



NASA completes demolition of Bravo Test Stands



Looking southwest at the Bravo Test Area, June 2021



Looking southwest at the Bravo Test Area, May 2022

Removing obsolete structures helps NASA ready the site for final cleanup

NASA's ongoing demolition program at the Santa Susana Field Laboratory (SSFL) is helping the Agency prepare the site so that final cleanup activities can be implemented as soon as the DTSC finalizes their California Environmental Quality Act (CEQA) environmental review process and approves NASA's cleanup plans. Aside from being a necessary step toward final cleanup, removing the obsolete structures and infrastructure and reduces NASA's footprint at the site.

NASA's latest progress to this end is the completion of the demolition of the two remaining Bravo Test Stands. Since last fall, NASA has been working to carefully deconstruct the test stands, including the unique flare stacks at the top of Bravo Test Stand 2, which set the Bravo apart visually from the other NASA test areas. Now that all the structures are removed, NASA is in the process of conducting erosion control measures in the area, including the application of a specialized hydroseed mix of plants native to SSFL to decrease potential for erosion and promote natural habitat restoration.

"The historic work at SSFL helped put a human footprint on the moon," said Peter Zorba, NASA's SSFL Project Director. We are using that same dedication to science and technology with our demolition program to remove our footprint at SSFL."

As with other phases of demolition, NASA continued to follow the Standard Operating procedures for demolition approved by DTSC, and coordinated with DTSC and other state and local authorities to safely complete Phase 5.

The next phase of demolition will be the removal of the remaining structures in the Coca Test Area. Coca demolition is anticipated to occur in three phases. Phase 6 will include Coca Test Stand 4, plus the adjacently located hydrogen sphere. Phase 7 will include Coca Test Stand 3 and the much smaller Test Stand 2. Finally, Phase 8 will include the Control House and the remaining concrete throughout the entire Coca Test Area.

NASA is currently working with the U.S. Army Corps of Engineers through the procurement process for Phase 6 and demolition fieldwork is expected to begin in early 2023.

CONTACT

Lori Manes | Community Outreach | NASA Santa Susana Field Laboratory
 ☎ (818) 806-8834 | ✉ lori.manes@nasa.gov

Preparations continue for groundwater pilot studies

Studies will evaluate effectiveness and large-scale application of key treatment technologies at SSFL

NASA is continuing fieldwork for two groundwater pilot studies that will evaluate the effectiveness of two key cleanup technologies, and the feasibility for their large-scale application at SSFL: enhanced in situ bioremediation (EISB), and bedrock vapor extraction (BVE).

EISB is a treatment approach that uses naturally occurring microbes to remove trichloroethylene (TCE) and other volatile organic compounds (VOCs) from the groundwater. This spring, NASA resumed drilling the remaining monitoring and injection wells that are required to build and operate the [closed-loop extraction-recirculation system](#). NASA anticipates finishing the four remaining wells in early summer. After the wells are completed, NASA will begin downhole testing to measure flow rates and record other performance metrics critical to the EISB system operation. Construction of the above-ground components of the EISB treatment system is expected to begin in early 2023.

NASA's second pilot study focuses on BVE. BVE is a treatment method that targets the removal of VOCs that are trapped in the fractures and pore spaces within the underlying bedrock in the unsaturated "vadose" zone right above the groundwater. NASA conducted two short-term BVE studies in 2014 and 2015, which resulted in significant mass removal of chlorinated VOCs in two separate areas of SSFL. NASA is working on a pilot study that will evaluate the effectiveness of BVE on a much larger scale and over an extended (18-month) duration. The BVE pilot study will take place within the Alfa Test Area where there is a thick vadose zone with a large bedrock fracture network, and significant VOC concentrations.

NASA's BVE pilot study system was designed with the Agency's green engineering and sustainability practices in mind: it uses solar power as an alternative energy source, and it is a mobile system that will minimize material use and resources and allow for easy relocation to target other source areas in the future within the NASA-administered property at SSFL.

With the drilling completed, NASA is now preparing for the construction of the system, which is expected to begin in late summer. NASA anticipates the BVE system to be completed and operational in Fall 2022.



Earlier this spring, a field crew oversaw the drilling of an EISB monitoring well, ND-165, near the spillway of Alfa Test Stand 1 in NASA's Area II.

Agency-wide effort propels new site investigation in NASA areas

NASA is committed to protecting human health and the environment in all its activities and has initiated an agency-wide investigation to identify potential Per- and Polyfluoroalkyl Substances (PFAS) at NASA centers and associated facilities. PFAS are a group of man-made chemicals that have been manufactured and used widely by a variety of industries since the 1950s. Common applications of PFAS include water and stain repellant materials and firefighting products.

Although PFAS are not federally regulated substances, NASA is conducting a thorough investigation and taking any necessary actions to protect human health and the environment. As part of that effort, NASA conducted a [Preliminary Assessment \(PA\) for PFAS at the Santa Susana Field Laboratory](#).

Consistent with its agency-wide approach, the PA documents NASA's evaluation of areas of potential concern for historical use, storage, and disposal of PFAS within NASA-administered areas at SSFL. This Spring, NASA will begin fieldwork to collect soil and groundwater samples as part of a Site Inspection (SI) to determine the presence or absence of PFAS in the areas of potential concern identified in the PA. Once completed, NASA will make the SI report with the investigation results available to the public via the NASA SSFL website.

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☎ (818) 806-8834 | ✉ lori.manes@nasa.gov