

**SUMMARY OF AIR MONITORING EFFORTS DURING THE CERRO GRANDE FIRE.**

<b>RADIOLOGICAL MONITORING SYSTEMS</b>		
<b>Air Quality Monitoring System</b>	<b>Measures</b>	<b>Results</b>
<p><b><u>AIRNET</u></b></p> <p>Operated By: Los Alamos National Laboratory</p> <p>Long term monitoring system that has been in place for decades and is the primary system used by the Laboratory to demonstrate any air quality impacts due to LANL operations.</p>	<p>This system measures radioactive particulate and gases in local areas around the Laboratory, and in neighboring communities in Northern New Mexico. This system of 50 stations is a medium volume sampling system and is used to detect very low levels of radioactivity in the air. This system continuously measured the ambient air before, during and after the fire.</p>	<p>The AIRNET monitoring system detected increased radioactivity in the ambient air due to the Cerro Grande Fire. With the data analyzed to date, the isotopes responsible for this increase are natural decay products of radon including lead-210, bismuth-210 and polonium-210. These isotopes are stored on the vegetation surfaces and were released during the fire. The data analyzed to date indicate no unusual increase in isotopes common to Laboratory operations such as plutonium, uranium, or americium.</p>
<p><b><u>NEWNET</u></b></p> <p>Operated by: Los Alamos National Laboratory</p> <p>A community monitoring network for radiation monitoring educational purposes.</p>	<p>This system measures Gamma Radiation only in local areas around the Laboratory and in communities surrounding the Laboratory. This system continuously measured the ambient air before, during and after the fire.</p>	<p>This system did not measure any significant increase of radioactivity in the ambient air due to the Cerro Grande Fire.</p>
<p><b><u>RAP</u></b></p> <p>Operated by: Department of Energy</p> <p>The RAP (Radiological Assistance Program) was deployed during the early days of the fire to provide short term - rapid analysis capability to the air quality</p>	<p>This system measures radioactive particulate in the ambient air. The system is a high volume sampling system used for rapid sampling and increased turnaround times. A good screening tool. This system was put in place on May 11 and measured continuously until May 17.</p>	<p>This system detected increased radioactivity in the ambient air due to the Cerro Grande Fire. To date indicate no evidence of man-made radionuclides have been detected. This data indicate the presence of naturally-occurring radionuclides.</p>

**RADIOLOGICAL MONITORING SYSTEMS**

<b>Air Quality Monitoring System</b>	<b>Measures</b>	<b>Results</b>
monitoring effort.		
<p><b><u>EPA RAD</u></b></p> <p>Operated by: Environmental Protection Agency</p> <p>The EPA RAD monitoring network was deployed from May 14 thru May 17. This sampling system is similar to the Laboratory's AIRNET system.</p>	<p>This system measures radioactive particulate in the ambient air. The system of 20 stations was deployed at sites within the Laboratory, and in communities around Northern New Mexico.</p>	<p>Gross screening of these air samples demonstrated some increase of radioactivity in the ambient air due to the Cerro Grande Fire. Gamma screening indicated increases natural isotopes were the probable mechanism of this increase.</p>
<p><b><u>ERMAS</u></b></p> <p>Operated by: The New Mexico Environment Department and Environmental Protection Agency</p> <p>The New Mexico Environment Department assists EPA in maintaining a medium-volume particulate air sampler atop the PERA Building in Santa Fe which is part of a nation-wide network . The sampler has filters that are normally collected at one-week intervals. During the fire, the filters were collected daily. Also, from 5/14 to 5/16, the EPA deployed a high-volume air sampler at Española.</p>	<p>Samples from both locations were sent to the EPA's National Air and Radiation Laboratory for beta counting and gamma spectrum analysis.</p>	<p>Radioactive material was detected in the smoke of the Cerro Grande Fire. The beta counts ranged from .0067 to .0337 pCi/m<sup>3</sup>. According to the National Council on Radiation Protection and Measurement (NCRP), typical background beta levels are in the range of 0.02 pCi/m<sup>3</sup>. Radioisotopes detected in the gamma spectrum analysis included only the following naturally occurring radioisotopes: beryllium-7, potassium-40, radium-226, lead-212, thallium-208, and bismuth-212.</p>

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<b>Air Quality Monitoring System</b>	<b>Measures</b>	<b>Results</b>
<p><b><u>NMED RAD Monitors</u></b></p> <p>Operated by: The New Mexico Environment Department</p> <p>NMED's DOE Oversight Bureau operates 5 radiological air monitors at LANL AIRNET sites. Filters from these independently operated samplers are collected by NMED staff and sent to an independent private lab for analysis.</p>	<p>This system measures radioactive particulate and gases similar to the LANL AIRNET system in local areas around the Laboratory, and in neighboring communities in Northern New Mexico. This system is a medium volume sampling system and is used to detect very low levels of radioactivity in the air.</p>	<p>These were operational during the period the fire swept through Los Alamos National Laboratory and the community of Los Alamos. Samples were collected at an accelerated frequency while the fire was burning. Data for alpha and beta radiation and isotopic analysis indicate levels of uranium and plutonium consistent with regional background.</p>

<b>NON RADIOLOGICAL MONITORING SYSTEMS</b>		
<b>Air Quality Monitoring System</b>	<b>Measures</b>	<b>Results</b>
<p><b><u>LANL PM-10 Monitor</u></b></p> <p>Operated By: Los Alamos National Laboratory</p>	<p>The Laboratory operated a monitor to measure PM10 (particulate matter in a size range less than 10 microns (respirable size particles))</p>	<p>The EPA has established a 24-hour standard of 150 ug/m3. The 30 minute TEOM data have been averaged over a running 24 hour period, so that comparisons can be made to the EPA standard. During the early days of the fire, air concentrations at TA-54 were only slightly elevated. A small portion of the fire moved through TA-54 West, during 5/12 and 5/13. During this period short term air concentrations were as high as 1000 ug/m3.</p>
<p><b><u>EPA NON-RAD Monitors</u></b></p>	<p>The EPA placed several monitors</p>	<p>No pesticides were found in any EPA samples. All metals analysis showed very</p>

**NON RADIOLOGICAL MONITORING SYSTEMS**

<b>Air Quality Monitoring System</b>	<b>Measures</b>	<b>Results</b>
<p>Operated by: Environmental Protection Agency</p>	<p>that measured PM10, Volatile Organic Chemicals (VOC), pesticides, and metals on the Laboratory property and in surrounding communities starting on May 11 and ending on May 15.</p>	<p>low concentrations of suspended metals, well below workplace concentrations. The ASTDR concluded that the concentration of metals in the smoke are not of health concern and are not expected to cause adverse health effects. Twelve organic compounds were detected above measurement capability and were attributed to the fire burning vegetation or the generators running the sampling equipment.</p>
<p><b><u>NMED NON-RAD Monitors</u></b> Operated by: New Mexico Environment Department</p>	<p>NMED operates a network of monitors to measure PM10 and one monitor that measures PM2.5.</p>	<p>Measurements from these samplers indicated higher than normal particulate in the air during the fire but no indication that EPA standards were exceeded.</p>