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Subject: Review of Revised Draft Work Plan, Phase II Remedial Investigation/Feasibility Study MCAS El Toro, California - Report CTO-0059 - and -  
Review of Draft Field Sampling Plan Phase II Remedial Investigation/Feasibility Study MCAS, El Toro

Due to the extremely large size of the subject reports, it is difficult to know how to start this letter other than to voice my objections to the time constraints and time required to review these documents - especially by unpaid volunteer citizens. This reviewer did find considerable overlap and redundancy between the two documents and suggests that they could easily be combined into one with little net increase in size. For example, Appendix A of the Work Plan presents the location of the sampling sites, while the Sampling Plan presents some details of the sampling procedure. I believe that it would be more appropriate to combine the two items in one report. Many of the figures are repeated in both volumes; and the basic organization is the same. I find myself having mixed emotions in commenting - on the one hand on the large amount of reading material - and on the other hand with the fact that some of the discussion is extremely general and indicates that there is a need to provide more detail. I will be more specific as I comment on certain of the sections. Due to time constraints, emphasis in reviewing was placed on the Work Plan and only for those sites associated with the OU-2 Landfills. The following are the comments on the Work Plan:

1. Figure 1-2 is very helpful as a roadmap of the restoration program. I believe that it needs to be modified slightly to differentiate the tasks that have been done from the work to be done (The small print at the top of the page - under the title - states that "Each of the following steps have been conducted...")
2. Many figures and tables have been shown long before they are introduced in the text. It isn't necessarily obvious to the reader why they have been presented. In some cases, additional discussion would be of benefit if the author(s) had a message to present to the readers regarding the significance of the figure or table. In some cases, such as the tables of COPC, I have the impression that the data appear more than once in the volume (and, of course, repeated in the Sampling Plan).

3. Section 2.3.6.4 - Average Linear Groundwater-Flow Velocities -

This reviewer is confused with all the different data presented. I do not understand the difference between hydraulic conductivity and groundwater-flow velocity.

4. Section 4.2.2 - Identify the Decisions -

The use of the term "fate" is unfamiliar. Please define.

5. Tables 4-2 and 4-3 - The significance of the statistical column headings needs to be explained.

6. Section 4.2.3.9 - Fate and Transport Models - Several different mathematical models are discussed in general terms with respect to their suitability for providing guidance on the location of sampling sites. Will more than one model be used? If not, which one and what data on correlation exists between the model and test data. Also, what is the rationale between the model results and sampling location?

7. Section 4.2.6.3 - Calculating the Number of Samples to Estimate Risk - I'm lost!

8. Section 5.3.1.3 Soil Sampling and Drilling - What is a California sampler?

9. Section 5.3.1.9 - Land Surveying - The paragraph that starts out "The results of the field investigations ... states that the database will be used to calculate volumes of landfill areas, etc. Please amplify on the methodology that will result in the desired objective.

10. Section 5.3.10 - Decontamination - The water treatment plant at the El Toro Water District that is used for golf course irrigation cost about \$1.2 million five years ago; and the operating costs result in a water charge of \$375 per acre/ft. There are many requirements to be met even without potability.

11. Section 5.6 - Risk Assessment - Is the risk assessment directed at the cleanup and test personnel or the population that will ultimately use the sites - or both?

12. Section 5.9.1.3 - Identification and Analysis of Removal Action Alternatives (Cost) - The paragraph starts out using the verb "will" and then switches to "should" and then "may". Shouldn't "will" be used throughout?

The following comments apply to the Sampling Plan:

A. Table 5-3 - Groundwater Samples - It appears that the column headed "Proposed Monitoring Wells" should be entitled "Proposed New Monitoring Wells".

B. Section 6.7.2.1 - Air Sparging Pilot Testing - I understand the description of the pilot installation to consist of an air-supply well and a collection well. In fluid mechanics terminology, this would be a "source" and a "sink". The ventilating airflow will want to take

the path of least resistance, and, therefore, the cleansing ability of the airflow will be very non-uniform: it will be concentrated in the direct path between the source and the sink. While the description of the procedure suggests a "blower", which I take to mean a low pressure rise device (inches of water), it is more likely that an air compressor will be required. If this is a rotary (piston) type, lubricating oil vapors could be introduced into the ventilating air. Also, a period of time will be required to achieve steady state conditions.

C. Section 6.8.2 - Integrated Surface Sampling - Is the 10 liter Tedlar bag evacuated prior to the start of sampling, or is it at atmospheric pressure? If it is evacuated, then the blower will have to pump against atmospheric pressure. If the bag is initially at atmospheric pressure, how will the bag be purged of its initial contents. The test procedure needs to be defined in more detail to establish that a valid sample will be obtained.

D. Section 6.8.4 - Ambient Air Sampling - The last sentence talks about "zero air". Please clarify.

E. Section 6.8.4.2 - Equipment Description - The description of the pump is incomplete in that only the zero pressure rise flowrate (4.5 L/min) is defined. The missing parameter is the pressure rise at zero flowrate.

F. Site 1 - Explosive Ordnance Disposal Range - Mention is made that this site probably contains unexploded ammunition. No mention is made of how this area is to be tested for munitions and made safe.

G. General Comments on Landfill Closure - The State of California has a number of regulations that are directed to the procedures involved with landfill closure and post closure maintenance requirements that can extend for as much as 30 years. The DON should take these into consideration as part of the Phase II testing. These are covered in various sections of the Calif. Code of Regulations (Title 14, Division 7, Chapter 3, Article 7.8 & Chapter 5 Article 3.4, and Title 23, Division 3, Chapter 15, Article 8 ).

Sincerely yours,.

A handwritten signature in cursive script that reads "Jerry Werner". The signature is written in black ink and is positioned below the typed name "Jerry Werner".