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 field sampling plan (FSP) for remedial investigation/feasibility study (RI/FS), Naval Station Treasure Island (NAVSTA TI), California

FIELD SAMPLING PLAN

GENERAL COMMENTS

1. Comment: There is no place where the specific types of sample containers to be used for each kind of analysis is referenced. Table 3 should be modified to show the types of containers, glass or plastic, to be used for each analysis. The field manager must deduce this information by process of elimination rather than by being able to consult a single table.

   Response: Refererces to Table 3 (sample criteria summary) have been added to Sections 4.3.1, 4.4.3, and 4.5. Table 3 has been modified to describe the bottle compositions.

2. Comment: The Standard Operating Procedure (SOP) for Surface Water and Sediment Sampling (number 10) is inadequate and in several places, in violation of proper sampling protocol. This SOP should be revised to conform with proper technique.

   Response: The previous surface water and sediment sampling SOP has been completely rewritten. The new SOP addresses surface water sampling exclusively, and conforms to proper sampling protocol. All other SOPs used in the FSP have also undergone minor revision, but are equivalent to the previous SOPs.

3. Comment: Maps of the storm drain and sewer systems should be provided in the Field Sampling Plan. As the storm drain study is currently outlined, there is no 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.

Response: A map of the storm drain and sewer system at Treasure Island has been attached to the FSP as plate 1. Section 4.5 has been modified to indicate that the possibility of collecting stormwater samples from manholes or stormwater grates will also be evaluated during the preliminary survey. The FSP does not indicate that surface water samples from San Francisco Bay will be substituted for stormwater samples from the sewer system.

SPECIFIC COMMENTS

1. Comment: p. 9: What will happen if free product is found in monitoring wells?

   Response: As stated in Section 4.4.1, monitoring wells at NAVSTA TI will be specifically constructed to detect floating immiscible phases. If free product is found, the monitoring wells will be used to monitor the thickness of the immiscible layer and to sample the free product, if necessary, during subsequent phases of the RI. Alternatives for remediating free product contamination will be addressed in the feasibility study. No changes have been made in the FSP in response to this comment.

2. Comment: p. 10: Section 4.4.2, paragraph 2: Change "surged" to "purged".

   Response: The well development method discussed in this paragraph is correctly referred to as surging. No changes have been made in the FSP in response to this comment.

3. Comment: p. 12: Section 4.4.3, item 4): Modify the sentence to read: "The Ph, conductivity, turbidity, and temperature of the purged water will be measured...The Ph, conductivity, turbidity, and temperature of the sampled water will be measured immediately."

   Response: The FSP has been changed as specified.

4. Comment: p. 12: Section 4.4.3, item 6): The type of sample container, glass, plastic or teflon should be specified.

   Response: A reference to Table 3, which specifies the type of sampling containers to be used, has been added to Section 4.4.3.

5. Comment: p. 12, Section 4.5: Change "analgene" to "a nalgene".

   Response: The FSP has been changed as specified.

6. Comment: p. 13, Section 4.5: Reference to SOP should also include number 10.

Response: The reference has been changed to SOP 6, which is the only SOP now included in the FSP that discusses sediment sampling procedures.

7. Comment: p. 17, Section 4.9: The specific matrix to be used for soil and sediment should be specified, e.g., marine sediments MESS or BCSS.

Response: This response assumes that the comment refers to the collection of matrix spike/matrix spike duplicate (MS/MSD) quality control (QC) samples. MS/MSD QC samples assess the potential matrix affects on analytical precision. The matrix (soil or sediment) spiked in the laboratory must be the same matrix (soil or sediment) submitted for analysis. The matrix(ces) selected for MS/MSD QC assessment is not predetermined. The FSP has not been changed in response to this comment.

8. Comment: p. 21, Section 4.11.2: Containers for water samples should be prelabelled to avoid loss or smearing of labels on wet containers.

Response: The discussion of sample labels in Sections 4.11.1 and 4.11.2 has been modified to clarify that sample labels will be affixed to each sample container immediately prior to sample collection and that clear, plastic tape will be placed over the label to protect it from damage.

9. Comment: p. 25, Section 5.5: Modify the sentence to read: "number, locations, and soil sample analytical parameters will be selected following review of the current environmental assessment activities and discussions with regulatory oversight staff."

Response: The FSP has been changed as specified.

10. Comment: p. 26, Section 5.7: Modify the sentence to read: "The objective of sampling...4,4'-DDT and lead contamination..."

Response: Please see the response to work plan specific comment number 1. The sentence has been modified to read, "The objective of sampling...DDT and potential metals contamination....".

11. Comment: p. 28, Section 5.12: Modify the sentence to read: "if the presence of contaminants in sediments results from the discharge...".

Response: The FSP has been changed as specified.

12. Comment: p. 28, Section 5.12: Modify the column heading to read: "Storm Water Samples". This sampling plan does not address the possibility that the outfalls to be sampled are under water.

Response: The column heading has been changed as specified. Section 4.5 has been modified to indicate that the collection of stormwater samples from manholes or stormwater grates will also be evaluated during the preliminary survey. This change has been added to address the possibility that some outfalls may be underwater.

13. Comment: p. 29, Section 5.12, last sentence: Modify the sentence to read: "The storm water samples will be collected from flowing outfalls, if possible."

Response: The FSP has been changed as specified.

14. Comment: p. 31, Section 5.19: The use of a grab surface sample of sediment may not provide information about contamination of off-shore sediments because past practices using bottomless DONUTs have been discontinued. It is more appropriate to use core sampling and perform analyses on stratified samples, e.g., 0 to 0.5 ft, 0.5 to 1.0 ft, 1.0 to 2.0 ft, and 2.0 to 3.0 ft.

Response: Section 4.5 has been modified to indicate that the preferred sample collection technique at Site 21 will be sediment coring. More than one sample from each core may be collected if stratigraphic changes or zones of elevated photoionization device (PID) or organic vapor analyzer (OVA) readings are detected in the core. Otherwise, the sample will be composited from small grab samples collected along the length of the core.

15. Comment a: SOP 1, p. 1-3: A bullet should be added between the third and the fourth reading: "The specific method for field analytical measurements and the selection of field analytical equipment."

Comment b: SOP 1, p. 1-11: Procedure "F" should be modified to read: "Samples shall be taken to record necessary field data. Samples should be collected..."

Comment c: SOP 1, p. 1-13: Field filtration of water samples is not recommended.

Response a: The SOP has been changed as specified.

Response b: The SOP has been changed as specified.

Response c: Field filtration has been removed from the ground water sampling SOP. It is now included in a separate SOP that addresses field filtration exclusively. Water samples collected during the Phase 1 RI will be analyzed for both dissolved metals and total metals content. Water samples to undergo dissolved metals analysis will be filtered in the field. This

has been clarified throughout the FSP. Field filtration must be conducted prior to acidifying the sample, as acidification may release ions bonded to particles and change the constituent chemistry of the solution (EPA, 1987).

16. Comment a: SOP 4, p. 4-2, Section 1.1: To what site does the "Industrial Excess Landfill" refer?

Comment b: SOP 4: This SOP does not present the proper techniques for cleaning and decontaminating sediment sampling equipment, including the preparation of precleaned gravity- or hand-corer polycarbonate or butyrate liners.

Response a: Site-specific references have been removed from the revised SOP.

Response b: SOP 002 discusses general sampling equipment decontamination procedures applicable to most sampling situations. PRC does not anticipate the sediment sampling equipment will require modified decontamination procedures.

17. Comment: SOP 8, p. 8-1, Section 2.1, paragraph 3: Modify the sentence to read: "tape (black electrical tape is not to be used for this purpose)."

Response: The tape used to secure the caps on the ends of the sleeves does not contact the sample. Therefore, the type of tape to be used should not impact the sample. The revised borehole sampling SOP has not been changed in response to this comment.

18. Comment a: SOP 10, p. 10-1: No provision is made for the possibility that the storm water outfalls to be sampled may be under water. Bucket-type dip samplers are not appropriate for outfalls that will be underwater for most, if not all, of the sampling period. Surface water samples collected by the method described would not give information about the storm drain runoff. There is no way of distinguishing pollutants from sources other than TI if the water samples are taken from the surface water near a boat in the bay near the outfalls. Thus, samples should be taken from within the storm drain system, as close to the outfall as possible.

Comment b: SOP 10, p. 10-2: The field technician is directed to "remove the bottle from the water, perform field measurements (if required), add the proper preservative, and cap." The implication is that the various probes for field measurements will be placed in the sample. This is definitely not good field technique because it can result in contamination of the sample!

Comment c: SOP 10, p. 10-3: Pipe dredges are not appropriate sampling tools for the environment in which the sediment samples are to be taken. The SOP should contain detailed information about the type of equipment to be used for each task, e.g., the grab sampler or the gravity corer, including proper cleaning and decontamination procedures.

Response a: Section 4.5 has been modified to indicate that collecting stormwater samples from manholes or stormwater grates will also be evaluated during the preliminary assessment. This change has been added to address the possibility that some outfalls may be underwater. To PRC's knowledge, the FSP does not indicate that surface water from San Francisco Bay will be substituted for stormwater samples from the sewer system. However, the modification made to the FSP addressing stormwater samples should clarify any misunderstanding.

Response b: It was not PRC's intent to imply that probes used for field measurements would be placed in the sample container. The revised pH and specific conductance field measurement SOPs state that a separate beaker will be used when collecting samples for field measurements.

Response c: The revised sludge and sediment sampling SOP describes the use of a hand corer, gravity corer, or Ponar grab sampler. All decontamination procedures are referenced to the decontamination SOP (SOP 002).

19. Comment a: SOP 12, p. 12-1, Section 2.1: Modify the sentence to read "at a rate substantially higher than will be used during well purging..."

Comment b: SOP 12, p. 12-2, Section 2.2: "Backwashing" is not an appropriate method of well development for the types of geologic formations that may be encountered at the proposed monitoring well sites.

Comment c: SOP 12, p. 12-4, Sections 2.4 and 2.5: "Jetting" and "air lifting" are not appropriate methods of well development for the types of geologic formations that may be encountered at the proposed monitoring well sites.

Comment d: SOP 12, p. 12-5, Section 2.6: The last sentence of the section should be modified to read: "...when pH, temperature, turbidity, and specific conductivity have stabilized."

Response a: The equivalent sentence in the revised monitoring well development SOP reads, "....at a rate substantially higher than it will be pumped during well purging...".

Responses b and c: The intended use of an SOP is to provide a consistent description of common procedures or practices available to complete RI field activities. While backwashing, jetting, or air lift pumping may not be desired at NAVSTA TI, they are valid well development procedures. Please note that Section 4.4.2 of the FSP specifies that mechanical surging will be used to develop monitoring wells at NAVSTA TI. No changes have been made in response to this comment, since the narrative in the SOP discusses site-specific modifications to the SOP.

Response d: The revised monitoring well development SOP states, "...when pH, temperature, and specific conductivity readings stabilize and the water is visually clear of

suspended solids." While the measurement of turbidity may be desirable at NAVSTA TI, this is not considered a standard procedure and as such, is not appropriate for description in this SOP. No changes have been made in the monitoring well development SOP in response to this comment.

20. Comment a: SOP 11, p. 4, Section 2.2, Procedures, Item 3: Modify the sentence to read: "the distance from fixed structures".

Comment b: SOP 11, p. 5: The core catcher, presented as "optional", is an essential component of the coring device because it prevents the loss of more loosely consolidated sediments from the core liner. In sediment sampling, the core catcher is not optional, but necessary.

Comment c: SOP 11, p. 6, Section 2.3, Procedures, Item 4: This item mentions the use of a precleaned corer but does not mention the use of precleaned core liners or the procedures for cleaning core liners before use.

Response a: The typographical error has been corrected in the revised SOP.

Response b: While the core catcher may be necessary to collect sediment samples at NAVSTA TI, the device is described as optional in the reference cited in the SOP (EPA, 1984). In addition, previous experience with the hand corer has shown that a good seal on the check valve can be more important to keeping highly aqueous or low viscosity sediments or sludges entrained in the sampling tube. No changes have been made in the sludge and sediment SOP in response to this comment.

Response c: The optional use of a plastic liner with the gravity corer is noted in the general discussion of the gravity corer preceding the procedure description. All decontamination procedures are referenced to the decontamination SOP. No changes have been made in the sludge and sediment sampling SOP in response to this comment.

21. Comment: SOP 43: This SOP should be modified to include field measurements of turbidity.

Response: Procedures for the field measurement of turbidity are included in a separate SOP (SOP 88).

22. Comment: Table 1, p. 3: Modify "extenet" to "extent".

Response: The table has been changed as specified.

23. Comment: Table 3, p. 2: Modify Table 3 to include field measurements of temperature and turbidity.

Response: The table has been changed as specified.

24. Comment: Figure 19: The water sample associated with sample 6 should be labelled "SW013-006".

Response: The figure has been changed as specified.

25. Comment: Figure 20: The water sample associated with sample 10 should be labelled "SW013-010".

Response: The figure has been changed as specified.