

LLNL Groundwater Cleanup Project
Superfund Public Tour

Livermore Site (Site 200)

March 26, 2026 Environmental Restoration Department

Prepared for: ERDC/CSREL 2016-017302

Lawrence Livermore National Laboratory LLNL-PRES-2017302 NISA ERD Environmental Restoration Department

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LLNL Livermore Site
CERCLA Groundwater Cleanup Project


Livermore Site (a.k.a. Site 200, Main Site)

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LLNL Livermore Site Background

- U.S. Navy operated NAS Livermore during WWII (1940s)
- LLNL established in 1952
- Groundwater contamination first discovered in 1983
- Constituent of concern are volatile organic compounds (VOCs), fuel hydrocarbons, metals, and tritium
- Primary VOCs:
 - Trichloroethylene (TCE; C_2HCl_3)
 - Perchloroethylene (PCE; C_2Cl_4)

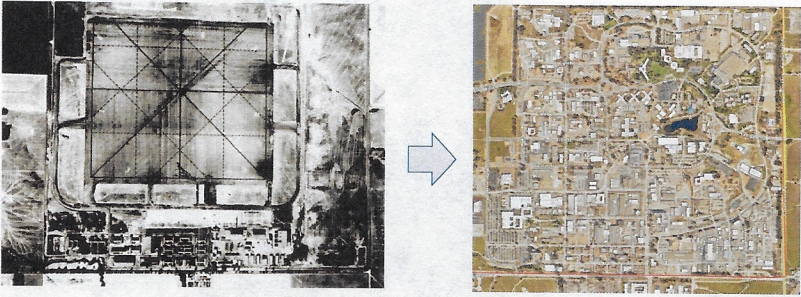


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LLNL Livermore Site Background



1952

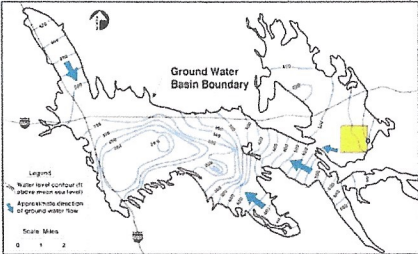
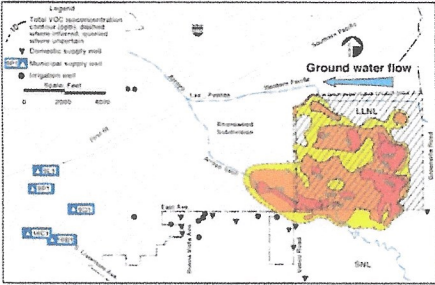
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LLNL Livermore Site Groundwater contamination

Livermore Site was added to U.S. EPA's National Priority List in 1987



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LLNL Livermore Site Regulatory oversight

- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was enacted by Congress on December 11, 1980.
- CERCLA was amended by the Superfund Amendments and Reauthorization Act on October 17, 1986.
- Remedial Project Managers (RPMs)
 - Department of Energy (DOE)
 - U.S. Environmental Protection Agency (EPA) -Region IX
 - State of California - Department of Toxic Substances Control (DTSC)
 - State of California - San Francisco Bay Regional Water Quality Control Board-Region 2 (SFRWQCB)
- RPMs meet every six weeks

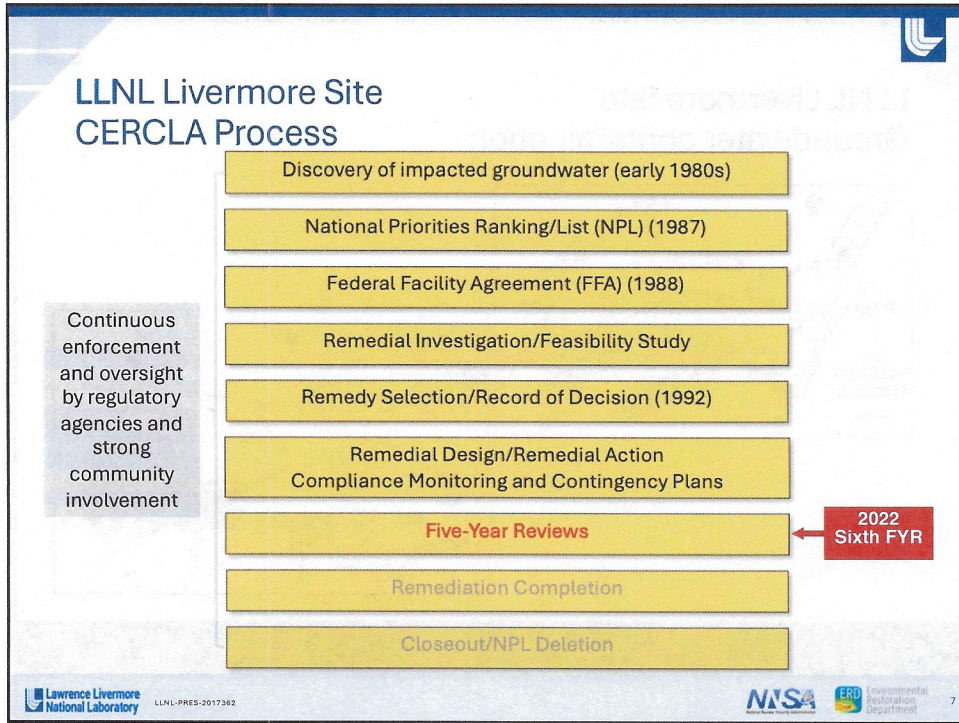


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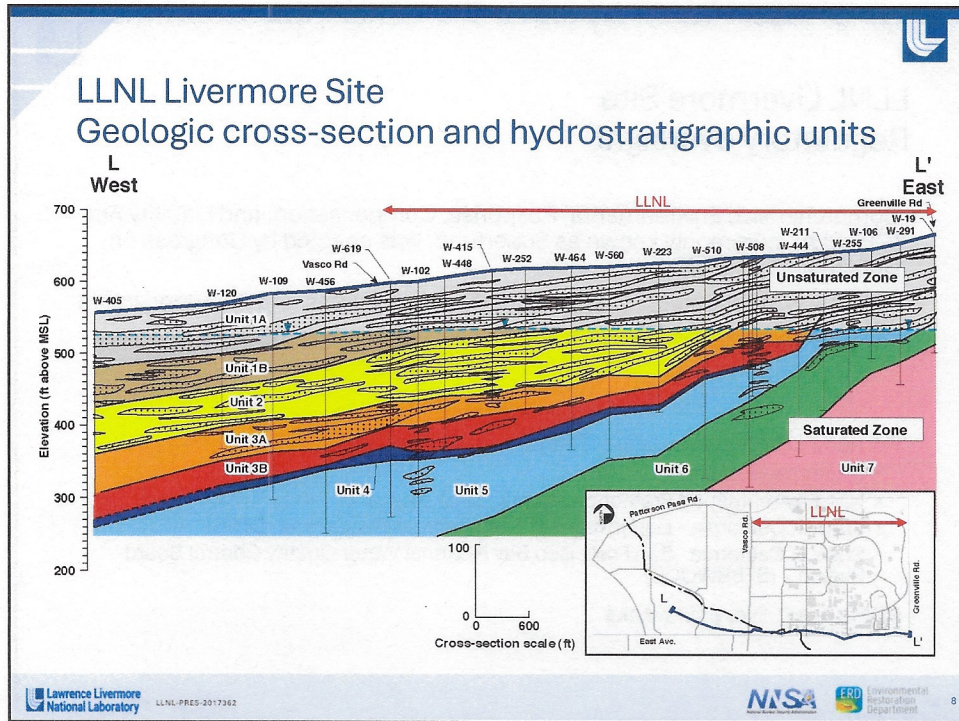



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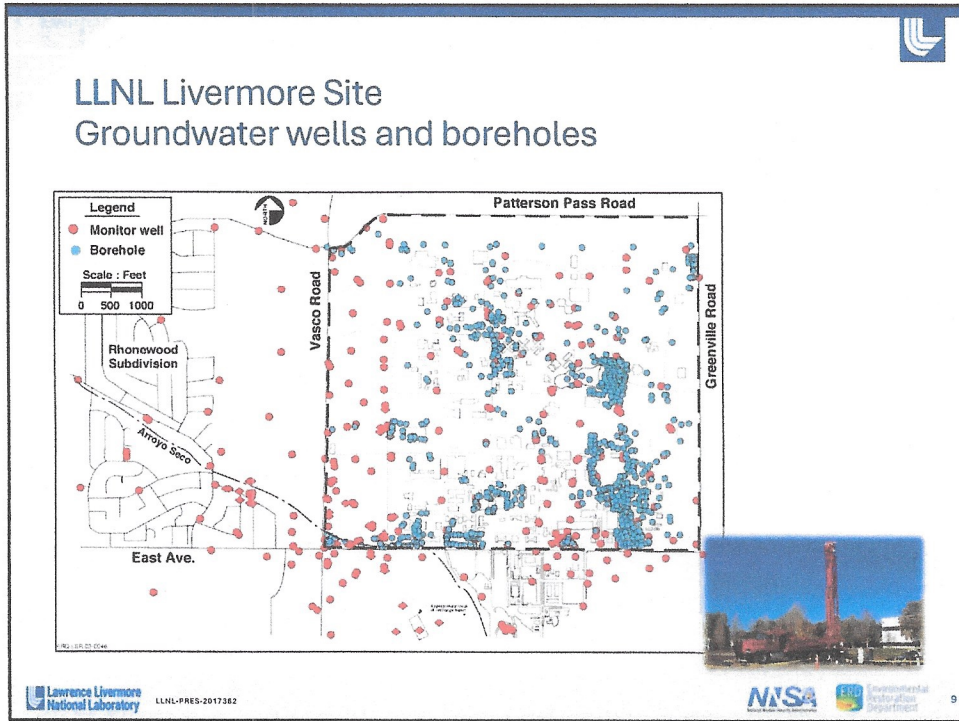
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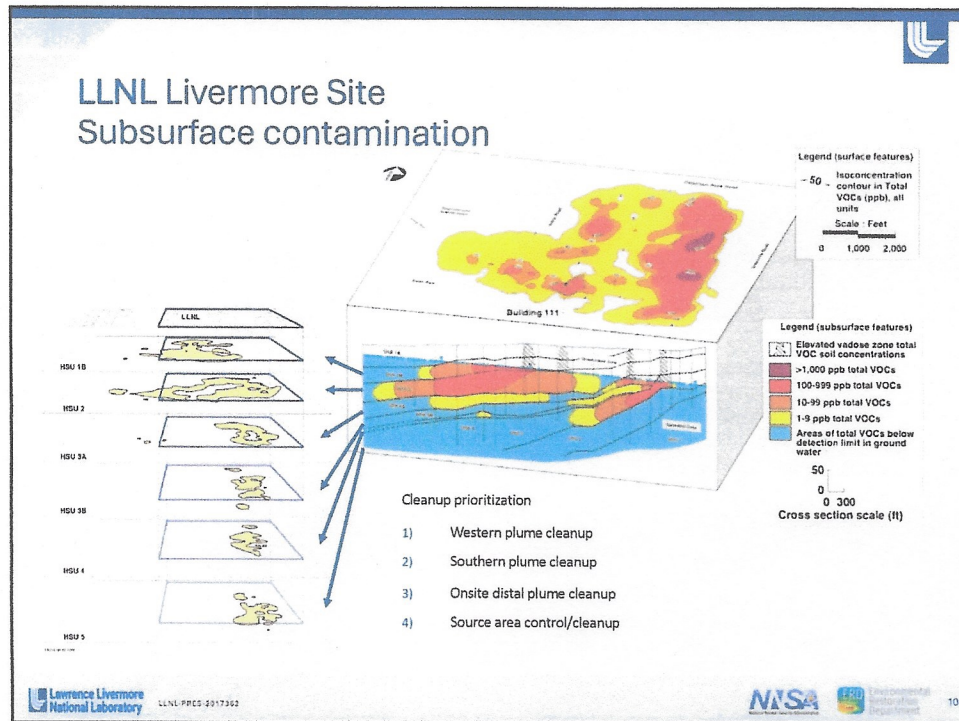
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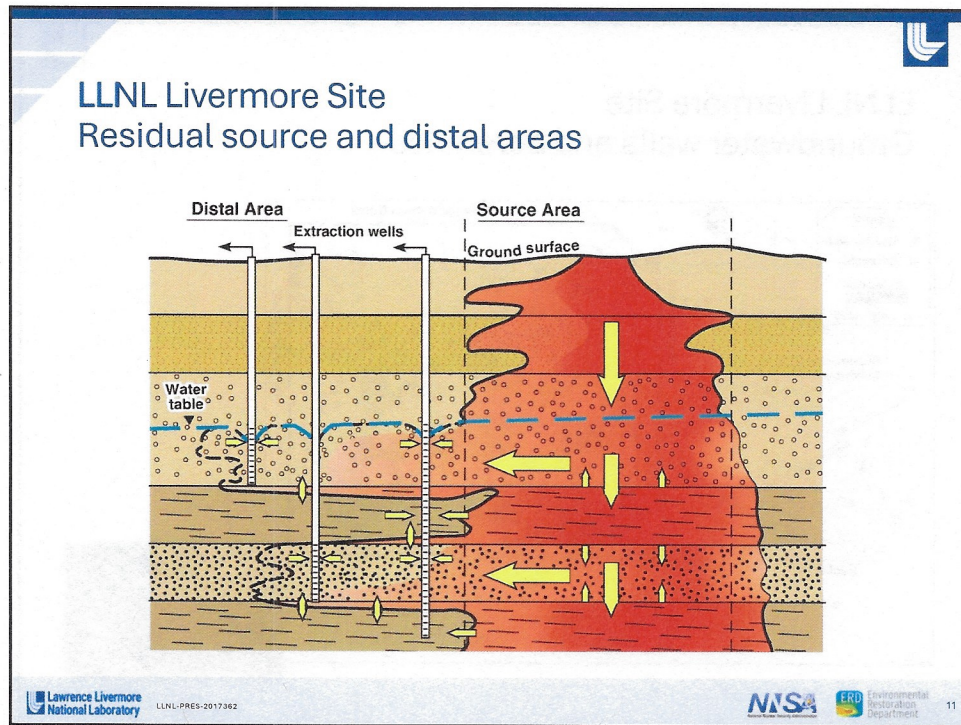
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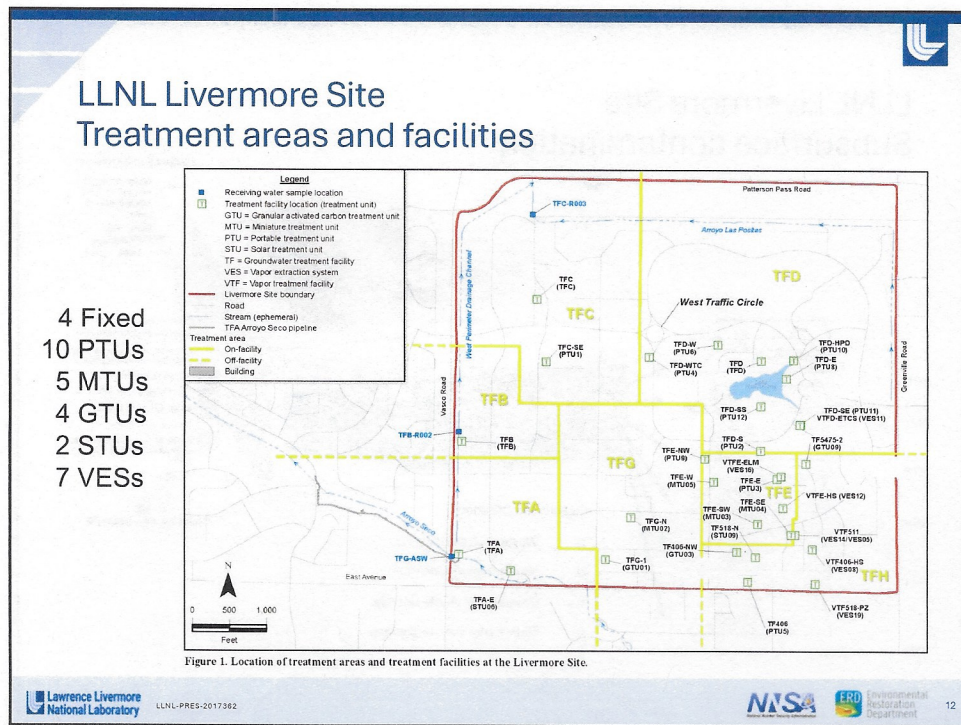
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LLNL Livermore Site Treatment facility types



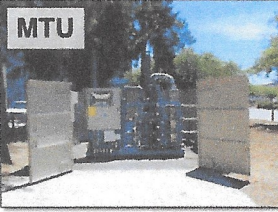
Fixed

Fixed facility: Air stripping



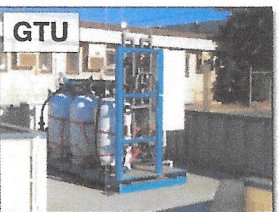
PTU

Portable Treatment Unit: Air stripping



MTU

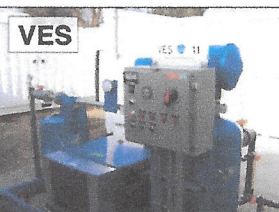
Mini Treatment Unit: Air stripping



GTU




Granulated Activated Carbon Unit: Absorption

Solar Treatment Unit (STU): Solar powered GTU



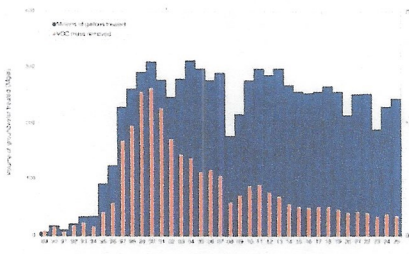
VES

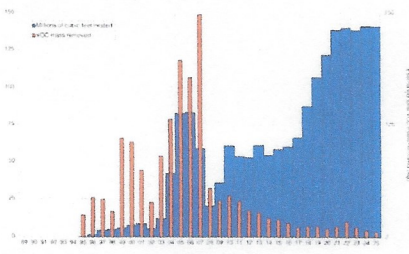
Vapor Extraction System: Absorption




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LLNL Livermore Site Progress of cleanup





Since remediation began in 1989, over 7.9 billion gallons of groundwater and 1.8 billion cubic feet of soil vapor have been treated, removing 3,598 kg (3.96 tons) of VOCs from the subsurface.

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LLNL Livermore Site Progress of cleanup

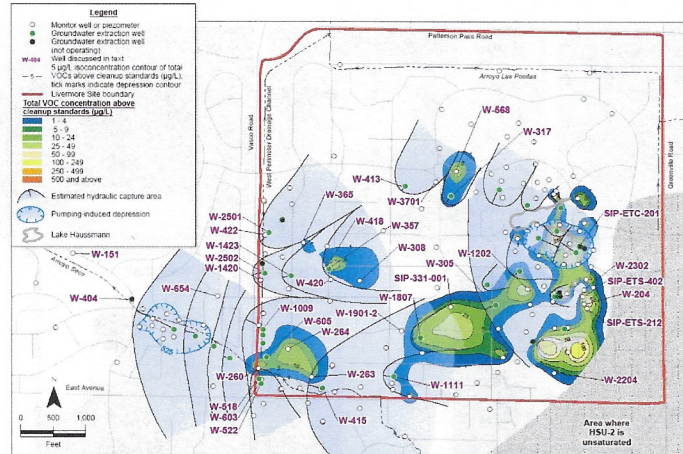
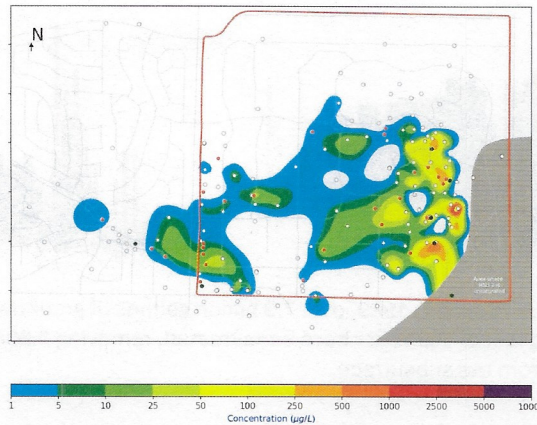


Figure 9. Esconcentration contour map of total VOCs above cleanup standards from 196 wells completed within HSU-2 using third-quarter 2025 (or the next most recent) data, supplemented with soil chemistry data from 125 borehole locations.

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Total VOCs above cleanup levels HSU2 2007



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LLNL Livermore Site 2026 Superfund Tour Stops

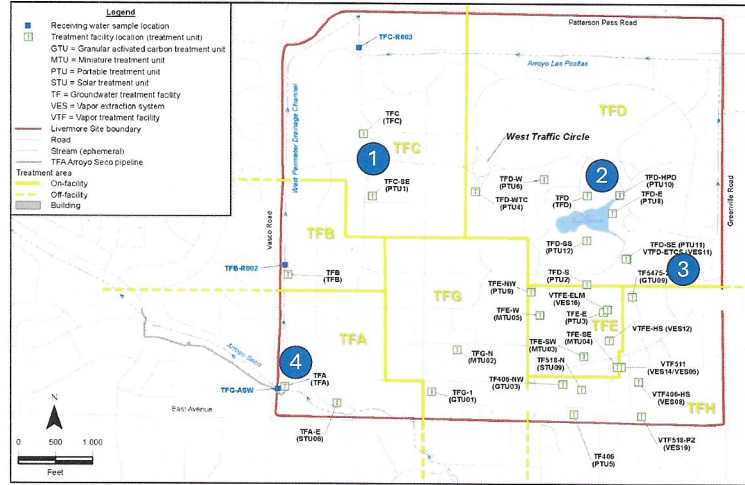


Figure 1. Location of treatment areas and treatment facilities at the Livermore Site.