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MCAS EL TORO  
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Naval Facilities Engineering Command  
Southwest Division  
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Building 128  
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DATE: 12/20/96

CTO #: 0079

LOCATION: MCAS El Toro

FROM:

D.K. Cowser, Project Manager

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**PROPOSED RESOLUTION TO CTO-080 COMMENTS  
DRAFT REMEDIAL INVESTIGATION REPORT OU-3A  
MCAS El Toro, California**

<p><b>Originator:</b> Dante J. Tedaldi Bechtel National, Inc.</p> <p><b>To:</b> Craig Carlisle Bechtel National, Inc.</p> <p><b>Date:</b> 3 December, 1996</p>	<p><b>CLEAN II Program</b> Contract No. N68-711-92-D-4670 <b>CTO-0080</b> File Code: 0222</p>
<p><u><b>SPECIFIC COMMENTS</b></u></p>	<p><u><b>RESPONSES TO SPECIFIC COMMENTS</b></u></p>
<p><b>Throughout the internal copy, I have indicated editorial corrections to text. These are not listed here but it is expected that most of these corrections will be included in the final report.</b></p>	<p>The comments presented here pertain to the review of a pre-release version of the Draft OU-3A RI Report. The document underwent a complete but separate interval project review concurrent with the review that generated these comments. Technical and editorial comments identified during both reviews were incorporated into the Draft OU-3A RI prior to its issuance on 20 November 1996. As such, most of the comments presented here have already been addressed and where applicable, are so noted in this response to comments.</p>
<p><b>Page ES-8. The text uses the term “off-site” to indicate that contaminants have moved outside the boundaries of an IRP site. Would it be possible to clarify that “off-site” is distinctly different from “off-station”?</b></p>	<p>Clarification will be provided in the Draft Final RI.</p>
<p><b>Page 1-17. If the background/anthropogenic levels reports for inorganics and PAHs in soil were considered independent deliverables then they should be included in the table.</b></p>	<p>The two reports in question were added in Table 1-3 prior to the 20 November 1996 release of the Draft OU-3A RI Report.</p>
<p><b>Table 2-3, 1<sup>st</sup> page. The total number of sample locations for Site 6 Unit 2 do not equal the value indicated. Likewise for Site 10 Unit 2. Also the total number of samples for Site 8 Unit 5 does not appear to be correct. Please check and confirm.</b></p>	<p>The inconsistencies noted were corrected prior to the 20 November 1996 release of the Draft OU-3A RI Report.</p>
<p><b>Table 2-3, 2<sup>nd</sup> page. Correct the blank cells currently containing question marks. Confirm that the totals are correct since the totals for Unit 1 of Site 12 do not add up to the values indicated. The note for superscript C at Sites 20 and 21 is for square feet and appears to be incorrect, please confirm.</b></p>	<p>All question marks in the table were replaced with data. The other inconsistencies noted were also corrected prior to release of the Draft OU-3A RI Report.</p>
<p><b>Page 2-13. In Section 2.3 the text refers to groundwater action levels. Since these levels are not defined in the section, please clarify.</b></p>	<p>The Section 2.3 text was revised prior to release of the Draft OU-3A RI Report to indicate that “action levels” for COPCs in groundwater refers to the MCLs for these COPCs.</p>

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<p><b>Table 2-7. Confirm the total number of samples is 60 and not 61.</b></p>	<p>Clarification will be provided in the Draft Final RI.</p>
<p><b>Page 2-23. The text indicates that soil cuttings from the OU-3A RI were disposed at Site 5. Is disposed the correct word or is the implication "stored"?</b></p>	<p>The text was revised prior to release of the Draft OU-3A RI Report to indicate that soil is "stored" at Site 5.</p>
<p><b>Page 5-4, section 5.1.3. The text notes that the "...ground cover at the OU-3A sites suggest that the infiltration of precipitation at the sites is low." Please include information regarding the nature of the ground cover which would support the assertion.</b></p>	<p>This comment addresses a generalized statement regarding the fact that the infiltration rate is low at the OU-3A sites. Many of the OU-3A sites are covered by asphalt or concrete pavement. In addition, the calculated infiltration rate at MCAS El Toro is low (less than five inches per).</p>
<p><b>Page 5-4, Section 5.1.3.1. The text should note that since most suspected releases occurred in the distant past the air pathway is somewhat inconsequential now.</b></p>	<p>Most contamination at the OU-3A sites is associated with historic surface releases. The comment is most applicable to releases of volatile compounds. Most of the contaminants present at the OU-3A sites are non-volatile and as such are susceptible to transport via fugitive dust.</p>
<p><b>Page 5-10, Section 5.2.1.4. The final sentence should be deleted since it is too general and implies that the common degradation products of all VOCs are carbon dioxide, water and chlorine. While these may form, most chlorinated VOCs are difficult to degrade to these endpoints.</b></p>	<p>The statement cited is true in the context of the discussion in which it appears (Section 5.2.1.2 page 5-15 [formerly page 5-10, Section 5.2.1.4 of pre-Draft RI]). This discussion briefly describes the biodegradation process and is not intended to provide a detailed analysis of the intermediate degradation products.</p>
<p><b>Page 5-10, Section 5.2.1.4. The text notes that for semivolatiles "...the Phase II investigation dealt primarily with PAHs..." This is somewhat strange since it seems to imply that phthalates were ignored which was not the case. Consider a statement that PAHs were detected during Phase I at a much greater frequency than phthalates and therefore, "...the Phase II investigation dealt primarily with PAHs..."</b></p>	<p>The inconsistency noted was corrected prior to the 20 November 1996 release of the Draft OU-3A RI Report.</p>
<p><b>Page 5-10, Section 5.2.1.4. The text states that "...PAH compounds are consistently reported at higher concentrations and more widely distributed than are VOCs. This is interpreted to be caused by the relatively low mobility and longer persistence of PAH compounds in soil." This line of reasoning seems counterintuitive. While it is true that PAHs are resistant to volatilization and degradation, their low mobility would cause them to not be widely distributed. Also, it is</b></p>	<p>The discussion of SVOCs in the Draft Final RI will not include comparison to VOCs.</p>

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<p>possible that the PAH sources were not point sources but distributed and the chemical properties of the PAHs had little significance to their relative surface distribution.</p>	
<p><b>Page 6-14.</b> The final sentence refers to risk-based decision making. Would it be possible to include a new subsection which addresses risk management? This section could include a review of the NCP-defined acceptable risk range and description of the factors which are used in the risk management process.</p>	<p>The Draft Final RI will include a new subsection presenting a review of the NCP-defined acceptable risk range and a brief description of the risk management process.</p>
<p>For each of the subsequent site-specific attachments, ensure that all comments applicable across different sites are addressed. Repetitive comments which meet this criterion are only present once below.</p>	
<p><b>Page C4-1.</b> Provide the rationale for the decision to separate the Phase I and Phase II data presentations. Since all the data are used as one group for risk assessment, why not describe the site using the combined data?</p>	<p>All of the data (combined Phase I and Phase II results) are used in the detailed discussion of nature and extent presented in Section 4.3 of the site-specific attachments. The separate capsule summaries of results for each investigation phase (Sections 4.1 and 4.2) are also presented for completeness, particularly since the objectives and scope of work for each phase were sometimes different. For some sites, the number and/or size of selected units differed between the two phases. In addition, the sample intervals and types of analyses were often different because the Phase II RI was a focused investigation designed to augment the Phase I data while limiting the scope of additional work.</p>
<p><b>Page C4-2.</b> The text notes that VOCs ranged between 2 and 210 micrograms per kilogram. However, the value of 210 was disqualified in the associated table since it was reported in the field blank. Consider and correct if necessary.</p>	<p>Phase I analytical results such as this were qualified in the data table and a similar notation will be added to the text for the Draft Final OU-3A RI. However, Phase I data were not disqualified solely for this reason.</p>
<p><b>Page C4-2.</b> The maximum values indicated for SVOCs, PCBs, pesticides and fuels could not be found in the associated tables. Confirm and correct if necessary.</p>	<p>With the exception of TPH, the maximum values listed for these classes of analytes in Section 4.1 of Attachment C to the Draft OU-3A RI Report have been verified and are correct. The maximum value for TPH will be revised in the Draft Final RI.</p>
<p><b>Page C5-3, Section 5.1.3.</b> The text notes that the primary sources of contamination at Site 8 were spill and leaks. However, this was not</p>	<p>The fill material itself is not considered to be a separate pathway. Although undocumented, the fill material was reportedly clean soil imported from off-</p>

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<p><b>the case for Unit 5 where imported fill was specified to be the problem. This pathway is not shown on the associated illustrations but appears as a key topic on page C4-66.</b></p>	<p>site. The contaminants reported in shallow soil at Site 8, Unit 5, are believed to have resulted primarily from spills and leaks associated with the storage/maintenance of military equipment and parking of civilian vehicles at that location. The distinction between the imported fill material and the original grade below it is noted on page C4-64 (formerly page C4-66 in the pre-Draft review copy) to indicate that most of the contamination observed at Unit 5 appears to be associated with the unit's post-fill use as a parking area rather than it's historic use as a salvage yard associated with DRMO operations.</p>
<p><b>Page C5-5, Section 5.2.1.1. The text states "...higher PAH concentrations may lead to the conclusion that the VOCs have been transported away from the sites and/or degraded..." Are these your conclusions or are you disputing this line of thought? There is only a weak connection between the presence of the VOCs and the PAH as you have described.</b></p>	<p>This section was revised prior to release of the Draft OU-3A RI Report and the comment is no longer applicable.</p>
<p><b>Page C5-6, Table 5-1. The title of the table starts with the word "Persistence." Please explain if persistence as defined in the text is equivalent to that identified in the table. That is, is persistence inclusive of all mechanisms listed in the text?</b></p>	<p>A footnote was added to this table before the Draft OU-3A RI Report was issued indicating that the "half-life in soil" values are the most conservative reported in the cited reference and correspond to microbially mediated degradation in soil.</p>
<p><b>Page C5-6, Section 5.2.1.2. The last paragraph, last sentence. To adequately conform to the context of the paragraph compare the persistence of high molecular weight PAHs to VOCs. Compare to lower weight, lesser ringed PAHs.</b></p>	<p>This section was revised prior to release of the Draft OU-3A RI Report and the comment is no longer applicable.</p>
<p><b>Page C5-7, Section 5.2.1.3. The text refers to adsorption of PCBs onto organic matter but does not include a measure of the organic content typically reported at MCAS El Toro. These data should be included to support the assertions made in the text.</b></p>	<p>Revision of this section prior to release of the Draft OU-3A RI Report eliminated this issue. However, maximum and minimum percent sorbed values are now included in Table 5-1 for each of the analytes listed (including PCB species.) These values are based on concentration data for organic carbon in soil at MCAS El Toro</p>
<p><b>Page C5-7, Section 5.3. The entire Fate and Transport section is too generic. Please include site specific contaminant discussions. That is, what are the contaminants of interest, where are they, and where are</b></p>	<p>The entire Fate and Transport discussion (Section 5 of each site-specific attachment) was revised and expanded prior to release of the Draft OU-3A RI. The level of discussion presented in this section is judged sufficient to address</p>

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<p>they going or where might they be going in time? Simple overviews of classes of analytes does not significantly increase the readers' understanding of the complexities of each site at the station.</p>	<p>the fate and transport of contaminants of interest at the site.</p>
<p>Page 6-2, Section 6.2. The text states that "...volatile COPCs for air were identifies from the surface soil VOC data....Soil chemicals other than the VOCs were identified as air particulate COPCs." Where is this discussed and evaluated in the Risk Assessment?</p>	<p>The methodology used to estimate the concentrations in air from soil for both VOCs and particulates is presented in the Risk Assessment Appendix. Section 6.2 states that VOCs in air correspond to the soil VOCs and that air particulates correspond to all other soil COPCs.</p>
<p>Page 6-13, Section 6.2.1. Here and throughout the document the text states that reuse plans have not been formulated. Since the draft reuse plan is out for public review, it may be correct to note that the plans are out but not final.</p>	<p>All references to reuse in the document now state that a draft reuse plan has been formulated and that it is likely the Station will remain an airport.</p>
<p>Page 6-13, Section 6.2.1 The text states that "The industrial worker allows the assessment of COPCs in surface soil...The resident allows the assessment of COPCs in shallow soil..." These phrasings are incorrect. The examination of the risk due to exposure to COPCs to either a resident or industrial worker is what is actually being considered.</p>	<p>The Draft Final RI will be modified accordingly.</p>
<p>Page 6-15, Table 6-4. Would it be possible to include a footnote for the 95% UCL values and another footnote for the maximum values when they are shown in the table?</p>	<p>The table in question has been deleted from the site specific attachment. The information formerly included in this table is now presented in tables in Section 6 of the main report and in the risk assessment appendix. These tables indicate where exposure point concentrations are based on the maximum detected values. All other exposure point concentrations are 95% UCL values.</p>
<p>Page 6-19, Section 6.4. There are several circular references to methods and data presented in Section 6.</p>	<p>Section 6.4 of the pre-Draft review copy included references to "Section 6". These references actually pertained to Section 6 of the main body of the report although the wording was unclear. This section was revised prior to release of the Draft OU-3A RI Report and the comment is no longer applicable.</p>
<p>Page 6-31. The text states "This characterization thus, includes a bias in the association between risk and the likelihood or probability of occurrence. Understanding the impacts of this uncertainty will help risk managers..." There are two issues here. First, please explain how the word "bias" is appropriate in the context given? Second, to what</p>	<p>This section was revised prior to release of the Draft OU-3A RI Report and the comment is no longer applicable.</p>

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<p>uncertainty are you referring to? The uncertainty associated with the land reuse or the uncertainty in the estimated risk values? This phrasing occurs throughout the document and should be corrected.</p>	
<p><b>Page 6-32.</b> The text states “ While there appears to be sufficient samples collected (26 surface and 39 shallow for Units 1 and 4; 31 surface and 49 shallow for Units 2 and 3; and 12 surface and 25 shallow for Unit 5), the low of (sic) frequency of detection for organics leaves some uncertainty whether the on-site assessment accurately addresses the potential risk.” This statement is without basis and incorrect. Is it not true that the sampling plan was statistically based to provide a defined and acceptable level of confidence in the results? In addition, the mere fact that organics were not frequently detected has nothing to do with the adequacy of the sampling design. Consider the possibility that the site may not be heavily contaminated and that is why the frequency of detection is low. This phrasing occurs throughout the document and should be corrected.</p>	<p>The text in all of the site attachments was revised prior to release of the Draft OU-3A RI Report to indicate that the number of samples collected at each unit is adequate to reduce the uncertainty in the risk characterization. As suggested, the low rates of detection for many analytes reflect the fact that they are not present in these areas.</p>
<p><b>Page C7-6, Section 7.2.</b> The conclusion section should include a comparison of the risk values to the NCP-defined acceptable risk range.</p>	<p>This section in each attachment of the Draft OU-3A RI Report now includes reference to the acceptable risk range as stated in the NCP and indicates whether the calculated cancer risk values are below, within, or exceed this range.</p>
<p><b>Page D4-28.</b> Correct the text. The percent difference for barium appears to be erroneous and should be 19,959 not 20,058.</p>	<p>For consistency with other attachments, the percentage was eliminated and the text was revised prior to release of the Draft OU-3A RI Report to indicate that barium was reported at a concentration 200 times its respective background level.</p>
<p><b>Page D5-5, Table 5-1.</b> If the table is to have only one PAH listed then the title must be changed to be accurate. Moreover, why is only benzo(a)pyrene included?</p>	<p>The table is intended to summarize the characteristics of the organic compounds that are identified as risk drivers at a site in the subsequent risk assessment section. At Site 9, benzo(a)pyrene is the only organic compound identified as a risk driver. The explanation of what constitutes a risk driver is explained in the Section 6 of the main body of the report. Because one of the main objectives of this RI was to resolve the question of whether sites represent unacceptable risks and require further action, the focus was on the small group of chemicals that contribute the majority of risk (ie., those most</p>

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	<p>important to any remedial action decision.) Although other organic compounds were identified at Site 9, their contribution to the overall risk is very small. It was judged that their inclusion in the fate and transport discussion would not affect the ultimate decision regarding the need for remedial action, but it would divert attention from the chemicals that were important in formulating that decision.</p>
<p><b>Page D5-6, Section 5.2.1.3. The text states that dioxins and furans are resistant to degradation process and concludes "As a result, these chemicals are found in surface soils at Site 9." The text should note that only one dioxin was reported in one surface sample and no furans were reported in any samples. In addition, the persistence of a contaminant does not alone account for its presence.</b></p>	<p>This sentence was revised prior to release of the Draft OU-3A RI Report and the comment is no longer applicable. We agree persistence of a contaminant alone does not account for its presence.</p>
<p><b>Page G2-9, Table 2-3. Throughout the document similar tables include totals for the Phase II samples. However, the method for calculation of these totals is not provided and it certainly is not obvious from the data given as to how the final values are obtained.</b></p>	<p>Samples were often analyzed using multiple analytical methods and not every sample was analyzed using the same group of methods. The value listed under total samples indicates the total number of samples, not the total number of analyses. As an example, if 20 of 25 samples were analyzed for VOCs and 10 were also analyzed for metals, the number analyses would be 20 for VOCs and 10 for metals but the total number of samples remains 25.</p>
<p><b>Page G4-2. The text remarks upon the fact that conditions in the deep subsurface were not addressed because there was no perceived threat to groundwater. It may be helpful to note that this decision was not made during the report production stage, but rather, the decision was developed during the completion of the Work Plan based on the Phase I data.</b></p>	<p>Comment noted, a statement will be added to Section 4.1 in each attachment indicating this in the Draft Final RI.</p>
<p><b>Page G4-73. Table 4-10 presents a comparison between the percentage of samples that exceeded background in the shallow soil and deeper subsurface soil intervals. This presentation seems biased since there are also background exceedences for other metals not listed here.</b></p>	<p>For the Draft Final RI, this table will be expanded to include results for all of the TAL metals with reported concentrations exceeding their respective background levels. The point of the discussion and its conclusion remain unchanged. Without exception, the percentage of metals concentrations exceeding background was higher in shallow soil than in deeper subsurface soil at Site 12, Units 2 and 4.</p>
<p><b>Page G6-13, Section 6.2.1. The text states that "...MCAS El Toro will</b></p>	<p>This statement will be revised in the Draft Final RI to state that Orange County</p>

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<p><b>be turned over to Orange County following closure.” This is not true and should be corrected.</b></p>	<p>is the reuse entity.</p>
<p><b>Page G6-32. The text should include a discussion of the significance of the results presented in Table 6-7.</b></p>	<p>The text was revised prior to release of the Draft OU-3A RI Report and now addresses the significance of the results presented in the table (Table 6-6 in the Draft OU-3A RI).</p>
<p><b>Page G6-37. The text states that “It is possible that arsenic compounds may have been utilized by past agricultural or pest control practices prior to construction and expansion of MCAS El Toro. This statement requires additional support, especially in consideration of the significance of the assertion.</b></p>	<p>The intent of this statement was merely to suggest one possible explanation for the reported presence of arsenic at concentrations above its background value calculated for the station - herbicides or pesticides that contained arsenic as the active ingredient may have been used at MCAS El Toro. As stated in the text, no historical information suggests that arsenic was used at any of the OU-3A sites. Some information on the use of arsenic containing herbicides and pesticides follows and will be included in the Draft Final RI.</p> <p>The earliest insecticides developed for use against chewing insects were arsenic containing formulas, chiefly copper acetoarsenite (Paris green), lead arsenate, and calcium arsenate. Sodium arsenite has been used as a sterilant herbicide and a potato vine killer. Sodium arsenate was formerly the toxicant in many ant sirups for household use. These applications were superceded because of hazard to man and animals.</p> <p>Other arsenic containing herbicides and pesticides that could have been used at the station include arsenal, arsenic acid, arsenic trioxide, cacodylic acid, calcium acid methanearsonate, calcium arsenate, calcium arsenite, disodium methanearasonate (DSMA), monoammonium methanearasonate (MAMA), and monosodium methanearasonate (MSMA). These herbicides and pesticides were used typically to control weeds in industrial areas such as utility plant sites and petroleum tank farms and in baits to control insects and animals. It is certainly possible that these chemicals were used for these purposes at MCAS El Toro.</p>
<p><b>Page G7-6. The assertions regarding the presence of arsenic above background levels are included in expanded form in the conclusion section. However, no new information is provided and thus, the argument is still too weak to stand on its own.</b></p>	<p>See previous comment.</p>

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<p><b>Page J1-1.</b> The text states that "...substantially-elevated concentrations of diesel, gasoline..." were reported. The meaning of this is unclear. Be specific. The analytes were substantially elevated with respect to what criterion?</p>	<p>The text "substantially elevated" will be deleted from the Draft Final RI to avoid any confusion.</p>
<p><b>Page J4-29.</b> The text notes that "...data for the six most toxic (i.e., carcinogenic) PAH compounds..." are provided. The hazard quotient is used as an indicator of the systemic toxicity associated with a non-carcinogen. Change the text as follows: "...data for the six most carcinogenic PAH compounds..." This phrasing appears elsewhere in the report and should be corrected throughout.</p>	<p>This statement in Attachment J will be revised as suggested for the Draft Final RI to make it consistent with comparable text in the other attachments.</p>
<p><b>Page J5-8.</b> The text states "Normally, the primary mechanism controlling VOC persistence in soil and groundwater is biodegradation." I disagree. This is not normally the case and certainly not the case at MCAS El Toro based on the data. If you are referring to BTEX, there is certainly some validity to the statement. However, for the prevalent chlorinated solvents listed in Table 5-1 there is not much biodegradation, if any occurring. Please note that half-lives provided in Table 5-1 apparently group all mechanisms together and it would be erroneous to attribute the values provided to any single mechanism.</p>	<p>This section was revised prior to release of the Draft OU-3A RI Report and the comment is no longer applicable.</p>
<p><b>Page J5-8.</b> The text further states that biodegradation is "...due to the relatively fast rate of microbially-mediated degradation reactions." Whatever the basis was for such as statement seems to have been lost. Microbial degradation of chlorinated VOCs is a notoriously difficult and slow process.</p>	<p>This section was revised prior to release of the Draft OU-3A RI Report and the comment is no longer applicable.</p>
<p><b>Page J5-11, Section 5.3.2.</b> The text states that "...[volatilization]...is a viable route of release..." It should be noted that this pathway is probably now insignificant since anything that could be lost to volatilization from the surface has probably already been lost.</p>	<p>This section was revised prior to release of the Draft OU-3A RI Report and the comment is no longer applicable.</p>
<p><b>Page J5-11.</b> Note that the downward leaching would not be</p>	<p>This section was revised prior to release of the Draft OU-3A RI Report and the</p>

**PROPOSED RESOLUTION TO CTO-080 COMMENTS  
DRAFT REMEDIAL INVESTIGATION REPORT OU-3A  
MCAS El Toro, California**

<p><b>Originator:</b> Dante J. Tedaldi Bechtel National, Inc.</p> <p><b>To:</b> Craig Carlisle Bechtel National, Inc.</p> <p><b>Date:</b> 3 December, 1996</p>	<p><b>CLEAN II Program</b> Contract No. N68-711-92-D-4670 <b>CTO-0080</b> File Code: 0222</p>
<p>attenuated but it would be reduced if the surface flooding was ended.</p>	<p>comment is no longer applicable.</p>
<p>Page J5-11, Section 5.3.4. The last sentence "Gradual attenuation will occur due to biodegradation by hydrodehalogenation and dilution by hydrodynamic dispersion." should be changed. The new text should read as follows: "Gradual attenuation will occur due to natural processes such as biodegradation, dispersion, dilution and sorption."</p>	<p>This section was revised prior to release of the Draft OU-3A RI Report and the comment is no longer applicable.</p>
<p>Page J7-2, Section 7.1.2. The text notes that "...VOCs, petroleum hydrocarbons, PAHs, and TAL metals are the primary contaminants identified at Site 16." This is an interesting list in that it is very inclusive and yet there is no definition of the term "primary." Does the term refer to frequency of detection?</p>	<p>Primary is used qualitatively to describe these constituents, which were the most frequently reported above detection limits or in the case of metals above background levels. With the exception of petroleum hydrocarbons, these suites of analytes are also the risk drivers at this site.</p>
<p>Page J7-8, Section 7.2.2. The first bullet recommendation includes actions to reduce VOCs in groundwater. However, the text of the summary table, Table 7-1, did not identify such actions. Correct where necessary.</p>	<p>This table was revised prior to release of the Draft OU-3A RI Report and the comment is no longer applicable.</p>
<p>Page K1-1, Section 1.1. The text states that "The combined data set [i.e., Phase I and Phase II] was used to improve the confidence level of the calculated cumulative excess lifetime cancer risk and hazard index assessment for Site 19." This statement is not supported anywhere in the report with a demonstration of the numerical improvement in confidence.</p>	<p>As stated in the Section 4.2.6.3 of the Work Plan for the Phase II RI at the OU-3A sites, the Phase II samples were necessary to obtain a 95 percent confidence level for risk calculation.</p>
<p>Page K4-25. The text states that the reported concentrations of metals were "...significantly above their respective background levels." This phrasing is too vague and should be clarified.</p>	<p>This section was revised prior to release of the Draft OU-3A RI Report and the comment is no longer applicable.</p>
<p>Page K5-4. The text indicates that 10,000 gallons of JP-5 were spilled at Unit 2. However, on page K1-12 20,000 gallons are identified and on page K7-1 15,000 gallons are cited.</p>	<p>The correct volume is 20,000 gallons. The spill volumes cited in each of these sections of Attachment K were revised prior to release of the Draft OU-3A RI Report and the comment is no longer applicable.</p>
<p>Page K5-4. The text states "There is not evidence from the Phase II RI that any downward movement of residual fuels is occurring, presumably since the primary source of the fuel has been removed by</p>	<p>This sentence will be revised in the Draft Final RI.</p>

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<p>the excavation.” This statement requires revision. Residuals can move independently of a source release and do not require the source to be present to affect soil and groundwater.</p>	
<p>Page K5-6, Section 5.2.1.2. The discussion seems to imply that all VOCs can be grouped together in terms of fate. This is simply not the case and the author should differentiate between those properties of TCE, BTEX, and acetone ----all of which were reported at Site 19.</p>	<p>This section was revised prior to release of the Draft OU-3A RI Report and the comment is no longer applicable.</p>
<p>Figure 7-1. The figure neglects to include arsenic at Units 2 and 3. This is a significant oversight since arsenic at these units contributes to over 85 percent of the ELCR.</p>	<p>Figure 7-1 was corrected to incorporate arsenic prior to release of the Draft OU-3A RI Report.</p>
<p>Table 4-3, Site 13. The pesticide data are missing.</p>	<p>Pesticides are not included in Table 4-3 because that analysis was not performed on any of the Phase I soil samples from Unit 2 at Site 13.</p>
<p>Table 6-4, Site 13. Phenanthrene is a PAH and should be removed from the Volatile Organics subheading.</p>	<p>Phenanthrene is a PAH in terms of its analytical classification and reporting. However, for risk assessment purposes, phenanthrene was evaluated as a VOC in accordance with U.S. EPA Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual, Part B (1991). VOCs are defined as those chemicals having a Henry’s Law constant greater than <math>10^{-5}</math> (atm-m<sup>3</sup>/mol) and a molecular weight less than 200 g/mole.</p>
<p>Page 7-2, Section 7.1.4. The cancer risk to a resident using Cal-EPA criteria was calculated to be 2.3E-5 not 1.8E-5.</p>	<p>This section was revised prior to release of the Draft OU-3A RI Report and the comment is no longer applicable.</p>
<p>Page E6-12, Table 6-4. Check the units in this table. The metals results are not in micrograms/kilogram as indicated.</p>	<p>This table was revised prior to release of the Draft OU-3A RI Report and the comment is no longer applicable. The units in this table were checked.</p>
<p>Page I7-2, Section 7.1.4. The cancer risk to a resident using Cal-EPA criteria was calculated to be 5.1E-6 not 5.1E-5. The cancer risk to an industrial worker using Cal-EPA criteria was calculated to be 1.2E-5 not 1.2E-6.</p>	<p>This section was revised prior to release of the Draft OU-3A RI Report and the comment is no longer applicable.</p>
<p>Page N6-5, Table 6-2. Phenanthrene, naphthalene, and 2-methylnaphthalene are PAHs and should be removed from the Volatile Organics subheading.</p>	<p>These analytes are PAHs in terms of their analytical classification and reporting. However, for risk assessment purposes, phenanthrene, naphthalene, and 2-methylnaphthalene were evaluated as VOCs in accordance with U.S. EPA Risk Assessment Guidance for Superfund, Volume I: Human Health</p>

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<b>To:</b> Craig Carlisle Bechtel National, Inc.	<b>CTO-0080</b> <b>File Code: 0222</b>
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	Evaluation Manual, Part B (1991). VOCs are defined as those chemicals having a Henry's Law constant greater than $10^{-5}$ (atm-m <sup>3</sup> /mol) and a molecular weight less than 200 g/mole.