UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

August 5, 1994

Ernesto M. Galang
Western Division - Code T4A2EG
Naval Facilities Engineering Command
900 Commodore Drive
San Bruno, California 94066-2402

Re: Site 01 - Medical Clinic Additional Characterization
Draft Field Work Plan Addendum
for Naval Station Treasure Island dated June 27, 1994

Dear Mr. Galang,

The U. S. Environmental Protection Agency (EPA) has received and reviewed the subject document. EPA's comments are enclosed.

For future workplans, it is recommended that the Navy present the approach for the workplan to the Project Team (EPA, DTSC and RWQCB) prior to submitting the workplan document. Using the team approach, the Project Team can informally review the workplan approach before a document is prepared saving time and cost on revisions.

If you have any questions, please call me at (415) 744-2368.

Sincerely,

Rachel D Simons

Rachel D. Simons
Remedial Project Manager
Federal Facilities Cleanup Office

Enclosures

cc: Jim Sullivan, NAVSTA TI
Tom Lanphar, DTSC
Gina Kathuria, CRWQCB
H-9-2 File
ADMIN RECORDS (3 COPIES)

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SITE 01 - MEDICAL CLINIC ADDITIONAL CHARACTERIZATION
DRAFT FIELD WORK PLAN ADDENDUM
NAVAL STATION TREASURE ISLAND DATED JUNE 27, 1994

Specific Comments:

1. **Section 1.0 Introduction, page 1**

Please indicate if the Site 01 removal action is time critical or non-time critical.

2. **Section 1.0 Introduction, page 1**

Please clarify that the purpose of this addendum is to accomplish "further characterization" not "removal" of the hot spot. The extent of contamination should be determined prior to taking any removal action or setting cleanup levels.

3. **Section 2.2.1 General Background, page 2**

What were the chemical formulas of the corrosive developer and fixer solutions that were used at the Medical Clinic? What were the original pH values of these solutions?

4. **Section 2.2.2 Previous Investigations, page 5**

What is the significance of reporting the 377 micrograms/liter of manganese in the groundwater? Was manganese the only compound detected in the groundwater sample? Please clarify.

5. **Section 2.2.2 Previous Investigations, page 5**

The second paragraph states that the "Results of the PA/SI and Phase I RI indicate the extent of the silver-contaminated soil is limited to surface soils immediately beneath Building 257". At this time, this statement is not appropriate since the extent of the silver contamination has not been fully defined. Please delete or revise the statement.

6. **Section 2.2.2 Previous Investigations, page 5**

EPA does not agree with the conclusion that silver has not impacted groundwater based on the fact that it has not been detected in monitoring well 01-MW01. First, section 2.2.3 states that groundwater flow is "radial in all directions", and therefore, well 01-MW01 is not necessarily down gradient of the impacted area. Second, the vertical extent of silver contamination has not been determined. At this time, there is not enough information to make a conclusion that groundwater is not impacted. Please delete or revise the statement.

7. Section 2.2.2 Previous Investigations, page 5

The groundwater must be considered a drinking water source until adequate data is collected to support a non-potable determination and a non-potable waiver is obtained from the EPA.

8. Figure 3 Previous Sampling and Results, Site 1-Medical Clinic, page 6

Please include the general groundwater flow direction and the pH values for all soil borings on Figure 3.

9. Section 2.2.4 ARARs/Potential Cleanup Levels, page 7

EPA does not agree with the use of the human-health based PRG of 1,790 mg/kg as a cleanup level for the removal action at Site 01. Before determining the cleanup levels, the extent of silver contamination should be determined. Once the extent is known, the BRAC Project Team (Navy, EPA, DTSC and RWQCB) should discuss and agree on a clean up level before any action is taken.

10. Section 2.2.4 ARARs/Potential Cleanup Levels, page 8

At this time, there is not enough information to make the conclusion that "no vertical mechanism for transport of silver" exists. Section 2.2.3 states that the groundwater can fluxuate to depths of 0.30 feet bgs after periods of heavy precipitation. Based on this information, groundwater has most likely come in contact with the contaminated surface soils. Until the vertical extent of silver contamination has been established, groundwater should be considered a potential vertical transport mechanism for silver.

11. Section 2.2.4 ARARs/Potential Cleanup Levels, page 8

What is the effect of a low pH (acidic conditions) on the transport of silver in soils? Will the silver still "adsorb strongly to soils"? Also would the acidic conditions affect the transport of any other naturally occurring metals in the soils?

12. Section 2.2.4 ARARs/Potential Cleanup Levels, page 8

Documentation must be provided to support the statement that "No known terrestrial ecological receptors exist at Site 01".

13. Section 3.0 Additional Characterization, page 8

<u>pH Field Screening</u>

What pH value will define soil as "acidic"?

14. Section 3.0 Additional Characterization, page 10

Surface Soil Sampling

The sampling approach should be flexible so that if the proposed four surface soil samples shown on Figure 4 detect high silver concentrations, more samples can be collected.

15. Section 3.0 Site 01 - Medical Clinic Additional Characterization, page 10

Soil Boring Sampling

One soil boring in the vicinity of PA/SI samples 1 and 2 may not define the vertical extent of silver contamination. If the four surface soil samples detect high silver concentrations, the vertical extent of silver contamination should also be determined at those locations.

16. Section 3.0 Additional Characterization, page 11

Although the results of pH field screening may determine the extent of the acidic conditions of the surface soils, the acidic conditions may not correlate with the extent of silver contamination. The results of pH field screening is not sufficient information for performing a removal action. Before a removal action is performed, the extent of silver contamination must be determined independently of the pH field screening and cleanup levels must be established. The last paragraph of this section should be deleted from the text or the approach revised.

17. Table 1 Additional Characterization, page 12

It is recommended that the soil boring samples should be analyzed for all metals, not just silver, as well as any other hazardous components of the x-ray developer and fixer solutions.