



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

SAN FRANCISCO BAY REGION
JACKSON STREET, ROOM 6040
SAN FRANCISCO, CALIFORNIA 94107

July 23, 1986

File No. 2189.8009 (TJB)

Commanding Officer
Western Division
Naval Facilities Engineering Command
P.O. Box 727
San Bruno, CA 94066

**SUBJECT: PROPOSED INTERIM CLEANUP AND CONTAINMENT PLAN FOR MOFFETT FIELD
NAVAL AIR STATION, MOFFETT FIELD, SANTA CLARA COUNTY**

Dear Commander:

This letter is written regarding the proposed interim cleanup and containment plan for Moffett Field Naval Air Station.

Very little detail is provided in the plan regarding the design, construction, operation, and monitoring associated with the proposed extraction trench. The trench proposal did not present specific data or calculations as to how the extraction trench would function. The cover letter transmitting the interim cleanup plan implies that a "design" report will be developed prior to construction of the trench. In concept, staff supports Moffett's cleanup plan as a means of reducing and containing on-site pollution. However, a detailed technical "design" report is necessary in order to properly assess the adequacy of the proposal.

Enclosed are comments regarding the interim cleanup and containment plan. These comments should be considered by the Navy when designing the proposed extraction trench. We encourage you to proceed with the necessary contract procurement for the design and construction of the extraction trench. I request that you submit a time schedule by August 25, 1986, outlining the expected dates for: obtaining the necessary contracts, submitting the "design" report, and beginning and completing the construction of the trench.

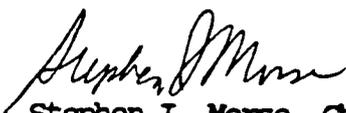
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We appreciate your cooperation in this matter. If you have any questions or comments regarding this letter, please contact Tom Berkins of my staff at (415) 464-1249.

Sincerely,


Stephen I. Morse, Chief
South Bay Division

Enclosures: Interim Cleanup and Containment Plan Comments
Board Staff Guidance Memo Implementing the Guidance Document

cc: Craig Von Bargaen, Camp Dresser & McKee
Alex Dong, Western Div., NAVFACENGCOM
Lee Esquibel, Santa Clara County Health Dept.
Michael Evans, Kennedy/Jenks/Chilton
Thomas Frutchey, City of Mountain View
Cmdr. Guild, Western Div., NAVFACENGCOM
Howard Hatayama, DOHS/Toxics Division
✓ Ensign Heckman, Public Works Office, Moffett Field
Tom Iwamura, Santa Clara Valley Water District
Louise Lew, Western Div., NAVFACENGCOM
Lewis Mitani, EPA Region 9
Cmdr. Sims, Public Works Office, Moffett Field
Gil Torres, State Water Resources Control Board

REVIEW OF
INTERIM CLEANUP AND CONTAINMENT PLAN
MOFFETT FIELD NAVAL AIR STATION

The following comments are in response to the Interim Cleanup and Containment Plan for Moffett Field Naval Air Station submitted by the Western Division Naval Facilities Engineering Command. It is understood that the Navy will be developing a detailed "design" technical report prior to installation of the proposed interim cleanup system. These comments should be considered by the Navy when designing the proposed system.

1. Page five, third paragraph - Although it is acceptable to install an extraction trench, rather than to install extraction wells as a potential remedial measure, it should be understood that it may be necessary to install extraction wells at some later date should the extraction trench prove inadequate or ineffective. In addition, although the A and B aquifers may be interconnected at the site, properly constructed extraction wells installed in the A aquifer should not cause cross-contamination to the B aquifer.

2. Page five, last paragraph - It appears that the easterly point of the proposed french drain system will extend to monitoring well MW-10. However, based on the fact that contamination has been detected east of MW-10, we recommend extending the the drain system further east to at least include monitoring well MW-11.

3. Page six, second paragraph -- This paragraph suggests that an upward gradient exists north of Macon Road which would preclude pollution from migrating from the A aquifer to the B aquifer. Based on the perforated intervals of the B aquifer monitoring wells, some of which appear to be actually A aquifer wells, we do not agree with this conclusion. This conclusion also does not agree with other investigations which have been conducted on Moffett Field. Further evaluation of the water levels in the A and B aquifer zones should be conducted in the next phase of work. However, this should not impact the conceptual design of the trench.

4. Page six, third paragraph - Pollution of the A aquifer is known to exist north of Macon Road greater than 1500 feet. It is likely that the proposed extraction trench will not contain and cleanup pollution which exists north of the proposed trench location. Thus, it should be understood that it will ultimately be necessary to address cleanup of the entire pollution plume once the full extent of pollution has been defined.

5. Page seven, second paragraph - It is unclear how the short term aquifer test data will be used to determine if the contamination is localized. Additional detail and clarification is needed. It may prove more beneficial to conduct a long term aquifer test at monitoring well MW-4. In addition to evaluating the hydraulic conductivity and storage coefficient, a long term test will also enable one to better assess the degree of inter-aquifer connection and radius of influence.

6. Page seven, last paragraph - Four alternatives proposed include discharge to Marriage Road ditch or to the storm drain without treatment. If you propose to discharge extracted groundwater containing pollutants of

concern to drainage courses tributary to San Francisco Bay or other waters of the State (including storm drains), you will need to submit a National Pollutant Discharge Elimination System (NPDES) permit application and the appropriate filing fee prior to any such discharge. Based on the information contained in your permit application (e.g. quantity and concentration of pollutants), a draft permit containing proposed effluent limits for your discharge will be distributed by Regional Board staff for public comment. The draft permit would then be considered for adoption by the Regional Board at a public hearing. After adoption of the permit, discharge could commence in compliance with the permit's conditions. The NPDES process can take up to 180 days from submittal of a complete application.

In September 1985, the Regional Board adopted a guidance document titled "Discharge of Polluted Groundwater to Surface Waters: Guidance Document." The Guidance Document contains recommended guidelines for Regional Board and staff consideration of surface water discharge of pollutants from groundwater investigations and cleanup operations. Attached to these comments is an internal Board staff guidance memo for implementing the Guidance Document with regards to long-term discharges. The attached memo is intended to assist you in preparing an NPDES application. Submission of the requisite information in the attached will expedite processing of your application. Copies of the September 1985 Guidance Document can be obtained from Regional Board staff.

7. As mentioned earlier, it appears that a "design" report will be developed prior to construction of the trench. The "design" report should, at a minimum, include the following information:

- a) The A aquifer should be delineated along the extraction trench; this may entail doing test borings along the alignment of the trench.
- b) Details on the monitoring system should be provided to verify the zone of capture. The monitoring program should be set-up to obtain data to demonstrate that the system is functioning properly. To determine the effectiveness of the trench it will be necessary to monitor the drawdown of the uppermost aquifer and measure water quality changes down gradient from the trench. The existing monitoring wells may not be sufficient for monitoring outside the trench and it is unclear whether any piezometers are planned within the trench.
- c) A cross-section along the trench should be provided which shows the elevations (USGS mean sea level datum) of the ground surface, base of the trench, and top of the filter material. In addition, the cross-section should also show the depth of the keyway, the location and depth of any overexcavation and/or sealing of permeable lenses, and the location of any highly permeable lenses observed in the trench walls. All locations should be defined by a clearly labeled reference system.

8. The following detailed specifications on the trench and drain system should also be provided:
- a) Width and depth of the trench.
 - b) Slope of the trench base.
 - c) Diameter and type of drain pipe.
 - d) Height of trench filter material.
 - e) Number, location, and type of piezometers and extraction wells located inside the extraction trench.
 - f) Average hydraulic conductivity and transmissivity of the A aquifer in the vicinity of the extraction trench.
 - g) Hydraulic conductivity of the trench filter material.
 - h) Calculations showing the minimum drawdown necessary to effectively capture the pollution plume.
 - i) Calculations of the factor of safety for the trench out flow capacity, i.e. what is the maximum outflow capacity versus the anticipated inflow?