



State of California - The Resources Agency

**DEPARTMENT OF FISH AND GAME**

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ALAMEDA POINT  
SSIC NO. 5090.3



November 17, 2000

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BRAC OFFICE

Mr. Luciano Ocampo, P.E.  
SW Division, NAVFACENGC0M  
1220 Pacific Highway  
San Diego, California 92132

Dear Mr. Ocampo:

**Department of Fish and Game Review of Draft Remedial Action Plan/Record of Decision for the Marsh Crust and Groundwater at the Fleet and Industrial Supply Center Oakland Alameda Facility/Alameda Annex and for the Marsh Crust and Former Sub-tidal Area at Alameda Point, dated June 20, 2000.**

The Department of Fish and Game (Department) has reviewed the subject document as part of our role as Natural Resource Trustee for the State's fish and wildlife resources and their habitats. Per your request, Department staff reviewed the Draft Remedial Action Plan/Record of Decision (RAP/ROD). It is our assumption that human toxicological, geological, hydrological, and engineering support was provided by the Department of Toxic Substances Control. Consequently, we have not reviewed these sections.

**Background**

Alameda Facility/Alameda Annex is a 143-acre site, and Alameda Point is a 2675-acre site. From the late 1800s until the 1920s, petroleum wastes and possibly other hazardous substances were discharged to adjacent marshlands. The waste migrated across much of the surface of the surrounding marsh and was deposited on the marsh surface through tidal actions, leaving a discontinuous layer of contaminated sediment under Alameda Facility/Alameda Annex and the eastern portion of Alameda Point. This layer is known as the marsh crust, which is an organic rich paleo-horizon. The marsh crust is between 10 and 20 feet below the surface at Alameda Facility/Alameda Annex and between 4 and 10 feet below the surface at Alameda Point. Farther to the west at Alameda Point, the waste was deposited on tidal flats, now known as the former sub-tidal area. Fill materials dredged from the Oakland Inner Harbor and sediment from locations surrounding San Francisco Bay were placed on these areas from as early as 1887 to as late as 1975, encapsulating the former sub-tidal area and the marsh crust.

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The Oakland Inner Harbor, which is an arm of San Francisco Bay, is adjacent to the northern boundary of both facilities. The shoreline of Oakland Inner Harbor is almost entirely modified by human activity and a variety of industries are located along its length (including port facilities, shipbuilding and repair facilities, sand and gravel off-loading areas, and marinas). Although harbor seals and birds, including California brown pelicans, double-crested cormorants, and several species of gulls, have been observed in the Inner Harbor area. These species do not nest or feed at Alameda Facility/Alameda Annex because it offers no supporting habitat. Similarly, of the wildlife species in the Bay Area that are classified by either the State or Federal government as endangered or threatened, it appears that none nest or feed at Alameda Facility/Alameda Annex.

Similar to the shoreline of Oakland Inner Harbor, Alameda Point is almost entirely modified by human activity. A variety of industries and activities located at the facility include port facilities, aircraft repair facilities, office buildings, runways, and landfills. In addition, Alameda Point includes contiguous and noncontiguous properties such as constructed breakwaters. Major habitat types include open water areas; estuarine intertidal emergent wetlands; normative grassland; ruderal upland vegetation; disturbed areas; beach, urban, and ornamental landscapes; and riprap. Several special status species that occur or are expected to occur have been identified at Alameda Point.

## **Comments**

### *Alameda Facility/Alameda Annex*

The Navy conducted a qualitative Ecological Risk Assessment (ERA) of terrestrial habitat at Alameda Facility/Alameda Annex and a quantitative ERA to evaluate the impacts of storm water discharge on sediment in Oakland Inner Harbor. The terrestrial ERA found no potential risks to terrestrial receptors because Alameda Facility/Alameda Annex has (1) limited and unsuitable habitat, (2) no endangered species that feed or nest on the facility, (3) a scarcity of mammalian receptors, and (4) contaminants found in deep soil (the marsh crust) with limited potential exposure to cause adverse effects to terrestrial biota. Furthermore, according to the ERA, terrestrial ecological receptors are not expected to come in contact with groundwater. Modeling of groundwater transport to the Oakland Inner Harbor was conducted to determine whether the contaminants found in shallow groundwater could present a risk to ecological receptors in the Oakland Inner Harbor. The area considered by the model included all of Alameda Facility/Alameda Annex and portions of Alameda Point housing, which borders Alameda Facility/Alameda Annex. Base-wide groundwater modeling was conducted by simulating the transport of one indicator contaminant: benzene. The modeling concluded that benzene plumes would not migrate beyond the boundaries of Alameda Facility/Alameda Annex. Because benzene

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was shown not to pose an unacceptable ecological risk, the other less soluble and less toxic contaminants in groundwater were considered as not posing an unacceptable risks.

### *Alameda Point*

ERAs have been conducted for sites OU- I, OU-2, and OU-3 in Alameda Point. The marsh crust and the former sub-tidal area are at a depth that prevents a completed exposure pathway for ecological receptors. Although wildlife habitats are located at Alameda Point, ERA results indicate that excavation of the marsh crust and the former sub-tidal area in the future is not expected to pose an ecological risk. This is because development and construction would generally not be conducted in established habitats but in the areas already modified by human activity, such as port facilities, office buildings, and runways, which make up most of Alameda Point.

### *Selected Remedy for the Marsh Crust and Former Sub-tidal Area*

No current unacceptable risks were identified for either facility because currently there is no complete exposure pathway present. Based on CERCLA requirements, BRAC program goals, future land uses of the Alameda Facility/Alameda Annex and Alameda Point (a mixed reuse of residential, commercial, and industrial), and the comparative analysis of alternatives in this RAP/ROD, the Navy and DTSC, with the concurrence of EPA and the RWQCB, have chosen land-use controls (Alternative 2) as the selected remedy for the marsh crust and former sub-tidal area.

Although no complete exposure pathway is currently present from the marsh crust and former sub-tidal area to terrestrial wildlife, a future unquantified risk is possible if either the marsh crust or soil in the former sub-tidal area was brought to the surface, where it could remain as a source of exposure to surface resources. However, the selected remedy (land use control) addresses this unquantified future risk if excavation will be prohibited within the marsh crust and former sub-tidal area.

### **Conclusion**

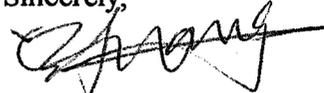
Hazardous substances are present in the marsh crust and shallow groundwater throughout Alameda Facility/Alameda Annex. Hazardous substances are also present in the marsh crust and the former sub-tidal area at Alameda Point. However, these substances are considered low-level wastes because of their low concentrations and toxicity. In addition, no complete exposure pathway to the marsh crust or the former sub-tidal area is present at any of these locations, and the risks from exposure to shallow groundwater appear acceptable under current proposed land use.

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After reviewing the ERA results, the Department concurs with the selected remedy proposed in the report by the Navy. Based on the results of a qualitative ERA of terrestrial habitat at Alameda Facility/Alameda Annex, a quantitative ERA to evaluate the impacts of storm water discharge on sediment in Oakland Inner Harbor, and an ERA in Alameda Point, the potential risk in the marsh crust to ecological receptors from site-related activities is minimal and, therefore, acceptable.

The Department appreciates the opportunity to review this document. If you have any questions regarding this review or require further details, please contact me at (916) 324-9805 or by e-mail at [chuang@ospr.dfg.ca.gov](mailto:chuang@ospr.dfg.ca.gov).

Sincerely,



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Associate Toxicologist

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