EM-34 gathered at both 10-meter and 20-meter coil spacing. Landfill edges will be defined from these gridded images.</p>
<p>6.1 The related figure (B3-2) shows that the survey is to be conducted over the entire landfill, instead of just around the boundary. This is curious because the stated reason for the survey was to define the limits of the landfill. Under these circumstances, efforts should focus on the perceived boundaries and beyond, not in the center of the know landfill.</p>	<p>RESPONSE 6.1: Field reconnaissance indicates areas within the Site 2 landfill may have more than 6 feet of cover or that the landfilled area may not be continuous within the site boundaries. For this reason, geophysical investigation of the landfill will include interior portions of Site 2. (Site 3 and Site 5 do not survey interior portions known to contain landfill material.) The effort around the edges of the landfill will be to delineate internal boundaries of landfilled areas.</p>
<p>6.2 How far beyond the boundary will the survey be conducted to be certain that the boundary is identified? There should be a buffer zone consisting of several data acquisition locations surrounding the landfill. Will the interior of the landfill be surveyed as shown on the figure?</p>	<p>RESPONSE 6.2: The buffer zone anticipated for Site 2 is 100 feet beyond the edges depicted in Figure B 3-2. This provides a stronger basis for recognizing the edges of the landfill even when the surrounding formations vary in composition as they are expected to per the geologic map of Figure B 2-4. This will provide two data points for the EM-34 at 20-meter spacing beyond the presently expected landfill boundaries.</p>
<p>7. Page B4-5. Section 4.2.2.3. Sampling is to be conducted after the "first rainfall." Suggest a specific description, i.e., "first rainfall after field work begins" or "first seasonal rainfall," or "first rainfall that produces runoff after sampling begins."</p>	<p>RESPONSE 7: The text has been clarified to state that surface water samples will be collected "...during the first rainfall that produces run off during the Phase II investigation.</p>
<p>8. Section 4.2.3, first paragraph. The third sentence can be misconstrued and should read "...from Site 2 to a monitoring well upgradient from Site 5..."</p>	<p>RESPONSE 8: The text has been modified accordingly.</p>
<p>9. Page B4-6. Section 4.2.3.1. Protocol for groundwater sampling from existing wells is not well defined. How many, how deep, and where are the screened intervals? What protocol will be used to</p>	<p>RESPONSE 9: Groundwater will be collected from 16 existing wells at Sites 2, 3, 4, 5 and 17. Sampling will occur at Site 2 prior to additional subsurface work. Each well has a dedicated Grundfos 2-inch diameter Rediflow or 4-inch</p>

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<p>collect samples? Full purge and sample? Micropurging? Bailers vs. pumps? At a minimum, refer to the appropriate CLEAN II SOPs.</p>	<p>diameter electrical submersible pump. Each well has a T-fitting at the well head. One side of the T-fitting is the discharge port that allows attachment of a garden hose, and the other is the sampling port that allows attachment of Teflon tubing. The depths of the wells range from 95 to 295 feet below ground surface. Screened intervals in the wells are either 20 or 40 feet in length.</p> <p>Groundwater sampling will follow CLEAN II SOP 8 "Groundwater Sampling". Three to five casing volumes will be purged from each well using the dedicated submersible pump. Temperature, pH, conductivity, and turbidity will be measured at regular intervals. Groundwater will be sampled. When collecting samples for VOC analysis, the rate of purging will be reduced to less than 0.1 L/min.</p>
<p>10. Section 4.3.1.2. First sentence should read "...during Tier 1 surface soil and soil gas sampling..."</p>	<p>RESPONSE 10: Correction noted.</p>
<p>11. Page B4-7. Section 4.3.2.2. The text should describe how locations of temporary well points will be determined. The locations are not shown in any of the figures.</p>	<p>RESPONSE 11: The text has been modified.</p>
<p>12. Page B4-8. First paragraph, second sentence. Cannot find well 02_DGMW59 on any of the maps. It was apparently mislabeled as 02_DGMW58.</p>	<p>RESPONSE 12: The maps have been corrected. The well should have been labeled 02_DGMW59.</p>
<p>13. Paragraphs 3, 4, and 5. Suggest mentioning the probable existence of a confining layer (layer II) at this location and that Wells NEW4 and NEW5 are intended to confirm its existence and ability to prevent (further) downward migration of VOCs.</p>	<p>RESPONSE 13: No change made.</p> <p>Well NEW1 is intended to assess the existence of deep contamination. If deep contamination is identified in Well NEW1, then Wells NEW4 and NEW5 will be installed to characterize the vertical extent of contamination downgradient from Site 2. A confining layer (layer II) will be logged during drilling, if present.</p>

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<p>14. Page B4-9. Section 4.4.1.2. The last sentence should read “ in FSP Section 6.7.3.”</p>	<p>RESPONSE 14: Correction noted.</p>
<p>15. Pages B5-6 through B5-10. Please address the following comments regarding these types of tables. The number of samples in the table should always equal the numbers mentioned in the text. There are numerous blanks in the tables and numbers don't necessarily reconcile between left and right sides of the tables. Table B5-2 has 45 total samples, but only 44 mentioned on right side of table.</p>	<p>RESPONSE 15: The tables have been modified, as appropriate.</p>
<p>16. Page B6-1. Section 6.2, geophysical investigation strategy</p> <p>16.1 As noted earlier, the geophysical investigation strategy is not fully explained. Provide a discussion of the number of sampling points along survey lines, and how far beyond presumed boundary the investigation proceed until boundary is defined.</p>	<p>RESPONSE 16.1: The strategy centers on observing terrain conductivity contrasts between landfill contents or cover soil and the surrounding soil or formations. Further, a seismic refraction survey may be conducted to define the depth of landfill materials and possible vertical offset of rock beneath the landfill along a fault through the middle portion of Site 2.</p> <p>If seismic refraction surveying is used, a total of 4700 line feet at 20 foot geophone spacing, as 10 arrays of 24-channel seismic recording, each with 5 to 7 source points, likely from a mini-vibrator. The BCT will be consulted with if seismic refraction is used.</p> <p>At a maximum, EM-31 in-phase and quadrature data are expected to be gathered at 5 foot sampling intervals along parallel sampling tracks 50 feet apart, 100 feet beyond the presumed ends of the landfill, for 50,450 line feet over 57 acres at Site 2. EM-34 quadrature data at 10-meter spacing will be gathered at 25-foot sample points along sample tracks 100 feet apart for 25,300 line feet, and also EM-34 will be gathered with 20-meter coil spacing at 50-foot sample points on parallel sample tracks 100 feet apart, for another 25,300 line feet over 57 acres at Site 2.</p>

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	<p>Similar sampling intervals for EM-31 will be gathered at Site 3 with 35 foot sample tracks, at Site 5 with 30 foot sample tracks, and at Site 17 with 60-foot sample tracks, and sampling at 5 foot intervals along track in all cases. EM-34 will be gathered with both 10 meter and 20 meter coil spacing on Site 3 along 70-foot sample tracks, at Site 5 on 60 foot sample tracks, and at Site 17 along 60 foot sample tracks.</p>
<p>16.2 Specify if the entire are of landfill will be investigated or just the presumed boundary, and if the latter, the length of the survey lines be (i.e., the number of sampling points on either side of the presumed boundary).</p>	<p>RESPONSE 16.2: For Site 2 and Site 17, the entire landfill area will be investigated to address the uncertainty of internal landfill boundaries. Lines will be extended 100 feet on either end of each sample track to allow two EM-34 samples with 20-meter spacing to be gathered beyond the presumed outside boundary of the landfill. This will involve larger numbers of samples, up to 20 beyond the presumed boundary, with EM-31 data.</p>
<p>16.3 Will it be possible to pick the boundary as the data is gathered or only after downloading the data at the end of the day? This entire approach should be reviewed by a senior geophysicist prior to implementation.</p>	<p>RESPONSE 16.3: It would be possible to provide a preliminary interpretation of the results daily, however it is not anticipated that such provisional interpretations will be required or useful at the day's end. Rather, overnight processing will be expected to provide gridding and contouring or imaging of the cumulative data gathered at each site for review the following morning. with a provision for compensating the subcontractor crew for this time included in the delivery order.</p>
<p>17. Last sentence should read "...Section 6.9.2 of the FSP."</p>	<p>RESPONSE 17: Comment noted.</p>
<p>18. Page B6-2. Section 6.4. Last sentence should read "...Section 6.6."</p>	<p>RESPONSE 18: Comment noted.</p>
<p>19. Section 6.5. Bullets identify wrong section numbers as follows: bullet 1 should read "Section 6.9..."; bullet 3 should read "Section 6.10 "; and bullet 8 should read "Section 6.12..."</p>	<p>RESPONSE 19: Comment noted.</p>
<p>20. Page B6-3. Section 6.6.1. Air temperature is not mentioned but may be a consideration here and in section 6.6.2. Discuss the effect</p>	<p>RESPONSE 20: On-site ambient air temperature will be measured during all sampling for gas migration as well as during integrated surface sampling, ambient air sampling, and surface emissions flux measurements. Higher</p>

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<p>if any of air temperature on gas migration.</p>	<p>ambient air temperatures can cause small increased in gas migration at the surface through heating/expansion of soil gas. Warmer ambient temperatures will also increase the rate of volatilization of VOC's at the landfill surface thereby increasing the emission rate of VOC's to the air.</p>
<p>21. Page B6-4. Section 6.7. Section numbers incorrect.</p>	<p>RESPONSE 21: Comment noted.</p>
<p>22. Page C2-1. Section 2.1.3, second paragraph. Regional flow direction vs. flow from the foothills.</p> <p>22.1 The regional groundwater flow direction from the center of the base to offsite is apparently to the northwest toward MCAS Tustin. However, along the foothills the flow direction is initially to the southwest (the same as surface drainages) and then to the northwest along the axis of the syncline. Groundwater flow direction at Site 3 is almost certainly southwesterly to westerly rather than northwesterly.</p>	<p>RESPONSE 22.1: The direction of groundwater flow at Site 3 was estimated using October 1993 and May 1994 groundwater elevation data. These two sampling events were selected to take into account seasonal trends. Although the groundwater elevations varied by approximately 2 feet, the direction calculated for each event was similar to each other; however, the diction calculated was about 10-15 degrees west of what is depicted on the Figures. The Maps have been revised.</p>
<p>22.2 If groundwater data has been gathered around the landfill and it is to the northwest, then this should be stated. Here and throughout the Field Sampling Plan, discussions of hydrogeology for specific sites should be clear on the source of information and whether or not it is applicable to the base in general or only a particular site.</p>	<p>RESPONSE 22.2: See response above.</p>
<p>22.3 These points are significant because the interpretation of flow direction affects the placement of groundwater monitoring wells. Confirm that well locations in the foothill sites are correctly situated based on local flow conditions.</p>	<p>RESPONSE 22.3: See response above.</p>
<p>22.4 Pages C3-5 and C3-9. Groundwater flow direction is shown as northwesterly. Please see previous comments.</p>	<p>RESPONSE 22.4: See response above.</p>
<p>23. Page C4-2. Section 4.1.4. There are no wells mentioned anywhere</p>	<p>RESPONSE 23: No additional groundwater monitoring wells are proposed for</p>

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<p>in Attachment C (see bullets under Section 4.2 Tier 1), except here and in Section 4.2.1.1 (Land Surveying). Furthermore, well locations are not shown on any of the maps of this site and suggest that this section is simply an artifact that should be deleted.</p>	<p>site 3. Section 4.1.4 and 4.2.1.1 have been modified for clarity.</p>
<p>24. Page C4-3. Section 4.2.1.1. Section states that proposed locations for soil gas, soil borings, and wells will be surveyed during the initial survey. However, the tiered approach for the investigation states that locations of soil borings and wells will be established based on soil gas data. Thus, an additional survey team mobilization will be necessary.</p>	<p>RESPONSE 24: Two surveys will be performed. The initial survey will establish proposed sampling locations (e.g., soil gas, subsurface soil [Solvent Spill and Former Incinerator], surface geophysics), and the final survey will establish sample locations that changed during the investigations or that were unknown during the initial survey (e.g., perimeter gas migration locations, lysimeters, and subsurface soil [landfill] investigations).</p>
<p>25. Section 4.2.1.3. Provide an explanation for the 200 foot spacing here versus 100 foot spacing for Site 2.</p>	<p>RESPONSE 25: On October 28, 1994, the BCT made the decision that the soil gas grid at Landfill Sites 2, 3, 5 and 17 would be 100, 200, 200 and 200 foot respectively.</p>
<p>26. Page C5-2. Section 5.2.4. Is it possible that an FID could be substituted for a PID? If so, the text should say "...PID or FID..."</p>	<p>RESPONSE 26: Both FID and PID will be used in the field but have different applications. The handheld FID will screen for TPH and methane and other organic headspace vapors while the handheld PID will screen for select VOCs, especially chlorinated solvents.</p>
<p>27. Section 6.2. Last sentence should read "...Section 6.9 of the FSP."</p>	<p>RESPONSE 27: Comment noted.</p>
<p>28. Page C6-2. Section 6.5, paragraph 1. Provide a reference to the appropriate CLEAN II SOP for the VOC sampling protocol.</p>	<p>RESPONSE 28: The text has been modified to incorporate this comment.</p>
<p>29. Paragraph 2, line 6. "...at minimum 10-foot intervals..." can be misconstrued to mean "...every 10 feet or greater..." Consider rewording the text as "...collected at least once every 10 feet and at changes in lithology..."</p>	<p>RESPONSE 29: The text has been modified to incorporate this comment.</p>
<p>30. Page C6-4. Section 6.7. No new wells are shown in figures C3-2 and C3-3.</p>	<p>RESPONSE 30: No new wells are planned at Site 3 and text has been revised.</p>

**RESPONSE TO COMMENTS
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PHASE II DRAFT REMEDIAL INVESTIGATION/FEASIBILITY STUDY
WORK PLAN, MCAS EL TORO, CALIFORNIA**

<p>Originator: Bonnie Arthur U. S. Environmental Protection Agency, Region IX</p> <p>To: Joseph Joyce, BRAC Environmental Coordinator MCAS El Toro, California</p> <p>Date: 24 May 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>31. Page E4-6. Section 4.3.1.3. The proposed location of the downgradient well is not shown on Map E3-2.</p>	<p>RESPONSE 31: Map E3-2 has been modified to include the proposed Well NEW1.</p>
<p>32. Page E5-5. Section 5.3.10. Here and throughout the Plan where this sentence is repeated. The sentence suggests that additional investigation is to be performed but the activities are not mentioned. The paragraph needs additional explanation as to whether or not additional work is proposed.</p>	<p>RESPONSE 32: This section has been deleted.</p>
<p>33. Maps Q3-2 and Q3-3. Discuss the significance of "keyhole" area delineated around Phase I soil borings 17_SA1-3. Consider that the direction of groundwater flow at this location is more to the west southwest than northwest.</p>	<p>RESPONSE 33: Further discussion of the stained area (keyhole) area has been included in the Site Description Sections of both the Work Plan and Field Sampling Plan.</p>
<p>34. Page Q4-1. Section 4.1.2. Explain rationale for soil gas sampling locations and spacing.</p>	<p>RESPONSE 34: On October 28, 1994, the BCT made the decision that the soil gas grid at Landfill Sites 2, 3, 5 and 17 would be 100, 200, 200 and 200 feet respectively.</p>
<p>35. Page Q4-5. Section 4.3.1.3. Because the apparent groundwater flow direction is more to the west southwest, the placement of well NEW2 is not optimal. However, it may be used to determine the flow direction together with NEW1 and 17_DGMW82.</p>	<p>RESPONSE 35: The proposed location of well NEW2 will be installed further north. The Maps have been modified.</p>
<p>36. Page W2-1. Section 2.1.1. This paragraph could be improved by deleting the third sentence and adding to the second sentence as follows:</p> <p style="padding-left: 40px;">"...synclinal trough that has accumulated approximately 30,000 feet or more of detrital sediments since the Miocene epoch."</p> <p>Also, in the last sentence, replace the word "...on..." with "...located within the boundaries of..."</p>	<p>RESPONSE 36: The grammar will be modified as requested</p>

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<p>37. Section 2.1.1.1. The first sentence could be improved by deleting "The majority of..." and replacing it with "Most of the surface and near-surface..."</p>	<p>RESPONSE 37: The grammar will be modified as requested.</p>
<p>38. Page W2-2. Section 2.1.2. Second paragraph. Replace the word "...on..." with the word "...beneath..." Delete the first five words of the third sentence and insert the rest of the sentence into the second sentence as follows:</p> <p style="padding-left: 40px;">"The principal aquifer, approximately 120 feet beneath site 24, is the main water-producing zone..."</p>	<p>RESPONSE 38: The grammar will be modified as requested.</p>
<p>39. Fourth paragraph. First sentence. Replace the word "...on..." with the word "...beneath..."</p>	<p>RESPONSE 39: The grammar will be modified as requested.</p>
<p>40. Page W2-3. First line. Can not find well cluster 18_BGMW03 on Map W3-2 or W3-3. Confirm that the well cluster is supposed to be either 21_BGMW03 or 18_BGMW05.</p>	<p>RESPONSE 40: The well 18_BGMW03 is labeled incorrectly as 21_BGMW03 on Map W3-2 and W3-3. The well labels have been corrected.</p>
<p>41. Page W2-8. Section 2.2.3. Second sentence states wells TIC 47 and TIC 35 are located "downgradient" of the station. Please state the direction, distance from the station and depth of the screened intervals. Confirm that the groundwater flow direction clearly known?</p>	<p>RESPONSE 41: TIC 47 is a groundwater monitoring well that is located approximately 3500 feet to the west of MCAS El Toro. It is screened from 268 feet to 1107 feet bgs (-87 feet to -926 feet msl). TIC 35 is a groundwater monitoring well that is located approximately 8500 feet to the west of MCAS El Toro. It is screened from 263 feet to 1503 feet bgs (-121 feet to -1361 feet msl). These data will be added to the text in the Final Field Sampling Plan.</p> <p>The groundwater flow direction and magnitude are discussed in detail in Section 2.6.3 (Hydrogeology) of this Draft Field Sampling Plan and Draft Work Plan. Site specific hydrogeological details are available in the attachments of the Draft Field Sampling Plan and appendices of the Draft Work Plan. To limit redundancy these data will not be reproduced in Section 2.2.3.</p>

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<p>42. General comment about figures. The color plots are very useful, but it would be helpful to only have items listed in the legends that are shown on each of the maps.</p>	<p>RESPONSE 42: The legends will be corrected to include only those items shown on each of the maps or figures.</p>
<p>43. Pages W4-2, W4-3 and W4-4. Tables W4-1, W4-2, and W4-3 are followed by blank pages with the page numbers, on which the tables should be located. Tables have Xs entered into columns with no explanation, and it is hard to understand just where the numbers entered as "subtotals" come from. Table W4-3 is confusing because the numbers of samples to be analyzed at the off-site laboratory do not always correspond with the total number of samples to be collected. Also, sometime there are blanks and sometimes dashes. Review these and similar tables in other attachments and clarify when possible.</p>	<p>RESPONSE 43: Tables W4-1, W4-2, W4-3 will go on the proceeding blank pages. These tables will be clarified by eliminating Xs and replacing them with the analyte numbers.</p>
<p>44. Page W4-5. Section 4.2.1.</p> <p>44.1 First paragraph, second sentence should read "...will be checked for acceptable quality and ability to be correlated between borings."</p>	<p>RESPONSE 44.1: The grammar will be modified as requested.</p>
<p>44.2 Identify the depth of the mud-rotary holes. Mud rotary has the potential to produce large quantities of potentially contaminated investigation derived wastes. Discuss the alternatives to mud rotary that been considered and the reasons for their exclusion.</p>	<p>RESPONSE 44.2: The mud rotary borings and their associated open hole geophysical logs have been eliminated from the Phase II RI.</p>
<p>44.3 Consider using cased-hole logging techniques such as natural gamma and induced gamma. CPT logs can also be very helpful in correlating lithologic changes between borings, and are capable of penetrating over 200 feet depending on the nature of the soil. Large gravel and boulders, or concrete rubble can prevent its use. CPTs have lower total costs than borings and they produce much less IDW.</p>	<p>RESPONSE 44.3: Cased-hole gamma ray (natural or induced) could be completed, however their value as a standalone correlation tool is questionable because of the stratigraphy in the area (i.e., gradational contacts of clay, silt, and sand). Porosity (neutron/density and sonic) and resistivity tools cannot be added to enhance the geophysical logging suite and increase correlation confidence as these methods require a fluid-filled boring to operate. A neutron log could be run as a standalone cased-hole log, but it is highly ineffective in stratigraphic sections with even small amounts of clay. Therefore, downhole</p>

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	geophysical logging has been eliminated from the Phase II RI.
<p>44.4 Section 4.2.2. CPT should be considered since soil and groundwater samples can be collected with minimum IDW produced.</p>	<p>RESPONSE 44.4: Cone penetrometer data will be collected from 75 points on Site 24. These points will be integrated with lithologic data from monitoring wells and soil borings to interpret the subsurface stratigraphy on the site.</p>
<p>45. Page W4-6. Section 4.2.2. Third paragraph. This is the first mention of abandoned water supply wells. Discuss how the investigation will proceed with a backhoe. What geophysical investigation is proposed and have agency file searches been conducted to establish the location of these wells?</p>	<p>RESPONSE 45: See response to comment No. 67.2 on the Work Plan (above).</p>
<p>46. Page W4-7. Section 4.2.3. Third paragraph. Last word should read "W3-7" instead of "W3-8."</p>	<p>RESPONSE 46: The text will be corrected by substituting W3-7 for W3-8.</p>
<p>47. Fourth paragraph. First sentence. Delete commas on either side of " and possibly..." and replace the word "...on..." with the word "...beneath..."</p>	<p>RESPONSE 47: The grammar will be modified as requested.</p>
<p>48. Section 4.2.4. Line 7. Replace "...relatively low permeable soil layers..." with either "...relatively impermeable soil layers..." or "...soil layers with relatively low permeability..."</p>	<p>RESPONSE 48: The grammar will be modified as requested.</p>
<p>49. Page W4-8. Section 4.2.4. CPT sampling/logging locations are not shown in Figure W3-9.</p>	<p>RESPONSE 49: CPT sampling/logging points will be added to Figure W3-9.</p>
<p>50. Section 4.2.5. Last paragraph. Pumping tests will produce large quantities of IDW. The IDW plan should be referenced here and where mud rotary drilling is mentioned.</p>	<p>RESPONSE 50: The IDW plan will be referenced in Section 4.2.5 Pilot Testing.</p>
<p>51. Page W5-1. Section 5.2. Second paragraph. Line 2. Using <u>both</u> FID and PID or either.</p>	<p>RESPONSE 51: Both the PID and FID will be used to field screen soil samples for organic headspace vapors.</p>
<p>52. Page W6-2. Section 6.2. Second paragraph.</p>	

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<p>52.1 Include mention of brass sleeves if they are to be used.</p>	<p>RESPONSE 52.1: Stainless steel sleeves will be used for soil borings. These will be discussed in this section.</p>
<p>52.2 Provide clarification as to:</p> <p style="padding-left: 40px;">Will each 6-inch sampling sleeve constitute a "sample" of which 25 percent are to be submitted to a mobile lab? Or is it from 25 percent of sample drives that one 6-inch sample will be collected for mobile lab analysis?</p>	<p>RESPONSE 52.2: Most soil borings have samples described every 5 feet, approximately 25% of these samples will be sent to the mobile laboratory for analysis. As an example, for a 120 foot boring, approximately 24 samples will be described and it is estimated that 6 samples will be sent to the mobile laboratory for analysis. The actual number of samples that will be analyzed will be based upon field screening analysis using the PID, FID, and/or GC/MS.</p>
<p>53. Page W6-4. Section 6.4.1. Last sentence. "Map W3-6" is a cross-section and does not show Tier 1 soil gas sampling locations. Can not find Tier 1 soil gas sampling locations on any of the maps presented. Review these items and correct the text and/or figures.</p>	<p>RESPONSE 53: The map reference is incorrect in the text it should read Map W3-9. This will be corrected in the text.</p>
<p>54. Section 6.4.2.1. Last sentence. CPT locations are not shown on Map W3-9.</p>	<p>RESPONSE 54: The CPT points were mistakenly deleted from this map. They will be added to the final version.</p>
<p>55. Section 6.5. Third paragraph. Provide the details of the pumping tests to be conducted. For example, are three separate tests proposed, which wells will be used as observation wells, and what length tests are proposed?</p>	<p>RESPONSE 55: Aquifer tests are proposed at three locations selected to support the Interim-Action Feasibility Study. Piezometers will be installed adjacent to each well. The test protocol will be described in an addendum to the Work Plan after presenting the conceptual test design to the BCT.</p>
<p>56. Page W6-5. Section 6.5.1. Provide details about the vapor extraction tests. For example, what will be the duration of the tests, what consideration related to air emissions need to be considered, is there a need to obtain local AQMD permits?</p>	<p>RESPONSE 56: Vapor extraction pilot test duration will be based on the rate of decline in VOC concentrations over time. It is estimated that several pilot tests will be conducted after areas of contaminated soil are identified. The maximum test duration is anticipated to be on the order of several weeks. The effluent vapor stream will be treated with activated carbon. A permit to conduct the pilot tests will be required by the South Coast Air Quality Management District.</p>
<p>57. Section 6.5.2. Second paragraph. Air Sparging.</p>	

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<p>57.1 Indicate the direction in which sparging wells will be drilled 20 feet from well 09_DBMW45.</p>	<p>RESPONSE 57.1: It is assumed here that the stratigraphic investigation and vertical characterization of VOCs in groundwater will support pilot testing near well 09_DGMW45. If adverse conditions are encountered, (e.g., discovery of free phase TCE) then the pilot test location will be modified. Assuming unforeseen problems are not encountered, air sparging wells will be installed to the west of well 09_DGMW45. This is the upgradient direction relative to well 09_DGMW45.</p>
<p>57.2 Second sentence. Delete the words "...placement proximate to the well..."</p>	<p>RESPONSE 57.2: Make correction to text from 57.1 as indicated.</p>
<p>58. Page W6-6. Section 6.5. With reference to FSP, sections 6.6.2.2 and 6.6.2.1 should read 6.7.2.2 and 6.7.2.1 respectively.</p>	<p>RESPONSE 58: Sections 6.6.2.2 and 6.6.2.1 from the FSP will be changed to 6.7.2.2 and 6.7.2.1, respectively.</p>
<p>59. Section 6.5.3. Second and third paragraph. With reference to FSP, section 6.6.3 should read section 6.7.3.</p>	<p>RESPONSE 59: Section 6.6.3 from the FSP should read Section 6.7.3.</p>
<p>60. Page X2-4. Section 2.2.4.1. Second bullet. Delete the word "...in..." and insert the word "...and..." Fifth bullet. After "...Bee Canyon..." delete the comma and insert the word "...and...", and after "...Borrego Canyon..." before the comma add the word "...washes..."</p>	<p>RESPONSE 60: The grammar will be modified as requested.</p>
<p>61. Page X4-1. Section 4.1.1. Second paragraph. first sentence should read "...first rainfall that produces runoff..."</p>	<p>RESPONSE 61: The grammar will be modified as requested.</p>
<p>62. Page X5-1. Section 5.2. Second paragraph. Lines 5 and 7 mention FID and PID. This should be FID or PID.</p>	<p>RESPONSE 62: Both FID and PID readings will be taken during the field screening of organic headspace vapors.</p>

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<p>Originator: Virginia Garelick, Naval Facilities Engineering Command Southwest Division</p> <p>To: Jason Ashman, Naval Facilities Engineering Command Southwest Division</p> <p>Date: 30 May, 1995</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p><u>REVIEW COMMENTS ON DRAFT FIELD SAMPLING PLAN</u></p> <p>a. The purpose of an RI/FS field sampling plan (FSP) is to provide a strategy for all field work by defining in detail the sampling and data-gathering methods to be used on a project. The FSP should contain the following elements: (1) site background; (2) sampling objectives; (3) sampling location and frequency; (4) sample designation; (5) sampling equipment and procedures; (6) sample handling and analyses. The subject document adequately addressed these elements.</p>	<p><u>RESPONSES ON DRAFT FIELD SAMPLING PLAN</u></p> <p>RESPONSE a: No response.</p>
<p>b. For information regarding analytical results from previous investigations, the reader is referred to the draft Technical Memorandum (see reference e). This is not sufficient. Recommend providing a table for each site that contains the following information: highest analytical results for COCs detected in soil and groundwater, detection limits, U.S. EPA PRGs, and location of samples (e.g., groundwater monitoring well number, boring number/depth of sample). Additionally, recommend that the analytical results presented in the site summaries be expanded to include the boring numbers so the reader is able to readily determine the location of the contamination. It would also be useful if the contamination sources and the highest analytical results were depicted on the site-specific maps.</p>	<p>RESPONSE b: DQOs and site specific field sampling plans will be revised to reflect highest analytical results for COPCs and locations. Figures will have Phase I sample locations labeled. DQOs and site specific sampling plans are intended to summarize previous results.</p>
<p>c. Cleanup goals were not clear. Please clarify whether background, PRGs or ARARs will be used to guide cleanup. Additionally, the site specific sampling objectives (data usage) should clarify that cleanup levels are dependent on the reuse of the base. Regarding the use of PRGs, because the reuse of El Toro is uncertain, recommend comparing levels of contamination to both residential and industrial</p>	<p>RESPONSE c: Establishment of cleanup goals will be COPC specific and will be based on background/ambient concentrations, PRG, ARARs, and best available technologies. Cleanup goals will not be assigned until extent and nature of contamination is known. Reuse will be assumed to be residential until later designated.</p>

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<p>PRGs.</p>	
<p>d. A number of the units addressed in the subject document have been recommended for removal actions and early actions. Concur with these recommendations. Recommend that these units be taken out of the RI/FS program. Please see specific comments below for details regarding these units.</p>	<p>RESPONSE d: We concur and have revised text to indicate this change.</p>
<p>e. Several units have been recommended for NFRAP. The subject document should include the rationale for this determination. Although this information was included in the work plan, it was omitted in the FSP. Please see specific comments below for details regarding these units.</p>	<p>RESPONSE e: NFRAP would be a final action for an entire site. At this time, however, no sites are considered NFRAP eligible. However, individual site units may be eligible for a No Further Investigation (NFI) with a minimal number of samples as agreed in the 6 June 1995 meeting.</p>
<p>f. Recommend expanding Section 5 (Request for Analyses) to include a section that addresses detection limits. Because El Toro is an NPL base, CLP methods are mandatory for a number of analyses including semi-volatiles (GC/MS) in which PAHs are among the analytes. However, for PAHs, detection limits are generally higher when using a GC/MS compared to EPA 8310 (HPLC). If EPA 8310 must be used to achieve lower detection limits, provide an explanation on how the qualitative identification of PAHs can be assured since HPLC is an inferior qualitative tool compared to GC/MS. Additionally, a modification of a CLP method or a substitution in instrumentation requires appropriate regulatory concurrence.</p>	<p>RESPONSE f: DTSC recommends HPLC to satisfy the low PRG levels for PAHs. As stated in the QAPP, WP and FSP, the Best Available Technology (BAT) with the lowest possible detection limits obtainable will be used to satisfy the PRGs.</p>
<p>g. A mobile lab will be used to perform on-site analysis of the samples; however, the discussion of the mobile laboratory QAPP was limited. Has a SOP been developed for this? If so, please provide this information. Additionally, please add a section in the FSP to briefly discuss lab capabilities, limitations, and how data quality will be</p>	<p>RESPONSE g: The discussion regarding QA/QC requirements by both mobile and fixed-base laboratories has been expanded and incorporated into Section 6 of the QAPP. Analytical issues are all addressed in the QAPP.</p>

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<p>assured.</p>	
<p>h. The subject document does not address how groundwater contamination will be assessed for OU-3 sites. The reader is referred to the work plan for a discussion of the process by which the locations for Tier 3 soil borings and monitoring wells will be selected.</p> <p>The work plan, however, merely states that “the Tier 3 sampling program would only be implemented at a unit where Phase I RI data, or the initial evaluation of the Phase II RI Tier 1 and/or Tier 2 sampling program results suggest that soil contamination may extend to depths greater than 10 feet bgs. The Tier 3 sampling plan will be developed after an evaluation of Phase I RI/FS and Phase II RI Tier 1 and/or 2 analytical results.”</p> <p>Please explain the rationale for not including a groundwater sampling strategy as part of Tier 1 activities (since the purpose of Tier 1 sampling is to estimate whether the unit poses a risk to human health and the environment). Phase I analytical results published in 1993 indicate that many of these wells are contaminated. When will the existing monitoring wells at OU-3 sites be sampled?</p>	<p>RESPONSE h: Groundwater sampling is not included for OU-3 sites because the groundwater contamination below these sites is attributed to other sources. Our understanding is that all existing monitoring wells will be sample under the groundwater monitoring plan. The wells at OU-3 sites will not be sampled unless soil contamination appears to extend to groundwater.</p>
<p>i. Please ensure that the field activities will be conducted under the direction of a California registered engineer or geologist. Additionally, the cover sheet of the subject document should bear the stamp of this engineer/geologist.</p>	<p>RESPONSE i: Field activities will be conducted under the direction of a California registered geologist or engineer. However, this Work Plan does not require the signature of a registered geologist or engineer, according to state regulations.</p>
<p>j. Please ensure that the information contained in the text, tables, figures, and maps is consistent. Due to time constraints, I was unable to check for inconsistencies.</p>	<p>RESPONSE j: We will review and revise the document as appropriate.</p>
<p>k. Recommend providing a basewide map that illustrates the existing and planned well locations for the various environmental program</p>	<p>RESPONSE k: A region wide map included in the Field Sampling Plan provides locations of existing wells including agricultural and production</p>

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<p>activities at MCAS El Toro. The map should include the following information: (1) estimated groundwater gradient; (2) locations of USTs; (3) locations of all known sources of contamination; (4) locations of abandoned wells, and (5) locations of agricultural wells and production wells within a 1-mile radius of the base. If this information cannot be accommodated on one map, then overlays would be useful.</p>	<p>wells. We have added locations of abandoned wells to site specific DQOs and field sampling plans. Figures were also provided in the Work Plan illustrating regional groundwater elevations. Locations of USTs will not be shown. These are illustrated in the BCP (BRAC Cleanup Plan).</p>
<p>l. Comments on documents associated with the subject report (e.g., draft Quality Assurance Project Plan and the Health and Safety Plan) have been provided under separate cover. Please ensure that our comments have been addressed prior to commencing fieldwork.</p>	<p>RESPONSE l: We concur and revisions will be made where appropriate.</p>
<p>m. Aside from the concerns discussed above, the majority of comments on the subject report pertain to the need for clarification or editorial changes. In the future, please use spell check prior to issuance of reports. I found several typographical errors in this document.</p>	<p>RESPONSE m: We concur and revisions will be made where appropriate.</p>
<p><u>SPECIFIC COMMENTS</u></p> <p>a. Table of Contents: Please correct typo on page vi (hydrogeological investigations) to read "extraction wells" instead of extension wells. (This comment also pertains to page 6-16, Section 6.4.1).</p> <p>b. Section 1 - Introduction: Recommend providing a table that lists the existing sites at MCAS El Toro. The table should include RI/FS sites, RFA sites, and AOCs. Indicate which sites are slated for removals and no further action.</p> <p>c. Section 2 - Background and Setting:</p> <p>(i) Page 2-2, Previous Investigations: Recommend expanding the section to discuss the draft RI/FS Work Plan that was produced in 1993. Summarize the significant revisions to the draft RI/FS work</p>	<p><u>SPECIFIC RESPONSES</u></p> <p>RESPONSE a: We concur and revision will be made to the text.</p> <p>RESPONSE b: Table 1-1 will be revised to reflect which Operational Units (OU) and their associated sites. We will include a new table indicating potential actions for site units. However, we will not include RFA or AOC sites because they will be investigated under a separate CTO.</p> <p>RESPONSE c:</p> <p>RESPONSE (i): We concur. The section will be expanded to include a discussion on the Draft RI/FS Work Plan.</p>

**RESPONSE TO COMMENTS
REVISED DRAFT
PHASE II REMEDIAL INVESTIGATION/FEASIBILITY STUDY
WORK PLAN, MCAS EL TORO, CALIFORNIA**

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<p>plan and explain why fundamental assumptions have changed.</p>	
<p>(ii) Page 2-6, Sensitive Habitats: Please provide a map with the locations of the sensitive habitats (including wetlands) and locations of the special status wildlife.</p>	<p>RESPONSE (ii): The Risk Assessment Work Plan and the RI/FS Work Plan both include a map of wetlands. However, no maps of the entire base are available for sensitive habitat and special status wildlife. Reference to the conservation plan will be made as appropriate.</p>
<p>d. Section 3 - Maps: Recommend that the site maps include the locations of USTs and all known and potential contamination sources.</p>	<p>RESPONSE d: USTs are being addressed under a different program.</p>
<p>e. Section 4 - Rationale for Sampling Locations:</p> <p>(i) Page 4-1, Leachate Samples: Subject document states that "leachate samples will be collected from the vadose zone beneath the landfill by lysimeters to assess potential leakage from the landfill." Please briefly address the procedures that will be followed for the installation of lysimeters and the collection of water samples from these devices. (This was not included in the SOPs that were provided to use for review).</p>	<p>RESPONSE e:</p> <p>RESPONSE (i): New sections were added to address installation and sampling lysimeters (Section 6.10 of the Field Sampling Plan).</p>
<p>(ii) Page 4-10, Surface Soil Samples: The terms "surface soil" and "surficial soil" are used interchangeably in this section. Later on in the document (page 6-10), surface soil is defined as "the collection of samples up to 1 foot bgs." However, no definition is provided for "surficial soil." Unless the meaning of these two terms is different, recommend deleting all references to surficial soil. If there is a difference, please address this.</p>	<p>RESPONSE (ii): We concur and will delete the term "surficial" soil and use the term "surface" soil throughout the text. Surface soil samples are defined as presented on 6-10, soil to one foot bgs.</p>
<p>f. Section 5 - Request for Analyses:</p> <p>(i) Page 5-1, Field Screening: Subject document states that "several field screening devices will be used during the geological and hydrogeological investigations and may include a field</p>	<p>RESPONSE f:</p> <p>RESPONSE (i): Descriptions of the field screening instruments will be referenced to the QAPP to avoid the issue of duplication. The QAPP focuses on the analytical procedures and instrumentation which includes field</p>

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<p>photoionization detector, flame ionization detector, portable gas chromatography (using the headspace method U.S. EPA Method 3810), portable x-ray fluorescence, ion-selective electrodes, and scintillometer. Group and/or compound-specific immunoassay test kits and mobile laboratories will be also be used for field-screening purposes.” Although the reader is referred to the QAPP for a discussion of these methods, it would be useful to briefly describe their capabilities and limitations in the FSP. (Attachment A provides an example of the level of detail that is recommended.)</p> <p>Additionally, recommend editing Table 5-2 (Field Screening Methods for MCAS El Toro RI/FS) to include the detection limits that can be achieved with these devices.</p> <p>Finally, as stated in our comments on the draft QAPP, unless the field-based laboratory has all the required instrumentation, staffing and quality control to conduct confirmation of all the analytes mentioned in this section, confirmation should NOT be done in an on-site mobile laboratory or field-based laboratory. All “Positive” samples should be confirmed by CLP methods, as required, unless regulatory concurrence is obtained to deviate from this requirement.</p>	<p>screening. The FSP will be re-organized to present this more clearly.</p> <p>A field screening table has been included in the QAPP and FSP which lists all field screening instrumentation, their applications and sensitivity levels. Confirmation by CLP methodology will only be performed by a fixed-base state- and NFESC-certified laboratory. This section has been revised to address this clearly.</p>
<p>(ii). Page 5-13, Quality Control: Recommend expanding the sections regarding field duplicate samples and trip blanks. Briefly discuss how many QC samples will be collected. Additionally, please revise the section regarding rinsates; the proposed number of rinsates is not consistent with NFESC guidelines.</p>	<p>RESPONSE (ii): The QA/QC requirements are discussed in detail in the QAPP. The FSP will reference the QAPP to avoid duplication of information. The collection and analysis of rinseates will comply with NFESC requirements of one equipment rinseate per day analyzing every other day. If analytes pertinent to the project appear in the blanks, the archived samples will also be analyzed.</p>
<p>g. Section 6 - Field Methods and Procedures:</p> <p>(i) Page 6-9, Land Surveying: Please confirm that the survey results include the date the datum was established for both horizontal and</p>	<p>RESPONSE g:</p> <p>RESPONSE (i): We concur and revision will be made.</p>

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<p>vertical control. Additionally, all Spatial Data including CAD drawings shall conform to the current Tri-Service Data Standards (SDS), and be submitted as DOS AutoCAD V11 or later (Auto desk) or Microstation v 5.0 or later (Intergraph) compatible format. GIS data will conform to the current Tri-Service SDS, and be submitted as ARC Info Export Format, or MGE Export Format. The Coordinate System to be used is the Sate Plane Coordinate System, NAD 83, Lambert Zones 1 through 6, as appropriate for Southern California Activities. The vertical reference elevation is Mean Sea Level, with the relevant control data provided.</p>	
<p>(ii) Page 6-10, Soil Borings: Subject document states that "plastic sheeting will be laid over the area of work in the exclusion zone and the drilling rig will be set on the plastic sheeting." This is excessive. It is not necessary for the drilling rig to be set on plastic sheeting.</p>	<p>RESPONSE (ii): Plastic sheeting will only be laid in the work area within the exclusion zone and around the rear of the drill rig.</p>
<p>(iii) Page 6-13, Mud Rotary Borings: Subject document states "the mud rotary drilling method will be used where downhole geophysics are required" . . . Because use of this technique was discouraged by DTSC at various RPM meetings, please expand this section. Justify why this drilling techniques is recommended.</p>	<p>RESPONSE (iii): Based on the meeting on 6 June 1995, mud rotary borings and associated open hole geophysical logging have been eliminated from the Phase II RI.</p>
<p>(iv) Page 6-16, Installation of Monitoring and Extraction Wells: Please indicate the casing type and diameter of the monitoring wells to be installed.</p> <p>Additionally, please provide information regarding proposed screen intervals. Address the type and depth of screen for shallow and deep monitoring wells.</p>	<p>RESPONSE (iv): Typically, PVC will be used for casings. Groundwater monitoring, soil vapor extraction, and air sparging well construction is described below:</p> <ul style="list-style-type: none"> • 4-inch-diameter schedule 40 PVC casing will be used for monitoring wells less than 200 feet deep, • 5-inch-diameter schedule 80 PVC casing will be used for monitoring wells greater than 200 feet deep, • 2-inch-diameter schedule 40 PVC casing will be used for piezometers, • 2-inch-diameter schedule 80 PVC casing will be used for air sparging wells,

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	<ul style="list-style-type: none"> • wire wrapped stainless steel well screen will be used for all completions below the water table, • monitoring wells will have 40 foot screens for water table installations, • monitoring wells installed deeper than the upper 40 feet of the aquifer (e.g., • 2-inch and 4-inch-diameter schedule 40 PVC casing and screen will be used for vapor extraction wells. <p>This will be reflected in the text on Page 6-19 Section 6.4.1.1 Casing and Screen Assembly.</p>
<p>(v) Page 6-20, Transition Seal: The subject document states that “a minimum of 2 feet of No. 0/30, or greater, silica and will be placed directly above the filter pack to reduce the potential of high pH solutions from the annular seal from reaching the screened section of the filter pack.” The type of sand used needs to be sized in accordance with the filter pack. (The #30 sand may be too fine if a coarse filter pack is used.)</p>	<p>RESPONSE (v): The fine grained sand is placed as part of the transition seal. The transition seal helps to reduce the infiltration of the well seal materials into the filter pack. Filter pack sand will be sized according to native materials. The transition seal may consist of a finer sand, if filter pack is a coarser sand. The sand size used above the filter pack will be gauged in accordance with the sand size of the filter pack. A No. 0/30 sand may be too fine for proper installation over a coarse filter pack.</p>
<p>(vi) Page 6-26, Well Development: Please clarify that the well will be sampled after temperature, pH, and EC have stabilized.</p>	<p>RESPONSE (vi): Text has been added to Section 6.4.4 (Well Development) to state that groundwater sampling to evaluate water quality will be conducted with procedures described in Section 6.4.10. Section 6.4.10 describes the specifications and procedures for parameter stabilization during well sampling.</p>
<p>(vii) Page 6-43, Pilot Tests: The discussion of the pilot tests (soil vapor extraction, air sparging, aquifer pump tests, bioremediation) was inadequate. For each of the tests to be conducted, recommend that a brief work plan be prepared. The work plans should discuss objectives, rationale, test parameters, procedures, and proposed locations of the tests. Have CLEAN II SOPs been developed for these tests? If so, please provide. (They were not included in the SOPs that accompanied this FSP.)</p>	<p>RESPONSE (vii) The discussion of aquifer pumping, soil vapor extraction and air sparging pilot tests has been expanded in the revised Work Plan and Field Sampling Plan. These tests are relatively standard. CLEAN II believes that the expanded discussion of the pilot tests in the Work Plan and Field Sampling Plan will suffice for both operation and oversight purposes. Bioremediation pilot tests are still being evaluated. If these bioremediation pilot tests are needed, a work plan addendum will be prepared. Aquifer tests protocol for extraction and injection will be described in separate Work Plan addendum.</p>

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	<p>Similar comments were received from the USEPA and DTSC. Descriptions of pilot test objectives, rationale, test parameters, and proposed locations, and examples of field data sheets are included in the revised pilot test section.</p>
<p>(viii) Page 6-75, Sample Handling, Packaging, and Shipping: Please provide a table that identifies the chemical categories, types of containers required, appropriate sample preservation methods, and maximum holding times.</p>	<p>RESPONSE (viii): A table exists in the QAPP that describes these parameters and will be incorporated into the FSP.</p>
<p>g. Section 8 - Reference</p> <p>(i) Many reports were prepared by consultants on behalf of Southwest Division Naval Facilities Engineering Command, but the list of references does not reflect this. The following format is recommended: Southwest Division Naval Facilities Engineering Command, 1994a. Draft Data Management Plan Phase II Remedial Investigation/Feasibility Study, Marine Corps Air Station El Toro, California. (Prepared by Bechtel National, Inc.) Accordingly, please revise the references for all DON reports that were prepared by consultants.</p>	<p>RESPONSE g:</p> <p>RESPONSE (i): References will be arranged by author as the current references were prepared. The proposed format as shown in this comment is not the typical manner for presenting references in Southwest Division documents.</p>
<p>(ii) Please add the following references to this list:</p> <p>U.S. EPA Region 9, 1995, Preliminary Remediation Goals (PRGs) First Half 1995 (dated February 1, 1995)</p> <p>U.S. EPA, Guidance for the Data Quality Objectives Process, dated September, 1994.</p> <p>U.S. EPA, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA SW-846 (1995).</p>	<p>RESPONSE (ii): We concur and references will be added as appropriate.</p>
<p>Appendix A: Explosive Ordnance Disposal Range</p> <p>u. Three wells (two upgradient and one cross-gradient) are proposed</p>	

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<p>for Phase II to supplement the two existing downgradient wells. Please provide rationale for the number and location of the additional wells. (One upgradient well may be sufficient.)</p>	<p>RESPONSE a: See Response to Comment 49 (Site 1, Enclosure D).</p>
<p>b. Recommend that the groundwater analyses be expanded to include gross alpha and beta particle activity (since these constituents were detected in Phase I groundwater sampling results).</p>	<p>RESPONSE b: Agreed.</p>
<p>c. Figure A-3.2: Please verify the locations of the existing monitoring wells. The well locations depicted in Figure A-3-2 are not consistent with the draft Technical Memorandum.</p>	<p>RESPONSE c: The Figures in both the Work Plan and Field Sampling Plan have been revised to address this comment.</p>
<p>Appendix B: Site 2 - Magazine Road Landfill</p>	
<p>a. The proposed work plan states that "potential hot spots (e.g. > 300 ppb) identified by the 100 foot grid spaced sampling will be further characterized using a 25 foot grid. What is the basis of this benchmark?"</p>	<p>RESPONSE a: The text has been modified to describe that the 300 micrograms per liter was selected based on the isoconcentration lines presented in the Final Soil Gas Survey (Jacobs 1993). This value will be reevaluated after the data from the 100-foot grid survey are assessment in their entirety.</p>
<p>b. Page B1-1, Sampling Objectives: The second paragraph discusses the presumptive remedy approach. Please clarify that the substantive requirements of a SWAT will be met using this approach. (Note: This comment applies to all the landfills at El Toro.)</p>	<p>RESPONSE b: On April 25, 1995, Larry Vitale with the RWQCB concurred that the work plan would satisfy the minimum water SWAT requirements.</p>
<p>c. Page B2-3, Please correct a typographical error. MCPP (not MCPA) was observed in subsurface soil.</p>	<p>RESPONSE c: Data presented on Table B2-3 of the Draft Technical Memorandum reports CPA at 225,000 micrograms per kilogram in borehole 02_UGMW25.</p>
<p>d. Page B4-7, Initial Horizontal Characterization of VOCs in Groundwater: The subject document states that "temporary well points will be installed to identify the horizontal extent of VOC contaminated groundwater." The draft work plan does not include this activity. Please ensure that the activities discussed in the two</p>	<p>RESPONSE d: Both documents have been modified to include using CPT and hydroponch technology to establish horizontal extent of groundwater.</p>

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<p>documents are consistent.</p>	
<p>Appendix C: Site 3 - Original Landfill</p> <p>a. Tables C5-1, C5-2 (Soil Sampling Analysis). The tables indicate "NFRAP" under the proposed number of Tier 1 samples to be collected for the landfill area. This does not appear to be consistent with the sampling strategy discussed in the text. Please clarify.</p>	<p>RESPONSE a: The tables have been corrected.</p>
<p>b. Trenching may not be necessary for this site. Please justify the need for this activity.</p>	<p>RESPONSE b: Agreed. The text has been modified to clarify that trenching will only be performed if necessary.</p>
<p>Appendix D: Site 4 - Ferrocene Spill Area</p> <p>a. Recommend that Unit 2 (Drainage Ditch) be taken out of the RI/FS program and addressed as a non-time critical removal action.</p>	<p>RESPONSE a: Agreed. The Phase II RI/FS indicates that the site is a non-time-critical removal action unit.</p>
<p>Appendix E: Site 5 - Perimeter Road Landfill</p> <p>a. Page E4-4, Soil Gas Sampling: The second paragraph in this section (off-site migration of landfill gas) should be moved to the section entitled "Air Sampling."</p>	<p>RESPONSE a: Comment noted. The Air Sampling Section of the Field Sampling Plan has been modified to include soil gas migration sampling. However, off-site migration of landfill gas will be performed along with the soil gas investigation.</p>
<p>b. Trenching may not be necessary for this site.</p>	<p>RESPONSE b: Agreed. The text has been modified to clarify that trenching will only be performed if necessary.</p>
<p>Appendix G: Site 7 - Drop Tank Drainage Area No. 2</p> <p>a. Recommend that Unit 1 (North Pavement Edge) be taken out of the RI/FS program and addressed as a non-time critical removal.</p>	<p>RESPONSE a: Agreed.</p>
<p>b. Concur with NFRAP recommendation for Unit 2 (Old East Pavement Edge).</p>	<p>RESPONSE b: Agreed.</p>

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<p>c. Recommend that Unit 3 (New East Pavement Edge) be taken out of the RI/FS program and addressed as a removal action.</p>	<p>RESPONSE c: Agreed.</p>
<p><u>Appendix H: Site 8 - DRMO Storage Yard</u></p>	
<p>a. Recommend that Unit 1 (East Storage Yard) and Unit 4 (PCB Spill Area) be taken out of the RI/FS program and addressed as removal actions.</p>	<p>RESPONSE a: Agreed.</p>
<p>b. Concur with NFRAP recommendation for Unit 2 (West Storage Yard).</p>	<p>RESPONSE b: See Response to Comment 31 (Site 8, Enclosure A).</p>
<p><u>Appendix I: Site 9 - Crash Crew Pit No. 1</u></p>	
<p>a. The proposed sampling strategy does not address the two existing groundwater monitoring wells. During the Phase I investigation, various inorganics, VOCs, TFH-gasoline, and gross alpha and beta were detected in the groundwater. Please clarify that groundwater samples will be collected and analyzed during Phase II RI/FS.</p>	<p>RESPONSE a: Groundwater monitoring wells at OU-3 sites were only proposed to be sampled as part of the OU-3 investigation, if contamination present in soil at the site could be traced to the groundwater table. All wells will be sampled as part of the Quarterly Groundwater Monitoring for the station. The existing wells will be sampled as part of the Site 24 investigation.</p>
<p><u>Appendix K: Site 11 - Transformer Storage Area</u></p>	
<p>a. Recommend that Unit 1 (Concrete Pad Edge) be taken out of the RI/FS program and addressed as a time-critical removal action.</p>	<p>RESPONSE a: Agreed, both Unit 1 and 2 are being addressed as removal actions.</p>
<p><u>Appendix L: Site 12 - Sludge Drying Beds</u></p>	
<p>a. Page L6-1, Unit 2: East Sludge Drying Beds. The number of samples proposed is not consistent with the number of samples indicated in Table L5-1 (Soil Sampling and Analysis). Please address this discrepancy.</p>	<p>RESPONSE a: Table L5-1 in the Field Sampling Plan and Table L-2 in the Work Plan have revised. The correct number of samples collected for Unit 2 is 16 samples.</p>
<p>b. Concur with the sampling approach for Unit 3 (drainage ditch). Although this unit was also recommended for a removal action under CTO 76, I do not believe that we have sufficient information at this</p>	<p>RESPONSE b: The Unit 3 has been accepted by the BCT as a removal action site. If the soil sampling as proposed in Revised Draft Work Plan needs to be conducted to refine the area to be removed this soil sampling could be carried</p>

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<p>time to quantify a removal action. During Phase I field activities, only three locations were sampled in a 10,000 sq. feet area. Furthermore, many of the analytical results for the samples collected had "J" values.</p>	<p>out by the RAC prior to implementing the actual removal action.</p>
<p><u>Appendix M: Site 13 - Oil Change Area</u></p> <p>a. Recommend that Unit 1 (Area Southwest of Tank Farm No. 2) and Unit 2 (Area Southwest of Tank Farm No. 2) be taken out of the RI/FS program and addressed as time-critical removal actions.</p>	<p>RESPONSE a: Agreed.</p>
<p><u>Appendix N: Site 14 - Battery Acid Disposal Area</u></p> <p>a. Recommend that this Unit 1 (Acid Disposal Area) be removed from RI/FS program and addressed as a time-critical removal action.</p>	<p>RESPONSE a: Agreed.</p>
<p><u>Appendix O: Site 15 - Suspended Fuel Tanks</u></p> <p>a. Recommend that Unit 1 (Suspended Fuel Tanks) be taken out of the RI/FS program and addressed as a removal action.</p>	<p>RESPONSE a: Agreed.</p>
<p><u>Appendix Q: Site 17 - Communication Station Landfill</u></p> <p>a. Special-status species have been observed on or near this site. This should be mentioned in the site background. Additionally, please briefly explain the procedures that will be followed during field sampling activities to avoid disruption to the habitats of these species.</p>	<p>RESPONSE a: Special-status species are discussed under the conceptual site model in Step 1.</p>
<p><u>Appendix R: Site 19 - Aircraft Expeditionary Refueling Site</u></p> <p>a. Recommend that Unit 1 (Northeast Stained Area) and Unit 2 (Excavated Area) be taken out of the RI/FS program and addressed as removal actions.</p>	<p>RESPONSE a: Agreed.</p>

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<p>Appendix S: Site 20 - Hobby Shop</p> <p>a. Concur with NFRAP recommendation for Unit 1 (East Drainage Ditch).</p>	<p>RESPONSE a: See Response to Comment 50 (Site 20, Enclosure A).</p>
<p>b. Recommend that Unit 2 (South Drainage Ditch) and Unit 3 (Stained Area) be taken out of the RI/FS program and address as time-critical removal actions.</p>	<p>RESPONSE b: Agreed.</p>
<p>Appendix U: Site 22 - Tactical Air Fuel Dispensing System</p> <p>a. Concur with NFRAP recommendation for Unit 2 (Eastern Area).</p>	<p>RESPONSE a: See Response to Comment 53 (Site 22, Enclosure A).</p>
<p>Appendix V: Site 23 - Sewer Lines</p> <p>a. The draft FSP and work plan contained identical information regarding site 23. The documents state that this site was addressed in the RFA and that "based on the conclusions of the RFA, additional investigation of this site under the Phase II RI/FS appears to be unnecessary. Therefore, this site is being considered with other OU-3 sites to be addressed in the Work Plan and its associated supporting documents." This is confusing. Please clarify these statements and provide supporting documentation to justify why no further action is warranted. A table that lists the analytical results of the RFA sampling program would be useful.</p>	<p>RESPONSE a: See Response to Comment 56 (Site 23, Enclosure A).</p>
<p>Appendix W: Site 24 - VOC Source Area</p> <p>a. Given that CLEAN I is responsible for developing the IAFS and ROD for OU-1, good communication between CLEAN I and CLEAN II contractors is essential. Recommend that CLEAN I be given the opportunity to review and comment on the proposed sampling strategy for site 24 and to participate in the sampling activities and pilot tests.</p>	<p>RESPONSE a: CLEAN II concurs with this approach, and has included and sought input from CLEAN I contractors for the Site 24 sampling strategy and pilot testing.</p>

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<p>b. Clarify whether groundwater modeling will be conducted and, if so, discuss the proposed model that will be utilized.</p>	<p>RESPONSE b: Groundwater modeling will be conducted on Site 2 to evaluate alternative actions during the FS. In addition to capping the landfill, alternatives under this study could include a long term remedial action. Groundwater flow and transport modeling will be completed using MODFLOW and MT3D.</p> <p>Additional groundwater modeling would be performed for one or more of the following reasons:</p> <ul style="list-style-type: none"> • divergence in previous model solutions and model calibration, • changes in empirical data sets, and • unanticipated applications. <p>We do not anticipate groundwater modeling at Site 24 at this time.</p>
<p><u>Appendix X: Site 25 - Major Drainages</u></p> <p>a. Page X2-8: Note that other constituents besides metals were detected in shallow soil samples at Agua Chinon Wash during Phase I. these included methylene chloride, endosulfan sulfate, DDD, TFH diesel, and TFH gasoline. Accordingly, the description of shallow soils for Agua Chinon should be revised. (This comment also applies to page X-9 of the proposed work plan.)</p>	<p>RESPONSE a: Endosulfan sulfate and TFH-gasoline were detected in shallow soils in Agua Chinon wash. This will be added to Page X2-8 of the Final Field Sampling Plan and Page X-9 of the Final Work Plan.</p> <p>The detection of TFH-diesel, methylene chloride, and 4,4' DDD appear to be typographical errors on Page A25-5 and Table 25-2a of the Site 25 DQO presented in the (Jacobs) Draft Phase II RI/FS. TFH-diesel, methylene chloride, and 4,4'-DDD are given as nondetects in the analytical results as presented on Table A25-1a and not shown on Figure 25-3a in the same document.</p> <p>Table A25-1a is a summary of all detected constituents for Site 25 in shallow soil. Figure 25-3a shows all detected constituents in samples taken in the angle borings.</p>

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REVISED DRAFT
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<p><u>GENERAL COMMENTS ON THE DRAFT WORK PLAN</u></p> <p>a. The purpose of an RI/FS work plan is to present a strategy to investigate and assess contamination at a site. The work plan should contain the following elements: (1) summary of site background and previous environmental responses, (2) description of a conceptual site model (including a summary of potential health and environmental effects posed by contamination of the site), (3) discussion of activities that will be accomplished to characterize the site, (4) data quality objectives, and (5) a preliminary identification of general response actions and alternatives and the data needed for the evaluation of alternatives. These elements were adequately addressed in the subject document.</p>	<p><u>GENERAL RESPONSES ON THE DRAFT WORK PLAN</u></p> <p>RESPONSE a: No response.</p>
<p>b. Comments on documents associated with the subject report (e.g., draft Quality Assurance Project Plan [QAPP] and the Health and Safety Plan) have been provided under separate cover. Please ensure that our comments have been addressed prior to commencing fieldwork.</p>	<p>RESPONSE b: Comments addressed for the QAPP and Health and Safety Plan have also been incorporated into the WP.</p>
<p>c. Throughout the document are references to RBCs. Please replace RBCs with current U.S. PRG values, per the decision of the BCT.</p>	<p>RESPONSE c: RBCs will be replaced with PRGs.</p>
<p>d. Recommend revising the text for Step 5 (Decision Rule) for each of the site DQOs (Appendix A-X). The subject document states that "action levels developed for decision making purposes include a cumulative excess cancer risk of 1×10^{-6} in humans; a hazard index of 1.0 for chronic systematic toxicity in humans. Based on these risk levels, decision rules have been formulated to protect human health and the environment in residential, recreational, and industrial land use scenarios."</p> <p>Please clarify the meaning of "action levels". Recommend that</p>	<p>RESPONSE d: We will clarify the use of action levels which will be PRGs if individual COPCs are present, the USEPA PRG screening risk calculation if multiple COPCs are present, or background/ambient concentration. Consideration will be given to reuse of the site for conducting risk screening.</p>

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<p>consideration be given to reuse of the site when determining levels of acceptable risk. It is overly conservative to assign 1×10^{-6} as an "action level" for all sites, and we note the NCP states a cancer risk up to 1×10^{-4} may be acceptable.</p>	
<p>e. Recommend that contractor revise the responsiveness summary. Two sets of responses were prepared for each question that was raised by the regulatory agencies. Many of the responses have conflicting answers. The responsiveness summary should include only one response per question, and the response should be consistent with the proposed sampling strategy.</p>	<p>RESPONSE e: The <u>Revised Draft Work Plan</u> responses indicate the proposed sampling strategies for the Phase II RI/FS.</p>
<p>f. Recommend that the following units be taken out of the RI/FS program and addressed as removal actions. A determination needs to be made whether to address these units as "time-critical removals" or "non-time critical removals":</p> <ul style="list-style-type: none"> • Site 7 - Drop Tank Drainage Area No. 1 (Unit 3 - New East Pavement Edge) • Site 8 - Defense Reutilization and Marketing Office Storage Yard (DRMO) (Unit 1 - East Storage Yard) (Unit 4 - PCB Spill Area) • Site 15 - Suspended Fuel Tanks (Unit 1) • Site 19 - Aircraft Expeditionary Refueling (ACER) (Unit 1 - Suspended Fuel Tanks) 	<p>RESPONSE f: Agreed. These units will be addressed as non-time critical removal actions.</p>
<p>g. Recommend that the following units be taken out of the RI/FS program and addressed as non-time critical removal actions. (Note: EC/CAs have already been prepared; they were developed simultaneously with the RI/FS work plan and FSP. Comments on</p>	<p>RESPONSE g: We concur.</p>

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<p>the EC/CAs will be submitted in a separate technical memorandum.)</p> <ul style="list-style-type: none"> • Site 4 - Ferrocene Spill Area (Unit 2 - Drainage Ditch) • Site 7 - Drop Tank Drainage Area No. 2 (Unit 1 - North Pavement Edge) • Site 11 - Transformer Storage Area (Unit 1 - Concrete Pad Edge) • Site 13 - Oil Change Area (Unit 1 - Area Southeast of Tank Farm No. 2) (Unit 2 - Area Southwest of Tank Farm No. 2) • Site 14 - Battery Acid Disposal Area (Unit 1 - Acid Disposal Area) • Site 19 - Aircraft Expeditionary Refueling Site (Unit 2 - Excavated Area) • Site 20 - Hobby Shop (Unit 2 - South Drainage Ditch) (Unit 3 - Stained Area) 	
<p>h. The subject document recommended no further remedial action planned (NFRAP) for the following units.</p> <ul style="list-style-type: none"> • Site 7 - Drop Tank Drainage Area No. 1 (Unit 2 - Old East Pavement Edge) • Site 8 - DRMO (Unit 2 - West Storage Yard) • Site 20 - Hobby Shop 	<p>These units are likely to be recommended for NFI. Presently the only unit that is acceptable without further sampling as part of the OU-3 investigation is Site 7, Unit 2. At the other three units the BCT has requested further sampling be conducted to confirm NFI recommendation.</p>

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<p>(Unit 1 - East Drainage Ditch)</p> <ul style="list-style-type: none"> • Site 22 - Tactical Air Fueling Dispensing System (Unit 2 - Eastern Area) <p>Concur that these sites are eligible for NFRAP. These sites will be addressed later during the baseline risk assessment. Recommend that a letter of concurrence be developed and signed by members of the BCT.</p>	
<p>i. Regarding analysis of groundwater samples, please add radon to the list of constituents that will be analyzed. This analysis was proposed in the original draft Phase II Work Plan (for Sites 8 and 16) as a result of treatability concerns. Apparently, radon has an impact on certain treatment systems such as GAC.</p>	<p>RESPONSE i: If groundwater is sampled at Sites 8 and 16 during Tier 3 activities (if needed), radon will be included for analysis. Currently, no groundwater sampling is planned at these sites.</p>
<p>j. Much of the information contained in the site DQOs (Appendices A-X) was also provided in the FSP. To avoid redundancy, I have provided comments on the site-specific sampling strategies in my memorandum regarding the draft FSP for Phase II RI/FS. Please note that the subject document was missing DQOs for sites 13-17.</p>	<p>RESPONSE j: We agree that there is redundancy. Quality Control review of final documents will correct for incomplete documents.</p>
<p>k. Aside from the concerns discussed above, the majority of comments on the subject report pertain to the need for clarification or editorial changes.</p>	<p>RESPONSE k: No response.</p>
<p><u>SPECIFIC COMMENTS</u></p> <p>a. Executive Summary: Recommend revising the definition of OUs to be consistent with the definition presented in the BCP. Additionally, please refer to the IAFS that was prepared for OU-1 in 1994 as a draft IAFS. The revised IAFS will be produced this fall.</p>	<p><u>SPECIFIC RESPONSES</u></p> <p>RESPONSE a: We concur and revisions will be made to the text to provide consistency of definitions between the BCP and the RI/FS Work Plan.</p>
<p>b. Section 1 - Introduction: Please clarify that the revised draft Phase II RI/FS work plan reflects regulatory agency comments and a series</p>	<p>RESPONSE b: We concur and revisions will be made as appropriate.</p>

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<p>of meetings held since December 1993.</p>	
<p>c. Section 2 - Background and Setting: Please revise last paragraph on page 2-5 and first paragraph on page 2-44 regarding IAFS for OU-1 to reflect current activities. (See Andy Piszkin, Code 1831, for details.)</p>	<p>RESPONSE c: We concur and revisions will be made to the text to reflect current activity.</p>
<p>d. Section 3 - Initial Evaluation:</p> <p>(i) Page 3-1: Types and Volumes of Waste Present: Please include soil/gas survey to the list of information sources. Additionally, recommend providing a brief discussion of the sites that were included in this survey and a summary of significant findings.</p>	<p>RESPONSE d:</p> <p>RESPONSE (i): We concur and additions will be made to text to Appendix W concerning a brief discussion of findings.</p>
<p>(ii) Page 3-14: Preliminary Identification of OUs. Recommend revising this section. Use the definition of OUs presented in the BCP.</p>	<p>RESPONSE (ii): We concur and revisions will be made to text.</p>
<p>e. Section 4 - Work Plan Rationale:</p> <p>(i) Table 4-1 (Chemicals of Potential Concern and Risk-Based Concentrations for MCAS El Toro), Table 4-4 (Project Required Detection Limits). Please replace the RBCs presented in these tables with U.S. EPA PRGs, per the decision of the MCAS El Toro BCT.</p>	<p>RESPONSE e:</p> <p>RESPONSE (i): RBCs will be replaced with PRGs.</p>
<p>(ii) Page 4-3, DQOs, step 1: Subject document states that "shallow soils are defined as occurring from ground surface to depths of 10 feet bgs." This terminology is not consistent with that presented in the FSP. In that document, surface soil samples were defined as samples collected up to 1 foot bgs. Please clarify.</p>	<p>RESPONSE (ii): We concur and will clarify that surface soil samples occur from surface to 1 foot. Subsurface shallow soil samples occur to 10 feet and subsurface deep soil samples occur at greater than 10 feet.</p>
<p>(iii) Page 4-5, DQOs, step 3: (Inputs to the Decisions): Recommend adding "reuse of the base" to the list of issues to be considered.</p>	<p>RESPONSE (iii): We concur and additions will be made to text.</p>
<p>(iv) Page 4-21, Field Screening: Note that a PID will not be able to detect chlorinated solvents. Recommend that an electron capture detector</p>	<p>RESPONSE (iv): A PID can detect some chlorinated solvents when</p>

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<p>(ECD) or electrolytic conductivity detector (ELCD) be used to detect these constituents.</p> <p>The subject document states (fifth paragraph) that “in addition to 100 percent of positive samples from preliminary field screening, a minimum of 5 percent of nondetects will be submitted by confirmation by an on-site mobile laboratory or a field-based laboratory. In general, a minimum of 10 percent of all positive samples (those with detected results above the proposed detection limits) and a minimum of 5 percent of nondetects from on-site mobile laboratories or field-based laboratories will be sent to a fixed-based U.S. EPA CLP laboratory using U.S. EPA/CLP methodology to confirm results acquired from the various field screening methods used.”</p> <p>Please confirm that this strategy is consistent with the field screening approach for El Toro’s RFA program. Additionally, recommend providing a table that lists field screening methods to be used along with the detection limits that can be achieved by these devices.</p>	<p>appropriate voltage lamp is used.</p> <p>An ECD and/or an ELCD will be used to screen and detect for chlorinated VOCs and has been incorporated into the QAPP, WP, and FSP.</p> <p>Mobile laboratory and immunoassay test kits are part of the field screening program from which a minimum of 20% of all field screened samples will be randomly selected and submitted for confirmation by CLP methodology. Confirmation will only be done by a fixed-base state- and NFESC-certified laboratory using CLP methodology.</p>
<p>(v) Page 4-22, Detection Limits: In instances where the detection limit exceeds PRGs, recommend using the Contract Required Detection Limits in lieu of the PRGs for the constituents of concern.</p>	<p>RESPONSE (v): The BCT has agreed to use PRGs. In instances where the detection limit is above the PRG, the Best Available Technology (BAT) with the lowest possible detection limits will be implemented to satisfy PRGs as stated in the text. The listed detection limits are mainly for guidance purposes as the actual detection limits are sample (matrix) dependent and may vary from sample to sample.</p>
<p>(vi) Page 4-23, Table 4-4 (Project Required Detection Limits): The table should be revised to reflect U.S. EPA PRGs. Please provide both industrial and residential values since the reuse of the base is uncertain at this time.</p>	<p>RESPONSE (vi): We concur and revisions will be made to the table.</p>
<p>(vii) Page 4-31, Confirmation Methods: Subject document states that 10</p>	<p>RESPONSE (vii): As of the June 6th meeting, the number of randomly</p>

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<p>percent of all positive result samples and a minimum of 5 percent of nondetect result samples from quantitative field screening will be randomly selected and submitted to CLP fixed-based laboratories for Level D analysis. Unless the field-based laboratory has all the required instrumentation, staffing and quality control to conduct confirmation of all the analytes mentioned in this section, confirmation should NOT be done in an on-site mobile laboratory or field-based laboratory. All "Positive" samples should be confirmed by CLP methods, as required, unless regulatory concurrence is obtained to deviate from this requirement.</p>	<p>selected confirmation samples has been predetermined for each site and basically follows a minimum of 20% of all field screened samples. This change has been incorporated into the QAPP, WP and FSP. Confirmation will be performed only by a fixed-base state- and NFESC-certified laboratory using CLP methodology.</p>
<p>(viii) Page 4-37, Decision Rules - Step 5: Subject document states that "during implementation of the Phase II RI/FS field activities, the action levels that will be used for decision making represent residential scenario limits." Please clarify the meaning of this sentence. Additionally, recommend that risk decisions be guided by the reuse of the base. Given that the most likely reuse of the base is an airport, it may be overly conservative to base clean-up decisions on a "residential scenario".</p>	<p>RESPONSE (viii): In lieu of designated reuse, the BCT, in the 6 June 1995 meeting agreed to use residential scenarios. However, if industrial scenarios are considered, industrial PRGs are included in the plans and can be substituted for residential PRGs.</p>
<p>(ix) Page 4-40 - 4-44, Decision Rules:</p> <p>Note: On March 8, 1995, we provided comments on Draft Position Paper 1, dated February 16, 1995. None of our comments on that paper were reflected in the subject document. Those comments are repeated here:</p>	<p>RESPONSE (ix): The position paper was never circulated to the BCT.</p>
<p>1. Recommend replacing the term "action level" with "threshold level" throughout this section.</p>	<p>RESPONSE 1: Action levels will continue to be used which are similar to the use of RCRA action levels</p>
<p>2. Step 1 - Recommend revising this statement to read "If Phase I data indicate that no solid wastes are exposed and the respective action levels and background concentrations for the various media of a site</p>	<p>RESPONSE 2: We concur and revision will be made to the text.</p>

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<p>unit are not exceeded, then NFRAP is recommended.”</p>	
<p>3. Step 3 - Replace terms “early or long term response actions” with removal or remedial actions. Additionally, NFRAP decisions should be based on ecological risk, beneficial uses of water, etc. Please see draft NFRAP Guide developed by U.S. Air Force, dated 1994 for additional examples.</p>	<p>RESPONSE 3: Early response actions include removal actions and interim remedial action according to EPA guidance documents. The section will be revised to reflect this information. The Air Force NFRAP guidance document has been referenced.</p>
<p>4. Step 7 - Please clarify that we will take into account the subsurface geology and the potential for multiple contamination and noncontamination zones.</p>	<p>RESPONSE 4: We concur and clarification will be made.</p>
<p>5. Step 16 - Please distinguish between time critical and non-time critical removal actions.</p>	<p>RESPONSE 5: Text will be revised to state that a removal action will take place. Designation of time critical or non-time critical removal actions will be determined at the time that the BCT considers approval for this step.</p>
<p>6. Step 18 - Please clarify that a proposed plan will be completed after the FS.</p>	<p>RESPONSE 6: We concur and clarification will be made.</p>
<p>(x) Page 4-51, Table 4-6 - Number of Sample Locations to Estimate Risk: Recommend deleting the last line from the table. Also recommend deleting the last sentence of first paragraph on page 4-51. Given the likely reuse of El Toro, the additional sampling proposed in line 4 is excessive.</p>	<p>RESPONSE (x): Line deleted from text.</p>
<p>e. <u>Section 5 - RI/FS Study Tasks:</u></p> <p>(i) Page 5-7, Land Surveying: Please confirm that the survey results include the date the datum was established for both horizontal and vertical control. Additionally, all Spatial Data including CAD drawings shall conform to the current Tri-Service Data Standards (SDS), and be submitted as DOS AutoCAD VII or later (Auto desk) or Microstation v 5.0 or later (Intergraph) compatible format. GIS data will conform to the current Tri-Service SDS, and be submitted</p>	<p>RESPONSE e:</p> <p>RESPONSE (i): We concur and all data will be conform with requirements of the Data Management Plan.</p>

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<p>as ARC Info Export Format, or MGE Export Format. The Coordinate system to be used is the State Plane Coordinate System, NAD 83, Lambert Zones 1 through 6, as appropriate for Southern California activities. The vertical reference elevation is Mean Sea Level, with the relevant control data provided.</p>	
<p>(ii) Page 5-11, Data Evaluation: Please clarify that the Phase II objectives include determination of ambient levels surrounding the site.</p>	<p>RESPONSE (ii): We concur and will clarify that data will include determination of ambient for PAH levels.</p>
<p>f. <u>Schedule:</u> Please edit this schedule to reflect the revised FFA dates that were negotiated in March, 1995.</p>	<p>RESPONSE f: We concur and edits will be made to the text to reflect the revised FFA schedule.</p>
<p>g. <u>DQOs (Appendix A-X):</u></p> <p>(i) The terms "early action" and long-term action" are found throughout the DQOs. Recommend that these terms be replaced with "removal action" and "remedial action".</p>	<p>RESPONSE g:</p> <p>RESPONSE (i): We disagree. Early actions include <u>removal</u> and <u>interim remedial</u> actions per EPA guidance.</p>
<p>(ii) Appendix X (DQOs for Site 24): Please revise the problem statement to reflect current activities (e.g., IAFS and desalter negotiations). Note that the OCWD Desalter will not be operational by the Spring of 1996. Please ensure that the information presented in the VOC source area map (Figure W-3) is consistent with the information presented in the IAFS.</p>	<p>RESPONSE (ii): The problem statement in the DQO for Site 24 will be modified to reflect the Interim Action Feasibility Study and the Desalter negotiations.</p> <p>Figure W-3 represents a tentative interpretation of lithologic logs from Site 24. The presence of a low permeability unit in the vadose zone would explain the elongation of the VOC plume to the south and the disconnect between the soil gas plume and the groundwater plume. The potential presence of a low permeability unit is one of three hypotheses being tested to explain VOC migration through the vadose zone to the groundwater. Please see the response to RWQCB comments on soil gas sampling for an explanation of the three hypotheses being tested. Additional stratigraphic data and soil and soil gas analytical results will be analyzed during the Phase II RI to either confirm or refute this hypothesis.</p>

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	<p>The Interim Action Feasibility Study (IAFS) is primarily concerned with the hydrogeology of the VOC contaminated aquifer. Figure W-3 represents a tentative interpretation of geologic conditions in the vadose zone above the aquifer. The interpretations made by CLEAN I in the IAFS and those illustrated on Figure W-3 of the Phase II RI Work Plan are independent and mutually exclusive. Consistency is not an issue.</p>

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REVISED DRAFT
PHASE II REMEDIAL INVESTIGATION/FEASIBILITY STUDY
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<p>Originator: Larry Vitale California Regional Water Quality Control Board</p> <p>To: Joseph Joyce, MCAS El Toro, California Juan Jimenez, Department of Toxic Substances Control</p> <p>Date: 22 May, 1995</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p><u>GENERAL COMMENTS ON DRAFT WORK PLAN</u></p> <p>The work plan is difficult to follow. Much of it is repetitive because of the use of the DQO format for every site. Also, the presentation of Phase I detected constituents, constituents which exceeded RBCs or MCLs, and COPCs in a narrative form, all in separate locations, is difficult to follow. Statements sometimes are contradictory or unclear. Narrative descriptions and figures do not always agree. Sites are divided into strata for sampling purposes, but they are also called units. It would be clearer if they were just called units.</p>	<p><u>GENERAL RESPONSES ON DRAFT WORK PLAN</u></p> <p>RESPONSE: The presentation of the DQOs have been discussed with the BCT. Summarization of previous data has also been discussed with the BCT. Quality control of narrative and figures will be increased for the final document. For the Phase II RI/FS, the sites are divided into units. However in many of the cases the units are based on the strata of Phase I.</p>
<p>Table 3-1 lists detected compounds by site; in the individual site work descriptions, however, COPCs are listed by media. Shallow soil COPCs might be different from subsurface COPCs, which might also be different from upgradient and downgradient COPCs for groundwater. It is difficult to tell whether the same analyses will be performed for all media at a particular site. It seems to me that it makes sense to look for the same COPCs in every media at a particular site, even if they weren't detected in all media in Phase I.</p>	<p>RESPONSE: Table 3-1 was intended to only provide a list of COPCs from the Phase I RI. The individual site DQOs and sampling plans list COPCs by media. The COPCs are listed as they were detected in the Phase I work. The investigation of COPCs by media has been discussed with the BCT. The same COPC in every media will not be analyzed for every media at a particular site based on its characteristics.</p>
<p><u>SPECIFIC COMMENTS</u></p> <p>Site 1. Explosive Ordnance Disposal Range</p> <p><u>Groundwater</u></p> <p>1. F. A27 (Appendix A). Still in use. During Phase I, two downgradient wells were installed. Low metals were detected, not much else in groundwater. Based on the hypothesized groundwater flow direction, it appears that one of the downgradient wells, 01_DGMW57, may not be picking up anything. Three more wells are proposed for Phase II, two upgradient and one in the center of the site. There is no explanation for putting the well in between the</p>	<p><u>SPECIFIC RESPONSES</u></p> <p>RESPONSE 1: The proposed approach enables the Navy to monitor conditions of groundwater upgradient, directly beneath the site, and downgradient of the site. The locations of the three proposed wells will allow the groundwater gradient and flow direction at Site 1 to be confirmed.</p>

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<p>two halves of the site. We suggest putting in two downgradient wells on the southwest side of the site and not putting the well in the middle of the site as they propose.</p>	
<p>2. P. A-29. Well boring, sampling and design: Why will samples be collected every 5 feet but only analyzed every 10 feet 30 foot screens are proposed; 20 feet below water table and 10 feet above, PVC casing and stainless steel screens. Slot size and filter pack size determinations are not mentioned will they be based on previous determinations?</p>	<p>RESPONSE 2: Soil samples will be collected every 5 feet but analyzed at a minimum every 10 feet, in order to reduce costs but provide flexibility with selecting the number of samples for fixed-based laboratories by extensive use of field screening. Information on slot size and filter packs are contained in the general and site specific sections of the Field Sampling Plan. Slot size and filter pad size will be determined by prior analysis conducted on site.</p>
<p>Site 2. Magazine Road Landfill</p> <p>Unit 3: Groundwater Plume</p> <p>1. P. B-26 (Appendix B). Well 02_DGMW59 is not shown on Figure B-6; also missing is Map B-3 which is referenced on p. B-37 (may be referring to Figure B-2, which shows well locations).</p> <p>2. On p. B-37 reference is made to a water table well, but its location is not shown.</p> <p>3. No vadose zone monitoring is proposed because contaminants have already migrated to groundwater. However, you may need to monitor the vadose zone at some point depending on the results of groundwater monitoring. We have several landfills with permanent soil pore-gas probes.</p> <p>4. Wells will be resampled that did not show TCE during the last monitoring round, to assess horizontal extent of the plume. A decision on additional wells will be made after results are obtained. Subsequent proposed work appears adequate.</p>	<p>RESPONSE 1: Comment noted. Text and figure revised.</p> <p>RESPONSE 2: Comment noted. Text and figure revised.</p> <p>RESPONSE 3: Agreed. A vadose zone monitoring network will be required as part of the final closure plans, if perimeter soil gas probes and the soil gas survey indicate that this is required for a remedial alternative.</p> <p>RESPONSE 4: Agreed. All Site 2 wells and the upgradient Site 5 well will be resampled. The data will be compiled and presented to the BCT for final decisions as to the locations of the proposed groundwater monitoring wells.</p>
<p>Site 3. Original Landfill</p>	

**RESPONSE TO COMMENTS
REVISED DRAFT
PHASE II REMEDIAL INVESTIGATION/FEASIBILITY STUDY
WORK PLAN, MCAS EL TORO, CALIFORNIA**

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<p>Unit 1: Landfill</p> <p>1. No new monitoring wells are proposed; groundwater flow direction shown is to the northwest -- this is quite different from the flow direction at Sites 1 and 2, and needs to be confirmed.</p>	<p>RESPONSE 1: The direction of groundwater flow at Site 3 was estimated using October 1993 and May 1994 groundwater elevation data. These two sampling events were selected to take into account seasonal trends. Although the groundwater elevations varied by approximately 2 feet, the direction calculated for each event was similar to each other; however, the direction calculated was about 10-15 degrees west of what is depicted on the Figures. The maps will be revised.</p>
<p>Site 4. Ferrocene Spill Area</p> <p>As in Site 3, Groundwater flow direction to NW-may not be well characterized.</p>	<p>RESPONSE: Site 4 is not being addressed in the Phase II RI/FS plan because it has been designated as a removal action site.</p>
<p>DRAFT PHASE II RI</p> <p>1. Fig. D-2 (Site Plan) does not show locations of monitoring wells or where the deep soil sample was taken. Also, the proposed number of Phase II soil samples shown on Fig. D-2 is not consistent with numbers listed in Table D-2. Also, Samples from the stained area will not be analyzed for TFH. (See general comment about COPCs).</p>	<p>DRAFT PHASE II RI</p> <p>RESPONSE 1: Site 4 is a removal action site. The sampling plan as proposed in the Revised Draft Work Plan will not be performed.</p>
<p>2. Phase II proposes no groundwater monitoring. Will these wells be sampled for another site? If not, or even if they are, they should be sampled for TFH.</p>	<p>RESPONSE 2: Wells at Site 4 will be sampled as part of Site 3 investigations.</p>
<p>3. P. D-7. States that groundwater was only analyzed for VOCs, SVOCs, etc., in Phase I; does not include TFH in the list, however, the list of detected compounds for two of the wells included TFH-gas and TFH-diesel, but the third well did not. It is difficult to tell if the analysis was performed for that well or not. Because of the format of the work plan and the inconsistencies, it is difficult to determine</p>	<p>RESPONSE 3: The information requested is contained in the Phase I Technical Memorandum (Jacobs Engineering, 1993).</p>

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<p>what analyses were performed.</p>	
<p>Site 7. Drop Tank Drainage Areas No. 2</p> <p>Unit 3 (New East Pavement Edge): Same as Unit 1, it is already known there is contamination along the pavement edge (lead and SVOCs); why do more sampling there?</p>	<p>RESPONSE: Unit 3 has been accepted by the BCT as a removal action site.</p>
<p>Site 8. DRMO Storage Yard</p> <p>1. P. H-7. The listed field activities for Phase I do not include any soil sampling for Unit (Stratum) 4, but Figure H-2 and Table H-2 show shallow soil samples taken at three locations.</p>	<p>RESPONSE 1: This inconsistency was created by a typographical error. Three shallow soil borings were sampled in Unit 4 during the Phase I RI. The Work Plan as been revised to correct this error (Appendix H, Step 1, Previous Investigations).</p>
<p>2. P. H-27. Work plan states that only samples taken at 0 and 2 feet bgs will be analyzed for PCBs. However, according to Table H-2, all samples are to be analyzed for PCBs. There should be a footnote on the table to clarify that.</p>	<p>RESPONSE 2: A note has been added to Table H-2 to clarify this fact.</p>
<p>3. Fig. H-2. The number of samples taken in Unit 1 during Phase I was 8, at only three locations, which seems small considering the size of the area. Please provide the rational for recommending NFRAP. It's not stated and a clear justification was not given.</p>	<p>RESPONSE 3: See Response to Comment 31 (Site 8, Enclosure A).</p>
<p>Site 9. Crash Crew Pit No. 1</p> <p>1. P. I-2. The work plan states that one downgradient well was installed, but it is not shown on Fig. I-1, nor is the number of the well given until later in the text.</p>	<p>RESPONSE 1: The well was not originally included on Figure I-2 because is was too far away. Figure I-2 has been revised to include the distances these wells are away from the end of the map page.</p>
<p>2. P. I-2. The work plan states that during Phase I, 4 soil samples were collected, this is inconsistent with Table I-1, which lists 2 samples for Phase I.</p>	<p>RESPONSE 2: The reason only two samples were reported collected in Table I-1, was that of four soil samples collected two of the samples were collected from fill material above the approximate depth of the pits. It was felt that these samples were not representative of the site and therefore were not included in</p>

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	the number that counted towards the risk of the site.
<p>3. P. I-8. The statement is made that petroleum hydrocarbons detected at Site 9 do not appear to pose a threat to groundwater, however, both the on-site well (09_DBMW45 and 09_DGMW75) show TFH-gasoline.</p>	<p>RESPONSE 3: The TFH-gasoline detected in these wells does not appear to be related to Site 9. Site 9 wells will not be sampled as part of the Site 24 VOC Source Investigation. All monitoring wells will be sampled as part of the groundwater monitoring plan.</p>
<p>4. In reference to the above comment, since no groundwater monitoring is proposed and these wells are part of the base wide VOC investigation, will they be sampled for petroleum hydrocarbons as well as VOCs?</p>	<p>RESPONSE 4: See above response.</p>
<p>5. P. I-24. Since the pits were originally 3 to 4 feet deep and are now filled in, it might be better to take more samples in the interval from 2 to 5 feet rather than right at the surface or at 10 feet.</p>	<p>RESPONSE 5: The proposed sampling plan for Site 9 will allow for determining fuel concentrations in the pit area.</p>
Site 10. Petroleum Disposal Area	
<p>1. P. J-5. States that soil samples were taken from six locations in Units 1 and 2. The locations are not marked on Fig. J-2, and the numbers do not agree with Table J-1 on p. J-23.</p>	<p>RESPONSE 1: Figure J-2 has been revised to include the missing information.</p>
Site 11. Transformer Storage Area	
<p>1. P. K-16. Fuel and petroleum hydrocarbons are listed as COPCs for the site, but are not listed in Table K-2, Soil Sampling and Analysis.</p>	<p>RESPONSE 1: This notation was a typographical error and has been removed from the Work Plan. All available information indicates that fuel was not stored at Site 11.</p>
<p>2. Fig. K-2 shows the drainage ditch ending at the edge of Bldg. 369. Could PCBs have moved further off the site? No sampling is proposed beyond the edge of the building.</p>	<p>RESPONSE 2: Site 11, Unit 2, is a removal action site. If contamination is present beyond the edge of the Building 369 it will be addressed by the RAC.</p>
<p>3. Will the groundwater plume investigation also look for PCBs, at least in wells that could be impacted?</p>	<p>RESPONSE 3: All available data indicates that groundwater has not and will not be impacted by PCBs in soil at Site 11.</p>

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<p>Site 12. Sludge Drying Beds</p> <p>1. No mention is made of groundwater sampling. Will this site be part of the VOC plume investigation?</p>	<p>RESPONSE 1: No groundwater sampling has been proposed at this site. The VOC Source Area investigation soil gas sampling has been proposed at Site 12.</p>
<p>Site 13. Oil Change Area</p> <p>1. This site is not part of the groundwater plume investigation. Will there be any groundwater monitoring, since none is included as part of Phase II?</p>	<p>RESPONSE 1: Site 13 is presently a removal action site. See response to comment 388.</p>
<p>Site 14. Battery Acid Disposal Area</p> <p>1. P. N-25. No mention of groundwater until Tier 3 of the sampling, and then only if subsurface sampling or modeling suggest potential for impact. Groundwater in this area is already contaminated, so it should be sampled as part of some investigation (this area is not part of the VOC source investigation).</p>	<p>RESPONSE 1: Site 14 is presently a removal action site. No sampling is planned at this site as part of the Phase II RI/FS.</p>
<p>Site 15. Suspended Fuel Tanks</p> <p>1. P. 0-6. TRPH in shallow soil was detected at 23,000 mg/kg. Is this below RBCs?</p>	<p>RESPONSE 1: The Phase II RI/FS will use PRGs. There is presently no PRG for TRPH.</p>
<p>2. P. 0-23. Benzene exceeded MCLs in groundwater, but will not be sampled as part of Tier 1. If it is believed that this is part of a plume from another site, it was not mentioned. Rather, the statement was made that groundwater will be investigated if soil data indicate potential impacts to groundwater are possible.</p>	<p>RESPONSE 2: Groundwater contamination at this site is believed to be derived from a nearby tank farm.</p>
<p>Site 16: Crash Crew Pit No. 2</p> <p>1. P. P-9. States that no COPCs exceed RBCs in shallow soil. Is there an RBC for diesel? (75,000 seems extremely high).</p>	<p>RESPONSE 1: The Phase II RI/FS will use PRGs. There is presently no PRG for diesel fuel.</p>

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<p>2. P. P-ii. According to Step 7, one deep boring will be drilled in the area of boring 16AB213, where contamination was found to 60 feet bgs; however, there is no mention of a boring in the Tier 1 activities. Since it is known that contamination is below 10 feet in at least one location, why doesn't Tier 1 include more subsurface sampling?</p>	<p>RESPONSE 2: As the Work Plan and FSP indicate, Tier 1 sampling will consist of shallow soil sampling (0 to 10 feet deep). Sampling of deeper soils is a Tier 3 event.</p>
<p>Site 17. Communication Station Landfill</p>	
<p>1. Fig. Q-2. Downgradient well 17_DGMW82 is located right where the landfill curves to the west; if groundwater flow direction is to the west northwest as shown on Fig. Q-2, it is possible that the well is not intercepting groundwater from the site.</p>	<p>RESPONSE 1: After the 2 new wells are installed more information will be available as to the actual groundwater flow direction. At that time it may be decided (with concurrence from the BCT) that an additional well is necessary for compliance monitoring (one upgradient and two downgradient).</p>
<p>2. Fig. Q-2. We could not locate 7 shallow soil sampling locations.</p>	<p>RESPONSE 2: Shallow soil samples will be collected from the groundwater monitoring well boreholes (identified on the map) and from the lysimeter boreholes (not identified on the map).</p>
<p>3. P. Q-21, Step 5, No. 8. States that if it is determined by actual sampling that COPCs extend to the water table, then groundwater beneath the site will be investigated. On Fig. Q-2, p. Q-5, the locations of two more proposed wells are given. This is misleading, given the statement above. Also, Title 23, Chapter 15, requires groundwater and vadose zone monitoring of landfills.</p>	<p>RESPONSE 3: Agreed. At landfill sites COPCs in the groundwater will be investigated.</p>
<p>4. Fig. Q-2, p. Q-5. The location of Well New 2 may not be optimal for picking up contamination from the landfill. Could it be moved to the northeast?</p>	<p>RESPONSE 4: The proposed location of well NEW2 will be installed further north. The Maps have been modified.</p>
<p>5. The plan proposes vadose zone monitoring below the landfill only if groundwater has not been impacted. (Slant borings, cased to collect leachate/gas.) Again, Chapter 15 requires vadose zone monitoring.</p>	<p>RESPONSE 5: Angle borings are currently planned; however the location of these borings will depend on Tier 1 activity results.</p>
<p>Site 19. Aircraft Expeditionary Refueling</p>	

**RESPONSE TO COMMENTS
REVISED DRAFT
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<p>1. P. R-2. "Northwest Stained area" should read, "northeast stained area."</p>	<p>RESPONSE 1: The Work Plan has been revised.</p>
<p>2. P. R-4. Page is missing.</p>	<p>RESPONSE 2: See response to Comment 24 (Site 21, Enclosure A Minor Comments).</p>
<p>3. P. R-27. Additional soil sampling proposed; no groundwater monitoring until Tier 3, and then only if impacted soil is not limited to the vadose zone or vadose zone modeling suggests a potential for migration. We believe groundwater should be sampled on a regular basis during the investigation, to give a more complete picture of gradients, flow direction and contaminant loads.</p>	<p>RESPONSE 3: All monitoring well will be sampled according to a groundwater monitoring plan.</p>
<p>Site 24. VOC Source Area</p> <p>1. There are six abandoned water wells identified. Have the six wells been properly abandoned? If the wells have not been properly closed they may be contributing to groundwater contamination by creating conduits from the surface to the groundwater.</p>	<p>RESPONSE 1: A map showing the location of abandoned water wells was not shown in the Revised Draft Work Plan or Field Sampling Plan. A map will be added to show the approximate location of these wells in the final documents.</p> <p>An attempt will be made to locate the approximate location of the abandoned water supply wells. The well's approximate position will be surveyed in the field based on the map location. An onsite inspection will be performed to locate any surface features indicating a well. If no surface features are found, surface geophysics will be attempted to locate the metal surface casing and/or distribution piping. Once a geophysical anomaly is located, the area around the anomaly will be excavated or trenched. The well will be accessed and if it has not been abandoned (e.g., filled with grout), a groundwater sample will be taken as per the Draft Field Sampling Plan. Abandonment per state regulations can then be completed. If the well has been abandoned, field observations will be recorded, the well's position surveyed, and the excavation surface will be restored to its original condition.</p>
<p>2. Fig. W-2. It is difficult to distinguish between the colors on the</p>	<p>RESPONSE 2: The contrast between colors and shadings will be more distinct</p>

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<p>figure for 50 to 500 µg/L TCE.</p>	<p>for different contaminant levels in the Final Work Plan on Figure W-2.</p>
<p>3. Fig. W-2 and Map W-11. Neither map shows soil gas survey points.</p>	<p>RESPONSE 3: Both existing and proposed soil gas points will be shown on Map W3-9 in the Final Field Sampling Plan and on Figure W-11 of the Final Work Plan.</p>
<p><u>Soil Gas Sampling</u></p> <p>1. Fig. W-2 and Map W-11. The groundwater TCE hot spot and the soil gas TCE hot spot are in different areas. (What are the thoughts on this?) Very little soil gas sampling is proposed in the area of the groundwater hot spot. Is this because little was found in the original survey? The sampling points for the original survey are not shown on either of these maps.</p>	<p>RESPONSE 1:</p> <p>a. Two primary objectives of the Site 24 VOC Source Area investigation are to identify and characterize VOCs in the soil and soil gas, and to connect these plumes with the groundwater plume. This will result in the delineation of the horizontal and vertical extent of VOC contamination in the vadose zone and provide an understanding of the VOC migration pathway to groundwater.</p> <p>Hypotheses for potential migration pathways that explain the offset between the soil and soil gas plumes and the groundwater plume include the following:</p> <ul style="list-style-type: none"> • The dominant source of VOCs is beneath Buildings 296 and 297 as identified during the Phase I soil gas survey. VOCs migrated from surface and near surface sources to groundwater. A groundwater hotspot developed beneath Buildings 296 and 297. As the source of VOCs diminished in the vadose zone, advective transport following the groundwater gradient moved the groundwater hotspot to its present location near well 09_DBMW45. Additional stratigraphic, soil, and soil gas data are needed to confirm or refute this hypothesis. • The dominant source of VOCs is beneath Buildings 296 and 297. VOCs migrated from surface and near surface sources to a low permeability geologic unit that slopes to the west and south of Buildings 296 and 297. VOCs were directed along the top of this unit, elongating the groundwater plume to the south, and directing VOCs to the groundwater

**RESPONSE TO COMMENTS
REVISED DRAFT
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WORK PLAN, MCAS EL TORO, CALIFORNIA**

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	<p>hotspot area near well 09_DBMW45 where the unit pinches out. A tentative review of Phase I stratigraphic data supports this hypothesis. Additional stratigraphic, soil, and soil gas data are necessary to confirm or refute the presence of a low permeability layer that controls VOC migration.</p> <ul style="list-style-type: none"> • An additional (undetected) VOC soil source exists above the groundwater hotspot. This hypothesis is considered unlikely based on the lack of VOCs detected near well 09_DBMW45 during the Phase I soil gas survey. However, additional sampling is proposed in this area to characterize soil and soil gas conditions from the ground surface to the water table. b. Very little additional soil gas work is proposed in the area of the groundwater hotspot because very little was found there during the Phase I soil gas survey. However, a vertical profile of soil gas concentrations will be developed from ground surface to the water table as part of the Tier 1 sampling. A vertical profile was not completed during the Phase I work. If VOCs are encountered at depths not investigated during the Phase I investigation, the extent of VOCs will be further defined during Tier 2 sampling of the Phase II investigation. c. The delineation of shallow soil gas plumes are shown of Figure W-12 in the Revised Draft Work Plan and on Map W3-9 in the Draft Field Sampling Plan. Both existing and proposed soil gas points will be added to these Figures (Maps) for the Final Plans
<p>Groundwater</p> <p>1. Map W-12. Not sure why New 5 is needed where it is. Also, how well is plume defined to the northwest and at the southern edge?</p>	<p>RESPONSE 1: New monitoring well 4 has been relocated to the new well 5 location and former new well 5 has been eliminated from the tier 1 investigation. The plume is defined to the northwest by wells 09_DGMW75</p>

**RESPONSE TO COMMENTS
REVISED DRAFT
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WORK PLAN, MCAS EL TORO, CALIFORNIA**

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	<p>and 18_TIC055.</p> <p>The area between these wells and the groundwater hotspot is occupied by the main east-west runway. Installation of wells in this area may provide a more accurate definition of the groundwater plume, but is not considered necessary. The plume is delineated to the south by wells 18_W3386, 18_BGMW14, 18_TIC060, and 18_W3380.</p>
<p><u>Subsurface Stratigraphy</u></p> <p>1. P. W-53. Plan does not specify type of geophysical logging.</p>	<p>RESPONSE 1: The mud rotary borings and their associated open hole geophysical logs have been eliminated from the Phase II RI.</p>
<p>Site 25. Drainage</p> <p>Fig. X-1.</p> <p>1. Figure does not show Phase I sampling points. Are Phase II sampling points identical?</p>	<p>RESPONSE 1: Most of the Phase I RI sample locations are the same for the Phase II RI/FS, however one additional surface water sampling station will be added to Borrego Canyon Wash and three deep borings will be added to Agua Chinon Wash and one at Bee Canyon Wash. These locations will be added to existing Figure X-1.</p>

**RESPONSE TO COMMENTS
REVISED DRAFT
PHASE II REMEDIAL INVESTIGATION/FEASIBILITY STUDY
WORK PLAN, MCAS EL TORO, CALIFORNIA**

<p>Originator: Vish Parpiani, Commanding General AC/S, Environmental, MCAS El Toro, California</p> <p>To: David Cowser, Project Manager Bechtel</p> <p>Date: 19 May, 1995</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p><u>GENERAL COMMENTS</u></p> <p>1. The following comments are submitted on the Revised Work Plan II RI/FS along with attached comments:</p>	<p><u>GENERAL RESPONSES</u></p> <p>RESPONSE 1: No comment.</p>
<p>a) Section 2.3.2 - Topography and Geography - Figure 2-1 Regional Topographic Contours Page 2-9 - It is recommended to provide scale on the figure. Provision of scale will be helpful.</p>	<p>RESPONSE a): We concur and provisions regarding scale will be made.</p>
<p>b) Section 2.3.3 - Land Use and Demographics - Page 2-8. It is reported that MCAS El Toro encompasses 7.4 square miles (about 4,471 acres), while BCP provides station size of 4, 738 acres. Reconcile the figure.</p>	<p>RESPONSE b): We concur and will change to BCP statement.</p>
<p>c) Section 5.3.1.2 - Utility Clearance - Page 5-4. It is recommended to add a sentence, "In case of utility emergency, call POC for utilities in the Facilities Management Department (FMD), telephone (714) 726-2172 and report the incident immediately."</p>	<p>RESPONSE c): We concur and addition will be made to the text.</p>
<p>d) Section 6 - Schedule - Page 6-1. Actual field work requires pre-clearance from the operations or tenant areas. This need to be coordinated in advance so that there is no delay in the schedule.</p>	<p>RESPONSE d): We concur and discussion will be expanded.</p>

**RESPONSE TO COMMENTS
REVISED DRAFT
PHASE II REMEDIAL INVESTIGATION/FEASIBILITY STUDY
WORK PLAN, MCAS EL TORO, CALIFORNIA**

<p>Originator: Operations Director MCAS El Toro</p> <p>To: Vish Parpiani, Commanding General AC/S, Environmental, MCAS El Toro, California</p> <p>Date: 20 April, 1995</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p><u>GENERAL COMMENTS</u></p> <p>I have looked at the revised work plans and I don't see any problems with them.</p> <p>I think the plans need to include locating utilities that maybe in the areas of work we do not have an in-house capability to meet their needs for locating utilities underground. Include a phone number to call if there are emergencies such as hitting a gas/water or electrical line. I don't see any mention of who to contact.</p>	<p><u>GENERAL RESPONSES</u></p> <p>RESPONSE: We concur and additional information regarding location of utilities will be included in the text.</p>

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<p>Originator: Juan M. Jimenez, Remedial Project Manager Department of Toxic Substances Control</p> <p>To: Joseph Joyce, BRAC Environmental Coordinator MCAS El Toro, California</p> <p>Date: 23 May, 1995</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p><u>INTRODUCTION</u></p> <p>As requested, the Geological Support Unit (GSU) of the Department of Toxic Substances Control (DTSC) has reviewed the documents entitled Revised Draft Work Plan Phase II Remedial Investigation/Feasibility Study, Marine Corps Air Station El Toro (MCAS), Santa Ana, California (<i>Revised Work Plan</i>) and Draft Field Sampling Plan Phase II Remedial Investigation/Feasibility Study, MCAS El Toro, California (<i>FSP</i>), both dated March 1995. These documents were prepared by Southwest Division, Naval Facilities Engineering Command (Navy), in conjunction with Bechtel National, Inc. (Bechtel).</p> <p>The following comments consists of four sections: I) General Impression, II) General and Specific Comments, III) Work Plan Specific Comments, and IV) FSP Specific Comments. Site specific comments on Landfills, the Potential Volatile Organic Compounds Source Area and OU-3 Sites will be issued as an addendum, 2 June 1995. In general, minor grammatical or typographical errors that do not affect interpretation have not been noted. However, these should be corrected in the final version of the <i>Revised Work Plan</i> and <i>FSP</i>.</p>	<p><u>RESPONSE</u></p> <p>The Work Plan and Field Sampling Plan will be issued as finals and will incorporate these comments.</p>
<p>GSU requests that upon approval of the work plan the Navy provide base passes to regulatory representatives prior to the initiation of, and for the duration of the fieldwork.</p> <p>Bechtel's Standard Operation Procedures (SOP's) have been reviewed by the GSU and are enclosed as an attachment. For general information, the comments for all SOP's submitted to DTSC are included.</p> <p>GSU recommends that the Navy submit revised documents with a master list of the revisions indicating the changes that were made from the draft editions based on comments received. The mast list of revisions should clearly indicate the nature of each change and identify each change by</p>	<p>As discussed in the 6 June 1995 meeting, a redline version of the text will be provided to the BCT to show where the revisions were made. However, the final completed documents will only incorporate the revisions with all graphics and tables. One copy of the redline text will be given to the BCT and one will be given to the EPA and should not be considered as a referenced document - only the final plans should be referenced.</p>

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<p>section (or table or figure) and page number.</p> <p>The finalized work plan and field sampling plan should be a comprehensive document and not an addendum as discussed at previous meetings.</p>	
<p><u>RESPONSE SUMMARY - A BRIEF NOTE</u></p> <p>GSU considered only the "Revised Draft Work Plan" responses (CLEAN II) while reviewing the <i>Revised Work Plan</i> and <i>FSP</i>, therefore, disregarding the "Draft Work Plan" responses (CLEAN I).</p> <p>With regard to the future "response summary" for the <i>Revised Work Plan</i>, GSU recommends that Navy consultants provide the BCT with thorough responses, in addition to identifying the location (section and page number) in the RI/FIS where a particular comment is addressed. Satisfying this request will expedite the review of the finalized work plan.</p>	<p>RESPONSE: We will provide a response summary with section numbers, as needed.</p>
<p><u>I. GENERAL IMPRESSIONS:</u></p> <p>Generally, the approach outlined in this <i>Revised Work Plan</i> and <i>FSP</i> adequately addresses the objective of the study, however before field work begins there are some issues that require further discussion. In particular, the issues surrounding the use of screening techniques such as immunoassay kits and XRF. These screening techniques may have limited application, if none at all, based on the preference for residential PRG's especially with regard to classifying a sites as no further action. Please note, as suggested at a recent technical meeting (25 April 1995), the BCT may want to consider evaluated sites using the industrial PRG's in addition to the residential PRG's.</p> <p>Because of the limited discussion presented in the documents concerning pilot testing, it is recommended to submit work plans or expand the discussion in the <i>Work Plan</i> and <i>FSP</i> considerably in the</p>	<p><u>GENERAL IMPRESSIONS RESPONSES:</u></p> <p>As of the 6 June 1995 meeting, PRGs will be applied to the Phase II fieldwork; thus, the field screening program has been modified using field instrumentation with sensitivity levels that satisfy the PRGs for the COPCs.</p> <p>An addendum to the Work Plan will be submitted for aquifer testing.</p>

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<p>finalized version. This should be completed prior to the commencement of these type of field activities.</p>	
<p>II. <u>GENERAL AND SPECIFIC COMMENTS:</u></p> <p>1. <u>Signature Page:</u> Please provide a signature page signed and stamped by a California Registered Geologist or Professional Civil Engineer at the beginning of all future submittals that include information and interpretations regarding geology, hydrogeology, and vadose zone investigations.</p> <p>2. <u>Acronym List:</u> Please provide a comprehensive acronym list. There are acronyms in the document that are not defined such as MDRD and MDD.</p> <p>3. <u>Summary Section:</u> Provide a brief discussion in the Summary section of the <i>Revised Work Plan</i> describing the transition between CLEAN I and CLEAN II. This description will supply the public with an understanding as to why there is a revised work plan and why the investigative approach presented in the <i>Revised Work Plan</i> differs from the MCAS El Toro, IRP Phase II RI/FS Study Draft Work Plan (<i>Draft Work Plan</i>).</p> <p>4. <u>Site or Unit Reclassification:</u> Any site or individual unit within a site that is reclassified as a NFA or transferred to the RAC program should remain in future submittals of the RI documents. The inclusion of these sites in the RI documents may only be just a short narrative explaining the status of the site. Including these sites in the RI documents will keep future reviewers and the public apprised of the rationale regarding the remedial track of past and present sites.</p> <p>5. <u>Comprehensive Sampling Matrix:</u> To maximize sampling efforts, include a matrix of all sampling events of all CTO fieldwork. This</p>	<p><u>GENERAL AND SPECIFIC RESPONSES:</u></p> <p>RESPONSE 1: We concur and a signature page will be provided for future reports with geologic or hydrogeologic interpretation.</p> <p>RESPONSE 2: We concur and a comprehensive acronym list will be provided.</p> <p>RESPONSE 3: We concur and a discussion will be included.</p> <p>RESPONSE 4: Additional discussion will be included about status of various sites.</p> <p>RESPONSE 5: A sampling matrix will be prepared prior to sampling, but it will not be included in these plans, because contract laboratories need to be</p>

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<p>will enable the BCT to optimize field activities.</p>	<p>consulted for total numbers of containers and other laboratory requirements.</p>
<p>6. <u>Incorporating Existing Data Within the RI/FS:</u> In the attempt to avoid duplication and to expedite the completion of the <i>Revised Work Plan</i> and associated companion documents, the BCT agreed to minimize the amount of existing data within the documents. Although it is not necessary to include all previous data, to expedite the review process of the finalized work plan, some data summary tables should be provided. Also, whenever data is cited in the <i>Revised Work Plan</i> and associated companion documents, for example providing minimum and maximum concentration ranges, provide the sample identification number, depth of sample, and location.</p>	<p>RESPONSE 6: When data is cited in the Revised Work Plan, salient portions of these data will be included. Where appropriate, concentrations and the depth and location of the sample will be provided with sample identification numbers.</p>
<p>7. <u>Tables and Figures:</u> After changes have been finalized, please thoroughly review tables and figures for consistency. Check that cross-referencing between text, tables, and figures is accurate within each RI document and that cross-referencing between RI documents is accurate. Discrepancies were noted in the draft document.</p>	<p>RESPONSE 7: Quality control will be conducted before issuing the final plans for consistency.</p>
<p>8. <u>Field Investigation Meetings to Provide Technical Direction:</u> Because such a large portion of the RI depends on the dynamic work plan approach, it is suggested that a section in the final work plan describe and outline the procedures that will be followed to insure collaborative decision making between all BCT members. The BCT may also want to consider including the minutes from these meetings in the final report.</p>	<p>RESPONSE 8: The plans will indicate that field meetings will be conducted with the BCT.</p>
<p>9. <u>Replacing Risk Based Concentrations (RBC's) with Preliminary Remediation Goals (PRG's):</u> Based on discussions at previous meetings, it is assumed by the GSU that PRG's will be used instead of RBC's for screening tools and initial cleanup goals. Therefore,</p>	<p>RESPONSE 9: We concur and PRGs will be used.</p>

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<p>please change all appropriate text, tables, and figures throughout the finalized work plan. Clearly identify in the finalized document if the sampling strategy or preliminary remedial action changes at a particular site or unit as a result of the change in screening values.</p>	
<p>10. <u>Establishing PAH's Background for Soils:</u> Based on the discussion at previous meetings, GSU assumes the BCT has agreed to establish PAH background concentrations for soils. It is suggested to calculate the background concentrations base on 11 samples as was done with the inorganic and pesticide background concentrations. Since PAH's tend to bind with organic matter, samples should be collected from the land surface to two-foot soil horizon intervals in non-impacted areas. Because low quantitation limits are required, it is recommended to run USEPA Method 8310 and request low level preparation procedures by the laboratory. After background is established then the appropriate analytical method for site evaluation can be chosen (USEPA Method 8310 or 8270).</p> <p>Include a section which identifies these locations and propose an expedited sampling, analysis, and data interpretation schedule. This effort should be conducted before the main Phase II field activities begin. This approach would substantially improve field screening and the final decision making by providing ambient levels of PAH's, rather than PRG's which are likely to be lower.</p>	<p>RESPONSE 10: A PAH ambient study was presented in the 6 June 1995 meeting. A work plan will be issued to the BCT for approval for this study.</p>
<p>11. <u>Abandon Wells:</u> The final work plan should include a map showing the location of all abandoned wells relative to the RI sites, similar to Figure I-3 or W-2. A table should be provided outlining information such as well construction, length of time the well was in use, if the well was abandoned adequately, location, and any other miscellaneous information pertinent to the RI investigation.</p>	<p>RESPONSE 11: A map will be added to an existing map (figure) to show the location of these wells in the final documents. Data associated with these wells such as well construction, length of time well was in use, and abandonment data are not available.</p> <p>To assess the impact on the RI from these wells, an attempt will be made to locate the approximate position of the abandoned water supply wells. The</p>

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	<p>well's approximate position will be surveyed in the field based on the map location. An onsite inspection will be performed to locate any surface features indicating a well. If no surface features are found, surface geophysics will be attempted to locate the metal surface casing and/or distribution piping. Once a geophysical anomaly is located, the area around the anomaly will be excavated or trenched. The well will be accessed and if it has not been abandoned, (e.g., filled with grout), a groundwater sample will be taken as per the Draft Field Sampling Plan. Abandonment per state regulations can then be completed. If the well has been abandoned, field observations will be recorded, the well's position surveyed, and the excavation surface will be restored to its original condition.</p>
<p>12. <u>CLEAN I vs. CLEAN II Base-Wide Maps:</u> Because the nature of the RI/FS lends to continual cross-referencing within the <i>Revised Work Plan</i> and <i>FSP</i> and with previous documents, primarily the <i>Draft Revised Work Plan</i> and the Soil Gas Report, consistency between figures must be maintained. Unless the basewide maps from the previous work plans and reports are inaccurate, please reconcile inconsistencies by correcting the basewide maps presented in the <i>Revised Work Plan</i> and <i>FSP</i>. Examples include misnumbered buildings, missing buildings, and incorrect building locations.</p>	<p>RESPONSE 12: The Work Plan and Field Sampling Plan base maps will be revised according to MCAS El Toro latest base maps.</p>
<p>13. <u>Storm Drains</u> Include a section in the work plan that addresses storm drains. Personnel interviews revealed that liquids were often poured into storm drains. Sodium dichromate was also reportedly used in boiler systems as corrosion inhibitors. Site 22 is of particular interest because it has been reported that solvents were pored in the storm drains and ran out to a wash.</p> <p>Provide in a basewide map showing storm drains.</p>	<p>RESPONSE 13: No base-wide maps will be provided showing storm drains. However, a section will be added to the Site 24 DQO, Appendix W (with a reference to Site 25, Appendix X) which addresses the storm drain system and its potential to contribute to VOC soil, soil gas, and groundwater contamination. A figure showing the location of the storm drain conveyance system on Site 24 will be added to the final documents.</p>
<p>14. <u>Aerial Photograph Information:</u> Throughout DTSC comments for</p>	<p>RESPONSE 14: The <i>Revised Draft Work Plan</i> did consider the anomalies as</p>

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<p>the <i>Draft Revised Work Plan</i> there are requests that anomalies from aerial photographs are shown on site-specific figures, yet these anomalies are not shown on the figures in the <i>Revised Work Plan</i>. Please review DTSC's <i>Revised Work Plan</i> comments and identify aerial photograph anomalies on figures in the final <i>Revised Work Plan</i>.</p>	<p>discussed by DTSC comments in the Draft Work Plan and were included when a potential for a contamination source was apparent.</p> <p>Observations from the photographs were incorporated into the sampling plan and overall strategy for each site. This approach was accepted by the BCT in the May 1995 meeting at the Bechtel San Diego office.</p>
<p>15. Integration of OU-3 Sites and VOC Source Area Study: The <i>Revised Work Plan</i> and <i>FSP</i> present the OU-3 sites and the VOC Source Area as two independent studies. Whenever possible combine field data collection efforts (e.g., Soil Gas Survey).</p>	<p>RESPONSE 15: OU-3 Sites (7, 8, 9, 10, 11, 12, and 22) and Site 24 (VOC source area) are independent studies with different objectives. The investigation at Site 24 is concerned with VOC groundwater contamination and sources of VOC groundwater contamination in the vadose zone. Site 24 covers a relatively large area and the investigation encompasses potential VOC contamination that may be present at OU-3 Sites 7, 8, 9, 10, 11, 12, and 22.</p> <p>The OU-3 site investigations are primarily directed toward characterizing shallow and deeper subsurface soil contamination in localized areas. Groundwater will be investigated if contamination extends to the water table. The decision to investigate groundwater beneath the OU-3 sites will be made by the BCT.</p> <p>Groundwater and subsurface soil data from OU-3 Sites and Site 24 will be used interchangeably to satisfy their respective objectives. These objectives are defined in detail in the DQOs of the work plan appendices.</p>
<p>16. Mud-Rotary Drilling Techniques: As discussed at previous technical meetings GSU does not recommend the use of mud-rotary drilling techniques to drill borings. If the goal is to characterize stratigraphy beneath the site, combining CPT and lithologic logging would be preferable. Mud-rotary drilling not only can be very costly but also may generate a large volume of investigative derived waste. There is also a possibility that field crews may have to use Level B personal protection equipment (PPE) while drilling. Mud-rotary drilling in</p>	<p>RESPONSE 16: The mud rotary borings (for stratigraphic correlation) and their associated open hole geophysical logs have been eliminated from the Phase II RI. Stratigraphic correlation will be performed using CPT logs calibrated with lithologic logs from soil borings and monitoring wells.</p>

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<p>Level B PPE not only is cumbersome but also can be more hazardous than other alternative drilling techniques.</p>	
<p>17. <u>Interpretation of Soil Gas Results:</u> Since part of the rationale for field investigations, and NFA and Removal Action reclassification, presented in the RI depend on soil gas data, GSU recommends providing an explanation as to why there are two 1,1-DCE values reported in the MCAS El Toro, Final Soil Gas Survey Technical Memorandum, sites 24 and 25, dated 31 October 1994 (Table C-1, Concentrations in Soil Gas). There is often up to an order of magnitude difference between the reported ECD and FID values. Please provide reasoning as to how reported 1,1-DCE soil gas values in the site-specific sections of the <i>Revised Work Plan</i> and <i>FSP</i> were chosen.</p>	<p>RESPONSE 17: It is recognized that different values for 1,1-DCE were reported during the Final Soil Gas Survey Technical Memorandum, Sites 24 and 25, dated 31 October, 1994 (Table C-1 Concentrations In Soil Gas). This problem is most pronounced in the area of Buildings 295, 296, and 297. The explanation proposed by CLEAN I is that Freon 113 was misidentified as 1,1-DCE. These two compounds are known to coelute. In addition, Freon 113 has a greater response factor than 1,1-DCE when using an electron capture detector. Therefore, if small concentrations of Freon 113 were present in the soil gas, they could be misidentified as relatively large concentrations of 1,1-DCE. Rather than further investigate the cause of this discrepancy, CLEAN II has chosen to use the higher of the two values in a continuous improvement effort to streamline the RI/FS process. Phase II soil gas contractors will be advised that separation of Freon 113 and 1,1-DCE is a priority. Contour maps of soil gas concentrations used for the Phase II RI are taken directly from the Phase I report with the understanding that a possible discrepancy exists.</p>
<p>18. <u>Matrix Interferences:</u> The following comments was included in DTSC original comments for the RI/FS <i>Draft Revised Work Plan</i> but was not adequately (General Comment 31) addressed.</p> <p>All analytical results for each site should be reviewed and, when necessary, evaluated for matrix interferences in the site-specific section. DTSC Site-Specific comments from the Phase II RI/FS <i>Draft Work Plan</i> indicate several instances where it appears petroleum hydrocarbon contamination interfered (elevated detection limits) with other results, such as those for PAHs. A failure to properly evaluate analytical interferences could result in an underestimation of human health and/or ecological risk.</p>	<p>RESPONSE 18: Matrix interferences are not recognized until laboratory analyses are conducted. According to EPA method protocols, matrix interferences are usually subjected to re-extraction and re-analysis and is documented in CLEAN II contract laboratory QA/QC manuals.</p>

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<p>The Revised Draft Work Plan response “response summary” was “Measures will be taken during sample analyses to account and minimize the adverse impact to matrix interference problems. The goal will be to provide the lowest detection limits that can reasonably be obtained.”</p> <p>Please elaborate in the finalized version of the work plan, in addition to noting the location of this information in the “response summary.”</p>	
<p>19. <u>Map of Above-Ground Tank and Underground Storage Tanks (UST):</u> The following comment was included in DTSC’s original comments for the RI/FS Draft Work Plan but was not adequately addressed (General Comment 33) addressed.</p> <p>The document should include a map displaying the following: 1) an outline of MCAS El Toro, 2) the location of all RI sites including sites that may or are reclassified as Removal Actions, 3) the location of all tank farms and tanks both above ground and below ground containing petroleum hydrocarbons, including fuels, 4) the location of monitoring wells, and 5) contours of the groundwater plumes potentially associated with the USTs.</p>	<p>RESPONSE 19: Maps are included in the Work Plan showing the outline of MCAS El Toro, IR Program sites, and the location of monitoring wells</p> <p>The following maps (figures), data, and interpretations of data are considered to be out of the scope of this CTO:</p> <ul style="list-style-type: none"> • the location of tank farms and tanks above ground and below ground containing petroleum hydrocarbons (including fuels), and • contours of the groundwater plumes potentially associated with storage tanks.
<p>20. <u>Groundwater Water Quality Sampling:</u> Since a portion of the RI is guided by the groundwater analytical results, provide a schedule showing the order the groundwater samples will be collected relative to the other field activities.</p>	<p>RESPONSE 20: This comment is relevant to Sites 2 and 24. Finalized fieldwork schedules have not yet been completed. When fieldwork schedules are finalized they will be submitted to the BCT for all field activities. These schedules will take into account the sampling hierarchy and its relationship to the RI.</p>
<p>21. <u>Field Screening Methodologies:</u> In terms of confirmation sampling what will be considered field screening methodologies. It should be clarified in the <i>Revised Work Plan</i> the difference between preliminary field sampling devices, preliminary field screening and the undefined</p>	<p>RESPONSE 21: We concur and clarification will be provided.</p>

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<p>field screening which follows but precedes off site analyses.</p>	
<p>22. <u>RAC Contractor:</u> Once a site goes to the RAC contractor how will the regulatory agencies fit into the Remediation process?</p>	<p>RESPONSE 22: The BCT will remain as the decision making entity and will be involved in making decisions concerning remediation.</p>
<p>23. <u>OU Identification:</u> Identify which OU sites are associated with sites discussed within the appendices and attachments.</p>	<p>RESPONSE 23: We concur and further discussion will be included in Table 1-1.</p>
<p>III. <u>WORK PLAN SPECIFICATION COMMENTS:</u></p>	<p><u>WORK PLAN SPECIFICATION RESPONSES:</u></p>
<p>1. <u>Section 1.3 - Work Plan Contents:</u> Page 1-4, Figure 1-2, the figure should include the Remedial Investigation Report and Feasibility Study Report for OU-1.</p>	<p>RESPONSE 1: This figure will be revised to include the OU-1 studies.</p>
<p>2. <u>Section 2.2.3 - Previous Investigations:</u> Page 2-2, in paragraph two and four, clarify the location of TIC 45, it is unclear from the text if the well is located 3,000 feet or 4 miles from the station.</p>	<p>RESPONSE 2: TIC 45 will be changed to TIC 47 and corrections to the distance will be made.</p>
<p>3. <u>Section 2.4.3.2 - Superfund Accelerated Cleanup Model:</u> Page 2-44, state in the text that an EE/CA is only part of the process for the implementation of non-time critical removal actions.</p>	<p>RESPONSE 3: We concur and clarification will be made to the text to reflect that EE/CAs are only "part" of the process.</p>
<p>4. <u>Section 3.1 - Types and Volumes of Waste Present:</u> Page 3-5, Table 3-2, were TRPH and TPH specified as COPCs because there were levels of concern at individual sites or simply because the analyses for TRPH and TPH happened to be conducted in Phase I and values above detection levels were reported? The reasons for the analysis of soil samples for both TRPH (USEPA Method 418.1) and TPH (USEPA Method 8015M) should be identified. It is not cost effective to specify both analyses without justification.</p>	<p>RESPONSE 4: COPCs were listed as any compounds that were detected. Additional rationale is included for using EPA Method 418.1 and 8015M in site specific sampling plans.</p>
<p>5. <u>Section 3.3 - Preliminary Identification of Operable Units:</u> Page 3-14, the text should note that Site 24 includes Sites 8, 9, 10, 11, 17, and 22.</p>	<p>RESPONSE 5: It will be noted that the area of Site 24 encompasses Sites 8, 9, 11, 17, and 22 in appendices addressing Site 24. The text will be altered on Page 3-14 to note that Site 24 encompasses Site 8,</p>

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	9, 10, 11, 17, and 22.
<p>6. Section 4.2.1.3 - Estimated Risk: Page 4-4, the text should specify if the risk for consideration was for cumulative, excess lifetime cancer risk alone or non-carcinogenic risk was also included.</p>	<p>RESPONSE 6: Estimated risk is now shown for cancer and non-cancer cumulative risks as prepared in the Draft Phase II RI/FS Work Plan.</p>
<p>7. Section 2.2 Step 2 - Identify the Decisions: Page 4-4, rewrite decision number 3. As written the statement implies that soil sampling alone can determine if groundwater beneath a site is contaminated. Groundwater sampling should be used for that purpose.</p> <p>Page 4-5, Item 9b, Define "principal threat waste".</p>	<p>RESPONSE 7: We concur and further clarification will be made.</p>
<p>8. Section 4.2.3.5 - Tiered Sampling Program: Page 4-17, as presented the text implies that the limited lists of analytes that will be examined using field analytical screening techniques and supported by offsite, fixed laboratory analysis for the Tier 1, 2 and Tier 3 for the OU-3 sections are a function of cost only. The text should reflect that difference in cost is not the only distinction between Tier 1 and Tier 2.</p>	<p>RESPONSE 8: We concur and further clarification will be provided that proposed field screening is based upon COPCs</p>
<p>9. Section 4.2.3.6 - Sampling Designs: Page 4-18, reorganize the bullet list on the top of the page to correspond with the sequence of presentation of the topics which follows.</p>	<p>RESPONSE 9: We concur and the bullets will be reorganized</p>
<p>10. Section 4.2.3.8 - Analytical Methods: Page 4-21, Field Screening, See General Comment number 21.</p> <p>Page 4-21, confirm that CLP detection limits for all COPC are low enough to fulfill the risk assessment requirements.</p> <p>Page 4-21, the text does not mention metals analyses in the field, however, XRF analyses and/or ICP analyses are part of a field program and are described elsewhere (DQOs by inference and</p>	<p>RESPONSE 10: As discussed in the 6 June 1995 meeting, some analytical methods will not be able to obtain the low risk assessment requirement, and special laboratory attention will be used to try to obtain the low detection limits.</p> <p>A text on the use of ICP analyses will be eliminated in field screening methods.</p>

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<p>Originator: Juan M. Jimenez, Remedial Project Manager Department of Toxic Substances Control</p> <p>To: Joseph Joyce, BRAC Environmental Coordinator MCAS El Toro, California</p> <p>Date: 23 May, 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>explicitly in the QAPP). Clarification of the use of these analytical techniques is needed.</p> <p>Page 4-23, Table 4-4, Benzene is not a halogenated volatile organic compound, please make the correction.</p> <p>The analytes listed under HVOCs-Method 8010 and VOCs-Method 8240 are not complete. Clarify with a footnote the reason, or correct the table and include all analytes provided by the method. Also note that TCE, PCE, carbon tetrachloride and benzene are absent from the listing under 8240.</p> <p>The footnote should contain an explanation of the dash symbols which appear in the table.</p> <p>List the "CAL-Modified PRG" for lead as was done for nickel.</p> <p>Page 4-32, Confirmation Methods, remove the term CLP from the paragraph. Provide a statement which explains that statistical comparison techniques may not be used if the number of samples collected are insufficient to conduct the comparison tests. Under these conditions, qualitative comparisons would be necessary.</p>	<p>We concur and revision will be made to the text.</p> <p>We will clarify that analytes under 8010 and 8240 are COPCs. We will include PCE, TCE, carbon tetrachloride and benzene under the appropriate analysis.</p> <p>We concur and a footnote will be added.</p> <p>We concur and an expanded discussion will be included.</p>
<p>11. Section 4.2.3.9 - Fate and Transport Models: Page 4-32, the discussion of groundwater models clearly states the MODFLOW, MT3D, AND MODPATH will be used for some applications. However, the vadose zone modeling discussion does not specify which of the models presented will be used. The text should clarify this.</p>	<p>RESPONSE 11: The application of these various models will be discussed in field meetings with the BCT and the models will only be applied with the concurrence of the BCT. Section 4.2.3.9 (Fate and Transport Models) Page 4-32 will be clarified to state which models will be used for vadose zone applications.</p> <p>Vadose Zone Modeling programs planned to be used for potential leachate migration through the vadose zone include VLEACH for organic compounds and SESOIL for inorganic compounds (e.g., at the landfill sites). The U.S. EPA HELP Model will be used to estimate the quantity of leachate being</p>

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	generated.
<p>12. <u>Section 5.3.1.5 - Soil Gas:</u> Page 5-5, the third paragraph states that the soil gas investigations will “generally follow” the “Requirements for Active Soil Gas Investigation” for the CRWQCB, Los Angeles Region. Please outline either in the QAPP or in the Soil Gas section the variations from the above stated document.</p>	<p>RESPONSE 12: The variation from the RWQCB “Requirements for Active Soil Gas Investigation” is in the grid spacing. The document recommends a grid spacing of 10 by 20 feet grid pattern with a 5 to 10 foot spacing for vertical samples in a soil hotspots. A 100 foot grid spacing is recommended for the remainder of the site. This level of detail is not needed to support the feasibility study or to define the horizontal and vertical extent of VOC contamination at MCAS El Toro. All other guidelines are followed.</p> <p>Section 5.3.1.5 (Soil Gas) in the Revised Draft Work Plan will be updated to explain the variation from the RWQCB’s “Requirements for Active Soil Gas Investigation”.</p>
<p>13. <u>Section 5.3.1.8 - Geophysics:</u> Page 5-6, See General Comment number 16.</p>	<p>RESPONSE 13: Down-hole geophysics will be eliminated and surface geophysics will be applied at the landfill sites.</p>
<p>IV. <u>FIELD SAMPLING PLAN SPECIFIC COMMENTS:</u></p>	<p><u>FIELD SAMPLING PLAN SPECIFIC RESPONSES:</u></p>
<p>1. <u>Table of Contents:</u> Please carefully edit the Table of Contents so that it reflects the organization of the FSP. Also check that designated captions for the text section, maps, and tables are the same in the Table of Contents as they are in the body of the FSP. Most maps in Section 3 are misnumbered and often misnamed.</p>	<p>RESPONSE 1: We concur.</p>
<p>2. <u>Section 4.1.2 - Leachate Samples:</u> Page 4-1, discuss how lysimeter data will be collected, analyzed, and interpreted. Explain what criteria is used to establish a background lysimeter including the rationale how it will be located. Provide a Standard Operating Procedures (SOP) if available.</p>	<p>RESPONSE 2: Section 6.10 has been added for discussion of lysimeter installation and sampling.</p>
<p>3. <u>Section 4.1.3 - Surface Soil Samples and Section 4.1.4 - Subsurface Soil Samples:</u> Previously the BCT has defined ground surface to 10 feet bgs as surface or surficial soil used to support the baseline risk</p>	<p>RESPONSE 3: Surface soil samples have been defined as the interval between the ground surface and one foot below ground surface (bgs), and shallow subsurface soil samples to a depth of 10 feet bgs. This will be</p>

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<p>assessment. This agreement should be reflected in not only in Section 4.1.3 but also in Section 4.1.4.</p>	<p>clarified in Sections 4.1.3 and 4.1.4 in the final version of the Field Sampling Plan.</p>
<p>4. Section 5.2 - Field Screening: Page 5-1, See General Comment number 21.</p>	<p>RESPONSE 4: See response to general comment 21.</p>
<p>5. Section 6.2.3 - Field Instrument Calibration: Page 6-7, at a minimum a one point calibration should be performed on the pH meter and electrical conductivity meter at every new monitoring well site. If historical data shows significant differences of these field parameters between the wells at cluster sites or between different depth interval for multi-port wells the field instruments should be re-checked between samples.</p>	<p>RESPONSE 5: We will be following CLEAN II SOP 6 for field instrumentation calibration.</p>
<p>6. Section 6.3.3 - Soil Borings: Page 6-10, it is not necessary to place the entire drilling rig on plastic sheeting.</p>	<p>RESPONSE 6: We concur. Only the work area in the exclusion zone will be on plastic sheeting and the work area.</p>
<p>7. Section 6.3.3.1 - Hand Auger Borings: Page 6-11, GSU suggested using a hand auger to advance to the target sampling depth and then use a hand held hammer sampler equipped with the appropriate metal sleeve to collect the sample. It is not recommended to sample directly from the bucket of the auger.</p>	<p>RESPONSE 7: Section 6.3.3.1 (Hand Auger Borings) Page 6-11 will be revised to state that soil samples will be taken with a hand held sampler equipped with an appropriate metal sleeve to collect the sample.</p>
<p>8. Section 6.3.3.2 - Hollow-Stem Auger Borings: Page 6-11, if water is added to hollow-stem auger it should be documented in a field notebook and also flagged in the report final. The field geologist should note the amount of water that was used, the source of the water, and at what depth the water was introduced into the boring.</p>	<p>RESPONSE 8: Section 6.3.3.2 (Hollow Stem Auger Borings) will be revised to state that the field geologist will note in the field notebook the source, amount, and depth of water added to the boring.</p>
<p>9. Section 6.3.3.3 - Air-Rotary Borings: Clarify in the first paragraph if the air-rotary drilling method will be used after unsuccessful attempts with the hollow-stem auger drilling method or if there will be a specific predetermined depth that will specify the drilling</p>	<p>RESPONSE 9: Section 6.3.3.3 (Air-rotary Borings) will be revised stating that borings greater than approximately 200 feet bgs will be drilled using the air-rotary technique.</p>

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<p>method before the commencement of field activities.</p>	
<p>10. <u>Section 6.3.3.5 - Backfilling of Boring:</u> Page 6-14, the last sentence of the forth paragraph states "The amount of grout used should be at least as much as the calculated boring volume." Clarify that the amount of grout that will be used is the amount of grout needed to fill the boring. Often more than the calculated boring volume is needed to fill the boring.</p>	<p>RESPONSE 10: Section 6.3.3.5 (Backfilling of Borings) on Page 6-14 will be revised to state that the amount of grout used should be at least as much as the calculated boring volume, and enough grout will be used to fill the boring to within 2 or more feet of the surface where a high-strength concrete surface seal will be placed.</p>
<p>11. <u>Section 6.4 - Installation of Monitoring and Extension Wells:</u> This section only describes the installation of a typical hollow-stem auger drilled monitoring well. Please discuss and provide a figure for a typical air and mud-rotary drilled monitoring well.</p> <p>Page 6-17, Figure 6-1:</p> <p>a. Screen slot size and filter pack size cannot be determined until the completion of a sieve analysis.</p> <p>b. Indicate screen length.</p> <p>c. Indicate sump/sediment trap length.</p> <p>d. Add o-rings to the figure (see Section 6.4.1.1).</p>	<p>RESPONSE 11: This section discusses wells installed through hollow-stem auger and air-rotary borings. Monitoring wells that are installed with air rotary are completed much the same as wells that are installed with a hollow stem auger except a casing is driven as the hole is advanced. Furthermore, during well installation the casing is pulled from the boring as well materials are placed. Note: No mud-rotary monitoring wells are proposed. The mud rotary technique will only be used to install groundwater monitoring wells after air-rotary has been tried and after consulting with the BCT.</p> <p>RESPONSE 11.a: We concur and discussion will be expanded. Figure 6-1 will be modified to state:</p> <ul style="list-style-type: none"> • The filter pack and screen slot size will be determined by sieve analysis <p>RESPONSE 11.b: Screen length will be designed in site specific plans.</p> <ul style="list-style-type: none"> • Monitoring well screens will be 40 feet for water table wells and 20 feet for wells deeper than the water table <p>RESPONSE 11.c: 5-foot sediment traps will be placed in all wells.</p> <p>RESPONSE 11.d: We disagree. A discussion of O-rings is provided in the text and is standard protocol.</p>
<p>12. <u>Section 6.4.2 - Air-Sparging Well Installation:</u> Expand the discussion</p>	<p>RESPONSE 12: The discussion of air sparging was expanded in the Field</p>

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<p>regarding the approach and rationale for air-sparging. GSU recommends adding air-sparging as an agenda item for the next technical meeting.</p>	<p>Sampling Plan and discussed in the May 1995 BCT meeting.</p>
<p>13. Section 6.4.2.2 - Filter Pack Installation: Page 6-23, the filter pack should extend at least two feet above the top of the well screen. In deep wells the filter pack may not compress when initially installed, consequently, when the annular and surface seals are placed on the filter pack the filter pack compresses sufficiently to allow grout into, or very close to, the screen. Consequently, filter packs may need to be installed as high as five above the screened interval in monitoring wells that are deep (greater than 150 feet).</p>	<p>RESPONSE 13: Sections 6.4.1.2 and 6.4.2.2 (Filter Pack Installation) will be revised to reflect that compression of filter pack materials may occur in monitor wells deeper than 150 feet bgs. Consequently, filter packs may need to be installed as high as 5 feet above the top of the screened interval. This distance will be determined by the field geologist.</p>
<p>14. Section 6.4.7.4 - Measurement of Turbidity: Water samples for analysis should not be collected until turbidity is about 5 NTUs.</p>	<p>RESPONSE 14: Section 6.4.7.4 (Measurement of Turbidity) will be revised to state that water samples for analysis should not be collected until turbidity is about 5 NTUs or has stabilized within 10% between successive samples.</p>
<p>15. Section 6.4.10 - Groundwater Sampling to Evaluate Water Quality: Page 6-35, first sentence, Purging should continue until measurement of temperature, pH, and specific conductivity have stabilized. The actual number of casing and filter pack volumes to be removed, and the rate that they should be removed should be determined on a well-by-well basis, depending on both the hydraulic properties of the monitoring zone and the hydraulic performance of the well. It is very likely in some monitoring wells that three casing volumes of water will not be sufficient.</p>	<p>RESPONSE 15: Section 6.4.10 (Groundwater Sampling to Evaluate Water Quality) will be revised to state that purging will continue until measurements of temperature, pH, and specific conductivity have stabilized. The actual number of casing volumes to be removed, and the rate that they should be removed is determined on a well by well basis. Monitoring wells will be purged a minimum of 3 casing volumes and a maximum of 5 casing volumes.</p>

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<p><u>GENERAL COMMENTS ON DRAFT FIELD SAMPLING PLAN</u></p>	<p><u>RESPONSES ON DRAFT FIELD SAMPLING PLAN</u></p>
<p><u>GENERAL COMMENTS</u></p>	<p><u>RESPONSES TO GENERAL COMMENTS</u></p>
<p>1. When applicable, show abandoned wells on site-specific maps.</p>	<p>RESPONSE 1: Abandoned wells have been illustrated on the Site 24 Work Plan Appendix and Field Sampling Plan Attachment.</p>
<p>2. At a minimum, show the identifiers for all existing soil gas locations on all figures.</p>	<p>RESPONSE 2: Existing soil gas sample locations have been included on figures that identify Phase II soil gas sample locations. Identifiers are found in the Soil Gas Survey report.</p>
<p>3. Five of the locations where soil gas samples were collected during the June 1994 soil gas survey should be resampled during the Phase II field activities. This will tie the two soil gas surveys together when comparing the results of both surveys.</p>	<p>RESPONSE 3: CLEAN II agrees to resample soil gas at five Phase I sample locations. The data will be used to evaluate potential sampling and analytical variances between the CLEAN I and CLEAN II soil gas surveys.</p>
<p>4. Discuss the connection between the site-specific investigations and the VOC source area investigation.</p>	<p>RESPONSE 4: The site specific (OU-3) investigations and the investigation at Site 24 have different objectives. The investigation at Site 24 is concerned with VOC groundwater contamination and sources of VOC contamination. As such, Site 24 encompasses OU-3 Sites 7, 8, 9, 10, 11, 12, and 22. Groundwater and soil data from OU-3 sites and Site 24 will be shared.</p>
<p>5. If “no further investigation” is proposed for a site, unit, or SWMU/AOC, provide the reference such as a report, work plan, meeting notes, or the BCP stating the BCT decision for no further investigation designation. Simply stating that a “no further action or investigation” pathway is or was recommended is not sufficient.</p>	<p>RESPONSE 5: These references have been included in Work Plan Appendices.</p>
<p><u>SITE-SPECIFIC COMMENTS</u></p>	<p><u>RESPONSES TO SITE-SPECIFIC COMMENTS</u></p>
<p><u>Site 2</u></p> <p>6. Figure B3-3 - Correct the “double location” of well 05_UGMW27</p>	<p><u>Site 2</u></p> <p>RESPONSE 6: The figure has been revised.</p>

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<p>shown on the west side of the map.</p> <p>Does the "Phase II monitoring well" symbol shown on the east portion of the map near well D2_DGMW25 belong on this figure?</p> <p>Correct D2_DGMW25 to 02_DGWM25.</p>	<p>No. The figure has been revised.</p>
<p>7. Show aerial photograph anomalies noted in previous reports (Comment 6a in the Response Summary). Consider collecting judgmental samples located within the identified anomalies.</p>	<p>RESPONSE 7: Anomalies on aerial photographs without field confirmation yields a high level of uncertainty. The boundary of all the landfills have been revised where appropriate, to incorporate fill related anomalies located in the area of the landfill.</p>
<p>8. Clarify in more detail surface geophysics strategy to determine landfill boundaries. Once the boundaries of the landfill are determined and the BCT agrees on the interpretation of the boundaries, an on-site meeting should take place to decide strategies for trenching.</p>	<p>RESPONSE 8: The boundaries of the landfills will be determined by a frequency-domain electromagnetic (EM) survey conducted to estimate terrain conductivity along sampling tracks selected for the site. The EM survey will gather data to estimate terrain conductivity at up to three depths, in order to contrast landfill contents, landfill cover material, and surrounding soil and formation.</p> <p>It is anticipated that metallic content in some portions of the landfill will cause detectable increases in terrain conductivity. The landfill cover material is expected to have a different conductivity than surrounding soils due to either variations in composition between the cover material and surrounding formations, or due to differences between compaction and moisture of the cover material and the in duration and saturation of surrounding formations.</p> <p>The surveyed area data will be gridded and contoured or imaged to indicate patterns of terrain conductivity variation. Metallic areas of landfill content will be delineated with EM-31 in-phase data, while variations in terrain conductivity will be enhanced through data processing of EM-31 and EM-34 quadrature data, with EM-34 gathered at both 10-meter and 20-meter coil spacing. Landfill edges will be defined from these gridded images.</p>

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<p><u>Site 5</u></p> <p>18. Show the proposed location of the downgradient well on Figure E-2.</p>	<p><u>Site 5</u></p> <p>RESPONSE 18: The figure has been revised.</p>
<p>19. It was discussed earlier that at least two feet of fill covers this site. If this is true it needs to be shown and the integrity needs to be documented, especially if a presumptive remedy is the remediation decision.</p>	<p>RESPONSE 19 Assessing the integrity of the existing cover is one of the primary objectives for the field activities scheduled for Site 5.</p>
<p><u>Site 7</u></p> <p>20. Soil gas probe location 24_SG355 showed 2 µg/L of TCE, 531.2 µg/L of TCE and 383 µg/L of 1, 1 DCE, totaling 916.2 µg/L VOCs at a 15 foot depth. It is difficult to determine if this area will be addressed under Site 24, if so please state it in the text.</p>	<p><u>Site 7</u></p> <p>RESPONSE 20: The intent of the Site 24 soil gas survey is to connect the VOC source identified by the Phase I soil gas survey to the regional groundwater plume. The area around soil gas sample point 24_SG335 is being investigated during Tier 1 of the soil gas survey. If a review of the data indicate further sampling is needed at the 24_SG335 location, it will be completed during Tier 2.</p>
<p>21. Provide an expanded overview site map to include the location of well 07_DGMW91. It would be helpful if Site 8, Site 10, Building 296 and 297 were also shown on the map.</p>	<p>RESPONSE 21: The relative direction and distance to well 07_DGMW91 are presented on the Site 7 map. Although associated with Site 7 by its number this well is probably not suitable as a monitoring location for Site 7. It is approximately 1,800 feet downgradient, with the VOC source area and part of Site 10 in between.</p>
<p><u>Site 8</u></p> <p>22. There are existing soil gas locations showing VOC hits. How will this be addressed and to what extent will the elevated concentrations of VOCs be delineated? This is of particular concern because the removal action will be driven by constituents such as PCBs that are generally found at much shallower depths than VOCs.</p>	<p><u>Site 8</u></p> <p>RESPONSE 22: VOCs at Site 8 will be investigated as part of Site 24,</p>
<p>23. As stated at the 28 April 1994 technical exchange meeting, if it can be documented that the fill that underlies this parking lot was imported</p>	<p>RESPONSE 23: Documentation pertaining to the source of the fill material has never been located. As proposed in the Work Plan, sampling of Unit 5 will</p>

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<p>after the yard was no longer used, then no further investigation is acceptable. Otherwise, conduct field screening soil sampling of surface soil only.</p>	<p>focus on the fill material between 5 and 6 feet depth.</p>
<p>24. On appropriate figures, indicate the locations of the trenches observed in the western portion of the site in the 1952 aerial photograph.</p>	<p>RESPONSE 24: We are unaware of any document identifying trenches at Site 8 in a 1952 aerial photograph. 1952 photos in the SAIC report do not identify trenches at Site 8 nor do narrative summaries of the EPA's aerial photo investigation results.</p>
<p><u>Site 12</u></p> <p>25. Please add this site to the Site 24 soil gas investigation. Add two locations at Unit 1 and two locations at Unit 2. At each location collect samples at two depths.</p>	<p><u>Site 12</u></p> <p>RESPONSE 25: Soil gas samples will be taken at Unit 1 and Unit 2 of Site 12 at depths of 12 and 24 feet.</p>
<p><u>Site 15</u></p> <p>26. It is recommended to collect soil gas samples, then guide the location of the soil matrix samples from the soil gas results.</p>	<p><u>Site 15</u></p> <p>RESPONSE 26: The types of contaminants anticipated at this location are waste oils and metals, not solvents. Further, RFA samples analyzed for VOCs failed to identify any constituents of concern.</p>
<p><u>Site 17</u></p> <p>27. Please note, it may be difficult to define groundwater gradient using the proposed well locations shown on Map Q3-2. As discussed previously, the location of NEW1 may not be possible due to the underlying geological unit. Please propose a new location.</p>	<p><u>Site 17</u></p> <p>RESPONSE 27: The exact location of this well will be determined jointly with the BCT.</p>
<p><u>Site 19</u></p> <p>28. Please provide an explanation regarding the black hose that was observed extending from the side of Aqua Chinon Wash observed during the 02 May 1995 site visit.</p>	<p><u>Site 19</u></p> <p>RESPONSE 28. According to civilian personnel, working at Site 19 during a site visit on June 22, 1995, the black hose extending from the side of Agua Chinon Wash is a section of rubber hose abandoned at this location by the Marines, that was buried in fill soil and subsequently exposed as the bank of</p>

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	<p>the wash eroded.</p>
<p><u>Site 24</u></p> <p>29. Check the locations of the soil gas probes. Do they coincide with VOC detects at the OU-3 sites?</p>	<p><u>Site 24</u></p> <p>RESPONSE 29. The intent of the Phase II soil gas survey is to connect the VOC source identified by the Phase I soil gas survey to the regional groundwater plume. As such, individual soil gas points are not weighted as heavily as the overall geometry of the soil gas plume. The areas around individual OU-3 soil gas sample points are being investigated during Tier I of the soil gas survey; the vertical extent of each location is not being investigated. If a review of the data indicate further sampling is needed at individual sampling locations, it will be completed during Tier 2.</p>
<p>30. Five of the locations where soil gas samples were collected during the June 1994 soil gas survey should be resampled during the Phase II field activities. This will tie the two surveys together, strengthening the interpretation of the results when comparing the data.</p>	<p>RESPONSE 30: Five of the Phase I soil gas sample locations will be resampled during Phase II to correlate Phase I and Phase II soil gas data.</p>
<p>31. Since it has been agreed by the BCT not to analyze for VOCs in surface water samples, delete all reference regarding this issue in the FSP.</p>	<p>RESPONSE 31: VOCs have been deleted from the surface water sampling program.</p>
<p>32. Provide a detailed discussion regarding air sparging and soil vapor extraction. Will there be a formal presentation for the BCT before the design implementation of these systems?</p>	<p>RESPONSE 32: Additional discussion has been included regarding air sparging and soil vapor extraction.</p>
<p>33. Provide a more detailed discussion regarding aquifer pump tests.</p>	<p>RESPONSE 33: A more detailed discussion has been added on aquifer testing. In addition, a meeting has been proposed that includes the BCT, CLEAN I, and CLEAN II staff to discuss how the aquifer tests will support the Interim-Action Feasibility Study. Testing protocol will be presented in an addendum to the Phase II RI/FS Work Plan.</p>
<p>34. Please show locations of CPT on Map W3-9.</p>	<p>RESPONSE 34: CPT test locations have been included on the revised figure.</p>

**RESPONSE TO COMMENTS
REVISED DRAFT
PHASE II REMEDIAL INVESTIGATION/FEASIBILITY STUDY
WORK PLAN, MCAS EL TORO, CALIFORNIA**

<p>Originator: Juan M. Jimenez (S. Beard) Department of Toxic Substances Control</p> <p>To: Joseph Joyce MCAS - El Toro</p> <p>Date: 20 June 1995</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>35. Note: This comment refers to the Work Plan. Building 655 is marked as Building 855 on all site-wide maps in Appendix W.</p>	<p>RESPONSE 35: Building numbers have been corrected.</p>
<p>36. Note: This comment refers to the Work Plan and the FSP. The locations of Buildings 333, 386, and 1589 located on Figure 1-3 of the Work Plan are not consistent with the locations on the site-wide maps in Attachment W and Appendix W.</p>	<p>RESPONSE 36: Building numbers have been corrected.</p>
<p>37. Building 312 is missing from site-wide maps in Attachment W and Appendix W.</p>	<p>RESPONSE 37: Building numbers have been corrected.</p>

**RESPONSE TO COMMENTS
REVISED DRAFT
PHASE II REMEDIAL INVESTIGATION/FEASIBILITY STUDY
WORK PLAN, MCAS EL TORO, CALIFORNIA**

<p>Originator: Juan M. Jimenez (G. Holmes) Department of Toxic Substances Control</p> <p>To: Joseph Joyce MCAS - El Toro</p> <p>Date: 25 May 1995</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p><u>GENERAL COMMENTS</u></p> <p>1. Analysis of existing data from Phase I RI is not included in the El Toro Field Sampling Plan (FSP). A presentation of existing data is necessary for determining data gaps and evaluating sampling rationale, including proposed sample locations and numbers of samples. Such data are not included in the draft Phase II RI Work Plan, nor in the draft QAPP.</p>	<p><u>RESPONSES TO GENERAL COMMENTS</u></p> <p>RESPONSE 1: That information is part of the DQOs presented as Appendices to the Phase II Work Plan. Maps presented in the Work Plan and FSP illustrate the locations of Phase I and proposed Phase II samples.</p>
<p>2. Tier 1 sampling designs and the process by which Tier 2 sample locations will be selected are not included in the FSP; rather, they are located in the draft Phase II RI Work Plan. The FSP should be a stand-alone document which can be used in the field without having to refer back to other documents.</p>	<p>RESPONSE 2: The process by which Tier 2 sample locations are selected will not be made in the field. Rather, preliminary Tier 1 results, with recommendations for Tier 2 sampling locations will be presented to the BCT for review and approval before any Tier 2 sampling is performed. References to Work Plan sections addressing Tier 2 sample location procedures are included in the FSP. They were not reproduced to avoid further duplication of document content.</p>
<p><u>SPECIFIC COMMENTS</u></p> <p>1. Page 1-1, Section 1.2, third sentence: "This FSP presents the sampling procedure for collecting the necessary information..."</p> <p>The introduction does not specifically state what the "necessary information" is.</p>	<p><u>RESPONSES TO SPECIFIC COMMENTS</u></p> <p>RESPONSE 1: This is a general introductory section, not a detailed recitation of the varied types of information that will be collected and evaluated during the Phase II RI/FS. Taken in context, the "necessary information" is that information required to determine risk at the 23 IRP sites and to provide a basis for evaluating and selecting remedial alternatives where appropriate.</p>
<p>2. Page 2-4, first paragraph, line 7: "The second site was."</p> <p>The second site was what?</p>	<p>RESPONSE 2: The four words are an editing error, a deletion that was apparently missed.</p>
<p>3. Page 4-11, Section 4.2: "... and objectives of the Phase II RI/FS (Table 4-1 and 4-2)."</p> <p>Tables 4-1 and 4-2 do not describe affected media or objectives; they</p>	<p>RESPONSE 3: The entire sentence includes COPCs and affected media as well as Phase II RI/FS objectives. Table 4-1 identifies the COPCs while Table 4-2 summarizes the affected media at each site. The Phase II objectives are to determine risk and where the risk is unacceptable, develop remedial</p>

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<p>Originator: Juan M. Jimenez (G. Holmes) Department of Toxic Substances Control</p> <p>To: Joseph Joyce MCAS - El Toro</p> <p>Date: 25 May 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>only list COPCs.</p>	<p>alternatives for addressing the problem.</p>
<p>4. Page 5-3, Table 5-2. Use of a scintillometer is proposed for field screening at four sites; however, radio nuclides are listed in Table 4-1 (page 4-7) as COPCs at seven sites. Please explain this discrepancy.</p>	<p>RESPONSE 4: The scintillometer is used for field screening of soils. Table 4-1 is not specific to media and the other sites are groundwater COPCs.</p>
<p>5. Page 6-16, Section 6.4.1: "Installation of Monitoring and Extension Wells".</p> <p>Please change "extension" to "extraction".</p>	<p>RESPONSE 5: Correction will be made.</p>
<p>6. Page 6-41, last paragraph - Please describe the sampling device to be used for collecting soil gas samples after purging.</p>	<p>RESPONSE 6: The sample device is usually a syringe from the mobile laboratory which is used for direct injection to the GC.</p>
<p>7. Page 6-49, first paragraph - Describe how the Tedlar bags will be filled. Also, describe QC procedures for Tedlar bags.</p>	<p>RESPONSE 7: The hand-held unit will be used an air pump to fill the Tedlar bags. Only new Tedlar bags will be used and submitted to the mobile laboratory.</p>
<p>8. Page 6-63, second paragraph from top - When will real-time monitoring be required (as opposed to discrete)? Please explain in relation to COPCs and analysis to be used.</p>	<p>RESPONSE 8: Through the test.</p>
<p>9. Page 6-63, Section 6.8.4, second paragraph - Air Resources Board (ARB) ambient air sampling guidelines cited in this section are not listed in References (Section 8), but it is presumed that the document referred to is "Testing Guidelines for Active Solid Waste Disposal Sites" (December 1986). The ARB no longer uses or recommends use of this document. It has been replaced with "Landfill Gas Testing Program Data Analysis and Evaluation Guidelines" (September 1990), in which Appendix C-1 "Recommendations for Further Testing" would be applicable here. According to ARB, the main difference between the two guidance documents is that the latter requires significantly lower detection limits which were not</p>	<p>RESPONSE 9: The 1990 ARB publication will be referenced..</p>

**RESPONSE TO COMMENTS
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<p>Originator: Juan M. Jimenez (G. Holmes) Department of Toxic Substances Control</p> <p>To: Joseph Joyce MCAS - El Toro</p> <p>Date: 25 May 1995</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>achievable when the earlier guidance was published.</p>	
<p>10. Page A1-1, Section 1.2 - Include use for surface elevation data which will be collected from all sampling points (Section 6.1).</p>	<p>RESPONSE 10: The surface elevation is one of the necessary coordinates required for CLEAN II sampling.</p>
<p>11. Page A4-2, Section 4.2.2.1 - Grids are not shown on Map A3-2.</p>	<p>RESPONSE 11: Sample locations not grids are shown on Map A3-2.</p>
<p>12. Page A4-3, last paragraph, second sentence - This sentence does not make sense.</p>	<p>RESPONSE 12: Sentence revised to read "approximately 10 feet above and 20 feet below groundwater".</p>
<p>13. Page B-2, Section 1.2, second bullet, last sentence - The presence of what?</p>	<p>RESPONSE 13: The text has been modified.</p>
<p>14. Page B2-2, Section 2.2, paragraph below bullets, third sentence - Should be "... recorded as less than the detection limit..."</p>	<p>RESPONSE 14: Correction noted.</p>
<p>15. Page B4-4, Section 4.2.1.4 Flux Chamber Monitoring - The method for determining the number and location of flux chamber samples is not explained.</p>	<p>RESPONSE 15: The text has been modified to state that the U.S. EPA User's "Guide for Measurement of Gaseous Emission Rates for Landfill Surfaces Using an Emission Isolation Flux Chamber"</p>
<p>16. Page B5-2, Section 5.2.4 - SVOCs cannot be analyzed by GC alone; method 8270 requires GC/MS. At present there are three state-certified mobile laboratories for GC/MS. Such instruments are mobile, not portable.</p>	<p>RESPONSE 16: SVOC will not be analyzed in a mobile laboratory.</p>
<p>17. Page C5-3, Section 5.2.7 - Please note that TO-14 requires use of Summa canisters, not Tedlar bags.</p>	<p>RESPONSE 17: Comment noted.</p>
<p>18. Page C5-4, Section 5.3.6, second sentence - Should be "Retardation factors are helpful in understanding the contaminants..."</p>	<p>RESPONSE 18: Comment noted.</p>
<p>19. Page C6-2, Section 6.4, last sentence - Should be "Soil gas sampling procedures are described in detail in FSP Section 6.6."</p>	<p>RESPONSE 19: Correction noted.</p>
<p>20. Page C6-2, Section 6.5, second paragraph - Explain rationale for</p>	<p>RESPONSE 20: In order to assess if the landfill is leaking subsurface samples</p>

**RESPONSE TO COMMENTS
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<p>Originator: Juan M. Jimenez (G. Holmes) Department of Toxic Substances Control</p> <p>To: Joseph Joyce MCAS - El Toro</p> <p>Date: 25 May 1995</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>using angle borings instead of vertical borings. Also, what would be criteria for reducing sample intervals?</p>	<p>have to be collected in the vadose zone. Also, the Regional Water Quality Control Board requires a permanent vadose zone monitoring network. To satisfy both goals and to avoid creating a potential pathway for contaminate migration, it was decided to drill angle borings equipped with both soil moisture and vapor probes.</p>
<p>21. Page O3-5, Map O3-2 - Should be titled "Suspended Fuel Tanks", not "Crash Crew Pit No. 2".</p>	<p>RESPONSE 21: Correction made.</p>
<p>22. Page (Q)3-5, Map Q3-2 - It does not appear that there will be two down gradient monitoring wells for Site 17, according to the estimated groundwater flow direction. Well #17_DGMW82 appears to be cross-gradient, not down gradient.</p>	<p>RESPONSE 22: The exact location of this well will be determined jointly with the BCT.</p>
<p>23. Page W4-5, Section 4.2.1 - The depth of three mud-rotary borings is not stated, nor is it stated whether they will be backfilled after core samples are collected; please clarify.</p>	<p>RESPONSE 23: Mud-rotary drilling has been eliminated from the Phase II RI/FS.</p>
<p>24. Page W6-6, third paragraph - There is no Section 6.6.1.2. It should probably be 6.7.1.2.</p>	<p>RESPONSE 24: Section number have been corrected.</p>

**RESPONSE TO COMMENTS
REVISED DRAFT
PHASE II REMEDIAL INVESTIGATION/FEASIBILITY STUDY
WORK PLAN, MCAS EL TORO, CALIFORNIA**

<p>Originator: Robert R. McVicker Irvine Ranch Water District</p> <p>To: Marcia Rudolph, Community Co-Chair Restoration Advisory Board</p> <p>Date: 25 May 1995</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p><u>GENERAL COMMENTS ON DRAFT WORK PLAN AND FIELD SAMPLING PLAN</u></p> <p><u>GENERAL COMMENTS</u></p> <p>The Work Plan and Field Sampling Plan document preparation was well done. The objective of the work to be done was well stated. The objective is to collect sufficient information to support decision making required to determine risks associated with sites and the appropriate response action. The decisions for selecting appropriate response actions include: early action, long term action and no further response action planned (NFRAP).</p> <p>The work plan rationale described is well thought out, reasonable and appears to account for all reasonable possibilities. The RI/FS tasks are described in detail and appear to be a reasonable approach to meeting the objective. The schedule seems reasonable with an start date in July, 1995 and final reports completed by January, 1997 for OU-2 and June, 1997 for OU-3.</p> <p>The organization of the report is good, especially the appendices for the work plan and attachments for the sampling plan. Each appendix/attachment has a self contained description of the plans complete with background information with each site.</p>	<p><u>RESPONSES TO GENERAL COMMENTS ON DRAFT WORK PLAN AND FIELD SAMPLING PLAN</u></p> <p><u>RESPONSES TO GENERAL COMMENTS</u></p> <p>RESPONSE: We appreciate RAB comments.</p>

**RESPONSE TO COMMENTS
REVISED DRAFT
PHASE II REMEDIAL INVESTIGATION/FEASIBILITY STUDY
WORK PLAN, MCAS EL TORO, CALIFORNIA**

<p>Originator: Jerard B. Werner RAB Committee</p> <p>To: Joseph Joyce BRAC Environmental Coordinator</p> <p>Date: 11 May 1995</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p><u>GENERAL COMMENTS ON DRAFT WORK PLAN AND FIELD SAMPLING PLAN</u></p> <p><u>GENERAL COMMENTS</u></p> <p>Due to the extremely large size of the subject reports, it is difficult to know how to start this letter other than to voice my objections to the time constraints and time required to review these documents - especially by unpaid volunteer citizens. This reviewer did find considerable overlap and redundancy between the two documents and suggests that they could easily be combined into one with little net increase in size. For example, Appendix A of the Work Plan presents the location of the sampling sites, while the Sampling Plan presents some details of the sampling procedure. I believe that it would be more appropriate to combine the two items in one report. Many of the figures are repeated in both volumes; and the basic organization is the same. I find myself having mixed emotions in commenting - on the one hand on the large amount of reading material - and on the other hand with the fact that some of the discussion is extremely general and indicates that there is a need to provide more detail. I will be more specific as I comment on certain of the sections. Due to time constraints, emphasis in reviewing was placed on the Work Plan and only for those sites associated with the OU-2 Landfills. The following are the comments on the Work Plan.</p>	<p><u>RESPONSES TO GENERAL COMMENTS ON DRAFT WORK PLAN AND FIELD SAMPLING PLAN</u></p> <p><u>RESPONSES TO GENERAL COMMENTS</u></p> <p>RESPONSE: The organization and content is restricted by guidance documents. The Work Plan should be a stand-alone document which discusses rationale for the RI/FS. The FSP is intended for use by field sampling crews. The amount of review time for the Work Plan and FSP is stipulated by the Federal Facilities Agreement of 60 days for draft major documents.</p>
<p><u>GENERAL COMMENTS ON DRAFT WORK PLAN</u></p> <p>1. Figure 1-2 is very helpful as a roadmap of the restoration program. I believe that it needs to be modified slightly to differentiate the tasks that have been done from the work to be done (The small print at the top of the page - under the title - states that "Each of the following steps have been conducted...")</p>	<p><u>RESPONSES TO GENERAL COMMENTS ON DRAFT WORK PLAN</u></p> <p>RESPONSE 1: References have been added to documents prepared for the completed steps.</p>
<p>2. Many figures and tables have been shown long before they are introduced in the text. It isn't necessarily obvious to the reader why</p>	<p>RESPONSE 2: Each table and figure is inserted on the page following its first reference.</p>

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<p>Originator: Jerard B. Werner RAB Committee</p> <p>To: Joseph Joyce BRAC Environmental Coordinator</p> <p>Date: 11 May 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>they have been presented. In some cases, additional discussion would be of benefit if the author(s) had a message to present to the readers regarding the significance of the figure or table. In some cases, additional discussion would be of benefit if the author(s) had a message to present to the readers regarding the significance of the figure or table. In some cases, such as the tables of COPC, I have the impression that the data appear more than once in the volume (and, of course, repeated in the Sampling Plan).</p>	
<p>3. Section 2.3.6.4 - Average Linear Groundwater-Flow Velocities - This reviewer is confused with all the different data presented. I do not understand the difference between hydraulic conductivity and groundwater-flow velocity.</p>	<p>RESPONSE 3: Hydraulic conductivity is an aquifer property that defines the aquifer permeability. Groundwater-flow velocity is a measure of the actual flow velocity of groundwater in the aquifer.</p>
<p>4. Section 4.2.2 - Identify the Decisions - The use of the term "fate" is unfamiliar. Please define.</p>	<p>RESPONSE 4: Fate is a term used to designate physical or chemical transformations of chemicals in the environment.</p>
<p>5. Tables 4-2 and 4-3 - The significance of the statistical column headings needs to be explained.</p>	<p>RESPONSE 5: The discussion of statistical analysis is included in the associated text.</p>
<p>6. Section 4.2.3.9 - Fate and Transport Models - Several different mathematical models are discussed in general terms with respect to their suitability for providing guidance on the location of sampling sites. Will more than one model be used? If not, which one and what data on correlation exists between the model and test data. Also, what is the rationale between the model results and sampling location?</p>	<p>RESPONSE 6: The models presented are considered the most appropriate evaluating inorganic and organic compound fate and transport in soil and groundwater. If another, more appropriate becomes available, the BCT will be consulted.</p>
<p>7. Section 4.2.6.3 - Calculating the Number of Samples to Estimate Risk - I'm lost!</p>	<p>RESPONSE 7: This section relates a statistical number of samples which is required to estimate risk.</p>
<p>8. Section 5.3.1.3 Soil Sampling and Drilling - What is a California sampler?</p>	<p>RESPONSE 8: A California sampler is a soil sampler driven into soil with a hammer.</p>
<p>9. Section 5.3.1.9 - Land Surveying - The paragraph that starts out</p>	<p>RESPONSE 9: The database is used to store depths and northings/eastings of</p>

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<p>Originator: Jerard B. Werner RAB Committee</p> <p>To: Joseph Joyce BRAC Environmental Coordinator</p> <p>Date: 11 May 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>“The results of the field investigations” ... states that the database will be used to calculate volumes of landfill areas, etc. Please amplify on the methodology that will result in the desired objective.</p>	<p>samples. This dimensional information will be used to calculate volume.</p>
<p>10. Section 5.3.10 - Decontamination - The water treatment plant at the El Toro Water District that is used for golf course irrigation cost about \$1.2 million five years ago; and the operating costs result in a water charge of \$375 per acre/ft. There are many requirements to be met even without potability.</p>	<p>RESPONSE 10: Discussions have been held with the Regional Water Quality Control Board regarding discharge to the golf course. The wastewater system for the Phase II RI/Fs work does not treat municipal wastewater, only wastewater generated from decontamination and well sampling. It is designed to primarily remove sediments and dissolved organic chemical contamination.</p>
<p>11. Section 5.6 - Risk Assessment - Is the risk assessment directed at the cleanup and test personnel or the population that will ultimately use the sites - or both?</p>	<p>RESPONSE 11: Risk assessments are conducted to evaluate exposure of on-site personnel under commercial/industrial or residential scenarios. The results will be used to assess whether cleanup is needed.</p>
<p>12. Section 5.9.1.3 - Identification and Analysis of Removal Action Alternatives (Cost) - The paragraph starts out using the verb “will” and then switches to “should” and then “may”. Shouldn’t “will” be used throughout?</p>	<p>RESPONSE 12: This paragraph has been reviewed by a professional technical editor.</p>
<p><u>GENERAL COMMENTS ON DRAFT FIELD SAMPLING PLAN</u></p>	<p><u>RESPONSES TO GENERAL COMMENTS ON DRAFT FIELD SAMPLING PLAN</u></p>
<p>A. Table 5-3 - Groundwater Samples - It appears that the column headed “proposed Monitoring Wells” should be entitled “Proposed New Monitoring Wells”.</p>	<p>RESPONSE A: Under this usage, “proposed” is synonymous with “new.”</p>
<p>B. Section 6.7.2.1 - Air Sparging Pilot Testing - I understand the description of the pilot installation to consist of an air-supply well and a collection well. In fluid mechanics terminology, this would be a ‘source’ and a ‘sink’. The ventilating airflow will want to take the path of least resistance, and, therefore, the cleansing ability of the airflow will be very non-uniform: it will be concentrated in the direct path between the source and the sink. While the description of the procedure suggests a “blower”, which I take to mean a low pressure rise device (inches of water), it is more likely that an air</p>	<p>RESPONSE B: The purpose of the air sparging is to assess the radius of influence of sparging. Because groundwater is moving, the sparging will be dispersed. A blower is a low pressure air compressor that does not release oil vapor. Up to 10 hours may be required to reach steady state.</p>

**RESPONSE TO COMMENTS
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<p>Originator: Jerard B. Werner RAB Committee</p> <p>To: Joseph Joyce BRAC Environmental Coordinator</p> <p>Date: 11 May 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>compressor will be required. If this is a rotary (piston) type, lubricating oil vapors could be introduced into the ventilating air. Also, a period of time will be required to achieve steady state conditions.</p>	
<p>C. Section 6.8.2 - Integrated Surface Sampling - Is the 10 liter Tedlar bag evacuated prior to the start of sampling, or is it at atmospheric pressure? If it is evacuated, then the blower will have to pump against atmospheric pressure. If the bag is initially at atmospheric pressure, how will the bag be purged of its initial contents. The test procedure needs to be defined in more detail to establish that a valid sample will be obtained.</p>	<p>RESPONSE C: Tedlar bags are purchased purged of gas because the collected soil cannot be contaminated from another source. An air sampling pump will be used to fill the Tedlar bag.</p>
<p>D. Section 6.8.4 - Ambient Air Sampling - The last sentence talks about "zero air". Please clarify.</p>	<p>RESPONSE D: Zero air is an atmospheric gas free of contaminants.</p>
<p>E. Section 6.8.4.2 - Equipment Description - The description of the pump is incomplete in that only the zero pressure rise flow rate (4.5 L/min) is defined. The missing parameter is the pressure rise at zero flow rate.</p>	<p>RESPONSE E: This equipment specification is directly from SCAQMD and does not specify this missing parameter.</p>
<p>F. Site 1 - Explosive Ordnance Disposal Range - Mention is made that this site probably contains unexploded ammunition. No mention is made of how this area is to be tested for munitions and made safe.</p>	<p>RESPONSE F: Previous geophysical surveys at Site 1 have identified trenches with metallic debris. The remainder of the site is disc by tractor.</p>
<p>G. General Comments on Landfill Closure - The State of California has a number of regulations that are directed to the procedures involved with landfill closure and post closure maintenance requirements that can extend for as much as 30 years. The DON should take these into consideration as part of the Phase II testing. These are covered in various sections of the Calif. Code of Regulations (Title 14, Division 7, Chapter 3, Article 7.8 & Chapter 5, Article 3.4, and Title 23, Division 3, Chapter 15, Article 8).</p>	<p>RESPONSE G: The process described for the landfills is the initial step in landfill closure under California regulations.</p>

**RESPONSE TO COMMENTS
REVISED DRAFT FOR SITES 24 AND 25
PHASE II REMEDIAL INVESTIGATION/FEASIBILITY STUDY
WORK PLAN, MCAS EL TORO, CALIFORNIA**

<p>Originator: John Lovenburg CH2M HILL</p> <p>To: Andy Piszkin Southwest Division</p> <p>Date: 29 June 1995</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p><u>WORK PLAN</u></p> <p><u>GENERAL COMMENTS</u></p> <p>The review of the Work Plan was limited to the Site 24 Data Quality Objective (DQO) Appendix. All of the proposed Phase II RI wells that are located in the OU-1 IAFS study area are discussed in the Site 24 DQOs. Several OU-2 and OU-3 sites, including 7, 8, 9, 10, 11, 12, 13, 14, 15, 21, 22, and 25, are located within the main volatile organic compound (VOC) contaminant plume area covered by the OU-1 IAFS; however, based on a brief review of the DQO appendices for these sites, no monitoring or extraction wells have been proposed as part of the Phase II RI for these sites. The appendices for Sites 13, 14, and 15 are missing from the Work Plan received by CH2M HILL and, therefore, were not reviewed.</p>	<p><u>WORK PLAN</u></p> <p><u>RESPONSES TO GENERAL COMMENTS</u></p> <p>RESPONSE: Monitoring wells are not proposed for Sites 7, 8, 9, 10, 11, 12, 13, 14, 15, 21, 22, and 25 in the Draft Phase II Work Plan. The Phase II RI field work will be performed using a tiered approach. The first tier will focus on identifying the vertical and horizontal extent of soil contamination and evaluating the potential for contaminated soil to impact groundwater. Tier 1 results will be analyzed by the CLEAN II Team and presented to the BCT. A decision to install monitoring wells can then be made regarding monitoring well installation. If appropriate, monitoring wells will be installed as part of the Tier 2 field effort.</p>
<p>Insufficient pilot testing of groundwater extraction from and injection into the Shallow Groundwater Unit have been included into the Phase II RI Work Plan to meet the needs of the OU-1 IAFS. More aquifer tests are needed, and the well screen interval of these wells needs to extend across the Shallow Groundwater Unit (a depth of approximately 100 feet). The use of existing water table monitoring wells is not appropriate, since their well screen extends only approximately 30 feet below the water table. CH2M HILL is willing to have a meeting or conference call to discuss the aquifer testing.</p>	<p>To coordinate the Phase II RI/FS with the OU-1 Interim-Action Feasibility Study (IAFS), the Site 24 Work Plan Appendix and Field Sampling Plan Attachment will have been modified to include drilling three extraction/injection wells during Tier 1. A cooperative effort between CLEAN I and CLEAN II will be used for siting the wells and planning the extraction and injection tests. The results of Tier 1 drilling and testing will be reviewed and analyzed by CLEAN I and CLEAN II and presented to the BCT. A decision to install additional extraction/injection wells can then be made. If appropriate, additional extraction/injection wells will be installed as part of the Tier 2 field effort.</p>
<p><u>SPECIFIC COMMENTS</u></p> <p>Page W-7, Section Building 296, sent. 1. The first sentence should read: "Buildings 296 and 297 are two large aircraft hangars that include the Assembly and Repair Shops at the Station."</p>	<p><u>RESPONSES TO SPECIFIC COMMENTS</u></p> <p>RESPONSE: Comment incorporated.</p>
<p>Page W-20, Section Hydrogeology, par. 2. The hydrostratigraphic description in this paragraph is not consistent with the OU-1 RI and IAFS</p>	<p>RESPONSE: The hydrogeology section was modified for consistency with</p>

**RESPONSE TO COMMENTS
REVISED DRAFT FOR SITES 24 AND 25
PHASE II REMEDIAL INVESTIGATION/FEASIBILITY STUDY
WORK PLAN, MCAS EL TORO, CALIFORNIA**

<p>Originator: John Lovenburg CH2M HILL</p> <p>To: Andy Piszkin Southwest Division</p> <p>Date: 29 June 1995</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>Reports. The unconfined unit encountered approximately 100 feet below ground surface at Site 24 is the Shallow Groundwater Unit that has an interpreted thickness of approximately 100 feet. Beneath this unit is an approximately 90-foot-thick, relatively finer-grained unit called the Intermediate Horizon. The Principal Aquifer extends from the base of the Intermediate Horizon to the top of semiconsolidated marine sediments below. These units are primarily defined by step changes in piezometric head values. In general, the Principal Aquifer piezometric head values change in response to seasonal production well pumping; the Shallow Groundwater Unit generally does not respond directly to Principal Aquifer pumping.</p>	<p>the OU-1 RI and the IAFS Reports.</p>
<p>Page W-20, Section Hydrogeology, Par. 5, Sent. 1 - Well 18_BGMW03 is a cluster well, not a multiple port well as indicated in the text.</p>	<p>RESPONSE: Comment incorporated.</p>
<p>Page W-20, Section Hydrogeology, par. 5, sent. 3 - Only two rounds of sampling have been completed, not three as indicated in the text.</p>	<p>RESPONSE: The Groundwater Quality Data Report, dated 30 September 1994, indicates that three rounds of groundwater sampling were completed for Wells 18_BGMW03A, 18_BGMW03B, and 18_BGMW03C. Only two rounds of sampling have been completed at well 18_BGMW03E according to the Groundwater Quality Data Report.</p>
<p>Page W-35, Section Step 2 - Identify the Decision, number 7 - Add "groundwater injection" to the list of items in the parentheses.</p>	<p>RESPONSE : Groundwater injection has been included in "Identify the Decision."</p>
<p>Page W-37, Section Step 3 - Identify the Input Affecting the Decision, Subsection Remediation Pilot Testing - Add "groundwater injection well testing" after "air sparging."</p> <p>Page W-37, Section Step 3 - Identify the Input Affecting the Decision, Subsection Additional Inputs for Long-Term Action - The second and third bullets of the objectives state (2) identification of technology implementability, effectiveness, and cost; and (3) pilot testing of remedial alternatives. These objectives are not met as part of the planned Site 24 investigation.</p>	<p>RESPONSE: Groundwater injection well testing has been included in "Identify the Input Affecting the Decision."</p> <p>RESPONSE: The cooperative effort exercised in identifying remedial pilot tests by the CLEAN I and CLEAN II Teams will result in identification of technology implementability, effectiveness, and cost. Additional extraction/injection well drilling and testing identified by the CLEAN I Team have been proposed by CLEAN II.</p>

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<p>As part of the IAFS alternatives, shallow extraction and injection wells screened over the upper 100 feet have been proposed in and near Site 24. In the OU-1 IAFS, the Navy is proposing to install shallow groundwater extraction wells for four of the six alternatives and shallow groundwater injection wells for three of the six alternatives. The Navy is also proposing Principal Aquifer extraction wells with and without injection wells for three of the six IAFS alternatives.</p> <p>The IAFS has assumed that the shallow extraction and injection wells will be able to sustain pumping and injection rates of 40 gallons per minute (gpm); this rate needs to be evaluated during the Phase II Investigation. Proposed shallow extraction wells will be located in two rows: along the 50 microgram per liter contour line next to Sites 9, 22, 10, and 8; and along the Station boundary from the west corner of the Station to near Sites 13/14/15. The injection wells will be located in three rows: along the east boundary of Site 24, along the Bee Canyon Wash in the southwest quadrant of the Station, and near the Marshburn Channel downgradient of the southwest quadrant of the Station.</p> <p>The CLEAN I Team recommends that up to five wells, screened over the upper 100 feet of the Shallow Groundwater Unit, be installed and aquifer tested.</p>	
<p>Maps W-3, W-10, and W-12 - Most of the wells installed as part of the Phase I RI are mislabeled, including the following:</p> <ul style="list-style-type: none"> • Site 18 wells (18_) are mislabeled as Site 21 (21_) • Site 9 wells are mislabeled as Site 21. • Site 8 wells are mislabeled as Site 18. • The Site 10 well is mislabeled as Site 21. • Well 07_DGMW72 is missing. • Well 22_DBMW47 is mislabeled as 21_DGMW47. • Well 07_DBMW91 is mislabeled as 21_DGMW9. • Well 09_DBMW45 is mislabeled as 21-DGMW45. 	<p>RESPONSE: Monitoring well designators have been edited where incorrect</p>

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<ul style="list-style-type: none"> • Well 07_DBMW70 is mislabeled as 07_DGMW70. • Well 12_DBMW48 is mislabeled as 21_DGMW48. • Well 21-DBMW56 is mislabeled as 21_DGMW56. 	
<p>On Figure W-10 only, Well 18_BGMW04A is mislabeled as 18_DGMW4A and Well 18_BGMW04B is mislabeled as 18_DGMW48. The well numbers for all of the other maps should be checked.</p> <p>Except for the Phase I Monitoring Wells, none of the existing features listed in the legend are displayed on the map; either eliminate the features from the legend or display the features on the figure.</p>	<p>RESPONSE: Monitoring well designators have been corrected. Maps and figures have been edited so that only the features displayed are included on the legends.</p>