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FieldNOTE

An Update on NASA's Cleanup Efforts at the Santa Susana Field Laboratory

Groundwater Update: Setting the Stage for Cleanup

Since completing its groundwater investigation in 2016, NASA has been preparing for final cleanup activities in the areas it administers at the Santa Susana Field Laboratory (SSFL). As part of the National Environmental Policy Act (NEPA) process, NASA recently released a Record of Decision (ROD) for groundwater cleanup. The groundwater ROD outlines NASA's decision to proceed with groundwater remediation activities described in NASA's 2014 Final Environmental Impact Statement (EIS) and affirms that the environmental impacts of the groundwater cleanup will not extend beyond what was evaluated in the EIS.

NASA's groundwater characterization work included extensive sampling of groundwater. The above photo shows groundwater sampling of a flush mounted multi-port well in the R2 Ponds area in NASA Area II.

"NASA is eager to implement cleanup activities as soon as possible. The groundwater ROD allows us to begin groundwater cleanup activities as soon as the regulatory process concludes," said Peter Zorba, NASA SSFL Project Manager. The groundwater treatment activities described in the ROD include the use of a combination of pump and treat technologies, bedrock vapor extraction, in-situ enhanced bioremediation, monitored natural attenuation, and institutional controls. The implementation of these activities are intended to prevent contaminant exposure to human and biological receptors, reduce the potential for plume migration, and reduce contaminant sources.

Next Steps

NASA's groundwater cleanup is guided by the 2007 Consent Order for Corrective Action that NASA, Boeing, and the Department of Energy signed with the Department of Toxic Substances Control (DTSC), and it utilizes the Resource Conservation and Recovery Act (RCRA) cleanup process (see below). The next step is the finalization of the Draft RCRA Facility Investigation (RFI) report for groundwater, which was submitted to DTSC for comment in May 2017.

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- Peter Zorba, NASA SSFL Project Director

The RFI report summarizes the nature and extent of contamination in the groundwater at SSFL and provides the basis for a Corrective Measures Study (CMS), which evaluates alternatives for cleaning up the groundwater contamination. NASA's Draft CMS was submitted to DTSC in August 2018. Once DTSC completes its California Environmental Quality Act (CEQA) process and finalizes the CMS, NASA will develop a very detailed groundwater cleanup plan known as the Corrective Measures Implementation (CMI). This plan will describe the design, construction, operation, maintenance and monitoring of all cleanup actions to be implemented. Once this plan is approved by DTSC, final groundwater cleanup activities can begin.

NASA Groundwater Cleanup Process

RCRA Facilities Investigation (RFI) Report → NEPA Groundwater Record of Decision (ROD) → Corrective Measures Study (CMS) → Corrective Measures Implementation (CMI) Plan → Groundwater Corrective Action Completion

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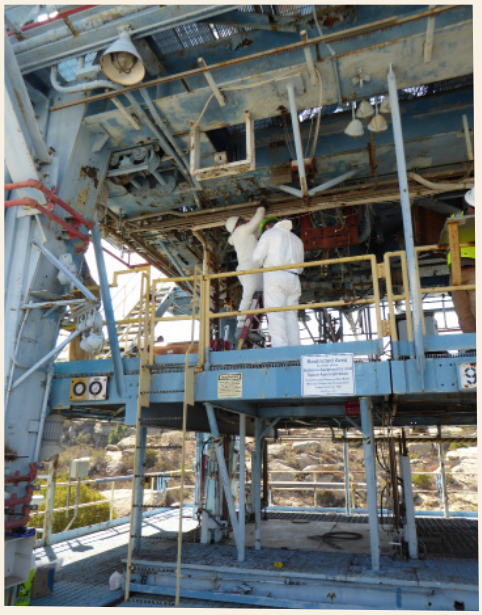
Fluid evacuation activities underway in the Alfa test area

This fall, NASA began implementing a program designed to safely evacuate, collect, store, characterize, and dispose of any residual fluids that may remain in the pipelines of the Alfa, Bravo and Coca test stands located in Area II at SSFL. NASA has not yet made a final decision as to whether and which test stands will be demolished or preserved, but this work prepares the test stands for either outcome and reduces the potential for inadvertent spills or exposure to any remaining fluids in the future.



Environmental technicians carefully extract fluids from pipelines at one of the Alfa Test Stands.

Overall, the amount of remaining fluids is expected to be fairly low, as the stands have been inactive for more than a decade. Any fluids that are found will be removed, segregated into containers, and characterized. Once the type of waste is confirmed, the fluids will be shipped to the appropriate disposal facility based on the chemical analytical results.

Since the test stands are eligible for listing on the National Register for Historic Places, NASA has committed to manage them in accordance with the National Historic Preservation Act, using the standards for treatment of historic properties outlined by the Secretary of Interior. As a result, the fluid evacuation procedure NASA will employ is a non-invasive, non-destructive process that will involve no cutting, torching, grinding, defacing, modifications, or any action construed as intrusive.

NASA's top priority with this work is to ensure the safety of workers and the public. NASA will strictly adhere to state and federal guidelines regarding the handling and disposal of hazardous waste. Fluid in the pipelines will be accessed via existing openings, valves, or joints. Pipelines will be carefully inspected to determine if any residual fluids remain. If the pipelines are determined to contain fluid, a vacuum will be attached to remove the contents. All flanges, valves and other disassembled openings will be reassembled upon completion of the work. NASA initiated fluid abatement and evacuation procedures at Alfa in September. Once abatement and evacuation are completed at the Alfa test stands, the work will continue with the Bravo, and then Coca test stands.

NASA Nearing Completion of Demolition Work at SSFL

Demolition in NASA-administrative areas began in early 2015 and has included the deconstruction and removal of infrastructure such as inactive pipelines, electrical lines and transformers, obsolete buildings, and excess concrete and asphalt. The demolition work reflects NASA's desire to be ready to implement cleanup activities as soon as the regulatory process is complete and cleanup documents are approved. NASA's ongoing demolition activities are expected to conclude at the end of this year.

The photos above show the progression of the demolition of an inactive hydrogen storage tank removed as part of Phase 3-B in the Coca Test Area. This phase has included removal of structures throught the test areas, excluding the historic test stands and control house.

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