



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105

June 4, 2007

Mr. Thomas Macchiarella, Code 06CA.TM  
Department of the Navy  
Base Realignment and Closure  
Program Management Office West  
1455 Frazee Road, Suite 900  
San Diego, CA 92108-4310

**RE: Draft Record of Decision for Site 28, Todd Shipyards, Alameda Point**

Dear Mr. Macchiarella:

EPA has reviewed the above referenced document, submitted by the Navy on March 19, 2007. The regulatory agencies took a two week extension on the 60 day review period. The Record of Decision is generally well written and presented. EPA remains concerned that arsenic in the groundwater may be reaching the Oakland Inner Harbor at levels above the CTR value of 36 ug/l. The regulators have requested that "guard" wells be situated near the shoreline to monitor levels of arsenic to ensure that concentrations are appropriate for surface water discharge. The draft final ROD must address this issue and describe the location and frequency of sampling of the monitoring wells.

Our other concerns are detailed in the enclosed comments. We look forward to working with you to resolve them and anticipate the draft final ROD on August 4, 2007. Do not hesitate to call me at (415) 972-3029 if you have any questions.

Sincerely,

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

Anna-Marie Cook  
Remedial Project Manager

Enclosure

Cc list: Frances Fadullon, Navy  
Dot Lofstrom, DTSC  
Erich Simon, Water Board  
Peter Russell, Russell Resources, Inc  
Suzette Leith, EPA  
John Chesnutt, EPA

**EPA Review of the Draft Record of Decision,  
Site 28, Todd Shipyard, Alameda Point**

**General Comments**

1. **Arsenic**: References to 2000ug/L, apparently as an informal goal based on the potential agricultural use, are confusing. When analyzing whether arsenic is a COC, and/or when implementing remedies to address arsenic, consideration must be given to the Basin Plan water quality objective of 36 ug/L for arsenic so as to protect the Oakland Inner Harbor. Consistent with how copper is addressed, and consistent with the Navy's identification of Basin Plan chapter 3 as an ARAR, the Navy needs to ensure that groundwater does not exceed this concentration when it enters the Inner Harbor.
2. **Groundwater remedy**: Discussion of the groundwater remedy in various places in the document is confusing because in some places (e.g. p. D-2 and 12-1) the excavation component of the selected remedy is mentioned, while in other places (e.g. p. 9-1 and 9-6), it is not. We assume the Navy's intent was for Section 9 to describe the original remedial alternatives, while Section 12 discusses the final decision. Nevertheless, to minimize confusion by readers, we recommend adding a parenthetical note in the discussion of Alternative GW4 on pages 9-1 and 9-6 that at the ROD stage, it was decided to enhance this remedy with hot-spot excavation.

**ICs**

3. The ROD needs to specify the duration of the ICs. Presumably, the restrictions on land use and groundwater use are in perpetuity since soil is not cleaned up to unrestricted use, and groundwater is not being cleaned up to MCLs. While there is some discussion in the IC section of prohibitions on residential use or land-disturbing activities being in effect "until levels of contamination are acceptable for unrestricted reuse," this is confusing, since the ROD does not contemplate cleanup to residential levels.

**Specific Comments:**

1. **D-1**. Under Statement of Basis and Purpose, at the end of the second line, we recommend adding the word "and".
2. **Page D-1, third paragraph, first sentence**: Add "of 1980" after (CERCLA).
3. **Page D-1**: Add the same fourth paragraph contained in the Site 26 ROD.

4. **Page D-2, after first paragraph:** Add a second paragraph here describing the status of the RCRA and TPH program.
5. **Page D-2, first bullet:** Please change the word “predetermined” to “proposed”.
6. **Page D-3, first bullet on this page:** Add to the last sentence of this bullet that the monitoring wells will also confirm that arsenic is not above 36 ug/l at the POE for the Oakland Inner Harbor.
7. **Page D-3, last paragraph:** Add a sentence to the end of this paragraph: “Therefore reviews will be conducted every five years to determine that the selected remedy remains effective for the reuse of the site.”
8. **Page D-4, third checklist item:** Under description, change the first sentence to read “The response actions of groundwater and soil selected in this ROD are necessary...”
9. **Page D-4, last checklist item:** In the description portion, please change the word “predetermined” to “proposed”.
10. **Page D-5:** Please change the word “Facility” to “Facilities” beneath Ms. Johnson’s title.
11. **Page D-5:** Please add “Mr.” before Bruce Wolfe’s name.
12. **Page 1-1, Section 1.0:** Please provide a map with the Operable Units shown.
13. **Page 1-1, Section 1.2, first sentence:** Recommend deleting the phrase “which is” from this sentence.
14. **Page 2-3, Section 2.2, last paragraph:** Please mention whether or not there are any TPH investigations at this site.
15. **Page 2-4, Section 2.2.1.4:** The summary of the Technical Memorandum neglects to mention that a primary concern on the part of the regulators was the levels of both arsenic and copper entering the Oakland Inner Harbor. Only copper is mentioned in the text.
16. **Page 2-5, Section 2.2.2:** Please state whether there are any TPH investigations at this site.
17. **Table 2-1, Page 2 of 3, last entry:** The concentrations appear to have significantly increased over time, rather than decreased. Please verify the concentrations presented here.

18. **Page 3-2, Section 3.3, second paragraph:** The dates given for the notice in the papers should be March and not April.
19. **Page 4-1, last sentence:** The word “Sewers” should be “Sewer”.
20. **Page 5-1, Section 5.1, last paragraph:** The change in depth of the BSU over a small 3-acre site seems remarkable, i.e. from 9 feet bgs to more than 18 feet bgs. Is this an accurate depiction of the location of the BSU?
21. **Page 5-3, fifth paragraph:** Please provide the PRG concentrations for the PAHs and give the maximum detected concentrations for the ones that exceeded PRGs.
22. **Page 5-3, last paragraph:** Metals, VOCs, PAHs and organotins are mentioned as being detected in groundwater. Only the metals contaminants were discussed further in this paragraph and the subsequent one. Please provide a more detailed description of the VOCs, PAHs and organotins that were detected and explain why they are not considered chemicals of concern.
23. **Table 5-1, Page 1 of 4:** Please explain why chromium has not been flagged as a chemical of concern for soil since it exceeds the PRG. Also, elaborate on why dieldrin and PCBs, which are over the residential PRGs, are not chemicals of concern for soil.
24. **Page 6-3, Section 6.2, last paragraph.** Recommend deleting this paragraph and the last sentence in the paragraph preceding. As written it does not add support to the RBs positions stated earlier on the page and appears to confuse the issue.
25. **Page 7-2, Section 7.1.2.2, last sentence:** Please elaborate on the reasons for the duration of lead exposure for a recreational child and why it is different from that of the recreational receptor in the previous sentence. It appears that the recreational receptor, being at the site 350 days/year is a more conservative assumption of exposure than that given to the child which corresponds to 104 – 260 days/year. Please also add in this section that the groundwater exposure pathways for the site are incomplete.
26. **Page 7-3, Section 7.1.3, first paragraph, fourth sentence:** It appears that the term “PRGs” is missing after “EPA Region 9”.
27. **Page 7-5, first paragraph, third sentence:** Replace the word “used” with “use”.
28. **Page 7-5, second paragraph:** Please see comment # 25 above and elaborate on the lead exposure frequency assumption.
29. **Page 7-7, Section 7.3, third paragraph, last sentence:** This sentence is confusing, and unnecessary, and we recommend deleting it.

30. **Page 7-7, last paragraph:** Please delete the term “risk management” before the word “decisions” as it is redundant with the second part of the sentence.
31. **Figure 7-1:** It is unclear why the inhalation pathway for VOCs in outdoor air is considered a risk for construction workers and future recreation users, but not for residents and on-site workers. Which VOCs are driving this risk and what makes the risk more significant for some scenarios over others. It may be helpful to include the logic also in Section 7.1.2. It is also unclear why ecological receptors would not have dermal contact with soil.
32. **P. 8-1.** The RAOs listed on page 8-1 are different from the RAOs on page 13-1, which is confusing and should be clarified. Specifically, on page 8-1 there is an RAO for soil to “minimize” risk to future residents, and on page 13-1 the RAO is stated to be to “prevent exposure...of future residents.” Both of these RAOs are rather strange since there will be an IC to prohibit residential use; hence, there will not be any future residents to protect. Similarly, it is strange to say in Sec. 12.1.1, page 12-2, that ICs preventing residential use protect residents, since there will not be any residents. We had similar concerns at OU1, and the Navy agreed to use as the RAO “...either prevent exposure (through ingestion or dermal contact) of future residents to COCs in soil or prohibit residential use of the property.”
33. **Page 8-1, last paragraph:** Please delete or rephrase the part of the sentence that states “will be limited to the extent of the predetermined excavation area defined in the Final FS”. The RGs that are selected for soil cleanup for arsenic will define the areal extent of the excavation. It would not be permissible to leave arsenic contamination on the site in the upper two feet of soil above the RGs set in the ROD. The proposed excavation areas outlined in the FS and the PP are “best estimates” and not the final area.
34. **Page 8-2, last paragraph:** The regulators have commented during the RI/FS/PP that arsenic levels going out to the Bay are a concern. The Navy has performed modeling to show that the concentrations of arsenic found in the inland wells are not migrating out to the Bay above the CTR value of 36 ug/l. However, the regulators remain concerned that the arsenic levels at the POE may be above the CTR value. At our request the Navy agreed to install guard wells along the shoreline and to measure the concentrations of arsenic in these wells to ensure that the CTR criterion was being met. It is necessary to have this commitment in the ROD to show that arsenic levels are being monitored and that additional remedial action will be taken if the concentrations exceed CTR values at the POE.
35. In discussion Alternative S4b in bullet on page 9-1 and in heading for Sec. 9.15 on page 9-3, we recommend adding “with ICs.”
36. **Page 9-3, Section 9.1.5, third sentence:** Please rephrase as per comment # 33 above.

37. **10.1.4.** It is not clear that removing more soil should rate higher in the “reduction...through treatment” criterion than removing less soil, since neither involves treatment, although it may be that the alternatives removing more soil were rated higher because treatment is expected at an off-site disposal facility, as is suggested in the discussion of Alt. GW5 in par. 10.2.4 and in the discussion of the selected soil alternative in sec. 12.2.1. Please clarify.
38. **Page 10-2, Section 10.1.4:** Alternatives S4a and S4b do not meet the preference for reduction of toxicity, mobility or volume **through treatment**. It appears that unrestricted use has been confused with treatment in this section.
39. **Page 10-3, Section 10.1.6, first sentence:** Awkward wording.
40. **10.1.6, p. 10-3.** It’s not clear what the design of the cover has to do with Alt. S4b, nor what technologies and expertise would cause Alt. S4a to be rated low for implementability.
41. **10.2, Comparison of Groundwater Alternatives – general comment.** This section appears to compare the alternatives as they were presented in the FS, and does not discuss the modification of Alt. GW4 to include hot-spot soil removal. We recommend a parenthetical at the end of each discussion of Alt. GW4 as to whether the modification changes the rating.
42. **10.2.4, p. 10-5,** discussion of Alt. GW2 is confusing because this alternative does not involve MNA. Also, does copper naturally attenuate?
43. **Page 10-5, Section 10.2.4, third paragraph:** The short-term effectiveness criterion is being cited here rather than the ability to reduce contamination through treatment. Trucking and the community do not affect treatment. Also, it seems that Alternative GW5 is being discussed rather than GW4. Alt GW4 does not involve excavation and removal of soil.
44. **Page 10-5, Section 10.2.4, last paragraph:** Alternative GW5 uses MIC to reduce the mobility of contaminants through treatment, so it does well meeting this criterion.
45. **Page 10-5, Section 10.2.5, third paragraph:** As stated in the section above, there are negative effects of trucking soil through the community so this alternative does have a potential impact on the surrounding community.
46. **Table 10-1:** Alt S4a and Alt S4b do not qualify as having treatment for reduction in toxicity, mobility or volume of contaminated material. This criterion evaluates a remedies ability to treat contaminants on site (such as ISCO), and excavation of contaminated soil for off-site disposal does not qualify as treatment. Both these alternatives would therefore have a poor evaluation for meeting this criterion.

47. **Tables 10-3 and 10-4.** It appears that the cost for Alt. GW4 on these tables does not include the cost of hot-spot removal. We recommend either revising the tables to include the soil removal costs, or at the least a footnote referring the reader to sec. 12.3 for the complete cost estimate. It also appears that costs have generally risen since the FS, since the Alt. GW4 costs in the tables are lower than the amount without the excavation in sec. 12.3. This should also be explained.
48. **12.1.2, p. 12-2, third paragraph.** The first sentence implies that the remedy was selected in the proposed plan. Please change “selection” in the first line to “identification”, and in the second line, please change “remedy” to “preferred alternative” (or at least “preferred” remedy).
49. **12.1.2, third paragraph.** It would be helpful to include a sentence explaining how the augmented Alt. GW4 differs from Alt. GW5.
50. **Page 12-5, Item 1:** Recommend phrasing “New construction....shall not be allowed for any of the ...”
51. **12.4.2, p. 12-9, first paragraph (4).** We recommend “bench and pilot studies” instead of “bench scale.”
52. **12.4.2., p. 12-9, third paragraph.** Please explain where and how the POM is determined? The reference to Sec. 2.2.1 appears to be incorrect.
53. **13.2, p. 13-1.** In the last line, we recommend removing “the substantive provisions of”. All ARARs are substantive.
54. **Page 13-3, Section 13.2.1.2, first paragraph, last sentence:** Please revise to read “Because the groundwater is unlikely to be used as a potential drinking water source, the Navy has determined that drinking water standards, such as federal and state primary MCLs and non-zero MCLGs, are not chemical-specific ARARs for this CERCLA action.
55. **13.2.1.2, last paragraph on page 13-3.** The document does not discuss why achieving either background or MCLs is technologically or economically infeasible. It may also be helpful to note that the copper cleanup number is based on a federal regulation (CTR).
56. **Page 13-4, last paragraph, end of third sentence:** Format error with two periods and spacing at the end of the sentence.
57. **13.2.1.2, last paragraph in this section on page 13-6,** please add that EPA considers SWRCB Res. 92-49 Sec. IIIG to be an ARAR.

58. **13.2.1.3, p. 13-7, State, Basin Plan.** The Basin Plan WQO for arsenic in salt water should be included as an ARAR.
59. **13.2.2. Location-specific ARARs.** Given that there are endangered/threatened species at Alameda, we recommend a brief statement of why the ESA is not an ARAR, as was done in the Site 14 ROD and the Site 28 FS.
60. **Table 13-1, Chemical-specific ARARs table, p. 2.** In the row for Resolution 88-63, we recommend adding language that the Water Board has made an exception as discussed on page 6-3.
61. **Table 13-3, Action-specific ARARs.** We recommend adding ARARs regarding stormwater runoff for the excavation remedy. The Seaplane Lagoon ROD includes 40 CFR 122.44(k)(2) and (4), and we've also seen RODs including substantive portions of the State Board's general permits for construction sites. Also, air quality ARARs should be included for the excavation remedy. Section 13.2.3.1 includes BAAQMD regulation 6-302, but this was, probably inadvertently, omitted from the ARARs table.
62. **Table 13-3 Action-specific ARARs, p. 6.** It is not clear why the POC regulation is included. Here, the relevant measurement is at the POE as discussed throughout the ROD.
63. **Table 13-3, Action-specific ARARs, p. 10.** Under "Comments," please change the sentence as to EPA's position to be consistent with the last paragraph in sec. 13.2.3.1, page 13-11.
64. **Page 14-1, last paragraph, fourth line,** "was" should be "were."
65. **Administrative Record Index:** Beginning on page 5 of 28, there are references to the Water Tower Removal Action. Possibly these records are included because OU 6 was referenced in the EECA or workplans, but it is doubtful that the removals have any relevance to the Site 28 RI/FS/ROD process. Please verify that these records need to be included as part of this index. Also, the entries regarding the tech memo, RI, FS, and PP for Site 26 do not appear to be relevant to the development of the Site 28 ROD.