



Updated LNU Complex and Glass Fires

Health Screening Level Guidance and Background Data Sets

Sonoma County has adopted the newly established CalRecycle cleanup goals and has begun implementing their use in order to provide additional aid in the cleanup of LNU Lightning Complex and Glass Fire affected properties. Confirmation soil sampling results can either be compared to the new cleanup goals using Method 1 or to background samples using Method 2. Where confirmation soil sampling exceeds the cleanup goals, a licensed professional (a California licensed civil engineer or geologist), may, in their professional judgement, certify, that the results are naturally occurring, and additional cleanup will not be required based on the exceedance. This determination must take into consideration site specific data relative to local geology, and the geological data in the table below. Where confirmation sample results exceed data sets contained herein, site specific background samples may be taken to establish that the cleanup has been performed to background levels.

Confirmation Sampling

Confirmation sampling should be conducted by a licensed professional after fire-related debris has been removed from a property. Representative soil samples should be collected and analyzed to determine compliance with cleanup goals. The total number of samples to be collected is based on estimated square footage of ash footprint as follows:

Estimated Square Footage of Ash Footprint (Decision Unit)	Number of 5- Point Aliquots
0-100 square feet	1
101-1,000 square feet	2
1,001-1,500	3
1,501-2,000	4
2,001-5,000	5
Over 5,000 square feet	Must consult with local environmental health officials.



All confirmation samples should be collected from a depth of 0-3 inches using a dedicated 4-ounce plastic scoop and be placed in 8-ounce jars. Samples should be taken to an approved laboratory for analysis of Title 22 Metals including antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc.

Method 1: Cleanup Goals

CalRecycle has recently compiled background data sets for the fires that take into consideration the geologic and geographic location of sampling. The following summary table provides additional health screening level guidance for the LNU Complex and Glass Fires Private Debris Removal.

Metal	IHS Levels	um	MzV	J	Kjf	Kjfm	Kjfs	KI
Antimony	30	31	31	31	31	31	31	31
Arsenic	0.07	12.1	19.2	49	7.6	5.7	8	14.4
Barium	5,200	9999	9999	9999	9999	9999	9999	9999
Beryllium	15	16	16	16	16	16	16	16
Cadmium	1.7	71	71	71	71	71	71	71
Chromium	36,000	2499	2499	2499	2499	2499	2499	2499
Cobalt	23	164	41	94	62	138	23	23
Copper	3,000	2499	2499	2499	2499	2499	2499	2499
Lead	80	80	80	80	80	80	80	80
Mercury	5.1	1	1	1	1.12	3.6	1	1
Molybdenum	380	390	390	390	390	390	390	390
Nickel	490	3185	820	1571	1045	2525	820	820
Selenium	380	99	99	99	99	99	99	99
Silver	380	390	390	390	390	390	390	390
Thallium	5	5	5	5	5	5	5	5
Vanadium	390	390	390	390	390	390	390	390
Zinc	23,000	4999	4999	4999	4999	4999	4999	4999



ENVIRONMENTAL HEALTH

Metal	IHS Levels	Ku	TK	TV	E	Qv	QPc	Qoa
Antimony	30	31	31	31	31	31	31	31
Arsenic	0.07	23	13	5.2	21	3.89	13.5	7.7
Barium	5,200	9999	9999	9999	9999	9999	9999	9999
Beryllium	15	16	16	16	16	16	16	16
Cadmium	1.7	71	71	71	71	71	71	71
Chromium	36,000	2499	2499	2499	2499	2499	2499	2499
Cobalt	23	26	23	37	23	184	28	38
Copper	3,000	2499	2499	2499	2499	2499	2499	2499
Lead	80	80	80	80	80	80	80	80
Mercury	5.1	1	1	1	1	4.67	1	1
Molybdenum	380	390	390	390	390	390	390	390
Nickel	490	820	820	820	820	3665	820	820
Selenium	380	99	99	99	99	99	99	99
Silver	380	390	390	390	390	390	390	390
Thallium	5	5	5	5	5	5	5	5
Vanadium	390	390	390	390	390	390	390	390
Zinc	23,000	4999	4999	4999	4999	4999	4999	4999

Notes: All units are milligrams per kilogram (mg/kg)

Guidance for Data Collection and Analyses

The following guidance is provided to assist licensed professionals when using the published cleanup goals:

1. Samples shall be analyzed for metals under EPA Method 6020 (like method used to establish background data sets).
2. Sonoma County has been advised that the State no longer accepts a 20% allowance above published cleanup goals as had been the case in previous fires. Sonoma County is adopting this



guidance, such that there is no allowance above the stated cleanup goals in the published tables.

3. Analytical results will be reviewed and compiled by the licensed professional, and a determination made if the results are representative of background for the subject site.

Method 2: Background Sampling

The purpose of site specific background sampling is to establish site specific cleanup levels that may be in excess of the published Cleanup Goals for the site. Site specific background sampling should be conducted under the direction of a professional engineer, professional geologist, or petroleum engineer to determine background conditions in the vicinity of the cleanup.

The establishment of site specific background conditions must take into consideration site specific data relative to local geology, and the geologic chemical data in the background data. Results within 20% of the site specific background data set will be considered passing.

Site Specific Background Data Collection and Analyses

The following requirements apply:

1. Three sampling locations shall be identified away from the impacted/cleanup area, such that minimal air blown ash or debris may disturb the desired samples. Locations should be staggered to represent the area. Please note, these are to be three discreet samples analyzed separately and shall not be composited into one.
2. In order to assure a “clean” or “native” sample, the first 3 inches of dirt shall be removed from the ground surface.
3. Samples shall be collected from 3 to 9 inches and placed in appropriate containers for transport to an analytical laboratory
4. Samples shall be analyzed for metals under either EPA 6010 or Method 6020 and Mercury by EPA Method 7471A. Confirmation samples taken later must use the same analytical method as used for determining background.
5. Analytical results will be reviewed and compiled by the licensed professional, and a determination made if the results are representative of background for the subject site.



Additional Advisory

In cases where a subject site has been cleaned up to background levels that exceed initial screening levels, property owners should be advised of the exceedance. In order to assist consultants in the selection of the correct geologic formation, please note, that the State Geotracker Website contains an overlay tool of geologic formations against property parcels. While this a useful tool, the final determination of the formation will need to be made by the licensed professional overseeing the work.

<https://geotracker.waterboards.ca.gov/>

Reporting

In order to facilitate the expedient review of cleanup documentation, results of testing and analyses shall be outlined in tables for each site compared against the identified screening level. Certified analytical reports shall be attached including all QA/QC documentation from the lab. As the results presented will include interpretation, all reports must be certified and stamped by the licensed professional (civil engineer, petroleum engineer, or geologist) who is taking responsible charge for the work.