GEORGE AFB
CALIFORNIA

ADMINISTRATIVE RECORD
COVER SHEET

AR File Number 2206

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

January 18, 2008

Donald Gronstal
Regional Environmental Coordinator
AFRPA Western Region Execution Center
3411 Olson Street
McClellan, CA 95652-1003

Re: **George draft basewide annual monitoring and ops report for CERCLA & non-CERCLA sites, 2005-2006 GW Activities, 2006-2007 RA**

Dear Mr. Gronstal:

This letter confirms EPA's comments on the subject document submitted to you by email on January 16, 2008. No changes were made to the comments previously provided If you have any questions, please contact me at extension (415) 972-3193.

Sincerely,

James Chang
Remedial Project Manager

Attachment: Basewide Annual Groundwater Monitoring Report Comments

cc: Jehiel Cass
Calvin Cox
Susan Soloyanis
Gilbert Dimidjian

File: 0654_draftannualGWreport

Techlaw's Review of the Draft Basewide Annual Monitoring and Operations Report for CERCLA and non-CERCLA Sites, 2005-2006 Groundwater Activities, 2006-2007 Remedial Activities, Former George Air Force Base, California, December 2007

COMMENTS

1. **Section 2.4.2 OU 3 Sites, Page 2-4 to 2-6:** This section has not been updated to reflect the most recent remedial actions at the sites. For example, FT019a should include a statement that the bioventing system was converted to an Soil Vapor Extraction (SVE) and that an Explanation of Significant Difference (ESD) is in development. FT019c should include information that a Final Tech Memo and SVE Design was issued in August 2007 for upgrade to existing SVE system. Also, the text should include info regarding the reinterpretation of the plumes at OT069. Finally, site ZZ051 incorrectly states that soil bioventing was the selected remedy as well as natural attenuation. But there is no mention of SVE. Also, there is no mention of SS083, ST054, ST057 and SS084. Please revise the document to include more up to date information regarding the regulatory and remedial status of the sites.

2. **Section 4.1.5, Groundwater Elevation Trend Analysis, Page 4-11:** The second paragraph states that "review of the groundwater elevation trend over time for the MLU (Middle Lacustrine Unit) show a general increasing trend from December 1996 to about December 2003"; however no MLU wells have been previously defined. Please define which wells are being used to evaluate groundwater elevation trend in the MLU.

3. **Section 4.1.6 Groundwater Elevation Monitoring Summary, Pages 4-11 and 4-12:** The Upper Aquifer subsection states that groundwater flows to the northwest over a significant portion of George Air Force Base (AFB). Based on the information presented on the potentiometric surface maps (Figures 4-1 through 4-4), it appears this should be revised to state that groundwater flows to the northeast at George AFB. Please clarify this discrepancy.

4. **Section 4.2.1.1 Site FT082 (OU5), Page 4-15, and Figure 4-19, Cumulative Mass Removal Summary, Site FT-0082:** The text under subsection "TCE Mass Removal" on page 4-15 states that approximately 303 pounds of TCE have been removed from the soil at Site FT082. However, the cumulative total TCE removed as shown on Figure 4-19 was approximately 275 pounds. Please clarify this discrepancy.

5. **Section 4.2.2.3, Site SS083 (OU5), Page 4-28:** The second paragraph under the subsection "Extraction Well and Monitoring Point Sampling" indicates that concentrations generally decreased by November 2006. A review of Figure 4-33 indicates that while TCE concentrations did decrease in some depth intervals in wells SVE01 through SVE03, TCE concentrations increased in other depth intervals in these wells. For example, the TCE concentration at 108-118 feet below ground surface increased in well SVE01 from approximately 6000 parts per billion by volume (ppbv) to approximately 20,000 ppbv.

Significant increases were also observed in well SVE03 during this time period. Therefore, it is misleading to state that TCE concentrations generally decreased by November 2006. Please clarify this statement.

6. **Section 4.2.2.6, Landfills, Page 4-39 and Figure 4-54, Lower Aquifer Groundwater Elevations, Background Wells, and Compliance Wells at DP003, DP004, LF012, and LF014, October 2006:** The first bullet on page 4-39 states that groundwater flow in the vicinity of DP003 and DP004 was to the southwest from December 2003 but that it reversed back to the northeast by April 2006. A review of Figure 4-54 reveals that the groundwater contour lines in the northern portion of the site suggest that groundwater should be flowing towards the depression around well NZ-57, not in a northeasterly direction as stated in the text. Please revise the groundwater flow direction in the northern portion of Figure 4-54 to show groundwater flows towards NZ-57, and revise the text accordingly.

7. **Section 4.2.2.6, Landfills, Page 4-37 and Figures 4-51 through 4-54:** Due to fluctuating groundwater flow directions, the wells designated as compliance and background wells were not the same for each sampling event. For example, as described on page 4-41, the background and compliance wells for Site LF014 changed from the 2005 to 2006 sampling events. However, these changes are not reflected on Figures 4-51 through 4-54. Please review these figures and ensure the wells are correctly labeled and color coded to reflect their objectives in the monitoring program.

8. **Section 5.0, Groundwater Modeling, Page 5-1:** While it seems appropriate for the quarterly monitoring report to include information about the on-going OU1 groundwater modeling effort, the information provided does not appear to adequately reflect the status of the overall modeling effort. Specifically the summary and conclusion section states what the simulation might suggest but does not include more up to date information about the Regulatory Agencies concerns regarding generating additional scenarios without verification and sensitivity analysis and that until this issue is resolved there is little confidence in the model's ability to be used as a predictive tool for cleanup of the overall site. Please update the text to more accurately reflect the status of the modeling efforts specifically in the summary and conclusion section.

9. **Section 7.1 Soil Vapor Extraction Systems, OU 3, OU 5 and NON-CERCLA Sites: Summary Conclusions and Recommendations, Pages 7-3 and 7-4:** The text discusses the potential for closing sites FT019 a and c without achieving specified cleanup goals; however this discussion does not specify the soil data that will be used in the vadose zone model or methodology for closure evaluation, e.g. "start-stops". And it is unclear what outcomes will be suitable to determine if there is or is not impact on groundwater. Please indicate what soil data will be used to "re-run" the vadose zone model, and what soil concentrations will likely be suitable to indicate that there is no impact to groundwater and methodology to evaluate closure.

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