

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

REGION 2

700 HEINZ AVE., SUITE 200
OAKLAND, CA 94612-2737

March 16, 1992



Ms. Louise T. Lew
Head, Installation Restoration Section
Western Division, Naval Facility Engineering Command
Code 1811
900 Commodore Drive
San Bruno, California 94066

Dear Ms. Lew:

**FINAL WORK PLAN FOR AN ECOLOGICAL ASSESSMENT (JANUARY 1992),
ALAMEDA NAVAL AIR STATION**

The Department of Toxic Substances Control (DTSC) has reviewed the Final Work Plan for an Ecological Assessment dated January 1992.

DTSC would like to commend the Navy and its Contractor for addressing the agencies' comments in a timely manner.

The following comments reflect the concerns of DTSC, National Oceanic and Atmospheric Administration (NOAA) and SF Bay Regional Water Quality Control Board (RWQCB). Response to the comments must be incorporated into a revised Ecological Assessment Work Plan no later than April 16, 1992.

General Comments:

Some inconsistencies exist between the workplan and the Quality Assurance Project Plan (QAPP). These inconsistencies are addressed in comments 7, 12 and 15.

Specific Comments:

1. Is the "leach field" indicated along the West Bayside Shoreline in Figure 2-2 the only leach field on NAS Alameda? Leach Fields may be sites which would require intensive sampling depending on the materials placed in them.
2. The fact that a report issued in 1985 concluded that metal concentrations in the Seaplane Lagoon were not high enough to pose a threat (page 13, Section 2.2.1, 3rd paragraph) does not mean that the same conclusion would be reached today, given the greater knowledge of sediment concentration effect levels. Additionally, restriction of the contamination due to organic compounds to polychlorinated

1093



biphenyls (PCBs) and pesticides in the 1985 study does not address risk due to other organic compounds known to have been discharged to the Seaplane lagoon. It is interesting that pesticides were not detected in the 1985 sampling given the information that "...chlordanes, lindane, DDT, malathion, diazinon, Telvar, Chlorvar, 2,4-D, Roundup, Princep and Krovar I." were stored on site and weed and pest control equipment was rinsed in a facility where wastewater was discharged to storm drains leading to the Seaplane lagoon (page 14, Section 2.2.1). These questions should be answered by the results of the Seaplane lagoon sediment sampling proposed in this ESAP.

3. Please identify the chemical constituents of "PD680 dry cleaner" and "6083 oil" (page 14, Section 2.2.1, lines 8 & 9).
4. The word "exposed" seems to be necessary in the last sentence on page 22 to convey the sense that the polychaete worms will be exposed for 28 days and then the tissue concentrations will be determined. The sentence currently reads as if tissue concentrations will be determined everyday for 28 days.
5. Results of the "...recent predredge sediment evaluations..." (page 30, Section 3.1.5) on the estuary opposite the Runway Wetland should be compared with the data generated by the ESAP when determining the extent and magnitude of contamination.
6. Some contingency water sampling method should be developed for the wetland water samples in the event water depth is insufficient for the "subsurface grab bottle sampling device" (page 40, Section 3.3.2, 3rd paragraph). Most sampling devices of this kind have been observed to be 2 or 3 feet long.
7. What is the rationale behind why the acceptance criteria for subtidal sediment samples, specifically the minimum penetration depths, appear to differ between the workplan (page 42, Section 3.4.2, last paragraph) and the QAPP (page A-13).
8. What proportion or amount of "unrepresentative material" would cause rejection of a sediment sample (Page 43, Section 3.4.2, paragraph 3).
9. If the construction of the storm water system allows the intrusion of San Francisco Bay water during dry periods, a

contingency bioassay test of a marine species should be developed in the event the storm is not of sufficient magnitude to flush San Francisco Bay water from the storm drain system during collection of the storm drain samples (page 49, Section 3.5.5, 2nd paragraph). Minimum storm event criteria of 0.1 inches over five hours does not seem of sufficient magnitude to purge a storm water system which allows intrusion of bay water. Salinity of the storm water sample would then be the determiner of which species was used in the storm water bioassay.

10. Press sieving is the preferred alternative for sieving sediments for use in bioassays (page 52, Section 3.6.3, 1st paragraph). Press sieving should be attempted on all sediment samples prior to using any other method of sieving.
11. Standard toxicant tests are not mentioned in the section on amphipod bioassays (page 53, Section 3.6.4). Standard toxicant tests must be included for amphipods. This appears to be simply an oversight as standard toxicant tests are included for the mussel larvae tests and standard toxicant tests are included in the deliverable for amphipod bioassays (page A-49, Section 14.3).
12. The description of the polychaete worm bioassay should be reviewed for consistency (page 55, Section 3.6.4). Exposure is described as "static renewal" but "flow-through exposure chambers" are discussed later in the same paragraph. Bioassays have been performed using Neanthes sp. using both types of exposure, but the Puget Sound Estuary Program (PSEP) protocols call for static renewal exposure.
13. Page 55, Section 3.6.5, paragraph 2: Please explain further what is meant by the following: "Statistically significant increases are considered unreasonable when they exceed reference area values in a test by a margin at least as large as that observed in the reference sediment."
14. What use will be made of the results of the bivalve larvae elutriate test or the polychaete worm test in determining whether an additional tier of testing will be performed (page 56, Section 3.7.1, last paragraph)? The present plan uses the results of the amphipod bioassays as the determiner of whether the benthic infaunal community analysis is performed. More explanation is necessary for basing the performance of the benthic infaunal study on the results of one of three bioassays.
15. What is the rationale behind why the acceptance criteria for benthic infauna samples in the workplan (page 57-58, Section

Ms. Louise T. Lew
March 16, 1992
Page Four

- 3.7.1), specifically the minimum penetration depths, appear to differ from the QAPP (page A-15)?
16. The term "pollution-sensitive" would seem to describe the continuum of pollution tolerance referred to (page 59, Section 3.7.5, last paragraph) rather than "pollution-sensible".
 17. Page 60, Section 3.8, paragraph 3, last sentence: Modify to read "If greater than ... all project managers...will be notified."
 18. Page 63, Table 3-4: Move heading "Organics" to next page.
 19. Please add in Section 3.10.3, page 71 "that an experienced field biologist trained in use and interpretation of HEP will determine the functions of the NAS Alameda wetland".
 20. Please correct the typo error "Bwalbe" in the Reference Section, page 75, under ASTM (1st item) to "Bivalve".
 21. Please correct the typo error "excpet" in Figure 3-7 to "except".
 22. Page 74: Is there a Figure 3-8?
 23. In our copy, the corrective action checklist is referred to as Figure 6 (page A-44). The next page (A-45) has a single line of "Figure 6" with no checklist. The corrective action checklist appears three pages later. The page numbering has slipped at the same time so that there are two pages of each page numbered A-44 through A-46. An easy solution would seem to remove the first copy of Section 13.
 24. Page A-52: Please correct the typo error "Fishing Toxicity" to "Fish Toxicity".
 25. The detection limit for tributyltin (Table 3-4, page 67), listed as 5 ug/l in water, is much higher than recommended levels. Adverse effects on marine life may occur at levels as low as, or lower than, 20 nanograms per liter (ng/l) based on long term bioassays (Richard and Lillebo, 1988). The water quality objective for tributyltin in enclosed bays and estuaries is 5.0 ng/l for a 30-day average (SWRCB, 1991).

Every effort should be made to achieve detection levels in sediment equal to the National Oceanic and Atmospheric Administration (NOAA) ER-L levels (Long and Morgan, 1990), especially as this work plan is designed as an initial

investigation to determine whether there is any impact associated with releases from NAS Alameda. We appreciate the effort made in response to previous comments to specify these levels of detection with a few exceptions. Point eight of the response to DTSC comments (page D-13) outlines several variances with the NOAA ER-L detection limits. The proposed detection limit of 67 ug/kg for 2-methyl naphthalene as opposed to the NOAA ER-L of 65 ug/kg is acceptable as these are most probably within the error term for the measurement. An attempt should be made to achieve the NOAA ER-L of 35 ug/kg for fluorene, as opposed to the proposed 67 ug/kg. Analytical data demonstrating an inability to reach a detection limit of 35 ug/kg for fluorene, should be included in the ecological assessment as justification for using a higher detection limit. Point eight of the response to comments indicates a proposed detection limit of 0.5 ug/kg for endrin and dieldrin as opposed to the NOAA ER-L of 0.02 ug/kg. Table 3-4, however, indicates the detection limits will be the NOAA ER-L of 0.02 ug/kg. Similar justification to that outlined for fluorene would be required for use of a detection limit higher than the NOAA ER-L. Although we did not previously comment on mercury, the proposed detection limit for methyl mercury (Table 3-4) is 330 ug/kg while the NOAA ER-L for total mercury is 150 ug/kg.

26. The workplan incorrectly states that the decision criteria for Tier II analysis (benthic community and Neanthes sp. bioaccumulation) requires levels of sediment contamination AND bioassay mortality to be "significantly higher than the reference area" before Tier II testing is conducted for a site. Since chronic impacts to the benthic community may not be shown in bioassay results, levels of sediment contamination greater than NOAA ER-L values OR bioassay mortality should trigger a Tier II analysis for a site. This approach was previously agreed upon by all participants at the December 10, 1991 BTAG meeting held at EPA Region 9.
27. Regarding Sediment Sampling, the Navy contractors statements that characterizing the magnitude and extent of subsurface sediment contamination are not of concern in an ecological assessment, and that biological testing of subsurface sediments does not serve the objective of the ecological assessment of ANAS are not necessarily valid. Although the ecological assessment has been broken out as phase IV of the sitewide RI, the ecological assessment should be considered an integrated part of the RI. Since the explicit purpose of the RI process is to determine the geographical and vertical extent of contamination, it is not clear how the Navy intends to do a complete ecological impact assessment of the

Ms. Louise T. Lew
March 16, 1992
Page Six

site without characterizing the magnitude and extent of the sediment contamination.

In correspondence dated March 4, 1991, NOAA requested sediment cores be taken and analyzed for chemical constituents to help determine rates of contaminant burial, areas of scouring, and distribution and discharge of contaminants over time. On page 2 of the work plan, the Navy contractors state the reasons for not characterizing the magnitude and extent of the subsurface contamination as "bioturbation, slope instability and slumping... and non-homogenous depositional processes". These reasons given by the Navy contractors to support only surface sampling and constituent analysis are the very reasons that deeper characterization should be conducted. The mixing processes occurring in the areas to be evaluated are quite variable over time. Benthic communities may be exposed to deeper sediments through bioturbation processes and slumping. Without knowledge of the chemical composition of the subsurface sediments, there is nothing to substantiate the statement that surface sediments "will not become any more contaminated than they are now due to buried contamination."

Navy contractors state in Appendix D, page D-14, that potential toxic impacts to biota from deeper sediments are "highly unlikely". What is the justification for this statement? What type of evaluations have been done to determine the composition of the benthic communities that may be impacted by contamination that could be present in subsurface sediments? If subsurface sediment contaminant analysis is not conducted, how will this effect the Tier approach to assessing the ecological impact of contamination? If community structure is not to be conducted until Tier II, how will the potential impacts to the present benthic communities be evaluated to determine if "further evaluation of potential impacts on biota from deeper sediments" will be necessary?

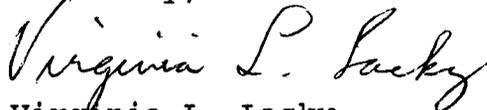
Although NOAA is not requesting that toxicity testing be conducted on subsurface sediments at this time, chemical analysis on subsurface sediment cores should be conducted. This analysis will provide a necessary component for further assessment of potential ecological effects and appropriate remedial alternatives as required by the RI/FS process. NOAA is requesting information on when subsurface sediment sampling will be done, if the coring is to be conducted during other phases of the remedial investigation. NOAA would also like information on the timing of the coring relative to the ecological assessment phase of the RI.

Ms. Louise T. Lew
March 16, 1992
Page Seven

28. The RWQCB would like to emphasize that they reserve the rights to object to conclusion drawn from the proposed Ecological Assessment which bear on the effects of historical contamination on the environment at the Site. The lack of toxicity in surfacial sediments and/or the demonstrated existence of a "healthy" benthic community in the upper 10 cm of sediment will not preclude the necessity for the determination of the extent of sediment contamination. The determination of the horizontal and vertical extent of sediment contamination will be required in the remedial investigation phase of work and is considered a necessary part of an acceptable Environmental Assessment of the Site.

If you have any questions, please call me at (510) 540-3817.

Sincerely,



Virginia L. Lasky
Associate Hazardous Material
Specialist
Site Mitigation Branch
Region 2

cc: Mr. Randy Cate
Alameda Naval Air Station
Building 114, Code 52
Alameda, California 94501

Ms. Barbara Smith
SF Bay Regional Water Quality Control Board
1800 Harrison Street, Suite 700
Oakland, California 94607

Denise Klimas
National Oceanic and Atmospheric Administration
c/o U.S. Environmental Protection Agency (H-1-2)
75 Hawthorne Street
San Francisco, California 94105-3901

Mr. Mike Rugg
California Department of Fish and Game
Region III
P.O. Box 47
Yountville, California 94599