

Alameda Point Restoration Advisory Board

OU-5 Focus Group

c/o Lea Loizos, 833 Market Street, San Francisco, CA 94103
Phone: 415-495-1786 Email: lealoizos@mindspring.com

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Thomas Macchiarella
BRAC Operations, Code 06A.TM
Department of the Navy, Southwest Division
Naval Facilities Engineering Command
1230 Columbia Street, Suite 1100
San Diego, CA 92101

RE: Draft Groundwater Remedial Investigation/Feasibility Study Report, Alameda Point Site 25 and Alameda Annex IR-02, Alameda Point, Alameda, California

Dear Mr. Machiarella:

The OU-5 Focus Group, with the help of our TAPP contractor, Kenn Conner, has reviewed the Draft Groundwater Remedial Investigation/Feasibility Study Report for Alameda Point Site 25 and Alameda Annex IR-02, dated October 8, 2003. We are pleased to see that the Navy is suggesting active remediation for the groundwater contamination. However, we have several concerns with the preferred remedy and some of the conclusions drawn in the report.

First and foremost, we are concerned that a remedy is being discussed without having properly defined the plume and its source. Efforts to remediate the groundwater plume may be futile if there is still a source area. It is our sincere hope that a better analysis of the available data and possible source areas will be conducted before any final decisions are made about the remedy. We are also greatly concerned about the increased volatilization that will occur with biosparging. If the gases do not biodegrade as expected in the vadose zone and emissions are not controlled, there is a substantial risk of inhalation of toxic gases for those living on Site 25.

Our detailed comments and concerns are below.

1. Source of the plume

- a. As of yet, the source of the benzene plume has not been identified. Despite claims that the levels of contamination are decreasing, it is our opinion that the plume is stable and that the plume is migrating to the northwest. In reviewing the data it is clear that concentrations are neither increasing nor decreasing substantially. This is rather concerning as it is unusual for a plume

of this type to remain in the groundwater for as long as this plume has. Although it may be due in part to anaerobic conditions, we are not yet convinced of this and are concerned that there may still be a source of the benzene. There are reports from former employees that the area was used for the burning of aircraft parts. We urge the Navy to conduct a better investigation of the historical uses of the area and provide better justification for the assumption that there is no longer a source of contamination to the groundwater.

- b. A better investigation into the stained area is required. It seems like more than coincidence that the hotspot of the plume is directly below the stained area. There is no justification provided to prove otherwise. A reference is given on page 1-11 to an ERM-West document that discusses remediation that took place in the stained area, however the document is not listed in the references section. Indeed, later in the document it states, "The stained area was allegedly remediated, indicating there is no continuing source area. However, no information was available to confirm that remediation had occurred." (Section 4.4.2) Please clarify whether or not remediation occurred in this area.
- c. The utility lines may also be a source. Have the utility lines in this area been investigated to ensure that there are no leaking pipelines? Please include a utility diagram in the report.

2. Poor boundary definition

The boundaries of the plume are incorrectly represented in several of the figures. The figures give the impression that the plume is bound on all sides, when in fact the west and northwest boundaries are not yet defined. Furthermore, the program used to draw the boundaries has created odd-shaped plumes that do not naturally occur (e.g., Figure 4-2). If the Navy believes this to be a true representation of the plume shape, an explanation for the unusual shape is required (e.g., is there a geologic reason?) We urge you to redraw the plume maps to adequately represent all of the data and to only show the plume boundaries that have been defined thus far.

3. Lack of discussion about MTBE contamination

The document only focuses on the benzene contamination in the groundwater without any in-depth discussion about other detected contaminants, such as MTBE and 1,2-dichloroethane. The MTBE is of particular concern, as it indicates a more recent spill (within the last 15 years). The 1,2-dichloroethane is also of concern as it is not a component of gasoline, the suspected original source of the benzene plume. A more thorough examination of these contaminants is necessary, including possible sources, associated risks, and possible remedial alternatives, if necessary. Please include a map showing the location of the MTBE plume relative to the benzene plume.

4. Lack of soil gas and indoor air data

- a. Since the beginning of the Remedial Investigation and Feasibility Study process for OU-5, we have been requesting indoor air sampling. Results of samples taken by the Coast Guard were to be included in this report but are

not presented. Please include this data or provide data from indoor air samples taken by the Navy.

- b. The conclusions drawn from the soil gas sampling are not well supported. A better explanation of how it was determined that the benzene detected in the soil gas is not related to the groundwater benzene plume is required. (Section 3.2) The results of the soil gas sampling would be more useful if a figure was provided showing where the soil gas samples were taken.

5. Increasing volatilization through the introduction of air

We are concerned about the possibility of increased volatilization that could occur as a result of the biosparging. As most of Site 25 is currently residential property, the risk of toxic gases entering the homes is already a great concern. By creating a more aerobic environment and increasing the degradation rate of the groundwater plume, the amount of volatiles entering into indoor air may increase. For this reason, we believe that other remedies that do not increase the possibility for volatilization should be analyzed. Specifically, we would like to see the groundwater and extraction (or “pump and treat”) remedy analyzed as thoroughly as the other remedies. Although this remedy may require more time to reach the cleanup levels and is typically not preferred, it may be a more appropriate remedy for a residential site.

At the same time, a better analysis of the effects of bio or airsparging should be conducted, especially considering the shallow depth of the vadose zone. How can we be certain that volatile organics will not be entering the homes above the plume? What type of monitoring will be done to ensure the protection of those living on the site? If harmful levels of benzene or other volatiles are detected, what can/will be done to mitigate the risk?

6. Missing groundwater data

- a. There is also no fence data, which makes it difficult to know at what depths the wells are located. Please include this information in the draft final version.
- b. The document makes improper comparisons of hydropunch and monitoring well data, as if the two are the same. The volume of water collected from a monitoring well is greater than that collected from a hydropunch, allowing for more dilution. Comparing the data from the two misrepresents the trends occurring on the site. Please adjust your analyses as necessary to correct this discrepancy.

7. Use of the Man-Kendall statistic

The Mann-Kendall statistic was used to determine the stability of the plume. We are concerned that the results are skewed because of the relatively small data set that was used. Furthermore, it seems that the use of this statistic is not appropriate in areas that are tidally influenced. Please include the results of other techniques commonly used for this purpose so that we may compare them with the results of the Mann-Kendall statistic. For example, a graph of the constituent concentrations and groundwater levels vs. time would be useful.

We appreciate the opportunity to review and comment on this document. We would be happy to discuss our concerns with you further at the upcoming RAB meeting or at a separate focus group meeting. If you have any questions, please contact me at 415-495-1786.

Sincerely,

Lea Loizos for the OU-5 Focus Group

Cc: Anna-Marie Cooke, US EPA
Judy Huang, Regional Water Quality Control Board
Marsha Liao, DTSC
Peter Russell, Northgate Environmental Management, Inc.
Sue Boyle, US Coast Guard
Jean Sweeney, RAB Community Co-Chair