



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

January 29, 1997

Mr. Joseph Joyce
BRAC Environmental Coordinator
U. S. Marine Corps Air Station - El Toro
P. O. Box 95001
Santa Ana, California 92709-5001

Re: U. S. EPA Comments On Aquifer Test Report, Soil Vapor Extraction Pilot Test Report- Site
24, Air-Sparging Pilot Test Report Site 24, MCAS El Toro, California

Dear Mr. Joyce:

The United States Environmental Protection Agency (EPA) has reviewed the above referenced documents and our comments are attached to this cover letter. Please note that EPA has no comments on the Soil Vapor Extraction Pilot Test Report other than it is acceptable.

If you have any questions, please feel free to contact me at (415) 744-2210.

Sincerely,

A handwritten signature in cursive script that reads "Glenn R. Kistner".

Glenn R. Kistner
Project Manager

Attachment

cc: Tayseer Mahmoud, DTSC
Larry Vitale, RWQCB
Andy Piszkin, NFEC SWDIV



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MEMORANDUM

SUBJECT: Review of Aquifer Test Report, Soil Vapor Extraction Pilot Test Report-Site 24, Air-Sparging Pilot Test Report Site 24, MCAS EL Toro

TO: Glenn Kistner, RPM
Superfund Navy Section

From: Herbert Levine, Hydrogeologist
Technical Support Team

A handwritten signature in black ink, appearing to read "Herbert Levine", written over the printed name.

Aquifer Test Report

1. The pump test at 24EX1 is not considered to be valid (for determining aquifer parameters) due to the short pumping time. The assumption that a boundary condition was met is wrong, since neither a no-flow or recharge boundary was encountered. The Navy has correctly identified site heterogeneities as influencing flow in the vicinity of 24EX1. The Navy should have considered these two tests at 24EX1 to be step test and lower the pumping rate accordingly and conduct the test for a longer time duration. A longer test (several days to weeks) would allow for flow to the well through the heterogeneities.

2. The pump test at 24EX2 appears to be more successful in that it seems like the early time data are approaching steady state. However, the drawdown curve never shows the delayed response of gravity drainage. Figure F-31 suggests deviation from steady state after about 1,050 minutes through the remainder of the test. This emphasizes the need for long(er) duration pumping tests. The time step from 1 to 1,000 minutes which was used for curve matching using the Neuman method is representative of early time data and if used, should be analyzed using the Type-A curve. Figure F-31 used the Type-B curve which is appropriate for later drawdown data when the effects of gravity drainage become more significant. Since the pump test was not conducted long enough to experience the effects of gravity drainage (see Fig. F-31) it is not appropriate to use the Type-B curve.

3. The comments for 24EX2 apply to the IN1 test as well (see Figure F-37).

Recommendations

I would not recommend that any of these tests be re-run. The impending ground water pilot study should provide us with more reliable data. The wells with the long screens (24EX1, 24EX1OB, 24EX2 and 24EX2OB) might behave as conduits for contaminated ground water and should be abandoned. The demonstrated effects of heterogeneity on ground water flow have important implications for yield, and radius of influence which should not be lost in future efforts.

Air Sparging Report

1. The heterogeneities at this site will be more than problematic in implementing air sparging at this site. The lack of observed bubble flux in 09_DBMW45 when 24AS2A was sparged has significant implications for radius of influence. The distance between these wells is 22 ft. less than the calculated radius of influence. The 'negative' (or non-observed) data should be given equal weight of evidence.

2. Due to the site specific heterogeneity and lack of control on injected air (and water movement) EPA can not agree that this is an applicable technology.

SVE Report

This report is acceptable and I have no comments.