public exchange

USCDornsife

Keck School of Medicine of USC

CLEAN

Contaminant Level Evaluation & Analysis for Neighborhoods

Sampling Guide

About

Thank you for your interest in participating in CLEAN, a rapid response soil testing program from the USC Department of Earth Sciences and Public Exchange. The CLEAN project was developed by a group of USC faculty, students, and staff, with the aim of applying scientific research tools to assist local communities impacted by the Eaton and Palisades fires. CLEAN is partly funded by FireAid.

In the interest of testing soil samples rapidly and providing the public with information as soon as possible, this program focuses on testing soils for lead contamination. Any amount of lead is harmful to health, but USC's instrumentation can quickly evaluate lead levels and assess what soil poses a threat. CLEAN is also expanding its scope to analyze some samples for additional contaminants, such as polycyclic aromatic hydrocarbons (PAHs).

Participating in this program will provide you with key information about your potential risk of exposure to lead in your soil and will allow you to make informed decisions about your health. It is also an opportunity to participate in the scientific process and could inform future publications and decision-making (see: USC study on lead in children's teeth).

Disclaimers & Limitation of Liability

By participating in this project, you acknowledge that the data provided about your samples is not intended to be used for health, legal, or regulatory decisions. For health decisions, please consult your doctor or healthcare professional for specific medical advice relevant to you and your family.

The results of the lead testing to be performed on your samples are provided for informational purposes only. This testing should not be considered a substitute for testing conducted by the Environmental Protection Agency or a certified environmental cleanup provider. USC makes no representations and warranties of any kind with respect to the information provided through this program, and USC hereby disclaims any and all such warranties with respect to your use of these analytical results, express or implied.

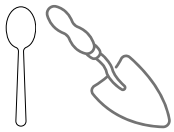
By submitting a sample for testing, you (and your family, heirs, assignees, guardians, and legal representatives), hereby agree to totally and unconditionally waive, release and forever discharge, individually and collectively, USC, its affiliates, and their respective trustees, officers, employees, students, and representatives (collectively, “USC Releasees”) from and against any and all claims, whether known or unknown, suspected of unsuspected, arising out of your use of the sample testing results. And you agree not to assert, initiate or prosecute any lawsuit, action or proceeding of any kind whatsoever, by way of action, defense, set-off, cross-complaint or counterclaim against the USC Releasees based upon, arising out of, or in connection with any such claim that you have released and discharged.

By submitting a sample for testing, you acknowledge and do hereby intentionally relinquish the protections of Section 1542 of the California Civil Code (and similar provisions of other jurisdictions) which provides as follows: "A general release does not extend to claims that the creditor or releasing party does not know or suspect to exist in his or her favor at the time of executing the release and that, if known by him or her, would have materially affected his or her settlement with the debtor or released party."

Overview (more detail on the following pages!)

1 Get your equipment

Disposable Gloves



Plastic spoon or hand shovel

Sandwich ziploc bags (1 per composite sample)

Permanent marker (e.g., Sharpie)

Masking tape (bag label)

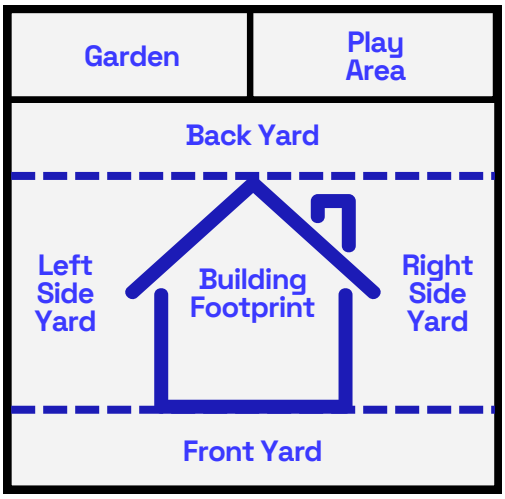
XXXXXXXXX

9-Digit Unique Sample ID (from survey)

+ any other safety precautions (eye protection, booties, N95/KN95 mask etc.) as required to re-enter your property

2 Choose your sampling zones

Choose the distinct **zones** you want to test on your property. The property footprint graphic to the right shows 7 **zones**, but your property may have fewer!



3 Complete the survey & Get your unique sample ID

- Go to bit.ly/CLEANUSC and fill out the survey to receive a 9-digit **unique sample ID**.
- This will help the CLEAN research team keep track of your sample and get your results back to you.
- We ask that you provide specific location information by providing either GPS coordinates or the address where samples are collected.

4 Collect a composite sample

- Wearing your protective gear (gloves/mask, etc.), collect 2 heaping spoonfuls (~¼ cup) of soil from **2 to 5 different spots within a single zone, evenly spaced apart** (5 - 10 ft apart). Avoid collecting rocks, debris, or wet clumps!
- Drop all spoonfuls from the **zone** into the same ziploc bag. **The bag should have about a cup of soil in it**—about the size of a baseball. Seal your ziploc bag. For added protection, place it within another ziploc bag. This bag contains that single **zone**'s composite sample.

5 Label your composite sample with your unique sample ID + zone NAME

Use a sharpie and masking tape to clearly **label each composite sample** with your **unique sample ID** and **a 1- to 2-word name for the zone** where the composite sample is from (*e.g., 123456789 front yard)*.

6 Repeat steps 4 & 5 for each zone

You should have one composite sample per **zone**—for example, one from your front yard, one from the back yard, and one from the garden. Be sure to log each composite sample in the survey.

The Basics

CLEAN has updated our sample collection recommendations to help you get a sense of the overall lead contamination across your entire property.

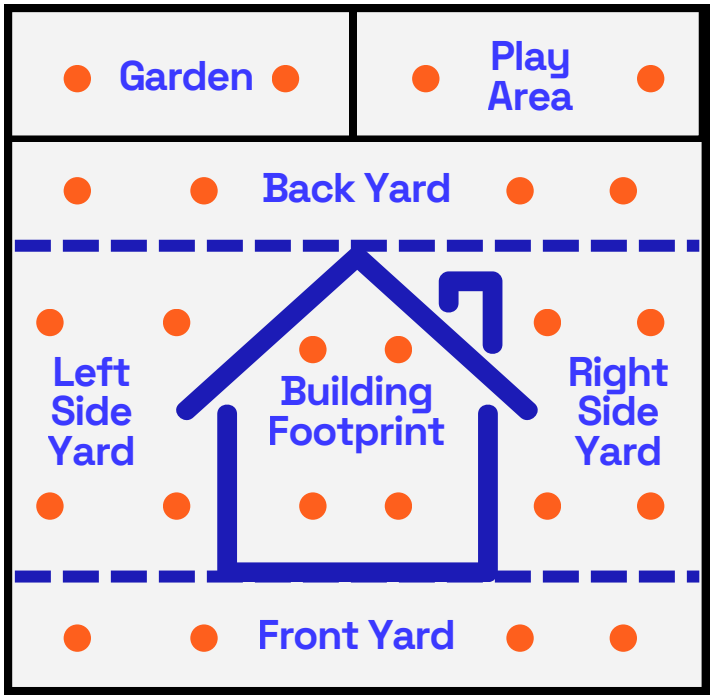
Definitions

A **scoop** of soil is 2 heaping spoonfuls of soil from one spot on the property. That's about ~1/4 cup of soil, collected from one place.

A **zone** is an area of your property. If your property includes a (1) front yard, (2) back yard, (3) garden, (4) left side yard, and (5) right side yard, then your property has 5 zones.

A **composite sample** is a ziploc bag containing 2 to 5 **scoops** of soil that have been collected from within a single **zone** of your property. Composite samples give you a sense of the overall soil contamination of that whole zone. Lead levels can vary widely even within a small area, so we suggest you collect 2-5 scoops per zone, spaced evenly apart (5 to 10 feet).

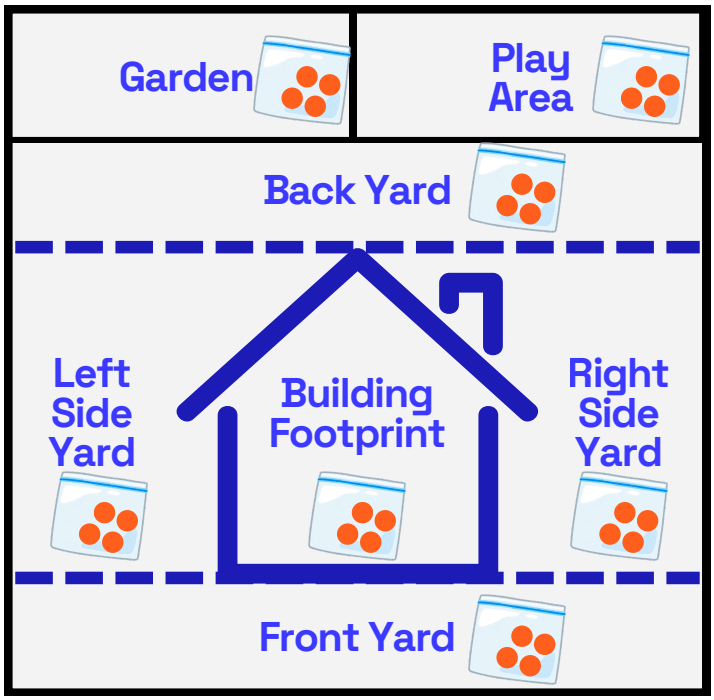
The Basics



Scoop: 2 heaping spoonfuls of soil (the circles on the left).

Zone: A single area of your property. The property on the left has 7 zones (front yard, back yard, left side yard, right side yard, garden, play area, building footprint).

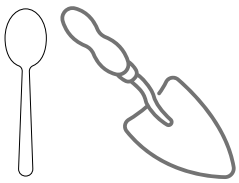
A **composite sample** is a ziploc bag containing 2 to 5 scoops of soil that has been collected from within a single zone. Composite samples give you a sense of the overall soil contamination of that whole zone. Lead levels can vary widely even within a small area, so we suggest you collect 2-5 scoops, spaced evenly apart (5 to 10 feet). If your property has 7 zones, you should submit 7 composite samples to us.



Sample Collection

1 Get your equipment

Disposable Gloves



Plastic spoon or hand shovel

Sandwich ziploc bags (2 per composite sample)

Permanent marker (e.g., Sharpie)

Masking tape (bag label)

XXXXXXXXX

9-Digit Unique Sample ID (from survey)

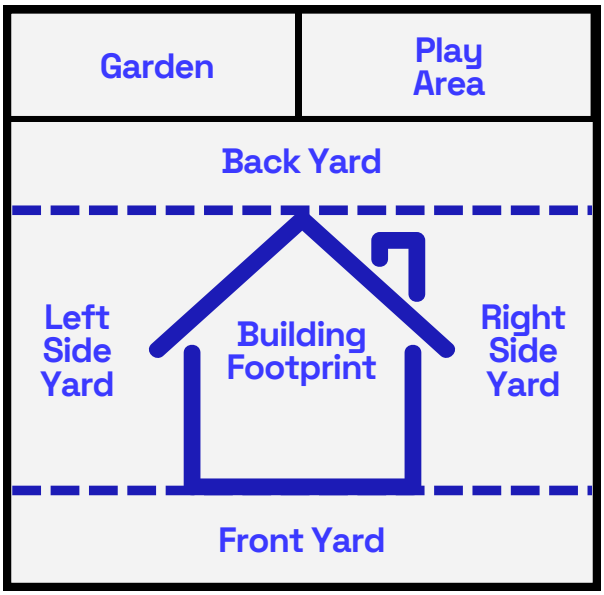
+ any other safety precautions (eye protection, booties, N95/KN95 mask etc.) as required to re-enter your property

Sample Collection

2 Choose your sampling zones

Choose the distinct **zones** you want to test around your property. The property shown **below** shows 7 **zones**, but your property may have fewer! To avoid overwhelming our small but mighty lab team, please define no more than 8 zones. Contact us at cleanproject@usc.edu with questions.

When defining zones, think about your property from a bird's eye view. Consider how areas are **used**—your kids might regularly run around and play in the back yard, but rarely go into your side yard. Your garden or play area may be clearly defined, but other areas may blend into one another. **What's most important is that your zones are clear to you, so when you get your results, you understand what area your results represent.**



Sample Collection

3 Complete the survey & Get your unique sample ID

Go to bit.ly/CLEANUSC and fill out the survey to receive a unique sample ID

What is a sample ID?
A sample ID will help the CLEAN research team keep track of your sample and get your results back to you. After analysis, each Sample ID number + your zone name and the associated lead concentration will be published on the soil lead testing webpage. Your Sample ID will ONLY be emailed to you if you hit "submit" on the survey. See below for an **example** Sample ID. **Write it down somewhere safe when the survey assigns it to you!**

EXAMPLE:	Here is your Sample ID number to be used to label your sample: 123456789

A Note on Determining Your Location:
We ask you to provide location information in the form of GPS coordinates, property address, or cross streets of the property where samples are collected. **Provide one location for your property**—not one for each composite sample!

Note: If you do provide location information, this data may be used in further scientific studies which explore the spatial distribution of lead around the Los Angeles region. Your name and all identifying information will **not** be associated with your sample results in any public materials, including the web map where you can access your results.

To get your Latitude/Longitude (GPS) Location:

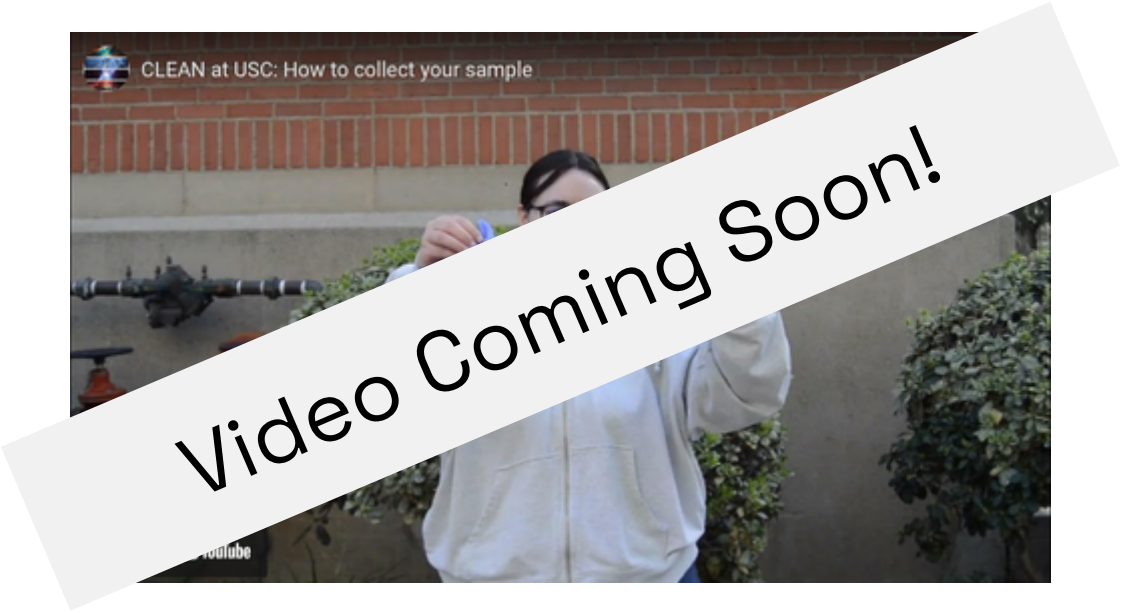
- On Apple Maps, click your own location (blue dot) and it will show details of your location. Scroll down on the details to see latitude (first number, followed by N) and longitude (second number, followed by W). The longitude value is negative for locations in the western hemisphere, please input it as a negative value. YouTube instructions: https://www.youtube.com/watch?v=VKdNEozcr-k
- On Google Maps, press and hold your location (blue dot) until a red pin shows up. Scroll down on the details of the dropped pic until you see coordinates (Latitude, Longitude). The latitude should be a positive number, the longitude is a negative number. YouTube instructions: https://www.youtube.com/watch?v=fMp4ynDrVjs

Note: Please only provide numbers in the LAT and LON (i.e., **no** N or W). Your location should read something like 34.XXXX, -118.XXXX

Sample Collection

4 Collect a composite sample

Watch Instruction Video



Wearing your protective gear (gloves/mask, etc), collect 2 heaping spoonfuls (~¼ cup) of soil from **2 to 5 different spots within a single zone, evenly spaced apart** (5 to 10 feet). Avoid collecting rocks, debris, or wet clumps!

Drop all spoonfuls from the zone into the same ziploc bag. The bag should have about a cup of soil in it—about the size of a baseball. Seal your ziploc bag. For added protection, place it within another zip loc bag. This bag now contains the zone's composite sample.

Repeat soil collection process for each zone. **You should have one composite sample per zone**—for example, one from your front yard, one from the back yard, and one from the garden.

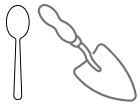
Sample Collection

Collect your composite sample

1 Gather materials

Disposable Gloves

N95 or KN95 mask



Plastic spoon or hand shovel

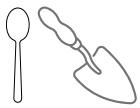
2 plastic bags WITH Unique ID labeled

2 Put on gloves, mask, and any other personal protective equipment.

Disposable Gloves

N95 or KN95 mask

3 Use a spoon, shovel, or another digging tool to collect approximately ¼ cup (roughly the size of a large egg) of soil in ONE of the labeled ziploc bags. Try to avoid large rocks or sticks.

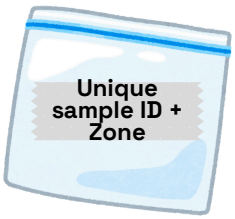


Plastic spoon or hand shovel

1 plastic bag WITH Unique ID + zone labeled

4 Walk 5 feet (or 10 feet, if your zone is large) and collect another scoop of soil in the same zip loc. Repeat until you have 2 to 5 samples, evenly spaced apart, across your entire zone.

5 Carefully and completely seal the sample bag.



6 6. (optional) Place your sample bag into a second bag for further spill protection.

Sample Collection

5 Label your composite sample with your unique sample ID + zone name

Label your ziploc bag with your Sample ID and a 1- to 2-word name for the zone where the composite sample is from (e.g., 123456789 front yard) using a marker, either directly or on masking tape placed on the bag.

Sandwich ziploc bags (2 per composite sample)

Masking tape (bag label)

XXXXXXXXX

9-Digit Unique Sample ID (from survey)

6 Repeat for each zone

On to the next zone! Repeat steps 4: *Collect your composite sample*, and step 5: *Label your composite sample with your Unique Sample ID + Zone Name* for each composite sample.

You should have one composite sample per zone—for example, one from your front yard, one from the back yard, and one from the garden.

Be sure to log each composite sample in the survey!

Sample Collection

Submit your sample

Samples can be submitted at:

Dropoff Locations

We have locations near the Palisades and Eaton fire-impacted areas. To see latest dropoff locations go to our website: https://publicexchange.usc.edu/la-wildfire-soil-testing/

By Mail

(You must pay for your own postage)

CLEAN c/o Professor Seth John
3651 Trousdale Parkway
USC ZHS 117B
Los Angeles, CA 90089

Please only submit up to 8 composite samples per property at this time.

Questions?
Email us at cleanproject@usc.edu