



Department of Toxic Substances Control



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SANTA SUSANA FIELD LABORATORY MONTHLY STATUS REPORT JANUARY 2012

This monthly update is to inform the community of Santa Susana Field Laboratory (SSFL) investigation and cleanup activities under the California Department of Toxic Substances Control's (DTSC's) oversight that have occurred between December 22, 2011 and January 20, 2012 and to identify activities that are expected to occur in the next 30 days.

Activities Completed: **Soil Investigations:**

U.S. Department of Energy (DOE)

The Area IV radiological soil sampling effort is being conducted by the United States Environmental Protection Agency (US EPA). The US EPA approached the investigation by splitting the Area IV and Northern Buffer Zone (NBZ, collectively referred to as the "Site") investigation into historical site assessment (HSA) subareas. The chemical soil sampling efforts follow the same HSA subarea designations.

DOE and DTSC are participating in Area IV and NBZ co-located soil sampling for chemical contaminants, which includes three phases, as specified in the December 2010 Administrative Order on Consent for Remedial Action (AOC), signed by DTSC and DOE:

- Phase 1 - co-located sampling for chemical analysis at US EPA's first phase of radiological sampling locations in Area IV and the NBZ.
- Phase 2 sampling is identified as randomly selected sampling locations, and
- Phase 3 sampling is identified as the Chemical Data Gap Investigation, which shall be used to determine the locations at the Site where insufficient chemical data exists and additional chemical investigation is necessary.

In consideration of budget constraints and in coordination with DTSC and DOE, the US EPA will implement its second round of sampling efforts following the Phase 1 work.

Soil Investigations: (continued)

DOE

Findings of the chemical data gap investigation may not result in sampling at US EPA's entire second round of sample locations. Not all of US EPA's Round 2 sample locations will need to be sampled for chemical contaminants, and chemical data gap investigation locations may be required where no radiological sampling is needed. The rationale and selection of sampling locations are provided during HSA technical work plan, roundtable meeting presentations and discussions with community stakeholders. Below is a summary of the Phase1 efforts. Phase 3 activities are anticipated to begin in early 2012.

Sediment Drainage Sampling

- All field work completed
- All chemical analytical data received and validated.
- Technical Memorandum summarizing analytical results in progress and will be submitted soon.

HSA-5C

- All field work completed
- All chemical analytical data received and validated.
- Technical Memorandum summarizing analytical results issued (available on DOE and DTSC web sites).

HSA-5B

- All field work completed
- All chemical analytical data received and validated.
- Technical Memorandum summarizing analytical results in progress and will be submitted soon.

HSA-5A

- All field work completed
- All chemical analytical data received and validated.
- Technical Memorandum summarizing analytical results in progress and will be submitted soon.

HSA-8N

- All field work completed
- All chemical analytical data received and validated.

Soil Investigations: (continued)

DOE

HSA-5D North

- All field work completed
- All chemical analytical data received and validated.

HSA-6

- All field work completed
- All chemical analytical data received with 85% of the data validated.

HSA-7

- All field work completed
- All chemical analytical data received with 50% of the data validated.

HSA-3

- All field work completed
- 95% of analytical data received with validation in progress.

HSA-5D South

- All field work completed
- All chemical analytical data received with validation in progress

HSA-8 South

- All field work completed.
- All chemical analytical data received with validation in progress

NASA

- DTSC issued a letter approving the NASA Field Sampling Plan (FSP), Subgroup 2 on January 6, 2012.
- Soil sampling at the FSP-2 sites (Incinerator Ash Pile, Sewage Treatment Plant, Building 204, Storable Propellant Area) began on January 9, 2012, and will continue until early February 2012. Sampling for dioxins at the FSP, Subgroup 2 Ash Pile site is being delayed until dioxin distribution and analytical complexities at that site are better understood.
- The community comment period for NASA FSP, Subgroup 3 closed on January 6, 2012, and DTSC will provide written responses to the comments received by the end of January 2012.
- DTSC and NASA staff met for a development meeting for NASA FSP, Subgroup 4 on January 4-5, 2012. The community meeting and site tour will be held at SSFL on January 26, 2012.

Soil Investigations: (continued)

Boeing

Based on data gaps identified in the RCRA Facility Investigation submitted for Reporting Groups 1A, 1B and 10, Sampling and Analysis Plans are being prepared to collect more data in order to complete the characterization for those groups or areas.

- Boeing submitted a tech memo with proposed data quality objectives (DQOs) to be used in planning the additional characterization activities.
- Boeing and DTSC have been meeting to discuss the scope and usage of the DQOs.

Groundwater Characterization and Cleanup

The groundwater characterization and cleanup program is being conducted by Boeing on behalf of the three parties at the site; Boeing, DOE and NASA. The groundwater characterization and cleanup program consists of:

- Investigation and characterization of groundwater contamination and ongoing groundwater monitoring of existing wells,
- Sampling of new groundwater locations, and
- Treatment and disposal of contaminated groundwater.

Groundwater Interim Measures:

- Evaluation of pumping at WS-09A ongoing. Pumping at WS-9A has been intermittent as modifications to the treatment plant have been made. Water levels at WS-9A, at newly installed wells adjacent to the springs, and the condition of the springs directly have been monitored confirm that discharge from the springs is controlled during both periods of pumping and non-pumping.
- The technical memorandum on the hydraulic response to pumping WS-9A is being developed for submittal to DTSC.

Groundwater Remedial Investigation (RI) Report

The Groundwater Remedial Investigation (RI) Report provides information on chemicals and radionuclides in groundwater at the site, where the contaminants are, and how they move through the sandstone and shale bedrock.

- On January 17, DTSC and Boeing met to review and begin discussion on DTSC's comments on the Groundwater RI Report.

Groundwater Monitoring

- A Site-Wide Low-Flow Implementation Summary report was submitted in December 2011. The report summarizes the implementation of the low-flow sampling technique.
- 2011 Annual Groundwater Monitoring Program Report preparation ongoing.
- 2011 Q3 Groundwater Monitoring Program Report preparation ongoing
- Begin 2012 Q1 Groundwater Monitoring Program sampling.

Feasibility Study

A feasibility study (FS) identifies, develops, and evaluates a range of potential technologies, including experimental technologies that can be used for the containment, treatment, remediation and/or disposal of contamination. Additionally, treatability studies of appropriate technologies are identified and evaluated for consideration in the feasibility study.

Boeing developed a feasibility study (FS) workplan for SSFL-wide groundwater and for bedrock/soils at Boeing sites. The FS workplan lays-out the process for how the FS will be implemented.

- DTSC is reviewing the FS workplan.

Because the 2010 Administrative Orders on Consent dictate cleanup levels, NASA and DOE may conduct treatability studies for soils, but are not required to perform feasibility studies for their sites.

Treatability Studies

Treatability studies are being conducted on several technologies to be evaluated in the feasibility study. The treatability studies address both soil/bedrock and groundwater contamination. Treatability studies can be either field studies, or laboratory studies.

Two field studies were proposed:

- Bedrock Vapor Extraction; and
 - In-situ chemical oxidation (groundwater)
- The development of the bedrock vapor extraction and in-situ chemical oxidation field tests is ongoing. Boeing anticipates submitting addenda for the test workplans by the end of January 2012.

Four laboratory studies, all for groundwater, are being conducted:

- Chemical oxidation using potassium permanganate;
 - Thermal heating of rock core;
 - Microbial characterization of rock core and porewater; and
 - Bio Stimulation.
- Boeing's contractors have begun work on the chemical oxidation, microbial characterization, and biostimulation laboratory studies.

Public Outreach:

On January 18, 2012, DTSC hosted the second meeting in a series of technical discussions on the Look-Up Table process for radionuclides. DTSC shared information provided by the U.S. Environmental Protection Agency regarding their radiological study of Area 5C of the SSFL property and there was a discussion on Look-up Table considerations during development.

Chemical Background Study:

The chemical background samples have gone through preliminary analysis and are under data validation review.

Building Demolition: *No New Updates*

Interim Source Removal Actions: *(Note: ISRA activities are conducted under the authority of the Los Angeles Regional Water Quality Control Board (LA-RWQCB))*

- DTSC participated in project status meetings on November 30 and December 14 held once every two weeks.
- On December 9, DTSC reviewed and approved soil excavation plan for AP/STP-1C1 and additional excavation at AP/STP- 1E2. Waste characterization radionuclide sample results for AP/STP-1B contained a single elevated reporting limit for Uranium-235 (< 0.131 pCi/g) that exceeded the EPA draft Background Threshold Value of (0.130 pCi/g) and was judged to be inadequate for supporting determination of non-restricted waste disposal. Excavation of AP/STP-1B ISRA area is being postponed until additional sampling and analysis is conducted to resolve the elevated Uranium-235 reporting limit issue.

Permits: *No new updates:*

Risk Assessment: *No new updates.*

Proposed for the Next 30 Days:

Soil Investigations:

DOE

- Submittal, approval and implementation of Addendum No. 7 to Master Work Plan/Field Sampling and Analysis Plan for Phase 1 Co-Located Chemical Sampling of deep boreholes to characterize potential chemical contamination in soil beneath former nuclear reactor concrete vaults located at former SNAP Building 4059, KEWB Building 4073, SRE Building 4143, and STIR Building 4028.
- Submittal of a new Master Field Sampling Plan, a Quality Assurance Plan and a Health and Safety Plan for the Phase 3 chemical soil sampling.
- On January 25, 2012, EPA, DOE and DTSC will jointly host a public tour from 10:30 to noon to discuss and view Area IV activities. Advance RSVP is required - please contact Debbie Kramer of DOE at 818 466-8898 to reserve.
- On January 30, 2012, DOE will host a technical presentation and discussion for the Soil Treatability Study group at 6:30pm at the Jewish Community Center located at 22622 Vanowen Street in West Hills. During this meeting, participants will learn more about on-site soil remediation technologies that might help address soil contamination at Santa Susana Field Laboratory.
- On January 31, 2012, DOE will host an afternoon meeting for the Soil Treatability Study Group in Simi Valley. For the location and time of this meeting, please contact Stephanie Jennings of DOE at (818) 466-8162.
- On February 22, 2012, EPA, DOE and DTSC will host a stakeholder meeting to discuss the status of Phase 3 sampling efforts in Area IV. The meeting will be held at the SHEA Building at SSFL. EPA's presentation is scheduled from 9:00am to noon, and DOE/DTSC's portion will be from 12:30 to 3:30pm.

NASA

- On January 26, 2012, NASA and DTSC will host a community stakeholder technical roundtable at SSFL to present the NASA FSP, Subgroup 4 sites (Liquid Oxygen (LOX) plant, Area 2 Landfill and Expendable Launch Vehicle (ELV) area) data gap FSP, discuss comments and conduct a guided site tour.
- NASA FSP-2 soil and soil gas sample collection will continue, and NASA FSP, Subgroup 3 sampling may commence in mid to late-February (pending completion and approval of FSP, Subgroup 3).
- DTSC will review revisions to NASA's Soil Gas Standard Operating Procedures (SOP) document, submitted January 19, 2012.
- DTSC will participate in a technical development meeting with NASA staff for FSP 5 on January 8 and 9, 2012.

Chemical Background Study:

- DTSC will continue to oversee and work with its contractor on the laboratory analytical and data validation efforts. DTSC anticipates having the validated data available to present to the community stakeholders in late March 2012, and a draft chemical background report available for public comment in May 2012.

Groundwater Investigations:

- Fault Characterization: DTSC is reviewing well design for well RD-103. The draft technical memorandum for the Burro Flats Fault is in development. The State Historical and Preservation Office (SHPO) is reviewing proposed trenching activities at former sodium disposal facility (FSDF) structures.
- Groundwater samples to be collected from existing wells for new analytes during first quarter 2012.
- The 2011 annual report is being prepared.
- 2011 Third Quarter (Q3) Groundwater Monitoring Program Report in preparation

Groundwater Interim Measures:

- DTSC is working on the CEQA document for the Groundwater Interim Measures effort that includes installation of eight source zone groundwater wells.

Building Demolition: *No new updates*

Interim Source Removal Actions: *(Note: ISRA activities are conducted under the authority of the Los Angeles Regional Water Quality Control Board (LA-RWQCB))*

- DTSC will continue to participate in ISRA bi-weekly project meetings. NASA will postpone soil removal at ELV ISRA areas until excavation at AP/STP. DTSC will continue to evaluate waste characterization radionuclide chemistry results.
- SSFL facility will conduct ISRA performance monitoring and BMP subarea monitoring inspections and sampling in Outfall 008/009 watersheds, as necessitated by rain events.

Permits: *No new updates:*

Risk Assessment:

- The AOC's for DOE and NASA do not require a risk assessment. This information is provided and relevant to the Boeing activities.

Risk Based Screening Levels (RBSL):

- DTSC anticipates receiving the human health based RBSLs from Boeing's consultant in January 2012. DTSC is reviewing the ecological RBSLs.

Public Outreach:

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- DTSC will continue to provide monthly updates regarding the progress of the site investigation and cleanup process to the community.