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March 23, 2005

Keith Forman
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RE: Draft Technical Memorandum, Hunters Point Shipyard Parcel F Feasibility Study Data Gaps Investigation, San Francisco Bay, California, February, 2005

US Navy's Summary of Major Comments on Draft Final Parcel F Validation Study Report, Hunters Shipyard, March 2005

Dear Keith:

Thank you for the opportunity to review the above referenced documents.

It seems that EPA and the Navy are not yet in agreement on how to evaluate existing data and complete the risk assessment for Parcel F. Our comments are attached in two packages. A first which provided EPA's comments on the Draft *"Technical Memorandum, Hunters Point Shipyard Parcel F Feasibility Study Data Gaps Investigation, San Francisco Bay, California,"* dated February, 2005. A second which offers our comments on the Draft *"Summary of Major Comments"* prepared by the Navy in March 2005.

Please feel free to contact me at 415-972-3024 if you have any questions.

Sincerely,

Michael Work

Michael Work
Remedial Project Manager
Superfund Division (SFD-8-3)

Attachments

cc: (see Distribution List)

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EPA Comments on the
Draft Technical Memorandum,
Hunters Point Shipyard Parcel F Feasibility Study Data Gaps Investigation,
San Francisco Bay, California, February, 2005

GENERAL COMMENTS

1. The Technical Memorandum for Parcel F Feasibility Study Data Gaps (FSDG Memo) depicts significant surface sediment contamination at the north apex of the south basin (near the location of the historical slough at the Parcel E-2 landfill), but the FSDG Memo is unclear about whether the high surface concentrations in this area are a result of an ongoing onshore source or less effective clean sediment deposition. Little is known about erosion or deposition in this area because few data were collected in this area (i.e., radioisotope data were collected from further offshore and data from sediment flume cores were combined to estimate average erosion rates across the basin). The conceptual site model suggests that waves breaking along the shoreline may resuspend sediments in the area where the greatest surface concentrations of polychlorinated biphenyls (PCBs) are present. The model also acknowledges that ongoing sources may be present in shoreline soil. Please revise the FSDG Memo to explain potential local variation in sediment deposition and erosion and the implications of those variations on the natural recovery processes in the areas of greatest surface PCB contamination.

2. Agreement has not been reached on the preliminary remediation goals (PRGs) proposed in the Validation Study Report (VSR). These PRGs are used for comparison to analytical results from environmental samples as presented in the FSDG Memo. Further, the comparisons presented in the FSDG Memo appear to use the less protective of the site-specific PRGs calculated in the VSR. For example, the PCB concentrations in the upper 15 centimeters (cm) in most of the South Basin sediments exceed the most protective PRG from the VSR (Table 2-6), but, making the same comparison, the FSDG Memo concludes that the PRGs are exceeded in the north part of South Basin near the Parcel E-2 Landfill and the mouth of Yosemite Creek. It appears that the Navy has a preferred PRG for PCBs in sediment that is among the less protective PRGs from the VSR, but this is not clearly stated and no rationale for selecting a value is provided. Please state the source of the PRGs used in the VSR and discuss the rationale for selecting those PRGs.

SPECIFIC COMMENTS

1. **Executive Summary, Page iii and Section 1.0, Introduction, Page 1:** The text of the executive summary states that the goal of the FSDG investigation "was to collect data to support the development and evaluation of remedial alternatives for offshore sediments in

South Basin (Areas IX-X) and Point Avisadero (Area III), but the objectives (specific goals) included in Section 1.0 are different. Please reconcile the discussion of goals and objectives and revise the text so that the same goals and objectives are presented.

2. **Section 2.1.1.1, PCB Concentration Gradients, Page 7:** The shoreline soils are probably a continuing source of PCB contamination to South Basin, but it unclear from the text how these soils will be addressed or which Parcel FS will consider this area. Interrupting continuing sources to the South Basin is an important element in the long-term success of the remedy for Parcel F. Please clarify that the shoreline soils will be addressed and please describe which action(s) and deliverable(s) will address this area.

3. **Section 2.1.1.1, PCB Concentration Gradients, Parcel E-2 Shoreline, Page 8:** The text seems to suggest that the historical source of PCBs was addressed when the soil cover was placed on the landfill. However, other portions of the document (e.g., page 7) note that the shoreline soils may be a continuing source of PCB contaminated sediment to the South Basin. The presence of a continuing source seems more consistent with extent of contamination when the erosion and deposition estimates are taken into account. Please clarify the text on page 8 regarding the residual surface contamination observed near the Parcel E-2, the potential for a continuing source, and the apparent conflict with the estimated sediment deposition and erosion.

4. **Section 2.1.1.1, PCB Concentration Gradients, Parcel E-2 Shoreline, Page 8:** The conclusion that PCBs are not moving with free-phase oils or solvents is based on the understanding that significant quantities of free-phase oils or solvents are not present in this area. The term "significant quantities" is undefined. Please clarify this term. In addition, it is possible that oils or solvents that facilitated PCB transport degraded or, in the case of solvents, were volatilized. Please revise the text to state that free-phase product may have degraded or volatilized.

5. **Section 2.1.1.2, PCB Composition, Page 10:** The text states that there is a local source of Aroclor 1260 and that some characteristics of Aroclor 1254 may have been produced by anaerobic dechlorination of Aroclor 1260, but then states in the next paragraph that there is a separate source of Aroclor 1254/1260 in the Yosemite Creek area. In addition, Appendix C states that a mixture of Aroclor 1242/1254/1260 is common in coastal areas, but the mixture in the Yosemite Creek area is more than 90 percent Aroclor 1260 and less than 10 percent Aroclor 1254. Since the Aroclor 1260 in soil and sediments near the IR01/21 landfill points to a Navy source for Aroclor 1260, it is possible that most of the PCB contamination in South Basin, including that in the Yosemite Creek area, is related to Hunters Point Shipyard. Further, the FSDG Memo does not acknowledge the 5 inch outfall from Hunters Point Shipyard that discharged into Yosemite Creek near the mouth of the creek. Please revise the text to include a discussion of this discharge pipe and to present the difference between the PCB composition in South Basin and other US coastal environments.

6. **Section 2.1.4.2, PCB Flux Model Setup and Results, Page 14:** The discussion of the model assumptions is unclear. For example, the text states that the incoming sediments were assumed to be from Central San Francisco Bay, but the PCB concentration of 121 ug/kg is considered likely to be an overestimate because the samples contained resuspended sediment from South Basin. These two assumptions seem to conflict. Please clarify the second full paragraph on page 14 with respect to this apparent contradiction.

7. **Section 2.1.4.2, PCB Flux Model Setup and Results, Page 14:** The relevance of the comparison between the flux over time from a specific CERCLA site and the estimated annual contribution of urban runoff to the Bay is not immediately apparent. Moreover, the comparison is not relevant to filling data gaps to support the FS. The inference appears to be that the risk managers should be less concerned about PCB flux from contaminated sediments at Hunters Point because the Bay is already being contaminated from many non-point sources. This comparison, and the inferences that may be drawn from it, are not consistent with the objectives of the FSDG Tech Memo. Please remove this comparison from the text in this and subsequent sections.

8. **Section 2.1.5, Natural Recovery Processes, Page 15:** This section states that the most contaminated sediments are being progressively buried throughout the South Basin, but does not resolve the apparent discrepancy between surface concentrations of PCBs and natural recovery processes. Surface concentrations near the Parcel E-2 shoreline are still greater than 1,000 ug/kg, yet the estimated time of the discharges (prior to 1980), the estimated sediment accumulation rate of 1 cm/yr, and the estimated concentration of incoming sediments suggest that the concentrations should be much lower. It appears that local resuspension or a continuing source may be important in this area. Further, if sediment accumulated at 1 cm/yr along the shoreline, the location of the shoreline would have changed, so it appears that sediment along the shoreline is not accumulating. Please expand the discussion to specifically address the Parcel E-2 shoreline.

9. **Section 2.1.5, Natural Recovery Processes, Page 16:** It is not clear from this discussion that natural recovery processes are having any effect on bioavailability of contamination. Natural recovery processes may reduce contact with the most contaminated sediments as deposition occurs. It is not clear that the bioavailability of the contamination if the contamination was exposed would be any different. Please revise the text to state that natural recovery processes, chiefly sediment deposition, may limit contact with the most contaminated sediments over time.

10. **Section 2.2, Point Avisadero, Page 17:** The study objectives described in this section differ from the objectives described in Section 1.0 and the Executive Summary. For example, the text on page 17 describes the primary objective as determining the location and volume of sediment requiring evaluation in the FS based on the PRGs provided in the VSR. The need for the VSR PRGs is not included in the objectives as outlined in Section

1.0 and the Executive Summary. The objective of the FSDG study should be to determine the distribution of contaminants without relying on the VSR PRGs which have not yet been finalized. Please revise the text to make the primary objective stated in this section consistent with the preceding sections.

11. **Section 2.2.1, Contaminant Distribution, Page 17:** The text states that the samples were collected as close as possible to the riprap and/or pilings and therefore represent all soft sediment offshore of Point Avisadero, but this statement appears to conflict with Figure 2-21. This figure shows apparent gaps in sampling coverage between the riprap and location 139 and between locations 152 and 154. Also, it is unclear why sampling was not conducted in Dry Dock 3. Please provide further rationale to support adequate definition of nature and extent.

12. **Section 2.2.2 Source Identification, Page 18:** The statement that "the shoreline was characterized in 2003 to evaluate whether it is a potential ongoing source of contamination to the offshore area," does not reflect the fact that only 3 of 10 samples were collected during the IR-26 shoreline investigation because of the presence of riprap. Since three samples are not sufficient to characterize the shoreline, please revise the text to state that it was not possible to characterize the IR-26 shoreline due to the presence of riprap.

13. **Section 2.2.2 Source Identification, Page 18:** The conclusion that concentrations of copper and mercury present in site-wide groundwater at Hunters Point Shipyard (HPS) are not sufficiently high to act as a significant source of these contaminants to Parcel F (via groundwater discharge at the surface water interface) is unsupported. Given that copper and mercury exceed ambient levels in HPS groundwater and that no localized groundwater data are provided to rule out this medium as a source, there is no rationale to support this conclusion. Please provide supporting rationale for this conclusion.

14. **Section 3.0, Conceptual Site Model, Page 21:** The Navy has provided thorough discussions of the conceptual site models for South Basin and for Point Avisadero, but not for elevated mercury concentrations between Areas VIII and IX. Without a conceptual site model for this area it is difficult to evaluate the factors that influence fate and transport of contamination in this area (e.g., sediment deposition and erosion) and the effectiveness of various alternatives in the FS. Please expand Section 3.0 to include a discussion of the conceptual site model for mercury contamination between Areas VIII and IX.

15. **Section 3.1.1, Contaminant Sources and Release Mechanisms, Page 21:** The area that will be addressed by the time-critical removal action (TCRA) is not shown in this document. Figure 1-3 suggests that there is more than one debris area. Please revise the figure to clearly show the extent of the area that will be addressed by the TCRA. Please discuss any areas of metal debris that will not be addressed by the TCRA and explain

how contamination from these areas will be prevented from reaching South Basin.

16. **Section 3.1.1, Contaminant Sources and Release Mechanisms, Page 22:** The Navy suggests that there are ongoing sources of contamination to Yosemite Creek, but the FSDG Memo does not address characterization and management of these sources. Further, the sediment accumulation rate in this area is unknown. It is unclear how the Navy intends to approach the problem of potential re-contamination of sediments at the mouth of Yosemite Creek after a remedy is selected. Please consider these issues and provide a framework for addressing these concerns either in the FSDG Memo or in the FS.

17. **Section 3.1.2, Contaminant Transport Pathways, Page 23:** The net sediment accumulation rate in much of South Basin appears to be about 1 cm/yr, but this does not appear to be an accurate rate for the Parcel E-2 shoreline area. The continued high concentrations near the historical IR01/21 landfill slough suggest that sediment deposition may be occurring more slowly in this area. Please specifically discuss this shoreline area in this section.

18. **Section 3.2.1, Contaminant Sources and Release Mechanisms, Page 23:** The text does not acknowledge the fact that sandblast grit is the likely source of contamination to offshore sediments at Point Avisadero. At least three of the core logs indicate the presence of Black Beauty sandblast grit. Sandblast grit was likely deposited both by discharges from the drainage tunnel from Dry Dock #3 and through aerial deposition during sandblast operations when the winds blew offshore. Please revise the text to discuss sandblast grit as a source and both aerial deposition and deposition from historical discharges from the Dry Dock as release mechanisms.

EPA Comments on
Benthic Macrofaunal Activity at Hunters Point, San Francisco Bay
(Germano and Associates Inc., 2004)

1. **Section 2.2, Using SPI Data to Assess Benthic Health, Page 10:** The inference that a Stage III assemblage, observed with Sediment Profile Imaging (SPI), indicates that bioavailable contamination is relatively low is based on past work at other sites that is not clearly cited or summarized. At Hunters Point the presence of a Stage III assemblage is one line of evidence that must be weighed along with site-specific bioacccumulation data and analytical results from field-collected tissue. A summary of past work at other sites would assist the risk managers in giving the benthic assemblage observations the appropriate weight. Please provide additional support for the inference that the Stage III assemblage is indicative of low contamination or reduced bioavailability.

2. **Section 4.0, Discussion, Page 16:** The conclusion that South Basin is a prime candidate

for natural recovery, if ever there was one, is quite an enthusiastic endorsement of a specific remedy considering the caveat on page 11 of this document. As noted in the text on page 11, this conclusion has been deduced from imaged structures and should be considered hypothetical and dependent upon further testing/confirmation. Given that there are multiple lines of evidence that will be considered in the risk characterization of Hunters Point, the conclusion that South Basin is a prime candidate for natural recovery based solely on imaged structures is premature. Please revise the text to state that natural recovery should be considered in the range of alternatives discussed in the FS.

EPA Comments on the
Discussion Draft, Summary of Major Comments on the
Draft Final Parcel F Validation Study Report,
Hunters Shipyard, March 2005

1. **Response to EPA Specific Comments 1 and 6 (Issue 1): Navy Response to EPA Specific Comments 1 and 6 (Issue 1):** There is a persistent technical disagreement between the Navy and the EPA regarding the use of field tissue in the validation study. The Navy continues to contend that the field tissue data are not appropriate for use in identifying areas for inclusion in the Parcel F Feasibility Study (FS). The Navy's rationale for this contention is technically flawed. The Navy maintains that the field tissue data were collected to evaluate uncertainty associated with the use of laboratory *Macoma* data in the food chain model. This is true. However, the food chain model is the basis for the calculation of preliminary remediation goals and, hence, the selection of areas for inclusion in the FS. Uncertainty in the food chain model directly relates to selection of these areas, so it is illogical to conclude that the field tissue data can not be used to identify areas for inclusion in the FS. The Navy should use the more protective of the bioaccumulation factors in modeling risks to upper trophic levels unless there is compelling evidence to support using a less protective value. At Parcel F, the more protective bioaccumulation factors (BAFs) are calculated from field tissue data. The areas selected for inclusion in the FS should result from the use of the more protective BAFs. The Navy should then present any uncertainties in the use of these protective BAFs.

   The Navy also plans to develop the initial FS footprint based on the primary risk drivers then evaluate whether other contaminants or areas identified based on the field tissue data have been addressed. A more transparent approach would be to develop more than one footprint. The first footprint could be based on the modeling with the more protective of the BAFs and including all areas with chemicals posing a risk (HQ>1). The second footprint could be developed from the Navy's preferred BAF with rationale provided to support the contention that this footprint represents a better definition of the actual risks posed by Parcel F sediments.

2. **Response to EPA Specific Comment 2 (Issue 2):** There is a persistent technical disagreement between the Navy and the EPA regarding the approach to establishing the FS footprint. The Navy continues to maintain that it is appropriate to develop the FS footprint based on preliminary remediation goals (PRGs) for chemicals of potential ecological concern (COPECs) driving risk in Areas III and IX/X despite risks being reported in other areas. Based on the weight-of-evidence (WOE) evaluation, the Navy has concluded that risks identified at Areas I, III, VIII, and X are insignificant. The EPA disagrees with the technical interpretation of the data that is reflected in the WOE evaluation (see comments on Navy's responses to EPA comments on Draft VSR). The

Navy proposes to develop PRGs only for mercury, copper, and PCBs, the chemicals of concern (COCs) at Areas III and IX/X. This would result in no PRGs for other contaminants that pose risk in the remaining areas of Parcel F (e.g., lead). The Navy appears to suggest that the combination of applying the mercury, copper, and PCB PRGs and controlling onshore sources will be sufficient to address offshore contamination resulting in ecological risk at for Areas I, III, VIII, and X . This approach is akin to natural recovery (NR) without monitoring for offshore sediment risks (associated with lead and other contaminants) that the EPA considers significant. Applying NR without the benefit of considering other alternatives to address risks in these areas and without monitoring is inconsistent with the CERCLA FS process. Please revise the VSR to include PRGs for other contaminants posing risk, particularly lead, and include at least one footprint in the FS that is inclusive of areas with sediment concentrations greater than these PRGs.

3. **Response to EPA Specific Comment 4 (Issue 6):** The response does not address the comment. The Navy declines to explore possible relationships between metals toxicity to urchin larvae that was observed in the toxicity identification evaluation (TIE) ancillary study and the mortality observed in the amphipod bioassay. The Navy believes that the mortality observed in the amphipod bioassay is not significant and does not constitute toxicity.

4. **Response to EPA Specific Comment 9 (Issue 7):** The response is incomplete. The Navy declines to consider the adjacent contamination at Hunters Point Shipyard (HPS) for the site utilization factor (SUF) refinement. The Navy's rationale that the sizes of adjacent areas at HPS are very small compared to the foraging range of the scoter outside the low-volume footprint is not illustrated in the response. Further, the areas of Parcel F outside the low volume footprint have not been shown to be equivalent to background conditions for the Bay. Please revise Section 6.3 to include a calculation of the site-wide 95% upper confidence limit using data from all of Parcel F rather than just the low-volume footprint. Please include and discuss the resulting risk estimates.

5. **Navy Response to EPA Specific Comment 10 (Issue 8):** The response partially addresses the comment. Please provide a rough schedule with major milestones that explains how and when the survey of potential radiological contamination in Parcel F will be conducted.