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CROWS LANDING
SSIC NO. 5090.3.A

California Regional Water Quality Control Board

Central Valley Region

Robert Schneider, Chair

Winston H. Hickox
Secretary for Environmental Protection

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5 September 2003

REVIEW OF UNDERGROUND STORAGE TANK (UST) SITE CL-40, NASA CROWS LANDING FLIGHT FACILITY, STANISLAUS COUNTY

We have reviewed your report entitled *Underground Storage Tank (UST) Site CL-40, NASA Crows Landing Flight Facility* (Plan), dated 14 July 2003, prepared by Shaw Environmental, Inc., on your behalf. Our comments are contained in the attached staff memorandum.

Based on confirmation sampling provided at UST CL-40, your response actions for this site appear to be appropriate and complete, and no further remedial actions are necessary.

If you have any questions, please call Dale Essary at (559) 445-5093.

Dane S. Johnson

DANE S. JOHNSON
Senior Engineering Geologist
CRG No. 4239

cc: Ms. Francesca D' Onofrio, California Department of Toxic Substances Control, Sacramento
Mr. Don Chuck, NASA Ames Research Center, Moffett Field
Mr. Mike Sonke, Stanislaus County Department of Environmental Resources, Hazardous Materials Division, Modesto
Mr. Richard Jantz, Stanislaus County Chief Executive Office, Modesto
Ms. Lynn Hornecker, Southwest Division, Naval Facilities Engineering Command, San Diego
Mr. David Kelly, Shaw Environmental, Inc., Concord

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Gray Davis
Governor

TO: DANE S. JOHNSON
Senior Engineering Geologist

FROM: DALE E. ESSARY
Water Resource Control Engineer
RCE No. 53216

DATE: 5 September 2003

SIGNATURE: Dale E Essary

SUBJECT: UNDERGROUND STORAGE TANK (UST) SITE CL-40, NASA CROWS LANDING FLIGHT FACILITY, STANISLAUS COUNTY

BACKGROUND

Site CL-40 is a 1,500-gallon steel tank that stored fuel for a furnace in a nearby building and that was removed in 1991. Releases to the vadose zone were identified during investigations conducted through 1999. The site overlies the Administration Area Plume, which is being addressed under the IRP Program (see IRP Site 17 description, above). During 2001, a passive soil gas survey was conducted in support of the sewer system investigation (IRP Site 11A) that included Site CL-40.

By letter dated 28 September 1998, Sacramento Regional Board office staff reviewed a Final Closure Certification Report for seven UST sites, submitted 1 July 1998 by the Navy. The review letter expressed concerns regarding the closure of UST Site CL-40. Specifically, while analyses of soil samples collected during the excavation of CL-40 was limited to petroleum constituents only, the site may also be a source area for benzene and other VOCs to degrade groundwater. Analytical results of samples collected in March 1998 from monitoring well 17-MW-12 detected benzene at 2,600 µg/l; 1,2-dichloroethane at 82 µg/l; and chloroform at 30 µg/l. The concentration of benzene was greater than that detected in samples collected from UST Cluster 1 wells, which suggests that CL-40 is an upgradient source. The 28 September 1998 review letter requested that a proposal be submitted that describes how the remedial design work for the Administration Area Plume will provide further characterization of UST CL-40.

A letter dated 28 January 2000 prepared by Tetra Tech EM, Inc., on behalf of the Navy, provides a response to our 28 September 1998 review of the Final Closure Certification Report. The Navy's 28 January 2000 letter provides justification for their contention that additional soil or groundwater investigations at UST Site CL-40 are not warranted, and for requesting that final closure certification be granted for CL-40.

According to information provided during a technical conference call held between Regional Board staff and the Navy on 30 April 2003, approximately 120 cubic yards of contaminated soil was removed to a

depth of 10 feet below ground surface in September 1991. Analytical results of overexcavation soil samples indicate no detectable concentrations of petroleum hydrocarbons or BTEX compounds. Soil samples collected in December 2001 confirmed these results. The excavated area was filled with clean soil. The Navy indicated their intent to prepare a final closure document for Site CL-40.

CURRENT SUBMITTAL

We received a report entitled *Underground Storage Tank (UST) Site CL-40, NASA Crows Landing Flight Facility*, dated 14 July 2003, prepared by the U.S. Navy, Southwest Division, Naval Facilities Engineering Command, Base Realignment and Closure Operations, San Diego (Navy). The report provides further characterization of UST Site CL-40 and an evaluation of the site as a potential source of groundwater degradation, in response to the Sacramento Regional Board's 28 September 1998 review letter. Comments below pertain to my review of the report.

Information Provided

No impact to groundwater has been verified from releases at UST CL-40, based on analytical results from samples collected from area groundwater monitoring wells. Groundwater quality beneath the site is being addressed as part of the Administration Area Plume.

A passive soil gas survey was conducted in Fall 2001 within the Administration Area to evaluate potential releases from the former sewer system. The survey included the area surrounding the former location of UST CL-40. Results of the soil gas survey indicate low concentrations of BTEX in soil gas within the Administration Area, including the area surrounded by UST CL-40. The concentrations of BTEX in soils surrounding UST CL-40 range between non-detect (< 0.020 µg) and approximately 0.4 µg. The report indicates that the mass of contaminants measured in the soil gas do not constitute significant soil contamination and likely represent vapors trapped beneath the adjacent runway apron.

A soil boring analysis (CL40-GP-01) was completed near the UST CL-40 former pipeline in December 2001 to evaluate current concentrations of petroleum hydrocarbons in the soil and to determine whether other volatile organic compounds (VOCs) are present. Samples were collected from depths of 10, 20, and 40 feet below ground surface and analyzed for petroleum hydrocarbons and VOCs. Analytical results indicate low concentrations of motor oil range petroleum hydrocarbons at concentrations below the practical quantitation limit at 20 feet below ground surface. Low concentrations of methylene chloride were also detected in all samples, which are attributed to laboratory contamination. No other VOCs were detected in any of the samples.

The report concludes that there is no significant release of petroleum hydrocarbons or other VOCs to soil in the area of UST CL-40. Based on historical activities and recent investigations, the report recommends that no further action be required for soil remediation at the UST CL-40 Site.

Comments

I concur with the report's findings and conclusions, as presented.