



Linda S. Adams  
Secretary for  
Environmental  
Protection



## Department of Toxic Substances Control

Maureen Gorsen, Director  
700 Heinz Avenue  
Berkeley, California 94710-2721

N60028\_001843  
TREASURE ISLAND  
SSIC NO. 5090.3.A



Arnold Schwarzenegger  
Governor

February 2, 2009

Mr. James B. Sullivan  
BRAC Environmental Coordinator  
U.S. Department of the Navy  
Base Realignment and Closure  
Program Management Office West  
1455 Frazee Road, Suite 900  
San Diego, California 92108-4310  
[james.b.sullivan2@navy.mil](mailto:james.b.sullivan2@navy.mil)

### **SECOND REVISED DRAFT FEASIBILITY STUDY FOR INSTALLATION RESTORATION SITE 27, CLIPPER COVE SKEET RANGE; NAVAL STATION TREASURE ISLAND (NSTI), SAN FRANCISCO, CALIFORNIA**

Dear Mr. Sullivan:

The Department of Toxic Substances Control (DTSC) has received and reviewed the *Second Revised Draft Feasibility Study for Installation Restoration Site 27, Clipper Cove Skeet Range; Naval Station Treasure Island, San Francisco, California*, dated December 29, 2008 (Draft FS). The purpose of the Draft FS is to develop and evaluate remedial alternatives for lead shot in the sediments associated with historical activities at the former Site 27 Clipper Cove Skeet Range. Based on our review, DTSC has the following comments:

#### General Comments

1. The Navy has not delineated the vertical extent of lead shot in Clipper Cove sediments. The Navy only collected nearshore sediment samples to a depth of two feet in the March 2008 lead shot investigation and found lead shot in the bottom two-foot samples. Sediment samples beyond two feet were not collected in 2008. In 1996 the Navy conducted offshore sampling and found the maximum lead pellet as percent weight between three and four feet below sediment surface, and also detected lead shot in the 4- to 5-foot depth intervals (maximum depth characterized to date). Sediment deposition rates from hydrographic surveys also suggest lead shot may be present at depths greater than 5 feet below the sediment surface.

Therefore, DTSC requests the Navy to collect additional sediment samples in order to adequately define the vertical extent of lead shot in Clipper Cove sediments.

2. Removal of the top 2.5 feet of sediment in the nearshore area followed by capping-in-place may not be the most viable alternative given the foreseeable future reuse for Site 27 as a marina, which will likely require deeper dredging for larger boats. The 1996 Draft Naval Station Treasure Island Reuse Plan specifies that at least a portion of Site 27 will be part of a "marina expansion." The Navy and the City of San Francisco should work collaboratively in order to either (1) link the remediation and dredging efforts to reduce mobilization and excavation resources, or (2) propose a remediation alternative that will be consistent with both lead shot in sediment remediation and foreseeable future reuse for Site 27. This comment is consistent with DTSC's comment submitted February 8, 2005 (David Rist, comment #2) which stated "DTSC believes that an additional alternative needs to be presented that identifies the costs associated with limited dredging along the shoreline areas necessary for the future expansion of the marina."

#### Specific Comments

- Section 1.3.1.2 – Phase I Investigation Offshore Sampling. Please include a new figure showing all sampling locations and depths (in reasonably accurate scale) beyond the Site 27 boundary where PAHs concentrations have exceeded the effects range-low (ER-L) values.
- Section 1.3.3.4 – EBS Data Gaps Investigation, last paragraph. The text states that "Confirmation samples indicated that concentrations were below the screening value." However, confirmation soil sample results at depths below the removed samples (i.e., PCW-031-A and PCB-031-D) are missing from Figure 11. Please include all the confirmation soil sample results in Figure 11 or briefly describe the results in the text.
- Section 3.2.5 – Sediment Disposal, Sediment Monitoring subsection. Please make sure that the post-remedy monitoring will include general descriptions for repairing and/or restoring the implemented remedy as needed.
- Section 3.4 – Identification of Alternatives for Detailed Analysis, Alternative 3 bullet, paragraph two. Please present a technical basis for selecting a 7-foot sediment dredge depth.
- Section 4.2 – Alternative 2 – Focused Dredging and Backfill, Off-Site Disposal of Sediment, Institutional Controls, and Sediment Monitoring. The Navy proposes to

backfill the dredged area with imported fill materials to construct a 1.5-foot sand layer and 1-foot rock armor layer. Please be aware that the Navy should conduct sampling and analysis on imported fill materials to verify that they are free of contamination.

- Section 4.2.1 – Focused Dredging and Backfill. The text states that confirmation sediment samples “east of the southeast boundary of the dredged area” will be collected adjacent to the sediment excavation in order to verify that the exposure pathway has been removed. However, the Draft FS has not proposed confirmation samples beyond the south and southwest boundaries of the dredged area. DTSC requires confirmation sampling in all directions beyond the boundary of the dredged area. Please revise the Draft FS to report such requirement.
- Section 4.2.3 – Post-Remedy Survey and 5-Year Interval Sediment Monitoring. Please modify the text to include the suggested frequencies of subsurface bathymetric surveys (i.e., every five years) in order to verify that the implemented remedy remains adequately protective over time.
- Section 4.2.4 – Institutional Controls. DTSC requires an Operation and Maintenance Agreement (O&M Agreement) between the responsible party(ies) (i.e., the Navy, City of San Francisco, etc.) and DTSC. The O&M Agreement would specify the responsible party’s obligations, frequency of inspections, emergency response actions, site access, cost recovery mechanisms, property legal description, and others. The O&M Agreement would also typically include an Operation and Maintenance Plan as an exhibit that provides the specific details regarding implementation of the institutional controls (annual reporting and five-year review requirements, sample field forms and maintenance logs, map of the operation and maintenance requirement areas, etc.). Please include O&M Agreement as a component to Alternative 2.
- Section 5.2.3 – Alternative 3 – Site-Wide Dredging and Off-Site Disposal of Sediment. Please add a figure delineating the approximate horizontal extent of “sediments that contain lead shot” based on the currently available data. Figure 14 presents that Alternative 3 would include site-wide dredging. However, if the horizontal extent of the sediments that contain lead shot are not site-wide, this alternative may not be an accurate evaluation (underestimating implementability, overestimating cost, etc.) of actions that are required to address the release of lead shot in sediments at Site 27.
- Section 5.3.3 – Long-Term Effectiveness and Permanence. Based on the foreseeable future land use of Site 27 as a marina, Alternative 2 may not be a

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“permanent” remedy. Alternative 3 would therefore provide the highest level of long-term effectiveness and permanence.

- Section 1.3.2.3 – Offshore Risk Evaluation Conclusions. The text states that “Risk to benthic invertebrate and vertebrate receptors from exposure to lead and total PAH at Site 27 was considered minimal in the 1996 Offshore RI. . .” However, the Navy had completed the 1996 Offshore Remedial Investigation (RI) prior to the 2008 lead shot investigation. The 1996 RI Report presented six sediment samples with lead concentrations exceeding the effects range low value (ER-L) of 46.7 mg/kg and the 2008 lead shot investigation reports eight samples with lead concentrations up to 54.4 mg/kg. Therefore, lead should be listed as a contaminant of concern with the inclusion of the 2008 data.

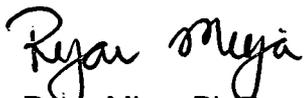
#### Editorial Comments

- Executive Summary, Previous Investigations subsection, paragraph two. Please review the text as there are at least two double periods (i.e., “..”).
- Section 4.2.1 – Focused Dredging and Backfill. The text in paragraph four states that the “2.5-feet layer of clean backfill will include an 15-foot base sand layer. . .”
- Appendix A – Lead Shot Investigation, Table of Contents. “FIELD SAMpling” should be in all caps.

DTSC will forward comment memoranda from DTSC’s Human and Ecological Risk Division as well as the California Department of Fish and Game under a separate cover.

Please contact me at (510) 540-3775 or [rmiya@dtsc.ca.gov](mailto:rmiya@dtsc.ca.gov) if you have any questions.

Sincerely,



Ryan Miya, Ph.D.  
Senior Hazardous Substances Scientist  
Brownfields and Environmental Restoration Program

Email Distribution: Please see the following page

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Email Distribution:

Mr. Charles Perry, P.E., U.S. Navy, [charles.l.perry@navy.mil](mailto:charles.l.perry@navy.mil)

Mr. Scott Anderson, U.S. Navy, [scott.d.anderson@navy.mil](mailto:scott.d.anderson@navy.mil)

Ms. Christine Katin, U.S. Environmental Protection Agency, Region 9,  
[Katin.Christine@epamail.epa.gov](mailto:Katin.Christine@epamail.epa.gov)

Mr. Ross Steenson, California Regional Water Quality Control Board,  
[rsteenson@waterboards.ca.gov](mailto:rsteenson@waterboards.ca.gov)

Ms.Carolynn Box, San Francisco Bay Conservation & Development Commission,  
[carolynnb@bcdca.gov](mailto:carolynnb@bcdca.gov)

Mr. Rob Lawrence, U.S. Army Corps of Engineers, [robert.j.lawrence@usace.army.mil](mailto:robert.j.lawrence@usace.army.mil)

Mr. Jack Sylvan, San Francisco Mayor's Office of Base Reuse and Development,  
[jack.sylvan@sfgov.org](mailto:jack.sylvan@sfgov.org)

Ms. Mirian Saez, Treasure Island Development Authority, [mirian.saez@sfgov.org](mailto:mirian.saez@sfgov.org)

Mr. Gary R. Foote, P.G., AMEC Geomatrix, Incorporated, [gary.foote@amec.com](mailto:gary.foote@amec.com)

Mr. Pete Bourgeois, Shaw Environmental, Incorporated, [peter.bourgeois@shawgrp.com](mailto:peter.bourgeois@shawgrp.com)