



California Regional Water Quality Control Board

San Francisco Bay Region



Gray Davis
Governor

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MOFFETT FIELD
SSIC NO. 5090.3

Date: October 11, 1999
File No. 2189.8009 (CJC)

Commanding Officer
Engineering Field Activity, West
Naval Facilities Engineering Command
Attn: Mr. Stephen Chao
900 Commodore Drive
San Bruno, CA 94066-2402

Dear Mr. Chao:

**Subject: Basewide Petroleum Site Evaluation Methodology Technical Memorandum,
Draft Appendix A, Site 12 Petroleum Evaluation, Moffett Federal Airfield**

The San Francisco Bay Regional Water Quality Control Board (RWQCB) has reviewed the subject report. Soil and groundwater data are presented to evaluate human and ecological risk from petroleum contamination at Site 12. According to the report, most of the sources of petroleum contamination have been removed; groundwater chemical data collected after the removal are within the screening levels. Therefore, the Navy recommends no further action should be warranted and the site is ready for closure. However, as described in our comments below, some of the exposure parameter default values selected in this report are different from the U.S. Environmental Protection Agency (US EPA) Region IX Preliminary Remediation Goals (PRG) table. In addition, the conclusion of the Human Health Risk Evaluation (Section 5.3) is inadequate. The Navy, therefore, should make all necessary corrections and changes, then submit a revised evaluation report for RWQCB's approval.

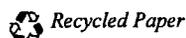
If you have any questions on these comments, please contact me at (510) 622-2334, e-mail CJC@RB2.swrcb.ca.gov.

Sincerely,

C. Joseph Chou
Remedial Project Manager
San Francisco Bay
Regional Water Quality Control Board

Enclosures

California Environmental Protection Agency



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cc:

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SPECIFIC COMMENTS

1. Page ES-3, Tank Information

In order to accurately locate all the USTs, RWQCB requests the Navy provide latitude and longitude coordinates (within one-meter accuracy) in the closure report. Results of a Global Positioning System, which can triangulate to sub meter accuracy, are acceptable.

2. Page ES-4, Maximum Chemical of Concern Concentrations Soil and Groundwater

Please clarify if the chemical of concerns (COCs) lists for both soil and groundwater are derived from Site 12 investigation and removal action. It is important to include a complete COCs list in the evaluation report. Without knowing all the COCs, a tier 1 risk-based corrective action (RBCA) cannot be properly conducted.

3. Page A-2, Geology and Hydrogeology

RWQCB appreciates the Navy's efforts generating a geological cross section at Site 12. It is very helpful to assist readers to understand the geology and hydrogeology at the site. However, for completeness reason, it is also important to provide all soil boring logs in the report.

4. Page A-2 to A-6, Previous Investigation and Removal Actions

It is stated that volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), metals, pesticide and polychlorinated biphenyls (PCBs), and total petroleum hydrocarbons (TPHs) were analyzed and presented in Tables A2, A3, and A4. However, several questions remained unclear to Water Board:

- Are benzene, ethylbenzene, toluene, and xylene (BETX) the only VOCs detected in groundwater before and after removal action?
- No PCBs data can be found in these tables.
- The SVOCs data contain only few polynuclear aromatic hydrocarbons(PAHs).

5. Page A-8, Groundwater Impact Evaluation

The Draft Site 5 Phase I Corrective Actions Technical Memorandum was used to support the assumption that biodegradation occurs at Site 12 with a sensible rate. Since Site 5 is located in the eastside of MFA, about 4,000 feet away from Site 12, the site-specific condition may vary significantly. In order to evaluate possible natural biodegradation processes, more parameters, such as oxygen, iron, nitrate, sulfate should be monitored at a given site. The data presented in the evaluation report does not include these parameters to support that natural biodegradation has played a noticeable role at Site 12.

6. Page A-10, Tier 1 Screening Evaluation Results

Several default values of exposure parameters used to calculate the risk-based screening levels(RBSLs) appeared different from the 1998 US EPA PRG tables. Please explain how the exposure frequency, duration, soil ingestion rate, surface area were determined for both the construction and occupational workers exposure scenarios. In addition, it is not clear to us if the inhalation pathway has been included for occupational workers exposure scenario.

7. Page A-12, Conclusions

In Section 5.3, the Navy did not portray U.S. EPA and RWQCB's policy adequately. The section needs to be rewritten based on the following information:

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP), Section 300.430(e)(2) states "For known or suspected carcinogens, acceptable exposure levels are generally concentration levels that represent an excess upper bound lifetime cancer risk to an individual of between 10^{-4} and 10^{-6} using information on the relationship between dose and response. The 10^{-6} risk level shall be used as the point of departure for determination goals for alternatives when ARARs are not available or are not sufficiently protective because of the presence of multiple contaminants at a site or multiple pathways of exposure".

Risks between 10^{-4} and 10^{-6} **may not** require remediation. RWQCB determines excess cancer risks and the Hazard Index following U. S. EPA procedures. The acceptability for total risks lower than 10^{-4} depends on several different factors, such as proper site characterization, adequate sampling density, validated conceptual site model etc. The risk number (e.g. lower than 10^{-4}) should be used in conjunction with other factors to determine whether any remediation or risk management will be required or not.