



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street

San Francisco, CA 94105-3901

April 20, 1994

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

Re: Draft Phase IIA Remedial Investigation - Field Work Plan  
Addendum for Naval Station Treasure Island dated March 2,  
1994

Dear Mr. Galang,

The U. S. Environmental Protection Agency (EPA) has received and reviewed the subject document. EPA's comments are enclosed including comments from Matthew Hagemann, EPA Regional Hydrogeologist.

If you have any questions, please call me at (415) 744-2368 or Matthew Hagemann at (415) 744-2326.

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 w/o attachments)*

*#284*

DRAFT PHASE IIA REMEDIAL INVESTIGATION  
FIELD WORK PLAN ADDENDUM  
NAVAL STATION TREASURE ISLAND - SAN FRANCISCO, CALIFORNIA  
DATED MARCH 2, 1994

Comments from Rachel Simons

1. Section 3.0 - Scope And Rationale, Page 6

As stated under activity 2, groundwater sample collection, selected wells will be sampled quarterly for three consecutive quarters. The Navy also needs to consider developing a long-term ground water monitoring program.

2. Section 4.2 - Groundwater Sample Collection, Page 10

The first sentence in the last paragraph of this section states that for "wells where data indicate contaminant concentration differences greater than analytical error (when compared to previous data)", quarterly sampling for three quarters will be implemented. Define analytical error and explain the statistical methodology for selecting the wells for the quarterly sampling.

Comments from Matthew Hagemann

The following comments address each of planned activities of the Phase IIA Work Plan in sequence.

1. Monitoring Well Evaluation, Redevelopment, and Surveying:

(a) A statement is made that the Navy will evaluate all of the monitoring wells at NAVSTA TI to determine which would be suitable for future groundwater sampling. A review of Table 1, "NAVSTA TI Historical Monitoring Wells" shows that 65% of the monitoring wells have been installed by PRC within the last 2 years. Well construction diagrams of the wells are included in Appendix B of the Draft Phase I RI Report, and show elevation, screened interval, etc. An evaluation of the wells installed by PRC would not appear to be necessary unless development of the PRC wells was inadequate and the construction of these wells was poorly documented.

(b) The criteria for well evaluation are not included. Stated evaluation criteria should include: intake length, filter pack grain size, and casing materials, among others. The evaluation should be based on documents such as: (1) the RCRA Technical Enforcement Guidance Document (EPA, 1987);

the RCRA Groundwater Monitoring: Draft Technical Guidance (EPA, 1992) and; Handbook of Suggested Practices for the Design and Installation of Groundwater Monitoring Wells (EPA, 1989).

## 2. Groundwater Sample Collection:

(a) The collection of groundwater samples and the documentation, and reporting of analytical results should be conducted in accordance with the 2/9/94 EPA Region 9 Draft Data Management Order (attached). It is anticipated that the order will be adopted by EPA Region 9 within fiscal year 1994.

(b) Prior to commencing groundwater sampling, the QAPP and FSP (referenced on pages 9-10) should be revised to include the work proposed in the subject document.

## 3. Single Well Aquifer Tests:

(a) An effort should be made to compare the present conceptual hydrogeologic model of the site to the assumptions required by slug test methodology. For instance, to get accurate results from a slug test, the aquifer must be homogenous and isotropic; therefore, the degree of aquifer homogeneity and isotropy at NAVSTA should be assessed prior to conducting the tests.

## 4. Tidal Influence Study:

(a) A methodology for the analysis of data collected during the proposed tidal influence study is not included in the workplan (including Appendix C). It is suggested that the study ascertain the mean hydraulic gradient of the aquifer underlying NAVSTA TI. The mean gradient can then be used to predict groundwater flow rate and direction using the methodology outlined by in *Groundwater by Serfes* (vol. 29, no. 4, 1991, pp. 549-555).

In addition to the above comments, EPA recommends that for all future hydrogeologic reports the Navy follow the format of the *Recommended Content and Presentation for Reporting Hydrogeologic Data During Site Investigations* (CBCEC, 1993) (attached). This format includes an outline for the following components of a hydrogeologic report:

(a) summaries of historic water quality and potentiometric data

(b) identification and discussion of trends in analytical and potentiometric data

(c) an evaluation of the monitoring systems and monitoring and reporting programs to provide for estimates of the nature, extent, and rate of migration of contaminants in groundwater

(d) tabular summaries of the histories of mean water levels in each well

(e) groundwater elevation hydrographs

(f) hydrogeologic cross sections to include identification of vertical and horizontal flow paths within all of Parcel A

(g) structure contour maps

(h) water level contour maps based on mean water levels, to include explanation for the omission of data.

(i) cross-sections to include the vertical distribution of hydraulic head between the A-, B- and bedrock aquifers.

(j) results of tests for the determination of aquifer properties

(k) rates and directions of groundwater flow

(l) rates and extent of groundwater contamination, to include

- background water quality
- summary tables and graphs
- contaminant distribution and cross sections

(m) recommendations for the development of a long term groundwater monitoring plan.

Attachments (2)

**ATTACHMENT 1 – DRAFT DATA MANAGEMENT ORDER**

**ATTACHMENT 2 – RECOMMENDED CONTENT AND  
PRESENTATION FOR REPORTING HYDROGEOLOGIC DATA  
DURING SITE INVESTIGATIONS**

**THESE ATTACHMENTS ARE NOT AVAILABLE.**

**EXTENSIVE RESEARCH WAS PERFORMED BY NAVFAC  
SOUTHWEST RECORDS OFFICE TO LOCATE THE MISSING  
ATTACHMENTS. THIS PAGE HAS BEEN INSERTED AS A  
PLACEHOLDER AND WILL BE REPLACED SHOULD THE  
MISSING ITEMS BE LOCATED.**

**FOR ADDITIONAL INFORMATION, CONTACT:**

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