CalEPA
California Environmental Protection Agency

Gavin Newsom
Governor

Yana Garcia
Secretary for Environmental Protection

August 22, 2025

Los Angeles County Board of Supervisors
500 W. Temple St. #383
Los Angeles, CA 90012

Dear Board:

In response to continued requests for technical assistance from Los Angeles County communities recovering from the 2025 Palisades and Eaton wildfires, the Department of Toxic Substances Control (DTSC), in coordination with CalRecycle, is providing the enclosed *Residential Soil Evaluation Guidance for the 2025 Los Angeles Wildfires* and related documents to further support local recovery efforts.

This guidance provides clear, step-by-step instructions for survivors and local authorities consistent with California state standard practice for soil sampling based on property damage levels, as well as information on multiple free testing options through local programs. It also outlines how to interpret results in the context of public health and includes information on professional remediation methods such as soil removal, capping or phytoremediation.

Properties that sustained wildfire damage may have potential fire-related contaminants that were left behind in soil. In addition, the smoke and resulting ash fallout from the fire may also contain hazardous compounds that were deposited downwind of the burn zones as well as historic pollutants that predate the fires. In response to questions arising in local recovery efforts, DTSC is providing this information to equip residents, local governments and environmental cleanup professionals with science-based tools to assess potential soil contamination and support fire recovery.

DTSC and CalRecycle remain committed to supporting an equitable, informed recovery for all Angelenos, particularly children, older adults, pregnant people and medically vulnerable residents who may be at greater risk from long-term exposure. By understanding the recovery process and potential risks, communities can make informed decisions about rebuilding safely and protecting public health.

We stand ready to collaborate with the County and local recovery partners to ensure safe soil conditions as residents move forward.

Thank you for your continued partnership as we work together to support a resilient and healthy recovery for Los Angeles County.

Sincerely,

Katherine M. Butler
Director, California Department of Toxic Substances Control

Zoe Heller
Director, California Department of Resources Recycling and Recovery (CalRecycle)

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Residential Soil Evaluation

GUIDANCE FOR THE 2025 LOS ANGELES WILDFIRES

Department of Toxic Substances Control

CalRecycle

Key Points for Residents:

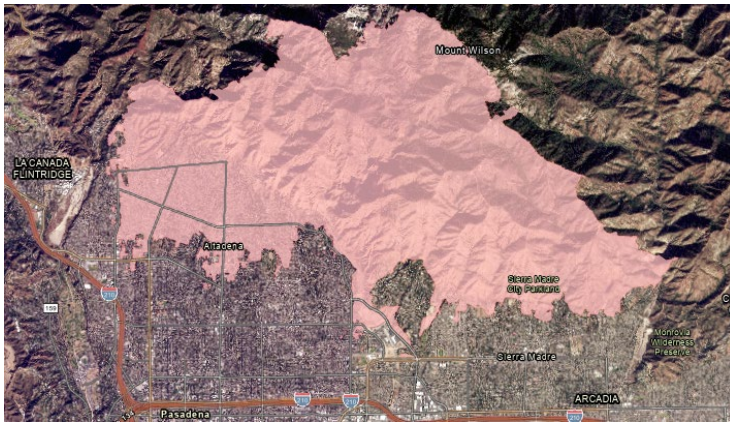
- Soil testing will help determine if your home has contaminated soil that could harm human health and if cleanup is needed
- This guide outlines steps to help residents make informed decisions
- Property owners are responsible for coordinating sampling and cleanup
- Resources are available to support the recovery and rebuilding effort

Since the devastating fires erupted in January, California has established a robust partnership with federal agencies and local governments to ensure a safe and expeditious recovery. Wildfire ash can contain harmful metals like lead and arsenic that settles into the soil, especially where buildings or debris have burned. This guide covers soil sampling from inside and outside the fire zones for three kinds of properties:

- **Total Building Loss**
- **Partial Building Loss**
- **Buildings Still Standing**

The **Department of Toxic Substances Control** (DTSC) has expertise assisting local and state agencies with establishing soil standards to promote a safe and successful fire recovery for residents. **This guidance applies only to post-fire recovery actions taken to evaluate and clean up soil on residential properties impacted by the 2025 fires.**

Area of the Palisades Fire



Area of the Eaton Fire

Maps Created with MapBrowser© 2025 Nearmap US, Inc

SOIL TESTING CONSIDERATIONS

The primary goal of soil testing is to identify potential hazards from smoke and ash that were released during the 2025 fires and may have settled in soil. Elevated levels of chemicals such as lead may have existed in these Los Angeles communities prior to the fires resulting from historic lead uses like lead-based paint and leaded gasoline. Soil testing may not be able to distinguish between different sources of chemicals, but it can help to evaluate long-term health risks and determine if any further action is needed. If you have decided to test your property, the timing of soil testing depends on the condition of your property. Some guidelines are listed below for:

- **Total Building Loss:** Soil testing should occur after burned structures, debris, and surface soils below these structures and debris have been removed (Phase 2 Debris Removal).
- **Partial Building Loss:** Soil testing should occur after debris has been removed and cleared from properties that experienced damage.
- **Buildings Still Standing:** Soil testing should occur any time at properties with homes still standing inside, just outside, or downwind of the burn area.

Understanding Soil Testing Programs and Fire-related Contamination

If testing is performed, DTSC recommends prioritizing sampling soils for metals like lead in each of these three scenarios. This recommendation is based on data collected from previous wildfires and related cleanup efforts as well as preliminary findings for the LA Fires. Sampling results can evaluate whether surface soil at a property may have chemicals left by fire that pose a long-term threat to human health or the environment. Other chemicals commonly associated with ash, like polycyclic aromatic hydrocarbons (PAHs) and dioxins, have been infrequently found above health-protective screening levels.

As an initial screening step, before considering whether a professional assessment is needed, residents may access the free soil testing resources listed in the table below. DTSC has developed a Soil Sampling Plan, which is designed to be implemented by a state-licensed environmental professional. This plan could be a next step following initial sampling by one of the free testing programs. Los Angeles County maintains lists of prequalified environmental consultants and licensed contractors for easy reference.

Free Soil Testing Resources

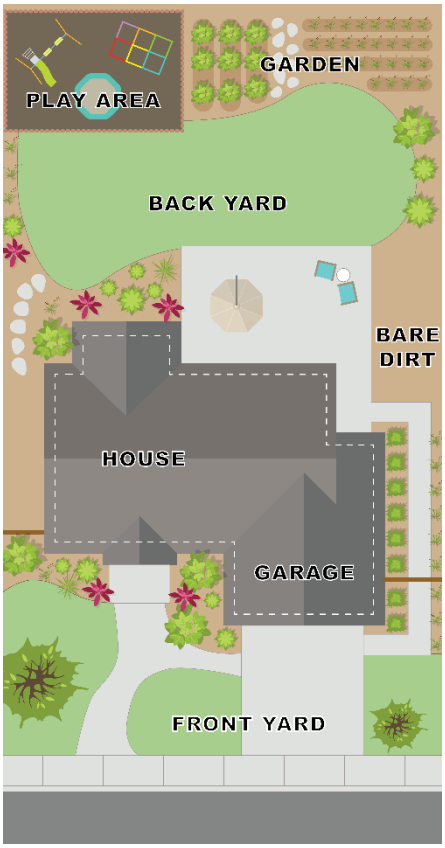
Program / Provider	Cost	Type of Testing	Collection	Coverage Area / Notes
Los Angeles County Public Health	Free	Lead in soils	Self-collection	Within and downwind of the Eaton Fire burn area. Eaton Fire Soils Testing Program
CLEAN (Contaminate Level Evaluation and Analysis for Neighborhoods)	Free	Lead in soils	Self-collection	Communities impacted by Eaton and Palisades fires About CLEAN
CAP.LA (Community Action Project Los Angeles)	Free	Range of chemicals in soil, including metals	CAP.LA collects soil samples	Communities impacted by Eaton and Palisades fires Enroll in CAP.LA Here

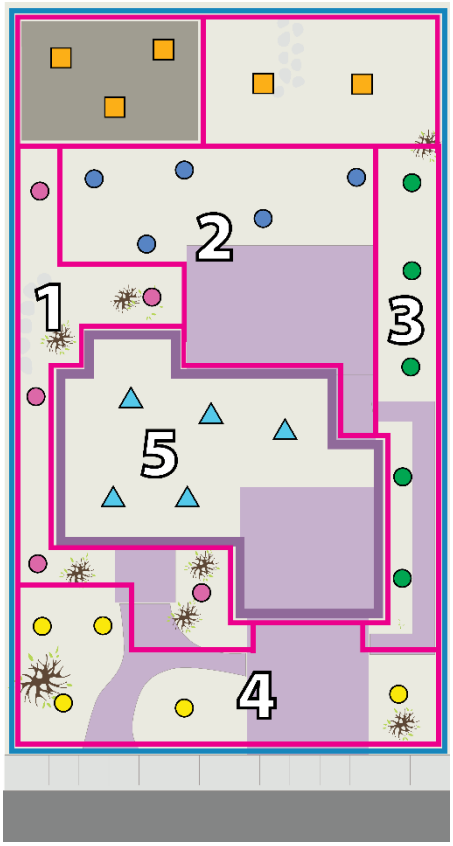
SOIL SAMPLE LOCATION RECOMMENDATIONS

For all residential building situations (total loss, partial loss, homes still standing), if soil sampling is performed, DTSC recommends testing in these current and future high-use areas:

- Bare dirt areas;
- Gardens or food-growing spaces; and
- Children's play areas and sandboxes.

Samples should be taken from the top 6 inches of soil, where exposure is most likely. Consider collecting soil samples around the perimeter of structures built before 1978 to check for contamination from lead-based paint. DTSC also recommends sampling in areas with bare soils where structures such as homes and garages or vehicles burned.





The images above show the same property.

The one on the right has no structures or landscaping. The property has been divided into four major sections (circles) where composite samples could be collected. The squares in the play area and garden represent individual discrete samples in sensitive use areas. A fifth composite sample (triangles) should be taken in bare soils where structures were removed during Phase 2 debris removal and soil scraping activities.

The figures to the left show the suggested sampling strategy from DTSC's Soil Sampling Plan, which includes the collection of composite soil samples (circles). A composite sample is a sample made by mixing several smaller samples of soil taken from different spots in the same area. This gives a picture of the overall condition of the soil in that area.

DTSC recommends collecting:

- A minimum of four composite soil samples from each property as labeled on the figure. Each composite sample includes five individual sample spots (circles).
- A fifth composite sample from in the footprint of destroyed structures (triangles).
- Separate soil samples (squares) in sensitive-use areas such as children's play areas and where food is grown.

Additional samples may be helpful to evaluate larger parcels.

INTERPRETING YOUR SOIL SAMPLING RESULTS

Screening Levels and Health Risk Explained

- Screening levels are health-based numbers that help identify if the amount of chemicals in soil testing results pose a health risk.
- These levels are designed to protect sensitive people - like children, pregnant people, elderly people and those with health conditions.
- Having a detection above a screening level **does not** indicate immediate risk. More information such as individual risk factors and land use should be considered.
- The Risk Management Range is defined by the U.S. Environmental Protection Agency and refers to the range of health risks considered acceptable when making decisions about environmental hazards.
- Screening levels consider the toxicity of the chemical and exposure to that chemical over an extended period and are set at the most health-protective level in the risk range.

Residential Soil Screening Levels Used in California

Chemical	Screening Level (mg/kg)
Antimony[1]	31
Arsenic[2]	12
Barium[1]	15,000
Beryllium[3]	16
Cadmium[1]	7.1
Chromium[1]	125,000
Cobalt[1]	23
Copper[1]	3,100
Lead[3]	80
Molybdenum[1]	390
Nickel[3]	820
Selenium[1]	390
Silver[1]	390
Thallium[1]	0.78
Vanadium[1]	390
Zinc[1]	23,000

Background Metals in Soil

Metals are natural elements found in rocks, soil and groundwater across California. These natural levels of metals in soil are commonly referred to as background. Background can also include ambient concentrations from past human activities. Arsenic is commonly compared to background rather than a health-based screening level. For more information see DTSC's *Arsenic in Soils Fact Sheet*.

References:

1) USEPA Regional Screening Level
2) DTSC Southern California Ambient Arsenic Screening Level
3) DTSC Screening Levels

REDUCING EXPOSURE TO CONTAMINATION IN SOIL

What can I do to protect my family?

- Wash hands often, especially before eating.
- Cover bare soil with mulch, plants, or rocks.
- Wipe indoor surfaces with a wet cloth.
- Remove shoes before entering your home.
- Keep children from playing in bare or loose soil.
- Use clean soil or raised beds for gardening.
- Wash homegrown produce thoroughly.
- Wash pets' paws before entering home.

Professional Reduction Methods:

An environmental professional may recommend one of the following methods to reduce your exposure to contamination in soil.

Technology	Description	Considerations	Related Links
Soil Capping	Putting a layer of clean soil or mulch over contaminated soil to prevent contact.	Immediate cost-effective solution. Depends on availability of clean soil as fill.	DTSC Advisory on Clean Imported Fill.
Geotextile Barriers	Using special fabric to create a barrier in the ground that blocks contact.	Cost- effective. Requires consideration of property drainage patterns.	USEPA Factsheet on Geotextiles
Soil Removal and Replacement	Digging up contaminated soil and replacing it with clean fill.	Soils need to be disposed of at the proper landfill depending on concentration and leachability.	Defining hazardous Waste
Phytoremediation	Planting certain types of plants that absorb or trap chemicals from the soil with their roots.	Emerging technology, time-consuming, plants don't work the same on all metals. Requires professional consultation.	A Citizen's Guide to Phytoremediation

From DTSC Guidance on Remediation of Metals in Soil

For more information, email: wildfireguidance@dtsc.ca.gov