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LANL
TA-0 (Pueblo Canyon, TA-45, stormwater)

January 30, 2003
Immediate Release

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Environment Department Finds High Levels of Plutonium in LANL Runoff

(Santa Fe, NM) — The New Mexico Environment Department (NMED) today announced that samples collected at Los Alamos National Laboratory (LANL) by the Environment Department since the 2000 Cerro Grande fire contain the highest levels of plutonium-239 in storm water runoff ever measured leaving lab property.

Environment Department investigators collected the samples in Pueblo Canyon during 2001 and 2002. The median concentration of plutonium in samples from six storms was 94 picocuries (pCi) per liter, approximately 100 times the storm water concentrations that the lab has reported for the years 1995-1999, before the catastrophic Cerro Grande fire.

During a single storm in the summer of 2002, NMED estimates over 18 millicuries (mCi) of plutonium left lab property in storm water from Pueblo Canyon. This is two to three times the average annual amount of plutonium leaving the lab during the 1950s and 1960s. According to LANL's published estimates, in only two years in the last 60 have they released more plutonium than ran off as a result of this single storm—22 mCi in 1968 and 44 mCi in 1957.

The Cerro Grande fire of May 2000 severely burned the upper Pueblo Canyon watershed creating dramatic increases in storm water runoff. This increased runoff accelerated erosion of contaminated sediments, resulting in high levels of plutonium transport over the last three years.

LANL estimates that there are approximately 1000 mCi of plutonium stored in Pueblo Canyon sediments. This canyon is located near the lab's east boundary. Its tributaries include Acid Canyon, which received treated and untreated radioactive waste from 1944 to 1964.

LANL's median plutonium concentration of 94 pCi/liter is more than three times the Department of Energy's (DOE) Derived Concentration Guideline for the radioactive substance. These guidelines are used by DOE to protect the public from excessive exposure and to determine if actions need to be taken to reduce the pollution levels discharged from DOE facilities.

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NMED communicated its concern about levels of plutonium in Pueblo Canyon runoff to DOE in a November 2002 letter. The Department recommended that DOE insure that the lab's storm water monitoring is adequate, and that the lab initiate studies to determine what corrective actions could be taken in Pueblo Canyon to reduce transport of legacy waste to the Rio Grande.

Plutonium-239 is a radioactive manmade element produced since the 1940s for use in nuclear weapons. It has a radioactive half-life of 24,000 years. If ingested or inhaled, its radioactive particles are "damaging to lung tissue and internal organs," according to the U.S. Environmental Protection Agency.

Under contract to the Environment Department, Risk Assessment Corporation completed a risk assessment of storm water runoff from LANL canyons after the Cerro Grande fire. They estimated the risk from all radionuclides at the point nearest to the NMED sampling location to be less than two excess cancers per 1,000,000. The highest concentration of plutonium in water measured by NMED, 253 pCi/liter, was lower than the 350 pCi/liter value that the risk assessors used in their predictions.

Note: A Curie is a unit of radioactivity. A millicurie is one thousandth of a Curie. A picocurie is one trillionth of a Curie.

For further information, contact Jon Goldstein, Communications Director, NMED at (505) 827-0314.

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