



December 8, 2018

We want each of you to know how sad we are for the challenges you and your California family, friends, and/or colleagues are facing from California's devastating forest fires. Our son and his young family, which includes our two grandchildren, also live in California as do many of our personal friends and colleagues.

From the calls and notes we have received, we know that people throughout California are concerned about the Woolsey Fire and have asked us about the possibility that radioactive contamination at the Santa Susana atomic test facility site might have spread in the smoke. At this point in time, no one knows the real answer to that question.

We listened to your requests and have created a methodology for determining if any radioactivity may have migrated from the Santa Susana site and if so:

- What radioactive isotopes migrated?
- What were the concentrations of those radioactive isotopes?
- How long will those isotopes be dangerous (i.e. what is the half-life of these deposits of radioactivity)?
- Where were the radioactive isotopes deposited, and what are the possible risks to the millions of people in the greater L.A. area?

At Fairewinds Energy Education, we let the data do the talking. We are a science-based organization, and we and our colleagues will test the soil and dust samples and then release that data to the general public once it is analyzed by the scientists involved. This process does take time, and is at least a four to five-month project.

Email info@FairewindsEnergy.org | Phone 843-501-7660 | Fax (802) 304-1051
Web Fairewinds.org | Facebook.com/Fairewinds | Twitter.com/Fairewinds
Fairewinds Energy Education, 520 Folly Road, Suite 25 #344, Charleston, SC 29412

By sending your samples for testing, you agree that the data will be made public, although your personal information with your name and location will not. When the data is released every sample will be mapped on a low-resolution map with radial coordinates – for example: 8 miles SW of the Santa Susana field lab site.

Fairewinds thanks you for your interest in collecting samples from the Woolsey Fire that began near the Santa Susana atomic power site. *Please read this entire letter carefully and follow all directions as it contains all the protocols and information you will need in order to conduct volunteer or citizen scientist sampling.*

If you have any questions or concerns, please feel free to email us or ring us! And, also please remember that we are a small office with several members of the Fairewinds Crew working remotely, so it may take time for us to respond promptly if we are out of the office, traveling, and/or conducting research.

Fairewinds, PSR-LA, and several other community groups will be working together to collect dust from vacuum cleaner bags, air-conditioning filters collected from homes, and buildings, car air filters, and soil samples from land within 100 miles of the Santa Susanna nuclear site and/or the Woolsey fire and its smoke and have these samples analyzed. Our priorities are to protect everyone involved, so please read and follow all protocols!

The specific contents of the dust and soil are presently unknown. The recent fire presents an opportunity to scientifically analyze dust and soil that was volatilized by the fire. PSR and other community groups will act as points of collection for any air filters, dust, and soil samples, and Fairewinds will create the database and work with the labs as they analyze all the samples.

Please email and let us know you are sending samples so that they may be properly logged in prior to shipping. Any samples sent to us for which we have not received prior notification from you and acknowledgement for receipt by Fairewinds Energy Education prior to shipping to us will simply be thrown out or returned unopened to sender.

Basic sampling instructions and protocols

This guide is meant to help volunteer samplers and citizen scientists follow some important basic rules to be safer and to improve the quality of your sampling work. Please remember that this short set of instructions might not answer everything that you have a question about concerning the collection of samples. *Again, if you have further questions please reach out to us and ask.*

FIRST, a note from California's Governor:

“To protect against the potential health danger, the California Governor's Office of Emergency Services (Cal OES) advised residents to wear a mask.”

Details here in *Newsweek Magazine*:

CALIFORNIA WILDFIRE SMOKE: WHAT IS AN N95 SMOKE MASK? HOW LONG DOES IT LAST? HOW DO YOU USE IT?

<https://www.newsweek.com/california-wildfire-smoke-n95-mask-how-long-does-it-last-how-do-you-use-it-1219963>

1. Safety tips to know before you take a field sample:

- Avoid working alone in the field. Make sure someone else knows where you are and what you are doing.
- Remember that radioactive dusts can be inhaled, ingested, or can be retained on clothing and shoes.
- High quality disposable P95 dust masks are recommended for general sampling. Please remember that old military type masks are most likely unreliable.
- Radioactive particulate filtering masks are expensive, but provide even better protection than the P95 dust masks. (Using these masks in high risk zones requires training beyond the scope of this sampling guide, and *the outside of these masks must be cleaned after use and before storage. These masks should also be stored in air tight bags.*)
- Use disposable gloves. Use a new pair for each sample taken to reduce cross contamination between samples, and to reduce your exposure to dusts.
- Do not use tobacco, eat, or drink while sampling. This rule will help you reduce the chances of ingesting radioactive dusts.
- If you can, wear long sleeved shirts, trousers, and shoes that cover your feet when you

are sampling. *Do not bring contaminated samples, used masks and gloves, or dusty clothing into clean environments (leave your contaminated stuff outside your home).*

- Please change your clothing and shoes when sampling is completed. Keep these possibly contaminated materials segregated from other household items and clothing, and never bring them inside your home or work area.
- *It is important to remember that wearing protective gear may make you more likely to suffer heat stroke. Take frequent breaks, and decontaminate sufficiently so that you can find a clean place to drink lots of water.*
- Make sure that all potentially hazardous samples are labeled. Take smaller samples if you believe that the materials you are sampling may have high count rates.
- Immediately wash your hands and face or better yet, shower, immediately after completing your collection efforts in the field.

2. **Materials needed for sampling**

- GPS or phone that gives latitude and longitude readings
- Ziploc bags
- Disposable gloves
- Sharpie marker
- P95 dust masks or better
- Long sleeved work clothes you don't mind disposing of
- Disposable spoon or other devices for scooping samples for single use so as not to cross-contaminate samples
- Optional: Bio Tape Slides: <https://www.zefon.com/bio-tape-slides-50bx> – see Section 4 instructions below to utilize these user-friendly slides for dust and soil samples.

3. **Instructions for collecting field samples:**

- Samples should be collected within 100 miles of the Santa Susanna nuclear site and/or the Woolsey fire.

- As they are collected, samples should immediately be placed in sealed plastic bags. Use double bagging to prevent escape of contaminated material.
 - Please use a sharpie that will not wipe off to label and date everything.
 - GPS the location, and write the Coordinates on the bag.
 - *Fairewinds Energy Education will only use GPS data from its sampling collection for internal processing of samples and to determine any unique data or patterns. That information will not be shared or disseminated outside of the specific project.*
 - *The final publication, if any, will have only a low-resolution map with radial coordinates – for example: 8 miles SW of the Santa Susana site.*
- For soils, the preferred sample weight is about 10 grams [about 1 tablespoon]. The sample does not need to be weighed. It is important for us that samples not be too large, or they will become expensive to discard properly at the labs. If you are a citizen scientist with a radiation detector or Geiger counter and you believe that a sample may have a high CPM (counts per minute), then collect a smaller sample.
- Automobile and truck engine air filters are very important samples. If you plan to collect these, please take the following steps:
 - Write down the make, model, and year of the vehicle.
 - Write down how long the filter was in use, (if you know), and the city where the vehicle is normally used or stored.
 - Note if the filter is a cabin filter or an engine filter.
 - Potentially, these filters may be radioactive or chemically contaminated by the fire. Please remember to wear gloves and your mask and bag these carefully.
- When packing samples, please use material like newspaper or other packing materials to keep the sample in the center of any shipping box or container and so that it does not move around and is not damaged.
- Again, please label all bags, in fact, label everything. You know what something is, but your sample may be tested again many months or even years after it is collected for follow-up studies, and scientists will require all the information you can provide.
- *Before your package to us is sealed, separately, on a piece of paper, please include a list of samples sent, and note the time, place, and date that samples were collected.*

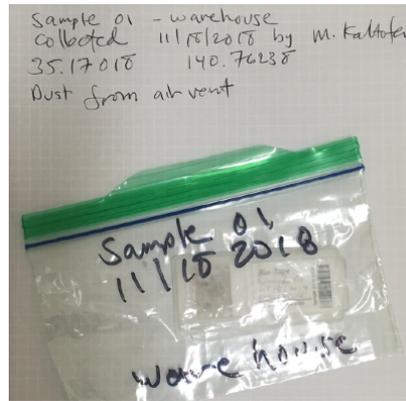
- The person collecting the samples and the person shipping should sign their names to the list of samples.
- *Out of respect for the many people who are involved in delivering packages, please do not send large amounts of what you may believe to be highly radioactive material.*
Samples should be small enough and well packaged, so that radiation counters (if you have one) do not show radiation through the sealed package.
 - Using a larger box increases the distance between people and the sample.
 - You may also take a smaller sample.
- Most of all do keep all samples small. We only need about a tablespoon of fine material to complete our testing, that's about 1/2 ounce.

4. **How to take a tape lift sample with tape lift sample slides**

- Tape lifts samples are small microscope slides that have a piece of double-sticky adhesive tape to pick up dust. These samples, while small, are excellent for measuring alpha radiation quickly. They are cheap and safe to mail and ship.
Bio Tape Slides: <https://www.zefon.com/bio-tape-slides-50bx>
- An unused tape lift slide is pictured below (left). When you are ready to collect your sample, write the date, sample identification number and a description of the place you are sampling from including latitude & longitude coordinates on the label, in pen.
 - *Remember, that Fairewinds Energy Education will only use GPS data from its sampling collection for internal processing of samples and to determine any unique data or patterns. That information will not be shared or disseminated outside of the specific project.*
 - *The final publication, if any, will have only a low-resolution map with radial coordinates – for example: 8 miles SW of SSFL.*
- Then peel off the protective plastic cover to reveal the tape section (below right).



- Press the slide (tape side down - see below left) onto the dusty surface.
- Press on multiple areas if necessary to collect enough dust to see easily.
- Return the slide into its holder and seal in a Ziploc bag. Label everything and keep notes of every sample in a notebook. Send the slide and copies of the notes to us.



5. How to sample household dust:

1. Starting with a new vacuum cleaner bag, thoroughly vacuum your home twice in a period of one week.
2. For each sample, Fairewinds needs less than 10-grams, which is about a teabag worth or a tablespoon-full of that dust from the bottom of each vacuum cleaner bag. We do not need the contents of the entire vacuum cleaner bag, and we cannot use cat hair, dog hair or dust bunnies.

3. Each sample should be placed inside 2-Ziploc bags (one inside the other) with the GPS location, name and phone number written on the bag with a Sharpie, so it does not wipe off. [Your name, phone number, and coordinates are confidential and will not be provided to other parties.]
 - 3.1. Fairewinds Energy Education will only use GPS data from its sampling collection for internal processing of samples and to determine any unique data or patterns. That information will not be shared or disseminated outside of the specific project.
 - 3.2. The final publication, if any, will have only a low-resolution map with radial coordinates – for example: 8 miles SW of the Santa Susana field lab Site.
4. Please contact Fairewinds Energy Education at info@fairewindsenergy.org for pre-authorization to ship to us directly now that our data acceptance system is in place, or if you prefer we will put you in contact with citizen scientists in your area who will be consolidating samples for shipment. We will then authorize the shipments from the group contacts.
5. *Please remember that any packages sent to us that have not been pre-authorized and appropriately shipped will simply be discarded unopened.*

All of us thank you in advance for your efforts to work with us as volunteer samplers and citizen scientists on this important community project. None of us know where this sampling will lead, but it is an important part of our work together as community members. Thank you for joining us in this work.

Again, please remember that your sample(s) must be registered with us before you ship your package to us. Any unregistered samples will never be opened or analyzed. We will require your name, address, phone number, and email as well as all the GPS sample locations.

Sincerely,

Maggie and Arnie Gundersen and The Fairewinds Crew

Ship to: 520 Folly Road, Suite 25, #344, Charleston, SC 29412

Email: info@fairewindsenergy.org

Phone: 843-501-7660

And, finally please label, label, label: every bit of information is important... was the soil collected from the depression at the base of a tree trunk, from beside a creek, or from a dry streambed? Indoors: was the dust on the sticky tape from ceiling fan blades or a windowsill, or was a dust sample or slide from the front door mat.

We don't need a lot of material, but knowing exactly how and where the data was collected helps to create a sound database and gives the scientists doing the analysis the information they need for this project.

Lastly, please remember that this study will take at least 4 to 5 months to complete. The more detail you submit to the scientists, the more quickly we will progress through the detailed five-stage process.

P.S.

Many people have also called or written us regarding chemical contamination from all the California fires.

Chemical contamination is not our area of expertise, the methodologies involved are entirely different from each other, and the equipment required is entirely unique for each area of study.

Please contact PSR and/or other environmental groups for the methodology and laboratories that may be working to ascertain the chemical composition of samples from any of these recent California fires.