



# FACT SHEET

## Inhalation Toxicology Laboratory, New Mexico, Site

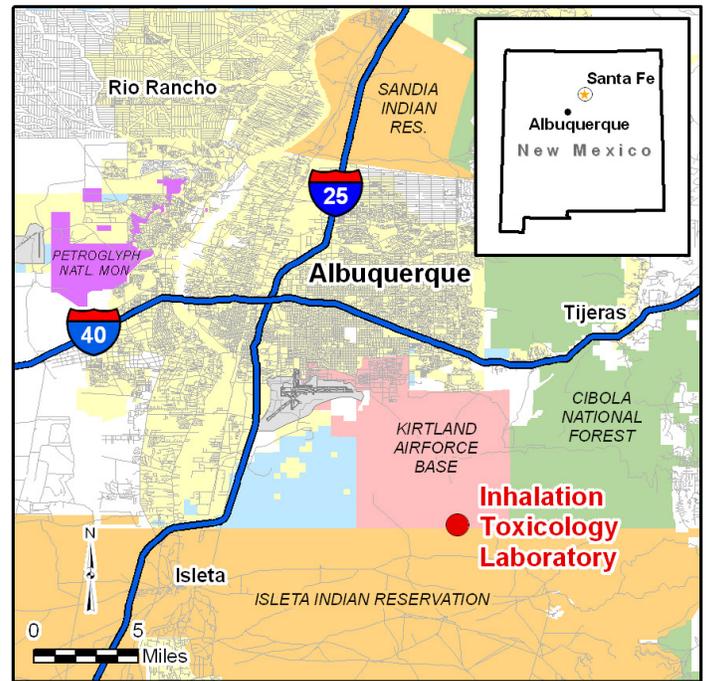
*This fact sheet provides information about the Inhalation Toxicology Laboratory, New Mexico, Site. This site is managed by the U.S. Department of Energy Office of Legacy Management.*

### Site Description and History

The Inhalation Toxicology Laboratory (ITL) site is located on the southern edge of Kirtland Air Force Base (KAFB) in Albuquerque, New Mexico. The site occupies 240,000 square feet of building space on 144 acres of land withdrawn from the Bureau of Land Management for use by the U.S. Department of Energy (DOE). KAFB is located on a high, arid mesa about 5 miles east of the Rio Grande River. The area surrounding ITL is relatively flat and slopes gently westward toward the river. The mean elevation at KAFB is 5,348 feet.

The U.S. Atomic Energy Commission (predecessor agency of DOE) created the ITL facility in 1960 to study late-occurring health risks from inhaling small amounts of radioactive particles. Research at the laboratory has since broadened to include a range of radiological and nonradiological respiratory health issues. The Lovelace Foundation for Medical Education and Research originally operated the facility under a management and operating (M&O) contract and conducted research for DOE's Office of Science and other DOE organizations. The Lovelace Foundation reorganized in the 1980s and 1990s, and the Lovelace Respiratory Research Institute (hereafter Lovelace) evolved as the current facility operator.

In 1996, as a result of decreased DOE funding for the type of work conducted at ITL, Lovelace began efforts to convert the facility into a private-sector operation. To avoid the cost of total shutdown and to allow the completion of research already in progress at the end of the M&O contract, on October 1, 1996, DOE awarded a Cooperative Agreement to Lovelace to assist with privatization of laboratory operations. Under the terms of the Cooperative Agreement, DOE provided Lovelace with limited prioritization start-up funding and agreed to fund any environmental cleanup required for the site. On October 1, 2001, DOE executed a long-term

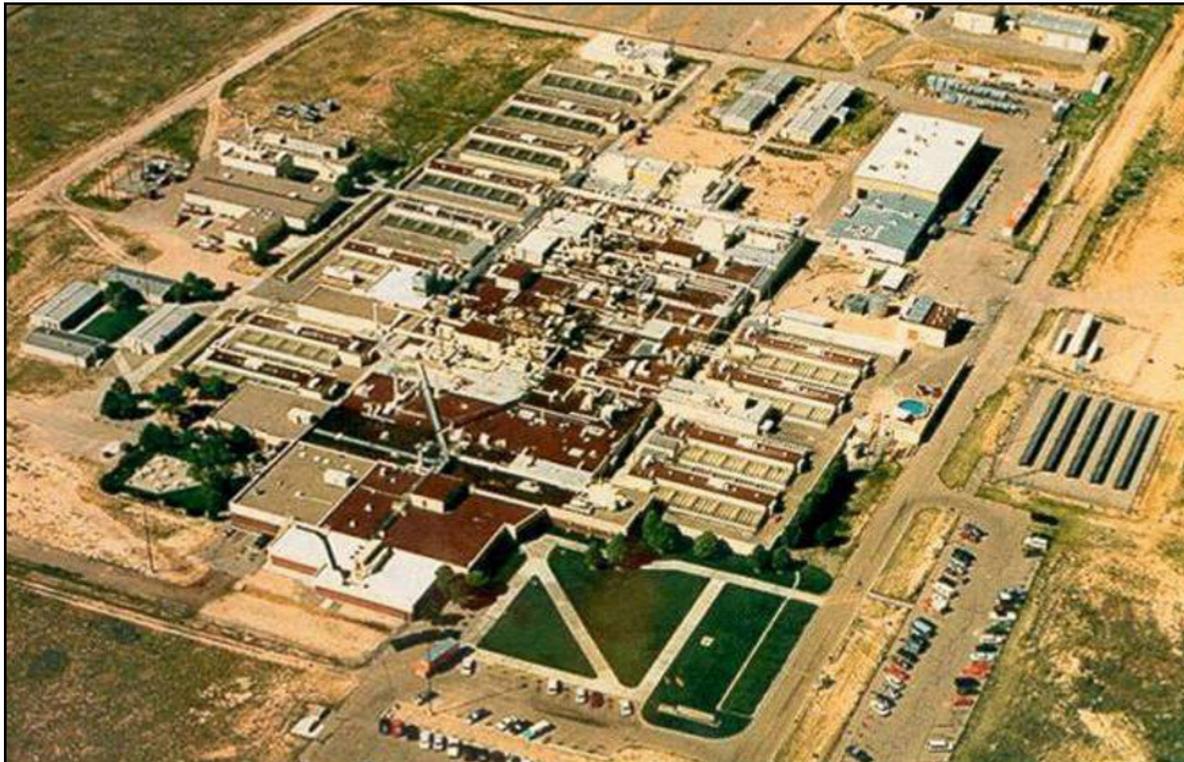


Location of the Inhalation Toxicology Laboratory, New Mexico, Site

agreement under which Lovelace will lease the facility through 2025.

Historical operations at ITL resulted in radiological and nonradiological contamination at numerous areas in the laboratory complex. Lovelace conducted remedial action in the early 1990s and completed cleanup at several sites in 1997. DOE's Office of Environmental Management (EM) provided funding and oversight for the remedial action.

ITL is currently operated by Lovelace and will continue to operate as a private research facility. Property transfer



*Aerial view of the Inhalation Toxicology Laboratory, New Mexico, Site*

legislation passed on March 30, 2009, resulted in the transfer of ITL property title from DOE (Office of National Nuclear Security Administration [NNSA]) to Lovelace Respiratory Research Institute. On June 12, 2013 the transfer of property was formalized through a Quit Claim Deed. The legislation releases DOE from all environmental liability at the ITL site, including contamination from past, present, or future activities (Section 13005 of Public Law 111-11, “2009 Omnibus Public Land Management Act”).

Responsibility for management of historical, government-owned records and long-term groundwater monitoring at the facility transferred from EM to the DOE Office of Legacy Management (LM) on October 1, 2012. The NNSA Service Center located at KAFB performed all landlord oversight functions until the property title transferred to Lovelace. Effective upon 2013 property transfer, the long-term groundwater monitoring program was no longer the responsibility of LM but of Lovelace.

## **Site Contamination**

### **Research Buildings**

Facilities cleanup was successfully completed in September 2008 in four areas known as the Miscellaneous Labs and Areas, Analytical Chemistry Building, Beta Gamma Wing, and Castle Area. In each area, hazardous and low-level radioactive waste was identified and removed, and the surfaces were decontaminated. The Beta Gamma Wing is expected to continue to be used for radiological research and will remain a restricted-use area. The other areas were decontaminated to levels that will allow laboratory staff to continue research without radiological restrictions.

Radiological surveys were not conducted in building drains, vents, and ducts as part of this process. However, surveys were conducted at entrances to the drains, vents, and ducts to ensure that no radiological contamination posed a risk to laboratory workers.

In September 2010, EM satisfied its last-remaining obligation at the ITL site by transferring one container of legacy transuranic material to the Los Alamos National Laboratory in New Mexico.

### **Soil Contamination**

Three areas of the facility—the Hot Ponds site, the Sewage Lagoons site, and the Diesel Spill site—required soil remediation.

The Hot Ponds site consisted of two small, concrete-lined sumps (“Hot Ponds”); two metal buildings; support equipment; and surrounding soils that were contaminated with low levels of cesium-137, strontium-90, and other radionuclides. The contaminated materials were excavated and disposed of offsite at the EnergySolutions facility in Utah. Soils were remediated to a risk-based exposure standard derived from an industrial land-use scenario. Natural radioactive decay will further reduce the level of radioactivity to a point that the site should be suitable for unrestricted use by about 2030. The Hot Ponds site has been restored to a natural terrain and revegetated with native grasses.

The Sewage Lagoons site consisted of six sewage lagoons contaminated with cesium-137, strontium-90, and other radionuclides. Remediation consisted of excavating the contaminated soils and sludge and disposing of the materials at the EnergySolutions facility in Utah. As with the Hot Ponds

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site, the Sewage Lagoons site was cleaned to a risk-based exposure standard modeled on an industrial land-use scenario, and the site is expected to be suitable for unrestricted use by about 2030.

The Diesel Spill site consisted of approximately 0.3 acre of soil contaminated with diesel fuel that leaked from underground storage tanks and fuel lines. Five underground tanks and surrounding soil were removed and disposed of at an offsite, permitted landfill. No further monitoring is required for soils at this site.

### **Groundwater Contamination**

Soils were remediated at the Sewage Lagoons and Diesel Spill sites. However, residual contamination remains in groundwater beneath these sites.

Contaminated groundwater at the Sewage Lagoons area occupies about 15 acres. Depth to groundwater in this area is approximately 80 feet. In accordance with post-remediation environmental monitoring requirements, Lovelace will continue to conduct groundwater monitoring at the site. Specifically, monitoring will be performed in accordance with the New Mexico Environment Department (NMED)/Ground Water Quality Bureau regulations and requirements specified in Discharge Permit 519, which was renewed on December 26, 2008. The program consists of semiannual monitoring for total dissolved solids at three onsite monitoring wells (MW-4, MW-17, and MW-19).

Contaminated groundwater at the Diesel Spill site occupies about 0.3 acre. Depth to groundwater in this area is approximately 110 feet. In accordance with postremediation environmental monitoring requirements, Lovelace will continue to conduct groundwater monitoring at one monitoring well (MW-16). Samples are collected semiannually and analyzed for polynuclear aromatic hydrocarbons, isomers of dichlorobenzene, and volatile organic compounds (specifically benzene, toluene, xylene isomers, and ethylbenzene).

### **Land Use**

ITL is located on land designated for commercial, industrial, or transportation use. This land-use designation is projected to continue indefinitely. The surrounding area is nonagricultural, vegetated land.

### **Regulatory Setting**

Investigation and remediation of hazardous materials at ITL were conducted according to provisions of the Resource Conservation and Recovery Act, as administered by NMED. Investigation and remediation of

radiological contaminants followed requirements of the Atomic Energy Act of 1954, as amended (Title 42 *United States Code* Section 2011 et seq.); DOE Orders 5400.5, "Radiation Protection of the Public and Environment", and 435.1, "Radioactive Waste Management"; and U.S. Nuclear Regulatory Guide 1.86, "Termination of Operating Licenses for Nuclear Reactors."

Groundwater monitoring and reporting are conducted according to Discharge Permit No. 519, renewed on December 26, 2008, in accordance with NMED Water Quality Act regulations. Sample results are compared with applicable New Mexico Water Quality Control Commission standards.

### **Compliance Strategy**

NMED has approved the remedy of monitored natural attenuation for contaminated groundwater at the Sewage Lagoons and Diesel Spill sites. Groundwater samples will be collected semiannually from four onsite wells. Monitoring will continue until concentrations of all target analytes remain below applicable standards for four consecutive, semiannual-monitoring periods.

Exposure to areas of residual soil contamination is prevented through access and use restrictions. Contaminated groundwater and soils areas are both within the boundaries of KAFB. Proper identification is required to access KAFB via guarded gates. Controlled access greatly reduces the likelihood that visitors or trespassers will be exposed to contaminants at the ITL facility.

### **Legacy Management Activities**

LM is responsible for managing the records for government-sponsored research conducted prior to 1994, as well as responding to stakeholder inquiries.

### **Contacts**

Documents related to the Inhalation Toxicology Laboratory site are available on the LM website at [www.lm.doe.gov/ITL/sites.aspx](http://www.lm.doe.gov/ITL/sites.aspx).

For more information about LM activities at the Inhalation Toxicology Laboratory, contact:

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