

Hornecker, Lynn M (EFDSW)

From: Hornecker, Lynn M (EFDSW)
Sent: Tuesday, December 24, 2002 7:52 AM
To: 'laudonl@rb5s.swrcb.ca.gov'
Cc: Potacka, Marianna K (EFDSW); 'fdonofri@dtsc.ca.gov';
'aberry@ciwmb.ca.gov'; 'donald.m.chuck@nasa.gov'; 'msonke@envres.org'
Subject: Navy Responses to RWQCB Comments dated 4 November 2002,
Groundwater Report, Seventh Quarter, NASA Crows Landing Flight Facility

Hello Leslie,

The responses to the RWQCB comments dated 4 November 2002 are attached.

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

Thank you and best wishes!

V/R
Lynn Marie Hornecker
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24 December 2002



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NAVY RESPONSES TO COMMENTS FROM THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
 CENTRAL VALLEY REGION, SACRAMENTO OFFICE

Subject: Quarterly Basewide Groundwater Report, Verification Sampling and Analysis – Spring 2002 – Seventh Quarter,
 National Aeronautics and Space Administration (NASA) Crows Landing Flight Facility, Stanislaus County

DATE: 24 December 2002

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| Comment | Response |
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| <p>Comments prepared by James Barton, California Regional Water Quality Control Board, Central Valley Region dated 4 November 2002</p> <p>Subject: <i>Quarterly Basewide Groundwater Report, Verification Sampling and Analysis – Spring 2002 – Seventh Quarter, National Aeronautics and Space Administration (NASA) Crows Landing Flight Facility, Stanislaus County</i></p> <p>Addressee: Marianna Potacka, BRAC Environmental Coordinator, BRAC Operations, SWESTNAVFACENGCOM</p> | |
| <p>We have reviewed the <i>Quarterly Basewide Groundwater Report, Verification Sampling and Analysis – Spring 2002 – Seventh Quarter, National Aeronautics and Space Administration (NASA) Crows Landing Flight Facility, Stanislaus County</i> (Report), dated 4 September 2002. The Report provides the quarterly groundwater analytical results from the May 2002 sampling event. The Report provides monitoring data from selected basewide groundwater monitoring wells at the Underground Storage Tanks (USTs) Cluster 2, Installation Restoration Program (IRP) Site 11, and the Administration Area which includes the IRP Site 17, UST Cluster 1, and UST 117.</p> <p>Groundwater was analyzed for the following constituents:</p> <ul style="list-style-type: none"> • VOCs (EPA Method 8260), including methyl-tert-butyl-ether (MTBE) and ethylene dibromide (EDB); • Total Petroleum Hydrocarbons (TPH) as Gasoline (-g), JP-4 jet fuel (-j), diesel (-d), and motor oil (-mo) by EPA Method 8015B; • Alkalinity (EPA Method 310.01); • Anions (EPA Method 9056 for chloride, nitrate, nitrite, sulfate, | <p>The Navy appreciates the participation of the Regional Water Quality Control Board (RWQCB), Central Valley Region in the review of the routine groundwater monitoring reports.</p> <p>The Navy will continue to collect and evaluate data along Bell Road in the vicinity of wells 17-MW-25(S) and 17-MW-25(MS) in order to verify the eastern extent of the Administration Area Plume (the Plume). The facility boundary is located in close proximity to the eastern edge of Bell Road in the vicinity of the Plume. Currently, there are three shallow wells (17-MW-24(S), 17-MW-25(S), and 117-MW-13(S)) and three mid-shallow wells (17-MW-24(MS), 17-MW-25(MS), and 117-MW-14(MS)) located on Bell Road in the vicinity of the eastern edge of the Plume, and monitoring information for these wells is presented in the seventh quarterly monitoring report.</p> <p>The Navy began construction of three piezometers along Bell Road in December 2002. The Navy will refine the conceptual site model for the Plume, as appropriate, as new information is collected along Bell Road.</p> |

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| <p>and phosphate), and</p> <ul style="list-style-type: none"> • Total Dissolved Solids (EPA Method 160.1). <p>A silica gel cleanup for TPH-d and TPH-mo analyses was performed on all groundwater samples.</p> <p>The Report concludes that:</p> <ul style="list-style-type: none"> • The analytical results are fairly consistent with the previous quarter (Winter 2002) groundwater sampling event, and do not indicate recent significant changes in the nature or extent of impacted groundwater, • Site 11 groundwater is not impacted by contaminants, • Data from the local groundwater depression at the Bell Road (eastern site boundary) monitoring wells 17-MW-25(S) and 17-MW-25(MS) will be analyzed to determine if groundwater pumping from off-site agricultural supply well 6S/8E-16M1 affects the Administration Area groundwater plume. | <p>The Navy will share new information promptly with the RWQCB and the other team members.</p> |
| <p>General Comments</p> <p>1. The data show increasing evidence (Figure 3 Water Table Elevation Map) that agricultural supply well 6S/8E-16M1 is affecting the observed local groundwater depression in the vicinity of Bell Road site boundary monitoring wells 17-MW-25(S) and 17-MW-25(MS). The local groundwater depression is more pronounced (steeper) this quarter in the water table contour line near 17-MW-25(S), possibly due to the start of the agricultural groundwater-pumping season. The Navy should consider installing automated water level dataloggers in 17-MW-25(S) and 17-MW-25(MS), to help determine the cause and effect relationship of agricultural pumping to the groundwater depression.</p> | <p>Response to General Comment 1.</p> <p>The Navy will be collecting and evaluating additional water level data in the vicinity of wells 17-MW-25(S) and 17-MW-25(MS) near the eastern boundary of the Plume along Bell Road. Construction of three piezometers along Bell Road commenced in December 2002.</p> <p>The optimum locations for dataloggers will be determined following an evaluation of information collected from the piezometer borings and from the water level/water quality measurements from the piezometers.</p> |

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| | <p>Please see the response to General Comment 2 for additional information pertaining to irrigation water supply wells at and adjacent to the facility.</p> |
| <p>2. We are concerned that the analytical results from three rounds of groundwater sampling of monitoring well 17-MW-25(MS) show detectable but stable benzene and VOCs concentrations exceeding applicable water quality objectives in the mid-shallow aquifer zone. There is a strong possibility that the groundwater plume is moving offsite towards the agricultural water supply well 6S/8E-16M1. The extent of the plume has not been defined east of Bell Road.</p> | <p>Response to General Comment 2.</p> <p>The Navy is currently collecting continuous water level measurements from well 109-MW-01, located less than 1,200 feet west of well 6S/8E-16M1 (an irrigation water supply well). Water level charts for well 109-MW-01 and other wells are included in the routine quarterly groundwater monitoring reports.</p> <p>It is believed that well 6S/8E-16M1 is used in a manner similar to the three (3) irrigation water supply wells that are located on the facility property; the wells on the facility are operated for several days during each month of the irrigation season (from approximately March through September).</p> <p>During 2001 and 2002, the Navy collected records of the numbers of days of irrigation pumping activity at irrigation water supply wells at the facility. Updates on pumping activities are provided in the monthly status reports.</p> <p>Based upon the evaluation of the water level charts for well 109-MW-01, the Navy has not identified water level changes at well 109-MW-01 that could be attributed to periodic and/or routine pumping activities at the water supply well 6S/8E-16M1. The Navy will continue to evaluate water level data from well 109-MW-01 and from other wells.</p> |

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| | <p>The Navy has requested information pertaining to the well construction, pumping frequency, and pumping rates from the owner of well 6S/8E-16M1 on the adjacent property. The information has not been provided to the Navy as of 24 December 2002.</p> <p>The Navy plans to construct three piezometers along Bell Road in the vicinity of wells 17-MW-25(S) and 17-MW-25(MS), to evaluate information from the piezometers, and to determine whether or not additional groundwater sampling should be considered along Bell Road and/or in the area located east of Bell Road.</p> <p>The first piezometer on Bell Road was completed on 12 December 2002. It is estimated that the other piezometers will be completed by mid-January 2003, weather permitting. It is estimated that the initial groundwater sampling data will be available for review by the team members by late February 2003.</p> <p>The Navy will issue a summary, tentatively by late February 2003, with the information from the new piezometers along Bell Road and with recommendations for additional sampling, along Bell Road and/or east of Bell Road, as appropriate.</p> <p>The Navy will work with the RWQCB and the other team members in order to obtain access agreement(s) from the adjacent property owner(s) near Bell Road if it is determined that sampling on the privately-owned properties east of Bell Road is appropriate.</p> |

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| <p>3. There is also evidence (Table 1, Plate 1, and Plate 2) that the groundwater plume is diving between 17-MW-25(S) and 17-MW-25(MS), from the shallow zone to the mid-shallow zone. VOCs and benzene were detected in the mid- shallow zone, while only chloroform was detected in the shallow zone. The water level in the mid-shallow zone is lower by 0.16 feet than the water level in the shallow zone in these adjacent wells, denoting a downward vertical gradient.</p> | <p>Response to General Comment 3.</p> <p>The Navy does not concur that sufficient evidence has been collected to define a vertical gradient along Bell Road near wells 17-MW-25(S) and 17-MW-25(MS).</p> <p>The Navy is in the process of constructing piezometers along Bell Road in the vicinity of wells 17-MW-25(S) and 17-MW-25(MS) in order to better understand the characteristics of the Plume in the vicinity of wells along Bell Road. Additionally, the Navy is evaluating potential data logger locations along Bell Road and the Navy plans to collect continuous water level measurements from one or more locations along Bell Road.</p> <p>The Navy is in the process of evaluating the distribution of chloroform and other chemicals within the Administration Area Plume. As the evaluation proceeds, the findings will be presented in the quarterly and/or annual groundwater monitoring reports.</p> |
| <p>Specific Comments</p> | |
| <p>1. Section 2.2.4 Supplemental Information, Field Observations: The text states that one monitoring well was not sampled due to running dry during purging. Neither the text nor the field notes specify which well went dry. In the future, please include the well identification designations for all wells described in the text.</p> | <p>Response to Specific Comment 1.</p> <p>The Navy will include the well identifiers for all wells described in the text.</p> |
| <p>Please provide a workplan by 1 January 2003, to address hydraulic control of the groundwater plume at the site boundary, and characterize the lateral and vertical extent of the offsite portion of the groundwater plume.</p> | <p>Response to request for workplan.</p> <p>The Navy submitted a plan for the construction of three piezometers along Bell Road near wells 17-MW-25(S) and 17-MW-25(MS) and one</p> |

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| | <p>piezometer and one new well in the area west of wells 17-MW-25(S) and 17-MW-25(MS) on 28 October 2002. The information from the piezometers and new well will be used to better define the lateral and vertical extent of the Plume and to determine aquifer properties along Bell Road.</p> <p>The RWQCB indicated concurrence with the plan to construct piezometers and a new well in the letter dated 21 November 2002. Construction of the piezometers commenced the week of 9 December 2002 and the first piezometer was substantially completed on 12 December 2002.</p> <p>The Navy proposes to complete the construction of the new piezometers along Bell Road and complete the evaluation of information collected from the piezometers prior to making decisions as to the appropriateness of collecting additional samples along Bell Road and/or sampling on the adjacent privately-owned properties. If sampling offsite is recommended, then the information from the Bell Road piezometers will help the Navy to identify potential groundwater sampling locations on the adjacent properties.</p> |

Transmittal

Date: 24 Dec 2002

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Code 06CC.LMH

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Administrative Record Manager

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