



# California Regional Water Quality Control Board

## Central Valley Region

Robert Schneider, Chair



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Secretary for  
Environmental  
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CROWS LANDING  
SSIC NO. 5090.3.A

1 June 2004

Ms. Lynn Marie Hornecker  
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### **COMMENTS TO 18 MAY 2004 DRAFT WORK PLAN, EXTENT OF GROUNDWATER IMPACT VERIFICATION, INSTALLATION RESTORATION PROGRAM SITE 17, NASA CROWS LANDING FLIGHT FACILITY, CROWS LANDING, STANISLAUS COUNTY**

We have reviewed the 18 May 2004 *Draft Work Plan, Extent of Groundwater Impact Verification, Installation Restoration Program Site 17*, which was prepared by your consultant, Shaw Environmental, Inc. The purpose of the investigation is to assess the extent of impacted groundwater on private property located to the east, across Bell Road, from the Crows Landing facility.

The investigation will be conducted in two phases. The first phase will involve advancing cone penetration testing (CPT)/direct push borings at 11 locations as well as drilling two borings using a sonic drilling rig. The CPT/direct push boring locations will be advanced to a depth of 120 feet below ground surface (bgs) from which groundwater grab samples will be collected from the shallow and mid-shallow zones. The sonic borings will be advanced to a depth of 230 feet bgs from which groundwater grab samples will be collected from the mid-deep zone, if present, and the deep zone. The groundwater samples will be analyzed for volatile organic hydrocarbons (VOCs) and total petroleum hydrocarbons (TPH).

The second phase of drilling and sampling will be implemented if the first phase of the investigation does not adequately define the extent of impacted groundwater. The second phase would consist of four step-out CPT/direct push locations and two step-out sonic boring locations. As in the first phase, the CPT/direct push borings would be advanced to 120 feet bgs with groundwater samples collected from the shallow and mid-shallow zones. The sonic borings would be drilled to a depth of 230 feet bgs with groundwater samples collected from the mid-deep zone, if present, and the deep zone. These samples would also be analyzed for VOCs and TPH.

This approach, as outlined in the workplan, appears reasonable. However, our single comment is that the workplan does not discuss the installation of permanent monitoring wells. To adequately monitor the downgradient, leading edge of the groundwater contamination plume, one or more permanent monitoring wells will need to be installed. As such, the workplan should include a statement that the results of the

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proposed investigation will be used to define where one or more permanent monitoring wells will be installed to monitor the downgradient edge of the contamination plume. The proposed permanent monitoring well locations should be included as part of the groundwater investigation summary report.

Please incorporate the above comment into the final draft of the workplan. If you have any questions, please contact Greg Issinghoff at (559) 488-4390.



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## Transmittal

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