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# California Regional Water Quality Control Board Central Valley Region

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CROWS LANDING  
SSIC NO. 5090.3.A

26 October 2006

Mr. James Sullivan  
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## **10 OCTOBER 2006 DRAFT ADDITIONAL INVESTIGATION AND GROUNDWATER MONITORING WORK PLAN, INSTALLATION RESTORATION PROGRAM (IRP) SITE 17 ADMINISTRATION AREA PLUME, NASA CROWS LANDING FLIGHT FACILITY, CROWS LANDING, STANISLAUS COUNTY**

We have reviewed the 10 October 2006 work plan for the additional investigation and groundwater monitoring at IRP Site 17, Administration Area Plume at the NASA Crows Landing Flight Facility. Your consultant, Tetra Tech EC, Inc., prepared the work plan. The proposed scope of work includes conducting additional groundwater assessment at both on- and off-site locations. Our comments to the draft work plan are provided below.

1. Apparent incorrectly referenced figures: In Section 2.3, *Updated Interpretation*, the last sentence of the introductory paragraph references Figures 2-2 through 2-5. It appears that the appropriate figure reference should be Figures 2-5 through 2-8. Similarly, under the bullet *Benzene* in Section 2.3, Figures 2-3 and 2-5 are referenced, but it appears that the appropriate figure reference should be Figures 2-6 and 2-8.
2. Clarification regarding analytical laboratory testing and potential step-out borings or permanent monitoring wells: In Section 3.3.2 *Direct Push Groundwater Sampling* and Section 3.4.2 *(Sonic Drilling) Discrete Groundwater Sampling*, the work plan discusses collecting groundwater grab samples using direct push and sonic drilling technologies. The work plan indicates the groundwater grab samples will be submitted for chemical analysis to an off-site laboratory. Furthermore, the work plan states that based on the results of the chemical analysis (i.e., the analytical results indicate the plume is not yet defined), step-out borings may be drilled and additional groundwater sampling conducted to define the limits of the plume. Conversely, if the analytical results show that the plume limits have been defined, then that sonic or direct push boring location would be converted into a permanent monitoring well. The Regional Water Board's question is that if groundwater grab samples are going to be sent to an off-site laboratory for analysis, how can the results of that analysis be obtained quickly enough to make a determination to do a step-out boring or install a permanent monitoring well without organizing a separate, second mobilization for the project? It would appear that

**California Environmental Protection Agency**

an on-site mobile analytical laboratory might be needed if the proposed scope of work is to be completed in one mobilization. Please provide clarification regarding this point.

3. Quarterly monitoring and semi-annual monitoring: Section 4.1.1 *Initial Quarterly Sampling Event* indicates that those wells listed on Table 4-1 will be sampled on a quarterly basis for a minimum of four quarters. These monitoring wells are different from those listed on Table 4-2, which are the wells that are currently sampled by RMA on a semi-annual basis. Considering the scheduling of the two different sampling events, the quarterly monitoring sampling should coincide with the semi-annual sampling two times within the four quarters of proposed sampling. When the quarterly and semi-annual sampling events coincide, can they be combined as one sampling event and likewise be reported as one event? It would seem that the logistics (mobilization to conduct the sampling) and interpretation of data would be simpler if done so.

If you have any questions regarding the above comments to the work plan, please contact Greg Issinghoff at (559) 488-4390.

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