



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street

San Francisco, CA 94105-3901

October 28, 1997

Mr. Michael McClelland
Department of the Navy
900 Commodore Drive
San Bruno, CA 94066-5006

Dear Mr. McClelland:

**TREATABILITY STUDY FOR PARCEL C WORK PLAN, HUNTERS POINT SHIPYARD,
SAN FRANCISCO CALIFORNIA**

The Environmental Protection Agency (EPA) has completed review of the subject document received October 22, 1997. As you requested, we have expedited our review considerably to meet the current schedule. We provided you with these comments verbally during the conference call this morning. We expect that responses to these comments will be provided prior to initiation of the field work and do not expect that a formal revision of the work plan will be necessary so that we can meet the expedited schedule. Please ensure that this approach is acceptable to DTSC as they were unable to participate in the call.

We are directing this letter to your attention because of the overlap with the reuse of the base, particularly the basewide FOSL which will include findings for buildings overlying vinyl chloride groundwater plumes. As you know, we are concerned with the potential pathway for vapors to migrate into the building and expose workers to unacceptable levels inside the building. In addition to this potential future exposure, we also understand that tenants are currently occupying some of these buildings. We anticipate that current exposures to vinyl chloride are acceptable based on the passive gas sampling that was previously performed in the buildings (this will be confirmed as part of the soil gas survey). However, the Navy should take appropriate precautions during the implementation of the air sparging so that occupants of the buildings are not exposed to hazardous levels should sufficient vaporization occur during the pilot study. We also understand that the use of the building over IR-36 may be different than what was identified in the original building specific FOSL (i.e. storage only) and as such, this FOSL may not represent actual exposure conditions. This should be evaluated by the BCT and remedied as appropriate. If you have any questions regarding these comments please call me at (415) 744-2387.

Sincerely,


Sheryl Lauth
Remedial Project Manager

cc: Ms. Claire Trombadore, EPA
Dr. Dan Stralka, EPA
Ms. Cynthia Wetmore, EPA
Mr. Chein Kao, DTSC
Ms. Glenna Clark, Navy
Mr. Jim Sickles, Tetra-Tech
Mr. Richard Powell, Navy

COMMENTS ON THE DRAFT WORK PLAN
PARCEL C TREATABILITY STUDY ACTIVITIES
HUNTERS POINT SHIPYARD

General Comments:

1. Additional discussion is needed to describe how the effectiveness of AS/SVE performance will be assessed, particularly how the stripping of VOCs by AS and their capture by the SVE will be estimated. For each technology the Work Plan indicates how the radius of influence (ROI) and physical operation of the various wells/vents will be assessed, however, is it not clear how the VOCs mobilized by the AS will be assessed, or how the SVE measurements will show that VOCs result from the AS rather than from SVE alone. Please also consider and discuss whether there is vadose zone contamination that will result in VOC capture by the SVE even if the AS is ineffective.
2. It is not apparent how the spread of VOCs through soils (if they are not captured by the SVE) will be detected. Please clarify whether a second soil gas survey during the combined AS/SVE test will be conducted to show that the lateral distribution of VOCs is similar to the baseline, thereby supporting the inference that the SVE system is capturing the mobilized VOCs.
3. Please discuss how, if at all, the uneven airflow through conduits in the fill areas can be assessed. It appears that the potential presence of such material presents the possibility for preferential channeling of contaminants to the atmosphere.
4. All objectives for all aspects of the treatability study should be clearly stated and discussed in Section 1. For example, the objective of the soil, soil vapor, and groundwater sampling at RU-5 is not discussed. It is also inappropriate to present a new objective (refining the indoor air model) in Section 6.2.
5. Please consider using "The Guide for Conducting Treatability Studies Under CERCLA; Soil Vapor Extraction," Interim Guidance, September 1991 to define the criteria for success or failure of the tests.
6. A vertical gas profile in the areas of concern analyzing for not only the contaminant constituents but also CO₂, O₂ and organic carbon needs to be done to refine the placement of the wells and determine where the gas is coming from. A similar

situation at Alameda NAS found a gas restricting layer at about 1 meter which was not visible from the soil logs (Lawrence Berkeley Lab LBL-37768, UC-402 Nov 1995), but at Hunter's Point we don't know if this type of layer exists.

7. The soil gas sampling should be done using Summa canisters to achieve the lowest detection limits. The first half of the report refers to Tedlar bags, the last to Summa canisters. It should read Summa canisters throughout.
8. Finally, as the treatment of the removed gas is by catalytic oxidation, the details of the system should be provided to EPA so that the unit does not produce dioxins in the waste stream as was the problem with a SVE unit at Edwards AFB.

Specific Comments

1. **Section 2.4, Page 4, paragraphs 1 and 2.** The first paragraph indicates field monitoring of DO, pH, specific conductance, and temperature at "monitoring points" while the second paragraph indicates that groundwater samples will be analyzed in the field for DO, ORP, nitrite, sulfide, and ferrous iron at RU-4, RU-5, RU-6 and a background location. Please clarify whether the monitoring points referred to in these two paragraphs are the same and explain why the analytical parameters are not the same for all such points.
2. **Section 3.3.1, Page 6, paragraph 1.** Please explain what will keep the Teflon tubing from collapsing either from soil pressure or as the grout hardens. Also explain how will the tubing will be removed at the end of testing if it is grouted in place.
3. **Section 3.3.1, Page 6, paragraph 2.** The text states that the spacing of the soil vapor probes is based upon estimated radius of influence (ROI) of the SVE vents. Please discuss the basis for the estimated ROI. Likewise please indicate the basis for selection of piezometer locations for monitoring air sparging.

EPA suggests that an additional soil vapor probe at a distance of 5 or 10 feet beyond the expected ROI be added.

4. **Section 3.3.3, Page 8, paragraph 3.** Please be certain to cap the sawed-off vents, all vapor probes, and air sparging wells that remain in the ground so that the open conduits to the atmosphere will be eliminated. Otherwise, every time a low pressure system moves through, VOCs, including vinyl chloride, will be vented to the atmosphere or to the air within a building.
5. **Section 3.3.4, Page 9, paragraph 3.** The text states that if

the drilling indicates that the bedrock is inadequate for an AS well, a second attempt will be made at a new location. Please discuss the criteria for bedrock competency for purposes of the AS well and discuss who will make this determination.

6. **Section 3.3.4, Page 9, last paragraph.** The text indicates that at RU-6 subsurface clay layers may affect the airflow distribution. Please discuss the likelihood that these clay layers may direct contaminated air laterally outside of the SVE capture zone and result in discharge to the atmosphere.
7. **Section 3.4.2. Page 16.** Please specify the purpose of soil sampling at RU-5 and discuss why the soil sampling method for RU-5 differs from that for RU-2, RU-4 and RU-6.
8. **Section 3.5, Page 17.** According to the text, the Soil Vapor Survey is intended to provide data "representative of current conditions". Please consider whether it would be appropriate to repeat this survey during the AS/SVE test to attempt to verify that the AS/SVE system is not spreading the VOCs laterally through the vadose zone. Also, please clarify whether the soil gas monitoring points remain in place after the survey.
9. **Section 3.6, page 18.** The second paragraph states that samples will be "poured" into sample containers, however samples collected by pumping are not "poured." Collecting VOC samples with a peristaltic pump will likely result in loss of VOCs, particularly vinyl chloride, which is extremely volatile. Please describe the sampling procedure which will be used to minimize loss of VOCs.
10. **Section 4.2, Page 20.** It is true that Remedy Screening studies require less stringent QA/QC than Remedy Selection studies. It appears that these are Remedy Selection studies, therefore more stringent DQO's and QA/QC procedures may apply. Please indicate clearly what level applies to this study and how the appropriate QA/QC level will be achieved.
11. **Sections 6.2 and 6.3.** The refinement of the indoor air model is first mentioned as an objective of the study in these sections. This objective should be discussed in Section 1. Please clarify whether there is a concern that the AS/SVE operation will mobilize contaminants to basements/building spaces. If so, this heightens the potential significance of efforts to verify capture of VOCs by the SVE system. Also, please describe how moisture content and bulk density are key to refining this model.