



California Regional Water Quality Control Board

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QUARTERLY BASEWIDE GROUNDWATER REPORT, VERIFICATION SAMPLING AND ANALYSIS, - FALL 2001, FIFTH QUARTER, NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA) CROWS LANDING FLIGHT FACILITY, STANISLAUS COUNTY

We have reviewed the *Quarterly Basewide Groundwater Report, Verification Sampling and Analysis, - Fall 2001, Fifth Quarter, NASA Crows Landing Flight Facility, Stanislaus County* (Report), received 21 February 2002. The Report provides monitoring data from selected basewide groundwater monitoring wells during November 2001 from the Underground Storage Tanks (USTs) Cluster 2, and the Administration Area, which includes the Installation Restoration Program (IRP) Site 17, UST Cluster 1, and UST 117.

Groundwater was analyzed for the following constituents:

- VOCs (EPA Method 8260), including methyl-tert-butyl-ether and ethylene dibromide;
- Total Petroleum Hydrocarbons (TPH) as gasoline (-g), JP-4 jet fuel (-j), diesel (-d) and motor oil (-mo) by EPA Method 8015B;
- seventeen California Assessment Manual (CAM-17) metals (EPA Method 6010B/7000 series), and
- hexavalent chromium (EPA Method 7196).

Additional analyses conducted on selected samples include alkalinity, chloride, nitrate, nitrite, sulfate, phosphate, and total dissolved solids.

The Report concludes that the fifth quarter results are similar to the first through fourth quarterly rounds of groundwater sampling and analyses.

General Comment

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.

Specific Comments

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.

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-03 B datalogger hydrograph are the result of pumping irrigation wells, identify which irrigation well(s) influence the water levels at CL2-MP-03 B if possible and determine if the UST Cluster 2 petroleum hydrocarbon groundwater plume is affected by any of these three agricultural supply wells.

3. Section 4.0 Monitoring Plan and 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 result of site activities. Please provide a detailed discussion, in the Annual Report, of the metals results, and provide the rationale for changing the groundwater monitoring program for metals. We will evaluate the recommendation after the Annual Report review.

4. Section 4.0 Monitoring Plan and 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.

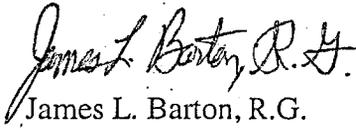
5. Figure 3 Water Elevation Map November 8, 2001: The Figure shows two scenarios for water level contour lines at 83 and 84 feet above mean sea level. The water supply well 6/8-16MI pumping scenario is shown in solid lines, while the non-pumping scenario is shown in dashed lines. However, data on supply 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.

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- 3 -

23 April 2002

If you have any questions please contact me at (916) 255-3050 or bartonj@rb5s.swrcb.ca.gov.



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