



CLEAN II Program
Bechtel Job No. 22214
Contract No. N68711-92-D-4670
File Code: 02221

IN REPLY REFERENCE: CTO-0164/0233

April 23, 2001

Contracting Officer
Naval Facilities Engineering Command
Southwest Division
Mr. Richard Selby, Code 02R1
1220 Pacific Highway
San Diego, CA 92132-5190

Subject: Response to Comments on Draft Record of Decision and Draft Responsiveness Summary
for Operable Unit 3B – Sites 7 and 14 - Dated April 2001

Dear Mr. Selby:

It is our pleasure to submit this copy of the Response to Comments on the Draft Record of Decision (ROD) and Draft Responsiveness Summary for Operable Unit (OU) 3B – Sites 7 and 14 – for the Marine Corps Air Station (MCAS) El Toro, California. This document was prepared under Contract Task Order (CTO) 0164 and Contract No. N68711-92-D-4670 and accompanies the Draft Final ROD for Sites 7 and 14. Both documents are dated April 2001.

To facilitate signature of the ROD, any comments on this document should be submitted promptly to Mr. Dean Gould, BRAC Environmental Coordinator, goulddda@efdswnavfac.navy.mil.

We appreciate the opportunity to be of service to you on this project. If you have any questions or would like further information, please contact Jane Wilzbach at (619) 744-3029, or myself at (619) 744-3080.

Sincerely,

A handwritten signature in black ink, appearing to read "Jane Wilzbach" or similar, written over a large, stylized loop that extends downwards.

Thurman L. Heironimus, R.G.
Project Manager

DJT/sp

Enclosure



BECHTEL NATIONAL INC.

CLEAN II TRANSMITTAL/DELIVERABLE RECEIPT

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

Document Control No.: CTO-0164/0233

File Code: 02221

TO: Contracting Officer
Naval Facilities Engineering Command
Southwest Division
Mr. Richard Selby, Code 02R1
1220 Pacific Highway
San Diego, CA 92132-5190

DATE: April 23, 2001
CTO #: 0164
LOCATION: MCAS El Toro

FROM: Thurman L. Heironimus, Project Manager

DESCRIPTION: Response to Comments on Draft Record of Decision and Draft Responsiveness
Summary for Operable Unit 3B - Sites 7 and 14 - DTD April 2001

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Date/Time Received

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**RESPONSE TO COMMENTS
DRAFT RECORD OF DECISION
OPERABLE UNIT 3B NO ACTION SITES 7 AND 14
MCAS EL TORO, CALIFORNIA**

M60050.001478
MCAS EL TORO
SSIC #5090.3

April 2001

<p>Originator: Glenn Kistner RPM U.S. EPA</p> <p>To: Dean Gould, BRAC Environmental Coordinator MCAS El Toro</p> <p>Date: 21 December 2000</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0164 File Code: 02221</p>
<p><u>SPECIFIC COMMENTS</u></p> <p>The following are EPA's comments on the draft ROD for Sites 7 and 14.</p> <ol style="list-style-type: none"> 1. Our Branch Chief has requested that the text be added to explain tables 7-1 and 7-2. Since this is an NFA ROD, the more explanation of the risks the better. Specifically, the text should describe the risks associated with PAHs, including average concentrations (or equivalent) found or describe the EPCs for each unit. From a public perception viewpoint you can't have too much text describing these tables. 2. pg 1 of the declaration – the last few sentences have contamination and chemical interchanged, you should try to be consistent in their use. 3. pg. 3-2 – Table 3-1. I'm not really sure of the relevancy or usefulness of this table. Do we really need it? 4. pg. 3-4, Table 3-2 – SVE design for which site or OU? 5. pg. 5-12, top of the page – there is no mention of VOCs at Site 7. It would be helpful to readers to summarize the results of the soil gas survey conducted at this site. 	<p><u>RESPONSES TO SPECIFIC COMMENTS</u></p> <p>RESPONSE 1: Section 7.5 was expanded as requested. The EPCs for the chemicals that were risk drivers at each unit and the percent that they contribute to risk are shown in Tables 7-1 and 7-2 and referenced in the text as appropriate. Further, an additional section (Section 7.6) has been added to the ROD to address the basis for the risk management decisions made for Sites 7 and 14.</p> <p>RESPONSE 2: The word chemical in the last paragraph on page 1 of the Declaration was changed to contaminant to be consistent.</p> <p>RESPONSE 3: The table was intended to reflect the dialogue that has occurred about Sites 7 and 14 between the public and the BCT at the RAB meetings. A similar table has been included in previous RODs for El Toro. However, DON has reviewed Table 3-1 based on U.S. EPA's comment and has determined that for these sites the information provided is not relevant. Therefore, the table has been removed from the ROD.</p> <p>RESPONSE 4: The table was revised to indicate that the subject of Fact Sheet 8 was SVE design for Site 24.</p> <p>RESPONSE 5: The DON has reviewed the discussion of the soil gas survey performed at Site 7 and has determined that this discussion should be removed from the ROD. The purpose of the soil gas survey was to determine the nature and extent of VOC contamination at Site 24. The survey included samples collected at Site 7 only because Site 7 is entirely included within the boundary of Site 24. Since the soil gas results were collected for the purpose of</p>

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<p>Originator: Glenn Kistner RPM U.S. EPA</p> <p>To: Dean Gould, BRAC Environmental Coordinator MCAS El Toro</p> <p>Date: 21 December 2000</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0164 File Code: 02221</p>
	<p>delineating contamination at Site 24 and are presented in their entirety in the Site 24 RI, the DON does not believe that it is appropriate to also include them in the Site 7/14 ROD.</p> <p>Presenting the results of the soil gas sampling in this ROD would also be inconsistent with the way the soil gas investigation was handled in the earlier No Action ROD that included Sites 9, 10, and 22. These sites are also contained within Site 24. However, the No Action ROD that includes these sites does not present results of Site 24 soil gas sampling that occurred within the boundaries of these three sites.</p>

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DRAFT RECORD OF DECISION
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MCAS EL TORO, CALIFORNIA**

April 2001

<p>Originator: Triss M. Chesney, P.E., RPM Department of Toxic Substances Control</p> <p>To: Dean Gould, BRAC Environmental Coordinator MCAS El Toro</p> <p>Date: January 22, 2001</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0164 File Code: 02221</p>
<p><u>GENERAL COMMENT</u></p> <p>The Department of Toxic Substances Control (DTSC) has received the above draft Record of Decision (ROD) for Operable Unit (OU) 3B, Installation Restoration Program (IRP) Sites 7 and 14, dated November 2000. The draft ROD presents the selected remedial action for Sites 7 and 14. Based on the results of the Remedial Investigation (RI) and human-health risk assessments, the Department of the Navy (DON) has determined that no remedial action is necessary to assure the protection of human health and the environment at Sites 7 and 14. The RI showed that site-related contamination is limited to the shallow soil interval (0 to 10 feet below ground surface). The human-health risk assessments show that the chemicals present in soil do not present an unacceptable risk to human health or the environment.</p> <p>Shallow groundwater underlying these sites is contaminated by volatile organic compounds (VOCs). The RI shows that this groundwater contamination does not originate from Site 7 or 14, but is associated with Site 24, the VOC Source Area. As a result, groundwater cleanup will be addressed in the Proposed Plan and ROD for Sites 18 and 24. The remedy may include use restrictions that prohibit drilling of wells and/or extraction of groundwater and allow access for groundwater monitoring and maintenance of equipment associated with groundwater remediation.</p>	<p><u>RESPONSE TO GENERAL COMMENT</u></p> <p><u>Response:</u> Please see response to specific comments below.</p>
<p><u>SPECIFIC COMMENTS</u></p> <p>After review of the draft ROD, DTSC has the following comments:</p> <ol style="list-style-type: none"> DTSC has not received a copy of the Responsiveness Summary that addresses comments submitted regarding the Proposed Plan. Upon receipt and review of the Responsiveness Summary, DTSC may have additional comments to the draft ROD. Section 1.3, Lead and Support Agencies, Page 1-1: The second paragraph states, "The primary support agency is the United States Environmental Protection Agency..." 	<p><u>RESPONSES TO SPECIFIC COMMENTS</u></p> <p><u>Response 1:</u> The DON submitted the draft Responsiveness Summary to the BCT, RAB, and LRA on January 31, 2001. A subsequent DTSC letter dated 29 March 2001 indicated that DTSC had no comments regarding the draft Responsiveness Summary and no additional comments on the draft ROD.</p> <p><u>Response 2:</u> The paragraph was revised as suggested.</p>

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<p>Originator: Triss M. Chesney, P.E., RPM Department of Toxic Substances Control</p> <p>To: Dean Gould, BRAC Environmental Coordinator MCAS El Toro</p> <p>Date: January 22, 2001</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0164 File Code: 02221</p>
<p>Revise this paragraph to clarify that the United States Environmental Protection Agency (EPA), DTSC and the Regional Water Quality Control Board (RWQCB) are regulatory agencies.</p>	
<p>3. Section 2, Site History and Enforcement Activities, Page 2-2: The second paragraph on the page states, "The BCT's (Base Realignment and Closure Cleanup Team's) mission is fast-track remediation of MCAS El Toro, to promote reuse and protect human health and the environment, by working cooperatively with the BCT, the community, and the shareholders." Please revise "shareholders" to "stakeholders."</p>	<p>Response 3: The word "shareholders" was changed to "stakeholders" as requested.</p>
<p>4. Section 2, Site History and Enforcement Activities, Page 2-3: The second to the last paragraph on the page states, "Subsequent to the Phase II RI, an evaluation of metals in groundwater was performed (BNI 1999a). The purpose of this evaluation was to determine whether the reported concentrations of metals in groundwater at MCAS El Toro reflect ambient conditions or are the result of historical Station activities." The citation refers to the <i>Draft Final CERCLA [Comprehensive Environmental Response, Compensation and Liability Act] Groundwater Monitoring Plan, Marine Corps Station El Toro, California</i>, which does not include an evaluation of metals concentrations in groundwater. DTSC does not recall receiving a report regarding this evaluation. If this evaluation was conducted, please provide this office with additional information to locate the associated report. If this paragraph is in error, please revise the text as necessary.</p>	<p>Response 4: The evaluation of metals in groundwater is presented as Attachment D to Appendix F (Volume II) of the Draft Final CERCLA Groundwater Monitoring Plan. The reference in the reference section has been clarified to indicate exactly where the evaluation is found. DON would be pleased to present DTSC with a copy of this document upon request.</p>
<p>5. Section 5.1.2, Surface Hydrology, Page 5-7: The last sentence in this section states, "The completion of the Orange County San Diego Creek Flood Control Master Plan is expected to alleviate the flood hazard by 2001 (SWDIV 1998)." A reference for the citation, SWDIV 1998, is not included in Section 10, References, revise as necessary.</p>	<p>Response 5: The statement is taken from the 1998 BRAC Cleanup Plan. However, in the process of responding to this comment, DON reviewed the sentence, determined that it did not add value to the section, and deleted the sentence and the reference to the Plan.</p>

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April 2001

<p>Originator: Triss M. Chesney, P.E., RPM Department of Toxic Substances Control</p> <p>To: Dean Gould, BRAC Environmental Coordinator MCAS El Toro</p> <p>Date: January 22, 2001</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0164 File Code: 02221</p>
<p>6. Section 5.2.3.1, RCRA [Resource Conservation and Recovery Act] Facilities Assessment: “The visual evaluation of both SWMUs [solid waste management units] during the Phase II RI fieldwork did not identify evidence of a surface release at either location (BNI 1997a). As a result, SWMUs/AOCs [areas of contamination] 71 and 72 are recommended for no further action.”</p> <p>DTSC received a summary report for SWMU 71 and concurred with the proposed no further action since the area is located within the investigation boundaries of IRP Site 7. DTSC understands that the DON intends to submit a similar [recommendation] for SWMU 72. For clarification, provide this additional detail in the text.</p>	<p>Response 6: It is DON’s intention to sample SWMU/AOC 72 as an inactive temporary accumulation area and to submit a closure report to DTSC by calendar year 2002. This information has been added to Section 5.2.3.1.</p>
<p>7. Section 7.5, Risk Characterization Results, Page 7-10: The last bulleted item on the page states, Manganese was the largest contributor to noncancer risk.”</p> <p>The human-health risk assessment was included in the Final Phase II Remedial Investigation Report, Attachments O and P, Operable Unit-3B, Sites 7 and 14, Marine Corps Air Station El Toro, California (RI report), prepared by Bechtel National, Inc., dated March 2000. Page O6-58 of the RI report states, “For inhalation exposures the RfD [reference dose] values used have an additional uncertainty because they represent only the adult receptor. The inhalation RfDs were estimated from inhalation reference concentrations (RfC) by integrating the adult body weight and inhalation rate. The resultant adult RfD is also used to estimate the noncancer risk for a resident child. Use of an adult RfD overestimates the resultant hazard to a child. Hence, the uncertainty associated with the child’s HI should be considered in risk management decisions.” It is recommended that this information be incorporated in the discussion for manganese to further illustrate the conservative nature of the estimated hazard index value.</p>	<p>Response 7: This information has been incorporated into Section 7.5 of the ROD as suggested. DON has also added a new section, Section 7.6, to discuss the basis for the risk management decisions made at Sites 7 and 14. The information was also added to Section 7.6.</p>

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DRAFT RECORD OF DECISION
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MCAS EL TORO, CALIFORNIA**

April 2001

<p>Originator: John Broderick California Regional Water Quality Control Board</p> <p>To: Dean Gould, BRAC Environmental Coordinator MCAS El Toro</p> <p>Date: February 16, 2001</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0164 File Code: 02221</p>
<p><u>SPECIFIC COMMENT</u></p> <p>We have completed our review of the above referenced document, dated November 2000, which we received on November 22, 2000. We have the following comments on the report:</p> <p>5.2.3.8 SUMMARY OF PHASE I AND PHASE II RESULTS, Unit 5, Open Dirt Area, Page 5-16: Unit 5 Sample 07_GN1, a surface sample had a TRPH concentration of 32,091 mg/kg. Based on this analytical data, it is likely that a surface spill of petroleum hydrocarbon occurred in the area at some time in the past. A surface sample with TRPH of this concentration is considered a significant result, and represents a potential threat to surface water quality. The magnitude of this potential threat is dependent upon the area represented by this sample and the magnitude of the possible spill. We request that you investigate the area represented by this sample, and take appropriate remedial action on any surface spill delineated under your installation's petroleum release corrective action program.</p>	<p><u>RESPONSE TO SPECIFIC COMMENT</u></p> <p>RESPONSE: As suggested, the location of sample 07_GN1 will be investigated further under the Petroleum Corrective Action Program. A statement to this effect has been added to the ROD. This will not impact the recommendation for no further (CERCLA) action for this site.</p>

**RESPONSE TO COMMENTS
DRAFT RECORD OF DECISION
OPERABLE UNIT 3B NO ACTION SITES 7 AND 14
MCAS EL TORO, CALIFORNIA**

April 2001

<p>Originator: Gary Simon, Executive Director MCAS El Toro Redevelopment Authority</p> <p>To: Dean Gould, BRAC Environmental Coordinator MCAS El Toro</p> <p>Date: January 19, 2001</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0164 File Code: 02221</p>
<p><u>GENERAL COMMENT</u></p> <p>In September of last year, the Department of Navy/United States Marine Corps (“DON/USMC”) issued a Proposed Plan for remediation of Operable Unit 3B, Installation Restoration Program Site 7 (Tank Drop Drainage Area No. 2) and Site 14 (Battery Acid Disposal Area), at the former Marine Corps Air Station (“MCAS”) El Toro. In the Proposed Plan, DON/USMC concluded that these sites did not pose a threat to human health or the environment and, accordingly, proposed no further action at these two sites.</p> <p>This conclusion was based on a risk assessment which reportedly showed that excess cancer risks were less than 10⁻⁴. Moreover, according to DON/USMC, the main contributors to this cancer risk were arsenic and polynuclear aromatic hydrocarbons (“PAHs”), the first of which purportedly did not result from its historical activities at the base and the second of which does not have a tendency to migrate in soils. In a similar vein, DON/USMC asserted that while non-cancer risks exceeded 1 at one of the areas of Site 7, the largest contributors to this risk were the naturally-occurring metals manganese and arsenic. Again, DON/USMC claimed that no site-related activities involved use of these metals.</p> <p>On November 8, 2000, the Orange County Local Redevelopment Authority (“LRA”) transmitted to DON/USMC a written memorandum prepared by the LRA’s technical consultant in which a number of issues and concerns regarding the Proposed Plan were raised. In particular, this memorandum raised serious concerns about DON/USMC’s decision to (1) use a 10⁻⁴ risk level to evaluate the significance of cancer risks, and (2) not to remediate Site 7, despite the fact that the contamination present poses a non-cancer risk in excess of 1.0. In addition, the memorandum raised questions about the accuracy of and basis for DON’s claim that the largest contributors to the cancer and non-cancer risks posed at Sites 7 and 14 are contaminants that did not come from any historical activities at the base.</p>	<p><u>RESPONSE TO GENERAL COMMENT</u></p> <p>RESPONSE 1: The LRA’s comment raises three concerns as follows: (1) DON’s evaluation of risks at Sites 7 and 14; (2) DON’s treatment of elevated levels of hydrocarbons and lead at Sites 7 and 14; and (3) DON’s consideration of comments submitted by the LRA on the Proposed Plan for Sites 7 and 14. A detailed response to the first two concerns is provided in the Draft Responsiveness Summary that was transmitted to the BCT, RAB, and the LRA on January 31, 2001 and is not repeated here.</p> <p>In accordance with NCP regulations, all comments received during the public comment period are addressed in a document known as the Responsiveness Summary. The DON issued the Draft Responsiveness Summary for Sites 7 and 14 on January 31, 2001, to the BCT, RAB, and LRA. Once the Responsiveness Summary has been finalized, it will be issued as an integral part of the Draft Final Record of Decision (ROD).</p> <p>It is DON’s practice to review all public comments on the Proposed Plan as they are received to determine whether the comments impact the proposed remedial alternative or modify recommendations made in the Proposed Plan. If this is the case, the ROD is not issued until the issues are resolved. In this case, the DON reviewed the public comments, including those of the LRA, and determined that they did not impact the selection of the preferred alternative. The rationale for this determination is provided in the Responsiveness Summary.</p> <p>The DON will not finalize the Draft ROD until all public and regulatory comments on the ROD and Responsiveness Summary have been considered, responses to these comments have been formulated, and the ROD and Responsiveness Summary have been revised as appropriate. Comments on the Draft ROD and Responsiveness Summary will be addressed by means of a Response to Comments matrix that will be issued at the same time as the Draft Final Record of Decision. This document is an example of such a matrix.</p>

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April 2001

<p>Originator: Gary Simon, Executive Director MCAS El Toro Redevelopment Authority</p> <p>To: Dean Gould, BRAC Environmental Coordinator MCAS El Toro</p> <p>Date: January 19, 2001</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0164 File Code: 02221</p>
<p>Finally, the memorandum also raised concerns about the high levels of total petroleum hydrocarbons and lead present at these sites, which were dismissed by DON/USMC in its analysis of proposed remedies for Sites 7 and 14.</p> <p>On November 22, just two weeks after the close of the public comment period for the Proposed Plan, DON/USMC issued a Draft Record of Decision for Sites 7 and 14. Noticeably absent from the contents of the Draft ROD was any discussion of comments submitted by the LRA or other members of the public on the Proposed Plan. Rather, the Draft ROD simply noted that DON/USMC's response to these comments, i.e., the Responsiveness Summary, would be mailed under separate cover. Yet, to date, no such response has been provided to the LRA or to any other members of the public. Despite this, DON/USMC once again concludes in the Draft ROD that "no remedial action is necessary to assure the protection of human health and the environment at Sites 7 and 14."</p> <p>As DON/USMC is aware, National Contingency Plan regulations specifically require that the lead agency "[p]repare a written summary of significant comments, criticisms, and new relevant information submitted during the public comment period and the lead agency response to each issue." 40 C.F.R. § 300.430(f). Furthermore, these regulations require that the summary "be made available with the record of decision." <u>Id.</u> The reasons for these requirements is clear – only by providing such a summary can the public be assured that its comments, questions and concerns regarding a proposed plan for remediation of contamination have been taken into account by the lead agency.</p> <p>Here, it is clear that DON/USMC did not fully consider any of the comments that were submitted on the Proposed Plan. Indeed, DON/USMC issued the Draft ROD just two weeks following the close of the public comment period. Thus, it is not surprising that the Draft ROD contains all the same flaws and raises all the same concerns as the Proposed Plan.</p>	

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MCAS EL TORO, CALIFORNIA**

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<p>Originator: Gary Simon, Executive Director MCAS El Toro Redevelopment Authority</p> <p>To: Dean Gould, BRAC Environmental Coordinator MCAS El Toro</p> <p>Date: January 19, 2001</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0164 File Code: 02221</p>
<p>The LRA is very concerned that DON/USMC has short-circuited the process for selecting an appropriate remedy at Sites 7 and 14. Any remedy selected by DON/USMC for these sites must [be] selected in light of, not in spite of the comments submitted by the LRA and other members of the public regarding the adequacy of that remedy. Accordingly, the LRA hereby re-submits its comments on concerning the Proposed Plan for Sites 7 and 14 as its comments on the Draft ROD for these two sites. Furthermore, the LRA requests that DON/USMC not take any action to finalize the Draft ROD for Sites 7 and 14 until it has fully responded to the comments submitted by the LRA and any other members of the public concerning the proposed remedy <i>and</i> the LRA and the public have had an opportunity to review such response.</p>	

**RESPONSE TO COMMENTS
 RESPONSIVENESS SUMMARY ASSOCIATED WITH THE DRAFT RECORD OF DECISION
 OPERABLE UNIT 3B NO ACTION SITES 7 AND 14
 MCAS EL TORO, CALIFORNIA**

April 2001

<p>Originator: Nicole Moutoux, RPM U.S. EPA</p> <p>To: Dean Gould, BRAC Environmental Coordinator MCAS El Toro</p> <p>Date: 08 March 2001</p>	<p>CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0164 File Code: 02221</p>
<p><u>SPECIFIC COMMENT</u></p> <p>The following are the U.S. EPA's comments on the draft ROD for Sites 7 and 14.</p> <p>1. As we discussed last week, the following is my comment on the responsiveness summary for Sites 7 and 14. It applies throughout the RTCs as risk management is the subject of many of the responses. I suggest that in your risk management discussion, you also provide information regarding distribution of contaminants. I assume that the distribution of contaminants does not indicate any "hot spot" areas (i.e., elevated concentrations are found next to lower concentrations) and that this was also a factor in the Navy's decision for NFA. In addition, were there any calculations made using the highest measured concentration? This would also lend weight to the conservative nature of the risk assessment.</p>	<p><u>RESPONSE TO SPECIFIC COMMENT</u></p> <p>RESPONSE 1: A factor considered in the no action decision for Sites 7 and 14 was whether the distribution of contaminants at these sites indicated that the concentration of contaminants at one or more sample locations was significantly elevated over the remaining site concentrations (possibly representing a "hot spot"). The RI work plan included provisions for additional (step-out) sampling to evaluate areas with significantly elevated contaminant concentrations. However, the DON and the regulatory agency members of the BCT examined the data collected at the sites during the RI and did not identify any areas requiring further evaluation as hot spots.</p> <p>A discussion of the distribution of contaminants has been added to the risk management discussion in the response to Comment 1A of the Responsiveness Summary. In addition, DON has added a new section to the draft final ROD (Section 7.6) to discuss the basis of the risk management decision in greater detail. Section 7.6 includes a discussion of the distribution of contaminants.</p> <p>Tables 7-1 and 7-2 in the ROD highlight where the maximum concentrations were used as the exposure point concentration in the human health risk assessment. In addition, Section 7.5 has been revised to note cases where the maximum concentrations of chemicals were used to calculate risk.</p>

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RESPONSIVENESS SUMMARY ASSOCIATED WITH THE DRAFT RECORD OF DECISION
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April 2001

<p>Originator: Triss M. Chesney, P.E., RPM Department of Toxic Substances Control</p> <p>To: Dean Gould, BRAC Environmental Coordinator MCAS El Toro</p> <p>Date: March 29, 2001</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0164 File Code: 02221</p>
<p><u>GENERAL COMMENT</u></p> <p>The Department of Toxic Substances Control (DTSC) reviewed the above draft Responsiveness Summary for Sites 7 and 14, dated January 31, 2001. The document provides responses to comments on the Proposed Plan. The Proposed Plan provides the results of the environmental investigation of Sites 7 and 14, and explains the basis for the proposal for no further action at these sites. The Proposed Plan was released for public comment in September 2000. Subsequently, the Department of the Navy prepared the draft Responsiveness Summary to address the comments received during the public comment period. The Responsiveness Summary was forwarded separately from the draft Record of Decision (ROD) for Sites 7 and 14. The finalized Responsiveness Summary will be integrated into the draft final ROD for Sites 7 and 14.</p> <p>DTSC does not have comments regarding the draft Responsiveness Summary or additional comments on the draft ROD.</p>	<p><u>RESPONSE TO GENERAL COMMENT</u></p> <p>No response required. DON thanks DTSC for their timely review of the Responsiveness Summary.</p>

RESPONSE TO COMMENTS
RESPONSIVENESS SUMMARY ASSOCIATED WITH THE DRAFT RECORD OF DECISION
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MCAS EL TORO, CALIFORNIA

April 2001

Originator: John Broderick California Regional Water Quality Control Board	CLEAN II Program Contract No. N68-711-92-D-4670
To: Dean Gould, BRAC Environmental Coordinator MCAS El Toro	CTO-0164 File Code: 02221
Date: March 22, 2001	
<u>GENERAL COMMENT</u> The Regional Water Quality Control Board (RWQCB) representative indicated to Content Arnold, Lead RPM for MCAS El Toro, that RWQCB does not have any comments on this Responsiveness Summary.	<u>RESPONSE TO GENERAL COMMENT</u> No response required. DON thanks RWQCB for their timely review of the Responsiveness Summary.

RESPONSE TO COMMENTS
DRAFT RESPONSIVENESS SUMMARY ASSOCIATED WITH THE RECORD OF DECISION
OPERABLE UNIT 3B NO ACTION SITES 7 AND 14
MCAS EL TORO, CALIFORNIA

April 2001

<p>Originator: Gary Simon, Executive Director MCAS El Toro Redevelopment Authority</p> <p>To: Dean Gould, BRAC Environmental Coordinator MCAS El Toro</p> <p>Date: March 1, 2001</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0164 File Code: 02221</p>
<p><u>GENERAL COMMENT</u></p> <p>Last year, the Department of Navy/United States Marine Corps (DON/USMC) issued two documents: 1) Phase II Remedial Investigation Report, Attachments O and P, Operable Unit-3B, Sites 7 and 14 dated March 2000, and 2) Draft Proposed Plan for Operable Unit 3B, Sites 7 and 14 dated September 2000 for the former MCAS El Toro.</p> <p>On November 8, 2000, the MCAS El Toro Local Redevelopment Authority (LRA) transmitted to DON/USMC a written Memorandum prepared by the LRA's technical consultant in which a number of issues were raised concerning the DON/USMC's proposed No Further Action at these Sites.</p> <p>In January of this year, DON/USMC issued a responsiveness summary to comments received from the LRA and the public. After reviewing the DON/USMC's responsiveness summary, we felt that we may have not been clear on some of the questions we raised in our November 8, 2000 letter. As such, the LRA's consultant prepared the attached Memorandum to clarify those questions and added a few questions regarding issues discussed in the DON/USMC's responsiveness summary. Obtaining a response to our questions will help us in planning the reuse of MCAS El Toro.</p>	<p><u>RESPONSE TO GENERAL COMMENT</u></p> <p><u>RESPONSE:</u> Please see the following pages for comments submitted by the LRA's technical consultant and the responses to these comments.</p>

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<p>Originator: Bertrand S. Palmer, Ph.D., P.E., & Bob Demott, Ph.D. Geosyntec Consultants</p> <p>To: Polin Modanlou MCAS El Toro Master Development Program</p> <p>Date: March 1, 2001</p>	<p style="text-align: right;">CLEAN II Program Contract No. N68-711-92-D-4670 CTO-0164 File Code: 02221</p>
<p><u>GENERAL COMMENT</u></p> <p>Last year, the Department of Navy/United States Marine Corps (DON/USMC) issued two documents regarding Site 7, Drop Tank Drainage Area No. 2 and Site 14, Battery Acid Disposal Area. These two documents are the "Phase II Remedial Investigation Report, Attachments O and P, Operable Unit-3B, Sites 7 and 14 Marine Corps Air Station (MCAS), El Toro, California" (RI) dated March 2000, and the "Proposed Plan for Operable Unit 3B, Sites 7 and 14 at Marine Corps Air Station El Toro" (Proposed Plan), dated September 2000. The RI provides a summary of the nature and extent of contamination at Operable Unit (OU)-3B, Sites 7 and 14, and provides fate-and-transport and human health risk assessment for chemicals of potential concern at these sites. The RI also includes recommendations for future work and potential remediation at these sites. The Proposed Plan is a summary of the work performed in the RI and is designed to be given to the public for comments before publication of the Record of Decision (ROD).</p> <p>The Local Redevelopment Authority (LRA) performed a review of the RI and the Proposed Plan and prepared written comments, which were provided to DON/USMC in a letter and a memorandum dated 8 November 2000.</p> <p>In response to the comments received from the LRA and the public, DON/USMC issued a Responsiveness Summary (RS). GeoSyntec Consultants (GeoSyntec) has performed a preliminary review of the RS. The purpose of this memorandum is to summarize GeoSyntec's comments, issues, and questions regarding the RS and to provide additional follow-up questions regarding the RI and the Proposed Plan.</p> <p>DISCUSSION</p> <p>Based on GeoSyntec's review of the RS, it appears that DON/USMC may not have completely understood some of the questions or issues raised by</p>	<p><u>RESPONSE TO GENERAL COMMENT</u></p> <p>RESPONSE: Responses to specific clarifications and new comments provided by the LRA's technical consultant follow.</p>

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<p>the LRA in its letter and memorandum dated 8 November 2000. The purpose of this memorandum is to reformulate or clarify some of these questions. In addition, GeoSyntec has added a few questions regarding issues discussed in the RS. Obtaining a response to these questions will help the LRA in planning the reuse of MCAS El Toro. The following is a description of issues and questions identified by GeoSyntec.</p>	
<p><u>SPECIFIC COMMENTS</u></p> <p><u>Response to Comments 2B</u></p> <p>In response to GeoSyntec's comment, DON/USMC indicates that the soil would effectively neutralize acid wastes disposed at Site 14 and, therefore, DON/USMC did not test the soil for pH. GeoSyntec is aware of the soil's general buffering ability. However, considering the substantial volume of battery acid (sulfuric acid) disposed at the site (210 gallons) (see RI at P1-2), the soil may have gradually lost its ability to neutralize the acid. This would have resulted in potentially low pH in the soil and increased mobility of other contaminants (such as metals) in the vadose zone and possibly the groundwater. Considering that a soil pH test is a very cost-effective manner to definitively determine whether soil buffering capability has been sufficient for the volume of waste discharged (less than \$15/test), GeoSyntec believes that DON/USMC should have tested the soil, rather than speculate as to the potential for these soils to neutralize acid wastes. Such speculation increases the uncertainty in the risk characterization of the soils, weakening the Point-of-Departure evaluation provided by DON/USMC. Since DON/USMC must convince risk managers and potential future users of the protectiveness of their preferred remedial strategy through such a Point-of-Departure evaluation (i.e., the quantitative risk estimates in and of themselves do not rule out potential risks), readily available measurements should be incorporated instead of speculative hypothesis.</p>	<p><u>RESPONSES TO SPECIFIC COMMENTS</u></p> <p><u>Response:</u> DON did not test the soil at Site 14 for pH. Such a test was considered unnecessary because of the buffering ability of the soil, because there was no evidence of stress in the vegetation present at the site during the Phase I or Phase II RIs, and because evaluation of the analytical results for metals samples collected during the Phase I RI did not indicate a distribution pattern consistent with increased mobility in shallow soil. In addition, the estimated volume of battery acid disposed at Site 14 was based on the conservative assumption that battery acid was drained annually from each of 30 vehicles supported by the heavy equipment maintenance shop operated out of nearby Building 245 (Initial Assessment Study of Marine Corps Air Station, El Toro, California, Brown and Caldwell, 1986). Further, the Initial Assessment Study notes that the battery acid may have been neutralized prior to disposal at Site 14. Therefore, the 210 gallons cited in the RI overestimate the magnitude and character of the disposed wastes.</p> <p>Regulatory agencies, including U.S. EPA, DTSC, and RWQCB reviewed the Phase I data and the Phase II Work Plan and concurred with DON's decision. The regulatory agencies also agreed with the findings for the point of departure evaluation presented in the risk assessment section of the Site 14 RI.</p> <p>As noted in DON's response to Comment 2B in the draft Responsiveness Summary, the DON groundwater analyses did include measurement of pH. The results indicated that groundwater pH is neutral (about 6.8 to 7.2). In addition, metals concentrations in soil and groundwater are consistent with background levels.</p>

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<p><u>Response to Comment 2C</u> DON/USMC's response to this comment does not adequately address the significant issues raised. In its response, DON/USMC confirms that sampling locations were randomly positioned at each site to produce an "unbiased configuration" of sampling locations. Thus, this sampling methodology does not target known chemical discharge points. Considering that DON/USMC has discharged chemicals at discrete points during operations at MCAS El Toro, DON/USMC should have sampled at locations that were known discharge points (directed sampling), in addition to randomly-selected locations. While random sampling is the correct approach for determining overall concentrations at a site, directed sampling is specifically required to characterize known discharge or disposal locations. This is significant to risk managers who want to know not only the risks over an entire area, but also whether certain locations ("hotspots") present a specific risk issue.</p>	<p><u>Response:</u> As noted in the DON response to Comment 2C in the draft Responsiveness Summary, the arrows labeled "acid disposal and paint waste area" in Attachment P Figures 3-1 and 4-7 refer to the entire area within the dashed blue lines and do not designate specific discrete locations at the tip of each arrow as Comment 2C and this clarification comment suggest. Since the entire area along the edge of the pavement south of Building 245 was reportedly used for waste disposal at Site 14, a random sampling approach was selected for the pavement edge area and the adjacent drainage ditch.</p> <p>The response to Comment 2C in the Responsiveness Summary has been revised to clarify the disposal location and expand on the discussion of the sampling approach.</p>
<p>Also, the use of overall site representations as exposure concentrations is only appropriate where the same types and levels of exposures are anticipated to occur across the entire site. In other words, random sampling of an area is applicable where exposure is anticipated to occur randomly across the same area. We do not believe that the overall (average) concentrations are sufficient to characterize all potential risks at Site 7 and 14 given the potential future uses of these sites. For example, a small park would be substantially smaller than the area that was randomly sampled. Accordingly, the overall concentration cannot be assumed to be representative for each potential lot. This is a well known issue in developing Conceptual Site Models that represent potential exposures at a site, and U.S. EPA guidance directs that similar spatial scales be considered between potential exposure areas and sampling locations.</p> <p>Where a randomly sampled area is substantially larger than the area over which exposure is anticipated, a further level of analysis is required prior to accepting the overall concentrations as appropriate for evaluating</p>	<p>DON did not use overall site representations as exposure concentrations. Instead, each site was subdivided into units to define smaller areas where the same types and levels of exposures were anticipated to occur. For example, Site 7 was subdivided into five units as follows: Unit 1 – North Pavement Edge, Unit 2 – Old East Pavement Edge, Unit 3 – New East Pavement Edge, Unit 4 – Drainage Ditch, and Unit 5 – Open Dirt Area. These units varied in size from about 0.34 to 2.07 acres and may be smaller or larger than a small park. The area of Site 14 is 5,520 square feet (0.13 acre). It should be noted at this point that the current anticipated use of Sites 7 and 14 is industrial, not a park (recreational). Regardless, human-health risks for the units at both sites were evaluated assuming residential use, the most conservative redevelopment scenario. Further, rather than using site-wide average concentrations of identified contaminants, reported contaminant concentrations for samples collected within each unit were assessed on a unit-specific basis and a reasonable maximum exposure concentration was developed for each unit-specific contaminant.</p>

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<p>receptor risks. Such analysis can take the form of a statistical demonstration that the overall site concentrations are substantially homogeneous (i.e., that particular sub-areas with substantially higher concentrations are not anticipated). However, in our experience, where specific waste disposal locations have been identified, sampling and determination that these areas do not represent hotspots typically is required, in addition to the determination of the overall (average) concentration.</p>	<p>Within each unit at a site, the number of Phase II sampling locations (or the adequacy of the Phase I sample quantities) was based on human-health risks calculated using the analytical results from soil sampling performed during the Phase I RI, on the decision error limits set for the Phase II RI, and on the area encompassed by each site unit. This sampling strategy was designed to provide a high level of confidence (95 percent) that the appropriate number of samples was collected to determine the nature and extent of contamination and conduct a human-health risk assessment based on the most conservative (residential) use of each site unit. Sampling was conducted in conformance with these guidelines using a random sampling strategy. As noted earlier, random sampling was conducted because the review of historical records, information compiled from employee interviews, and visual inspections conducted at each site identified general areas (not discrete locations) throughout which disposal reportedly occurred (conditions particularly suitable for a random sampling approach.)</p>
<p>The risk estimates used by DON/USMC are based on average (specifically, 95% upper confidence limits of the mean) concentrations determined at randomly selected sampling locations. The inability of DON/USMC to identify localized areas (due to the lack of sampling) with potentially much higher concentrations (as suggested by their identification of specific disposal locations) is a substantial limitation with regard to determining actual human health risk and the appropriateness of future land uses at particular locations on a given IRP site. As an example, DON/USMC has not considered the highest soil lead concentration (931 mg/kg observed at Site 7 or 923 mg/kg observed at Site 14) as an indicator of the need for further evaluation or remediation. Dismissing such levels is premature in light of the uncertainty as to whether the lead concentrations in the specific locations where batteries were drained have been characterized. Presuming a reuse scenario where exposure of children to lead in soil would be most relevant, it is not the average concentration across several acres that is relevant, it is the potential concentration in a given area. There is inadequate delineation to confidently conclude that some</p>	<p>As noted in the first paragraph of the response to Comment 2C in this document, DON did not identify specific, discrete disposal locations within the units at either Site 7 or 14. Instead, the entire pavement edges at Site 7 Units 1 and 3 and at Site 14 were reportedly areas where waste disposal or runoff from waste disposal on the adjacent pavement occurred. These areas were randomly sampled to identify potential hot spots and gather data to be used in the human health risk assessment in accordance with the approved sampling plan. With regard to the specific comment raised by GeoSyntec, as explained in the response to Comment 2H in the draft Responsiveness Summary, the DON did not dismiss the highest lead concentrations at either Site 7 or 14, but considered all reported concentrations for each unit at both sites in accordance with U.S. EPA guidelines. Per U.S. EPA guidance, exposure is not evaluated on the basis of single samples because it is considered unrealistic to assume that a person would remain at the same exact location for the entire period of exposure (30 years). The accepted methodology is to assess exposure on the basis of estimates of the central tendency of the data set for each site unit rather</p>

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<p>particular area would not end up with lead levels in the 900 mg/kg range instead of the overall average range. In short, a more appropriate approach would include remediation of hotspots to reduce potential human health risk at Sites 7 and 14.</p>	<p>than on individual data points.</p> <p>In accordance with U.S. EPA Risk Assessment Guidance for Superfund (U.S. EPA 1989), the 95 percent upper confidence limit (UCL) of the mean measured concentrations for each site unit is used as the exposure point concentration (EPC). U.S. EPA specifies that the 95 percent UCL is to be used in risk assessments because of the uncertainty associated with any estimate of the exposure concentration based on a single sample value. The goal of this approach is to quantify the most intense level of exposure that may reasonably be expected to occur (i.e., reasonable maximum exposure). Furthermore, from a technical standpoint it is unrealistic to base potential exposures on the assumption that an adult or child would remain stationary for the 30-year duration of the residential risk scenario, spending the entire time at a single discrete location that represents the highest reported sample concentration within a site unit (i.e., the exposure scenario suggested in this comment). Per U.S. EPA, the realistic scenario used for the Sites 7 and 14 risk assessments assumes that adults and children will move throughout the unit area during that 30-year period and as a result, their potential exposure would represent an upperbound on the mean of the contaminant concentrations distributed throughout that area (i.e., 95 percent UCL).</p> <p>With regard to remediation of potential hot spots, the DON and the regulatory agency members of the BCT examined the data collected at Sites 7 and 14 during the RI and did not identify any areas requiring further evaluation as hot spots.</p>

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<p><u>Response to Comment 2D</u></p> <p>GeoSyntec is aware of the differences between Total Petroleum Hydrocarbon (TPH) and Total Recoverable Petroleum Hydrocarbon (TRPH). GeoSyntec is also aware of the approach used by DON/USMC to base the need for site remediation solely on a human health risk-based assessment. However, GeoSyntec's comment still has not been addressed by DON/USMC and is further explained hereafter.</p> <p>TRPH and TPH (as diesel) concentrations measured at Site 7 are 32,091 mg/kg and 426 mg/kg, respectively (Sample No. 07_GN1 at 0-foot depth). This data indicates that Petroleum Hydrocarbon present at the site is likely to be fairly "heavy" (consistent with the fact that jet fuel and lubricating oil were discharged at the site). (DON/USMC indicates that this difference could be due to the presence of non-petroleum hydrocarbon. It is possible, but far from certain, at a site where 22,000 gallons of jet fuel and/or lubricating oil have been disposed). At Site 14, TPH concentrations (as diesel) exceed 11,000 ppm in a sediment sample collected in the catch basin.</p> <p>This data and the results of human health risk assessment do not mean that leaving the Petroleum Hydrocarbon in place at Site 7 or 14 is adequately protective of human health and the environment. On the contrary, Regulatory Action Levels typically used by the Orange County Health Care Agency (OCHCA) for clean-up of sites contaminated by heavy hydrocarbons ranges from 100 to 1000 PPM by Method 418.1 (i.e. TRPH). The existing TPH or TRPH concentrations at Site 7 and 14 are greater than action levels used in Orange County. Thus, Petroleum Hydrocarbon should be remediated by DON/USMC at Site 7 and 14.</p>	<p><u>Response:</u> In their comments on the draft ROD for Sites 7 and 14, the RWQCB requested that DON further investigate the concentration of TRPH reported at Site 7 surface sample location 07_GN1. DON has agreed to conduct this investigation under the Petroleum Corrective Action Program. This will not impact the no action status of Site 7 under CERCLA.</p> <p>The Site 14 catch basin sediment sample was collected during the Phase I RI. The concrete catch basin was inspected visually during the Phase II RI and no sediment was present at that time. Because risks at the Catch Basin were within the range considered allowable (based on Phase I data), sediment was not present in the Catch Basin at the time of the Phase II RI, and sampling at other Site 14 locations showed that TRPH and TPH in surface soil were either non-detect or present at low concentrations (and would therefore be unlikely to re-contaminate the catch basin in the future), the DON concluded that no further action was required for this unit.</p> <p>The responses to Comments 1F and 2D in the Responsiveness Summary have been revised to incorporate the information presented here.</p>
<p><u>Response to Comment 2E</u></p> <p>DON/USMC states in the RI that arsenic is responsible for a large part (50 percent at Site 7 and 40 percent at Site 14) of the carcinogenic risks at Sites 7 and 14 (see RI at page O7-5 and P7-2). DON/USMC adds that the arsenic concentrations at Site 7 are not attributable to known historical</p>	<p><u>Response:</u> Please see the response to Comment 2C in this document for a discussion of the sampling strategy for Sites 7 and 14. Contaminants at both Sites 7 and 14 were reportedly disposed at or flowed off the entire length of the pavement edge at each unit during the duration of activities at these sites. The entire area adjacent to the pavement edge represents the specific location where</p>

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<p>site activities, and that Sites 7 and 14 may have background concentrations in the upper part of the range of statistically characterized background concentrations of arsenic for MCAS El Toro.</p> <p>While this is one possible interpretation of the analytical results, additional information and identifiable alternative interpretations need to be specifically considered. Just because the reported values fall within the background concentrations does not necessarily support the position that there was no site-related contribution. Historical site usage and the potential for such activities to result in discharges should have been discussed to clearly establish that no identifiable site contributions would be anticipated to supplement whatever background concentration of arsenic may be present.</p> <p>DON/USMC has stated that the potential for arsenic to be present at elevated concentrations was evaluated through the RI sampling evaluation. Yet having emphasized its reliance on random sampling and not sampling of the specific locations where waste was discharged, it is unclear how DON/USMC expects the sampling results to address the questions that were raised. For example, if DON/USMC has only evaluated the potential for arsenic to originate from alloy additives used in battery grids (see Hawley's Condensed Chemical Dictionary, 11th Edition at page 98) by making reference to the random sampling results, then such an approach is not adequate to address the concern that battery waste disposal could have lead to enriched arsenic concentrations in the specific area where such disposal occurred. Similarly, DON/USMC cannot reasonably evaluate the potential for the presence of arsenic in the pesticides and herbicides used at MCAS El Toro as part of base operations by reference to the results of the random RI sampling.</p> <p>DON/USMC also states in the RI (see RI at page O7-6) that manganese is responsible for the hazard index (HI) being greater than 1 at Unit 1, Site 14. However, DON/USMC states that manganese is naturally present in soils and is not attributable to MCAS El Toro activities. Again, it is not</p>	<p>disposal occurred and was sampled accordingly.</p> <p>With regard to arsenic, MCAS El Toro Site 7 was historically used as a drop tank drainage area. In the northern and eastern portions of the site, aircraft drop tanks were drained and washed on a concrete apron from approximately 1969 to 1983. The mixture of residual fuel and washwater reportedly drained off the edge of the concrete apron and onto the adjacent grassy area. Since arsenic is not a component of aviation fuel or washwater, arsenic was not identified as a site-related contaminant.</p> <p>As noted in the RI, it is possible that arsenic compounds may have been used during agricultural or pest control practices prior to construction and expansion of MCAS El Toro (when the area was primarily agricultural). It is also possible that pesticides or herbicides containing arsenic may have been used in small quantities throughout the Station during the time the base was operational to control weeds, insects, and animals. However, such use of arsenic at Site 7 was not identified during the interviews or record reviews of the site, is not related to activities that took place at the site, and therefore does not represent an identifiable site contribution. This conclusion is substantiated by the fact that 98 percent of the samples collected at Site 7 contained arsenic concentrations below background for MCAS El Toro.</p> <p>Site 14 was used as a battery acid disposal area from 1977 to 1983. As noted by GeoSyntec, arsenic could be a site-related chemical at Site 14 because arsenic was used historically as a minor additive (0.01 to 0.5 percent) to lead in lead-acid storage batteries. Therefore, it is possible that a small amount of arsenic could have leached from a battery's lead plates into the battery acid. However, because the concentration of arsenic that was available to be leached was very low to begin with, potential arsenic contributions to soil contamination would be minimal. In addition, by the time Site 14 was active, use of arsenic in batteries was in decline due to the introduction of maintenance-free batteries in the 1970's (U.S. Department of the Interior, Bureau of Mines Information Circular No. 9382, 1994).</p> <p>The lack of a substantive source of arsenic is consistent with the fact that all</p>

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<p>the consistency of the reported values with the high end of the background range that we have questions. Rather, it is whether DON/USMC has given adequate consideration to site activities that might have supplemented background concentrations of manganese? The question remains, has DON/USMC considered that the presence of manganese could be associated with aviation activities, because manganese is present many metal alloys used in aviation and in welding and cutting torches used in repair or maintenance shops? While there may be an elevated ambient level of manganese in the area, the significance of potential contributions from various sources needs to be characterized.</p> <p>Finally, with regard to potential risk-based remedial strategies overall, the source of the arsenic and manganese is not relevant. While naturally occurring metals concentrations are not typically targeted for remedial action, this does not mean that their contribution to overall risks is subtracted from the potential risks related to the site. For example, were the arsenic and manganese concentrations shown to be naturally occurring, they would not be identified as COCs requiring remedial attention. The contribution of these constituents to the overall risks (approximately 50%) would simply not be a controllable portion of such risks. However, where this background contribution added to other COCs results in significant overall risks (which appears to be potentially the case at Sites 7 and 14), then remedial strategies aimed at other COCs would still be needed.</p>	<p>concentrations of arsenic reported at Site 14 were below background for MCAS El Toro.</p> <p>The GeoSyntec concern regarding the cumulative HI and manganese appears to confuse Sites 7 and 14. The cumulative HI at Site 7 Unit 1 exceeded 1 primarily due to manganese as indicated on page O7-6 in the RI. Conversely, the cumulative HI at Site 14 was less than 1 as indicated on page P7-5 in the RI. Manganese is not considered a site-related contaminant at Site 7 Unit 1. GeoSyntec suggests that manganese concentrations reported in soil at Site 7 Unit 1 could be attributed to the fact that manganese is present in many metal alloys used in aviation and in welding and cutting torches used in repair or maintenance shops. While aircraft that parked intermittently on the concrete apron near Site 7 Unit 1 were undoubtedly constructed using metal alloys containing manganese, that simple fact alone has no direct correlation to manganese concentrations in soil. Site 7 Unit 1 was used for washing aircraft drop tanks. It was not used for servicing or maintaining aircraft nor were repair or maintenance shops where welding and cutting torches may have been used located at this unit.</p> <p>Similarly, manganese is not considered a site-related contaminant at Site 14. The GeoSyntec suggestion that manganese contamination could be associated with welding and cutting torches used in repair or maintenance activities conducted at Site 14 (a grass-covered dirt strip along the pavement edge and an adjacent drainage ditch) is not consistent with the historical use of this site or the data collected during the RI. The cumulative HI at Site 14 is less than 1, manganese was not identified as a risk driver for Site 14 during the RI, and the reported manganese concentrations in soil at Site 14 are consistent with background.</p> <p>With regard to GeoSyntec's final comment about risk-based remedial strategies, the comment itself suggests that significant overall risks were identified for the units at Sites 7 and 14, a contention that is not supported by the risk assessments for Sites 7 and 14 or the NCP guidelines for determining the need for remedial action. Because the calculated risks for units at both sites</p>

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<p>fell within the risk management range/generally allowable range, the DON conducted further evaluation of the data to determine whether remedial action or no further action was appropriate. The factors included in this further evaluation were thoroughly discussed in the DON response to Comment 1A in the draft Responsiveness Summary. The issue of reported arsenic and manganese concentrations in relation to background was but one of many factors considered by the DON. In the case of manganese for instance, the DTSC pointed out in their review of the Sites 7 and 14 RIs that the HI for manganese overestimated the risk because the exposure calculated for a resident child used the published inhalation reference dose for an adult. While this practice was consistent with U.S. EPA Region IX guidelines, using an inhalation dose appropriate for a child instead of the dose for an adult would have reduced the manganese HI by 50 percent, a significant consideration when the cumulative HI for Site 7 Unit 1 was only slightly above 1 to begin with. Considering all of the conservative approaches/factors incorporated into the DON risk assessments and how much the overall risk would have been reduced if less conservative assumptions had been used, the U.S. EPA, DTSC, and RWQCB agreed that the DON recommendation of no further action for Sites 7 and 14 is appropriate.</p> <p>The response to Comment 2E in the Responsiveness Summary has been revised to incorporate the information presented here.</p>	

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<p><u>Response to Comment 2F</u></p> <p>The DON/USMC's response to this comment has not addressed the significant point raised in the comments. GeoSyntec acknowledges the need for differing criteria upon which to base a decision to remediate versus remedial goals for a required cleanup. However, in the two sets of sites characterized, risks within the range requiring further consideration were estimated. As discussed above, GeoSyntec has identified concerns with DON/USMC's conclusion that there is adequate certainty in the risk estimates for Sites 7 and 14 to determine that remedial action is not needed. The lack of certainty that the highest risks in particular areas have been adequately identified, and the inconsistency of the spatial scale of the assessments for all potential future uses, are the two major factors leading to our conclusion that the uncertainties appear too high for DON/USMC to rely on a no-action approach where the risks calculated are in the highest third of the U.S. EPA risk range. The alternative decision, where estimated risks within the range requiring further evaluation were determined to be most appropriately addressed by risk reduction (i.e., Sites 8, 11, and 12), is pointed out as a more definitive way to ensure that risks are maintained within an acceptable range. The application of a 10^{-6} target level in conjunction with specific COCs for remediation would meet this goal of reducing the uncertainty that risks were adequately controlled.</p>	<p><u>Response:</u> Please see the response to the second part of Comment 2C in this document. Risks were estimated and assessed on a unit-specific basis, not averaged site-wide as these comments and those submitted previously suggest. Nor were any sample results (including the maximum lead concentrations cited previously) excluded from the data set used to perform each unit-specific risk assessment at these sites.</p> <p>U.S. EPA, DTSC, and RWQCB participated with the DON in delineating the individual units at each site, developing the sampling strategies, and defining the number of samples necessary to adequately characterize conditions within each unit at these sites before the RI was conducted. Further, based on the RI data, the regulatory agencies are satisfied that DON has adequately defined and evaluated the risks for the various units at each site and they concur that based on the risk assessment results, the DON recommendation for no further action at Sites 7 and 14 is appropriate.</p>
<p><u>Response to Comment 2G</u></p> <p>The DON/USMC's response to this issue presumes that future pathways for groundwater exposure are not complete. GeoSyntec concurs both that complete pathways for groundwater exposure currently do not appear to exist and that enforceable, properly noticed and implemented, and durable prohibitions on groundwater extraction and use could preclude completed exposure pathways in the future. However, the RIs for Sites 7 and 14 do not appear to explicitly address such prohibitions in these particular areas. The RIs discuss only the evaluation of groundwater through other</p>	<p><u>Response:</u> The DON has assessed the risk from groundwater throughout Site 24, including groundwater underlying Sites 7 and 14, and has evaluated the need for prohibitions on its use. Both of these issues are central to the evaluation of contamination at Site 24 and the development of a remedial alternative for groundwater at that site. The evaluation showed that the risks due to groundwater are within the U.S. EPA risk range requiring remedial action.</p> <p>With regard to transfer of property overlying the groundwater plume, the DON is required to notify the transferee of the presence of contamination in</p>

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<p>investigations and reports. Since the risk assessment estimates are dependent on excluding any contribution from groundwater and the risk assessment results are relatively close to the high end of the risk management range (i.e., even moderate contributions from groundwater would result in clearly significant risks), the need to preclude groundwater extraction throughout the Site 7 and 14 or specifically evaluate such exposure should be discussed. Further, uncertainties associated with ensuring a lack of groundwater exposure should be directly addressed in the Point-of-Departure evaluation.</p> <p>While the potential groundwater issues may be adequately covered and discussed in association with other sites, and this may be clear to the BCT and stakeholders during the BRAC process, the link between Sites 7 and 14 and groundwater risks from a plume originating from other sites will not necessarily be clear to others considering separate, subsequent redevelopment plans in the future. While the source of the plume underlying Sites 7 and 14 is not relevant to the potential risks at these specific locations, the local concentrations and time to achieve compliance with remediation targets are. There are means of ensuring that future site users are aware of the need to prohibit groundwater exposure in order for the risk assessment results to remain relevant. First, the risks from the directly underlying groundwater should be assessed, which would potentially allow for future uses; second, the need for continuous prohibition of groundwater use until such time as relevant concentrations are met. Both options need to be explored and discussed by DON/USMC.</p>	<p>groundwater at the time of transfer. The DON will also include institutional controls prohibiting extraction or use of groundwater without prior approval from DON and the regulatory agency members of the BCT in the deed between the United States and the transferee. The deed will be recorded in the Office of the County Recorder for the County of Orange and will "run with the land" so that the prohibitions will apply to any future owners of the property as well as to the immediate transferee.</p> <p>Deed restrictions on use of groundwater are expected to be applied to all property overlying the groundwater plume that originates at Site 24, including those portions of Sites 7 and 14 that overlie the plume. The LRA is aware of the necessity for such restrictions through its participation in the property transfer process and through the review of the ROD for Sites 7 and 14. The transferee will also receive the proposed deed restriction language for review prior to property transfer. Future owners will also be restricted from use of groundwater because the deed restrictions will "run with the land."</p>

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<p><u>Response to Comment 2H</u></p> <p>The DON/USMC's response to this issue does not address the importance of considering a relevant spatial scale in reaching risk assessment conclusions related to lead. The response refers back to a previous response (2C) in which DON/USMC presents the results of the U.S. EPA methodology for evaluating potential lead risks based on average site concentrations. The use of overall average concentrations from sites of this size does not adequately characterize the potential for substantially higher risks in particular locations. This is particularly pertinent in this instance because of the number of measurements of substantially higher lead levels and the lack of a directed delineation of areas where battery wastes were known to be disposed.</p> <p>More relevant than the potential risks from the average concentration is a comparison between the remedial goal calculated using CAL-EPA's LeadSpread model. As previously noted by GeoSyntec, DON/USMC reports that a soil exposure concentration of 290 mg/kg is the remedial goal based upon the model. Since 30% of the areas sampled exceed this goal (by as much as 3-fold), it is not reasonable for DON/USMC to conclude that there are no localized areas of sufficient size to be relevant for future receptors, where such receptors could be anticipated to realize blood lead levels greater than U.S. EPA limits. In fact, it is clear that there are substantial "hot" areas of lead impacts in soil (e.g. 931 mg/kg). Since relevant sized exposure areas for children could occur within such areas, there is no reasonable basis for DON/USMC not delineating lead-impacted areas and applying the remedial goal calculated by DON/USMC to any areas large enough to result in significant exposure.</p>	<p>Response: As noted in the first paragraph of the response to Comment 2C in this document, DON did not identify specific, discrete disposal locations within the units at either Site 7 or 14. Instead, the entire pavement edges at Site 7 Units 1 and 3 and at Site 14 were reportedly areas where waste disposal or runoff from waste disposal on the adjacent pavement occurred. These areas were randomly sampled to identify potential hot spots and gather data to be used in the human health risk assessment in accordance with the approved sampling plan.</p> <p>Also, as noted in DON responses throughout this document, overall average concentrations from sites were not used to characterize potential risks, rather, sites were subdivided into smaller units for investigation based on similarity of conditions and historical waste disposal practices to more reliably assess risk. Spatial scale was an integral consideration in establishing the number of samples that needed to be collected at each unit to perform a reliable risk assessment.</p> <p>Further, after thorough review of the sampling approach, the numbers of samples, the sample analytical results, and the risk assessment procedures and conclusions by U.S. EPA and DTSC risk specialists, the regulatory agencies concurred with the DON recommendation for no further action at Sites 7 and 14.</p> <p>The second paragraph of this comment suggests that the DON evaluated potential risks using average concentration values and developed a remedial goal of 290 mg/kg for lead using the Cal-EPA pharmacokinetic model (Lead Risk Assessment Spreadsheet). Neither of these characterizations is correct.</p> <p>First, as noted in the response to comment 2C, the DON uses the reasonable maximum exposure rather than an average concentration for each contaminant included in the risk assessment as discussed in Section 6.2.3 of the Sites 7 and 14 RIs. Second, rather than a remedial goal, the 290 mg/kg value cited by GeoSyntec is the 99th percentile estimate of the concentration of lead in soil that when combined with estimated concentrations of lead in air, respirable dust, and water would produce a net blood lead concentration of 10 µg/dL (i.e.,</p>

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	<p>10 µg/dL is the risk benchmark value). A 95th percentile estimated concentration (585 mg/kg) is also calculated by the model. What is important to note is that both of these estimated soil concentrations are highly dependent on the assumed contributions from the other media used as inputs to the model. Because the blood lead concentration is based on the combined contributions from air, water, soil, and dust, increasing the concentrations of one or more of these media (i.e., using conservative estimates) would decrease the allowable concentrations from other media necessary to obtain the 10 µg/dL benchmark. For the DON's Site 7 and 14 risk assessments, the estimated lead concentration input values used for air and water are the Cal EPA model defaults, which are very conservative estimates. For example, the 15-µg/L value used as the input for water is the California action level for lead in drinking water. This action level is 30-times greater than the concentration of lead actually present in drinking water distributed by the Orange County Water District (0.50 µg/L). Simply changing this one default model input value, substituting the actual lead concentration reported in drinking water for the more conservative California action level used by the DON, would increase the 99th percentile lead concentration for soil from 290 to 516 mg/kg and the 95th percentile concentration from 585 to 811 mg/kg. In terms of blood lead concentrations, changing only the value of this single input parameter would reduce the calculated blood lead concentrations for an adult by approximately 40 percent and for a child by approximately 23 percent. Using such realistic input values for the lead contributions from all non-soil media rather than the DON's more conservative assumptions would significantly reduce the blood lead concentrations calculated for an adult and a child, indicating that the actual risk from lead is lower than the estimates used by the DON for the Sites 7 and 14 risk assessments.</p> <p>Additionally, the DON has never specified a remedial goal for lead in the RI of 290 mg/kg or any other concentration. As noted in the previous paragraph, the 290 mg/kg value cited repeatedly in GeoSyntec comments, a value calculated by the Cal-EPA pharmacokinetic model (Lead Risk Assessment Spreadsheet), is not a remedial goal nor did the DON use this number when evaluating the</p>

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<p><u>Response to Comment 2I</u></p> <p>The RI and related information reviewed by GeoSyntec did not make it clear that any samples for Sites 7 or 14 had been considered in the basewide evaluation of hexavalent to trivalent chromium ratios. The specific number of such samples available should be made clear. Further, as previously noted, it would appear that there are obvious potential site-related contributions from tank washout and battery disposal areas. While specific chromium use/disposal may not have been noted at these sites, enriched chromium levels are found in many types of metals sites.</p> <p>Especially notable is the potential for atypical redox conditions in areas where battery acid was released, resulting in hexavalent to trivalent chromium ratios that are higher than usual. DON/USMC has noted that there is typically a relatively rapid reduction of hexavalent to trivalent chromium in soils. However, this resumes typical soils characteristics. Redox potential of battery acid-impacted soils is readily foreseeable to be substantially oxidizing (limiting reduction to trivalent chromium). Further, DON/USMC does not complete the discussion to note that there is, under many conditions, a substantial degree of cycling between reduced and oxidized chromium as the metal moves between various environmental compartments. Again, information on hexavalent to trivalent chromium ratios that is demonstrably site-related should be used to support DON/USMC's failure to complete risk assessment calculations for chromium. Furthermore, the uncertainties associated with any such ratios (e.g., samples not from battery acid-impacted soils) needs to be acknowledged by DON/USMC as being relevant to risk assessment conclusions.</p>	<p><u>Response:</u> The hexavalent chromium evaluation was conducted during the OU-3 RI. The results are summarized in Section 4 of the OU-3A RI report. The evaluation is referenced in Section 6.1.2 of Attachment O (page O6-3) for Site 7 and Attachment P (page P6-2) for Site 14. The hexavalent chromium investigation was conducted at the request of the regulatory agencies following their review of total chromium concentrations reported during the Phase I and Phase II field investigations. Samples were collected at locations throughout MCAS El Toro (including one sample from Site 7), and included several locations where the highest total chromium concentrations in soil had been reported. The DON, U.S. EPA, DTSC, and RWQCB jointly selected the locations and number of samples included in the evaluation. Because hexavalent chromium was not identified in any of the samples included in this evaluation, the regulatory agencies concurred that further sampling or consideration of hexavalent chromium for risk assessment was not necessary.</p> <p>Finally, battery acid disposal is reported to have taken place at Site 14 from 1977 to 1983. Even if the oxidizing conditions postulated by GeoSyntec resulted in elevated hexavalent chromium concentrations at the time of battery acid disposal, it is highly unlikely that these conditions would still be resulting in cyclic oxidation and reduction leading to formation of hexavalent chromium from trivalent chromium nearly 20 years later.</p> <p>The response to Comment 2I in the Responsiveness Summary has been revised to incorporate the information presented here.</p>
<p><u>Response to Comment 2J</u></p> <p>In response to GeoSyntec's quantitative representation of the underestimation of risks from potential soil exposures, DON/USMC has indicated that the order of magnitude of the risk estimates would not be different if current surficial soil had been considered. GeoSyntec concurs</p>	<p><u>Response:</u> As the DON response to Comment 2J in the draft Responsiveness Summary indicated, changing the U.S. EPA and DTSC accepted standard of 0- to 10-foot-bgs to 0- to 2-foot-bgs would not change the order of magnitude of the total risk calculated for the various units at Sites 7 and 14. Because the risk would remain within the risk management range under either scenario, the</p>

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<p>that the potential uncertainty is probably less than 10-fold. However, considering that the risk estimates for some of the subareas were less than 3-fold below the top end of the U.S. EPA target risk ranges, such a degree of uncertainty would appear to be significant to the confidence of remaining within target risks.</p> <p>Rather than presenting the potential risks from the current surficial soil to residential receptors, DON/USMC has maintained that such receptors should only be evaluated after assuming future mixing of the soil down to 10 feet. The 0-10 ft depth interval is frequently recommended and used for evaluating potential future risks where the exposure scenario can only reasonably occur subsequent to the disturbance and mixing of the surficial soil (as in regrading the excavating foundations and basements). However since there is not reason to anticipate that soils in all areas would be mixed down to 10 ft prior to the occurrence of exposures other than industrial, the evaluation of a 0-10 ft depth interval alone does not fully characterize potential future risks. Therefore, DON/USMC should also consider residential exposure scenarios for the upper 2 feet of the soil horizon.</p>	<p>factors evaluated further when determining the necessity for remedial action remain the same, as would the conclusion that no further action was necessary.</p> <p>In addition, GeoSyntec implies by this comment that the DON selected the 0 to 10 ft depth interval for calculation of residential risks at Sites 7 and 14 over other potential depth intervals. On the contrary, risk assessment parameters, including the depth interval to be used to calculate industrial, recreational, and residential risks, are specified in the Risk Assessment Work Plan that was developed in 1995 (Final Risk Assessment Work Plan, Marine Corps Air Station, El Toro, California, Bechtel National, Inc. 1995). This plan was developed in accordance with regulatory agency requirements and has been used to evaluate risks at all IRP sites at MCAS El Toro. Finally, the conservative assumptions used throughout RI planning and implementation, including use of a residential scenario even though the property is planned for industrial reuse, provide a level of confidence more than sufficient to support the DON's no further action recommendation. U.S. EPA, DTSC, and RWQCB confidence in that recommendation predicated on their intimate involvement in all aspects of the entire Sites 7 and 14 RI process, is reflected in their concurrence that no further action is the appropriate recommendation for these sites.</p>

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<p><u>Additional Comment 1</u></p> <p>On page 3 of the RS, DON/USMC indicates that many of the concentrations detected at Sites 7 and 14, while being greater than the statistically-determined background value, still fall within the range of the concentrations detected during the DON/USMC's "background" study and, therefore, do not exceed background. Statistical studies involve collecting and analyzing a large number of samples and calculating a statistical average value which represents "background." However, because of the large number of samples collected at various locations (sometimes in areas which may be impacted), it is typical that some samples may, in fact, not represent true naturally-occurring background conditions. Therefore, the "high" concentrations in the population collected for background concentration determination do not necessarily represent natural background conditions, even though the samples were collected as part of the background study. Such samples are not representative of background and should not be considered to be part of the acceptable background concentrations.</p> <p>In light of this, DON/USMC should not consider high concentrations detected at Site 7 and 14 as being acceptable simply because they are within the range of the concentrations measured during the background study. Statistical derivations of background allow for a statement of the confidence associated with concluding that any particular value falls within the background distribution. DON/USMC should indicate how likely it is that each of the noted elevated concentrations falls within the background distribution (present the relevant percentiles of the background distribution). Also, as discussed above, consistency with a given background range does not necessarily mean that concentrations in a particular location have not been enriched above natural background by site impacts. Areas with low background concentrations may remain within the background range even if some site-related impacts have occurred. This is the reason that specific consideration of identifiable sources of a particular metal must be discussed in detail. To further</p>	<p>Response: The background study is referenced in the draft Responsiveness Summary and is available in the Administrative Record file that is maintained at MCAS El Toro and at SWDIV.</p> <p>As with all other aspects of the RI's conducted at MCAS El Toro, planning and implementation of this background evaluation were conducted under scrutiny of the regulatory agencies. The samples included in the evaluation of background concentrations for metals in soil were not collected in impacted areas and, as indicated in the DON response to Comment 1A on page 3 of the draft Responsiveness Summary, they are indicative of naturally occurring concentrations and the variation present in nature.</p> <p>DON did not consider the highest metals concentrations reported at Sites 7 and 14 acceptable simply because they fell within the overall range of background sample concentrations. This was only one of several factors considered. Other factors included consideration of the historical site activities and the likelihood that these activities would generate wastes containing elevated concentrations of metals, and the overall range of concentrations reported for samples within each unit.</p>

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<p>evaluate the issue of background concentration determination, GeoSyntec would appreciate the opportunity to review the background study prepared by DON/USMC for MCAS El Toro.</p>	
<p>Additional Comment 2</p> <p>DON/USMC indicates that the fact that PAH present at Sites 7 and 14 are not mobile supports its no-action recommendation. While off-site migration is always a concern, the presence of the contaminants at Sites 7 and 14 is of similar concern. Thus, if the contaminants at Site 7 and 14 are a threat to public health and safety and the environment if they migrate off site, they remain an equal or greater threat if they remain on site.</p>	<p>Response: The lack of mobility of PAHs was only one factor considered by the DON in recommending no further action. It was considered important because the lack of mobility makes it unlikely that the PAHs in soil at Sites 7 and 14 would migrate off site or to groundwater. It was also pointed out that it is very likely that the contribution to risk from PAHs is overestimated because the risk assessment conservatively assumes that concentrations remain constant over the 30-year exposure period used for the residential risk scenario. However, it is very unlikely that the organic chemical concentrations will remain constant, particularly in soil. As the Sites 7 and 14 RIs indicated in the contaminant fate and transport discussion of contaminant transformation processes (Section 5.2.2 for Site 7 and Section 5.2.1.2 for Site 14), the PAH risk drivers benzo(a)pyrene and dibenzo(a,h)anthracene are biodegradable. Under aerobic conditions, the half-lives of these PAHs have been estimated to be 1.45 and 2.57 years, respectively, with 0.16- and 1-year half-lives possible under ideal conditions.</p>
<p>Additional Comment 3</p> <p>DON/USMC acknowledges that a number of lead concentrations are greater than 290 mg/kg (which could cause an excessive risk by their own modeling of remedial goals). Yet, because the average concentration does not result in an excessive risk, DON/USMC asserts that no remediation is necessary. While an overall site remediation may not be necessary, DON/USMC should consider performing remediation of "hot spots" at Sites 7 and 14. Such a focused remediation approach would reduce risks to health and safety and the environment to acceptable levels and would not result in excessive costs.</p>	<p>Response: As indicated in the response to Comment 2H presented earlier in this document, the 290 mg/kg for lead does not represent a remedial goal, nor does the presence of lead at or exceeding this concentration in a given sample represent an excessive risk.</p> <p>DON and the regulatory agency members of the BCT examined the data collected during the RI and did not identify any areas, including Unit 5 at Site 7 and Unit 1 at Site 14 where the highest lead concentrations were reported, as requiring further evaluation as hot spots. The issue of lead concentrations, specifically the maximum lead concentrations at Sites 7 and 14, and the inappropriateness of basing risk assessment solely on the maximum reported concentration has been addressed in the DON responses to Comments 1B and 2C in the draft Responsiveness Summary, and in the DON responses to Comment 2C and Comment 2H in this document.</p>

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<p><u>Additional Comment 4</u></p> <p>DON/USMC states that at least 22,000 gallons of jet fuel and/or lubricating oil were discharged in the area of Site 7 (see Phase II RI at page O1-2). Has DON/USMC reconciled the quantity of jet fuel and oil discharged at Site 7 with the observed soil concentrations and the aerial extent of impacted soil?</p>	<p>Response: No, DON has not attempted to perform such a reconciliation. Also, for clarification, the estimated volume that may have been disposed at Site 7 over the 15-year period identified in the RI was <i>up to</i> 22,000 gallons of liquid wastes, not <i>at least</i> 22,000 gallons as stated in this comment.</p> <p>While the types and quantities of wastes that may have been disposed at Site 7 during the period the site was in active use were important considerations during formulation of the RI work plan, they have only an indirect bearing on the subsequent RI determination of whether a remedial action or a no further action recommendation is appropriate. The primary factors in determining whether remedial action is required are the residual concentrations of contaminants identified during the RI and the resulting human health risk.</p> <p>Because petroleum hydrocarbons are biodegradable, natural attenuation of hydrocarbon concentrations would occur over time. In addition, release of VOC constituents into the atmosphere would also be expected. As a result, the estimated total volume of petroleum hydrocarbons that may have been disposed at Site 7 between 1969 and 1983 may have little or no direct correlation with the residual concentrations that remain in soil nearly 20 years after the disposal activities ceased. Therefore, actual, not hypothetical, contaminant concentrations are used to determine whether the current condition of the site is acceptable for reuse.</p>
<p><u>Additional Comment 5</u></p> <p>A sediment sample collected in the catch basin at Site 4 (Sample 14_CBBE) exhibited a concentration of TPH (as diesel) equal to 11,100 mg/kg and a concentration of TRPH of 7,364 mg/kg (see RI at page P4-13). DON/USMC indicates that this catch basin did not receive surface-water runoff from the Battery Acid Disposal Area (See RI at page P3). Could DON/USMC provide information regarding the origin of the hydrocarbon found in the catch basin? As hydrocarbon concentrations are greater than the typical OCHCA-recommended action levels, DON/USMC should remediate the catch basin at Site 14.</p>	<p>Response: As noted in the response to Comment 2D, no sediment was present in the catch basin when it was visually inspected during the Phase II RI. Because the risks at the Catch Basin were within the range considered allowable (based on Phase I data), no sediment was present at the time of the Phase II RI, and the results of sampling conducted at other Site 14 locations showed that TRPH and TPH in surface soil were either non-detect or present at low concentrations (and would therefore be unlikely to re-contaminate the catch basin in the future), the DON concluded that no further action was required. The U.S. EPA, DTSC, and RWQCB concurred with that recommendation.</p>

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DRAFT RESPONSIVENESS SUMMARY ASSOCIATED WITH THE RECORD OF DECISION
OPERABLE UNIT 3B NO ACTION SITES 7 AND 14
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	<p>The Sites 7 and 14 RI did not speculate on the source of the hydrocarbon reported in the catch basin during the Phase I RI. The catch basin receives runoff from the adjacent surface streets as well as from Site 14.</p>
<p><u>Conclusion</u></p> <p>The ultimate conclusion of the RI (see RI at pages O7-9 and P7-8) and the Proposed Plan (see Proposed Plan at page 5) is that no further action is required at either Site 7 or 14. This conclusion appears to be based, in part, on the following assumptions by DON/USMC:</p> <ul style="list-style-type: none"> • the excess cancer risk is less than 10^{-4}; and • arsenic and manganese are naturally occurring. <p>A no-further-action approach at Site 7 and 14 would leave a residential excess cancer risk greater than 10^{-5} for some areas where exposure is assumed to occur only to soils mixed from 0-10 feet. If current surficial conditions are considered, future residential risks could readily exceed 10^{-4}. A number of factors that contributed significant uncertainty to the estimated risks have been identified, including the failure of DON/USMC to match the spatial scale of potential exposure areas with the derivation of exposure point concentrations, the failure of DON/USMC to quantitatively estimate risks from any environmental media other than soil, and the potential presence of hotspots. The Point-of-Departure evaluation used by DON/USMC to reach the conclusion that risks nearing the top of the U.S. EPA target risk range do not require controls does not take into account these, or any significant, sources of uncertainty that could result in the calculated risks being underestimated.</p> <p>In addition, one of the risk drivers, arsenic, may not be naturally occurring at Site 7 and 14 as asserted by DON/USMC. Further, non-cancer risks were above the threshold HI of 1 that is typically the trigger for further evaluation or remediation. And, there were clearly areas of lead contamination substantially exceeding both the default CAL-EPA residential criterion and the remedial goals calculated in the site-specific</p>	<p><u>Response:</u> The conclusion that no action is required at Sites 7 and 14 is not based on the fact that risks are less than 10^{-4} but on the fact that all risks are either within the allowable (10^{-6} or less) or generally allowable (10^{-4} to 10^{-6}) risk ranges and that risks within the generally allowable risk range have been evaluated and found to be acceptable using risk management criteria provided in the NCP Preamble. The U.S. EPA, DTSC, and RWQCB were participants in and concurred with the RI process. These agencies reviewed the sampling plans for both sites, the data that were gathered, and the risk evaluations that were performed. Careful and thorough evaluation of all aspects of the planning, field investigation implementation, contaminant characterization, and risk assessment activities by the regulatory agencies were the basis for their concurrence with the DON recommendation for no further action at these sites.</p> <p>This included concurrence on the following.</p> <ul style="list-style-type: none"> • That the concentrations of arsenic and manganese reported in soil samples collected at both sites were consistent with naturally-occurring background concentrations in soil and did not represent contamination resulting from historical site activities. • That 0 to 10 feet bgs was the appropriate depth interval for evaluating residential risk at MCAS El Toro. • That subdividing sites into smaller units characterized by common physical characteristics and waste disposal histories provided the spatial scale required to characterize the nature and extent of contamination and evaluate risk with the level of confidence necessary for decision making. • That the number of samples and their locations within each unit at Sites 7 and 14 were sufficient to characterize the nature and extent of contamination and evaluate risk with the level of

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<p>risk assessment. The limitations and readily identifiable factors that may result in the reported risk estimates underestimating potential risks for these sites under certain future uses means that any future risk management decisions should make use of DON/USMC's risk assessment conservatively. Finally, it appears that concentrations of TPH well in excess of typical action levels are present at Sites 7 and 14. In light of these factors, DON/USMC's conclusion that no remediation of Sites 7 and 14 is required does not appear to be valid and, therefore, must be re-evaluated.</p> <p>Some additional work which should be considered by DON/USMC at Sites 7 and 14 include:</p> <ul style="list-style-type: none"> • evaluation and delineation of hot spots; • remediation of hot spots; and • remediation of TRPH and TPH of OCHCA-recommended action levels. <p>Such action would be protective of human health and the environment and facilitate reuse of Sites 7 and 14.</p>	<p>confidence necessary for decision making.</p> <ul style="list-style-type: none"> • That contamination at both sites was confined to shallow soil and had not impacted groundwater beneath either site. • That the Site 24 groundwater plume beneath Sites 7 and 14 will be addressed as part of the remedial action for Site 24 and did not require further action specific to Sites 7 and 14 beyond the identification of use restrictions on groundwater cited in Section 8 of the No Action ROD for Sites 7 and 14. • That the risk assessments were based on a series of conservative assumptions that were considered to overestimate rather than underestimate the risk at these sites. • That for the reasons presented in the RI (and repeated in DON responses to comments in the draft Responsiveness Summary), the non-cancer HI values for the units at Sites 7 and 14 were not of a magnitude that required remedial action (as discussed in the draft Responsiveness Summary, an HI of greater than 1.0 does not necessitate remediation as this comment suggests, but does necessitate the further evaluation that was performed by the DON in accordance with the NCP requirements). • That remediation of metals in soil (including lead) is not necessary based on the risk assessment results for metals at both sites. • That remediation of hot spots is not necessary because the DON and the regulatory agency members of the BCT examined the data collected at the sites during the RI and did not identify any areas requiring further evaluation as hot spots. • That based on this preponderance of evidence, no further action is protective of human health and the environment at Sites 7 and 14. <p>While the U.S. EPA, DTSC, and RWQCB concur with the DON</p>

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	<p>recommendation for no further action at Sites 7 and 14, the RWQCB requested in their 26 February 2001 comment on the draft No Action ROD that DON further investigate the 32,091 mg/kg TRPH concentration reported in surface soil at Site 7 Unit 5 location 07_GN1. The DON will comply with RWQCB's request and will address this concern under the PCA Program. This will not impact the no action status of Site 7 under CERCLA.</p>