

TA 49

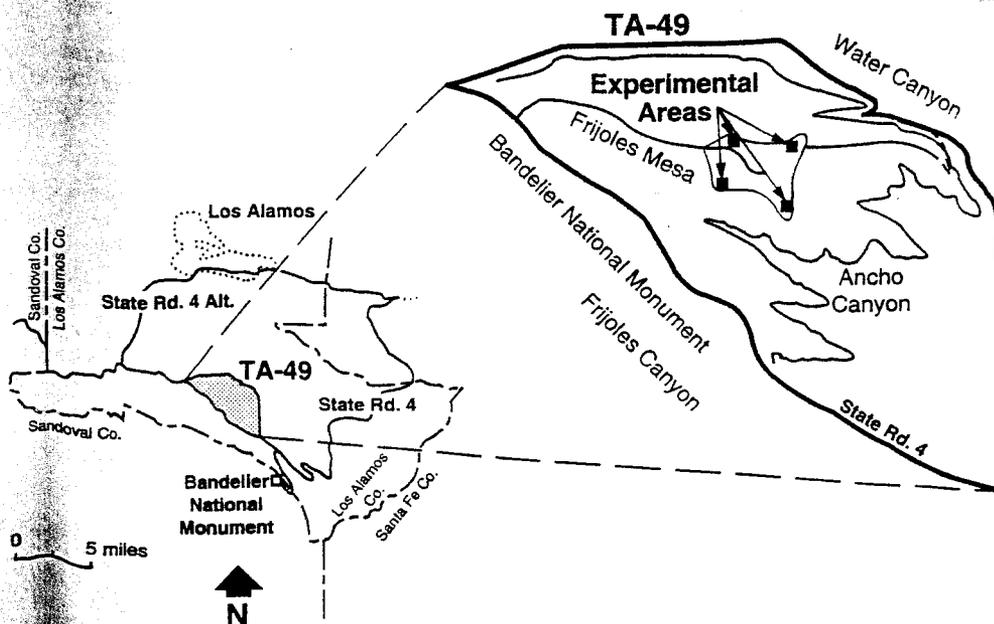
# LOS ALAMOS NATIONAL LABORATORY ENVIRONMENTAL RESTORATION PROGRAM FACT SHEET FOR OPERABLE UNIT 1144 (TECHNICAL AREA 49)

7/1/92

## TA-49:

- Experiments involving radioactive/hazardous materials were conducted in underground shafts at TA-49 from late 1959 to mid 1961.
- Portions of TA-49 currently are used for microwave research, the Laboratory's Hazardous Devices Team activities, and other low-impact uses. Additional activities, generally not involving hazardous materials, have continued intermittently at TA-49 since 1961.
- Hazardous and radioactive materials, including multi-kilogram quantities of beryllium, lead, plutonium, and uranium are present in shafts at TA-49. Trace quantities of fission products, heavy metals, tritium, high explosives, and organics also may be present.
- Laboratory environmental monitoring data for ground and surface water and soil samples indicate that TA-49 contaminants have not moved beyond the boundaries of TA-49 or into the main aquifer. Groundwater contamination is highly unlikely because the main aquifer is about 1200 feet below the site.
- Safety at TA-49 has been enhanced by implementing strict access restrictions, drilling controls, and stabilization procedures.
- In May 1992, the Laboratory submitted to the U.S. EPA and the New Mexico Environment Department a work plan to determine the amounts and areas of contamination at TA-49. These studies will form the basis for corrective measures decisions for the TA-49 Operable Unit. Site characterization studies are scheduled to begin in October 1992 and extend into 1997.

## TA-49 Locator Map



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## **PURPOSE OF TECHNICAL AREA 49**

From late 1959 to mid 1961, TA-49 was the site of underground experiments related to the safety of nuclear weapons. Underground experiments were carried out beneath four areas indicated on the map on the reverse side of this fact sheet. A number of supporting facilities, including shafts, radiochemical facilities, sumps, and a landfill, also were used. Since these experiments ceased in 1961, the site has been used periodically for a variety of other uses that have not resulted in any significant additional contamination. Currently, parts of the site are used on a limited basis by the Laboratory's high-power microwave group, the Hazardous Devices Team, and other Laboratory personnel.

## **WASTES PRESENT AT TECHNICAL AREA 49**

Twenty potentially contaminated sites (Solid Waste Management Units, or SWMUs) have been identified at TA-49 and have been aggregated as the TA-49 Operable Unit. The experimental shafts (combined as Materials Disposal Area AB) contain 40 kilograms of plutonium, about 260 kilograms of uranium, 11 kilograms of beryllium, perhaps 90,000 kilograms or more of lead, and nonhazardous wastes (such as steel and cables) within the original shafts at depths of 31-108 feet.

Known or suspected contamination at the remaining TA-49 SWMUs involves trace soil contamination by heavy metals, radionuclides, organics, and other chemicals associated with facilities supporting the underground experiments.

Groundwater, surface water, and soil samples have been monitored frequently since 1960. No evidence of any migration of contaminants from these potential sources has been found beyond TA-49 boundaries or into the main aquifer.

## **PREVIOUS CLEAN-UP AT TECHNICAL AREA 49**

Surface contamination at TA-49 has been stabilized with asphalt, concrete, and natural vegetative covers. The largest known accidental contamination release involved small levels of radioactive materials during a 1960 drilling operation at one test shaft. Contaminated materials were returned to the shaft and the area over and around the shaft was capped with clean soil and an asphalt cover. Other shafts have been sealed with concrete plugs and natural vegetative covers. After experiments were completed in 1961, some surface equipment and structures were removed or decontaminated. A second cleanup campaign was completed in 1971. The La Mesa forest fire in 1977 destroyed most remaining wooden structures. Further cleanup of uncontaminated building debris was conducted in 1984. A landfill at the northwest section of TA-49 was used for disposing of nonhazardous debris during all three cleanups.

## **FUTURE ACTION AND PROPOSED TIME FRAME**

Future action is focused on further assessment of the extent of contamination and the selection of possible remedial actions. Remedial alternatives range from capping (accompanied by long-term monitoring, maintenance, and institutional controls) to excavation and disposal of contaminated soils. This process is guided by the Hazardous and Solid Waste Amendment (HSWA) module of the Laboratory's Resource Conservation Recovery Act (RCRA) operating permit, which specifies the sequence of events by which potentially contaminated areas are identified, characterized, and remediated.

The RCRA Facility Investigation (RFI) Work Plan that describes the characterization activities was submitted to the U.S. Environmental Protection Agency in May 1992. Actual RFI characterization activities are scheduled to be initiated in October 1992 and will require about 5 years to complete.

## **CONCLUSION**

Ensuring the safe management of past, present, and future waste requires the cooperation of government, industry, and the public. The Laboratory is committed to provide the public with information such as this fact sheet. The Laboratory will continue to provide information concerning actions taken during investigation and throughout the entire cleanup process. If you have additional questions about TA-49 or about the Laboratory's Environmental Restoration Program, please do not hesitate to call or write:

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