



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

N60028_000634
TREASURE ISLAND
SSIC NO. 5090.3.A

OFFICE OF THE
REGIONAL ADMINISTRATOR

March 10, 1997

Ernie Galang, Code 1832.5EG
Engineering Field Activity West
Naval Facilities Engineering Command
900 Commodore Drive, Building 208
San Bruno, California 94066-2402

Re: Air Sampling Technical Memorandum for Naval Station Treasure
Island dated February 4, 1997

Dear Mr. Galang,

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

If you have any questions, please call me at (415) 744-2383.

Sincerely,

Rachel D. Simons
Remedial Project Manager
Federal Facilities Cleanup Office

cc: Jim Sullivan, NAVSTA TI
Chein Kao, DTSC
Gina Kathuria, CRWQCB
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**Air Sampling Technical Memorandum
for Naval Station Treasure Island
dated February 4, 1997**

General Comments:

1. EPA understands that the air sampling results will be incorporated into the Remedial Investigation Report and the Corrective Active Plan to evaluate the risks associated with the inhalation of VOCs. This objective should be clearly stated.

Specific Comments:

1. **Executive Summary, page v**

In the Final Air Sampling Work Plan dated July 25, 1996, the last two paragraphs of Section 1.1 explain why VOC inhalation from groundwater and soil is being evaluated by air sampling. These paragraphs should be included in the Executive Summary and in any documents where the air sampling data is used.

2. **Figure 3-1 Site 6 Isolation Head Space Flux Chamber Sampling Locations**

Please include the depths of the soil samples on the figure.

3. **Figure 3-2 Site 22 Isolation Head Space Flux Chamber Sampling Locations**

Please include the depths of the soil samples on the figure.

4. **Section 4.1.2 Field Sampling, page 15**

Please explain if the sampling conditions, stated in Section 4.1 of the Final Air Sampling Work Plan, were met.

5. **Section 4.3 Deviations from the Work Plan, page 16**

The third paragraph of this section explains the third deviation from the work plan. According to the work plan, all samples should have been collected as 2-hour integrated air samples, but instead some samples were collected as 10-30 second grab samples. Since grab samples are not representative for low emission rates, EPA does not agree that grab samples are appropriate for evaluating VOCs emissions at NSTI. For low emission rates, which are likely at NSTI, grab samples do not allow enough time for VOCs to build up inside the flux chamber as stated in Section 4.3.1 of the Final Air Sampling Work Plan. EPA recommends that the grab sample data not be used to evaluate VOCs in air.

This impacts Site 22 where only grab samples were collected and where the highest concentrations of benzene were detected in soil. The use of the grab sample data at Site 22 should be discussed with the Agencies. Since Site 22 is scheduled for remediation under a corrective action, it may not be necessary to use the data from Site 22.

6. Section 4.3 Deviations from the Work Plan, page 16

The fourth and fifth deviations from the work plan involve purging the flux chambers and monitoring the vacuum pressure in the SUMMA canisters. Please explain how these deviations are different from the sampling method outlined in Section 4.3 of the Final Air Sampling Work Plan and whether the deviations could affect the accumulation of VOCs.

7. Table 5-1 Site 6 Air Sampling Results, page 19

Please check the calculation for the emission flux. For benzene in sample 06-AR01, the emission flux in Table 5-1 is reported as $7.71 \times 10^{-6} \mu\text{g}/\text{m}^2\text{-sec}$. But if the following equation is used from Section 5.1,

$$E_i = (C_i * V_E) / (t * A)$$

$$E_{\text{benzene}} = (1.33 \mu\text{g}/\text{m}^3 * 0.1334 \text{ m}^3) / (72,000 \text{ sec} * 0.2919 \text{ m}^2)$$

$$E_{\text{benzene}} = 8.44 \times 10^{-6} \mu\text{g}/\text{m}^2\text{-sec}$$

8. Table 5-1 Site 6 Air Sampling Results, page 19

Please present the calculation that was used to convert head space concentration from ppbv to $\mu\text{g}/\text{m}^3$.

9. Section 5.2 Dispersions Modeling to Outdoor Air, page 18

Indoor air concentrations should be addressed. If indoor air concentrations are less than outdoor air concentrations, then a general statement should be made in the text. If the indoor air concentrations are greater than the outdoor air concentrations, then the calculations for indoor air should be included. This issue should be discussed with the Agencies.

10. Table 5-4 Site 6 Modeled Outdoor Concentrations and Preliminary Remediation Goals

Please explain that the "not applicable" notation, n/a, does not mean that the compound was not sampled, but that the compound was not detected and therefore the outdoor concentration can not be modeled.

11. Section 5.2.2 Site 22 Results, page 26

Since only grab samples were collected at Site 22, EPA can not support the conclusions of this section (see Specific Comment #5).