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TREASURE ISLAND
SSIC NO. 5090.3.A

PRC Environmental Management, Inc.

SAN FRANCISCO OFFICE

MEMORANDUM

Date: December 26, 1991

To: Ernie M. Galang, EIC
Navy WESTDIV San Bruno

From: Emily Pimentel
PRC San Francisco

Document Control: 044-0015

Subject: Response to San Francisco Bay Regional Water Quality Control Board comments on the work plan (WP) for remedial investigation/feasibility study (RI/FS), Naval Station Treasure Island (NAVSTA TI), California.

WORK PLAN

GENERAL COMMENTS

1. Comment: The current Phase 1 RI process does not address near-shore effects of historical and ongoing runoff on sediments in San Francisco Bay in a comprehensive manner. It is expected that these potential effects will be considered as part of the Phase II approach and ultimately as part of the Environmental Risk Assessment for TI.

   Response: The assumption raised in the comment is correct. The Phase 1 RI field activities are designed to establish the potential contamination of sediments by stormwater discharge. The nature and extent of any contamination identified during the Phase 1 investigation will be evaluated, if necessary, during the Phase 2 RI activities. This approach to RI activities at NAVSTA TI is described in Section 1.4 of the WP and specifically for the stormwater outfall sites in Section 5.3.12. The WP has not be changed in response to this comment.

SPECIFIC COMMENTS

1. Comment: p. 25, Section 3.2.7, paragraph 6: The data presented in Table 3 suggest that the concentration of lead is elevated, not cadmium. Is there additional data, not shown in Table 3, that supports the concern over cadmium at this site?

   Response: Determining if previously reported concentrations of cadmium [3.17 milligrams per kilogram (mg/kg) to 6.9 mg/kg] and lead (10.7 mg/kg to 276 mg/kg) are elevated depends on the standards against which the data are compared. Lindsay (1979) reports concentrations of cadmium and lead in average soils as 0.01 parts per million (ppm) to 0.7 ppm and 2 ppm to 200 ppm, respectively. This information suggests that concentrations of cadmium are greatly elevated and that concentrations of lead are only slightly elevated at Site 8. Shacklette and Boerngen (1984), however, report common concentrations of cadmium and lead as 1 ppm to 10 ppm and 30 ppm to 700 ppm, respectively. These concentrations suggest that neither cadmium nor lead appear to be elevated at Site 8. PRC (1991) used a maximum concentration of 1 ppm for cadmium and the Shacklette and Boerngen (1984) ranges for lead when defining contaminants of concern for preliminary risk assessment calculations at NAVSTA TI Site 12 . Applying these criteria to Site 8 suggests that concentrations of cadmium are elevated, but that concentrations of lead are not. Because of the uncertainty when determining average cadmium and lead concentrations in soils at Site 8, paragraph 6 has been modified to indicate that additional sampling will be used to investigate potential metals contamination at Site 8.

2. Comment: p. 28, Section 3.2.12: The document states that, for the storm water outfalls, a "systematic sediment sampling plan" is to be conducted in the RI phase of the project, yet no data is presented on which to determine whether the choices of sampling sites and techniques will address the question of contaminant movement from the storm drains into the Bay has, or will occur. There is no map of the storm drain system to aid in the placement of sampling locations. There is no discussion of the rationale for the choice of study site location, nor for the choice of sampling techniques.

   Response: The proposed sampling techniques and locations are discussed in the FSP. In addition, a map of the stormwater sewer system has been added to the FSP. As discussed in Section 4.5 of the FSP, appropriate sediment sampling techniques will not be determined until additional information is gathered during the preliminary survey. As discussed in Section 5.12 of the FSP, sediment sampling locations will be selected based on the proximity of sites most likely to have released hazardous wastes to the stormwater sewer system outfalls. The proposed sampling locations are shown on Figures 19 and 20 in the FSP. These locations are tentative and may be adjusted based on the stormwater sewer system map now included in the FSP, and field observations or additional information obtained during the preliminary survey. Specifically, the intent of the preliminary survey will be to identify the condition of the outfalls, determine what outfalls may be underwater, and verify the location of outfalls. The WP has not been changed in response to this comment.

3. Comment: p. 29, Section 3.2.13, paragraph 4: Just because the "concrete prohibits infiltration by percolating water", does not necessarily mean that the contaminants are "immobile", especially if there is tidal influence from the Bay.

Response: The paragraph in question suggests that contaminants in the vadose zone may be relatively immobile due to pavement prohibiting the infiltration of water. The vadose zone is the area above the water table surface unaffected by tidal influences. Tidal influence at Treasure Island is minimal. It was reported previously as 0.3 feet in McCreary-Koretsky, Engineers (1965). The WP has not been changed in response to this comment.

4. Comment: p. 52, References to electromagnetic induction (EM) were supposed to have been removed from the Work Plan.

Response: The reference to electromagnetic induction (EM) has been removed from the WP.

5. Comment: p. 57: The fact that soils collected below the groundwater surface (historically dredged sediments) may have become contaminated by past practices does not mean they cannot be excavated, nor that the selected remedy will automatically be pump and treat. This option may not be viable given the anthropogenic aspects of the geology of the site. Whether or not the soils (sediments) below water level will ultimately be excavated, is a decision that cannot be made at this stage of the investigation.

Response: The suggestion that contaminated soils cannot be excavated below the ground water surface has been removed.

6. Comment: p. 58, Section 4.2.5: The stated goal of this section is to "identify all potential migration pathways at the facility." However, this goal cannot be completed with the approach presented. Contaminant levels in samples of surface Bay water will not distinguish storm water runoff from TI from other sources. Grab samples of storm water collected as it leaves the outfalls may not be possible to obtain if the outfalls are under water in the Bay. Contaminant levels in near-shore sediments may be attributable to past land use practices in the vicinity of the outfalls as well as to sediment and contaminants from the storm drains. Thus, the presence of contaminated near-shore sediments may be documented, but the specific source of this contamination will not be known.

Response: A discussion has been added to Section 4.5 of the FSP indicating that stormwater samples collected from manholes or stormwater grates will be evaluated in lieu of stormwater outfalls that are underwater. Section 3.2.12 of the WP acknowledges that the stormwater outfalls may not be the only source of contaminants to the sediments surrounding Treasure Island. The sampling and analysis of stormwater from the stormwater sewer will help determine if the stormwater sewer system is a potential source of contamination. This

objective of the Phase 1 RI activities has been clarified in Sections 3.2.12 and 5.3.12 in the WP and Section 5.12 in the FSP.

The objective of the Phase 1 sediment sampling and analysis is to first determine if the sediments are contaminated and, if so, if they are contaminated at levels warranting continued investigation. The sediments may be collected on-shore and adjacent to the stormwater sewer system outfalls, if possible.

7. Comment: p. 62, Section 5.3.3: While elevated concentrations of cadmium may exist in soils near Site 19, the cadmium concentration data presented in Table 5 did not appear substantially elevated. Was other data used to support this conclusion?

Response: Please see the response to work plan specific comment number 1. Section 5.3.3 has been modified to indicate that sampling will be completed to evaluate polyaromatic hydrocarbon (PAH) and possibly elevated metals in soils in the vicinity of Site 19.

8. Comment: p. 63, Section 5.3.5: If previous investigations have demonstrated that the groundwater was contaminated, why aren't grab samples of water, if encountered, from the boreholes being analyzed?

Response: As explained in Section 3.2.5, ground water monitoring wells currently exist at Site 6. Soil sampling will be completed as part of the Phase 1 RI to better define how soil contamination is acting as a source of ground water contamination. This objective of the Phase 1 RI activities at Site 6 has been clarified in Section 5.3.5. Water samples collected from soil borings may not be representative of water quality in the aquifer. If necessary, however, additional ground-water monitoring wells will be installed, either as part of contract task order (CTO) 141 activities, or as part of the Phase 2 RI activities.

9. Comment: p. 64, Section 5.3.7: Examination of the data in Table 3 suggest that lead (not cadmium) and DDT are the contaminants of concern.

Response: Please see the response to work plan specific comment number 1. Section 5.3.7 has been modified to indicate that field activities will be conducted to assess the nature and extent of DDT and potential metals contamination.

10. Comment: p. 65, Section 5.3.12: As the storm drain study is currently outlined, there is not a way to distinguish the effects of storm water runoff from effects of near-shore activities, such as direct disposal of contaminants into the Bay. In addition, sampling of surface water, as currently outlined, will not distinguish concentrations of contaminants from storm water runoff from those contributed by other sources in San Francisco Bay. It is highly likely that some, if not all of the outfalls are underwater, or at least subject to tidal influence. The ability to acquire a storm water outfall sample may be comprised by trying to sample

from the end-of-pipe position, rather than just before it enters the Bay from a location on land. Sediment sampling, as currently proposed, will determine only if there are contaminated near-shore sediments in the specific areas where they are sampled. This plan will provide some insight into the appropriateness of a more complete sediment sampling, chemical analysis and toxicity plan, but will not address the question of the specific source of the contamination, storm water or direct disposal.

Response: Both the WP and FSP have been revised to differentiate stormwater as a potential source of soils contamination per comment number 6.

11. Comment: The column headings on Table 1 are misaligned.

Response: The column headings on Table 1 have been realigned.

12. Comment: Is the assignment of chemical specific ARARs in Table 7 to California DHS correct?

Response: The "California DHS" heading in Table 7 has been changed to "State of California." The specific sources for the information presented in Table 7 are provided in the footnotes located at the end of the table.

13. Comment: The State of California ARARs list does not include specific references to the San Francisco Bay Area regulatory authorities, e.g., SFRWQCB and BAAQMD.

Response: The discussion of applicable or relevant and appropriate requirements (ARARs) is preliminary and not intended to be all encompassing. The final identification of all ARARs will be competed once the RI has progressed and the nature and extent of contamination is better defined. The WP has not been changed in response to this comment.

REFERENCES

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