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Sent: Thursday, May 09, 2002 1:26 PM
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Subject: Navy Responses to RWQCB Comments, Fifth Quarterly Basewide Groundwater Sampling and Analysis Report, NASA Crows Landing Flight Facility

Hello Jim,

Transmitted are the Navy responses to RWQCB comments dated 23 April 2002 pertaining to the fifth quarterly groundwater report for NASA Crows Landing Flight Facility.

Please do not hesitate to contact me if you have questions pertaining to the responses or to the groundwater monitoring program.

Thank you very much for providing comments.



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V/R
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9 May 2002

RESPONSE TO COMMENTS FROM THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, CENTRAL VALLEY REGION

Subject: Quarterly Basewide Groundwater Report, Verification Sampling and Analysis – Fall 2001, Fifth Quarter,

NASA Crows Landing Flight Facility, Crows Landing, California (IT Corporation, February 2002)

Comment	Response
<p>Comments prepared by James L. Barton, R. G., Associate Engineering Geologist, California Regional Water Quality Control Board, Central Valley Region, Sacramento, California, dated 23 April 2002.</p> <p>Subject: <u>Quarterly Basewide Groundwater Report, Verification Sampling and Analysis – Fall 2001, Fifth Quarter, NASA Crows Landing Flight Facility, Crows Landing California.</u></p> <p>Addresses: Marianna Potacka, BRAC Environmental Coordinator</p>	
General Comments	
<p>The Report states that the Annual Report will contain an analysis of all data, historical trends, and current trends. The Report also states that several groundwater analyses will be discontinued and the monitoring schedules changed to annual, as of the Winter 2001 quarter. The information contained in the Annual Report is necessary to evaluate the recommended changes to the monitoring program. We will evaluate the recommended monitoring changes after reviewing the annual report. The Navy must obtain regulatory concurrence prior to changing the monitoring program.</p>	<p>As stated in the workplan, quarterly groundwater sampling and analysis would be conducted for a minimum period of one year to verify current groundwater conditions. After that period it was determined to continue monitoring the trends of groundwater levels and concentrations of compounds of concern on a quarterly basis. The majority of the wells will be sampled and analyzed annually to evaluate plume stability and natural attenuation. The Annual Report includes an interpretation of the current conditions (extent of impacted groundwater and annual trends in groundwater table elevation) as well as an initial evaluation of plume stability. The Navy plans to provide advance notification to the BCT pertaining to planned changes in the monitoring program in order to address any regulatory concerns prior to implementation of planned changes.</p>

Specific Comments	Response
<p>1. Section 2.2.4 Supplemental Information, Field Observations, page 2-3: The text states that monitoring well 17-MW-15 appears to be impacted by bentonite grout, due to high pH (11.14 to 11.18) and visual evidence. This well needs to be rehabilitated or replaced. Please provide a schedule for rehabilitation or replacement of 17-MW-15.</p>	<p>Initial indications from field notes taken during well purging, prior to sampling 17-MW-15, indicated that there is a potential problem with the condition of the well. Water purged from the well had a high pH and contained white particulate material. Initial assumptions were that the well was not correctly constructed or was damaged and grout material was entering the well casing. Recent information from deep borings and deep well installation at the Administration Area Plume indicate that the well is likely screened well into the Corcoran Clay. The deep borings indicate that the Corcoran Clay starts at approximately 220 feet below ground surface (ft bgs). 17-MW-15 is screened from 260 to 270 ft bgs. It is likely that problems with water quality in 17-MW-15 are due to the Corcoran Clay. A new deep well will be installed approximately 20 feet northwest of 17-MW-15 with similar construction (screen length and well material) and will be screened above the known depth of the Corcoran Clay (approximately 210 to 220 ft bgs). The well will be installed using sonic drilling technique and a continuous core will be collected and logged. Well installation is tentatively scheduled for May/June 2002. 17-MW-15 will be closed pending development of a suitable technique, permitting, and contracting.</p>
<p>2. Section 3.1.2 Basewide Water Level Monitoring Results, page 3-1. The text states that drawdown effects from water supply well pumping locally affects the shape of the water table. The dataloggers have shown that monitoring well BG-MW-01 is influenced by pumping at irrigation well 6/8-20(NALF) at a distance of 900 feet. Please evaluate whether the peaks shown on the CL2-MP-03B datalogger hydrograph are the result of pumping irrigation wells, identify which irrigation wells(s) influence the water levels at CL2-MP-03B if possible and determine if the UST Cluster 2 petroleum hydrocarbon groundwater plume is affected by any of these three agricultural supply wells.</p>	<p>The hydrograph from well CL2-MP-03B indicates at least 2 periods (August 28 through September 7 and October 1 through October 8) where trends were observed that were similar to those seen in the previous well BG-MW-01 hydrographs that were assumed to be associated with impact from pumping at a nearby irrigation well. Pumping data is only available for irrigation wells on the facility property. The dates of the two anomalies observed at CL2-MP-03B do not correspond to dates that well 6/8-8NEW was operating. Several small spikes in the CL2-MP-03B hydrograph do correspond to changes in operation of long-term soil vapor extraction testing that was been completed at the UST Cluster 2 site and the testing may have had in impact on groundwater levels in CL2-MP-03B. Current groundwater data from the UST Cluster 2 site indicates that the petroleum hydrocarbon plume is stable or decreasing and, if off-site irrigation wells are affecting groundwater levels at CL2-MP-03B they appear to have a minimal impact on plume migration.</p>

Specific Comments	Response
<p>3. Section 4.0 Monitoring Plan Recommendations, pages 4-1 and 4-2: The Report states that all metals will be removed from the sampling in future rounds of groundwater sampling, since there is no pattern of impact from site activities. Also, the Report states that most of the wells will revert to an annual sampling schedule, and that changes to the wells to be sampled and parameters will be discussed in subsequent quarterly monitoring report. The Navy has not demonstrated that the concentrations of metals detected are background levels and not the results of site activities. Please provide a detailed discussion, in the Annual Report, of the metals results, and provide the rationale for changing the groundwater program for metals. We will evaluate the recommendation after the Annual Report review.</p>	<p>The annual report includes the results of verification sampling and analysis conducted throughout the year and presents the results of an evaluation of the distribution and trends in concentrations for specific compounds of concern, including petroleum hydrocarbons and volatile organic compounds. Metals were included in the first year of quarterly monitoring to verify current concentrations. A detailed risk assessment and evaluation of background concentrations of inorganics in groundwater was completed during the remedial investigation (RI) and the results are presented in the RI Report (TtEMI 1996). The metals detected during the fall 2001 quarterly sampling event are within the site concentration ranges established in the RI report indicating that conditions have not changed since the RI investigation.</p>
<p>4. Section 4.0 Monitoring Plan Recommendations, page 4-2: The Report states that future general chemistry parameters will be collected only during the winter months, to evaluate natural attenuation. The text does not discuss why only the winter months are chosen to evaluate natural attenuation. Please provide a discussion, in the Annual Report, of the general chemistry results, and provide the rationale for reducing the general parameters sampling to an annual basis, during the winter months. We will evaluate the recommendation after the Annual Report review.</p>	<p>The annual report includes and evaluation of plume stability, including changes in the length of the plume from the source area to the downgradient leading edge and change in concentrations of compounds of concern over time. As stated in the annual report, an evaluation of natural attenuation, include a statistical evaluation of the distribution of general chemical parameters relating to compounds of concern will be provided as a separate transmittal. Because the distribution of general chemistry data will be statistically compared to the distribution of compounds of concern, the general chemical data will only be collected during the winter quarterly event when the majority of the wells on the facility will be sampled. Data from the winter quarterly event will provide the greatest distribution and the largest number of data points.</p>
<p>5. Figure 3 Water Elevation Map November 8, 2001: The Figure shows two scenarios for water level contour lines at 83 and 84 feet above mean sea level. The water supply well 6/8-16MI pumping scenario is shown in solid lines, while the non-pumping scenario is shown in dashed lines. However, data on supply well pumping activity is not included in the Report. Please provide a supply well pumping table, including activity dates and pumping rates, to help clarify when these two pumping scenarios exist. This table would also be useful for interpreting the datalogger graphs in Appendix B.</p>	<p>Water supply well 6/8-16M1 is not located on the facility property and pumping rates and dates of operation are not available. Navy representatives spoke with the property manager on one occasion and were not able to obtain information pertaining to the well, the pumping rates, or the pumping frequency.</p>

Transmittal

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