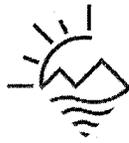




Terry Tamminen  
Agency Secretary  
Cal/EPA



## Department of Toxic Substances Control

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Governor

May 28, 2004

Mr. Thomas L. Macchiarella  
Southwest Division Naval Facilities Engineering Command  
Attn: Code 06CA.TM  
1220 Pacific Highway  
San Diego, CA 92132-5190

### **DRAFT REMEDIAL INVESTIGATION REPORT, IR SITE 28, TODD SHIPYARD, OPERABLE UNIT 6, ALAMEDA POINT, ALAMEDA, CALIFORNIA**

Dear Mr. Macchiarella:

This is to transmit the hard copy of DTSC Human and Ecological Risk Division (HERD) comments on the above referenced document dated February 13, 2004. The facsimile of HERD comments were transmitted on May 19, 2004. Please contact me at 510-540-3767 or [mliao@dtsc.ca.gov](mailto:mliao@dtsc.ca.gov) if you have any questions.

Sincerely,

*Marcia Y. Liao*

Marcia Liao, Ph.D., CHMM  
Remedial Project Manager  
Office of Military Facilities

Enclosure

Mr. Thomas Macchiarella

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May 28, 2004

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TO: Marcia Liao, Project Manager  
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FROM: James M. Polisini, Ph.D.  
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DATE: May 12, 2004

SUBJECT: NAVAL AIR STATION ALAMEDA (ALAMEDA POINT) DRAFT REMEDIAL  
INVESTIGATION FOR IR SITE 28 (TODD SHIPYARD)  
[SITE 201209-18 PCA 18040 H:40]

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### BACKGROUND

HERD reviewed the document titled Draft Remedial Investigation Report, IR Site 28, Todd Shipyards, Alameda Point, Alameda, California, dated February, 2004. This document was produced by Bechtel Environmental, Inc. of San Diego, California.

Alameda was an active naval facility from 1940 to 1997. Operations included aircraft, engine, gun and avionics maintenance; fueling activities; and metal plating, stripping and painting. An unconfined landfill exists on the margin of San Francisco Bay in the western bayside area of NAS Alameda. All Navy activities ceased in 1997.

Installation Restoration (IR) Site 28 is a 2.9 acre site along the Oakland Inner Harbor waterfront that currently is the site of a dog park and parking for the commuters using the Alameda ferry. IR Site 28 was purchased from the Navy in 1970 by the Todd Shipyards Corporation. Todd Shipyards used IR Site 28 as an extension of the adjacent shipyard property until 1983 when Todd Shipyard sold the property to Alameda Gateway Limited. IR Site 28 reverted to the Navy in 1995 after a dispute arose regarding transfer.

## GENERAL COMMENTS

The Navy and Navy Contractors have presented some excellent figures (Section 4.0) presenting the existing data which might influence the risk management decisions for IR Site 28.

Basing risk management decisions on projected future use requires some assurance (e.g., deed restriction) that future use will remain as currently projected.

## SPECIFIC COMMENTS

HERD agrees with the Navy proposal to conduct a Feasibility Study (FS) for Investigation Restoration (IR) Site 28 (Executive Summary, page ES-1). Incremental cancer risk and Hazard Index (HI) values (Executive Summary, Table ES-1) indicate this is a rational approach. This comment is meant for the DTSC Project Manager and no response is required from the Navy or Navy contractors.

Organotin was not available as a hull coating prior to 1946. The fact that all the elevated organotin concentrations are found within the bounds of the 1946 or later fill area (Executive Summary, page ES-7 and Section 4.1.1, page 4-3) would indicate that the organotin was released to IR Site 28 soils by Todd Shipyard or Navy activities. Organotin compounds could not have been part of the fill material deposited in 1946.

Justifying current use an 'projected' use remaining the same as the basis for the Ecological Risk Assessment (ERA) (Executive Summary, page ES-11) requires that the current use be maintained as a requirement of acceptance of the ERA.

The former offshore investigations of the Oakland Inner Harbor have concentrated on sediment-related effects and not on groundwater infiltration from terrestrial sites. HERD would not agree that, given modeling results which indicate that copper in groundwater may exceed Ambient Water Quality Criteria (AWQC) in the offshore habitat, that this exposure pathway does not require investigation (Executive Summary, page ES-12). HERD recommends that this exposure pathway be investigated.

The results of the Human Health Risk Assessment (HHRA) are dependent on the pending decision of the San Francisco Region Water Quality Control Board (SFRWQCB) regarding de-designation of the groundwater for 'municipal supply beneficial use for portions of the Oakland shoreline and Alameda Point' (Section 2.6, page 2-9). The Navy requested the SFRWQCB de-designation in a letter dated August 25, 2003. The HHRA residential scenario does not currently include ingestion of groundwater.

HERD never agreed to the 'blue, pink and yellow' area background concentration values developed (PRC, 1997a) particularly for polycyclic aromatic hydrocarbons (PAHs) as comparison criteria (Section 3.5, page 3-13). This comment is meant for the DTSC Project Manager and no response is required from the Navy or Navy contractors.

1. HERD has never agreed to Preliminary Remediation Goals (PRGs) for diesel or motor oil (Table 4-1, page 4-2). While the Navy's proposed values might be used for generalized evaluation, the HHRA must evaluate the incremental cancer risk and non-cancer hazard for common petroleum components such as benzene, toluene, ethylbenzene and xylene (BTEX) and PAHs.
2. The PRGs for both the U.S. EPA and the California Modified values (Table 4-2, page 4-4) were checked at random and found to be arithmetically correct. This comment is meant for the DTSC Project Manager and no response is required from the Navy or Navy contractors.
3. Sample location 28B23 appears to have elevated concentrations of several inorganic elements (e.g., arsenic and lead) except mercury (Figures 4-1 through 4-22). Mercury appears elevated, with a concentration of 210 mg/kg at sample locations 215-0028, 29.7 mg/kg at location 28B11, 25.1 mg/kg at 215-0059, and 14.5 mg/kg at location 28B14 (Figure 4-17). All of these locations should be included in planning the FS. Migration to the Oakland Inner Harbor Channel via groundwater or surface runoff, is a potential transport mechanism for ecological receptors regardless of the HHRA-based PRG.
4. The status of the storm drain located at Main Street to the south of IR Site 28 (Section 5.2.5, page 5-5) should be ascertained prior to development of the FS for IR Site 28. Complete subsurface pathways could significantly affect the selection and implementation of any remedial alternative for IR Site 28.
5. Concentrations of arsenic in groundwater range from non-detect to 353 µg/l. The arsenic in groundwater concentration at 28SW04 is greater than the Maximum Contaminant Level (MCL) of 10 µg/l and greater than the Alameda 'background'. If it is true that the highest groundwater concentrations of arsenic are 'typically' reported in groundwater samples collected from the upgradient well 28SW04 (Section 5.3.2.1, page 5-11) the source of the arsenic contamination of groundwater must be determined. This is the same well, 28SW04, which has the highest concentration of manganese in groundwater. HERD defers to the Geological Services Unit (GSU) for determination of direction of this investigation of arsenic in groundwater, particularly with the presentation of the mobility of arsenic and manganese in groundwater (Section 5.3.2.4, page 5-13).
6. The default soil depth which has been used for the other HHRA at NAS Alameda has been surface to 10 feet or groundwater whichever is less. Given the proximity to the Oakland Inner Harbor Channel, the surface to 6 feet used in this HHRA (Section 6.2.1, Table 6-1, page 6-3) appears protective.
7. HERD checked, at random, the toxicity values presented (Appendix J) and found them to be arithmetically correct. This comment is meant for the DTSC Project Manager and no response is required from the Navy or Navy contractors.

8. The estimates of total incremental cancer risk and non-cancer hazard in the HHRA (Section 6.2.4, page 6-7) presented for many elements and compounds appear to exceed the risk management range (Section 6.2.4, page 6-7 and Tables 6-2 through 6-6). This comment is meant for the DTSC Project Manager and no response is required from the Navy or Navy contractors.
9. Please explain more clearly why only data collected during the 2002 IR investigation are included in the ERA (Section 6.3.1.4, page 6-16).
10. Some presentation of the achieved detection limit must be presented for the ERA. HERD suggests that this information would best be presented by incorporating an additional column (Section 6.3.1.4, Table 6-7) into the existing table. This information is critical for compounds, such as PAHs, which may be susceptible to interferences from other organic compounds and elevate the reported detection limits.
11. While the representative species chosen for the ERA (Section 6.1.3.6, page 6-25) in developing the Conceptual Site Model (CSM) appear protective, any decisions based on the projected future use (Section 6.3.1.6, page 6-24) require a deed restriction such that IR Site 28 could not be developed in any other manner without further ecological evaluation.
12. While HERD agrees that 'active dispersion' of groundwater transport to the Oakland Inner Harbor Channel will most likely dilute groundwater transport of copper (Section 6.4.4.3, page 6-44), the effect at slack tide on benthic organisms is completely dependent on the groundwater to surface water concentration. The maximum exposure to surface water concentrations of copper transported via groundwater would occur twice every twenty four hours in San Francisco Bay. Sufficient concentrations of copper could have a significant effect on the benthic community regardless of the tidal dilution during other periods. This investigation should include arsenic, nickel and zinc (Section 7.1.5, page 7-3) in addition to copper.
13. Any concentration on Remedial Action Objectives (RAOs) for iron (Section 7.1, page 7-1, first bullet item) should be discussed with HERD prior to implementation. RAOs based on iron have resulted in unnecessary removal actions at other Department of Defense (DoD) bases.
14. The source of the Volatile Organic Compounds (VOCs) at IR Site 28 (Section 7.1.4, page 7-3) must be determined prior to developing a FS. Suppositions that the source could be spills or leaks from the adjoining parking lot or the leaks from fuel tanks at the adjoining Alameda Gateway Limited property are insufficient to begin development of a FS for IR Site 28.
15. All of the presentations of human health risk (Section 7.1.7, page 7-4) are posited on the de-selection of groundwater as a municipal (i.e., drinking water) source by the

Marcia Liao  
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SFRWQCB. The concurrence of the SFRWQCB should be obtained prior to development of the FS for IR Site 28.

16. Should the FS 'consider' future land use as planned (Section 7.2, page 7-6) as the basis for any remedial action options, a deed restriction should be required to limit future use to the currently planned future use.

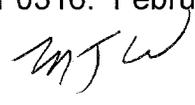
## CONCLUSIONS

The Remedial Investigation Report for IR Site 28 clearly calls for a Feasibility Study based, both, on human health risk/hazard as well as ecological hazard. The use of 'planned' use will require a deed restriction to limit future use to the proposed 'planned' use.

## REFERENCES

PRC, 1997. Samples for Use as Background, Naval Air Station Alameda, Alameda, California. Consultant's report to the United States Department of the Navy. CLEAN contract number N62474-88-D-5086, Contract Task Order 0316. February 7.

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