

Presentation on Livermore Lab Site 300 Superfund Cleanup  
11/30/16

More information: [www.trivalleycares.org](http://www.trivalleycares.org)



# Location

- Site 300 is nearly 11 square miles in the Altamont Hills and about 6 miles southwest of downtown Tracy.
- The Site has been surrounded by open space used mainly for ranching and recreation (Carnegie SVRA).
- Tracy Hills development of 5500 homes has been approved near the boundary.
- 7.1 million people live within 50 miles of Site 300.

# What functions are performed at Site 300?

- Site 300 was established to measure the physical and explosive properties of all the components of nuclear weapons, except the fissile materials (e.g. plutonium).
- Operations include analysis of controlled explosions, vibration and shock testing, and fabrication, mechanical pressing and machining of shaped explosives.
- See photos.

# Why it is of Concern

- Site 300 was named to the Superfund List in 1990, and cleanup of the site is expected to take at least 50 years.
- Fifty-seven contaminant release areas affecting surface soil, subsurface soil, surface water, and/or groundwater have been identified at Site 300.
- Most of the contamination has remained within the site – but some extended off-site for over a mile along the Corral Hollow stream bed. There are still small areas in the southern boundary where off-site groundwater cannot be used for drinking water.
- Open-air “firing tables” were used to conduct tests. Many of these facilities were set in canyon areas – when detonations occurred, the airborne particles covered the hillsides.

# Why it is of Concern

- The highest baseline human health risk assessment estimated a cancer risk of  $1 \times 10^{-3}$  (one in one thousand) for onsite workers inhaling VOC vapors in indoor air at Building 834D. Several other areas have risks that exceed EPA human health risk ranges.
- There are threatened and endangered species at Site 300, and contaminants pose what is called an ecological risk.
- Site 300 overlies a “regional groundwater” system, that is used for irrigation and drinking water wells.
- In CA, this groundwater is a protected resource.

# Major Contaminants

- ❖ Volatile organic compounds (VOCs)
- ❖ High explosive compounds
- ❖ Radioactive hydrogen (tritium)
- ❖ Depleted uranium
- ❖ Nitrate
- ❖ Perchlorate
- ❖ Polychlorinated biphenyls (PCBs)
- ❖ Dioxins and Furans
- ❖ Others

# Progress to Date

- ❖ Operating up to 20 groundwater and soil vapor extraction and treatment systems
- ❖ Capping and closing landfills, high explosives rinse water lagoons and burn pits (Note: City & TVC asked for some landfill extraction)
- ❖ Installation of a drainage diversion system to prevent groundwater from rising into the landfills and releasing contaminants to the groundwater
- ❖ Closing numerous “dry wells” (dumping areas) throughout the site
- ❖ Excavation of contaminated soil from source areas throughout the site
- ❖ Remediating by consolidation and solidification of 29,000 cubic yards of PCB-, dioxin-, and furan-contaminated soil at Building 850
- ❖ Sampling of more than 680 groundwater monitor wells to track plume migration and remediation progress

# Outstanding Issues

- Remediating areas contaminated by depleted uranium (Building 812 firing table and Building 851 firing table).
- Remediating perchlorate in numerous areas.
- Continued monitoring of the various groundwater plumes, retarding further migration of on-site plumes, pulling the rest of the off-site plume back on site.
- Evaluating airborne risks, including from ongoing programmatic activity and regular controlled burning.
- Ensuring that cleanup remains a priority and that Tracy area communities are consulted in decision-making.



# Opportunities for Public Participation

- The Superfund law allows public comment during the initial stages of study of the contamination and the selection of a proposed plan and remedy.
- There are areas left where legally required public participation will take place, including the selection of a remedy for the B-812 firing table.
- There is an active investigation to determine the extent of the depleted uranium contamination at the B-851 firing table.
- The Livermore Lab can conduct public workshops beyond those that are legally-mandated.
- Five-Year Reviews.
- National Environmental Policy Act Reviews.

# Tri-Valley CAREs' Role

- TVC won the first Technical Assistance Grant (TAG) awarded in the western United States by EPA in 1989. We hold regular meetings with Site 300 environmental staff and state and federal regulators.
- TVC established a Tracy-based Advisory Board that meets regularly on the Site 300 cleanup and related environmental issues.
- TVC hosts community meetings in Tracy and Livermore devoted to cleanup issues to encourage public participation and understanding.
- TVC informs the media, the public and our membership about the cleanup options and opportunities for public comment. We offer a free e-newsletter monthly and a free publication quarterly by postal mail.

# Community Acceptance Criteria

- Complete the cleanup project in a timely manner.
- Cleanup levels should support many uses of the property that are unrestricted by environmental contamination.
- Cleanup levels should be set to the strictest state and federal government levels.
- Remedies that actively destroy contaminants are preferable.
- Radioactive substances should be isolated from the environment; the tritium source and plume should be controlled to prevent further releases to the environment.
- The ecosystem should be protected.

# Community Acceptance Criteria

- Decisions should not rely on modeling alone.
- Additional site characterization is needed and must be budgeted for over many years.
- The public should be involved in cleanup decisions and cleanup progress.
- Materials must be made available to the public in English and Spanish.
- Cleanup should be given priority over further weapons development.
- Any ongoing activities at Site 300 should be designed to prevent releases to the environment.

Note: EPA is requiring an update be done for the Site 300 Community Involvement Plan. These criteria could be incorporated into that Plan.