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

October 4, 1996

Richard Powell [1832]
Department of the Navy
Engineering Field Activity, West
900 Commodore Drive
San Bruno, CA 94066-5006

RE: Parcel B Feasibility Study Draft Final Report, Hunters Point Shipyard, San Francisco

Dear Mr. Powell:

The above referenced document was prepared by PRC Environmental Management, Inc. and submitted to EPA on September 3, 1996. The Navy held a BCT/RPM meeting on September 24, 1996 to discuss and resolve the major issues of concern to the regulatory agencies with regards to the document. EPA would like to thank the Navy for the outstanding cooperation and partnering that was exercised during this meeting, and which allowed so many issues to be discussed and effectively resolved.

This letter will serve, in part, to describe the general concerns brought up at the meeting and the agreed upon resolutions. Specific examples related to the general concerns will not be listed, because the Navy and the regulatory agencies feel that these general concerns were adequately covered during the meeting. The more minor concerns, which were not brought up during the course of the meeting, will be listed out following the discussion of the meeting issues.

This letter, and the letters sent from DTSC and RWQCB, will serve in lieu of meeting minutes. To ensure that the Navy agrees with the summaries of the meeting presented in the letters, the agencies request that, as soon as possible, the Navy send written concurrence. If you have any questions, please call me at (415) 744-2367.

Sincerely,

Anna-Marie Cook

Anna-Marie Cook
Remedial Project Manager

cc: next page

cc: Cyrus Shabahari, DTSC
Rich Hiett, RWQCB
Bill McAvoy, EFAWEST
Mike McClelland, EFAWEST
Jim Sickles/Kim Pawlowski, PRC

GENERAL CONCERNS COVERED DURING THE BCT/RPM MEETING SEPTEMBER 24, 1996 REGARDING THE PARCEL B DRAFT FINAL FS, HUNTERS POINT

1. The document, both in the Executive Summary and in the body of the text, repeatedly references a remedial action objective of 1×10^{-4} risk. EPA does not believe that this objective is appropriate for Parcel B, when both cumulative risks and reuse plans (partially residential) are taken into consideration. After discussing the differing perspectives at the meeting, the Navy and the regulatory agencies (EPA, DTSC and RWQCB) agreed to set the clean-up levels for Parcel B at 1×10^{-6} risk. A few inorganic constituents have established ambient concentrations that result in a risk above 1×10^{-6}; for those constituents clean-up levels will be set at the ambient levels.

2. It appears in reading through the groundwater remedial alternatives, that groundwater monitoring is proposed as a remedial or mitigative measure. It was explained at the meeting that monitoring was not intended to be a mitigative or remedial measure, but would be used as a trigger to instigate such measures, if necessary. The agencies asked for this explanation to be included in the document together with specifics of the set of conditions that would trigger remedial or mitigative measures, and how such a contingency would be planned and carried out. In addition, a figure showing the locations of the monitoring wells, and a table showing the concentrations for individual contaminants at the point of compliance would be included in the document.

3. To make the document easier to read and to provide a stand alone summary, the agencies requested that the Navy expand the Executive Summary to include the major information contained within the text and appendices of the document and to provide a continuation from the RI to the FS. The Navy has agreed to include an expanded summary in the final FS. A map showing the exposure areas and associated risk levels, developed for the Parcel B RI, will also be included in this document.

4. The descriptions of removal actions undertaken and anticipated will be expanded and placed in an earlier section within the text. The proposed mitigative measures (DNAPL removal and storm drain lining and grouting) will also be described earlier in the text and repeated again later in the text for ease of reference.

5. Tables showing clean-up levels for soil and groundwater will be revised for clarity and will include all appropriate information on one table. Tables containing information on contaminants not detected in either soil or groundwater will

be revised to remove the superfluous information.

6. The references to consolidation of excavated soil from Parcel B to Site IR-1/21 in Parcel E will acknowledge that this proposal is contingent upon the results of the RI/FS for Parcel E. The Navy will begin a focused FS for Site IR-1/21 to assess the feasibility of soil consolidation at this site.

7. Table 2-5, which lists out contaminants, concentration ranges and suspected sources of contaminants found in soil and groundwater at each IR site will be further reviewed and revised. Some contaminants detected at significant concentrations have been attributed to naturally occurring sources, which contradicts the intent of established HPALs and HGALs. If the source is not known, the term "not determined" should be used.

8. The reasons cited in the document for not considering the A-aquifer for future beneficial uses should be expanded. The reasons presented in the RI report could be used here.

9. The use of the words "deed notification" will be replaced by "deed restriction" with regards to use of Parcel B groundwater. The regulatory agencies feel that a restriction is necessary because the proposed remedial action for groundwater is based on a no beneficial future use scenario.

SPECIFIC COMMENTS ON PARCEL B DRAFT FINAL FS

1. **Figure 1.1.** It is unclear why some IR sites are shaded in this figure and others are not.

2. **Section 2.2.4, pg 2-5.** It would be useful to add another paragraph to this section describing risks to aquatic receptors and studies being performed to determine this risk.

3. **Table 2-5.** The most likely source of the copper detected above screening criteria is sandblast residue. Copper was historically used as an anti-fouling additive to paint, and is typically found in sandblast residue, so copper concentrations above HGALs and HPALs should not be described as "naturally occurring". The presence of mercury at concentrations exceeding screening criteria at IR-26 is again likely to be related to sandblast residue, because mercury was also historically used as an anti-fouling paint additive.

4. **Section 3.1.1, pg 3-3.** The last part of the first paragraph needs clarification. It is mentioned that contaminated

groundwater may migrate to the Bay. Then it is stated that soil will be remediated to human-health based clean-up criteria rather than developing any clean-up criteria for the protection of aquatic receptors in the Bay. The sentences do not support each other, and the reader is left wondering how cleaning up soil to protect human health will prevent contaminated groundwater from impacting the Bay.

5. **Section 3.1.2, pp. 3-3 and 3-4 and Response to Section 3 comment 5, pp G-8 through G-10.** As demonstrated by detected concentrations of organic and inorganic compounds in mussel tissue, exposure is occurring. There is at least partial contribution from HPS. Aroclor congeners have been detected in sediment samples collected from the storm drains, so it is not correct to state that the "Aroclor congeners did not originate from HPS because these contaminants were not detected in ESAP sediment samples." Contaminated sediments are discharged to San Francisco Bay through the storm drains., however, these sediments may be dispersed in dynamic areas and hence, the ESAP sediment samples may not be representative. Results of more recent sampling have shown that PCBs (including both Aroclor 1254 and Aroclor 1260) are present in sediment in the HPS vicinity. It should also be noted that mussels (because of their filter-feeding behavior) incorporate a water-column exposure pathway (including suspended sediment and other particles) and therefore could still be exposed to releases of contaminants from HPS. The response to Section 3, comment 5 and item (2) found at the top of page 3-4 should be rewritten to incorporate recent, more accurate information.

6. **Page 3-5, last paragraph.** Comparison of highest detected concentrations summarized in Table 2-5, show that IR-20, IR-26 and IR-50 should also be included in the identified sites having one or more contaminants exceeding HGAL-adjusted final screening criteria.

7. **Section 3.1.4, pg 3-9, third paragraph.** Why isn't the Clean Water Act, specifically the Ambient Water Quality Criteria (marine chronic) considered a chemical specific ARAR?

8. **Section 3.3.2.1.3, pp 3-16 and 3-17.** Frost heave does not occur at sites on San Francisco Bay; designing for frost heave may result in unnecessary expense.

9. **Section 3.3.2.1.3, p.3-16.** Single layer clay caps are generally never used without a topsoil layer to keep them from cracking. The text should also discuss the cap as consisting of a topsoil layer which would make it effective and then eliminate it (if appropriate) based on projected use. As presently proposed, without a topsoil layer the single layer clay cap would usually not be considered at all because of performance problems.

10. **Section 3.3.2.2.6, pg 3-56.** The discussion of the effectiveness and efficiency of UV/Oxidation does not reflect current technology. For example, automatic lamp scrapers are standard technology today. It is much more likely that insoluble oxides of chromium will form than that hexavalent chromium will form. Further, at the maximum detected concentrations of organic compounds in groundwater from HPS, UV/Oxidation will completely oxidize target compounds.

11. **Section 4.1.1, p 4-2, paragraph 1.** The DNAPL source may not be beneath the sump because DNAPLs move along less permeable surfaces in the dip of the surface. It should also be noted that the main mass of DNAPL is likely to be below the water table. This soil would then require dewatering before it can be treated or shipped off-site. This last comment applies to all alternatives which involve excavation of DNAPL-contaminated soil (Section 4.2.2, response to Section 4 Comment 1, Section 5.1.2, pg 5-6 and Response to Section 5 Comment 1), and to any areas where soil will be excavated from below the water table.

12. **Section 4.2.5, pg 4-16, first paragraph and response to Section 4 comment 11.** Tables 3-3 and 3-4 are screening criteria for groundwater and do not appear to be the correct citations for this paragraph. How would these tables be applicable for screening soil for placement at the IR 1/21 landfill?

13. **Section 4.2.6, p 4-19, paragraph 4.** This is the most expensive alternative which is retained. Explain why the costs are described as "moderate."

14. **Section 4.3.2.** This alternative is not protective of San Francisco Bay because it does not reduce the volume and concentration of metals being discharged to the Bay at IR-7. Since IR-7 is adjacent to the Bay, natural attenuation will not be significant. Please revise the discussion of the effectiveness of alternative GW-2.

15. **Response to Section 5, comment 21, and Section 5.3.1.7, p. 5-112.** The response does not appear to have been incorporated into the text. Alternatively, there is a typographic error and S-6 should be referenced in the last sentence of the first paragraph on page 5-112.

16. **Section 5.3.2.4, pp 5-116 and 5-117.** The discussion of the volume of contaminant removal is misleading because GW-2, GW-3, and GW-5 all include the removal of the DNAPL source. An example of this problem is found in the last paragraph on pg 5-117, where it is stated that only GW-2 will include the removal of the DNAPL source.

17. **Table 5-7, pg 2 of 2.** It is unclear if the last line of this table should have been labeled "Cost" (as is the last line on the first page of this table) or if the last line truly represents "Overall Ranking."

APPENDIX C

1. **Pg. C-1-3, Third Paragraph, Fourth and Fifth Sentences.** The analytical solutions used to estimate solute transport use several simplifying assumptions to facilitate calculations. It is appropriate to summarize these assumptions, however the terms "justifiable" and "appropriate" with "reasonable" should be replaced with other terminology.

2. **Pg. C-1-3, Third Paragraph.** A citation for Robertson 1974 was not provided.

3. **Pg. C-1-5, Second Paragraph.** Provide the basis or reference for the data presented in this paragraph.

4. **Pg C-1-5, Assumptions, First Sentence.** Delete the word "conservative" from this sentence. This is a list of sampling assumptions, which are in part, needed to facilitate calculations, and are not necessarily conservative.

5. **Section 3.2.3, pg. C-1-6.** Provide justification for the COPC selected for modeling. Vinyl chloride, PCP, and two pesticides are discussed but no modeling data is provided. Please provide this data. The output for vinyl chloride must be provided because this number was apparently used as the DAF.

6. **Section 3.3, pg. C-1-7, second paragraph.** Discuss whether a sensitivity analysis was performed and if one was done, explain how it was performed. If a sensitivity analysis was not performed, please provide an explanation for not doing one.

   Explain how the source assumptions affect concentrations at the POC. Discuss whether a long term source (over 20 yrs or more) increases concentrations at the POC. A significant weakness in the source assumptions is that the actual contamination occurred many years ago, but it was assumed that a point release occurred and that it took only one year to reach the maximum observed concentration.

   A Monte Carlo simulation would useful for analyzing the uncertainty associated with this modeling exercise.

7. **Table C-1-1.** A better title for this table is "Initial Model Input Parameters." The model for hexavalent chromium

case uses a "worst case scenario."

The source of the number used for the hydraulic gradient was not provided in the table or text.

8. **Pg. C-2-1, Random Walk Groundwater Fate and Transport Modeling.** The estimated cleanup time appears to be very optimistic. The model approach does not take into account mass transfer limitations which limit the effectiveness of pump and treat remediation of groundwater. Note that there is a significant risk of underestimating costs associated with pump and treatment alternatives if these cost estimates are based on three years of operation. Actual cleanup times could be three or more times longer.