

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

Region 4
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MEMORANDUM

TO: Juan Jimenez
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Base Closure Unit
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FROM: Geologic Support Unit
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DATE: 08 December 1995

SUBJECT: COMMENTS ON "DRAFT WORK PLAN FOR AIR SPARGING PILOT TESTING" MARINE CORPS AIR STATION (MCAS) EL TORO, CALIFORNIA"

Introduction

The Geologic Support Unit (GSU) of the Department of Toxic Substances Control (DTSC) has reviewed the document entitled "*Draft Work Plan for Air Sparging Pilot Testing Marine Corps Air Station (MCAS) El Toro, California*" (*Workplan*), dated November 1995. The *Workplan* was prepared by Southwest Division, Naval Facilities Engineering Command, in conjunction with Bechtel National, Inc. (Bechtel).

After review of the *Workplan* it has become evident to GSU that there is a need for further details regarding the field protocol to be implemented before, during, and after the pilot test. In addition, performance criteria should be developed to evaluate the results of the pilot test. Below are specific comments regarding these requests.

Before the pilot test is performed the issues discussed above and the following comments below should be addressed.

General Comments

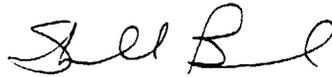
1. Section 1.1, Figure 1-2; include additional information regarding the site description, such as distance between injection wells and monitoring wells. Accurate distances cannot be inferred from the figures provided. Also, provide well construction data of

the SVE and air sparging wells.

2. Section 1.3, page 1-4; please eliminate the phrase "...no evidence of free-phase product has been found...". What is interpreted as "evidence" is a technical opinion. The fact that free-phase product has not been observed does not necessarily imply free-phase product is not present in the subsurface of the VOC Source Area.
3. Section 1.4, page 1-5, bullet 2; it is unclear how the air sparging pilot test will evaluate the degree of heterogeneity. Will this determination result from bubble flux measurements?
4. Section 1.4, page 1-5, bullet 5 and other references throughout the *Workplan*; note: although increased concentrations of dissolved oxygen (DO) is a clear indicator that oxygen has reached the monitoring well, unfortunately it does not indicate how efficient the system is working. DO does not show how the sparg air is distributed. Increasing concentrations may not be from bubbles but DO diffusing from the area of the (bubble) influence. However, GSU agrees DO data should still be collected from the monitoring locations, but caution should be used when interpreting such data and overestimating the radius of influence.
5. Section 2.2, page 2-1, last paragraph; please delete the sentence "In addition, elevated TCE concentrations were not found that would indicate the presence of free-phase TCE." (see Comment 1)
6. Section 3.3.1, page 3-4; it is unclear how the five bullets listed in this section will be used to "...estimate capture radius of the soil vapor extraction well." GSU recommends installing soil vapor probes to directly measure the radius of influence. The results from this approach may then be applied with more confidence to other areas of the Station.
7. Section 3.3.1, page 3-4, all bullets; how often will these data be measured? For example, bullet 2, groundwater levels in monitoring wells could show very little change, if at all, and probably will quickly equilibrate (10 minutes to a couple of hours). How often and what method will be used to measure this type of data? This degree of detail should be included in the *Workplan*.
8. Section 3.3.2, page 3-5; will initial conditions of water chemistry data (off-site laboratory analysis) and groundwater level data be collected prior to the air sparging phase of the pilot test?

9. Section 3.3.2, page 3-5; the text states "The air sparging flow rate will be varied from approximately 3 scfm to 30 scfm." Please be more specific as to the criteria used to determine the duration and specific flow for each test run.
10. Section 3.3.2, page 3-6; specify how parameters, such as radius of influence, will be interpreted from the data collected during the pilot test.
11. Section 3.3.2, page 3-6; After the test runs for the different flow rates are completed, it is suggested to let the system continue running for an extended amount of time (a few days), to insure equilibrium was reached during the pilot test. This exercise may later preclude any unexpected situations.

If you have any questions concerning this review please contact me at CALNET 8-635-5528 or 310-590-5528.



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Concur: Karen Thomas Baker, CHG
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