

Santa Susana Field Laboratory Monthly Status Report January 2014

This monthly update is to inform the community about Santa Susana Field Laboratory (SSFL) investigation and cleanup activities under the California Department of Toxic Substances Control's (DTSC) oversight that occurred in January 2014, as well as activities that are anticipated in February 2014. An overview summary of activities at The Boeing Company, United States Department of Energy (DOE) and NASA areas at SSFL is included at the end of this report.

Completed Within the Past 30 Days

DTSC

California Environmental Quality Act (CEQA)

On behalf of DTSC, CEQA contractor, Environmental Science Associates (ESA), has prepared and submitted to the State Clearinghouse a Notice of Preparation (NOP) for a Program Environmental Impact Report (PEIR). The public comment period for the PEIR started on November 22, 2013 and has been extended until February 10, 2014. DTSC conducted CEQA scoping meetings on December 10 and 14, 2013. DTSC expects the draft Program EIR to be available for public review in fall 2014.

NASA

In August 2012, NASA completed the first phase of sample collection to complete soil and surficial media chemical characterization at the two SSFL areas under its administration. These areas include the 41-acre NASA portion of Area I (the former Liquid Oxygen (LOX) Plant) and the 409-acre Area II. The 1,700 soil samples collected during this nine month program have been analyzed and the resulting data is being used to evaluate the extent of remaining soil chemical data gaps.

Field work for the final phase of NASA soil sample collection is anticipated to begin in mid-February 2014, and the scheduling for both the Field Sampling Plan (FSP) 6 work plan and the associated NASA/DTSC community stakeholder technical meeting are still being determined. DTSC will release a notice when these events are scheduled.

DTSC continues to review the September 2013 NASA document *Draft Characterization Plan - LOX Plant Area of Impacted Groundwater*. As DTSC's review proceeds, the document will be made available to the public on the DTSC website, and a NASA/DTSC community stakeholder technical meeting will be scheduled.

DOE

In 2012, US Environmental Protection Agency (US EPA), in coordination with DTSC and DOE, completed sampling efforts to define the nature and extent of Area IV radiologic contamination. US EPA's Round 2 sampling locations were based upon the validated sampling results they received from their Round 1 sampling. In coordination with DTSC, DOE has completed the initial Phase 3 Soil Chemical Data Gap Investigation sampling in subareas located throughout Area IV and the Northern Buffer Zone. A number of Phase 3 sampling locations may be completed during future trenching and test pit sampling. The status of the Phase 3 soil chemical investigation sampling efforts is presented below. DOE recently submitted a Master Soil Treatability Studies Work Plan for five treatability testing studies to evaluate on-site treatment capable of achieving cleanup goals. DTSC approved the Master Soil Treatability Studies Work Plan in November 2013. Study Plan Addendums describing the five soil treatability studies will be issued in the near future.

Final Data Gap Sampling Needs

- Since the Chemical Look-Up Table (LUT) was issued by DTSC in June 2013, final data gap sampling needs (e.g., "Go Back" items) are being evaluated using available sampling results (including initial Phase 3 results) by screening against the LUT values. This process of "Go Back" evaluation for the first set of Subareas (3, 5B, 5C, 6, and 7) was presented at the technical stakeholder meeting held on October 29, 2013. As a result of the Go Back evaluation, some outstanding proposed sampling efforts may not be conducted, since they are located in areas now identified as preliminary remediation areas that will be addressed during remedial planning. For example, the actual number of proposed trenches/test pits to be investigated will be determined following completion of the final data gap (e.g., Go Back) evaluation. The results of this "Go Back" evaluation (and resulting changes in previously proposed scope of work) for the first set of subareas will soon be presented in an addendum to the Master Field Sampling Plan for Chemical Data Gap Investigation.

Northern Buffer Zone (Phase 3 Data Gap Investigation):

- Sampling at approximately 98 percent of the surface and subsurface soil boring locations has been completed in the NBZ.
- 15 percent of the analytical results for samples collected have been received and 0 percent of data validation has been completed for the NBZ samples.

Subarea 5A (Phase 3 Data Gap Investigation):

- Sampling for Subarea 5A South and 5A North (as described in the Phase 3 5A North Implementation Plan) has been completed.
- All of the analytical results for samples collected have been received and 100 percent of data validation has been completed for Subarea 5A South samples.
- All of the analytical results for samples collected have been received and 0 percent of data validation has been completed for Subarea 5A North samples.

Subarea 5B (Phase 3 Data Gap Investigation):

- Sampling at approximately 92 percent of the surface and subsurface soil boring locations has been completed.
- All of the analytical results have been received and 100 percent of data validation has been completed.
- Six locations were not sampled due to their proximity to environmentally sensitive areas.
- Approximately 8 percent of sampling locations (trenches and test pits) may be completed in the future.

Subarea 5C (Phase 3 Data Gap Investigation):

- Sampling at approximately 77 percent of surface and subsurface soil boring locations has been completed.
- All of the analytical results have been received and 100 percent of data validation has been completed.
- The remaining 23 percent of sample locations (trenches and test pits) may be completed in the future.

Subarea 5D (Phase 3 Data Gap Investigation):

- Sampling at approximately 100 percent of surface and subsurface soil boring locations has been completed.
- Approximately 95 percent of the analytical results have been received and 75 percent of data validation has been completed.

Subareas 3 and 6 (Phase 3 Data Gap Investigation)

- Sampling at 100 percent of surface and subsurface soil boring locations has been completed.
- All analytical results have been received and 100 percent of data validation has been completed.

Area III Drainage Sediment Sampling (Phase 3 Data Gap Investigation):

- All field work is now complete.
- All of the analytical results have been received and 100 percent of data validation has been completed.

Subarea 7 (Phase 3 Data Gap Investigation)

- 100 percent of surface and subsurface soil samples have been collected.
- All of the analytical results have been received and approximately 95 percent of data validation has been completed.

Subarea 8 (Phase 3 Data Gap Investigation)

- 84 percent of surface and subsurface soil samples have been collected.
- All of the analytical results have been received and 100 percent of data validation has been completed.
- Sampling at 7 percent of the sampling locations (trenches and test pits) may be completed in the future.

Boeing

Boeing owns Area I, with the exception of the ~41 acre former Liquid Oxygen (LOX) Plant area, administered by NASA, and all of Areas III and IV. Areas I and III total 791 acres and are operated by Boeing. Boeing also owns the approximately 1,143 acre southern buffer zone and 182 acre northern buffer zone. Soils in Area IV and the northern buffer zone are being characterized in the DOE portion of the project. Boeing continues to investigate and characterize soils in Area I, Area III, and the southern buffer zone. Boeing's surficial media characterization work is divided into units identified as Boeing Resource Conversation & Recovery Act (RCRA) Facility Investigation (RFI) Subareas:

- 1A North, 1A Central, 1A South
- 1B North, 1B Southwest, 1B Southeast
- 5/9 North, 5/9 South, and
- Group 10

Building Demolition

- On December 11, 2013, the Superior Court of Sacramento granted a preliminary injunction enjoining DTSC from "approving" Boeing's demolition and disposal activities without complying with CEQA, pending a hearing on the merits of a lawsuit filed on August 6, 2013. DTSC is reviewing the opinion and determining next appropriate steps. The court emphasized that this ruling does not find that Boeing's demolition and disposal activities are unsafe.

Surficial Media Investigation

Boeing is using the Data Quality Objectives process and standard operating procedures for planning and conducting sampling work to complete the characterization of surficial media. The purpose of the current phase of surficial media investigation work is to collect sufficient data to fill data gaps that were identified in the 2007 and 2008 Group RFI Reports.

Characterization Work

The first round surficial media data gap sampling work plans have all been submitted and reviewed by DTSC. All of the work plans were presented to the public, with the first public meeting held on March 13, 2013 and the last held on December 12, 2013. Data generated during the first round surficial media data gap sampling will be evaluated to identify any remaining data gaps. An additional round of surficial media data gap sampling is planned to collect data to fill any data gaps that are identified in the process. DTSC and Boeing met on December 12 to discuss the format and schedule of the next round of data quality objective evaluation deliverables.

- Boeing Subarea 5/9 South
 - Systems Testing Lab (STL-IV), Compound A, Sewage Treatment Plant(STP-3), and Environmental Effects Laboratory (EEL), and areas not associated with RFI sites
 - Field work is complete.
 - Sample results from initial sampling activity are being evaluated to verify whether the data quality objectives have been met.

- Subarea 1A North
 - B-1, Instrument & Equipment Laboratory (IEL), Area 1 Landfill, and areas not associated with RFI sites in Subarea 1A North
 - Field work is complete.
 - Sample results from initial sampling activity are being evaluated to verify whether the data quality objectives have been met.
- Boeing Subarea 5/9 North
 - Silvernale Pond, Engineering Chemistry Laboratory (ECL), and areas not associated with RFI sites in Subarea 5/9 North
 - Field work is complete with the exception of surface water sampling. Surface water sampling cannot be performed at this time as Silvernale Pond is dry.
 - Sample results from initial sampling activity are being evaluated to verify whether data quality objectives have been met.
- Boeing Subarea 10 (Southern Buffer Zone)
 - Field work is complete.
 - Sample results from initial sampling activity are being evaluated to verify whether the data quality objectives have been met.
- Subarea 1A Central
 - Building 359, Advanced Propulsion Test Facility (APTF), and Happy Valley North and areas not associated with RFI sites in Subarea 1A Central
 - Field work is complete.
 - Sample results from initial sampling activity are being received from the laboratory and being evaluated to verify whether the data quality objectives have been met.
- Subarea 1B North and Subarea 1B Southeast
 - Bowl, R-1 Pond, Components Test Laboratory (CTL-III), Perimeter Pond, and areas not associated with RFI sites in Subareas 1B North and 1B Southeast.
 - Field work is complete.
 - Sample results from initial sampling activity are being received from the laboratory and being evaluated to verify whether the data quality objectives have been met.
- Subarea 1B Southwest
 - Area I Burn Pit, CTL-V, and areas not associated with RFI sites in Subarea 1B Southwest
 - DTSC approved the work plan addenda on December 19. (DTSC approved the initiation of sampling activities ahead of full work plan approval.)
 - Field work began on Dec 11 and is ongoing. Soil sampling was completed on January 28, and soil vapor sampling is still in progress.
 - Sample results from initial sampling activity are being received from the laboratory and being evaluated to verify whether the data quality objectives have been met.

- Subarea 1A South
 - Canyon, Happy Valley South, Laser Engineering Testing Facility (LETF)/CTL-I, and areas not associated with RFI sites in Subarea 1A South
 - DTSC approved the work plan addenda on January 23, 2014.
- Sage Ranch
 - DTSC is reviewing a Boeing work plan to perform incremental sampling covering the overshoot area of the gun range in the Northern Drainage area.
- Risk Assessment
 - DTSC is reviewing a Boeing technical memorandum documenting procedural revisions to the risk assessment process.
 - DTSC is finalizing review on proposed Risk Based Screening Levels(RBSLs) for radionuclides to be used for Boeing characterization work.

Groundwater Characterization and Cleanup

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

- Investigation and characterization of groundwater contamination;
- Groundwater monitoring;
- Groundwater interim measures; and
- Treatment of contaminated groundwater with permitted discharge from the Groundwater Extraction and Treatment System.

Investigation and Characterization of Groundwater Contamination

- **Groundwater Remedial Investigation (GWRI) Data Gap Work**
 - Data gaps were identified in the 2009 GWRI Report. DTSC also identified additional data gaps that were presented in the GWRI comments. The data gap work has been divided into five (5) categories:
 - Data gaps identified in the Remedial Investigation (RI) Report;
 - Characterization of seeps and springs;
 - Characterization of faults;
 - Groundwater flow model; and
 - Contaminant transport modeling.

- **Status of GWRI Data Gap Work**

Work to fill the source zone data gaps is being addressed in the data gap work plans.

- Data gaps identified in the RI Report
 - Boeing is working under an approved Data Gap Sampling and Analysis Plan to fill data gaps identified in section 10.9.2 of the draft RI Report.
- Seeps and Springs
 - Boeing is working under an approved work plan to complete characterization of seeps and springs.
 - Boeing is trying to secure access to several properties.
- Faults
 - Boeing is working under the approved work plan to fill the data gaps in characterization of faults;
 - Observations and data from ongoing field work studies are being evaluated and will be presented to DTSC.
- Groundwater flow model
 - The groundwater flow model work plan presents an approach for a mountain scale groundwater flow model.
 - DTSC has submitted comments on Boeing's draft groundwater flow model work plan.
 - Boeing, DOE and NASA's groundwater team is currently revising the work plan to respond to DTSCs comments.
- Contaminant transport modeling
 - Boeing is developing an approach for contaminant transport modeling.
- Liquid Oxygen (LOX) Plant Area of Impacted Groundwater
 - DTSC is continuing review of the Draft Characterization Plan - LOX Plant Area of Impacted Groundwater. The work plan proposes an investigation of the documented groundwater contamination source area in the vadose zone beneath NASA's former Area I LOX site.

- **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.

- Four groundwater laboratory studies are being conducted:
 - Chemical oxidation using potassium permanganate;
 - Thermal heating of rock core;
 - Microbial characterization of rock core, pore water; and
 - Bio-Stimulation.
- Two field studies are being conducted:
 - In-situ chemical oxidation (ISCO) using potassium permanganate; and
 - Bedrock vapor extraction.

- **Status of Treatability Study Testing**
 - The groundwater laboratory studies for microbial characterization of rock core, pore water, and bio-stimulation are ongoing in university research laboratories.
 - ISCO test planning is continuing.
 - Boeing is working under the approved work plan and implementation plan.
 - Boeing has secured the waste discharge requirements (WDR) permit from the Los Angeles Regional Water Quality Control Board (LA-RWQCB).
 - Boeing conducted baseline water sampling in multi-port corehole C-10.
 - DTSC has submitted comments on the supplemental quality assurance plan. The supplemental quality assurance plan covers sampling and analytical activities associated with bromide and permanganate injection and monitoring.
 - DTSC is currently in the process of reviewing a work plan for conducting the bedrock vapor extraction (BVE) treatability study at NASA's former Bravo test area.
 - NASA is preparing responses to draft comments on test design and procedures.
 - DOE will be conducting the test for thermal heating of rock core.
 - A work plan will be prepared for DTSC review.

Groundwater Monitoring

- The third quarter monitoring report is currently being prepared.
- DTSC is reviewing the First Quarter, 2013 Groundwater Monitoring Report.
- On January 3, 2014, MWH submitted the 2013 Annual Report.
- DTSC is reviewing the 2012 Annual Report.
- Gauging and sampling for first quarter groundwater monitoring has begun.

Groundwater Interim Measures (GWIM)

The Groundwater Interim Measures project includes the installation and operation of eight source zone groundwater extraction wells. The water will be sent to the existing Groundwater Extraction Treatment System (GETS). The GETS water is discharged at Outfall number 19.

- Preparation to install piping for the GWIM is ongoing.
- GWIM start-up is scheduled for October 2014.

Operation of WS-09A

WS-09A did not pump in November. WS-09A, located in the southwest corner of Area II, north of the southern buffer zone, is on a pumping program to lower the groundwater elevation near seep SP-890 with a goal of reducing the amount of Trichloroethene (TCE) contamination in groundwater in the immediate area. When operating, groundwater extracted from WS-9A is pumped to the GETS.

- Except for some testing periods in December 2012 and January 2013, WS-9A has not been pumping since November 2012.
 - The water levels in the seep areas downstream of WS-9A are being monitored.
 - Pumping at WS-9A will resume after further studies of conditions at the pumping location and outfall have been performed.

Feasibility Study / Corrective Measures Study

DTSC has conditionally approved the Feasibility Study work plan. Cleanup of site wide groundwater and surficial media in Boeing areas will be regulated under Chapter 6.5 of Division 20 of the HSC (California Hazardous Waste Control Law and the Resource Conservation and Recovery Act authorizations). Soils in DOE and NASA areas will be cleaned up under the respective Administrative Order on Consent (AOCs).

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

- No ISRA work was conducted. ISRA field activities were completed in November.

Public Outreach

Public Participation activities in January 2014 included:

- On January 3, 2014, the DTSC Monthly SSFL Update Report was e-mailed to 900+ E-list subscribers.
- On January 7, 2014, DTSC sent an e-mail announcement to an E-list of 900+ subscribers inviting the SSFL community to attend the SSFL Community Advisory Group meeting. The meeting date and information was also posted on the SSFL DTSC website Calendar of Events.
- On January 9, 2014, DTSC sent an e-mail announcement to an E-list of 900+ subscribers announcing the extension of the Public Comment Period for the Notice of Preparation (NOP) Draft Program Environmental Impact Report to February 10th, 2014.
- On January 10, 2014, DTSC mailed a postcard announcing the extension of the Public Comment Period for the Notice of Preparation (NOP) Draft Program Environmental Impact Report to February 10, 2014. The mailing was sent to the SSFL 4, 600+ mailing list.
- On January 13, 2014, the SSFL Community Advisory Group (CAG) held a public meeting at the Bell Canyon Social Hall. The meeting was held from 7:00 p.m. – 10:00 p.m.
- Over 33 documents were uploaded to the SSFL website.

Activities Expected to Occur Within the Next 30 Days **(February 2014):**

DTSC

Chemical Soil Background Study and Related Look-up Table Values (LUTs)

- DTSC is working to develop the LUTs for the remaining chemicals. These remaining values will be based on the method reporting limits.

California Environmental Quality Act (CEQA)

The public comment period for scoping the PEIR will continue through February 10, 2014. Comments can be submitted via e-mail to: [DTSC_SSFL_CEQA @dtsc.ca.gov](mailto:DTSC_SSFL_CEQA@dtsc.ca.gov); via fax to (916) 255-3734 or via mail to Mark Malinowski, Project Manager, DTSC, at 8800 Cal Center Drive, Sacramento, CA 95826.

NASA

- NASA will continue working on the Data Summary Reports for the first phase of the 2011-2012 chemical data gap investigation. The summary reports for Field Sampling Plans (FSPs) 1 through 5 are scheduled for release in mid-2014.
- DTSC and NASA will continue to develop on the surficial media sampling plan (FSP-6) to address remaining data gaps from the initial five FSPs implemented in 2011-2012. Pending completion of the work plan and the resolution of logistical field issues, sample collection is expected to commence in mid-February 2014.
- DTSC should provide comments on the September 2013 *Draft Characterization Plan - LOX Plant Area of Impacted Groundwater* in February 2014. A copy of the document and DTSC's review memorandum will be made available for public review on DTSC's SSFL website.
- NASA is anticipated to release a draft characterization plan for the investigation of groundwater source areas at the Expendable Launch Vehicle (ELV) and Building 204 areas. This document should be released in February 2014.

DOE

- Following DTSC's approval of the "Final Phase 3 Data Gap Analysis for Subareas 5B, 5C, 3/6, and 7 Technical Memorandum", field sampling will commence for these Subareas.

Boeing

Building Demolition

- Per the December 11, 2013 Temporary Injunction issued by the Superior Court of Sacramento, no correspondence on Boeing SSFL demolition sites will be issued by DTSC. The Boeing Company has likewise informed DTSC that no additional Area IV demolition notifications will be submitted until the August 6, 2013 suit is resolved.

Surficial Media Investigation

- Subarea 5/9 South.
 - DTSC and Boeing will meet to discuss the format and schedule of the next round of data quality objective evaluations.
- Subarea 1A North.
 - Boeing will evaluate data from initial sampling activities.
- Subarea 5/9 North
 - Boeing will evaluate data from initial sampling activities.
 - Field work is complete with the exception of surface water sampling. Surface water sampling will be performed if enough water collects in Silvernale Reservoir.
- Subarea 10 (Southern Buffer Zone).
 - Boeing will evaluate data from initial sampling activities.
- Subarea 1A Central.
 - Boeing will evaluate data from initial sampling activities.
- Subarea 1B North
 - Boeing will evaluate data from initial sampling activities.
- Subarea 1B Southeast.
 - Boeing will evaluate data from initial sampling activities.
- Subarea 1B Southwest.
 - Field work will finish, Boeing will evaluate data from initial sampling activities.
- Subarea 1A South.
 - Field work will begin.

Groundwater Investigation and Cleanup

- Each of the responsible parties will continue working to develop their own respective sampling plans to address the remaining groundwater data gaps.
- Seeps and Springs
 - Boeing is working under the approved work plan to complete characterization of seeps and springs.
 - Reconnaissance and work to secure access agreements for offsite work will continue.
 - Installation of seep well clusters will continue.

- Faults
 - Boeing is working under the approved work plan to fill the data gaps in characterization of faults.
 - The Stanford University structural evaluation of faulting will continue.
 - Evaluation of data from isotopic samples and earth tide study monitoring reports will continue.
 - On February 6 Boeing's groundwater team and DTSC will meet with University of Kansas to plan the upcoming seismic pilot test in Area I.
- Groundwater flow model and contaminant transport modeling
 - Boeing will respond to DTSC's comments on the draft groundwater flow model work plan.
 - Boeing is continuing to develop the approach for a contaminant transport model.

In Situ Chemical Oxidation (ISCO) Field Study

- Boeing will submit the supplemental quality assurance plan to DTSC for approval.

Feasibility Study / Corrective Measures Study (CMS)

- Progress on the Corrective Measures Study will proceed when further development of characterization data and screening of remedial technologies are applied to site areas.

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

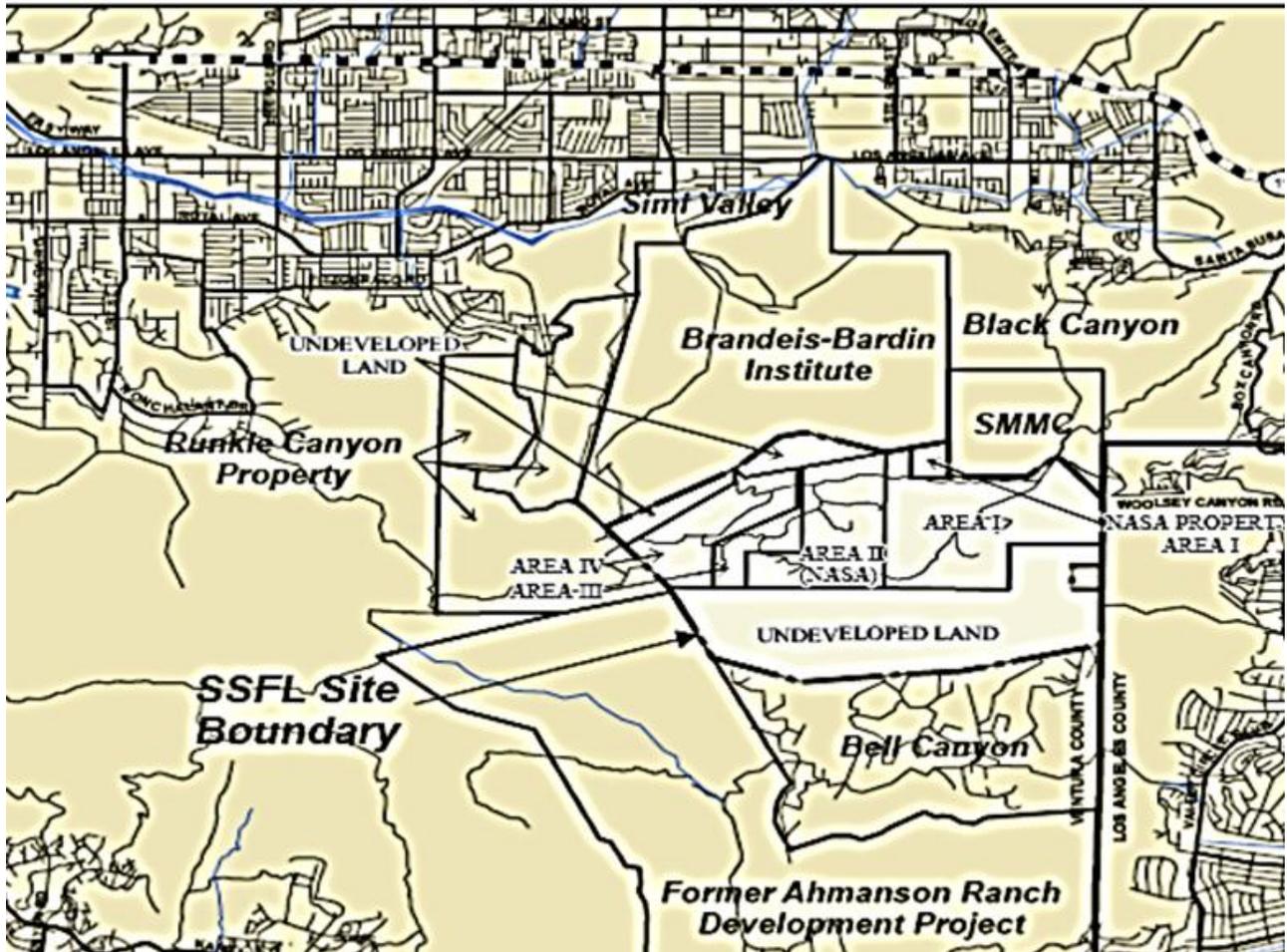
- No additional ISRA excavation work is planned.

Public Outreach

Anticipated Public Participation activities in the next 30 days include:

- On February 5, 2014, the Work Group will host a public meeting at the Simi Valley Cultural Arts Center, 3050 East Los Angeles Avenue, Simi Valley, CA. The meeting will be held from 6:30 p.m. – 10:00 p.m.
- On February 6, 2014, Department of Energy (DOE) will host a Soils Treatability Investigation Group (STIG) meeting at the Radisson Hotel, 9777 Topanga Canyon Blvd., Chatsworth, CA 91311. The meeting is open to STIG members and will be held from 6:00 p.m. – 9 p.m.
- On February 19, 2014, the Community Advisory Group will host a public meeting. The meeting will be held at the Bell Canyon Social Hall, 30 Hackamore Lane, Bell Canyon, CA 91307. The meeting will be held from 7:00 p.m. – 9:30 p.m.

Overview



U.S. Department of Energy (DOE)

DTSC and U.S. Department of Energy (DOE) are participating in chemical soil sampling efforts in Area IV of the SSFL property where former DOE activities occurred on the Site. Area IV is a 290-acre area located in the northwestern section of the site. DOE owns facilities on a 90-acre site within Area IV. Area IV includes the Energy Technology Engineering Center (ETEC) facility where nuclear research, development, and testing began in the 1950's.

The Area IV radiological soil sampling effort, conducted by the United States Environmental Protection Agency (US EPA), was completed in 2012. 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.

The sampling 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, identified as the Chemical Data Gap Investigation that shall be used to determine the locations at the Site where insufficient chemical data exists and additional chemical investigation is necessary.

In 2012, the US EPA, in coordination with DTSC and DOE, completed its second round of sampling efforts to define the nature and extent of radiologic contamination in Area IV. US EPA's round two sampling locations were based upon the validated sampling results they received from their Phase 1 sampling.

Not all of US EPA's Round 2 sample locations were sampled for chemical contaminants, and chemical data gap investigation locations may be required where no radiological sampling is needed. In 2013, the rationale and selection of chemical data gap investigation sampling locations will be provided in the work plan for Chemical Data Gap Investigation, Phase 3 Chemical Sampling at Area IV, and discussed with the community.

NASA

NASA is currently conducting chemical data gap investigations to complete soil and surficial media characterization at the two SSFL areas under its administration that include the 41.7-acre NASA administered portion of Area I (the former Liquid Oxygen (LOX) Plant), and 404-acre Area II. Area II was used primarily for rocket engine testing and includes the Alfa, Bravo, Coca, former Delta Test Stands and support structures. Under the terms of the December 2010 Administrative Order on Consent (AOC), NASA has developed and is implementing a series of six Field Sampling Plans (FSPs) to address data gaps in the soil investigations. Field work for the first five FSPs has been completed, with over 1,700 soil samples collected in 2011-2012. The sixth FSP will be prepared in 2014 to account for remaining soil chemical data gaps.

A summary of the five NASA surficial media FSPs is provided below:

- FSP-1 (Alfa-Bravo Fuel Farm, Coca-Delta Fuel Farm, Propellant Load Facility)
- FSP-2 (Incinerator/Ash Pile/Sewage Treatment Plant, Building 204, Storable Propellant Area, and Skyline Road)
- FSP-3 (Alfa Test Stand, Bravo Test Stand)
- FSP-4 (Liquid Oxygen Plant, Area II Landfill, Expendable Launch Vehicle)
- FSP-5 (Coca Test Stand, former Delta Stand, R2 Ponds)

Boeing

Boeing owns most of Area I and all of Areas III and IV. Areas I and III total 792 acres and are operated by Boeing. Boeing also owns the 1,143 acre southern buffer zone and 182 acre northern buffer zone. Soils in Area IV and the northern buffer zone are being characterized in the DOE portion of the project.

Boeing continues to investigate and characterize soils in Area I, Area III, and the southern buffer zone. In 2013, Data Gap Sampling and Analysis Plans (Data Gap SAPs) will be prepared to address data gaps identified in the Resource Conservation and Recovery Act (RCRA) Facility Investigation Reports submitted to date. DTSC anticipates these activities will complete the characterization of the Boeing sites.

Boeing sites are located in Reporting Groups 1A, 1B, 5, 9 and 10. Boeing intends to prepare the Data Gap SAPs in subgroups identified as Boeing RFI Groups:

- 1A North, 1A Central, 1A South
- 1B North, 1B Southwest, 1B Southeast
- 5/9 North, 5/9 South, and
- Group 10

Additional Information can be found on DTSC's website at:

http://dtsc.ca.gov/SiteCleanup/Santa_Susana_Field_Lab/ssfl