



Linda S. Adams  
Secretary for  
Environmental Protection



## Department of Toxic Substances Control

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June 6, 2007

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Base Realignment and Closure Program  
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San Diego, California 92108-4310

DRAFT RECORD OF DECISION FOR IN INSTALLATION RESTORATION SITE 28,  
TODD SHIPYARDS, ALAMEDA POINT, ALAMEDA, CALIFORNIA

Dear Mr. Macchiarella:

The Department of Toxic Substances Control has reviewed the Draft Record of Decision (ROD) for IR Site 28, Todd Shipyards, dated March 2007. Comments from the Office of Military Facilities, the Geological Services Unit, and the Human and Ecological Risk Division are included as an attachment to this letter. If you have any questions, please contact me at (916) 255-6449.

Sincerely,

Dot Lofstrom, P.G.  
Project Manager  
Office of Military Facilities

Attachment

cc: See next page.

Mr. Thomas L. Macchiarella

June 6, 2007

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Department of Toxic Substances Control  
Combined Comments from Office of Military Facilities and  
Geological Services Unit on the Draft Record of Decision  
For Installation Restoration Site 28, Todd Shipyard, dated March 2007

**General Comments:**

- 1) Assurance should be provided that arsenic will not migrate from groundwater to the Oakland Inner Harbor in concentrations exceeding 37 micrograms per liter ( $\mu\text{g/L}$ ).
- 2) Groundwater data should be updated to reflect the most recent groundwater sampling event.

**Specific Comments:**

Section 2.2.4: The statement that concentrations of arsenic have been decreasing over time is not supported by the data from the Basewide Groundwater Monitoring Program (BGMP). Concentrations of arsenic appear to be relatively stable or increasing. For example, in Well 28SW04, the following concentrations are noted for arsenic:

Groundwater Monitoring Event	Concentration of arsenic detected in $\mu\text{g/L}$
Summer 2006	470
Spring 2006	350 J
Summer 2005	440
Spring 2005	250
Winter 2004	280
Summer 2004	420

Section 5.3: The paragraphs discussing metals in groundwater appear to be based on RI data only. The text should be revised to reflect the most current data available. The following are some errors that occur in the text of the report because recent groundwater data were not used.

- a) Page 5-4, second to last paragraph of Section 5.3. The Section states that the range of arsenic concentrations is 2.9 to 440  $\mu\text{g/L}$ . The statement should be that it ranges from 2.9 to to 470  $\mu\text{g/L}$ , as shown in the table above.
- b) Page 5-4, last paragraph of Section 5.3. The information on copper concentrations is apparently based on outdated RI data. The data should be taken from the most recent BGMP report. Copper was as high as 210  $\mu\text{g/L}$  in well 28SW03 in Aug 2005. Also, the last sentence is incorrect. The copper exceeded the California Toxics Rule (CTR) value at a concentration of 43  $\mu\text{g/L}$  in June 2004.

- c) Page 5-3, sixth paragraph of Section 5.3 states that nickel is within its Alameda Point background range. However, nickel has exceeded the background range consistently in well 28SW03 in post-RI sampling events, as well as the CTR.

Tables 5.1 and 5.2: The tables of chemicals detected in soil (Table 5-1) and groundwater (Table 5-2) are apparently taken from the RI report. While this may be appropriate for soil data, it can seem misleading for groundwater data. Please update Table 5-2 Chemicals Detected in Groundwater with data from the recent BGMP reports.

Section 8.0: Page 8-1 states that the remedial goal for PAHs is 2.1 mg/kg. DTSC is currently holding internal discussions regarding the question as to what is an appropriate remedial goal for PAHs at restricted use sites. However, given the likely future use of this site for recreational use, and the small size of the site (2.9 acres), we are in agreement with using 2.1 as a remedial goal for PAHs in soil at Site 28.

Section 8.0: Page 8.2 states, "The remediation goal for PAHs in soil is based on the EPA Region 9 industrial 2004 PRG, which was adjusted for total risk (EPA 2004)." Please explain what "adjusted for total risk" means.

Section 8.0, third bullet: Please add "and arsenic" to the remedial action objective on page 8.1 so that it reads, "Prevent potential exposure of aquatic offshore receptors (in the Oakland Inner Harbor) to copper and arsenic in surface water at the POE exceeding the CTR criteria of 3.1 µg/L and 36 µg/L, respectively."

Section 9.0: Page 9-1, Alternative S4b is described as "achieving recreational and occupational site uses." Please note that institutional controls result in a restriction from a particular use (i.e., residential) rather than towards a particular land use (recreational or occupational).

Section 9.0: The ROD uses the phrase "predetermined shoreline area" throughout section 9, which is a vague and unclear term. Since the shoreline area is defined on page 9-5, perhaps it can be rephrased to refer to designated areas within the shoreline, thus avoiding connotations associated with "predetermined." Or, perhaps, a definition of "predetermined" might be helpful. On page 12-3, the Navy may be using the term "predetermined" to convey that confirmation samples will not be collected, but that is not clear without a solid definition.

### **Minor Editorial/typographic Errors :**

The errors below were noted during our review of the document and do not require a response, other than to edit the report as appropriate.

- Titles of "Mr." and "Ms." are inconsistently applied. Please add "Mr." to Bruce Wolf's name on the signature page, or remove the title from all other signatures.

- Page 9-1 refers the reader to Section 9.1 of the Feasibility Study. This should be Section 5.1 of the FS, not 9.1
- The statement on page 12-2 that groundwater may migrate to sediments seems oddly phrased. Groundwater would be found in the interstices within sediments, not in the sediments themselves
- Page 12 – 4, second bullet, “interference” should be “interfere.”
- Page 12-5, second sentence under “Implementation and Oversight.” The sentence, “These access restrictions will be included in the deed and covenant,” may have accidentally been left off the paragraph.
- Page 12-8, third paragraph, the word “user” (or perhaps, “use”) was inadvertently left out of the first sentence.
- Page 13-3, Section 12.2.1.2, seventh sentence, the word “aquifer” was inadvertently left off (currently reads “. . . meets the definition of a Class III (EPA 2000).”
- Page 13-10, second paragraph, should read, “DTSC promulgated a regulation on April 19, 2003.” Also, a space was left out in the same sentence, between “tit.” and “22.” Next sentence, same paragraph, “the” was left out before “Navy.”
- The paragraph describing DTSC’s regulation promulgated on April 19, 2003 is repeated on page 13-11, second to the last paragraph of the section “Institutional Controls.” If this was intentional then it does not need to be removed.
- Page 13-4, first sentence, should be “its costs” rather than “their costs.”



## Department of Toxic Substances Control

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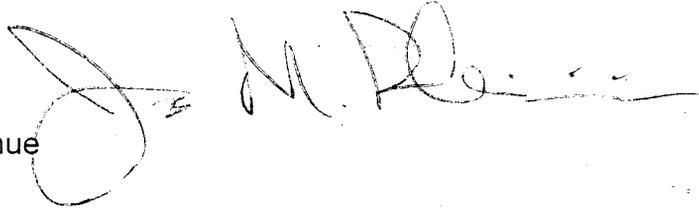
### MEMORANDUM

TO: Dot Lofstrom, Senior Engineering Geologist  
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8800 Cal Center Drive  
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FROM: James M. Polisini, Ph.D.  
Staff Toxicologist, HERD  
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DATE: May 16, 2007

SUBJECT: DRAFT RECORD OF DECISION FOR  
INSTALLATIONS RESTORATION SITE 28, TODD SHIPYARDS,  
ALAMEDA POINT, ALAMEDA, CALIFORNIA  
[SITE 201209-18 PCA 18040 H:16]



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### **BACKGROUND**

HERD reviewed the document titled *Draft Record of Decision for Installation Restoration Site 28, Todd Shipyards, Alameda Point, Alameda, California*, dated March, 2007. This document was prepared by Innovative Technical Solutions, Inc. of Walnut Creek, California and delivered by courier to the HERD offices on March 21, 2007. In a HERD memorandum dated March 30, 2007 HERD reviewed the document titled *Data Gap Sampling Investigation Installation Restoration Site 28, Alameda Point, Alameda, California*, dated January 2007.

Installation Restoration (IR) Site 28 is a 2.9 acre site located in northeastern Alameda Point. It is 900 feet long and wedge-shaped with increasing north-to-south width ranging from 35 feet at the western boundary to 300 feet at the eastern boundary. It is bounded on the north by the Oakland Inner Harbor (OIH) and the southern boundary is approximately 100 feet north of and parallel to Main Street. IR Site 28 is the terrestrial portion of the 4.63 acre Environmental Baseline Survey (EBS) Parcel 215, the subtidal portion of which was investigated as part of IR Site 20 (Oakland Inner Harbor).

In 1930, the U.S. Army acquired the original base property from the City of Alameda and began construction activities in 1930. In 1936, the Navy acquired title to the land

from the Army and began building an air station. Construction of the Base included filling tidelands, marshlands, and sloughs with dredge materials from the San Francisco Bay. NASA was an active naval facility from 1940 to 1997. Base operations included aircraft, engine, gun and avionics maintenance; engine overhaul and repair; fueling activities; and metal plating, stripping and painting activities. Naval Air Station Alameda (NASA) was designated for closure under the Base Realignment and Closure Act (BRAC) in 1993.

### **GENERAL COMMENTS**

The IR Site 28 Feasibility Study (FS) identified arsenic, lead and polycyclic aromatic hydrocarbons (PAHs) in soil as responsible for 90 percent of the total risk and/or hazard (Section 5.3, page 5-2). Copper in groundwater was also identified as a Contaminant of Potential Concern (COPC) for aquatic ecological receptors in the adjacent Oakland Inner Harbor (OIH). Because many of the other infrequently detected COPCs were co-located with these four COPCs, the Remedial Alternatives address arsenic, lead and PAHs in soil and copper in groundwater.

### **SPECIFIC COMMENTS**

1. Planned future use of IR Site 28 is recreational with a dog park and bicycle trails (Section 6.1, page 6-1). The soil lead Remedial Action Objective (RAO) of 800 mg/kg was set based on a child recreational receptor bounded by visits to the site between 2 times per week and 5 times per week (Section 7.1.2.2, page 7-2; Section 7.1.3, page 7-4). HERD agrees that these estimates of weekly recreational visits to a future park at IR Site 28 are a reasonable upper limit range (Section 7.1.4, page 7-5). These soil lead calculations, using the DTSC Leadsread spreadsheet, were checked (SulTech, 2007; Appendix B) and were duplicated within rounding error.
2. There is an error in the text regarding the derivation of Cal/EPA human health toxicity values (e.g., cancer slope factors) (Section 7.1.3, page 7-3). These Cal/EPA toxicity values are not 'DTSC-derived', but are human health toxicity values correctly attributed to the Cal/EPA Office of Environmental Health Hazard Assessment (OEHHA). Please remove the word 'derived' from this sentence.
3. Soil 'background' data sets designated 'pink', 'blue' and 'yellow' have been developed for Naval Air Station (NAS) Alameda based on history of fill activity and correlation of inorganic elements. Please state in the text which soil 'background' data set was statistically compared (Section 7.1.4.2, page 7-5) to representative IR Site 28 soil samples to identify COPCs and set the arsenic RAO (Section 8.0, page 8-1).
4. For clarity, please amend the tabular presentation of the IR Site 28 human health risk and hazard (Table 7-2). The subtotals for 'soil contact and air' and 'residential

use of groundwater' should be indented and the subtotals offset in a different column from the risk and/or hazard from each individual exposure pathway so that the sum of the column equals the total for all exposure routes.

5. While arsenic and copper are the inorganic element focus for the 'additional groundwater monitoring' (Section 8.0, page 8-2) for IR Site 28, the analytical results for all inorganic elements should be reported. This same comment was made in the March 30, 2007 HERD memorandum reviewing the IR 28 Draft Data Gap Sampling Plan.
6. A soil copper concentration of 1500 mg/kg has been developed, using groundwater modeling, as protective of release of copper to groundwater at the ecological hazard concentration of 3.1 µg/L (Section 8.0, page 8-2; Sultech, 2007; Appendix A). Any exposed soil with a copper concentration of 1500 mg/kg would pose a potential ecological hazard based on comparison to the U.S. EPA Ecological Soil Screening Levels (EcoSSLs) ([http://www.epa.gov/ecotox/ecossl/pdf/eco-ssl\\_copper.pdf](http://www.epa.gov/ecotox/ecossl/pdf/eco-ssl_copper.pdf)):

<b>U.S. EPA Ecological Soil Screening Levels (2007) (mg/kg)</b>			
<b>Plants</b>	<b>Soil Invertebrates</b>	<b>Avian</b>	<b>Mammalian</b>
70	80	28	49

Removal of the top two feet of soil and placement of clean fill, as proposed (Section 12.0, page 12-1), would sever the soil exposure pathway for most surface rooted plants, soil invertebrates and vertebrate receptors expected at the site. Monitoring and potential maintenance of the 2 foot soil cover should be considered as part of the remedial action. This comment is meant for the DTSC Project Manager and no response is required from the Navy or Navy consultants.

7. HERD defers to the San Francisco Bay Water Board for acceptance of the injection of Metals Immobilization Compound (MIC), if proposed as part of the remedial action (Section 12.0, page 12-1; Section 12.1.2, page 12-2) for groundwater. This comment is meant for the DTSC Project Manager and no response is required from the Navy or Navy contractors.
8. Long-term care facility should be added to the land use prohibition on hospitals [Section 12.2.1.1, page 12-5; bulleted item 1(b)] in the list of Institutional Controls (ICs).

## **CONCLUSIONS**

HERD confirmed, and agrees with, the bounding calculation for soil lead using a child recreational exposure between 2 days per week and 5 days per week. Groundwater

Dot Lofstrom  
May 16, 2007  
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monitoring results should report all inorganic elements in addition to the COPCs of copper and arsenic.

## **REFERENCES**

SulTech. 2007. Final Technical Memorandum to Supplement the Administrative Record for Installation Restoration Site 28, Todd Shipyards, Alameda Point, Alameda, California.

U.S. Environmental Protection Agency. 2007. Ecological Soil Screening Levels for Copper, Interim Final. 2007. Office of Solid Waste and Emergency Response. Washington, D.C. July, 2006 Revised February, 2007.

[http://www.epa.gov/ecotox/ecossl/pdf/eco-ssl\\_copper.pdf](http://www.epa.gov/ecotox/ecossl/pdf/eco-ssl_copper.pdf)

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Staff Toxicologist



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May 16, 2007  
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