

COMMENTS RECEIVED FROM
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL AND RESPONSES
ON FINAL ECOLOGICAL ASSESSMENT WORK PLAN
MARCH 16, 1992 LETTER

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 on them.

Response: Available information indicates that there is only one leach field on NAS Alameda.

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 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 "...chlordane, 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.

Response: This comment has been noted. The comment refers to a description of past NAS Alameda studies and their conclusions. The information was provided for its historical perspective.

3. Please identify the chemical constituents of "PD680 dry cleaner" and "6083 oil" (page 14, Section 2.2.1, lines 8 and 9).

Response: PD680 dry cleaner is a petroleum hydrocarbon solvent (also known as Stoddard Solvent) without chlorine or Freon compounds and 6083 oil is an organic hydraulic oil without chlorinated or Freon compounds. These descriptions have been added to the text.

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.**

Response: The text has been corrected.

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.**

Response: The results of the predredge sediment evaluation will be compared with data generated during the NAS Alameda ecological assessment.

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 device of this kind have been observed to be 2 or 3 feet long.**

Response: The text has been revised to reflect the difficulties that may be encountered in acquiring water samples in the wetlands. The contractor(s) hired for the ecological assessment will be expected to collect the required samples.

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).**

Response: The original comment reponse was directed only at the work plan. The QAPP has been revised.

8. **What proportion or amount of "unrepresentative material" would cause rejection of a sediment sample (Page 43, Section 3.4.2, paragraph 3).**

Response: Unrepresentative material comprising 20 percent or more of the sample material would result in rejection of the sample. This criterion has been added to the text.

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 the 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.**

Response: An alternative study using the inland silverside will be used if water is found to be too saline for fathead minnows. This alternative is discussed in the text.

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.**

Reponse: The requirement for press sieving before any other sieving method has been added to the text.

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).

Response: The requirement for standard toxicant tests has been added to the discussion of the amphipod bioassay.

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.

Response: Because PSEP protocols have been proposed for use in this study, the text now specifies 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."

Response: A discussion of the methods to be used to determine statistical significance has been added to the text.

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.

Response: The text has been revised to state that excessive mortality results of any sediment bioassay will result in analysis of benthic samples.

15. What is the rationale behind why the acceptance criteria for benthic infauna samples in the workplan (page 57-58, Section 3.7.1), specifically the minimum penetration depths, appear to differ from the QAPP (page A-15)?

Response: The original comment response was directed only at the work plan. The QAPP has been revised.

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".

Response: The text has been corrected.

17. Page 60, Section 3.8, paragraph 3, last sentence: Modify to read "If greater than...all project managers. will be notified."

Response: The text has been revised as specified.

18. Page 63, Table 3-4: Move heading "Organics" to next page.

Response: The heading has been moved.

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".

Response: The habitat evaluation protocols have been changed from HEP to wetland evaluation techniques (WET) at the request of National Oceanic and Atmospheric Administration (NOAA). A requirement that a field biologist experienced in WET determine the functions of the wetlands has been added.

20. Please correct the typo error "Bwalbe" in the Reference Section, page 75, under ASTM (1st item) to "Bivalve".

Response: The reference has been corrected.

21. Please correct the typo error "excpet" in Figure 3-7 to "except".

Response: The figure has been corrected.

22. Page 74: Is there a Figure 3-8?

Response: Figure 3-8 apparently was inadvertently deleted from copies of the January work plan. It has been added to the revised final work plan.

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.

Response: The pagination has been corrected.

24. Page A-52: Please correct the typo error "Fishing Toxicity" to "Fish Toxicity".

Response: The correction has been made.

25. The detection limit for tributyltin (Table 3-4, page 67), listed as 5 $\mu\text{g/l}$ 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 designated 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 $\mu\text{g}/\text{kg}$ for 2-methyl naphthalene as opposed to the NOAA ER-L of 65 $\mu\text{g}/\text{kg}$ 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 $\mu\text{g}/\text{kg}$ for fluorene, as opposed to the proposed 67 $\mu\text{g}/\text{kg}$. Analytical data demonstrating an inability to reach a detection limit of 35 $\mu\text{g}/\text{kg}$ 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 $\mu\text{g}/\text{kg}$ for endrin and dieldrin as opposed to the NOAA ER-L of 0.02 $\mu\text{g}/\text{kg}$. Table 3-4, however, indicates the detection limits will be the NOAA ER-L of 0.02 $\mu\text{g}/\text{kg}$. 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 $\mu\text{g}/\text{kg}$ while the NOAA ER-L for total mercury is 150 $\mu\text{g}/\text{kg}$.

Response: The requirements have been changed to specify NOAA ER-L values. It is expected that rationales will be provided by contractor laboratories if the ER-L values are lower than detection levels that can be reached with reasonable confidence.

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.

Response: The text has been revised to indicate that excessive mortality results of any of the bioassay tests or chemical analyses indicating a constituent concentration exceeding NOAA ER-L values can result in benthic community analysis (Tier II).

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 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 though 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 affect the Tier approach to assessing the ecological impact of contamination? If community structure is not 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.

Response: Sediment core sampling has been incorporated in the ecological assessment as specified in the April 20, 1992 letter from the California Department of Toxic Substances Control.

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 surficial 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.

Response: Sediment core sampling has been incorporated in the ecological assessment as specified in the April 20, 1992 letter from the California Department of Toxic Substances Control.

**COMMENTS RECEIVED FROM
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APRIL 20, 1992 LETTER**

1. The Navy should collect sediment core samples, about fifty percent of the proposed total samples, at the following locations; E-6, E-10, B-2, B-4, B-6, B-8, B-9, B-10, B-12, S-3, S-4 and S-7.

Response: Core samples will be collected at the specified locations.

2. Each sediment boring should be at a minimum of 120 centimeters (approximately 4 feet) deep and divided into four sampling intervals (10, 30, 30 and 50 cms). The top 10 centimeters (cm) should be analyzed as proposed. The 2nd, 3rd and 4th layers should be analyzed for sediment chemistry only (not including bioassay tests) consisting of all analytes that are proposed, except for volatiles. The second and the third layers, which are 30 cm thick each, should be individually composited. And finally, a discreet sample should be taken 25 cm from the bottom of the core.

Response: The core samples will be collected as specified. The description has been added to the text.

3. Each undisturbed core sample should be photographed (color) with a ruler on its side.

Response: The core samples will be photographed in color with a ruler.

4. Polycarbonate or butyl acetate can be used as sample core liners. Polycarbonate liners can be reused as long as they are rinsed, while butyl acetate liners can only be used once.

Response: Polycarbonate core liners have been specified in the text.