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November 18, 2003

Thomas Macchiarella  
BRAC Operations, Code 06CA.TM  
Department of the Navy, Southwest Division  
Naval Facilities Engineering Command  
1230 Columbia Street, Suite 1100  
San Diego, CA 92101

**RE: Draft Soil Feasibility Study Report, Operable Unit 5, Alameda Point**

Dear Mr. Macchiarella:

Please find enclosed EPA's review of the above referenced document. EPA has some major concerns with the completeness of the feasibility study. We would like soil excavation and removal down to four feet fully evaluated as one of the alternatives, and risk assessments performed for the 0 - 4 foot depth interval as well as the 0 - 8 foot interval for all decision areas as well as Estuary Park. The Navy has not discussed the problem of leaving contamination beneath existing structures and roadways and how this problem will be addressed in the event that these covers are removed or demolished. The absence of indoor air monitoring data is a significant data gap that will need to be filled in either this FS or in the OU 5 GW RI/FS. The integration of the OU 5 FS with the OU 5 GW RI/FS needs to be done better, with connections between soil contamination and groundwater contamination clearly described and explained. The ARARs section should use more discrimination in deciding which ARARs apply to this particular site and its various remedial alternatives.

Because addressing both the regulators and the community's concerns will take a significant amount of additional calculations, research, collection of field data and report rewriting, we believe it would be best to submit a revised Draft Feasibility Study for OU 5 soils. Please call me at (415) 972-3029 to discuss our concerns and determine the best way to address them.

Sincerely,

A handwritten signature in cursive script that reads "Anna-Marie Cook".

Anna-Marie Cook  
Remedial Project Manager

enclosure

cc list: Darren Newton, SWDiv  
Marcia Liao, DTSC  
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## **EPA Review of Draft Soil Feasibility Study Report Operable Unit 5, Alameda Point**

### **Major Comments**

1. The FS needs to give a more extensive summary of the TCRA that describes how the excavated areas were defined and shows the extent of the removal action.
2. Contamination in Decision Areas 2 and 6 is fairly widespread so it seems reasonable to excavate the entire decision area rather than localized spots.
3. DA 1 has a few spots of slightly elevated PAH hits, i.e. over 1.0 mg/kg BaP eq. which may be appropriate for localized soil remediation. EPA's major concern with this Decision Area is the stained soil in the Kollman Circle Area. Review of both the OU 5 FS and the OU 5 GW RI/FS has not yielded any satisfactory description or documentation of the alleged soil remediation that took place in the early 1990s. It appears from groundwater plume maps that the area may be an ongoing source of contamination and until definitive answers are given regarding the remediation effort, EPA will assume that the area has not been cleaned up.
4. The text needs to give a clear explanation of why the  $2 \times 10^{-5}$  risk was decided on for the PAH clean up level. Include a brief discussion on the nature of PAHs in the environment, the State screening level and the levels to which other residential sites have been cleaned in California.
5. It would be helpful to have a figure showing BaP eq. concentrations post removal action for the 0 - 2 foot depth. Existing figures give a sense of the PAH problem being much worse than it is because it is showing a situation that existed two years ago, but does not represent current conditions. In addition, Figures 1-15 and 1-16 should show the areas that have been excavated in the TCRA using shading or cross-hatching, and also the areas that are proposed for excavation under remedial action. Figures 5-1 and 5-2 just show the soil borings that exceed the RAO, not the area that is proposed for excavation around each boring. As stated already in the above comments, EPA requests that the entire Decision Area 2 and 6 be excavated rather than simply localized excavations around the soil borings.
6. The risk assessment should include an evaluation of post-removal action risk for the 0-4 foot interval and the 0-8 foot interval for each Decision Area and for Parcels 182/183. In addition, in Appendix A, tables should be added that include 1) the PAH risk for 0-4 feet and for 0-8 feet ; and 2) the total risk, including inorganics, for 0-2 feet, 0-4 feet and 0-8 feet. These tables should represent a total cumulative risk from all exposure pathways assessed, i.e. inhalation, dermal,

and ingestion. These risks should be calculated for the areas that have been subjected to the removal action within each decision area and also for the entire decision area. The areas under structures, including sidewalks and roadways, can probably be assumed to have approximately the same risks as the pre-removal action risk assessment for each decision area.

7. The Alternatives need to include a screening evaluation of soil removal down to 8 feet. A full evaluation of soil removal down to 4 feet in each of the DAs, and ICs on soil below 4 feet in excavated areas and in all areas beneath structures must be included as one of the alternatives.
8. Discuss the connection between the OU 5 Soil FS and the OU 5 Groundwater RI/FS. The FS should include a section describing the nature and extent of the groundwater contamination and include groundwater plume maps that show which areas of OU 5 are impacted by the plumes.
9. The indoor air exposure pathway is an ongoing concern that is not addressed in either the OU 5 FS or the OU 5 GW RI/F. Actual indoor air samples must be taken to verify modeling results. The OU 5 FS should reference that indoor air samples will be taken as part of the OU 5 GW RI/FS.
10. The Navy has not addressed any contamination under houses, roads, etc. The FS should evaluate the contaminant levels and the potential risk from the covered areas eventually becoming uncovered. If ICs are required for the covered areas, then the Navy will either be responsible for eventually remediating under existing covered areas, or must negotiate a transfer of responsibility to the City or Coast Guard for handling such contaminated areas.

Also, while the two foot depth for the existing yards may be sufficient for current use, any future redevelopment is sure to bring soil up from below this depth. As stated in one of our previous comments, the Navy must perform an additional risk assessment that evaluates risk at all areas within each decision area (covered plus uncovered) down to a depth of 4 feet. If the resulting risk calculation is within the management risk range we can discuss requiring ICs for only depths greater than 4 feet. If the result is above the risk range, then any alternative which does not include remediating deeper must include a discussion and ICs specifically addressing this issue. EPA will consider the Navy responsible for contaminated soil brought to the surface in future redevelopment. An argument about the Navy only being responsible for remediating to current use does not absolve the Navy of its long term responsibility here, as new housing fits within the current use, and new housing requires major bulldozing, new foundations, utilities, and other activities that would go below 2 feet.

## Specific Comments

1. **ES, page xii, Table E-1:** Please clearly show that these concentrations and risks are pre-removal action.
2. **ES, Page xiv, Table E-3:** DAs 4,5 and 7 and Parcels 182 and 183 should have a BaP eq concentration that is extremely low for the upper two feet of soil. Stating that the areas have less than 1.8 mg/kg does not adequately reflect the low post-removal risk in the upper two feet of clean backfill. Text on page xv states that concentration in the backfill is 0.018mg/kg BaP eq, so use that concentration in the table.
3. **ES, page xv, second paragraph, last sentence:** Please change removal to “soil remediation” to avoid confusion with the removal action that already occurred at Site 25 and also delete the phrase “no further action is recommended”. Institutional controls are a remedy and as such constitute a remedial action.
4. **ES, page xv, last sentence:** Delete phrase “no further action is recommended” because institutional controls constitute an action.
5. **Page 1-5, Section 1.3.2.1, first paragraph:** How was the soil staining at Mayport and Kollman Circles remediated? Please elaborate.
6. **Page 1-8, Section 1.3.4.2:** Please note that the federal guidelines for aquifer classification apply here, too. Also, drinking water is supplied to the residents of Alameda Point by the East Bay Municipal Utilities District and not by the City of Alameda. The logic of stating that the groundwater beneath OU 5 is not a source of potable water and hence would not be considered for future drinking water resource development is mistaken. Groundwater does not have to be currently potable to qualify for protection as a future drinking water source. In many parts of the United States water that is not potable is treated so as to be used for drinking water, the most extreme example probably being the desalination plants in Santa Barbara and Hawaii that treat seawater to drinking water standards.
7. **Page 1-10, Section 1.4.2:** Results of the soil gas and groundwater samples from Parcels 181, 182 and 183 should be summarized here since they provide additional information.
8. **Page 1-11, last paragraph:** The statement is made that “BaP equivalent concentrations vary considerably in small or localized areas examined both across the site and among depth intervals from the same boring. For example, adjacent borings showed markedly different concentrations at the same interval.” Doesn’t

this variation support an area wide excavation of Decision Areas 2 and 6 where the majority of the samples show concentrations above the RAO?

9. **Page 1-13, Section 1.4.3, first paragraph on page:** The description of the filling operations is unclear and does not assist in visualizing the conceptual model. The current theory is that former refinery and gas manufacturing plants that occupied the edge of Alameda Point and what is now Jack London Square dumped waste from the facilities into the Bay. Over time the waste washed up into the sloughs and marshes that originally made up Alameda Point and also settled on the near shore sediments. Subsequent filling operations used already contaminated dredge material from what is now Oakland Inner Harbor to form the Naval Air Station. The filling operations entombed the PAH laden sediments in the marshes and sloughs and in the near off shore areas to make what we refer to as the Marsh Crust. The dredge material used for fill itself contained PAHs from the refinery and gas manufacturing plants and that PAH contamination is found in the soils upon which the Coast Guard Housing and later the West Housing was built. Please replace the word “fill” with “dredge” material in reference to the filling operations in the first sentence on top of page 1-13. Please realize that the deposition into the marshes and the sloughs that caused the Marsh Crust was not the same activity as the filling operations that formed the extended land mass of Alameda Point. Revise the second and third sentence on this page to reflect this information. The OU 5 GW RI/FS nicely describes this conceptual model and perhaps the relevant text from that document could be used in this section.
10. **Page 1-13, Section 1.4.4, second paragraph:** This paragraph is confusing since it seems to make the point that PAHs would present no health threat to current residents. On what basis was a Time Critical Removal Action performed then? Also, please confirm that the future residential risk scenario used a 30 year exposure timeframe since some of the risk calculations appear to mistakenly used a 6 year timeframe.
11. **Page 1-14, first paragraph:** Please explain what “depth-weighted concentrations” are and briefly explain how the weighting was done.
12. **Table 1-2:** Please include a 0-4 foot cumulative risk calculation as well as a 0-8 foot cumulative risk calculation. These risks will aid in determining the appropriate remedial alternative.
13. **Page 1-20, third paragraph:** The risk presented for the 2-8 foot depth interval overstates the risk because it does not include the very small risk posed by the 0-2 foot interval. It is unlikely that exposure to the 2 - 8 foot depth can occur without first going through the 0 -2 foot depth, so the risk should be a cumulative risk from 0 -8 feet. Please revise to reflect the risk from 0 -8 feet.

14. **Table 1-7:** DAs 4, 5 and 7 and Parcels 182 and 183 should have a BaP eq concentration that is extremely low for the upper two feet of soil. Stating that the areas have less than 1.8 mg/kg does not adequately reflect the low post-removal risk in the upper two feet of clean backfill. Please give the average concentration of the BaP eq. for the clean backfill in this table, which is stated as 0.018mg/kg BaP eq in the text of the report.
15. **Page 1-22, first bullet:** It is confusing to read that there is a target BaP eq concentration of 1.8 mg/kg, when the FS is stating the RAO is 1.0 mg/kg. Please use the 1.0 mg/kg as the comparison, since 1.8 mg/kg was only used to delineate decision areas for the TCRA and is not being used for the remedial action.
16. **Page 1-23, third paragraph, last sentence and last paragraph, last sentence:** Please change removal to “soil remediation” to avoid confusion with the removal action that already occurred at Site 25 and also delete the phrase “no further action is recommended”. Institutional controls are a remedy and as such constitute a remedial action.
17. **Page 2-3, Section 2.3.1:** Under the Federal chemical-specific ARARs, the California Code of Regulations is listed. Is this correct?
18. **Page 3-2, Section 3.2:** Is there a discussion of homegrown produce pathway anywhere?
19. **Page 5-1, Section 5.1:** The first two threshold criteria “must” be met , not “should” be as stated.
20. **Page 5-3:** Add a Section 5.1.4 which evaluates excavating soil to 4 feet in all of the decision areas.
21. **Page 5-3, Section 5.1.3:** Include a bullet that states that orange construction fencing will be placed in the bottom of the excavations to delineate the clean backfill from the potentially contaminated soil.

#### Minor Comments:

1. **Page 1-2, Remedial Alternative 3** needs a numeral in the front. Only alternatives 1 and 2 are listed.
2. **Page 1-9, Section 1.4.1:** The BaP equivalent concentrations cited in the text in the last paragraph do not match those shown on Figures 1-10 through 1-13. For

example, the text indicates that the range of detected concentrations was 0.192 to 35.83 milligrams/kilogram (mg/kg), but the minimum concentration on Figure 1-13 is 0.009 mg/kg. Similarly, the maximum concentration on Figure 1-13 is 260.83 mg/kg.

3. **Page 1-19, Section 1.6.4, last sentence:** This sentence appears to have been mistakenly taken from another document concerned with lead remediation.
4. **Page 2-4, third bullet:** Lists alternatives 3 and 4. Currently there are only 3 alternatives. Alternative 4 should be added (see Major Comment #1)
5. **Page 3-1, Section 3.1.1:** Should be Parcel 181, DAs 4, 5 and 7.

#### **EPA ORC Comments:**

##### **Comments regarding Land Use Controls (LUCs)**

1. - **Possible transfer to Coast Guard.** At the beginning of the FS document, the Navy indicates that the property may be transferred to the City, or it may be transferred to the Coast Guard. The LUC discussions all assume that the property will be transferred to the City. This should be clarified.
2. - **LUCs as remedial action.** In several places (e.g. p. 6-8, 7-4), the Navy indicates that alternative 2 would not involve any further remedial action. This is incorrect, as LUCs are a type of remedial action.
3. - **Municipal ordinance.** The Navy indicates that there will be a municipal ordinance as one aspect of the layered LUCs (p. 6-9). We recommend that the Navy spell out how and when this municipal ordinance will be developed and implemented; for example, will it be a requirement in the Navy's transfer of the land to the City? It may not be appropriate to include it as a component of the remedy unless there is more assurance that it in fact will be developed and implemented.
4. - **Parties to land use covenant.** The Navy indicates that the land use covenant will be between DTSC and either the City or the Navy (p. 6-10). However, under the Navy's 2000 agreement with California regarding LUCs, the Navy agrees that the Navy would enter into such covenants. This should be clarified in the document.

5. - **Monitoring and reporting.** The FS, p.6-10, indicates that monitoring and reporting of the LUCs will be by an “agreed upon party,” and that the Navy, EPA and DTSC would consult to determine what action to take. This language needs to be strengthened and clarified so that it is clear that the Navy is acknowledging its responsibility to assure the effectiveness of the LUC remedy, including assuring that monitoring and reporting will be accomplished.
6. - **Annual reports.** The FS, p. 6-11, indicates that the Navy will report on the LUCs every 5 years. This is insufficient. Monitoring reports concerning the LUCs need to be submitted at least annually. Similarly, costs for monitoring which is conducted and reported on at least annually need to be factored into the cost estimates (p. 6-13, p. 6-21).

### Comments regarding Threshold Criteria

7. - EPA is concerned with the way this FS applies the first two rating criteria (overall protectiveness and compliance with ARARs) when it rates remedial alternatives. These first two criteria are threshold criteria that an alternative must meet in order to be eligible for selection. Therefore, the document needs to clearly indicate whether each alternative meets these criteria. In Table E-4 (following p. xvi), on page 7-3, and in Table 7-1, the Navy indicates that Alternative 2 is “moderately” protective. On page 6-12, the Navy describes this alternative as “largely protective.” The Navy needs to determine whether the criterion is satisfied or whether it is not. If it is not, then the alternative cannot be considered. (If some remedies would appear to be more protective than others, then this probably is a consideration regarding long-term effectiveness and permanence and can be discussed more appropriately with regard to that criterion. Additionally, EPA’s ROD guidance, p. 6-30, gives an example of a protectiveness analysis when several alternatives are found to be protective, but some appear to be more protective than others. See *A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Decision Documents*, OSWER 9200.1-32P, July 1999.)
8. - **Compliance with ARARs--Alternative 1.** Page 6-7 indicates that Alternative 1 does not comply with proposed ARARs because exposure to future residents is not reduced. Similarly, page 7-3 indicates that Alternative 1 would not be compliant with ARARs because PRGs would not be reduced. In both cases, this appears to be a protectiveness consideration, not an ARARs consideration, as the soil cleanup objectives are not ARAR-driven but risk-based (p. B2-1). Moreover, an ARARs analysis of Alternative 1 is not necessary here, as this alternative should not be considered further because it does not meet the overall protectiveness criterion.

9. - **Compliance with ARARs--Alternative 2.** On page 7-4 and in Table 7-1, the FS indicates that Alternative 2 does not comply with ARARs because there would be PAHs above the PRGs. As noted above, because the cleanup objectives are not ARAR-driven but risk-based, this is not an ARARs issue, but rather an issue of overall protectiveness.
10. - **Numeric comparison of alternatives.** The three alternatives are compared numerically in tables E-4 (following p. xvi) and 7-1 (following page 7-8). We have the following concerns regarding the numeric comparisons.
  - It appears that the Navy is assigning numbers to all the criteria and then summing them to determine the preferred alternative. However, it is not appropriate to assign numbers to the threshold criteria and include them in a sum. Rather, these criteria must be considered first, and if they are not met, then the alternative cannot be considered further. As discussed above, the verbiage in the table indicates that Alternative 1 is not protective, and it is not clear whether the Navy considers Alternative 2 to be protective.
  - The numbers don't add up. The table, under "Analysis of Criteria," indicates that a low rating gets one point, a moderate rating two points, and a high rating three points. However, this does not add up to the numbers noted under "Conclusion."

### Miscellaneous Comments

11. - **Alternatives considered.** Page 1-2 says that the remedial alternatives considered were no action and LUCs. This should be revised to include Alternative 3.
12. - **ROD/AM.** In a couple places the document indicates that the eventual document will be a ROD/AM. References to AM should be deleted. (e.g., p. B1-5 sec. B1.2.2; page B1-1, Introduction.)

### Comments regarding ARARs

13. - **Requirements which are not ARARs.** Appendix B includes a detailed analysis of requirements which were determined to not be ARARs. This should not be carried into the ROD. A simple table including only the requirements determined to be ARARs is less confusing, and preferable.
14. - **RAOs.** On page B1-4, the FS gives four bullets regarding remedial action objectives (RAOs). We recommend that the introductory sentence be changed to read "*Considerations involved in determining the RAOs for OU-5 soil include the following.*"

15. - **Waste characterization.** EPA agrees with the Navy that requirements to characterize waste such as those found in 22 CCR 66262.11 are action-specific ARARs. However, EPA generally does not consider the regulations which the Navy has included as chemical-specific ARARs which give the definitions of various types of waste or characteristics such as toxicity to be ARARs.
16. - **State requirements.** On page B2-4, the first sentence under *Cal. Code Regs, tit. 27, div. 2, subdiv. 1* doesn't make sense.
17. - **ARARs for LUCs.** The FS includes sections of the California Civil Code and Health and Safety Code as ARARs for the LUCs. EPA does not consider these to be ARARs because they establish a discretionary way to implement LUCs. However, EPA does consider substantive portions of 22 CCR 67391.1 to be ARARs. EPA appreciates the Navy's inclusion of EPA's position in the discussion on pages B4-2 - B4-3, but requests that the Navy add that EPA considers substantive portions of 22 CCR 67391.1 to be ARARs. Additionally, the Navy should add 67391.1 as an ARAR in the various ARAR discussions and table.
18. - **Waste characterization.** Sec. B4.3.1.1 (page B4-3) refers to 22 CCR 66262.13(a) and (b). It appears that this is a typographical error, and that the correct section is 66264.13(a) and (b) (also in ARARs table).
19. - **Stormwater requirements.** The Navy includes EPA stormwater regulations at 40 CFR 122.44(k)(2) and (4) as ARARs for the excavation remedy. The Navy should also include substantive portions of the State's general permit for construction sites, SWRCB Order 99-08-DWQ, which now applies to construction sites that disturb land equal to or greater than one acre. EPA recommends that the Navy consult with the Regional Board to identify the substantive portions of the general permit. The requirement to obtain a permit would not be an ARAR as it is a procedural requirement.
20. - **Reference to TCRA.** In the first comment in Table B4-1 (p. B4-9), need to remove "during a TCRA."
21. - **Disposal of metals.** The FS cites California Health and Safety Code 22157.8 regarding disposal of lead, copper, and nickel as an ARAR. This appears to be an incorrect citation. It is also not clear why this would need to be included as an ARAR.
22. - **Transportation requirements.** The FS includes 49 CFR 172.301 for transport of hazardous waste (p. 2-5; Table B4-1 on p. B4-32 through B4-34). EPA does

not consider requirements in the Federal Hazardous Materials Transportation Act to be ARARs because they are not based on an environmental law.