

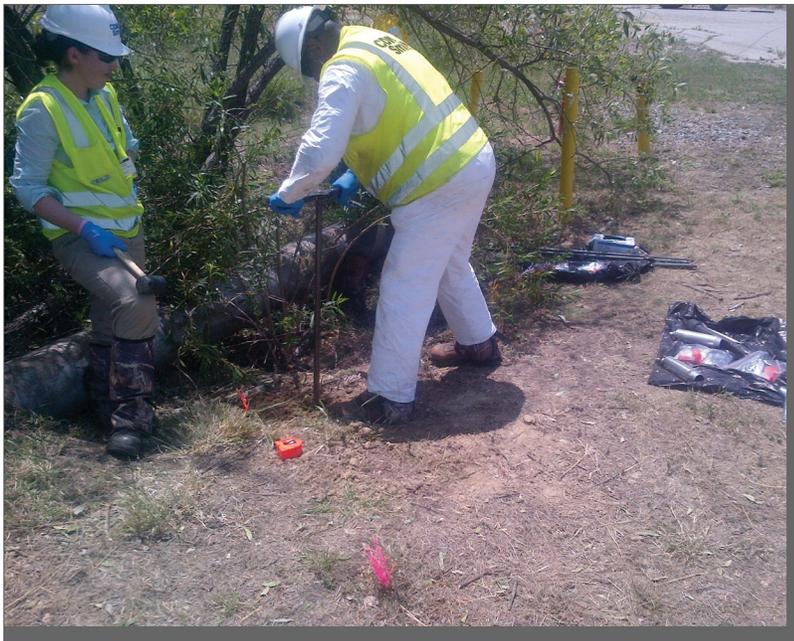


## Progress Continues on Chemical Soil Characterization at Santa Susana Field Laboratory

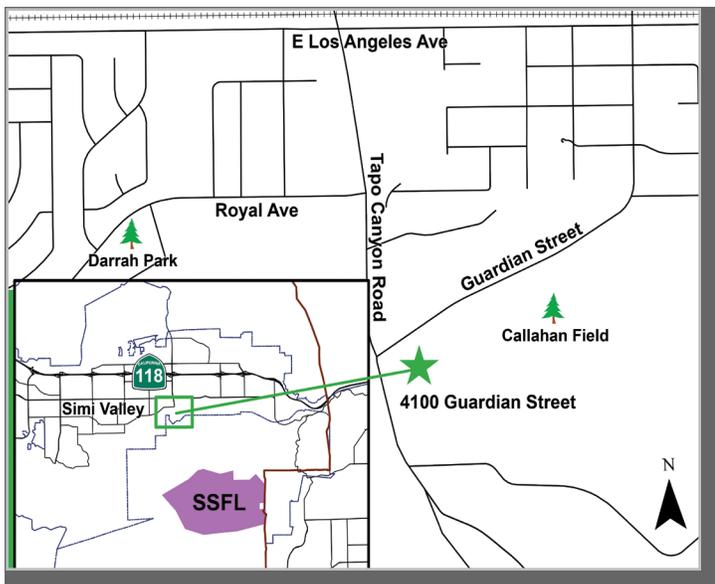
The U.S. Department of Energy (DOE) and the California Department of Toxic Substances Control (DTSC) continue to implement Phase 3 soil sampling for chemical contamination as described in the 2010 Administrative Order on Consent (AOC). Phase 3 soil sampling is based on a data gap review of information from prior Area IV sampling activities. The data gap process involves analyzing all prior data and other “lines of evidence” to identify where additional data are needed to complete soil characterization. Areas under evaluation include locations with chemical usage, sites of prior storage tanks, disposal sites, storage sites, drainages, and spill sites.

Working closely with DTSC and the public, sample locations are selected for additional chemical analysis. DOE and DTSC are well along in the data gap process, and data gap analysis is complete for five of the eight subareas within Area IV delineated by the USEPA -- Subareas 3, 5A, 5B, 5C, and 6. Data gap evaluation is ongoing for Subarea 7, and evaluation of Subareas 5D, 8, and the Northern Buffer Zone will be completed this spring. Phase 3 soil sampling has been completed for Subareas 3, 5B, 5C, and 6. Soil sampling within Subarea 7 is planned next.

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Stephanie Mysel and Jim Harris, who work for DOE’s contractor CDM, use a hand auger to prepare for collecting a soil sample in Area IV. Hand augers are used in place of drills where there may be buried utilities -- if a barrier is encountered, further digging in that specific location would be halted. At far right of photo, the tubes used for sampling are laid out and will be inserted into the augered hole to collect the soil samples.



### We’ve Moved to Simi Valley!

We’ve moved off the hill. In advance of Boeing’s plan to demolish its office building in Area I of the Santa Susana Field Laboratory (SSFL), DOE employees whose offices were at SSFL have moved off the site. Our new office is located at 4100 Guardian Street, Suite 160 in Simi Valley, California, 93063. We will frequently be at SSFL for meetings and to provide oversight to our contractors’ work as we complete chemical characterization, plan for, and complete cleanup. We are excited about our new office and look forward to holding future community meetings at our new facility. If you need to contact us, our new office phone number is 805-416-0990.

## Greetings SSFL Community:

Happy 2013! We are looking forward to continuing to work with you all this year. Despite federal budget challenges, we made considerable progress in 2012, much of which you will learn about in this issue of the *CleanUpdate*. In this issue, we provide information about our new office location, the status of our chemical soil sampling program, the latest on the Soil Treatability Study, the completion of the U.S. Environmental Protection Agency (USEPA) radiological characterization, and how DOE involved the community in the Santa Susana Field Laboratory Area IV Environmental Impact Statement (EIS) Alternatives Development process. Our 2012 ETEC Community Involvement Annual Report is also included in this issue.

Midway through 2012, federal budget issues in Washington and financial priorities reduced some of the anticipated funding for ETEC activities. As a result, we were forced to prioritize funding to keep soil characterization going – which allowed for very little else. Budget priorities have prevented DOE from returning to the alternatives screening process, but we expect to be able to return to the alternatives late summer/early fall of 2013.

As we look ahead to this calendar year, we continue to face funding challenges, as do all other federal agencies. Nevertheless, we will manage available funds effectively while continuing to work with DTSC to meet our commitments of both the 2007 Consent Order and the 2010 AOC. In working toward cleanup, our priorities for this year include:

- Completion of chemical soil sampling in Area IV and the Northern Buffer Zone
- Continuation of the Soil Treatability Study
- Further investigation of groundwater in Area IV and start of groundwater treatability studies
- Continuation of work on the Environmental Impact Statement
- Characterization of residual radiological contamination within all buildings remaining in Area IV
- Ongoing community involvement
- Ongoing environmental and groundwater monitoring

We appreciate your interest and your continued investment of personal time and energy in the multitude of SSFL activities. We hope you enjoy this issue and we look forward to your ongoing participation in 2013.



John Jones,  
Federal Project Director



Stephie Jennings,  
Deputy Federal Project Director

## USEPA Radiological Investigations

In December 2012, USEPA completed investigations it was tasked to perform by House Resolution 2764 (Public Law 110-161), under which Congress directed USEPA and DOE to conduct a joint radiological investigation of Area IV and the Northern Buffer Zone. In 2008, DOE entered into an Interagency Agreement with USEPA and funded USEPA's background and site characterization studies. In 2009, USEPA initiated what it termed "one of the most comprehensive technical investigations undertaken for low-level radioactive contamination." Since that time, USEPA completed a gamma radiation walkover survey of accessible lands within Area IV and the Northern Buffer Zone, geophysical studies to identify buried materials, and a Historical Site Assessment to evaluate past activities; and collected over 3,500 soil samples for radionuclide analysis. USEPA has also sampled groundwater, surface water, and sediments for the presence of radionuclides. USEPA recently released reports on field investigations completed in July 2012, and in December 2012, USEPA reviewed its overall findings with the community. In sum, 500 of the samples contained concentrations of radioactive materials exceeding background levels -- primarily cesium-137 and strontium-90 (both man-made radionuclides). The majority of those samples were at locations with known contamination, such as the Radioactive Materials Handling Facility (RMHF) and the former Sodium Reactor Experiment (SRE).

USEPA provided DOE and DTSC with all of its study documents, data, and results, which DOE has posted on the DOE ETEC website: [http://www.etc.energy.gov/Char\\_Cleanup/EPA\\_Soil\\_Char.html](http://www.etc.energy.gov/Char_Cleanup/EPA_Soil_Char.html)

# Community Involvement

DOE continued its emphasis on partnering with the SSFL community throughout its Area IV activities in 2012. This "2012 Annual Report" provides a summary of the various ways in which DOE worked with the SSFL community in activities such as chemical sampling, development of alternatives for the EIS, and soil treatability investigations. DOE encourages readers to offer feedback on our Annual Report below and on our ongoing activities throughout the year. Please send your comments via email to [jazmin.bell@emcbc.doe.gov](mailto:jazmin.bell@emcbc.doe.gov) or by regular mail to Ms. Jazmin Bell, U.S. Department of Energy, 4100 Guardian Street, Suite 160, Simi Valley, CA 93063.

## COMMUNITY INVOLVEMENT

### Chemical Sampling

DOE, along with DTSC and USEPA, provided several opportunities throughout the past year for the SSFL community to participate in the sampling program, as highlighted below.

- **Technical and community meetings.** Prior to sampling in each of the eleven subareas in Area IV, DOE participated with USEPA and DTSC in meetings to inform stakeholders of plans for sampling in the specific subareas and to obtain their input, both at USEPA's regularly scheduled Technical Work Group Meetings and at other stakeholder meetings held approximately each month of the year.
- **Interaction on work plans.** DOE made its work plans for Phase 3 chemical data gap sampling activities available to the public on the ETEC website ([http://www.etc.energy.gov/Char\\_Cleanup/Phase3.html](http://www.etc.energy.gov/Char_Cleanup/Phase3.html)) and announced them to stakeholders by email prior to the start of sampling. These included the Master Work Plan and individual work plans for sampling in each subarea (in the form of Addenda to the Master Work Plan). Also included on the website are DTSC's approval letters for the work plans.
- **Technical memoranda.** As sampling for each subarea is completed, data is analyzed by DOE's laboratory and independently validated. The validated results are published in a report called a "Technical Memorandum" and posted on the DOE ETEC website upon DTSC's approval. Phase 1 sampling is complete and the sampling results for each of the eleven subareas are on the DOE ETEC website.
- **Public visitation days.** On the third Wednesday of each month, DOE and DTSC co-hosted a public visitation day to allow the public an opportunity to observe

ongoing work, including sampling. In 2012, about 15 members of the public visited Area IV during visitation days to observe sampling activities.

### EIS Alternatives Development Workshop

- **EIS Alternatives Development Workshop.** This three-session workshop, held in May and June of 2012, was a pre-scoping effort for the EIS. The first session was informational and included an overview of environmental laws that must be complied with during preparation of an EIS. The second session included a presentation on DOE's purpose and need for action and outlined the objectives that must be addressed for each alternative analyzed in the EIS. The second session also allowed stakeholders to participate in small group discussions regarding how DOE might address the various objectives. The final session provided an opportunity for interested stakeholders to develop alternatives for DOE to consider for evaluation in the EIS.

### Soil Treatability Study

- **Soil Treatability Investigation Group (STIG).** The STIG, established in 2011 and comprising over 30 members of the community, met four times in 2012 (January, April, July and September), along with representatives from Sandia, DOE, NASA, and DTSC. At the meetings, Sandia presented its proposed approach for identifying treatability study requirements for SSFL, the results of its research in evaluating potential technologies, its results of the screening process for the technologies meeting SSFL contaminant needs, and Sandia's recommendations to DOE for studies to be implemented. The STIG will continue its involvement throughout the conduct of the studies.

Further information on STIG activities and Sandia's study recommendations can be found on page 5 ("Soil Treatability Study Investigation Group Update" article) and at this ETEC website link: [http://etec.energy.gov/Char\\_Cleanup/Soil\\_Treatability.html](http://etec.energy.gov/Char_Cleanup/Soil_Treatability.html)

## Other Studies and Activities

- *Through funding by DOE*, USEPA completed the radiological characterization of Area IV and published the Final Radiological Soils Investigation Report in December 2012.

## Former Workers Tour

During 2010 and 2011, DOE conducted interviews with more than 100 former SSFL workers in an effort to help us better understand past operations and how and where contamination could have occurred. In appreciation of the former workers that participated in the Former Worker Interview project, DOE hosted a tour in June 2012 of Santa Susana Field Laboratory. The former workers who chose to participate in the tour had a chance to reconnect with their co-workers, see first-hand what the site looks like today, and learn more about on-going efforts to remove facilities, characterize the site, and clean up any remaining contamination.

## PUBLIC INFORMATION

DOE uses several means to provide information to the public, as described below.

- *DOE Website* – The ETEC website (<http://www.etec.energy.gov>) provides historical and current information related to Area IV. In addition to emails sent to those on DOE's email distribution list (discussed below), the DOE website is a primary method for the interested public to search for, review, and download DOE documents and is visited frequently. During 2012, DOE added new documents to the website.
- *Email Announcements* – DOE has an email distribution list of more than 500 people, many of whom are located in local communities. In 2012, DOE issued email announcements, including "DOE News from SSFL," to inform stakeholders of key activities, meeting notifications, draft and final documents, and contract awards.
- *CleanUpdate Newsletter* – DOE's *CleanUpdate* newsletter provides the local community with an update of Area IV plans, activities, and documents. The last edition of *CleanUpdate*, issued in March 2012, was sent by regular mail to more than 4,300 people, emailed to the 500-plus individuals on DOE's distribution list, and posted on DOE's website. Although DOE typically has issued about three editions per year, federal budget cuts precluded additional editions in 2012.
- *Annual Community Involvement Report* – Along with the first *CleanUpdate* issuance of each year, DOE publishes the Annual Community Involvement Report as an insert. The last edition of *CleanUpdate*, issued in March 2012, was sent by DOE throughout the previous year to inform and involve the SSFL community in Area IV activities.
- *Media Interactions* – DOE published two press releases, was interviewed by four media outlets, and had several instances of media coverage of SSFL activities.
- *Site Bus Tours* – DOE participated in the SSFL community bus tours sponsored by Boeing. There were eleven of these bus tours for the public in 2012, with approximately 500 individuals in attendance.
- *Community and Other Meetings* – DOE interacts frequently with community members at public meetings and on tours, informing them of plans and progress, involving them in ongoing planning, and educating interested people about highly technical topics. As described in the paragraphs above, DOE met with stakeholders, regulators, government representatives, and others at numerous meetings held throughout the year. At an average of three meetings per month, DOE participated in or attended meetings of the EPA Technical Work Group, DTSC/DOE stakeholder meetings on chemical sampling, DTSC's Open House, community-sponsored meetings, and topical meetings (e.g., Look-Up Tables, Chemical Background Study, Soil Treatability Study).

## Soil Treatability Study Investigation Group Update

In May of 2011, DOE tasked Sandia with the evaluation of potential soil treatability studies for Area IV of SSFL. These studies are an outcome of the AOC signed by DOE and DTSC in 2010. The AOC requires DOE to evaluate soil treatment options that would result in reduced volumes of contaminated soil, thereby reducing truck traffic. Sandia met with the STIG several times in 2011 and 2012 to review the plans for and progress of the study. In September 2012, Sandia presented its treatability recommendations to DOE and the STIG, which included the following:

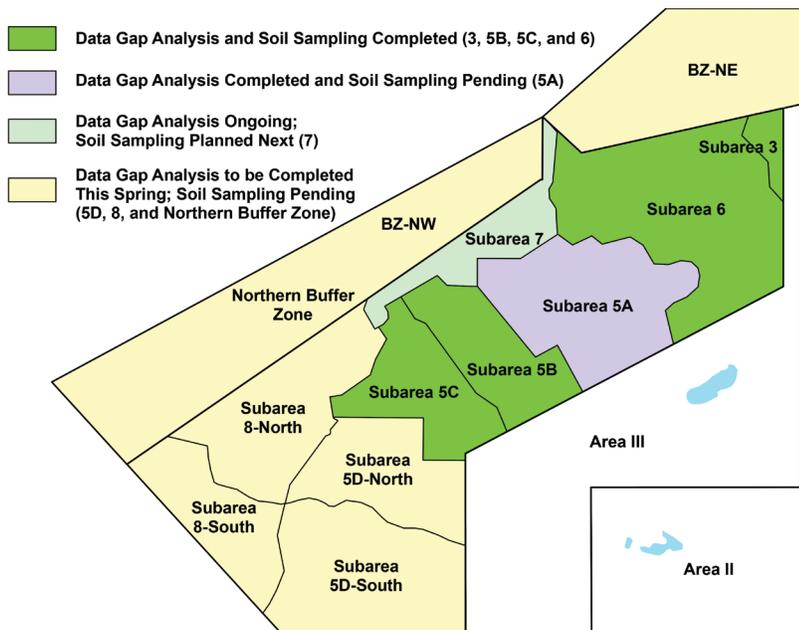
1. Determination of how contaminants are associated with soil particle sizes (e.g., sand versus clay)
2. Determination of the chemical form of mercury in contaminated soil
3. Evaluation of phytoremediation – the ability of plants growing on the site to take up and/or destroy contaminants in soil
4. Evaluation of bioremediation – the ability of microbes, bacteria, and fungi to destroy contaminants in soil
5. Evaluation of thermal treatment – assessing use of heat to remove and capture volatile contaminants in soil
6. Evaluation of natural attenuation – assessing existing biological and chemical processes in soil that can lead to destruction of soil contaminants



During a field trip in June 2012, Dr. Christi Leigh of Sandia explains approaches to soil treatability to STIG participants. Pictured from left to right are: Roger Paulsen (DTSC), Christi Leigh (Sandia), Dave Dassler (Boeing), Jazmin Bell (DOE), Laura Rainey (DTSC), and Betsey Landis.

Since Sandia's role in determining which soil treatability studies should be conducted ended when it presented its recommendations to the STIG in September 2012, DOE has concluded that a team led by a professor from a local university should proceed with the recommended studies DOE has decided will take place. DOE anticipates that it will have a university under contract in April and will then begin implementation of the studies. Approaches for the treatability studies will be presented by DOE and the university team at the next STIG meeting, scheduled to take place late spring 2013. Be on the lookout for the meeting announcement.

### Progress Made in Phase 3 Soil Sampling in Area IV



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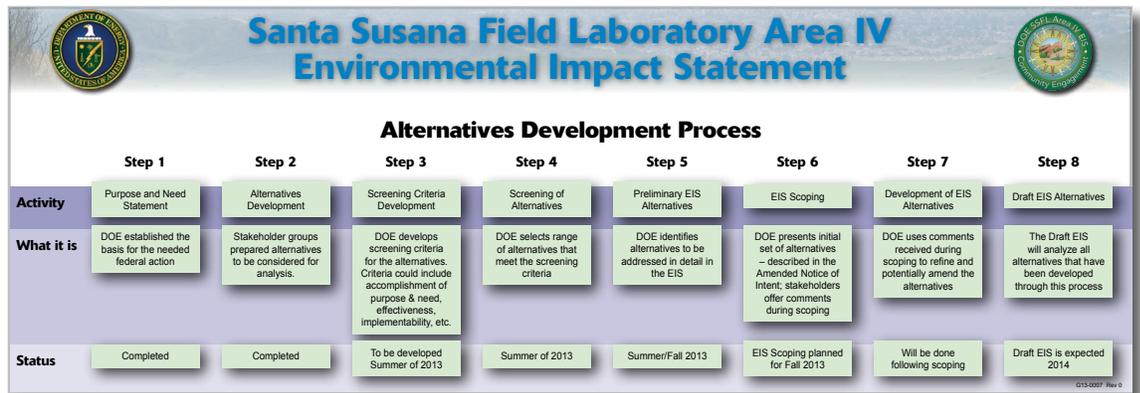
### Progress Continues on Chemical Soil Characterization

As DOE and DTSC have done in the past, we plan to meet with the community in advance of any new sampling work. The next Phase 3 soil sampling community meeting will occur Thursday, February 28, where DOE and DTSC will present their soil sampling approach for Subarea 7.

# EIS Alternatives Development

Based on strong community interest, DOE held a series of three workshops in May and June of 2012 aimed at generating community-developed alternatives for the EIS that is required by the National Environmental Policy Act (NEPA). NEPA is the federal law that provides federal agencies guidance in the preparation of an EIS, and directs agencies to seek public input on the potential actions that are to be considered in the EIS. During this workshop series, attended by over 30 community members, DOE provided participants with an overview of NEPA requirements and facilitated a collaborative process for the development of alternatives. As a result of the workshops, seven “community-developed alternatives” addressing the cleanup of Area IV were generated for DOE to consider in preparing the EIS.

The next step in the NEPA process is screening of alternatives, an exercise generally performed solely by a federal agency. Alternative screening commonly addresses how well each alternative conforms to the project’s “Purpose and Need,” as well as how difficult it would be for an agency to implement an alternative.



Although DOE had hoped to perform the screening process and involve the community earlier, budget priorities have prevented DOE from returning to the alternatives screening process. DOE still intends to involve the community in the alternatives development process.

**For more information**  
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