California Regional Water Quality Control B

San Francisco Bay Region

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HUNTERS POINT
SSIC NO. 5090.3

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February 1, 1999
File No. 2169.6032

Commanding Officer
Engineering Field Activity, West
Naval Facilities Engineering Command
900 Commodore Drive
San Bruno, CA 94066-2402
Attention: Mr. Richard Powell

Re: Comments on Work Plan for Petroleum Hydrocarbon Corrective Action Plans, Hunters Point Shipyard, San Francisco, California (dated January 4, 1999)

Dear Mr. Powell:

Thank you for the opportunity to review the above-referenced document. Comments from the Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) are presented as an attachment to this letter.

If you have any questions regarding this letter, please call me at 510-622-2377.

Sincerely,

David F. Leland, P.E.
Groundwater Protection and Waste
Containment Division

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Attachment

cc: Mr. Chein Kao, DTSC
Ms. Claire Trombadore, USEPA

Regional Water Quality Control Board Comments on Work Plan for Petroleum Hydrocarbon Corrective Action Plans, Hunters Point Shipyard, San Francisco, California (dated January 4, 1999)

GENERAL COMMENTS

1. Please discuss whether the detection limits posted on the groundwater figures are representative of detection limits for all sampling rounds. For wells where multiple samples were collected, what is the range of detection limits recorded?

2. It is the RWQCB's understanding that the screening levels referenced in this document are presented to assist in selecting sampling locations for this study and do not constitute screening levels for the purpose of identifying potential areas for corrective action. This issue will need to be addressed. The RWQCB considers the Draft Corrective Action Plan (CAP) and the RWQCB comments submitted on the Draft CAP (January 18, 1998) to be the starting point for such a discussion. Results generated from this sampling effort and previous sampling and testing efforts (including the bioassays completed under an earlier phase of work) should be applied in the development of remedial action objectives for petroleum hydrocarbon-impacted areas. The RWQCB expects that this issue will be taken up separately from the data collection effort that is the focus of this plan.

3. The text notes areas that subsided as a result of the 1989 Loma Prieta earthquake. The document should be more specific about the amount of subsidence and areas where subsidence was observed, and reference documents where additional detail can be found. This information may be significant in understanding the vertical extent of contamination and in understanding the location of sources below low stands of the water table.

4. The document proposes collection of additional data related to natural attenuation at a selection of locations at Hunters Point. RWQCB comments request data collection at additional sites in the specific comments below. It is the RWQCB's expectation that data sets similar to those proposed in this work plan will be collected at all areas of concern where the Navy anticipates proposing natural attenuation or intrinsic bioremediation as a portion of a corrective action.

SPECIFIC COMMENTS

1. Section 2.1, p. 3. The text should be clear that the storm drains do not discharge to or through Pump Station A. The text should also clarify the meaning of the phrase "controlled by Pump Station A."

2. Section 2.2.1, p. 5, HPS groundwater sink. Review of the groundwater elevation contour maps presented in the Parcel B RI shows a limited area in the vicinity of IR-06 that appears to be captured by the sanitary sewer system, and is much less extensive than the area indicated on Figure 3. It would be more useful to present a water level contour and hydraulic capture map for a representative date and show those areas captured by underground utility systems and not discharging to the Bay. What is the basis for the portrayal in Figure 3 of large groundwater capture areas in Parcel B?

3. Section 2.2. The text for the parcel discussions references supporting figures in demonstration of the conclusion that extensive portions of groundwater at the HPS facility are captured in what is termed the HPS groundwater sink. The figures show areas of the storm drain and sanitary sewers above and below the water table. The position of these utilities below the water table would appear to be a necessary condition for groundwater capture, but would also require leaky lines. The combination of these factors should in turn be demonstrated in the groundwater contour maps. The document should more clearly state of the significance of groundwater capture and more clearly show and demonstrate where this capture is interpreted to be occurring.

4. Section 2.2. The phrases "petroleum-affected soil" and " petroleum-affected groundwater" should be defined.

5. Section 3.0, p.11,2nd paragraph, 4th bullet. Please explain the meaning of the term veracity.

6. Section 3.0, p.11,2nd paragraph, 5th bullet. The question of rate is an important one. Some discussion of how rates will be calculated and what the Navy considers satisfactory in this regard should be included in this document.

7. Section 3.1, p.13, 3rd paragraph, 3rd bullet. Please clarify how 'low' is defined.

8. Section 3.1, p.13, 3rd paragraph, 4th bullet. Please clarify the meaning of CERCLA soil removal. Does this refer to soil removals planned, completed, both, or something else?

9. Section 3.1, p.15. The text should acknowledge the variety of factors in addition to natural attenuation that could result in differing results in two sampling events, particularly with respect to soil conditions. At a minimum, soil heterogeneity, variability in the distribution of contaminants within a soil sample and spatially in a source area, and laboratory analytical variability should be addressed.

10. Section 3.2. It would seem that 13 hours would approximate a full tidal cycle, from a low tide to a low tide or from a high tide to a high tide. Please clarify.

11. Section 3.2. The proposed well pairs in Parcel B should be expanded to include an additional pair northwest of the IR46MW40A/-MW48A pair.

12. Section 3.2, p.16. Please clarify the rationale for the well pair selected for Parcel C.

13. Section 3.3, p.17, 4th bullet. The figures presented in the document are not adequate to make an assessment of those areas where groundwater flow appears to be toward the Bay or toward underground utilities. As a result it is not possible to evaluate the conclusion that no wells in Parcels B, D, and E meet the criteria. The text should explain why it is not possible to demonstrate natural attenuation in cases where flow is affected by underground utilities and thus is away from, as opposed to toward, the Bay.

14. Section 3.3, selected wells. The RWQCB requests that the following wells be added to the list of wells selected for the inland attenuation study: in Parcel C, IR28MW290A, and several wells in the RU-2 area of IR-28 (e.g., IR28MW128A, IR28MW129A, IR28MW136A, IR28MW151A, and IR28MW155A); in Parcel D, PA50MW07A; in Parcel E, IR01MW16A and IR01MW18A.

15. Section 3.4. The RWQCB requests the addition of the following wells to the groundwater sink characterization: in Parcel D, IR08MW44A, IR37MW01A and IR38MW03A; in Parcel E, IR01MW367A, wells in or near IR03, IR12MW17A, IR12MW21A, several locations showing elevated concentrations in IR36, and several locations showing elevated concentrations in IR39 (e.g., IR39MW21A, IR39MW24A, IR39MW33A, IR39MW36A), and IR56MW39A.

16. Section 3.4 and Table 1. RWQCB staff concur with the Navy's plan to collect natural attenuation and intrinsic bioremediation parameter data at the wells noted on p.19, despite the stated intent not to attempt a demonstration of natural attenuation at these or similar locations.

17. Section 4.3, p. 23. For shoreline sampling, the text should be modified to include major anions, as noted in Table 1.

18. Section 6.1, last paragraph. Attributing declines in TPH concentrations between two soil sampling events separated spatially and temporally entirely to intrinsic biodegradation overlooks the variety of factors that could result in differing results in two sampling events, particularly with respect to soil conditions. At a minimum, soil heterogeneity, variability in the distribution of contaminants within a soil sample and spatially in a source area, and laboratory analytical variability should be addressed.

19. Section 6.2. The text should describe how seasonal effects will be addressed in interpreting the data.

20. Section 6.3. The text should describe how seasonal effects will be addressed in interpreting the data. The difference between observed and calculated groundwater flow rates is not clear.

21. Section 6.4. The text should describe how seasonal effects will be addressed in interpreting the data. The text implies that for a given location hydraulic control would be assumed if declining TPH concentrations were observed. Please explain in detail the logic behind this statement. How would groundwater elevation data be used in drawing such a conclusion?

APPENDIX D

22. The groundwater areas presented in Table D-2 are difficult to follow without the benefit of graphical representation. Please include a depiction and labels for the areas included in the table.

23. Section 1.1.1. While the RWQCB understands the need to screen the TPH data as a means of identifying candidate areas for further investigation, the use of the term "TPH-affected areas" may suggest that these areas are potential candidates for corrective action, and further may imply that areas not identified here as "TPH-affected" are no longer of concern. The document should be clear that screening levels used in this work plan were applied solely for the purposes of identifying areas where the data gathering efforts described in this work plan should be focused. The issue of screening levels for identifying potential candidate areas for corrective action remains an item of discussion between the Navy and RWQCB.

24. Section 1.1.1, fifth bullet. The bioassay results presented in the Draft CAP included results for a sample containing motor oil that suggested impacts to aquatic life at a concentration of 740 ug/L. This indicates that petroleum hydrocarbons in the motor oil range dissolved in water may be risk drivers for

aquatic life, and that sampling locations showing elevated concentrations of TPH-mo in groundwater should not be screened out as potential candidates for additional sampling.

25. Section 1.2.1. The text should note the TPH cleanup levels being used in the Parcel B remedial action.

    Table D-2.

26. Area B1. Figure 6 shows utility lines below the water table bayward of this area. Please explain the reference in Column 5 to inland flow. Also, in an instance where flow is bayward toward utility lines, what means will be used to distinguish between flow captured by the utility lines and flow continuing on toward the Bay? Why would it be important to make such a distinction?