



BECHTEL NATIONAL INC.

M60050.001238
MCAS EL TORO
SSIC # 5090.3

CLEAN II TRANSMITTAL/DELIVERABLE RECEIPT

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

Document Control No. CTO-0059/000240

File Code: 0313

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

DATE: 04 October 1995

CTO#: 0059

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

D. K. Cowser
D. K. Cowser, Project Manager

DESCRIPTION: Response to Comments on Technical Review of Engineering Evaluation/
Cost Analysis (EE/CA) for Various Sites
Phase II Remedial Investigation and Feasibility Study.
MCAS El Toro, California, CTO-0059

TYPE: Contract Deliverable CTO Deliverable Request for Change/Project Note

CATEGORY: Preliminary Final Preliminary Final Draft Final

SCHEDULED DELIVERY DATE: 10/04/95 ACTUAL DELIVERY DATE: 10/04/95

NUMBER OF COPIES SUBMITTED: Five (5)

COPIES TO: (* Distribution done by Bechtel)

SWDIV:

BECHTEL:

OTHER:

- J. Rogers, Code 18C1 (1)
- P. Kennedy, Code 0233.PK
(copy w/o attachment)
- T. Broussard, Code 1831.TB
(copy w/o attachment)
- V. Garelick, Code 1853.VG (1)

- J. Moe (copy w/o attach)*
- J. Kluesener (copy w/o attach)*
- D. Tedaldi (1)*
- D. Cowser (1)*
- T. Latas (1)*
- A. Schwartz BNI-SF (1)*
- BNI Document Control (2)*

- B. Arthur, US EPA (1)*
- J. Jimenez, Cal EPA (2)*
- J. Joyce, El Toro (1)*
- V. Parpiani, El Toro (6)*
- L. Vitale, CRWQCB (1)*
- J. Chavez, El Toro (3)*
- J. McKenna-BNI El Toro (1)*
- M. Rudolph RAB Co-chair (2)*
- Heritage Library (1)*

206 91 55101

RECEIVED
COTR



401 West A Street
Suite 1000
San Diego, CA 92101-7905

CLEAN II Program
Bechtel Job No. 22214
Contract No. N68711-92-D-4670
File Code: 0059/0313
IN REPLY REFERENCE: CTO-0059/000240

04 October 1995

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

Attention: Jason Ashman
Code 1831.JA

Subject: Response to Comments on Technical Review of Engineering Evaluation/
Cost Analysis (EE/CA) for Various Sites
Phase II Remedial Investigation and Feasibility Study,
-MCAS El Toro, California, CTO-0059

Dear Mr. Ashman:

Enclosed are three (3) copies of the Response to Comments on Technical Review of Engineering Evaluation/Cost Analysis (EE/CA) for Various Sites, Phase II Remedial Investigation and Feasibility Study, MCAS El Toro, California. This document was prepared under CLEAN II. Contract No. N68711-92-D-4670.

We have submitted the appropriate number of copies to individuals on the attached distribution list. The Response to Comments on EE/CA is being delivered at the same time as EE/CAs for Sites 4, 7, 11, 13, 14, 19, and 20. Each EE/CA is being delivered with a separate transmittal.

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

DKC/sp

cc: Attached list

Enclosure: Response to Comments on Technical Review of Engineering Evaluation/Cost
Analysis (EE/CA) for Various Sites



Bechtel National, Inc. Systems Engineers-Constructors

**RESPONSE TO COMMENTS
 TECHNICAL REVIEW OF ENGINEERING EVALUATION/
 COST ANALYSIS (EE/CA) FOR VARIOUS SITES
 MCAS EL TORO, CALIFORNIA**

<p>Originator: Virginia Garelick, Remedial Technical Manager Naval Facilities Engineering Command, Southwest Division</p> <p>To: Jason Ashman, RPM Naval Facilities Engineering Command, Southwest Division</p> <p>Date: 7 July 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>1. Per references (a) - (i), I have reviewed the subject documents prepared by Bechtel National, Inc., under Contract No. N68711-92-D-4670, CTO 59.</p>	
<p>2. General Impression:</p> <p style="padding-left: 40px;">The overall content is: Adequate The document is: Substantially Complete Document quality is: Good</p>	
<p><u>GENERAL COMMENTS</u></p> <p>a. The objectives of an EE/CA for a non-time critical removal action are to:</p> <p>(1) provide site characterization information including the extent of contamination, analytical data, and a streamlined risk assessment;</p> <p>(2) identify removal action objectives;</p> <p>(3) identify, analyze, and compare removal action alternatives in terms of effectiveness, implementability and cost; and</p> <p>(4) describe the recommended removal action. The subject documents met these objectives.</p>	<p><u>RESPONSES TO GENERAL COMMENTS</u></p>
<p>The subject documents were reviewed for conformance with U.S. EPA and DOD guidance regarding the preparation of EC/CAs. The documents generally followed this guidance with several exceptions (as noted below): The majority of comments contained in this memorandum pertain to the need for clarification or editorial changes.</p>	

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Virginia Garelick, Remedial Technical Manager Naval Facilities Engineering Command, Southwest Division</p> <p>To: Jason Ashman, RPM Naval Facilities Engineering Command, Southwest Division</p> <p>Date: 7 July 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>b. The Executive Summary for each of the EC/CAs should be expanded to include the following:</p> <ul style="list-style-type: none"> • a section that defines removal actions and discusses the provisions of the NCP regarding removals. • clarification of the “presumptive technology method.” 	<p>RESPONSE b: A discussion of the NCP and CERCLA removal actions has been added. The (presumptive Technology” has been deleted because presumptive remedies have been recognized only for landfills and VOC sites by the USEPA.</p>
<p>c. On January 25, 1995 I provided comments on a “model EE/CA” that was prepared for Site 13, MCAS El Toro. For the most part, my concerns have been incorporated in the subject documents. The concerns that were not addressed are repeated in this memorandum.</p>	<p>RESPONSE c: Comment noted.</p>
<p>d. Identification of Removal Action Alternatives: The seven EC/CAs I reviewed were nearly identical in content. While I agree this is an example of cost effectiveness (in terms of report preparation), I believe that the EE/CAs should be better tailored to reflect site specific conditions. In several cases it appeared that the discussion of treatment technologies was not adequate. Recommend expanding the analysis of treatment options, where appropriate, to include additional technologies that have proven track records for similar site conditions and constituents of concern. Even though these technologies may be screened out on the basis of cost, they should be briefly addressed if they are technically feasible, and are able to achieve removal objectives. Examples are provided below.</p>	<p>RESPONSE d: Additional information has been included on the treatment screening process. We do recognize that the discussion of treatment technologies appears redundant, but each site is tailored to site specific conditions and treatment technologies are discussed in regard to these technologies.</p>
<p>e. Implementability; the discussion of implementability in the EC/CAs was not adequate. The EC/CAs should also discuss the following topics:</p>	<p>RESPONSE e: A statement will be added that these factors were considered and are not generally considered to effect implementability because:</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Karen Goldberg US EPA</p> <p>To: Bonnie Arthur, Remedial Project Manager US EPA</p> <p>Date: 24 July 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<ul style="list-style-type: none"> • Page A3-11, Section 3.1.5: The EE/CA states that Site 11 is not in the coastal zone and therefore the CZMA is not ARAR. In this instance, the EE/CA dismisses a requirement because it is not applicable; the EE/CA should explain whether the requirement is relevant and appropriate. This comment also applies to Sections 3.1.4, 3.1.6 and 3.2.2. (It may appear obvious, but it is important to consider whether provisions that are not applicable are relevant and appropriate). 	<p>RESPONSE: This ARAR is not applicable or relevant and appropriate.</p>
<ul style="list-style-type: none"> • Page A3-36, Section 4.1.1.2: This section does not explain how 23 CCR regulations are either applicable or relevant and appropriate to clean closure. This comment also applies to Section 4.3.1.2 on page A4-46. 	<p>RESPONSE: This paragraph states that 23 CCR is not applicable or relevant and appropriate because the soil is not a RCRA waste but it is also not a RCRA site.</p>
<ul style="list-style-type: none"> • Page A4-38, Section 4.1.3.2: The first paragraph is confusing -- if the State HWCA provisions "are part of the authorized state program under RCRA", why are they "not considered potential federal ARARs"? [Note the opposite statement is made in Section 4.1.4.2]. The same comment applies to Section 4.2.3.2 on page A4-43. 	<p>RESPONSE: The sentence should read state ARARs not federal ARARs.</p>
<ul style="list-style-type: none"> • Page A4-39, Section 4.1.6.1: The cite to section 2.2.1 is incorrect -- surface water ARARs are discussed in 2.3.1. 	<p>RESPONSE: Correction will be made.</p>
<ul style="list-style-type: none"> • Page A4-40, Section 4.1.7: This section indicates the possibility of waste leaching to groundwater. Is this likely, if groundwater is 120 bgs? If so, further ARARs discussion is needed. This section refers back to Section 2.2, but that section (in particular, section 2.2.2.5) does not discuss the possibility that the remedy will cause leaching of soil contaminants to groundwater. This comment also applies to section 4.2.7. 	<p>RESPONSE: The sentence should read Rainfall affects on the treatment unit and stockpiles will be control and should not result in leaching to the subsurface soils.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Karen Goldberg US EPA</p> <p>To: Bonnie Arthur, Remedial Project Manager US EPA</p> <p>Date: 24 July 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>If SCAQMD rules are <u>State</u> ARARs, the last paragraph in this section should be moved to the next section. The EE/CA should explain why the listed SCAQMD rules are applicable State ARARs when several paragraphs earlier the EE/CA states that substantive provisions of the SCAQMD rules are potential <u>federal</u> ARARs because they are incorporated into an EPA-approved SIP.</p>	<p>RESPONSE: The SCAQMD rules are considered potential federal - not state - ARARs because of their inclusive to the SIP.</p>
<ul style="list-style-type: none"> • [Bonnie -- are we comfortable with the statement that the site doesn't contain any RCRA restricted wastes for purposes of evaluating LDRs as ARARs? For all removal sites?] 	<p>RESPONSE: The wastes generated and transported to state or federal regulated disposal facilities will be characterized and classified according to the facility's compliance program (RCRA or state).</p>
<ul style="list-style-type: none"> • <u>Section 3:</u> Location restrictions in 40 CFR Parts 257 and 258 and the EPA-approved State solid waste program should be considered potential location-specific ARARs for disposal of contaminated soil that is not hazardous waste. 	<p>RESPONSE: Comment noted.</p>
<ul style="list-style-type: none"> • <u>Page A3-1:</u> The EE/CA should explain the statement that location-specific ARARs for unidentified treatment locations will be the same as the ARARs identified in Section 3. 	<p>RESPONSE: This statement is made in regard to on-Station treatment systems and that location-specific ARARs are the same for all of MCAS El Toro.</p>
<ul style="list-style-type: none"> • <u>Table A3-1:</u> DON should determine whether Site 11 is within 200 feet of a fault. 	<p>RESPONSE: No mapped faults are located within 200 feet of the site.</p>
<ul style="list-style-type: none"> • <u>Table A3-1:</u> The EE/CA should identify efforts (past or proposed) to determine the presence or absence of managed fisheries. 	<p>RESPONSE: The inland areas of Orange County and surface waters of these areas would not support fisheries.</p>
<ul style="list-style-type: none"> • <u>Page A3-11, Section 3.1.4:</u> The EE/CA indicates that "there will be no dewatering effluent discharged from Site 11". However, the trigger for the FWCA is an "action that could affect fish or wildlife in nearby surface waters". The EE/CA should indicate whether any such action is involved in any of the removal alternatives. 	<p>RESPONSE: No work associated with the removal actions will affect surface waters or wildlife conservation areas at MCAS El Toro.</p>

**RESPONSE TO COMMENTS
 TECHNICAL REVIEW OF ENGINEERING EVALUATION/
 COST ANALYSIS (EE/CA) FOR VARIOUS SITES
 MCAS EL TORO, CALIFORNIA**

<p>Originator: Karen Goldberg US EPA</p> <p>To: Bonnie Arthur, Remedial Project Manager US EPA</p> <p>Date: 24 July 1995</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<ul style="list-style-type: none"> • Page A4-42, Section 4.2.2.1: This section refers to Section 1.4.1, but there is no such section in the EE/CA. If the reference is to the Phase I RI or some other document, the EE/CA should indicate that. Also, there is a typo in the first sentence -- "for" and "to" should be switched. 	<p>RESPONSE: Section 1.4.1 in the ARARs section discusses the general approach to RCRA (page A1-5).</p>
<ul style="list-style-type: none"> • Page A4-43, Section 4.2.4.1: This section refers to Alternative 1. Is that a typo? 	<p>RESPONSE: It will be changed to Alternative 3.</p>
<ul style="list-style-type: none"> • Page A4-44, Section 4.2.6.1: Reference to 2.2.2 should be changed to 2.3.1. 	<p>RESPONSE: Agreed.</p>
<ul style="list-style-type: none"> • Page A4-47, Section 4.3.3: This section states that under Alternative 4, untreated soil will be disposed as backfill or landfill cover material. However, the discussion of Alternative 4 (Text Section 4.4, page 4-17) states that untreated soil will be disposed in a TSCA-approved landfill. This section of the ARARs analysis should be revised to reflect requirements associated with transportation of untreated soil and disposal in a TSCA landfill. 	<p>RESPONSE: All treated soils will be used as part of the Station landfill caps. The untreated soils which do not exceed 50 ppm PCB will be disposed at an approved landfill (a California Class I landfill was assumed for cost estimating purposes).</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Virginia Garelick, Remedial Technical Manager Naval Facilities Engineering Command, Southwest Division</p> <p>To: Jason Ashman, RPM Naval Facilities Engineering Command, Southwest Division</p> <p>Date: 7 July 1995</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>c. Draft EC/CA for Site 11 (Transformer Storage Area):</p> <p>(i) Summary: The subject document states that "this EC/CA uses a cleanup concentration of 0.040 ppm in soil for PCB 1260". What is the basis of this cleanup goal? (Note: this comment also applies to the EC/CA prepared for Unit 2, Site 19 - Aircraft Expeditionary Refueling Site). As previously mentioned, recommended that U.S. EPA PRGs be used to guide cleanups.</p>	<p>RESPONSE (i): The industrial PRG for PCB is 0.34 mg/kg.</p>
<p>(ii) The identification and analysis of removal action alternatives includes on-site thermal desorption, off-site thermal desorption, on-site bioremediation, off-site landfill disposal, and no action. The recommended removal action is to excavate the contaminated soils and haul the soils to an off-site landfill disposal facility. Since the scope of the removal action is only 100 cubic yards, this is probably the most cost-effective method to address the PCBs. Recommend expanding the treatment analyses to briefly address the following technologies; (1) Solvent Washing and (2) Dehalogenation (Base-Catalyzed Decomposition Process). These technologies are currently used at NAS North Island and other DON installations to address PCB contaminated soil.</p>	<p>RESPONSE (ii): These technologies are discussed in an expanded technology screening section.</p>
<p>(iii) Source, Nature, and Extent of Contamination, Page 2-9: The document states that "Because PCB-1260 has a relatively low RBC, some of the PCB data are inconclusive as to whether the actual concentrations in the samples exceeded the RBCs." This is not consistent with the findings of the draft RI/FS work plan developed by CLEAN I in 1993. That report stated that "PCB-1260 exceeded human health RBCs in shallow soil in Unit 1 and Unit 2; the sum of the ratios of detected COPCs in shallow soil to the cancer RBCs is 124 for Unit 1, based on PCBs, and 90 for Unit 2, based on PCBs." Please correct this discrepancy.</p>	<p>RESPONSE (iii): The statement regarding the inconclusive nature of the PCB data was made because the reported detection for the Phase I RI data is considerable higher than the RBCs for many samples collected at this site. PCB-1260 is recognized as the COPC because of the qualified data validation of the Phase I RI.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Virginia Garelick, Remedial Technical Manager Naval Facilities Engineering Command, Southwest Division</p> <p>To: Jason Ashman, RPM Naval Facilities Engineering Command, Southwest Division</p> <p>Date: 7 July 1995</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>(iv) Documented Exposure Pathways, Page 2-15: Recommend expanding this section to include a brief discussion of potential receptors (e.g., the workers who will be exposed to PCBs while conducting the removal action.) (Note: this comment also applies to the EC/CA prepared for Unit 2, Site 19 (Aircraft Expeditionary Refueling Site.)</p>	<p>RESPONSE (iv): Under industrial scenario now proposed for the site, on-site workers are the potential receptors.</p>
<p>(v) Determination of Removal Scope, Page 3-2: Please revise the second to the last paragraph which states "After completion of the removal action, Site 11 must still be addressed in the No Further Response Action Planned (NFRAP) determination process by evaluating human health and ecological risk." Delete reference to NFRAP and replace with "a base-wide risk assessment." (Note" this comment also applies to the EC/CA prepared for Unit 2, Site 19 (Aircraft Expeditionary Refueling Site.)</p>	<p>RESPONSE (v): Comment noted and the changes made.</p>
<p>(vi) ARARs, Page 3-4: Please correct a typographical error in the second paragraph. The second sentence should read "... the maximum PCB concentration at Site 11 is less than 5 ppb."</p>	<p>RESPONSE (vi): The sentence is correct, it is 5 ppm.</p>
<p>d. Draft EC/CA for Site 13:</p> <p>(i) Page 4-10, Alternative 2 - Off-Site Thermal Desorption, Effectiveness: The adequacy of off-site capacity should be discussed here. Additionally, please clarify where the off-site facility is located. (This comment also pertains to the EC/CAs prepared for Site 4, Unit 1 of Site 7, Unit 1 of Site 14, and Units 2 and 3 of Site 20.)</p>	<p>RESPONSE (i): The capacity for off-site thermal desorption is not a problem in southern California and will be stated in this section. The location of the off-site facility should not be disclosed in this public document because the off-site facility chosen by the RAC may be different.</p>
<p>(ii) Tables 4-1, 4-2, 4-3, Costs: I noted that mobilization costs were the same for both on-site and off-site thermal desorption and for bioremediation. Please confirm these costs. Also, please provide the monitoring costs for bioremediation.</p>	<p>RESPONSE (ii): Costs will be confirmed.</p>
<p>e. Draft EC/CA for Unit 1, Site 14: No Additional comments.</p>	<p>RESPONSE e: Comment noted.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Virginia Garelick, Remedial Technical Manager Naval Facilities Engineering Command, Southwest Division</p> <p>To: Jason Ashman, RPM Naval Facilities Engineering Command, Southwest Division</p> <p>Date: 7 July 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>f. Draft EC/CA for Unit 2, Site 19:</p>	
<p>(i) Summary: Recommend deleting the last sentence of the first paragraph.</p>	<p>RESPONSE (i): This statement indicates that several removals are being considered at the time of issue for this EE/CA.</p>
<p>(ii) Previous Removal Actions, Page 2-8: The description of the previous removal action should include the amount of time and money that was expended.</p>	<p>RESPONSE (ii): We have not received this information from MCAS El Toro.</p>
<p>(iii) Source, Nature, and Extent of Contamination: Recommend expanding this section to briefly discuss the RI activities that are proposed for Units 1 and 3 of Site 19.</p>	<p>RESPONSE (iii): A statement will be added to indicate the reference to the Phase II RI/FS Work Plan and Field Sampling Plan.</p>
<p>(iv) Presentation of Analytical Data, Page 2-15: The document states that "for lead, the second concentration listed in the RBC column marked with the ** is the Preliminary Endangerment Assessment (PEA) guidance manual screening level for lead that will be used in place of the RBC for soil from 0 to 2 feet bgs." Please revise this sentence. Recommend deleting the reference to PEAs, and refer to U.S. EPA PRGs instead since the PEA value is reflected in the latest version of U.S. EPA's PRGs. Additionally, please note that the first concentration (not the second as stated in the document) reflects California's value for inorganic lead. The second value actually reflects the U.S. EPA PRG for inorganic lead under a residential scenario.</p>	<p>RESPONSE (iv): The revision will include Industrial PRGs and the lead is not a COPC under this scenario.</p>
<p>g. Draft EE/CA for Units 2 and 3, Site 20:</p> <p>No additional comments.</p>	<p>RESPONSE g: Comment noted.</p>
<p>4. Recommendations:</p> <p>Accept draft documents and incorporate comments as appropriate.</p>	<p>RESPONSE 4: Comment noted.</p>

RESPONSE TO COMMENTS
DRAFT ENGINEERING EVALUATION/COST ANALYSIS (EECA) DOCUMENTS
SITES 4, 7, 11, 13, 14, 19, AND 20
MCAS EL TORO, CALIFORNIA

<p>Originator: Enid Cohn Gary, El Toro RAB Member American Envirotest</p> <p>To: Joseph Joyce, BRAC Environmental Coordinator MCAS El Toro, California</p> <p>Date: 7 July 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>Based on my review of the EECA documents for Sites 4, 7 (Unit 1), 11, 13, 14 (Unit 1), 19 (Unit 2), and 20 (Units 2 & 3), I have several general concerns. To begin with, the three clean-up options seem to, at least in part, been chosen because economies of scale allow these options to be cost-effective. However, the economies of scale are based on the assumption that all seven sites will be cleaned up simultaneously. I do not think this is a reasonable, or even prudent assumption. The inherent difficulties in obtaining necessary approvals from both the Department of Defense and the responsible regulatory agencies tend to create a situation where contracts and permits for multiple locations would not issued at the same time. Further, there are difficulties that may be encountered in the clean-up process that would cause delays at one or more of the sites. Finally, I am concerned that while somewhat similar, the "best" clean-up method for any given site may not be the same as for the other sites.</p> <p>In addition to the clean-up method selection, I am concerned about the choice of only excavating contaminated soils to a depth of ten feet below ground surface. While I understand that this depth was chosen based on a clean-up standard for near-surface soils for potential residential uses, leaving contaminated soil in place poses some issues, particularly for real estate transfers. To obtain construction loans, future developers may need to show that all contaminated soil has been removed or cleaned up to regulatory levels -- generally 100 mg/kg for gasoline-related hydrocarbons, 1,000 mg/kg for diesel and other heavier petroleum hydrocarbons. In cases where contamination is shallow, and contaminated soil may only extend to say 15 feet below ground surface. Further, it should be noted that in cases where contamination is due to a former underground fuel storage tank, the top of contamination may not start until at least 10 feet below ground surface, at the base of the former tank location. In general, it is not uncommon in cases where hydrocarbon-contaminated soil has been found beneath former</p>	<p><u>RESPONSE TO GENERAL COMMENTS</u></p> <p>The problems indicated in this comment could arise as well as other situations such as weather or national emergency that may effect the execution of the removal actions. However, the EE/CAs are intended as an instrument to evaluate removal alternatives and actual conditions at the time of the removals may require additional measures.</p> <p>The vision and mission of the BRAC Cleanup Team do emphasize expedited removals to maximize reuse. Based on this emphasis, a coordinate process of executing the removals simultaneously or immediately following one other does satisfy this need. To met this need, the regulatory agencies and Department of Navy have meet and have agreed that the proposed approach is achievable.</p> <p>In regard to private development and cleanup to establish regulatory levels, the BRAC Cleanup Team has agreed that the Industrial Preliminary Remediation Goals of U.S. Environmental Protection Agency Region IX and that 1,000 mg/kg for petroleum hydrocarbons are appropriate for these seven EE/CA sites. Therefore, cleanup will occur to approved regulatory levels.</p>

RESPONSE TO COMMENTS
DRAFT ENGINEERING EVALUATION/COST ANALYSIS (EECA) DOCUMENTS
SITES 4, 7, 11, 13, 14, 19, AND 20
MCAS EL TORO, CALIFORNIA

<p>Originator: Enid Cohn Gary, El Toro RAB Member American Envirotest</p> <p>To: Joseph Joyce, BRAC Environmental Coordinator MCAS El Toro, California</p> <p>Date: 7 July 1995</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>underground tanks to excavate and treat or dispose of soils to depths of 20-25 feet below ground surface.</p> <p>The following document-specific comments are organized by site. These comments are focused on the potential applicability of bioremediation versus thermal oxidation.</p>	
<p><u>Site 4</u></p> <p>This is the Ferrocene Spill Area, which involves near-surface contamination from surface spills of oil and ferrocene. Bioremediation as a clean-up method is likely to be somewhat less efficient given the presence of ferrocene in addition to petroleum hydrocarbons. For this site, thermal oxidation would be the more likely choice.</p>	<p><u>Site 4</u></p> <p>RESPONSE: Thermal desorption is the preferred treatment system in the EE/CAs.</p>
<p><u>Site 7, Unit 1</u></p> <p>This is a Drop Tank Storage area where near-surface contamination primarily from surface spills of petroleum hydrocarbons was found. Based on the apparent profile of the contamination, bioremediation would likely be the more cost-efficient clean-up method for this site.</p>	<p><u>Site 7, Unit 1</u></p> <p>RESPONSE: The proximity of this unit to potential VOC source may suggest that chlorinated solvents may be present. Because of this situation and the uncertainty of effectiveness of bioremediation with solvents, thermal desorption was the preferred treatment system.</p>
<p><u>Site 11</u></p> <p>This is a Transformer Storage Area, which involves near-surface contamination from surface spills of transformer oil, some of which contained PCBs. Bioremediation as a clean-up method is likely to be somewhat less efficient given the presence of PCBs in addition to petroleum hydrocarbons. For this site, thermal oxidation would be the more likely choice.</p>	<p><u>Site 11</u></p> <p>RESPONSE: Disposal at off-site landfill was the preferred treatment system for this site.</p>

RESPONSE TO COMMENTS
DRAFT ENGINEERING EVALUATION/COST ANALYSIS (EECA) DOCUMENTS
SITES 4, 7, 11, 13, 14, 19, AND 20
MCAS EL TORO, CALIFORNIA

<p>Originator: Enid Cohn Gary, El Toro RAB Member American Envirotest</p> <p>To: Joseph Joyce, BRAC Environmental Coordinator MCAS El Toro, California</p> <p>Date: 7 July 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p><u>Site 13</u></p> <p>This is the Former Oil Change Area where near-surface contamination primarily from surface spills of petroleum hydrocarbons was found. Based on the apparent profile of the contamination, bioremediation would likely be the more cost-efficient clean-up method for this site. Concentrations of chlorinated pesticides at this site are likely consistent with those found throughout the base, and may need to be considered separately.</p>	<p><u>Site 13</u></p> <p>RESPONSE: The expense and time involved with segregation of surficial pesticides to completed the removal is prohibitive and thermal desorption is the preferred treatment system for this site.</p>
<p><u>Site 14, Unit 1</u></p> <p>This is the Battery Acid Disposal Area, which involves near-surface contamination from disposal of battery acid and paints, some of which contain lead. Bioremediation as a clean-up method is likely to be generally less efficient given the presence of acids and relatively higher concentrations of lead in soil. For this site, thermal oxidation would be the more likely choice.</p>	<p><u>Site 14, Unit 1</u></p> <p>RESPONSE: Thermal desorption is the preferred treatment system at this site.</p>
<p><u>Site 19, Unit 2</u></p> <p>This is the ACER Site, which involves near-surface contamination from surface spills of JP-5 from refueling activities, which contained PCBs. Bioremediation as a clean-up method is likely to be somewhat less efficient given the presence of PCBs in addition to petroleum hydrocarbons. For this site, thermal oxidation would be the more likely choice.</p>	<p><u>Site 19, Unit 2</u></p> <p>RESPONSE: Disposal at off-site landfill is the preferred treatment system for this site.</p>
<p><u>Site 20, Units 2 & 3</u></p> <p>This is the Hobby Shop area where near-surface contamination primarily from surface run-off containing petroleum hydrocarbons was found. Based on the apparent profile of the contamination, bioremediation would likely be a cost-efficient clean-up method for this site. Concentrations of chlorinated pesticides at this site are likely consistent with those found throughout the base, and may need to be considered separately.</p>	<p><u>Site 20, Units 2 & 3</u></p> <p>RESPONSE: Because segregation is expense for the pesticides, thermal desorption is the preferred treatment system for these units.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Edward J. Rumsey, Director Engineering Division, AC/S Installations, MCAS El Toro</p> <p>To: AC/S, Environmental and Safety MCAS El Toro</p> <p>Date: 3 July 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p><u>COMMENTS</u></p>	<p><u>RESPONSES TO COMMENTS</u></p>
<p><u>Site 11</u> Figure 2-3: The fence line looks to be incorrectly plotted. Access to the station's Crash Crew facility must be maintained.</p>	<p><u>Site 11</u> RESPONSE: Figure will be corrected.</p>
<p>Paragraph 4.4 (3rd ¶): States 20% versus 30% calculated in the cost estimate. Amend paragraph or estimate as appropriate. State ... alternative 1... when I think the proper reference is "alternative 4."</p>	<p>RESPONSE: Alternative 4 is correct and will be changed.</p>
<p>Table 4-4: Estimate is for "alternative 4." Line items reference "alternative 3." Correct the line item descriptions and review the validity to the estimate. These obvious errors coupled with the ones described above make me nervous about the quality of the information we are basing our decision on.</p>	<p>RESPONSE: Correction will be made.</p>
<p>Section 6: Concur with the recommendation unless the above corrections materially effect the cost to implement.</p>	<p>RESPONSE: Changes above do not effect cost.</p>
<p><u>Miscellaneous</u></p> <p>1. The site is currently active in that Base Pest Control is in the immediate vicinity. From the rough sketches it looks like limited area is required to perform the work. Based upon that assumption a couple of months notice would be appropriate to move equipment out of the way.</p>	<p>RESPONSE 1: The on-site manager for the RAC should be coordinating activities with the ROICC and site-specific representatives of the Marine Corps.</p>
<p>2. When proceeding with the implementation of the selected remediation, please keep in mind that Gate 9 is the truck access for the base. This should pose little problem due to its proximity to both the site and Highway 5.</p>	<p>RESPONSE 2: The RAC on-site should coordinate truck access with the base.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Edward J. Rumsey, Director Engineering Division, AC/S Installations, MCAS El Toro</p> <p>To: AC/S, Environmental and Safety MCAS El Toro</p> <p>Date: 3 July 1995</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>Site 19</p> <p>Section 6: I Take exception to the recommended alternative. A \$40,000 savings is available by choosing Alternative 2 vice Alternative 4. A review of Table 5-1 "Comparative Analysis" shows that both alternatives are equally effective. My vote goes for Alternative 2. I will bow to the professional judgment of Mr. Wayne Lee or Joseph Joyce if in their opinion the EE/CA has omitted another consideration which makes Alternative 4 superior.</p>	<p>Site 19</p> <p>RESPONSE: Alternative 2 (off-site thermal desorption) may have a potential of generating air emissions and will require more stringent air pollution control measures. This is the primary disadvantage of Alternative 2.</p>
<p>Miscellaneous:</p> <p>1. The site is in an Air-Ops area. Helos will be occupying spaces adjacent to the site by this fall. A contemplated work must be FULLY coordinated with the Wing G-4. Special provisions to reduce FOD hazards will be a requirement.</p>	<p>Miscellaneous:</p> <p>RESPONSE 1: See response to Comment 1 for Site 11 above.</p>
<p>2. When proceeding with the implementation of the selected remediation, please keep in mind that Gate 9 is the truck access for the base.</p>	<p>RESPONSE 2: See response to Comment 2 for Site 11 above.</p>
<p>Site 4</p> <p>Paragraph 2.1.2: The site is adjacent to a test cell. When finalizing the remediation plan close coordination with the Wing unit that operates the cell must be maintained.</p>	<p>Site 4</p> <p>RESPONSE: See response to Comment 1 for Site 11 above.</p>
<p>Paragraph 4.1, page 4-2: Closing the road to traffic may not be an acceptable option. All road closures need to be coordinated through PMO and the adjacent tenants. Address this issue fully in the remediation implementation phase.</p>	<p>RESPONSE: See response to Comment 1 for Site 11 above.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Edward J. Rumsey, Director Engineering Division, AC/S Installations, MCAS El Toro</p> <p>To: AC/S, Environmental and Safety MCAS El Toro</p> <p>Date: 3 July 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>Paragraph 6: My vote for preferred alternative is No. 1. On-site thermal desorption with all other units.</p>	<p>RESPONSE: Comment noted.</p>
<p><u>Site 7</u></p> <p>Paragraph 2.1.2: The site is adjacent to active taxiways and aircraft parking apron. When finalizing the remediation plan, close coordination with the Wing must be maintained.</p>	<p><u>Site 7</u></p> <p>RESPONSE: See response to Comment 1 for Site 11 above.</p>
<p>Paragraph 4.1, page 4-2: To control FOD extraordinary daily cleanup procedures will be required. Include these when preparing remediation plan.</p>	<p>RESPONSE: The RAC will be responsible for daily cleanup.</p>
<p>Paragraph 6: My vote for preferred alternative is No. 1. On-site thermal desorption with all other units.</p>	<p>RESPONSE: Comment noted.</p>
<p><u>Site 13</u></p> <p>Paragraph 2.1.2: Site is adjacent to Air Museum. Coordinate work with the curator, Mr. Harry Gant. Currently a contract has been awarded for the removal of tanks from Fuel Farm 2. This work is immediately adjacent and must not conflict. The ROICC has the contractor's schedule. Incorporate into final remediation plan.</p>	<p><u>Site 13</u></p> <p>RESPONSE: See response to Comment 1 for Site 11 above.</p>
<p>Paragraph 6: My vote for preferred alternative is No. 1. On-site thermal desorption with all other units.</p>	<p>RESPONSE: Comment noted.</p>
<p><u>Site 14</u></p> <p>Paragraph 6: My vote for preferred alternative is No. 1. On-site thermal desorption with all other units.</p>	<p><u>Site 14</u></p> <p>RESPONSE: Comment noted.</p>
<p><u>Site 20</u></p> <p>Paragraph 2.1.2: Work is adjacent to MWR's Auto Hobby Shop. Remediation must be coordinated.</p>	<p><u>Site 20</u></p> <p>RESPONSE: See response to Comment 1 for Site 11 above.</p>

**RESPONSE TO COMMENTS
 TECHNICAL REVIEW OF ENGINEERING EVALUATION/
 COST ANALYSIS (EE/CA) FOR VARIOUS SITES
 MCAS EL TORO, CALIFORNIA**

<p>Originator: Edward J. Rumsey, Director Engineering Division, AC/S Installations, MCAS El Toro</p> <p>To: AC/S, Environmental and Safety MCAS El Toro</p> <p>Date: 3 July 1995</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>Paragraph 6: My vote for preferred alternative is No. 1. On-site thermal desorption with all other units.</p>	<p>RESPONSE: Comment noted.</p>
<p><u>Miscellaneous</u></p> <p>Tables 5-2, 5-3, and 5-4: All reports include these tables. The tables are reported to represent the cost of performing all 5 of the remediation efforts as a whole. Between the various reports, two sets of conflicting numbers are reported. Please fix the discrepancy. If the costs change materially, please notify the decision makers so that they can reconsider based upon the amended data.</p>	<p><u>Miscellaneous</u></p> <p>RESPONSE: Discrepancies will be corrected.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Bonnie Arthur, Remedial Project Manager US EPA</p> <p>To: Joseph Joyce, BRAC Environmental Coordinator MCAS El Toro</p> <p>Date: 24 July 1995</p>	<p>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 use of the term “presumptive remedy” is not appropriate for these EE/CAs. EPA agrees that thermal desorption is a proven technology to treat soil with these types of contaminants. However, the term presumptive remedy can only be applied to technologies for which EPA has issued “presumptive remedy” Fact Sheets. These Fact Sheets then become part of the Administrative Record which justifies a streamlined FS. The EE/CA process allows a streamlined approach to evaluating alternatives without the use of the few published “presumptive remedies.”</p>	<p><u>RESPONSES TO GENERAL COMMENTS</u></p> <p>RESPONSE 1: The term “presumptive remedy” will be removed.</p>
<p>2. Include the EPA method number to the data table completed for each unit.</p>	<p>RESPONSE 2: The methods are reported in the referenced documents.</p>
<p>3. As discussed at recent meetings, please recalculate the risk at the individual sites using the EPA Region IX residential PRGs. These levels have also been agreed to by Cal/EPA. Once these calculations have been completed, the BCT should meet to review the risk levels and evaluate whether all seven removal actions are warranted.</p>	<p>RESPONSE 3: The PRGs will be used rather than RBCs.</p>
<p>4. Within the summary section, state whether or not the material to be excavated/treated is considered by the Navy to be a State or RCRA hazardous waste.</p>	<p>RESPONSE 4: The classification of waste can vary for each site depending on the type of treatment and disposition of the material. For example, the soil may contain petroleum hydrocarbons and be treated to below 100 mg/kg of TPH which is then a nonhazardous waste. The discussion of waste classification is indicated in the alternative analysis.</p>
<p>5. Please clarify whether cumulative risks have been considered in the risk analyses.</p>	<p>RESPONSE 5: The streamlined risk assessment only assesses the highest concentration of the COPC. The baseline risk assessment which is to be performed later will assess cumulative risks.</p>
<p>6. The term “observation method” should be changed. The use of the term “observation” implies that visual confirmation will be used to</p>	<p>RESPONSE 6: The term “observation method” will be changed.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Bonnie Arthur, Remedial Project Manager US EPA</p> <p>To: Joseph Joyce, BRAC Environmental Coordinator MCAS El Toro</p> <p>Date: 24 July 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>confirm that the excavation has removed the soil above risk levels. The EE/CA's actually propose sampling to determine completion of each removal.</p>	
<p>7. Have laboratory treatability studies been completed for the thermal desorption system? For example, has Total Organic Carbon (TOC) data been collected? Evaluation of TOC data, as well as moisture content which is discussed in the EE/CAs, is vital to determining the success of the proposed thermal desorption system.</p>	<p>RESPONSE 7: Thermal desorption is a proven technology based on years of experience by firms specializing in this treatment. Thermal desorption can treat soil which have a wide range of characteristics. TOC is usually not a problem unless the soil is an organic rich (e.g. peat or topsoil with humus). Moisture is also not a typical problem unless the soil is saturated.</p>
<p>8. Clarify the following sentence which appears in the EE/CAs which propose treatment of PAHs: "However, most of the PAH data are inconclusive as to whether or not the actual concentrations in the samples exceeded the RBCs." As the next sentence explains, benzo(a)pyrene was detected above the RBC, which indicates that PAHs are found at the sites. Is the intent of the first sentence to point out the difficulties of achieving low detection levels for PAHs (Site 7, page 2-12; Site 13, page 2-9; Site 20, page 2-9)?</p>	<p>RESPONSE 8: Many of the Phase I RI samples results report detection limits that are considerably higher than the RBCs. Thus, this statement was made.</p>
<p>9. It may be more appropriate to complete a "No action" Record of Decision (ROD) rather than a NFRAP for these sites after each removal action is completed and confirmation data indicates that the contamination have been removed.</p>	<p>RESPONSE 9: For site units, a No Further Investigation (NFI) may be recommended when the removal cleans up the unit, until the entire site can be addressed by a "No Further Action" ROD.</p>
<p>10. Sites which address soil containing low levels of polychlorinated biphenyls (PCBs) should probably not evaluate bioremediation as one of the three treatment/disposal options. Bioremediation is not an effective treatment method for PCBs.</p>	<p>RESPONSE 10: Agreed. Has been removed as a treatment alternative from Sites 11 and 19.</p>
<p><u>SPECIFIC COMMENTS</u></p> <p><u>Site 4</u></p> <p>1. Page 4-2: Provide the rationale for using the Cal/EPA Preliminary Endangerment Assessment (PEA) soil cleanup level for lead in soil at</p>	<p><u>RESPONSES TO SPECIFIC COMMENTS</u></p> <p><u>Site 4</u></p> <p>RESPONSE 1: The USEPA Region IX PRGs will now be used for the</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Bonnie Arthur, Remedial Project Manager US EPA</p> <p>To: Joseph Joyce, BRAC Environmental Coordinator MCAS El Toro</p> <p>Date: 24 July 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>depths of 0-2 feet bgs. Depth of 0 to 10 feet bgs should be used as the residential soil exposure depth.</p>	<p>EE/CAs.</p>
<p>2. Does the text state that lead cannot be treated in the thermal desorption unit? Will confirmation sampling for lead be completed after thermal desorption is completed? What back up provisions are there if the waste cannot be segregated completely and lead contaminated soil is processed through the thermal desorption unit?</p>	<p>RESPONSE 2: By applying industrial PRGs, lead is not a COPC.</p>
<p><u>Site 7</u></p> <p>1. Page 2-12: Provide the rationale for using the PEA lead value for soil at depths of 0-2 feet bgs.</p>	<p><u>Site 7</u></p> <p>RESPONSE 1: Lead is not a COPC when industrial PRGs are used.</p>
<p>2. Page 2-13: Should there be a J value notation attached to surface samples collected at Borings 07_STDB and 07_DBMW70?</p>	<p>RESPONSE 2: A footnote for these J values has been added.</p>
<p>3. Page 4-7: Clarify which "air pollution control equipment will be used to minimize the release of air pollutants."</p>	<p>RESPONSE 3: The air pollution controls are presented on Figure 4-1 and consist of a scrubber using a water quench to remove dust. Typically the emission is also monitored for volatile organics using a PID/FID.</p>
<p><u>Site 11</u></p> <p>1. As mentioned above, PRGs for PCBs should be used for the risk analysis. The boundaries of the proposed removal should be reassessed given the risk estimate calculated on data collected thus far. EPA agrees that a removal action may be warranted in the area near Borings 11_DD1, 11_DD2 and 11_GN1; vertical definition must be completed in these locations.</p>	<p><u>Site 11</u></p> <p>RESPONSE 1: The boundary of contaminants will be reassessed when the industrial PRGs for this site are applied.</p>
<p>2. Page 3-2: Please clarify which PCB-1260 screening analyses will be utilized.</p>	<p>RESPONSE 2: TRPH (USEPA Method 418.1) or immunoassay analysis for PCBs may be used for screening analysis.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Bonnie Arthur, Remedial Project Manager US EPA</p> <p>To: Joseph Joyce, BRAC Environmental Coordinator MCAS El Toro</p> <p>Date: 24 July 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>Site 13</p>	<p>Site 13</p>
<p>1. Page 2-9: Include description of "J" values.</p>	<p>RESPONSE 1: A footnote will be added to the tables explaining the J value.</p>
<p>2. Pages 2-13 and 2-17: No rationale is provided for using the PEA level for soil from (0 to 2) feet bgs.</p>	<p>RESPONSE 2: PRGs will now be used rather than the PEA levels.</p>
<p>3. Page 2-14: Typographical error at bottom of page? Page 2-16 missing?</p>	<p>RESPONSE 3: Figure 2-4 covers pages 2-15 and 2-16 and was miss placed in document.</p>
<p>4. Page 3-6: Provide description for methods to control fugitive dust emissions.</p>	<p>RESPONSE 4: Fugitive dust will be controlled by reducing handling of the soil and using a water mist if soils are dry.</p>
<p>5. Pages 3-6 and 4-7: What is rationale for setting treatment endpoint at 90% reduction?</p>	<p>RESPONSE 5: The 90% reduction will be eliminated: treatment goals will be PRGs for COPCs or 100 mg/kg for TPH.</p>
<p>6. Page 4-2, 3rd paragraph: Description of estimated soil amounts are not clear. First sentence gives volume of 1,050 cubic yards. Same paragraph states 75 cubic yards are lead contaminated and 500 cubic yards from "observed stained areas." 1,050 cubic yards is cited in the Executive Summary.</p>	<p>RESPONSE 6: This discrepancy will be corrected.</p>
<p>7. Page 4-3: Provide basis for 10 foot depth.</p>	<p>RESPONSE 7: The 10 foot depth is the boundary of shallow soil. Shallow soil at MCAS El Toro is considered as posing a human and ecological risk. Once soil is removed to 10 feet, this risk is considered to reduced, unless the contamination is later found to extend to groundwater.</p>
<p>8. Page 4-3: Regulators should be involved with the selection of 10% confirmation samples. 10% may not be enough because 100% of analytes will not be field screened.</p>	<p>RESPONSE 8: This comment should be eliminated; confirmation samples from the excavation should be collected from the floor and sidewalls of the excavation to confirm horizontal and vertical extent.</p>
<p>9. Page 4-4: Locations where air will be monitored? Description of instruments?</p>	<p>RESPONSE 9: The air monitoring locations are unique to each system and each permitted system will be specified for monitoring with specific equipment (which is usually PID or FID).</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Bonnie Arthur, Remedial Project Manager US EPA</p> <p>To: Joseph Joyce, BRAC Environmental Coordinator MCAS El Toro</p> <p>Date: 24 July 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>10. Page 4-8: Provide a minimum number of samples from excavations to be analyzed at offsite laboratories.</p>	<p>RESPONSE 10: All sidewall and floor samples (4 sidewalls and 2 floor samples).</p>
<p>Site 14</p> <p>1. Page 3-2: Please add that TRPH will only be used as a preliminary indicator of PAH levels.</p> <p>2. Page 3-7: Provide rationale for setting treatment endpoint at 90% reduction.</p> <p>3. Page 4-3: Regulators should be involved with selection of 10% confirmation samples. 10% may not be enough because 100% of analytes will not be field screened.</p>	<p>Site 14</p> <p>RESPONSE 1: Comment to be incorporated.</p> <p>RESPONSE 2: This statement will be eliminated; treatment should be to PRGs for COPCs or 100 mg/kg for TPH.</p> <p>RESPONSE 3: This comment should be eliminated; confirmation samples from the excavation should be collected from the floor and sidewalls of the excavation to confirm horizontal and vertical extent.</p>
<p>Site 19</p> <p>1. Page 2-9: Clarify distinction between Units 2 and 3; these appear to overlap.</p> <p>2. Page 2-10: Add table with data for each sample collected in this unit.</p> <p>3. Page 2-15: The reference to completing a STLC test does not seem accurate. Please revise.</p>	<p>Site 19</p> <p>RESPONSE 1: Unit 2 is surrounded by Unit 3.</p> <p>RESPONSE 2: The Phase I RI Technical Memorandum can be consulted for tables summarizing data for each sample collected.</p> <p>RESPONSE 3: This reference to STLC and comparison to Title 22 is the method used to classify solids as hazardous solid waste. This comparison indicates that the Site 19 soils are not California hazardous solid wastes.</p>
<p>Site 20</p> <p>1. Page i, first paragraph: Typographical error. Change Site 7 to Site 20. Also, switch page order.</p> <p>2. Page 2-8: Need to mention "informal removal" which took place when MCAS completed construction and replaced Oil Water Separator.</p>	<p>Site 20</p> <p>RESPONSE 1: Correction will be made.</p> <p>RESPONSE 2: A new oil/water separator was constructed, but no removal was performed.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Bonnie Arthur, Remedial Project Manager US EPA</p> <p>To: Joseph Joyce, BRAC Environmental Coordinator MCAS El Toro</p> <p>Date: 24 July 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>3. Pages 2-9 and 2-17: Rationale should be provided for using the PEA level for lead in soil at depths of 0 to 2 feet bgs.</p>	<p>RESPONSE 3: Industrial PRGs will be used, not PEA levels.</p>
<p>4. Page 2-13: DD6 contains benzo(a)pyrene at 4 feet. This should be shown on the figure because the depth of excavation will be determined by this level (figure currently shows "approximate extent of surface/shallow subsurface soil that has TRPH concentrations greater or equal to 1000 mg/kg").</p>	<p>RESPONSE 4: This additional will be made.</p>
<p><u>APPENDIX A, ARARs (All Sites)</u></p>	<p><u>APPENDIX A, ARARs (All Sites)</u></p>
<p>1. Page A2-1: The narrative for "Water quality criteria" under Clean Water Act does not agree with the "ARAR Determination."</p>	<p>RESPONSE 1: The ARAR Determination should be TBC.</p>
<p>2. Page A2-4: Under SDWA, 42 USC 300 does it have to be more clearly stated why surface waters are not designated for municipal use?</p>	<p>RESPONSE 2: The RWQCB Basin Plan is the primary guidance for water use in California and it states that the quality of surface water is not sufficient for drinking water supplies.</p>
<p>3. Pages A2-9 and A2-13: This classification system is not used by EPA. The guidance cited, "Guidelines for Groundwater Classification under the EPA Groundwater Protection Strategy" was not finalized by EPA.</p>	<p>RESPONSE 3: This is the available guidance document from the EPA, though it is not finalized. Groundwater standards for California are usually under the State of California mandate for protection.</p>
<p>4. Page A3-1: Many of these ARARs don't apply to Site 7.</p>	<p>RESPONSE 4: The section will be modified for Site 7.</p>
<p>5. Pages A3-2, A3-3, and A3-7: Please change "Base Closure Plan" to "BRAC Cleanup Plan."</p>	<p>RESPONSE 5: Correction will be incorporated.</p>
<p>6. Pages A3-6 and A3-8: Please revise text. An ecological risk assessment has not been completed yet. EPA provided comments on a "draft Ecological Risk Assessment Work Plan" on January 24, 1995.</p>	<p>RESPONSE 6: Correction will be made to text to state that the "screening" ecological risk assessment indicates potential ecological risks.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Jeffrey M. Paull, Regional Toxicologist US EPA</p> <p>To: Bonnie Arthur, Remedial Project Manager US EPA</p> <p>Date: 20 July 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>SPECIFIC COMMENTS</u></p> <p><u>Surrounding Land Use and Populations, §2.1.4, p. 2-7:</u> Site 11 is located in an industrial area in the southwest quadrant of the base, which houses maintenance, supply, and storage, and limited administrative services. The site is adjacent to Building 369, and in close proximity to one of the major runways. The Phase I RI reported that current and future workers, or residents, could be exposed to contaminants in soils. However, based on its location and planned future use, the residential exposure scenario for Site 11 seems unlikely.</p>	<p><u>RESPONSES TO SPECIFIC COMMENTS</u></p> <p>RESPONSE: Surrounding land uses for the 7 EE/CA sites were discussed in a BCT meeting on August 11, 1995. Current, immediately adjacent land uses will be discussed in the EE/CAs.</p>
<p><u>Source, Nature, and Extent of Contamination, §2.3, p. 2-8:</u> Although the risk-based concentration (RBC) calculated for PCBs is sufficiently protective of health it is unnecessarily restrictive for use as a cleanup level. The RBC of 40 µg/kg (0.04 mg/kg) calculated for PCB (Aroclor-1260) is less than USEPA Region IX's preremedial goal (PRG) for PCBs in residential soil (66) and 5 times lower than the PRG for industrial soil (340 µg/kg). From the description of the location of the PCB-contaminated soil at Site 11, it appears that the industrial PRG would be the more applicable screening value.</p>	<p>RESPONSE: Industrial PRGs will now be used for Site 11.</p>
<p><u>Chemicals of Potential Concern, Table 2-1, §2.4.1, p. 2-11:</u> As shown in the table below, the RBC values calculated for all of the chemicals of potential concern (COPCs) listed in Table 2-1 of the document, correspond very closely with USEPA Region IX PRGs for residential soil. However, as noted in the comment above, the PRGs for industrial soil appear to be the more appropriate risk screening values for use at Site 11.</p>	<p>RESPONSE: See response above.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Jeffrey M. Paull, Regional Toxicologist US EPA</p> <p>To: Bonnie Arthur, Remedial Project Manager US EPA</p> <p>Date: 20 July 1995</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>																												
<p style="text-align: center;">Comparison of RBCs with USEPA Region IX Residential and Industrial PRGs</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">COPC</th> <th style="text-align: center;">RBC (mg/kg)</th> <th style="text-align: center;">Residential PRG (mg/kg)</th> <th style="text-align: center;">Industrial PRG (mg/kg)</th> </tr> </thead> <tbody> <tr> <td>4,4'-DDD</td> <td style="text-align: center;">1.3</td> <td style="text-align: center;">1.9</td> <td style="text-align: center;">7.9</td> </tr> <tr> <td>4,4'-DDE</td> <td style="text-align: center;">0.9</td> <td style="text-align: center;">1.3</td> <td style="text-align: center;">5.6</td> </tr> <tr> <td>4,4'-DDT</td> <td style="text-align: center;">0.9</td> <td style="text-align: center;">1.3</td> <td style="text-align: center;">5.6</td> </tr> <tr> <td>Endosulfan</td> <td style="text-align: center;">3.3</td> <td style="text-align: center;">3.3</td> <td style="text-align: center;">34</td> </tr> <tr> <td>Endrin</td> <td style="text-align: center;">39</td> <td style="text-align: center;">20</td> <td style="text-align: center;">200</td> </tr> <tr> <td>PCBs</td> <td style="text-align: center;">0.04</td> <td style="text-align: center;">0.066</td> <td style="text-align: center;">0.34</td> </tr> </tbody> </table>		COPC	RBC (mg/kg)	Residential PRG (mg/kg)	Industrial PRG (mg/kg)	4,4'-DDD	1.3	1.9	7.9	4,4'-DDE	0.9	1.3	5.6	4,4'-DDT	0.9	1.3	5.6	Endosulfan	3.3	3.3	34	Endrin	39	20	200	PCBs	0.04	0.066	0.34
COPC	RBC (mg/kg)	Residential PRG (mg/kg)	Industrial PRG (mg/kg)																										
4,4'-DDD	1.3	1.9	7.9																										
4,4'-DDE	0.9	1.3	5.6																										
4,4'-DDT	0.9	1.3	5.6																										
Endosulfan	3.3	3.3	34																										
Endrin	39	20	200																										
PCBs	0.04	0.066	0.34																										
<p><u>Previous Risk Assessments §2.5.1, p. 2-14:</u> We agree with the statement on p. 2-14 that the RBCs developed during the Phase I RI differ slightly from USEPA Region IX PRGs. It appears that the 10-20% difference between certain exposure parameters; used in the dose equations to derive the RBC values may explain the minor differences between the RBC and PRG values. However, as shown in the table above, the RBC values differ significantly from the PRGs for industrial soil, which in our view are the more appropriate risk screening criteria for use at Site 11.</p>	<p>RESPONSE: See response above.</p>																												
<p><u>Level of Risk Presented by Chemicals with Concentrations Exceeding Their Respective Risk-Based Concentrations, §2.5.2, Table 2-3, p. 2-15:</u> PCBs were detected in 4 of 17 samples at Site 11, the highest measured concentration being 4.96 mg/kg. This value is 14.6 times greater than the USEPA PRG of .34 mg/kg for industrial soil, and corresponds to a cancer risk of approximately 1.5×10^{-5}. Based on a residential, rather than an industrial exposure scenario, Table 2-3 of the EE/CA presents the calculated risk at 1.2×10^{-4}.</p>	<p>RESPONSE: See response above.</p>																												

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Jeffrey M. Paull, Regional Toxicologist US EPA</p> <p>To: Bonnie Arthur, Remedial Project Manager US EPA</p> <p>Date: 20 July 1995</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>Given the residential scenario and exposure pathways described in the EE/CA, and the maximum concentration of PCBs detected in soil, we estimate a maximum risk reduction of from 7.5×10^{-5} to 6.7×10^{-7} for the post-remediation PCB-in-soil concentration at the proposed cleanup level of 0.04 mg/kg. For the industrial scenario, which appears to be more applicable to Site 11, we estimate a maximum risk reduction of from 1.5×10^{-6} to 1.2×10^{-8}. Clearly, even for the residential exposure scenario, this represents a deminimis reduction in risk, and does not justify the \$48,000-\$60,000 cost for Remedial Alternatives 1-4.</p>	<p>RESPONSE: The Navy's position is to remove contaminants to cleanup levels acceptable under an industrial exposure scenario.</p>
<p><u>Removal Action Objectives, §3.5, p. 3-6:</u> This section of the EE/CA states that, "the removal action will control human exposures to soils that present a risk," and that "this will be accomplished by excavating soil containing COPCs at concentrations exceeding RBCs." However, it should be emphasized that both RBCs and PRGs are risk screening values, and are not intended for use as cleanup levels, without further evaluation of their applicability and suitability for this purpose. Transforming risk-screening values, such as RBCs, directly into a cleanup levels, without consideration of such factors as technological feasibility, and analytical detection limits, is not acceptable, and often leads to the selection of inappropriate removal action alternatives.</p>	<p>RESPONSE: The evaluation of alternatives in the EE/CAs was based on whether the commonly available and proven technologies could achieve the RBCs as cleanup. The PRGs, especially industrial PRGs, are used in a similar way and we have found that the proven technologies are more likely to achieve these levels during treatment.</p>
<p><u>Conclusions</u></p> <p>Due to the assumption of a residential exposure scenario, and the adoption of a calculated risk-screening value as a final cleanup standard, an overly-restrictive soil removal goal for PCBs of 0.04 mg/kg was developed. This cleanup level is 25 times lower than the soil remediation number of 1 mg/kg for PCBs employed at other Navy bases, even where the residential exposure scenario is justified, and appears to have resulted in the selection of inappropriate removal action alternatives for Site 11.</p> <p>Based upon our analysis, it does not appear that the costs of remediation (between \$48,000 and \$60,000 for Remedial Alternatives 1-4) are justified</p>	<p>RESPONSE: The Navy position is to conduct feasible, expedient removals that will reduce risks and maximize reuse. As such, the Navy will now use industrial PRGs for risk screening and evaluation of alternatives.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

Originator: Jeffrey M. Paull, Regional Toxicologist US EPA To: Bonnie Arthur, Remedial Project Manager US EPA Date: 20 July 1995	CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306
by the deminimis level of risk reduction to be achieved, and that the no action alternative should be considered for Site 11. We therefore cannot approve the recommendations and conclusions concerning removal action alternatives contained in the EE/CA document.	

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Dante Tedaldi, Ph.D., P.E. Bechtel National, Inc.</p> <p>To: Joseph Joyce Southwest Division, El Toro</p> <p>Date: 25 July 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>Comments are presented specific to several, but not all of the EE/CAs reviewed. This is because of the similarity between documents and therefore, it is expected that comments noted on one document will be applied to all other equally relevant text in the other EE/CAs.</p>	<p><u>RESPONSE TO GENERAL COMMENTS</u></p> <p>RESPONSE: Comment noted.</p>
<p><u>SPECIFIC COMMENTS</u></p> <p>1.2.1 Within the SUMMARY sections and throughout the documents, revise the text and tables to reflect the recent decision to use residential Preliminary Remediation Goals (PRGs) for screening, rather than Risk Based Concentrations (RBCs).</p>	<p><u>RESPONSE TO SPECIFIC COMMENTS</u></p> <p>RESPONSE 1.2.1: This revision will be made.</p>
<p>1.2.2 Within the SUMMARY sections state whether or not the material to be excavated/treated is considered by the Navy to be a state or RCRA hazardous waste.</p>	<p>RESPONSE 1.2.2: The wastes generated by the removals are nonhazardous and may be "designated" or "nonhazardous" state wastes.</p>
<p>1.2.3 For the following case, then the removal action objective should be stated as in the documents with the addition of the bracketed text. "... preventing exposure to soil with contamination at concentrations exceeding a (cumulative) excess lifetime cancer risk of 10⁻⁶ and a (cumulative) excess non-carcinogenic hazard index of 1."</p> <p>If cumulative effect were not considered, then the text should be explicit and state that.</p>	<p>RESPONSE 1.2.3: The streamlined risk does not consider a cumulative risk. Justification for the removal is based on the exceedance of only one COPC of the industrial PRGs.</p>
<p>1.2.4 Consider a brief discussion in the documents related to the fact that CTO-065 will conduct a polynuclear aromatic hydrocarbon (PAH) background study. The results of this PAH background study could affect removal decisions made in these EE/CAs.</p>	<p>RESPONSE 1.2.4: The funding of the PAH study has not been approved by the Navy. Therefore this study may not be available for the removals and industrial PRGs will be used for establishing cleanup.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Dante Tedaldi, Ph.D., P.E. Bechtel National, Inc.</p> <p>To: Joseph Joyce Southwest Division, El Toro</p> <p>Date: 25 July 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>1.2.5 There doesn't appear to be adequate justification for the decision to select the CAL-modified PRG of 130 mg/kg lead in soil for 0 to 2 feet below ground surface (bgs) and the Region IX PRG of 400 mg/kg for lead in soil for depths exceeding 2 feet. The applicable, Relevant, and Appropriate Requirements (ARARs) sections and appendices do not appear to address this issue. Nor has either standard been specifically identified as an ARAR.</p> <p>Previous discussions between Dr. D. Liu of Bechtel National, Inc. And Dr. J. Christopher of DTSC resulted in the selection of 10 to 10 feet bgs as the residential soil exposure depth.</p>	<p>RESPONSE 1.2.5: Industrial PRGs will now be used, except for Site 20 where a recreational scenario will be used.</p>
<p>1.2.6 Within the ARARs sections in the text and the appendices, revise the text to clarify that state toxicity characteristics are based not only on Toxicity Characteristics Leaching Procedure (TCLP), but also on Total Threshold Limit Concentrations (TTLC) and Soluble Threshold Limit (STLC). For reference, see CCR §22-66262.24.</p>	<p>RESPONSE 1.2.6: Agreed and the change will be incorporated.</p>
<p>For those EE/CAs which addressed soil containing low levels of polychlorinated biphenyls (PCBs) the decision to carry bioremediation through the complete analysis should be reexamined. Bioremediation is demonstrated to be ineffective for the destruction of PCBs. For example, at the CERCLA enforcement lead site of General Motors-Central Foundry Division in Region 2, Massena, NY. Laboratory bioremediation studies were performed in 1993 on PCB-contaminated soils. Bioremediation, solvent extraction, and thermal desorption were tested and found to be ineffective. Bioremediation was not able to get PCB levels down to acceptable levels; no further than 100 mg/kg. Cleanup levels for sediment were 1.0 mg/kg and 10.0 mg/kg for sludge and soil.</p>	<p>RESPONSE: Agreed. Bioremediation will be removed as an alternative.</p>

**RESPONSE TO COMMENTS
 TECHNICAL REVIEW OF ENGINEERING EVALUATION/
 COST ANALYSIS (EE/CA) FOR VARIOUS SITES
 MCAS EL TORO, CALIFORNIA**

<p>Originator: Dante Tedaldi, Ph.D., P.E. Bechtel National, Inc.</p> <p>To: Joseph Joyce Southwest Division, El Toro</p> <p>Date: 25 July 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>Other than incineration, there are no viable treatment technologies than can meet the residential PRG of 0.066 mg/kg. Moreover, consider that the Toxic Substances Control Act (TSCA) incineration equivalency performance guideline for PCBs is 2.0 mg/kg.</p>	<p>RESPONSE: Agreed. Rather than a treatment technology, one of the alternatives was disposal in a Class I Landfill (the recommended alternative).</p>
<p>1.2.7 There is a minor inconsistency between the Site 19 and Site 11 EE/CA reports. A background level is specified for PCBs for Site 11 (Table 2-1), but absent from the equivalent table for Site 19.</p>	<p>RESPONSE 1.2.7: The background level for PCB was originally presented in the Phase I RI Technical Memorandum. It will <u>not</u> be used and will be removed from the document.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Michael J. Wade, Ph.D., D.A.B.T. California Regional Water Control Board</p> <p>To: Juan Jimenez California Environmental Protection Agency (DTSC)</p> <p>Date: 27 July 1995</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>1. The EE/CA states that if all contamination above Risk Based Concentrations has not been removed at the specified depth, then a liner may be installed to separate contaminated soil from clean backfill material and the contaminated soil would be addressed at a later date. We recommend that it would better to address all the contaminants before backfilling. Any backfilling should be done with regulator oversight.</p>	<p>RESPONSE 1: The depth of the final excavation will depend on site conditions. The proposed depth of ten feet is related to human health concerns. Below ten feet, the risk is considered primarily to groundwater. If the type and concentrations of contaminants and site conditions permit, additional excavation could occur but the EE/CA use the ten feet depth as a limit for cost comparisons.</p>
<p>2. At all lead contaminated sites, soil will be excavated and disposed of at a Class I landfill. Title 23, Section 2581, allows the use of contaminated soil as a foundation layer (depending on STL values) for a landfill final cover. Since MCAS El Toro has landfills proposed for capping and closure, we suggest that this option be considered as an alternative to Class I landfill disposal.</p>	<p>RESPONSE 2: By using industrial PRGs rather than residential RBCs, the lead is not a COPC except at Site 20. For comparison purposes, the lead disposal will remain a Class I Landfill.</p>
<p>3. If the cleanup objective is based on a residential scenario, then will the higher lead cleanup levels proposed at depths greater than 2 feet be protective enough, or is this proposal based on another less restrictive cleanup scenario?</p>	<p>RESPONSE 3: The cleanup levels will be based on USEPA industrial PRGs.</p>
<p><u>GENERAL COMMENTS</u></p> <p>We have just one set of comments which applies to all seven EE/CAs. Estimates of the 99th quantile of ambient concentrations of metals in shallow soils are based on too small a sample size. We recommend that the database for these estimates be expanded to decrease the uncertainty of the estimates. We believe this can be done by applying familiar statistical methods to data the Navy has already collected.</p>	<p><u>RESPONSES TO GENERAL COMMENTS</u></p>
<p><u>SPECIFIC COMMENTS</u></p> <p>1. <u>Origin and Intended Use of the "Background" Data for MCAS El Toro:</u> As Data quality objectives (DQOs) were identified for MCAS El Toro during 1992 and 1993, concentrations of metals at sites on the</p>	<p><u>RESPONSES TO SPECIFIC COMMENTS:</u></p> <p>RESPONSE: The Navy intends to use the Phase I RI background metal concentrations for field screening. The use of analytical results from the RI</p>

**RESPONSE TO COMMENTS
 TECHNICAL REVIEW OF ENGINEERING EVALUATION/
 COST ANALYSIS (EE/CA) FOR VARIOUS SITES
 MCAS EL TORO, CALIFORNIA**

<p>Originator: Michael J. Wade, Ph.D., D.A.B.T. California Regional Water Control Board</p> <p>To: Juan Jimenez California Environmental Protection Agency (DTSC)</p> <p>Date: 27 July 1995</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>base were compared to parametric estimates of the 99th quantile of the distribution of the concentrations of metals in eleven samples of surface soil. The list of these 99th quantiles, shown in Table 2-1 of all seven EECAs, originally appeared in "Marine Corps Air Stations El Toro, El Toro, California, Installation Restoration Program, Phase II Remedial Investigation/Feasibility Study, Draft Work Plan", 9 November 1993. Appendix A to this work plan contains an "Introduction to Data Quality Objectives". In Section A.6.3.1 of this appendix (pp. 18ff.), a description is given of how twenty-one background samples were collected of which eleven were selected to represent ambient conditions for the base and how 99th quantiles of lognormal distributions of these metals were estimated. The estimates are summarized in Table A2a of this draft Work Plan. The DQO process was integral to the development of the Phase II Work Plan for the RI/FS; however, the list of the 99th quantiles of background distributions was never used, because it was decided to analyze for metals at all sites during Phase II.</p>	<p>work may be used during the baseline risk assessment.</p>
<p>These eleven sets of values do not constitute an adequate basis for defining the upper tail of the distributions of ambient concentrations of metals, because the sample size is too small. The 99th quantile was calculated as the mean plus the <i>t</i>-statistic times the standard deviation. Because both the <i>t</i>-statistic and the standard deviation become larger as the sample population gets smaller, the use of small sample sizes inflates estimates of the 99th quantile.</p>	<p>RESPONSE: The effects of a small sample size are well known. However, the use of the background metal concentrations has been used in the BCP and Final RI/FS Work Plan.</p>
<p>2. Techniques Used at Other Navy Bases: Better estimation of the upper quantiles is possible without collecting and analyzing new samples from the field, as SWDIV has demonstrated at Marine Corps Air Ground Combat Center (MCAGCC) Twentynine Palms and at Naval Station Long Beach. In both these cases, the Navy used data from soil samples already analyzed to expand the sample population for estimating ambient conditions. Plots of log concentrations vs.</p>	<p>RESPONSE 2: Agreed.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Michael J. Wade, Ph.D., D.A.B.T. California Regional Water Control Board</p> <p>To: Juan Jimenez California Environmental Protection Agency (DTSC)</p> <p>Date: 27 July 1995</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>cumulative probability were then used for estimation of upper quantiles of ambient distributions.</p>	
<p>At MCAGCC Twentynine Palms many borings were advanced in areas which were thought possibly contaminated with petroleum products but for which analyses for total petroleum hydrocarbons proved negative. These same samples were also analyzed for metals. Thus, many data were available from areas which were apparently uncontaminated. Analysis of plots of the common logarithm of concentration vs. cumulative probability supported the presumption of lack of contamination. These data were then used to expand the sample population contributing to estimates of the 99th quantile of ambient concentrations from the original six designated background samples to over 200.</p>	<p>RESPONSE: Comment noted.</p>
<p>At Naval Station Long Beach the problem was somewhat different but the solution was similar. The base is located on Terminal Island in an industrial area where nearly all surface soil is hydraulic fill, thus making estimation of background conditions problematic. The Navy assembled all the data on analysis for metals in surface soils from the Site Inspection Report. The log-probability plots were then rerun, and the lowest mode of multimodal populations was identified graphically. This lowest mode was then defined as the background conditions for the base and its upper quantiles were estimated. "Background" could be identified with this technique, even in the presence of contamination. At Naval Station Long Beach, the population of background samples was increased from zero to over 180.</p>	<p>RESPONSE: Comment noted. The exact procedure to be used in the baseline risk assessment will be presented to the BCT for concurrence.</p>

**RESPONSE TO COMMENTS
 TECHNICAL REVIEW OF ENGINEERING EVALUATION/
 COST ANALYSIS (EE/CA) FOR VARIOUS SITES
 MCAS EL TORO, CALIFORNIA**

<p>Originator: Michael J. Wade, Ph.D., D.A.B.T. California Regional Water Control Board</p> <p>To: Juan Jimenez California Environmental Protection Agency (DTSC)</p> <p>Date: 27 July 1995</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>3. <u>Intended Use of Background Data in These EECAs:</u> Lastly, we wish to emphasize that the estimates of 99th quantiles in Table 2-1 of the report currently under review will serve as cleanup criteria for several metals. It is incumbent upon the Navy to define such criteria in the most reliable way, i.e., using all available data. Defining the extreme tail of a distribution is a highly uncertain undertaking with just eleven values. We have outlines above methods the Navy has used on other bases to decrease the uncertainty of such measurements. We believe the Navy should make a similar effort at MCAS El Toro.</p>	<p>RESPONSE 3: Before the site is closed and transferred, the cleanup levels will be evaluated and BCT concurrence given.</p>
<p><u>CONCLUSIONS AND RECOMMENDATIONS</u></p> <p>The estimates of the 99th quantile of distributions of concentrations of metals are unacceptably crude and uncertain, owing to the small size employed. We recommend that the Navy expand the data set for calculating such quantities by using analyses from on-base locations which are apparently uncontaminated. Statistical procedures are readily available and have been used by the Navy elsewhere to help verify that such an expanded data set does indeed represent uncontaminated soils.</p>	<p><u>RESPONSES TO CONCLUSIONS AND RECOMMENDATIONS</u></p> <p>RESPONSE: Comment noted and will be discussed in future BCT meetings.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Marsha Mingay, Public Participation Specialist California Environmental Protection Agency (DTSC)</p> <p>To: Juan Jimenez California Environmental Protection Agency (DTSC)</p> <p>Date: 28 July 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>Although the EE/CAs mention some of EPA's requirements for public participation, we are concerned that:</p> <ol style="list-style-type: none">1. It is not a complete listing of all public participation requirements, and2. the mandated public participation activities are not treated as an integral part of the EE/CA document. <p>To address the above concerns, we suggest that a Public Participation Section be included in the document. This section would then list the required activities and provide a brief statement of how they will be satisfied. To help clarify our position, Attachment A is given to you as a guide for you to review.</p>	<p><u>RESPONSES TO GENERAL COMMENTS</u></p> <p>RESPONSE: A Public Participation Section will be included in the Draft Final EE/CAs.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Juan M. Jimenez, Remedial Project Manager Department of Toxic Substances Control (DTSC)</p> <p>To: Joseph Joyce, BRAC Environmental Coordinator MCAS, El Toro</p> <p>Date: 28 July 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 - FOR SITES 4, 7, 11, 13, 14, 19 AND 20</u></p>	<p><u>RESPONSES TO GENERAL COMMENTS FOR SITES 4, 7, 11, 13, 14, 19 AND 20</u></p>
<p>1. <u>Section 1, Introduction:</u> Please note that DTSC and the RWQCB are both part of Cal/EPA.</p>	<p>RESPONSE 1: Comment noted.</p>
<p>2. It was agreed at a Base Closure Team meeting and in the body of the report that if the contamination exceeded the depth of ten feet, with the exception of Site 19, then the unit would revert back to the Remedial Investigation/Feasibility Study. The following concerns arise as a result: an opening in the ground ten feet deep poses obvious physical hazards. In addition, there is the possibility over time of a rain event. How will these be addressed? What are the contingencies?</p>	<p>RESPONSE 2: No excavation will be left open to 10 feet. A liner (possibly an unwoven geotextile fabric) may be used to line the excavation and clean backfill used to grade. Any surface improvements will be replaced or repaired.</p>
<p>3. Since an agreement was reached by the Base Closure Team (BCT) to use Preliminary Remediation Goals (PRGs) instead of risk-based concentrations (RBCs), please replace all references to RBCs with the most current EPA Region IX PRGs. Changes will be necessary throughout the document. The revision from the Draft EE/CA to the final EE/CA should take into account the current land use of the site, the future reuse potential and the reason which support for going forth to one of the three options: a) an Action Memorandum, b) more investigation via the RI/FS or c) no further action at this time.</p>	<p>RESPONSE 3: The PRGs have been in place of the RBCs throughout all documents.</p>
<p>4. <u>Background Concentration Values:</u> Some of the listed background concentrations are quite high. For example, arsenic is shown at 37,610 µg/kg. To develop a more precise estimate of ambient conditions, the Geologic Services Unit (GSU) recommends that the Marines consider expanding the data set used to calculate background soils concentrations. The small sample size used to determine these background concentrations is of particular concern</p>	<p>RESPONSE 4: The background metal concentrations based on the 11 samples is included for screening purposes. The calculation of metal background concentrations may be completed at the conclusion of the Phase II RI.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Juan M. Jimenez, Remedial Project Manager Department of Toxic Substances Control (DTSC)</p> <p>To: Joseph Joyce, BRAC Environmental Coordinator MCAS, El Toro</p> <p>Date: 28 July 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>because these values will be used as a standard against which the confirmation samples will be compared to. The confirmation samples will determine if enough soil has been excavated, i.e., are we done yet? By increasing the database from which background is calculated by inclusion of data from other sources, the uncertainty of the estimates will decrease. Please include data from other investigations where it can be demonstrated that there was no apparent contamination. This concept has been used successfully by the Marines/Navy at both MCGACC Twenty Nine Palms and Naval Station Long Beach.</p>	
<p>5. Regarding confirmation samples, a methodology should be presented for determining the number and locations of samples. Will samples be taken according to a grid-based random sampling method or will they be judgmental based on visible staining, or how will they be taken? Please provide a detailed outline describing the strategy for confirmation sampling. Such a strategy should include but not be limited to: minimum number of samples, how the samples will be taken, clearly stated criteria and the standard operating procedures which will be used.</p>	<p>RESPONSE 5: The EE/CA cost estimate was based on 4 sidewall samples and 2 floor samples from the excavation. For cost estimating of excavation, one sample was assumed for every 25 cubic yards of soil and for treatment, one sample was assumed for every 100 cubic yards of soil. Proposed numbers will be provided in a work plan from the RAC.</p>
<p>6. In future submittals please report soil concentration value in mg/kg. In addition, please be consistent throughout the Final EE/CA regarding the units for soil. The use of both "tons" and "cubic yards" is very confusing. GSU prefers cubic yards.</p>	<p>RESPONSE 6: Treatment and disposal are usually calculated on tons while excavation is usually calculated as cubic yards. A conversion factor of 1.55 tons per cubic yard was used for converting cubic yards to tons. Soil concentrations will be reported in mg/kg.</p>
<p>7. Due to the repetitive nature of these documents some of the General Comments will be repeated in EE/CA specific comments for ease of location and response by the Navy.</p>	<p>RESPONSE 7: The document are similar in structure and analysis of alternatives. However, each document is different where site-specific information is presented.</p>
<p>8. Method 8310 should be used for Polycyclic Aromatic Hydrocarbons (PAHs) unless the calculated ambient background values indicate that Method 8270 Detection limits are appropriate.</p>	<p>RESPONSE 8: Agreed.</p>

**RESPONSE TO COMMENTS
 TECHNICAL REVIEW OF ENGINEERING EVALUATION/
 COST ANALYSIS (EE/CA) FOR VARIOUS SITES
 MCAS EL TORO, CALIFORNIA**

<p>Originator: Juan M. Jimenez, Remedial Project Manager Department of Toxic Substances Control (DTSC)</p> <p>To: Joseph Joyce, BRAC Environmental Coordinator MCAS, El Toro</p> <p>Date: 28 July 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>9. Please define the term "distributables" and support its inclusion in the cost analysis.</p>	<p>RESPONSE 9: Distributables are discussed under the cost section for each alternatives and include temporary construction facilities, insurance, freight, miscellaneous tools and special equipment, health and safety equipment, and other indirect costs.</p>
<p>10. ARARs Appendix: Section 300.400(g)(2) of the National Contingency Plan (NCP) states that a state requirement must be a state standard, not a state law. In addition if several RCRA requirements are relevant and appropriate, how will this affect the handling of the excavated soil. Finally, approval of the MCAS El Toro EE/CAs by DTSC does not constitute or imply an actual agreement with the Navy's/Marine Corps interpretation of the narrative state requirements of the Basin Plan or SWRCB Resolution 68-16, or technological and economic feasibility under 22 CCR 66264.94.</p>	<p>RESPONSE 10: State and RCRA standards will be used to determine the final disposition of the excavated soils such as disposal of hazardous soil in a state Class I Landfill. Under the FFA, state is required to submit ARARs. In place of the state ARARs, the Navy has prepared their own interpretation of the state ARARs and has requested the state review and comment on these ARARs.</p>
<p>11. The DTSC does not agree that enough characterization has been performed at this time. As a result, it is not possible to determine whether or not the groundwater below the proposed EE/CA sites have been impacted. The DTSC requests that such opinions be removed from the final EE/CAs unless they are supported by data.</p>	<p>RESPONSE 11: Agreed.</p>
<p>12. For those proposed removal actions which have lead as a chemical of potential concern, please enhance the discussion for the use of a 130 mg/kg cleanup level for the 0 to 2 foot level and 400 mg/kg for the 2 to 10 foot interval. In addition, there is a statement which has been erroneously expounded as fact which states that the Preliminary Endangerment Assessment (PEA) Guidance Manual levels are enforced as cleanup levels by the DTSC. These PEA levels are intended for use during a site inspection to decide whether or not further action is necessary. This further action can take the form of one of three options: 1) No Further Action, 2) Expedited Removal Action or 3) Full Remedial Investigation/Feasibility Study, etc. They</p>	<p>RESPONSE 12: The USEPA PRGs will now be used for the removals.</p>

**RESPONSE TO COMMENTS
 TECHNICAL REVIEW OF ENGINEERING EVALUATION/
 COST ANALYSIS (EE/CA) FOR VARIOUS SITES
 MCAS EL TORO, CALIFORNIA**

<p>Originator: Juan M. Jimenez, Remedial Project Manager Department of Toxic Substances Control (DTSC)</p> <p>To: Joseph Joyce, BRAC Environmental Coordinator MCAS, El Toro</p> <p>Date: 28 July 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>were not created for use as clean up criteria. Clean up numbers are a function of the risk management decision which includes risk assessment, public input, regulator input, cost, technical reusability, etc.</p> <p>Please modify this statement wherever it appears or delete it.</p>	
<p>13. The DTSC recognizes the Navy/Marine Corps intent in maximizing the reuse potential of these sites. Please evaluate the industrial scenario when the PRGs replace the RBCs. It is acceptable to cleanup sites to residential levels.</p>	<p>RESPONSE 13: As discussed on August 11, 1995, the BCT agreed to use USEPA industrial PRGs for the 7 EE/CAs except for Site 20.</p>
<p>14. <u>Appendix:</u> Section 300.400(g)(2) of the NCP says a state requirement must be a state <i>standard</i>. It is not required to be a state law.</p>	<p>RESPONSE 14: Comment incorporated.</p>
<p>15. <u>Appendix:</u> If several RCRA requirements are relevant and appropriate, how will this affect the handling of the excavated soil?</p>	<p>RESPONSE 15: See Response 10.</p>
<p>16. <u>Appendix:</u> Approval of MCAS El Toro EE/CAs by DTSC will not indicate agreement with the DONs interpretation of the narrative state requirements of the Basin Plan or SWRCB Resolution 68-16, or technological and economic feasibility under 22 CCR 66264.94.</p>	<p>RESPONSE 16: In place of the state ARARs, the Navy has prepared their own interpretation of the state ARARs and has requested the state review and comment on these ARARs.</p>
<p>17. <u>Paragraph beginning:</u> "No chemicals exceeded the TTLC regulatory values": The meaning of this paragraph is unclear. It appears that DON is proposing to average the concentrations of cadmium, chromium and lead found in soil samples at these sties and, if the average concentrations are below the regulatory threshold for hazardous waste and less than ten times the STLC values, declare the soil non-hazardous. If this is the proposed method for determining whether the soil is hazardous, it is incorrect. Title 22 CCR, Chapter 11, Section 66261.20 requires that sampling for waste classification be done in accordance with SW-846 (see Volume II Field Manual Section 9.1). While SW-846 does not provide a method for sampling</p>	<p>RESPONSE 17: The purpose of the statement is to indicate that our current information suggests the soil is nonhazardous because concentrations did not exceed TTLC. Therefore, our assumption is that the soil will be handled as nonhazardous. The actual conditions of the soil upon excavation will be characterized by soil samples taken every 25 cubic yards (assumption for cost estimating purposes).</p>

**RESPONSE TO COMMENTS
 TECHNICAL REVIEW OF ENGINEERING EVALUATION/
 COST ANALYSIS (EE/CA) FOR VARIOUS SITES
 MCAS EL TORO, CALIFORNIA**

<p>Originator: Juan M. Jimenez, Remedial Project Manager Department of Toxic Substances Control (DTSC)</p> <p>To: Joseph Joyce, BRAC Environmental Coordinator MCAS, El Toro</p> <p>Date: 28 July 1995</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>soil in-situ, in the past DTSC has allowed soil to be classified in-situ for waste classification purposes, provided that the vertical and lateral extent of the contamination has been determined. If so, and the volume can be reasonably estimated, then the 80 percent upper confidence level (two-tailed) of the sample distribution may be compared to the regulatory threshold for hazardous waste determination. If the 80 percent upper confidence level is less than the regulatory threshold, then the soil can be declared non-hazardous. If the vertical and lateral extent of contamination cannot be delineated, the soil cannot be classified as hazardous or non-hazardous in-situ and will have to be excavated in order to be classified. Therefore, unless the soil can be properly classified in-situ as non-hazardous, the hazardous waste management requirements of 22 CCR Division 4.5 should be considered ARARs.</p>	
<p>18. Introduction: See the attached public participation comments.</p>	<p>RESPONSE 18: Comment noted. A Public Participation Section has been added to the EE/CAs.</p>
<p><u>GENERAL COMMENTS FOR SITE 4</u></p> <p>1. Section 4.1, paragraph beginning, "The excavated soil will be loaded onto trucks..." Describe how plastic sheeting will be secured to avoid blowing away or tearing.</p>	<p><u>RESPONSES TO GENERAL COMMENTS FOR SITE 4</u></p> <p>RESPONSE 1: The actual method will be decided by the RAC. Usually it is tied down with old tires, hay bails, or similar objects.</p>
<p>2. Section 4.1, fifth paragraph from end, "The thermal desorption unit can process soil with a maximum moisture content of 15 percent by weight, which is not expected." Please note that in Section 2.1.3 it states that the soil "...tends to absorb and hold water." This may create a moisture content above 15 percent during rainy periods, limiting the operation of the thermal desorber.</p>	<p>RESPONSE 2: Agreed and the RAC should take steps to reduce exposure to rainfall.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Juan M. Jimenez, Remedial Project Manager Department of Toxic Substances Control (DTSC)</p> <p>To: Joseph Joyce, BRAC Environmental Coordinator MCAS, El Toro</p> <p>Date: 28 July 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>3. Section 4.1.3, fourth paragraph, "The extent of excavation on a field screening level will be determined by submitting one sample per 25 cubic yards....": Please explain how these samples will be taken.</p>	<p>RESPONSE 3: This statement is for cost estimating purposes. The actual protocol will be up to the RAC.</p>
<p>4. Section 4.1.3, sixth paragraph, "One sample per 100 tons of treated soil sll be collected and submitted for analysis" and "One sample for every 500 cubic yards will be submitted for low-detection PAH analysis": Using this method, an insufficient number of samples may be taken. For example, the estimated quantity of treated soil is for Site 20 is only 60 cubic yards, and for Site 4 it is 105. Using the proposed method, no samples would be taken at Site 20. For Site 4, no samples would be submitted for low detection-limit PAH analysis. A minimum number of treated soil samples per unit should be proposed to provide an adequate confidence level.</p>	<p>RESPONSE 4: The statement has been modified to "one sample per 100 tons or a minimum of 4 samples". Samples will be analyzed for TRPH or TPH. If PAHs exceeded PRGs samples will also be analyzed for PAHs.</p>
<p>5. Section 5.2, second paragraph, "Due to the timely nature of the bioremediation process...": Shouldn't this be <i>time consuming</i>?</p>	<p>RESPONSE 5: Agreed.</p>
<p>6. Section 5.3, paragraph beginning, "Alternative 1 becomes more economically attractive...": It is stated that costs could be further reduced if treated soil is used for backfilling. Would this reduction in costs be significant? If so, the cost reduction should be included in Table 5-2. Additionally, the cost comparison (two paragraphs below) for Site 4 shows the cost per cubic yard, while the comparison for Site 20 does not. Since the overall cost is the basis for comparison, the cost per cubic yard is probably not necessary here.</p>	<p>RESPONSE 6: All costs will reflect a comparison of cost per cubic yard. Using the treated soil as backfill is usually not a significant reduction for the size of these sites. For cost estimating purposes, all on-site treated soil will be assumed to be disposed of at on-site landfills.</p>
<p><u>SPECIFIC COMMENTS FOR SITE 4</u></p> <p>1. Table 2-1: Arsenic concentrations up to 7,500 µg/kg exceed the PRG of 320 µg/kg for a residential scenario. Beryllium concentrations up to 1,000 µg/kg exceed the PRG of 140 µg/kg for a residential scenario. Chromium concentrations up to 85,000 µg/kg exceed the PRG of 140 µg/kg for hexavalent chromium. Was Chromium speciated. DTSC's</p>	<p><u>RESPONSES TO SPECIFIC COMMENTS FOR SITE 4</u></p> <p>RESPONSE 1: No speciation of chromium was completed in the Phase I RI. The PEA guidance will not be used for these EE/CAs because the BCT has agreed to use USEPA PRGs.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Juan M. Jimenez, Remedial Project Manager Department of Toxic Substances Control (DTSC)</p> <p>To: Joseph Joyce, BRAC Environmental Coordinator MCAS, El Toro</p> <p>Date: 28 July 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>PEA guidance states that in the absence of speciation, it should be considered hexavalent chromium.</p>	
<p>2. <u>Page 4-2, third paragraph, last sentence:</u> Is lead-contaminated soil contained within the TRPH-diesel concentration contours shown in figures 2-3 and 2-4? If so, please so state. If not, please show lead contamination contours or some indication of lead hot spot locations. These figures may need revision based on COPCs exceeding PRGs.</p>	<p>RESPONSE 2: Yes the lead is in area of the TRPH, however, using industrial PRGs for the is site eliminates the lead as a COPC.</p>
<p>3. <u>Page 4-17, Section 4.3.3, fourth paragraph.</u> Please list estimated treatment cost per cubic yard.</p>	<p>RESPONSE 3: Agreed.</p>
<p><u>SPECIFIC COMMENTS FOR SITE 7</u></p>	<p><u>RESPONSES TO SPECIFIC COMMENTS FOR SITE 7</u></p>
<p>1. <u>Summary, Paragraph 5:</u> See General Comment on statements which imply that the extent of contamination, both laterally and vertically is well known for these sites. This contradicts the stated position of going no more than ten (10) feet and if the contamination extends beyond that limit the site will be placed back into the Remedial Investigation under CLEAN II (Bechtel).</p>	<p>RESPONSE 1: No statement is made which implies the extent is well known, it simply states that the data suggests that contamination does not affected deep subsurface soil.</p>
<p>2. <u>Figure 2-3:</u> Please include the range of potential chemicals of concern (PCOC) detected on the figure.</p>	<p>RESPONSE 2: The sample labels are shown on Table 2-2 and Figure 2-3. These two items can be held next to one another.</p>
<p>3. <u>Site Characterization, Page 2-7, Paragraph 1:</u> This paragraph is contradictory. It mentions that solid waste management Unit 71 (SWMU 71) will NOT be evaluated in this EE/CA, however later on in the same paragraph it states that "If it is determined to be appropriate, the response action for SWMU 71 will be included in the Action Memorandum for Site 7.</p>	<p>RESPONSE 3: The reference to addressing the SWMU will be deleted. RCRA SWMUs are not to be addressed in the Removal Actions.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Juan M. Jimenez, Remedial Project Manager Department of Toxic Substances Control (DTSC)</p> <p>To: Joseph Joyce, BRAC Environmental Coordinator MCAS, El Toro</p> <p>Date: 28 July 1995</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>What agency determines if it is appropriate to take action at SWMU 71 within the Action Memorandum? When will analytical data be available to perform an EE/CA for this site? How and when will the public participation requirements be dealt with?</p>	
<p>4. Page 2-12, Site Characterization, Paragraphs 3 and 4: The statement "However, most of the PAH data are inconclusive as to whether the actual concentrations exceeded the RBC's " needs more supporting information.</p> <p>Please bring up paragraph 4 from page 2-12 and attach it following this sentence to clarify the paragraph.</p>	<p>RESPONSE 4: Comment noted.</p>
<p>5. Table 2-2: The TRPH level in Table 2-2 is not an RBC as the footnote states. Please delete it from the table since it is not applicable and could be misinterpreted.</p>	<p>RESPONSE 5: The footnote is used to the table to indicate TRPH does not have a RBC but the a cleanup goal of 1,000 mg/kg is proposed for the COPC of TRPH.</p>
<p>6. Page 3-2, Identification of Removal Action Objectives, Paragraph 1: What is the criteria for determining whether the treated soils will be disposed of or reused?</p>	<p>RESPONSE 6: The revision will indicate that treated soils will be used for landfill capping.</p>
<p>7. Page 3-3, Determination of Removal Schedule, Paragraph 4: Please provide a detailed schedule as soon as it is available.</p>	<p>RESPONSE 7: An integrated schedule is being prepared between CLEAN II and RAC.</p>
<p><u>SPECIFIC COMMENTS FOR SITE 11:</u></p> <p>1. Page I, Summary, Paragraph 4, "This EE/CA uses a cleanup concentration of 0.040 µg/kg in soil for PCB-1260": This level is very low - below the instrument detection limit (IDL). This level should be reconsidered in light of the use of PRGs and the sites proximity to the air-field. The use of a cleanup criteria to both residential and industrial scenarios should be evaluated and presented to all parties for consideration.</p>	<p><u>RESPONSES TO SPECIFIC COMMENTS FOR SITE 11:</u></p> <p>RESPONSE 1: The industrial PRGs of 0.34 mg/kg will now be used.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Juan M. Jimenez, Remedial Project Manager Department of Toxic Substances Control (DTSC)</p> <p>To: Joseph Joyce, BRAC Environmental Coordinator MCAS, El Toro</p> <p>Date: 28 July 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>2. <u>Page 1-1, Introduction, Paragraph 5</u> , “Following BCT and public reviews of the EE/CA document, the DON will prepare an Action Memorandum, based on the approved EE/CA, providing a written record of decision for selecting an appropriate removal action”: This statement presumes that a Removal Action will take place. The removal must first be justified and the parties should concur prior to the preparation of any Action Memorandums.</p>	<p>RESPONSE 2: Agreed including public acceptance.</p>
<p>3. <u>Page 3-2, Identification of Removal Action Objectives, Paragraph 1:</u> Please describe the criteria which will be used to determine whether the soil will be treated or disposed.</p>	<p>RESPONSE 3: The following paragraphs discuss the process and rationale of determining treatment or disposal.</p>
<p>(Number skipped)</p>	<p>(Number skipped)</p>
<p>5. <u>Page 3-2, Identification of Removal Action Objectives, Paragraph 4,</u> “The results of confirmation sampling for analytes other than the identified COPCs are for documentation purposes only”: This statement is rather odd. Ultimately the final remedy has to be protective of human and ecological health. In the event that other COPCs are “found or discovered” does the Navy/Marine Corps propose that it be ignored? The DTSC is certain that this is an oversight, because the Navy/Marine Corps will address any new COPCs which may pose an unacceptable risk to human and ecological receptors. (This contradicts Paragraph 5.)</p>	<p>RESPONSE 5: This statement will be deleted.</p>
<p>6. Some comments only apply to some sites and not others, the Navy/Marine Corps should address comments which are not expressly written down in the DTSC comments but which make sense to correct in other EE/CAs.</p>	<p>RESPONSE 6: We have attempted to make all EE/CA consistent.</p>
<p>7. <u>Page 3-2, Identification of Removal Action Objectives, Paragraph 6,</u> “This soil will be disposed or reused on the Station”: Statements which have options, such as this one, should be clarified in the following manner: provide criteria so that any reviewer or field</p>	<p>RESPONSE 7: The revisions will state that treated soil will be used for landfill capping.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Juan M. Jimenez, Remedial Project Manager Department of Toxic Substances Control (DTSC)</p> <p>To: Joseph Joyce, BRAC Environmental Coordinator MCAS, El Toro</p> <p>Date: 28 July 1995</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>person can follow the logical decision process on their own. For example, in the sentence above put in the criteria which is to be used to determine whether it will a) be disposed or, or b) reused on the Station. This should be done for all unsupported statements which imply more than one option is available for all EE/CAs.</p>	
<p>8. <u>Page 3-3, Identification of Removal Action Objectives, Paragraph 2:</u> The DTSC looks forward to receiving the anticipated Action Memorandums, where appropriate, please put in enough details for meaningful regulator and public participation in this cleanup process.</p>	<p>RESPONSE 8: The Action Memorandum should be available in December 1995/January 1996.</p>
<p>9. <u>Page 4-7, Identification and Analysis of Removal Action Alternatives, Paragraph 2,</u> "The level of accuracy for the cost estimates is plus 50 or minus 30 percent for each removal action alternative": This seems an excessive amount of inaccuracy for such a common activity. Please include the reasons for such a large spread in the cost estimates.</p>	<p>RESPONSE 9: This inaccuracy is due to the limited data.</p>
<p>10. <u>Page 5-2, comparative analysis of removal action alternatives, Paragraph 3,</u> "Due to the relatively timely nature of the bioremediation process, ...": Should this be time consuming?</p>	<p>RESPONSE 10: Agreed.</p>
<p><u>SPECIFIC COMMENTS FOR SITE 13</u></p> <p>1. <u>Summary,</u> "Soil concentrations of lead exceeded the Preliminary Endangerment Assessment (PEA) Guidance Manual screening level enforced by the Department of Toxic Substances Control": Please remove this sentence. Although the lead screening level is used in the PEA Guidance Manual, it is not considered enforceable.</p>	<p><u>RESPONSES TO SPECIFIC COMMENTS FOR SITE 13</u></p> <p>RESPONSE 1: Industrial PRGs will be used at this site and lead is not a COPC when this PRGs are used.</p>
<p>2. <u>Section 2.3, Table 2-1:</u> In future submittals please report concentration values for soils in mg/kg.</p>	<p>RESPONSE 2: This will depend on the laboratory reporting units.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Juan M. Jimenez, Remedial Project Manager Department of Toxic Substances Control (DTSC)</p> <p>To: Joseph Joyce, BRAC Environmental Coordinator MCAS, El Toro</p> <p>Date: 28 July 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>3. Section 3.2: Regarding confirmation samples, a methodology should be presented for determining number and locations of samples. Will samples be taken according to a grid-based random sampling method or will they be judgmental? If judgmental, what criteria will be used? Provide a detailed outline describing the strategy for confirmation sampling.</p>	<p>RESPONSE 3: The EE/CA cost estimate was based on 4 sidewall samples and 2 floor samples from the excavation. During for cost estimating of excavation, one sample was assumed for every 25 cubic yards of soil and for treatment, one sample was assumed for every 100 cubic yards of soil. Proposed numbers will be provided in a work plan from the RAC.</p>
<p>4. Section 4.1, "The excavated soil will be loaded onto trucks...": Describe how plastic sheeting will be secured to avoid blowing away or tearing.</p>	<p>RESPONSE 4: The actual method will be decided by the RAC. Usually it is tied down with old tires, hay bails, or similar objects.</p>
<p>5. Section 4.1, "The thermal desorption unit can process soil with a maximum moisture content of 15 percent by weight, which is not expected": Please note that in Section 2.1.3 it states that the soil "... tends to absorb and hold water." This may create a moisture content above 15 percent during rainy periods, limiting the operation of the thermal desorber. Provide a contingency plan.</p>	<p>RESPONSE 5: Agreed and the RAC should take steps to reduce exposure to rainfall.</p>
<p>6. Section 4.1: Please state in this section that Site 3, the Original Landfill, will be used to stage the excavated soil for the treatment unit.</p>	<p>RESPONSE 6: The location of the treatment system is not known at this time. More than likely it will be at the Waste Staging Area at Site 3.</p>
<p>7. Section 4.1: Provide the definition of "periodically" in reference to sampling treated soil. Specify a frequency and tentative total number of samples that will be collected and analyzed from the treated soil.</p>	<p>RESPONSE 7: For cost estimating, one sample per 100 cubic yards or a minimum of 4 samples will be collected of the treated soil.</p>
<p>8. Section 4.1.3, "The extent of excavation on a field screening level will be determined by submitting one sample per 25 cubic yards...": Please explain how these samples will be taken. Provide a sampling strategy.</p>	<p>RESPONSE 8: The sampling strategy will not specified in the EE/CAs. This will be discussed by the RAC.</p>
<p>9. Section 4.1.3: What is the maximum time an excavation will remain open and is there a contingency plan if it rains?</p>	<p>RESPONSE 9: This is a Base concern and will be coordinated by The RAC and Base personnel.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Juan M. Jimenez, Remedial Project Manager Department of Toxic Substances Control (DTSC)</p> <p>To: Joseph Joyce, BRAC Environmental Coordinator MCAS, El Toro</p> <p>Date: 28 July 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>10. Section 4.1.3, "One sample per 100 tons of treated soil will be collected and submitted for analysis." and "One sample for every 500 cubic yards will be submitted for low-detection PAH analysis": Using this method, an insufficient number of samples will be taken. For example, the estimated quantity of treated soil is for Site 20 is only 60 cubic yards, and for Site 4 it is 105. Using the proposed method, no samples would be taken at Site 20. For Site 4, no samples would be submitted for low detection-limit PAH analysis. A minimum number of treated soil samples per unit should be proposed.</p>	<p>RESPONSE 10: The statement has been modified to "one sample per 100 cubic yards or a minimum of 4 samples". Samples will be analyzed for TRPH or TPH. If PAHs exceeded PRGs samples will also be analyzed for PAHs.</p>
<p>11. Section 5.2, "Due to the <i>timely</i> nature of the bioremediation process...": Should this be time consuming?</p>	<p>RESPONSE 11: Agreed.</p>
<p>12. Section 5.3, "Alternative 1 becomes more economically attractive...": It is stated that costs could be further reduced if treated soil is used for backfilling. Would this reduction in costs be significant? If so, the cost reduction should be included in Table 5-2.</p>	<p>RESPONSE 12: Not significant. The treated soils are now scheduled for use as part of the landfill cap.</p>
<p><u>SPECIFIC COMMENTS</u></p>	<p><u>RESPONSES TO SPECIFIC COMMENTS</u></p>
<p>13. Section 2.1.3, Paragraph 4: Please provide the approximate groundwater flow direction</p>	<p>RESPONSE 13: Agreed.</p>
<p>14. Section 2.3, Table 2-1: Chromium concentrations exceed the PRG of 200 µg/kg for hexavalent chromium ("CAL-Modified PRG" PEA, 1994). It has become common practice to assume all chromium is hexavalent chromium when conducting a health risk assessment if speciated data is not available. Therefore, it is beneficial and eventually cost-effective to have all future soil samples speciated for chromium at areas where chromium may be of concern.</p>	<p>RESPONSE 14: Industrial PRG for total chromium is 1,600 µg/kg. Currently, no speciation of chromium is proposed.</p>
<p>15. Section 4.3.2, Page 4-17, fourth paragraph: Please list estimated treatment cost per cubic yard.</p>	<p>RESPONSE 15: Agreed.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Juan M. Jimenez, Remedial Project Manager Department of Toxic Substances Control (DTSC)</p> <p>To: Joseph Joyce, BRAC Environmental Coordinator MCAS, El Toro</p> <p>Date: 28 July 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p><u>COMMENTS SPECIFIC FOR SITE 13</u></p>	<p><u>RESPONSES TO COMMENTS SPECIFIC FOR SITE 13</u></p>
<p>16. <u>Section 2.3, Table 2-1:</u> The background concentration for selenium is missing, please provide this value.</p> <p>Please change the column heading "Detected Concentration Range" to "Detected Concentration Range at Site 13."</p>	<p>RESPONSE 16: No selenium background concentration was provided in the Phase I RI. The industrial PRG is 8,500 µg/kg.</p> <p>The column will remain the same.</p>
<p>17. <u>Page 2-5, Figure 2-3:</u> There are two buildings on this figure marked 242. The building to the southwest of Site 13 is correctly identified. The building to the northwest is labeled incorrectly. It is unclear from the figure, but it appears the mis-identified building is probably Building 26.</p>	<p>RESPONSE 17: Correction will be made.</p>
<p>18. <u>Section 3.4.2, Page 3-5:</u> It is stated in this section that Units 1 and 2 of Site 13 are not sources of groundwater contamination. However, the vertical extent of contamination has not been characterized. Any statement of this nature within the Draft EE/CA should reflect this uncertainty.</p>	<p>RESPONSE 18: Agreed.</p>
<p>19. <u>Section 3.5, Page 3-6, bullet item two:</u> The objective should be to prevent human and ecological exposure to soils that present a risk, not just control it.</p>	<p>RESPONSE 19: Agreed.</p>
<p>20. <u>Section 3.5, third paragraph after bullet list:</u> Refer to comment Number 19.</p>	<p>RESPONSE 20: Noted.</p>
<p>21. <u>Page 3-6, last paragraph:</u> Comment Number 20 also applies to this paragraph.</p>	<p>RESPONSE 21: Noted.</p>
<p>22. <u>Section 4.1, Page 4-3, first complete paragraph:</u> Please provide more details with regard to "field analytical data": Does "field analytical data" refer to on-site field analytical screening kits? Please clarify the methodologies used to collect field analytical data.</p>	<p>RESPONSE 22: In the next two paragraphs, the field analytical methods are discussed.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Juan M. Jimenez, Remedial Project Manager Department of Toxic Substances Control (DTSC)</p> <p>To: Joseph Joyce, BRAC Environmental Coordinator MCAS, El Toro</p> <p>Date: 28 July 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 FOR SITE 14</u></p> <p>1. Summary, "Soil concentrations of lead exceeded the Preliminary Endangerment Assessment (PEA) Guidance Manual screening level enforced by the Department of Toxic Substance Control": Please remove this sentence. Although the lead screening level is used in the PEA Guidance Manual, it is not considered enforceable.</p> <p>2. Summary: It was agreed that if cleanup goals could not be achieved after reaching a depth of ten feet then the unit would revert back to the RI/FS program. In the event that this does occur, how will the excavation be addressed? Will it be backfilled with clean soil or untreated soil? Additionally, please define the maximum lateral extent on an excavation before the site reverts to the RI/FS program.</p> <p>3. Section 3.2: Regarding confirmation samples, a methodology should be presented for determining number and locations of samples. Will samples be taken according to a grid-based random sampling method or will they be judgmental? If judgmental, what criteria will be used? Provide a detailed outline describing the strategy for confirmation sampling.</p> <p>4. Section 4.1: Please be consistent throughout the Draft EE/CA regarding the units for soil. Some areas of the document discuss soil using "tons" and other areas use "cubic yards". GSU prefers cubic yards.</p> <p>5. Section 4.1, "The excavated soil will be loaded onto trucks...": Describe how plastic sheeting will be secured to avoid blowing away or tearing.</p>	<p><u>RESPONSES TO GENERAL COMMENTS FOR SITE 14</u></p> <p>RESPONSE 1: Industrial PRGs will now be used.</p> <p>RESPONSE 2: The backfill will consist of a permeable liner material (possibly unwoven geotextile fabric) and clean soil backfill. The permeable liner will separate clean from contaminated soil. The maximum lateral extent is assumed in the EE/CAs, however, actual excavation will be based on industrial PRGs and site conditions.</p> <p>RESPONSE 3: The EE/CA cost estimate was based on 4 sidewall samples and 2 floor samples from the excavation. During for cost estimating of excavation, one sample was assumed for every 25 cubic yards of soil and for treatment, one sample was assumed for every 100 cubic yards of soil. Proposed numbers will be provide in a work plan from the RAC.</p> <p>RESPONSE 4: The use of tons and cubic yards depends on the application. The final costs are based on cubic yards. Where tons are noted a conversion factor of 1.55 tons per cubic yards was used.</p> <p>RESPONSE 5: The actual method will be decided by the RAC. Usually it is tied down with old tires, hay bails, or similar objects.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Juan M. Jimenez, Remedial Project Manager Department of Toxic Substances Control (DTSC)</p> <p>To: Joseph Joyce, BRAC Environmental Coordinator MCAS, El Toro</p> <p>Date: 28 July 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>6. Section 4.1, "The thermal desorption unit can process soil with a maximum moisture content of 15 percent by weight, which is not expected": Please note that in section 2.1.3 it states that the soil "...tends to absorb and hold water." This may create a moisture content above 15 percent during rainy periods, limiting the operation of the thermal desorber. Provide a contingency plan.</p>	<p>RESPONSE 6: Agreed and the RAC should take steps to reduce exposure to rainfall.</p>
<p>7. Section 4.1: Please state in this section that Site 3, the Original Landfill, will be used to stage the excavated soil for the treatment unit.</p>	<p>RESPONSE 7: The waste staging area at Site 3 will probably be the location of the treatment system.</p>
<p>8. Section 4.1: Provide the definition of "periodically" in reference to sampling treated soil. Specify a frequency and tentative total number of samples that will be collected and analyzed from the treated soil.</p>	<p>RESPONSE 8: The treated soil for cost estimating purposes was to be sampled every 100 cubic yards.</p>
<p>9. Section 4.1.3, "The extent of excavation on a field screening level will be determined by submitting one sample per 25 cubic yards...": Please explain how these samples will be taken. Provide a sampling strategy.</p>	<p>RESPONSE 9: This statement is for cost estimating purposes. The actual protocol will be up to the RAC.</p>
<p>Section 4.1.3, "Once sample per 100 tons of treated soil will be collected and submitted for analysis." And "One sample for every 500 cubic yards will be submitted for low-detection PAH analysis": Using this method, an insufficient number of samples will be taken. For example, the estimated quantity of treated soil is for Site 20 is only 60 cubic yards, and for Site 4 it is 105. Using the proposed method, no samples would be taken at Site 20. For Site 4, no samples would be submitted for low detection-limit PAH analysis. A minimum number of treated soil samples per unit should be proposed.</p>	<p>RESPONSE: The statement has been modified to "one sample per 100 cubic yards or a minimum of 4 samples". Samples will be analyzed for TRPH or TPH. If PAHs exceeded PRGs samples will also be analyzed for PAHs.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Juan M. Jimenez, Remedial Project Manager Department of Toxic Substances Control (DTSC)</p> <p>To: Joseph Joyce, BRAC Environmental Coordinator MCAS, El Toro</p> <p>Date: 28 July 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>10. Section 5.2, "Due to the <i>timely</i> nature of the bioremediation process...": Should this be time consuming?</p>	<p>RESPONSE 10: Agreed.</p>
<p>11. Section 5.3, "Alternative 1 becomes more economically attractive...": It is stated that costs could be further reduced if treated soil is used for backfilling. Would this reduction in costs be significant? If so, the cost reduction should be included in Table 5-2.</p>	<p>RESPONSE 11: All costs will reflect a comparison of cost per cubic yard. Using the treated soil as backfill is usually not a significant reduction for the size of these sites. For cost estimating purposes, all on-site treated soil will be assumed to be disposed of at on-site landfills.</p>
<p><u>SPECIFIC COMMENTS</u></p> <p>12. Section 2.1.3, Paragraph 4: Please provide the approximate groundwater flow direction.</p>	<p><u>RESPONSES TO SPECIFIC COMMENTS</u></p> <p>RESPONSE 12: The EE/CA addresses shallow soil (less than 10 feet bgs) contamination, therefore, references to groundwater flow direction will be removed.</p>
<p>13. Section 2.3, third paragraph: Include an explanation within the text as to why "... most of the PAHs data are inconclusive as to whether or not the actual concentrations in the samples exceeded the RBCs". It should be stated in the text that the reason conclusions cannot be made is because the analytical method used for PAHs such as benzo(a)pyrene did not have detection limits low enough to compare to the RBCs or the PRGs.</p>	<p>RESPONSE 13: Comment noted.</p>
<p>14. Section 2.3, Table 2-1: Chromium concentrations exceed the PRG of 200 µg/kg for hexavalent chromium ("CAL-Modified PRG" PEA, 1994). It has become common practice to assume all chromium is hexavalent chromium when conducting a health risk assessment if speciated data is not available. Therefore, it is beneficial and eventually cost-effective to have all future soil samples speciated for chromium at areas where chromium may be of concern.</p>	<p>RESPONSE 14: Industrial PRG for total chromium is 1,600 µg/kg. Currently, no speciation of chromium is proposed.</p>
<p>15. Section 4.3.3, Page 4-17, fourth paragraph: Please list estimated treatment cost per cubic yard.</p>	<p>RESPONSE 15: Agreed.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Juan M. Jimenez, Remedial Project Manager Department of Toxic Substances Control (DTSC)</p> <p>To: Joseph Joyce, BRAC Environmental Coordinator MCAS, El Toro</p> <p>Date: 28 July 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p><u>COMMENTS SPECIFIC FOR SITE 14</u></p>	<p><u>RESPONSES TO COMMENTS SPECIFIC FOR SITE 14</u></p>
<p>16. Section 2.3 and Figure 2-3: Please show the direction of groundwater flow discussed in Section 2.3 on Figure 2-3.</p>	<p>RESPONSE 16: Agreed.</p>
<p>17. Figure 2-4: Show the results of constituents listed in Table 2-1 with concentration greater than PRGs.</p>	<p>RESPONSE 17: Table 2-2 and Figure 2-4 can be used together.</p>
<p>18. Section 4.1.3, Sites 13 and 14: Please reconcile the discrepancy of the two statements below, the first statement (a) is from the Site 13 Draft EE/CA and the second statements (b) is from the Site 14 Draft EE/CA.</p>	<p>RESPONSE 18:</p>
<p>a. "The confidence level of total costs is plus or minus 25 percent": In Table 4-1 the contingency for the "Cost of Alternative 1" is 20 percent yet in the statement above, "The confidence level of ...", the contingency is plus or minus 25 percent. Please reconcile this discrepancy.</p>	<p>RESPONSE 18a: The 20 percent is correct.</p>
<p>b. "The level of accuracy for the cost estimates is plus 50 percent for each removal action alternative": In Table 4-1 the contingency for the "Cost of Alternative 1" is 20 percent yet in the statement above, "The level of ...", the contingency is plus 50 or minus 30 percent. Please reconcile this discrepancy.</p>	<p>RESPONSE 18b: The 50 percent/30 percent should be consistent in all documents.</p>
<p>19. Figure 2-3 and 2-4: Are the boundary lines shown on these figures, described as extent of a constituent also the tentative boundaries of the excavation? If so, please state the tentative boundaries of the excavation clearly on the figures.</p>	<p>RESPONSE 19: The excavation boundaries will be shown on the revisions.</p>
<p>20. The following comment is from DTSC's comments for the CLEAN Phase II work plan: "This section states (A14.1.1 Setting and History) that "In a 1970 aerial photograph, and unidentified liquid appears to have ponded around Building 243, located north of the site, and flowed past the western portion of the site." Could this have</p>	<p>RESPONSE 20: The area between Buildings 243 and 245 and not part of the removal action.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Juan M. Jimenez, Remedial Project Manager Department of Toxic Substances Control (DTSC)</p> <p>To: Joseph Joyce, BRAC Environmental Coordinator MCAS, El Toro</p> <p>Date: 28 July 1995</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>been a likely disposal area? The current Site 14 is located behind the former heavy equipment maintenance shop. The shop doors are located on the Building 243 side of Building 245. Is it likely that outside the shop doors, perhaps in an unpaved area towards Building 243? Or is it possible that surface runoff from Building 245 drained towards Building 243? Please note that the SAIC Report identified a possible stain on the northwesterly side of Building 243 (see Site 481 in the SAIC Report).”</p> <p>The response in the Navy Response Summary was as follows: “A removal action is proposed for this site. However, the Revised Draft Work Plan does include sampling of both units if the removal action is considered not an appropriate response action”: Since the BCT has agreed that Site 14 is now classified as a removal action the Draft EE/CA should address this comment.</p>	
<p>21. Please refer to and address Comment number 2, A14.4.2 SAIC Survey of DTSC's comments on the CLEAN I Phase II work plan in the Draft EE/CA.</p>	<p>RESPONSE 21: Activities at Building 246 were not related to Site 14 activities.</p>
<p><u>GENERAL COMMENTS FOR SITE 19</u></p> <p>1. See the comments from Site 11 which also apply here (PCBs).</p>	<p><u>RESPONSES TO GENERAL COMMENTS FOR SITE 19</u></p> <p>RESPONSE 1: See responses above.</p>
<p>2. Page ii, Summary, Paragraph 1: The proposed cleanup level of 0.040 mg/kg should be reevaluated for the reasons stated in the comments for EE/CA 11.</p>	<p>RESPONSE 2: Industrial PRG for PCB is 0.34 mg/kg.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Juan M. Jimenez, Remedial Project Manager Department of Toxic Substances Control (DTSC)</p> <p>To: Joseph Joyce, BRAC Environmental Coordinator MCAS, El Toro</p> <p>Date: 28 July 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>3. Page 1-2, Introduction, Paragraph 1, "Following BCT and public reviews, the DON will prepare an Action Memorandum, based on the approved EE/CA, providing a written record of decision for selecting an appropriate removal action": This statement presumes that a Removal Action will take place. The removal must first be justified and the parties should concur prior to the preparation of any Action Memorandums.</p>	<p>RESPONSE 3: Agreed including public acceptance.</p>
<p>4. Page 2-15, Site Characterization, Paragraph 1, "The estimated volume of soil to be removed is 420 yards": What is the basis for the estimated volume to be 420 cubic yards? The text states that 229 cubic yards of PCB contaminated soils of levels up to 20,000 µg/kg was stored in this opening. Please clarify the discrepancy. In addition, how will potential TPH problems be dealt with if they are found by the confirmation samples?</p>	<p>RESPONSE 4: The estimate of soil has changed with the use of industrial PRGs.</p>
<p><u>GENERAL COMMENTS FOR SITE 20</u></p> <p>1. Page iii is missing.</p>	<p><u>RESPONSES TO GENERAL COMMENTS FOR SITE 20</u></p> <p>RESPONSE 1: It will be included in the Draft Final.</p>
<p>2. Page 2-1, Section 2.1.2, first paragraph, last sentence: What types of solvents were used here in the past and what types are used now?</p>	<p>RESPONSE 2: Records of the types of solvents were not kept, but the various types of solvents commonly used in automobile shops are assumed to have been present.</p>
<p>3. Page 2-8, Section 2.3, first paragraph: Not much information is provided on the UST described here. Was it ever integrity tested? Has it leaked? Unless the UST is scheduled to be removed (which is not indicated in this EE/CA), soil beneath the UST should be tested.</p>	<p>RESPONSE 3: The UST is not the subject of the EE/CA.</p>
<p>4. Page 3-6, Section 3.5, bullet item two: The objective should be to prevent human exposure to soils that present a risk, not just control it.</p>	<p>RESPONSE 4: Agreed.</p>

**RESPONSE TO COMMENTS
 TECHNICAL REVIEW OF ENGINEERING EVALUATION/
 COST ANALYSIS (EE/CA) FOR VARIOUS SITES
 MCAS EL TORO, CALIFORNIA**

<p>Originator: Juan M. Jimenez, Remedial Project Manager Department of Toxic Substances Control (DTSC)</p> <p>To: Joseph Joyce, BRAC Environmental Coordinator MCAS, El Toro</p> <p>Date: 28 July 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>5. <u>Page 3-7, top paragraph:</u> The above comment also applies to this paragraph.</p>	<p>RESPONSE 5: Agreed.</p>
<p>6. <u>Page 4-7, second paragraph, second sentence:</u> It is unclear what "controlling surface waters from infiltration" means. Please clarify.</p>	<p>RESPONSE 6: It means to keep water from seeping out of the stockpiles and leaching into the subsurface.</p>
<p>7. <u>Page 4-13, second paragraph, first sentence:</u> Should read 2,000 square feet, not 200.</p>	<p>RESPONSE 7: Agreed.</p>
<p>8. <u>Page 4-13, second paragraph, last sentence:</u> This estimated total on-site treatment area of 25,000 square feet for soil from all the removal sites is inconsistent with the 40,000 square feet estimated in the same section of the draft EE/CA for Site 4.</p>	<p>RESPONSE 8: The discrepancy will be corrected.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Karen Goldberg US EPA</p> <p>To: Bonnie Arthur, Remedial Project Manager US EPA</p> <p>Date: 24 July 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p><u>GENERAL COMMENTS</u></p>	<p><u>RESPONSES TO GENERAL COMMENTS</u></p>
<p><u>Page i, last paragraph:</u> The term “presumptive” should be deleted here and elsewhere throughout the EE/CA. This is a term of art that does not apply to the removal alternatives considered for this site.</p>	<p>RESPONSE: Agreed. This term is be removed from the EE/CAs.</p>
<p><u>Page ii, first full paragraph:</u> The third to last sentence appears to have words missing; also, in the last paragraph, the second sentence has a similar problem.</p>	<p>RESPONSE: Correction will be made.</p>
<p><u>Page 3-2, bottom paragraph:</u> It is unclear why alternative actions are discussed here.</p>	<p>RESPONSE: These alternatives are discussed to concluded the potential scope of removal section.</p>
<p><u>Page 3-4, third full paragraph:</u> DON should explain whether it presented sufficient information to Cal/EPA for identification and evaluation of State ARARs.</p>	<p>RESPONSE: In previous discussion with the BCT, this EE/CA provides the State with information to provide State ARARs.</p>
<p><u>Page 3-6, second to last paragraph:</u> The second to last sentence is confusing; it indicates that the recommended treatment alternative requires disposal off-site with or without further treatment.</p> <p>The EE/CA does not discuss the statutory preference for treatment (CERCLA Section 120). Although this is a preference for remedial actions, rather than removals, the EE/CA should explain whether the off-site disposal of untreated contaminated soil is preferable to treatment.</p>	<p>RESPONSE: This is part of Section 5.</p>
<p><u>Table 5-1:</u> The information in this table would indicate that off-site thermal desorption is the best alternative, particularly if this alternative ranks “better” for “treated contaminant concentration” and “cost” whereas the recommended alternative, off-site landfill disposal, ranks “not applicable” and “average” for these two criteria. The text does not adequately explain why off-site disposal without treatment is recommended, particularly in light of the information in Table 5-1, and the statement on page 6-1 that the residual risk of thermal desorption is</p>	<p>RESPONSE: Off-site thermal desorption for PCB should be rated as average not better for treatment because of the uncertainty of thermal desorption meeting industrial PRGs. The not applicable for landfill is stated because this alternative does not involve treatment before disposal.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Karen Goldberg US EPA</p> <p>To: Bonnie Arthur, Remedial Project Manager US EPA</p> <p>Date: 24 July 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<p>acceptable under CERCLA, and the fact that economies of scale may be achieved if thermal desorption is selected at other sites.</p>	
<p>Section 4.4.2: Specify who will have to approve the transportation plan. In general, the DON and its contractors should use the active voice in preparing the EE/CA and other site documents, to facilitate clarity about who has done or will do what.</p>	<p>RESPONSE: The MCAS El Toro Environmental Office is responsible for approving transport of wastes off-site.</p>
<p>Page 6-1, second to last paragraph, first sentence: Delete "that".</p>	<p>RESPONSE: Agreed.</p>
<p><u>ARARs COMMENTS</u></p> <ul style="list-style-type: none"> • In general, ARARs analysis in EE/CAs should be tailored to the response action objectives to ensure that site-specific factors are considered. The ARARs analysis appears to be the same for each EE/CA despite the different responses evaluated in each. See, for example, the first comment below. 	<p><u>RESPONSES TO ARARs COMMENTS</u></p> <p>RESPONSE: The scope of the ARARs is based on Navy policy.</p>
<ul style="list-style-type: none"> • It is unclear why the discussion of groundwater ARARs is included after the brief discussion in Section 2.2.1. The revised EE/CA should explain the relevance of the groundwater ARARs to the particular Removal Action or delete the discussion (except for Section 2.2.1). 	<p>RESPONSE: The discussion of groundwater ARARs is included to indicate that these were considered and are not applicable.</p>
<ul style="list-style-type: none"> • In the discussion of several potential ARARs, the specific requirement is dismissed as "not an ARAR" because it either does not regulate the contaminant of concern at the site or in some other way is not directly applicable. However, the EE/CA should discuss whether the requirement is relevant and appropriate, using the factors listed in Exhibit 1-7 on page 1-66 of the ARARs guidance "CERCLA Compliance With Other Laws Manual", EPA/540/G-89/006 (Draft August 8, 1988). I mention some examples of this below (see comment on page A3-11, Section 3.1.5). This comment should also be considered when revising the OU #1 Feasibility Study and preparing ARARs analyses for other response actions at MCAS El Toro. 	<p>RESPONSE: Agreed.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Karen Goldberg US EPA</p> <p>To: Bonnie Arthur, Remedial Project Manager US EPA</p> <p>Date: 24 July 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<ul style="list-style-type: none"> • Page A2-11, Section 2.2.1: What right is DON reserving regarding interpreting SWRCB Resolution No. 68-16, evaluating technological and economic feasibility under 22 CCR 66264.94, and determining most stringent ARARs? The revised EE/CA should explain how these issues are relevant to the Removal Action, what rights the Navy is reserving and the effect of reserving these rights. Alternatively, this discussion should be deleted. 	<p>RESPONSE: The last four sentences of the referenced paragraph will be deleted because groundwater is not contaminated from this site.</p>
<ul style="list-style-type: none"> • Why was 40 CFR 300.400(g)(2)(iv) left out on page A1-2? 	<p>RESPONSE: Added.</p>
<ul style="list-style-type: none"> • In the discussion on p. A1-2, two items should be deleted from the list of requirements for a state ARAR: “substantive” and “consistently applied”. The former is explained on p. A1-3, and the latter doesn’t render a requirement not an ARAR, it provides an opportunity for an ARAR waiver. 	<p>RESPONSE: The description of substantive on A1-3 explains what the limits are to this interpretation. Agreed with consistently applied, however, if it is consistently applied then it should be considered as an ARAR.</p>
<ul style="list-style-type: none"> • Page A2-18, Section 2.3.1, first paragraph: The EE/CA should include the CFR citation for this federal register notice. 	<p>RESPONSE: Comment noted.</p>
<p>Page A2-18, Section 2.3.1, second paragraph: The EE/CA should be revised to reflect that, if the removal will result in any discharges as defined in CWA Section 502(12), it must comply with the requirements of that Act, particularly Sections 301 and 402. CWA Section 402(p) requires regulation of storm water runoff. [I have a copy of the State General Construction Storm Water Permit, which contains the substantive requirements for a Storm Water Pollution Prevention Plan. These requirements are site-specific and relatively straightforward, e.g., a description of “management practices employed to minimize contact of construction materials, equipment and vehicles with storm water”.] These comments are also applicable to sections 4.1.6 and 4.2.6.</p>	<p>RESPONSE: No removal actions for these 7 EE/CA will have surface discharges. This is stated in this paragraph. The comment will be noted for inclusion in future EE/CA where surface discharges may occur.</p>

**RESPONSE TO COMMENTS
TECHNICAL REVIEW OF ENGINEERING EVALUATION/
COST ANALYSIS (EE/CA) FOR VARIOUS SITES
MCAS EL TORO, CALIFORNIA**

<p>Originator: Karen Goldberg US EPA</p> <p>To: Bonnie Arthur, Remedial Project Manager US EPA</p> <p>Date: 24 July 1995</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0059 File Code: 0306</p>
<ul style="list-style-type: none"> • Page A-19, Section 2.3.2: This section needs more explanation. Specifically: First paragraph: Explain why the Basin Plan excepts surface waters from the municipal and domestic use designation; explain why MCLs are not <u>relevant</u> or not <u>appropriate</u> -- MCLs may be considered relevant and appropriate for contaminated media other than sources of drinking water. 	<p>RESPONSE: The Basin Plan prepared by RWQCB designates uses of surface waters. The RWQCB through the Basin Plan indicates that no municipal, domestic, or drinking water uses for surface water in the MCAS El Toro area. MCLs are considered as applicable to drinking water derived from the surface water, however, these surface waters are not drinking water sources, thus MCLs are not relevant or appropriate.</p>
<p>Second paragraph: As discussed above, State law may require limitations and monitoring of <u>any pollutants</u> discharged to surface waters, not just contaminated groundwater; the EE/CA should explain what State requirements apply to such discharges.</p>	<p>RESPONSE: This is not necessary because no surface discharges are proposed for the 7 EE/CAs.</p>
<p>Third paragraph: The EE/CA should explain how the water quality objectives would apply or be relevant and appropriate, and whether the Judicial Council Proceeding invalidates them.</p>	<p>RESPONSE: This paragraph is irrelevant to the EE/CAs and will be deleted.</p>
<ul style="list-style-type: none"> • Page A2-19, Section 2.4: The last sentence has a typo ("goals ... is"). [Bonnie -- I would like to look at the Phase I RI for Site 11 regarding soil not being a hazardous waste]. 	<p>RESPONSE: Correction will be made.</p>
<ul style="list-style-type: none"> • Pages A2-20 and 21, Section 2.5.1: The EE/CA should mention that U.S. EPA approved the California SIP (it isn't a federal requirement otherwise). The statement that RCRA air emissions requirements would be relevant and appropriate if organic concentrations exceed 10% by weight should be explained (do the state regulations themselves say that?) Could these requirements be relevant and appropriate if the concentrations are lower? This comment applies to Section 4.1.5.1 as well. 	<p>RESPONSE: Agreed on the California SIP. The RCRA requirements are correct.</p>