



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

September 20, 1995

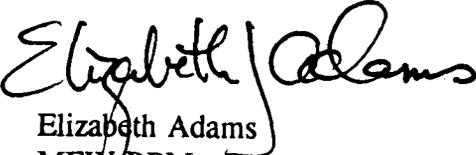
Mr. Stephen Chao
Naval Facilities Engineering Command
Engineering Field Activity, West
900 Commodore Way, Bldg. 101
San Bruno, CA. 94066-2402

Re: *Final Horizontal Conduit Study Technical Memorandum*, dated August 4, 1995

Dear Mr. Chao,

The U.S. Environmental Protection Agency (EPA) has received the subject document and associated response to comments. Many of our concerns expressed in our comments and in our conference call of April 21, 1995 were addressed in this version of the report. However, some were not and these need to be addressed before final approval is granted. It is especially important to respond to these comments as long as an agreement regarding work allocation for long term remediation of the west side groundwater contamination remains unresolved between the Navy and the MEW companies. This report shows the obvious impact to groundwater due to the questionable integrity of various infrastructure components at Moffett Federal Airfield. Please provide your response within 30 days of receipt of these comments and do not produce another version of the document before we can agree to those responses. If you have any questions, please call us (E. Adams at 415-744-2235 or M. Gill at 415-744-2385).

Sincerely,


Elizabeth Adams
MEW/RPM


Michael D. Gill
Moffett RPM

cc: C. Joseph Chou (DTSC)
Michael Bessette (RWQCB)
Ken Eichstaedt (URS)
Tom Jones (Schlumberger)
A. Eric Madera (Raytheon)
Sandy Olliges (NASA)
Peter Strauss (MHB)
Mike Young (PRC) (Fax)

COMMENTS

Final Horizontal Conduit Study Technical Memorandum, dated August 4, 1995

GENERAL COMMENTS:

1. The Introduction and Conclusion of the Horizontal Conduit Study Technical Memorandum should address the real potential that sources of VOCs to the sanitary sewer may be from discharges of chemical substances from facility activities to the sanitary and stormwater sewers, both in the past when it was a common practice and presently. Though the cation/anion study helps to interpret the water sample results and the origin of the water flows, it cannot positively prove the origin of all VOCs within the systems. For instance, in the sample from manhole C-8, the study showed a combination of groundwater and tap water; therefore occasional discharges of chemicals to the sewers cannot be overlooked as a potential source to the levels of contaminants in the system flows at that point.

Except for spills documented for stormwater permitting or compliance with the local sanitary sewer, most of the past discharges to both sanitary sewers and stormwater lines cannot be documented or proven at this time. The effects of these potential past discharges, to the system flow water and the environment, cannot be evaluated since sampling did not occur after the events. However, the presence of paint in the storm drain during the latest sampling, as well as the presence of phenol in the sewer water samples during the ERM/Aqua Resources investigation, clearly indicate that sporadic releases of chemicals do occur to these systems. For these reasons the report should accurately represent the possibility of past discharges to the systems in the Introduction and include these potential discharges from facility activities in its discussion of the data in the Conclusion.

2. Data from this report show that VOCs are present in the system flows from groundwater infiltrating the sanitary sewer in areas that contain high VOC concentrations, including the west side aquifer area. This system flow is subject to exfiltration in the northeastern regions of the sanitary sewer that cross under the runway areas. Review of data generated by the video survey of the sewer lines in this area (9B-15) show many areas with broken joints, radial and long cracks. The potential for contaminated sewer flow to exfiltrate in these areas is high and therefore the Navy should recommend either mitigation actions to avoid the spreading of groundwater contamination to these areas and/or an investigation to determine the extent of the potentially impacted groundwater surrounding these lines. Was the sewer line east of manhole 15B surveyed? If so, what were the results?

SPECIFIC COMMENTS:

3. Figure 4-1, page 8. Various errors in this figure need correction. These include:
 - Site 1 landfill is too small
 - there are two golf course landfill #3's
 - Site 24 not labeled
 - there are two golf course landfill #2's
 - there should be no Site 25; it is not in the legend
4. Section 5.0, page 9. The discussion of the known sources should be revised to more

accurately describe the VOCs found in the Building 88 investigation. The Navy is stating that it is only a source of PCE contamination even though low levels of TCE, up to 140 parts per billion (ppb), and other VOCs were found in the soils at Building 88.

5. Section 7.3.1, page 24. The text should note that flow in the sanitary sewer system may be impacted by precipitation due to the common connection of drainage areas, such as the Aircraft Washrack #1 to the sanitary sewer.
6. Section 8.1.1, pages 32 & 35, Steam System. The City of Sunnyvale allows up to 1,000 ppb total VOCs to their sewage treatment plant. These levels in the sump could be a potential problem if conduits to the groundwater exist. Please include the chemical data associated with this sump and steam line in the report. Please annotate this steam line on Figure 8-15.
7. Sections 8.3 and 9.4. The objectives for this study, as stated in the text, was to determine if porous trench material was providing a horizontal conduit for accelerated migration of contaminated groundwater. Sections 8.3 and 9.4 should clarify in which excavation areas this may be occurring due to the sandy silt soils or concrete backfill materials encountered, and identify the areas of higher permeability. Was the concrete backfill materials crushed concrete?
8. Section 8.4, page 55, para 3. Please clarify this paragraph. It is difficult to determine the conclusion. Was the sanitary sewer only mislabeled on a map that the contractor used? Was the 8" pipe actually the sanitary sewer line? After discussing this with PRC on September 20, 1995 (M. Gill / S. Dinges phone conversation), we understand that a well collection system in the Site 9 area would sufficiently cover any possible contamination in this tunnel area around Hangar 1. This should be stated in the document.
9. Figures 8-15 and 8-16, page 65, 66. The plumes shown on these figures should be renamed "Navy VOC Plume" to more accurately reflect the nature of the commingling of Navy and MEW groundwater contamination in the area.
10. Section 8.6.3, page 78, para 3. There is evidence of a cracked line at the Craft Hobby Shop. Exfiltration very possibly has occurred. Please clarify if this is a source of contamination to the groundwater. Because of the distance from the hobby shop to manhole C-8 (approximately 600 feet), a data gap exists. Additional sampling immediately upgradient of C-8 closer to the hobby shop may provide an answer to this source question.
11. Section 9.2, page 87. Work was done on tunnel #1 and the French drains and should be mentioned in this section. They were included after the initial screening.
12. Section 9.10, page 90, paragraph 2. The contaminated groundwater which enters the sanitary sewer lines in these areas consists of more constituents than just PCE. Please revise the text to more accurately describe the VOC contaminated groundwater.
13. Section 9.11, page 91. In response to EPA's comment #3 in the Draft Final comments, the Navy stated that the conclusion would be edited to include results of the Storm Drain Action and the Sanitary Sewer Action as they relate to the purpose of the HCS. This was not done. Please add this description to the conclusion.