



Los Alamos National Laboratory Material Disposal Areas Fact Sheet



CAMPAIGNS

The investigation and remediation of Material Disposal Areas (MDAs) is spread over seven Consent Order campaigns

LOCATIONS

On mesas throughout the Los Alamos National Laboratory (LANL)

CAMPAIGNS GOAL

Continue to protect the public, workers, and the environment

BACKGROUND

Material Disposal Areas (MDAs) are Cold War-era waste disposal sites. These sites ranged from septic tanks up to multi-acre waste burial areas. Burial of wastes in trenches or pits complied with waste disposal standards of the time based on known hazards. LANL originally had 28 material disposal areas, most of which have been characterized, and, where necessary, remediated. This work usually involved digging up the buried waste and shipping it to approved waste disposal facilities. Others did not require remediation.

MARCH 2021 STATUS

- MDA C Vapor Plume report was issued in summer 2020.
- Discussions with stakeholders regarding MDA C continues.
- Revised proposed plan for MDA C will be submitted to NMED in summer 2021.

MDA CAMPAIGNS UNDER THE CONSENT ORDER

The Consent Order between the New Mexico Environment Department (NMED) and the United States Department of Energy (DOE) identifies seven MDAs that warrant additional investigation and remedial action. The seven MDAs are grouped into Consent Order campaigns: MDA C Remedy, MDA AB Remedy, MDAs A & T Remedy, MDA H Remedy and MDA G & L Remedy. All MDAs are designated Solid Waste Management Units under the federal Resource Conservation and Recovery Act (RCRA).

MDA C

MDA C, which operated from 1948-1974, is an 11.8-acre site within Technical Area (TA) 50. MDA C contains 115 subsurface disposal units (seven pits and 108 shafts). Wastes include hazardous constituents that are regulated by NMED and radionuclides that are regulated by DOE. Subsurface releases created a volatile organic compound vapor plume in the vadose zone (the area between the surface and underlying groundwater). MDA C is listed under the Consent Order as SWMU 50-009.

MDA AB

MDA AB, which lies near LANL's southern boundary in TA-49, is an underground, former explosive test site composed of three distinct areas, each with a series of deep shafts used for explosive testing. The area is about a half-acre radiological waste disposal site classified as a hazard category 2 nuclear facility due to the radiological inventory in the disposal shafts. The main contaminants are plutonium, uranium, lead, and beryllium. MDA AB is listed under the Consent Order as SWMUs 49-001 (a-g).

TECHNICAL AREA 21: MDA A & MDA T

TA-21 was the Manhattan Project and Cold War-era complex of buildings that housed the plutonium processing facility, and where groundbreaking tritium research for energy, environment and weapons defense research took place. At the height of operations, TA-21 contained 125 buildings. There are two MDAs still to be remediated – MDA A and MDA T.

MDA A

MDA A, which was used from 1945-1947 and from 1969- 1975, is an inactive 1.25-acre subsurface site for the disposal of solid and liquid radioactive wastes. Portions are managed as a nuclear facility due to the types and amounts of buried radionuclides.

Combustible and non- combustible radioactive solid wastes were disposed in the central pit and in the two eastern trenches. There is very little documentation detailing the types of chemicals and quantities of radionuclides in the pit and trenches. Radioactive liquid wastes were stored in two 50,000-gallon underground tanks (dubbed the General's Tanks). From 1975-1981, much of the liquid fraction of the waste was pumped from the tanks, leaving residual liquid and sludge at the bottom of each tank. MDA A is listed under the Consent Order as SWMU 21-014.

CONSENT ORDER

The Compliance Order on Consent, commonly called the Consent Order, is an enforceable agreement between NMED and DOE for the cleanup of legacy waste at LANL. Issued in 2016, and modified in 2017, the Consent Order establishes an effective structure for accomplishing cleanup work on a priority basis through the use of dedicated campaigns with achievable and enforceable milestones and targets.

MDA T

Located immediately west of MDA A, MDA T is a 2.2-acre radiological waste disposal site. It consists of (1) four plutonium-contaminated absorption beds used to dispose of liquid wastes from 1945-1952; (2) a retrievable waste storage area; (3) a series of cylindrical disposal shafts 2-3 feet in diameter and up to 60 feet deep, containing cement mixed with radioactive elements; (4) an acid holding tank and acid sump; (5) a caisson built in 1959 at the northwest corner of absorption bed; (6) an inactive container storage area for alcohol, acetone, and freon; and (7) two surface spills of radioactive waste. MDA T is listed under the Consent Order as SWMUs 21-016 (a-c).



Photo of TA-21

TECHNICAL AREA 54: MDA H, MDA G & MDA L

TA-54 is LANL's transuranic (TRU) and low-level waste storage, characterization, and remediation area. The area is located one mile from the community of White Rock and about one-eighth of a mile from the boundary between Pueblo de San Ildefonso and LANL. MDAs H, G and L lie within TA-54.

MDA H

MDA H, which operated from 1960-1986, is a 0.3-acre site composed of nine inactive subsurface shafts, six-feet in diameter and 60 feet deep. MDA H was used for the disposal of lithium hydride, high-explosives, metals, radionuclides, classified materials and volatile organic compounds. MDA H is listed under the Consent Order as SWMU 54-004.

MDA G

Opened in 1957, MDA G is a 54-acre inactive waste disposal site. It contains 32 pits, 194 shafts, and four trenches with depths ranging from 10 to 65 feet below the original ground surface. MDA G is listed under the Consent Order as SWMUs 54-013(b), 54-014 (b-d), 54-015 (k), 54-017, 54-018, 54-019, 54-020, 54-023, and 54-024.

MDA L

MDA L, which operated from the early 1960s until 1985, is about 2.58 acres and was used to dispose of nonradioactive liquid chemical waste. MDA L contains one inactive subsurface disposal pit and 34 inactive disposal shafts. The shafts range from 15- 65 feet deep and vary in diameter from 3 feet to 8 feet. They were used to dispose of containerized and bulk liquid chemical wastes. When filled, the shafts were covered with concrete about three feet thick. The disposal units are covered with asphalt. MDA L is listed under the Consent Order as SWMU 54-006 and Area of Concern 54-014 (a).

DEFINITION: SOLID WASTE MANAGEMENT UNIT

Solid Waste Management Unit (SWMU) means any discernible unit at which solid waste has been placed at any time, and from which the New Mexico Environment Department (NMED) determines there may be a risk of a release of hazardous waste or hazardous waste constituents. All MDAs are comprised of one or more SWMUs.

REGULATION: HAZARDOUS VERSUS RADIOACTIVE WASTE

The Consent Order between NMED and DOE applies to hazardous waste, including the hazardous portion of mixed waste. The Consent Order does not apply to radioactive waste.



Waste drums at TA-54

MDA v4.21.11.02



MDA v4.21.11.02