

**RESPONSE TO AGENCY COMMENTS ON PROPOSED NICKEL SCREENING AND  
IMPLEMENTATION PLAN, HUNTERS POINT SHIPYARD**

This document presents the U.S. Department of the Navy's (Navy) responses to comment 2 from the U.S. Environmental Protection Agency (EPA) dated April 1, 1999 on the proposed nickel screening and implementation plan dated December 7, 1998. EPA Comments 1 and 3 relate to other documents and will be addressed under separate cover.

Agency comments are presented in boldface type, and Navy responses are presented in normal type.

**2. Comment: Proposed Nickel Screening and Implementation Plan, dated December 7, 1998**

**EPA would like to see additional detail in this document. Please explain the history in greater detail - how we got to this point. Clearly state whether or not this plan applies to all of Hunters Point or just parcel B. Were only IR sites 4-10 included in the calculation of the regression lines? Please include Dr. Frampton's underlying memoranda in the revised plan and clearly refer to the plots and equations he developed. Please clarify whether or not you used Dr. Frampton's regression lines plots or did the Navy do its own. Further, please include any additional, more recent references regarding serpentinite composition and typical levels of Nickel in sandblast grit, if available. Dr. Frampton informed me that Introduction to Geochemistry (1995) by Konrad Krauskopf and Dennis Bird might be an additional reference for serpentinite composition. Also please explain how one would apply this in the field as well as how the chromium-nickel regression is effected by weathering, if at all.**

Response: The Navy will include as attachments Dr. Frampton's memorandum dated October 14, 1994 and November 13, 1998, and the Navy's technical memorandum on "Calculation of Background Nickel Levels" dated October 22, 1998, which explains the history in greater detail.

As was previously stated in the proposed nickel screening and implementation plan page 5, second paragraph, fourth sentence; the approach would apply to all of Hunters Point, not just Parcel B.

Yes, only data from sites 4 through 10 were included in the calculation of the regression lines, as was stated in the plan, page 5, second sentence. This is the dataset recommended on page 3 of Dr. Frampton's memorandum dated November 13, 1998.

Dr. Frampton's underlying memoranda and his recommended equations will be added to the revised plan as suggested.

The Navy did use Dr. Frampton's regression line plots and his calculated equations derived from the plots as stated in the plan, page 5, second paragraph, fourth sentence.

The Navy will include two additional references: (1) Introduction to Geochemistry by Konrad Krauskopf and Dennis Bird (1995) as suggested by the EPA, and (2) Carbon Dioxide Sequestering Using Ultramafic Rocks by Fraser Goff and K.S. Lackner, published in the journal of Environmental Geosciences, Volume 5, Number 3, p. 89-101.

The approach in applying the proposed Nickel screening and implementation plan was stated in the plan on page 5, second paragraph: "The Navy proposed to calculate an ambient level for each remediation area where nickel has been identified as a COPC using the regression equations for nickel to magnesium and nickel to cobalt. The regression used to calculate the ambient levels will be based on the basewide dataset collected from IR sites 4 through 10. The same regression equations will be applied to each parcel at HPS. Initially, as recommended by DTSC, the 95 percent UCL of the nickel-magnesium regression equation will be applied as a screening criteria. Sites exceeding ambient levels based on the nickel-magnesium regression, will be further screened using the nickel-cobalt regression developed by Dr. Frampton (Frampton 1998b). If nickel is less than the calculated ambient level using the nickel-cobalt regression, nickel will be dropped as a COPC for that specific remediation area. Sites where nickel concentrations exceed the ambient level based on the nickel-cobalt 95 percent UCL regression would be further evaluated geologically."

The Navy has determined that a nickel-magnesium regression is effected by weathering of serpentinite; however, has not found the need to evaluate the weathering effects on the chromium-magnesium regression used to calculate the Hunters Point ambient level, but feels that it too may be affected.