

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

SAN FRANCISCO BAY REGION

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Mr. Stephen Chao
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Department of the Navy
Naval Facilities Engineering Command
900 Commodore Way, Bldg.101
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December 17, 1993
File No. 2189.8009 [EA]

Subject: Comments on Draft Background Soil Sampling Field Work Plan, November 19, 1993

Dear Mr. Chao:

The following comments are based on the San Francisco Bay Regional Water Quality Control Board's staff review of the subject document.

General Comments:

Background levels for metals in soils have already been accepted through the RI/FS process at operable unit 2 at Moffett Naval Air Station. The purpose of this additional investigation seems to be supported by the three descriptions of the inadequacies of the current background levels, however the summation of these rationale, that the background values selected for earlier RI reports "resulted in a conservative assessment approach which is overly protective of human health" is not a sufficient reason to conduct more sampling and investigation to develop new background levels. We currently have a range of inorganic background levels which are utilized in evaluating risk at the site, and the benefits of developing new background levels needs to be based on technical difficulties with the established levels, not opinions on "over-protectiveness". The conservative approach to the human health risk assessment still allows us to make risk management decisions without the potential of underestimating or overestimating a potential risk.

There are basic flaws in the approach to developing the sampling plan for the development of new background levels which are outlined in the following comments.

Specific Comments:

pg. 6, section 4.2 It is not sufficient to sample only the surface soils to develop background levels. The average depth of soil borings and soil sample collection should be distributed over the depths that samples have been collected in the past. Soil samples have been collected and analyzed throughout the RI/FS process to depths below 10 feet. In addition, if soil background levels are ever utilized to help describe water chemistry, the soil background needs to adequately reflect the distribution of soil types and depths throughout saturated zones.

pg. 6, section 4.2.1 The proposed sampling locations need to be collected from areas with no past impact, slightly impacted sites are not acceptable as background locations. Ideally, background levels should be developed from off-site areas if possible, but most importantly the specific soil types found on Moffett Field should be represented in the sampling locations chosen for background levels.

Agricultural lands are not desirable background locations due to historic uses

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of pesticides and herbicides which can leave high residues of metals in the soil, as well as other potential impacts from agricultural activities.

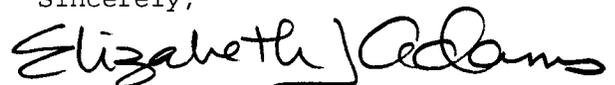
If soil samples must be taken on site to develop background then sufficient rationale and data must be included in the work plan to support the expectation that the sample locations are unimpacted areas of the Base. A map of the IR sites along with the proposed locations would be helpful in evaluating the proposed sites. Other considerations which must be taken into account in choosing sample locations are as follows:

- 1) Consideration of the wind direction and determination of surface soil areas potentially impacted by jet fuel and its associated metals from airplanes taking off and landing needs to be evaluated. Too many of the soil sampling locations on Figure 2 are along the runway which may be impacted from the fuel vapors and exhaust.
- 2) Proposed sampling locations on the northern section of the site are most likely not native soils but composed of fill material brought in from offsite. The first ten feet below land surface in these areas may not adequately represent the natural background levels of the area.
- 3) Surface soil sample locations in the wetland areas may bias the distribution of metals since wetland soils often accumulate metals from surface runoff.
- 4) All soil types should be represented in the development of background levels. Ideally, discreet background levels for each soil type present on Moffett Field should be developed separately. Soil types can be classified by soils maps or the soil classification system used for identification. Collecting soil samples primarily from the clay rich soils will bias the final estimation of metals levels since clay rich soils are most chemically active and will likely be higher in metals content than the courser-grained soils (pg. 8, section 4.2.3).
- 5) Soil samples collected for determining background should be analyzed for the full suite of potential contaminants on site to assure that the locations are not impacted by site activities. Analyzing the samples for just metals will not confirm that the chosen sites were "clean" (pg. 9, section 4.2.3).

These provisions are essential to collecting the appropriate data to determine "natural" background conditions. If the Navy does desire new background levels these issues will need to be addressed, however the need for new background is a subject that the Navy and regulators have not fully discussed.

If you have any questions or concerns, please call me at the San Francisco Bay Regional Water Quality Control Board, at (510) 286-3980.

Sincerely,



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Project Manager

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Mail Stop H-9-2

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