

# Nevada National Security Site Tour Booklet



**ECOS**

April 12, 2011



**EM** *Environmental Management*

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# Prohibited Articles On Nevada National Security Site Public Tours

**The following items are prohibited within the boundaries of the Nevada National Security Site public tours. Tour escorts are required to do random checks.**

- Cellular Phones
- Bluetooth “Enabled” Devices
- PDA, BlackBerry, etc.
- Computers
- Portable Data Storage Devices
- Global Positioning System (GPS)
- Cameras/Camcorders
- Binoculars
- Optical Instruments
- Recording Devices
- Pets and Animals
- Explosives
- Ammunition
- Incendiary Devices
- Chemical Irritants
- Alcoholic Beverages
- Controlled Substances
- Any Item Prohibited by Law

**Possession of these items may delay the tour and prevent your participation.**

**If at any point during the tour these items are discovered, the tour may be terminated.**



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# Tour Agenda\*

7:40 a.m.	Depart for Mercury
9:15 a.m.	Arrive at Mercury
9:20 a.m.	Depart for Gate 100
9:30 a.m.	Depart for Area 5 Radioactive Waste Management Complex (RWMC)
9:50 a.m.	Area 5 RWMC Briefing
10:30 a.m.	Depart for Frenchman Flat via drive-thru of Mercury
10:35 a.m.	Frenchman Flat Briefing
10:55 a.m.	Depart for Control Point-1 (CP-1) via Cambric site
11:25 a.m.	CP-1 Briefing ( <i>lunch</i> )
12:25 p.m.	Depart for Icecap Ground Zero (GZ)
12:45 p.m.	Icecap GZ briefing
1:10 p.m.	Depart for Sedan Crater
1:30 p.m.	Sedan Crater Briefing
1:45 p.m.	Depart for T-1 Training Area
2:05 p.m.	T-1 Briefing (drive-by)
2:20 p.m.	Depart for Mercury
2:35 p.m.	Mercury Cafeteria rest stop
3:15 p.m.	Depart for Gate 100
3:25 p.m.	Depart for Green Valley Ranch
4:55 p.m.	Arrive Green Valley Ranch

\* Subject to change



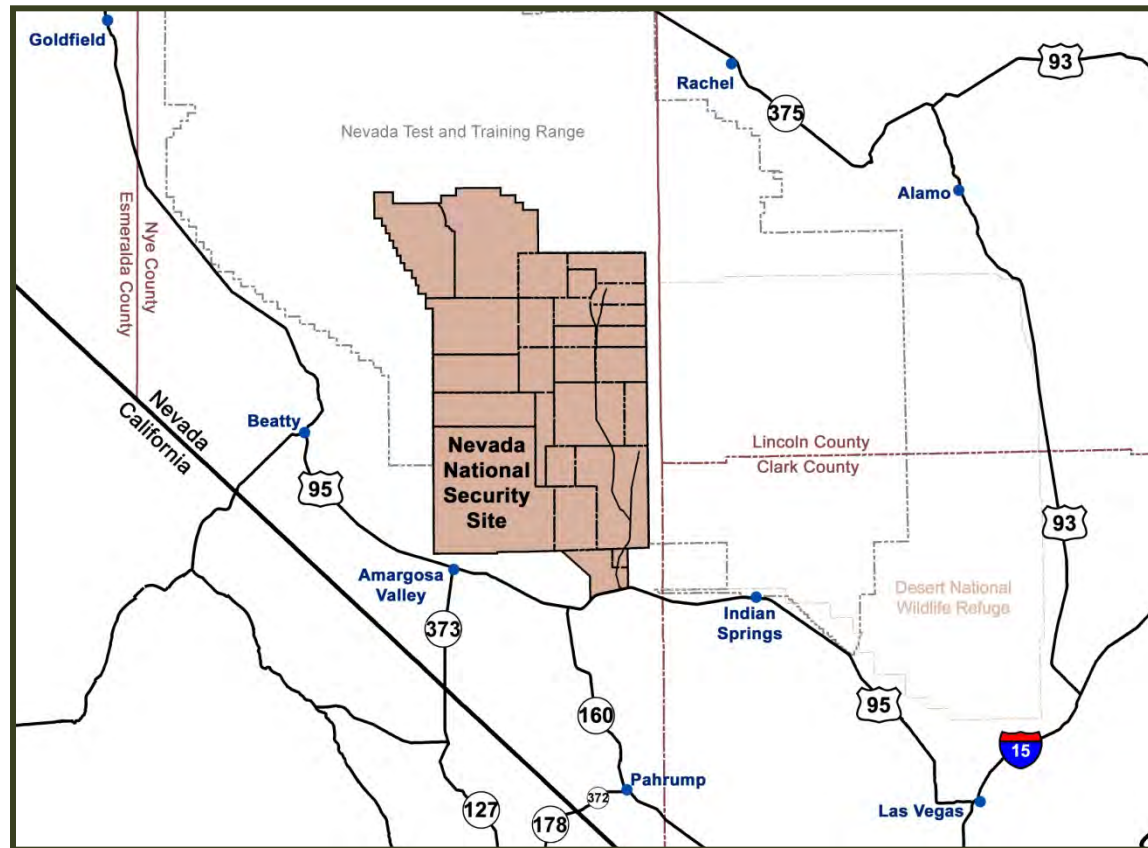
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# The Nevada National Security Site (NNSS)

- Approximately 1,360 square miles of U.S. Department of Energy (DOE) controlled land
  - Surrounded by approximately 4,500 square miles of federally-controlled land
- Located approximately 65 miles northwest of Las Vegas, Nevada

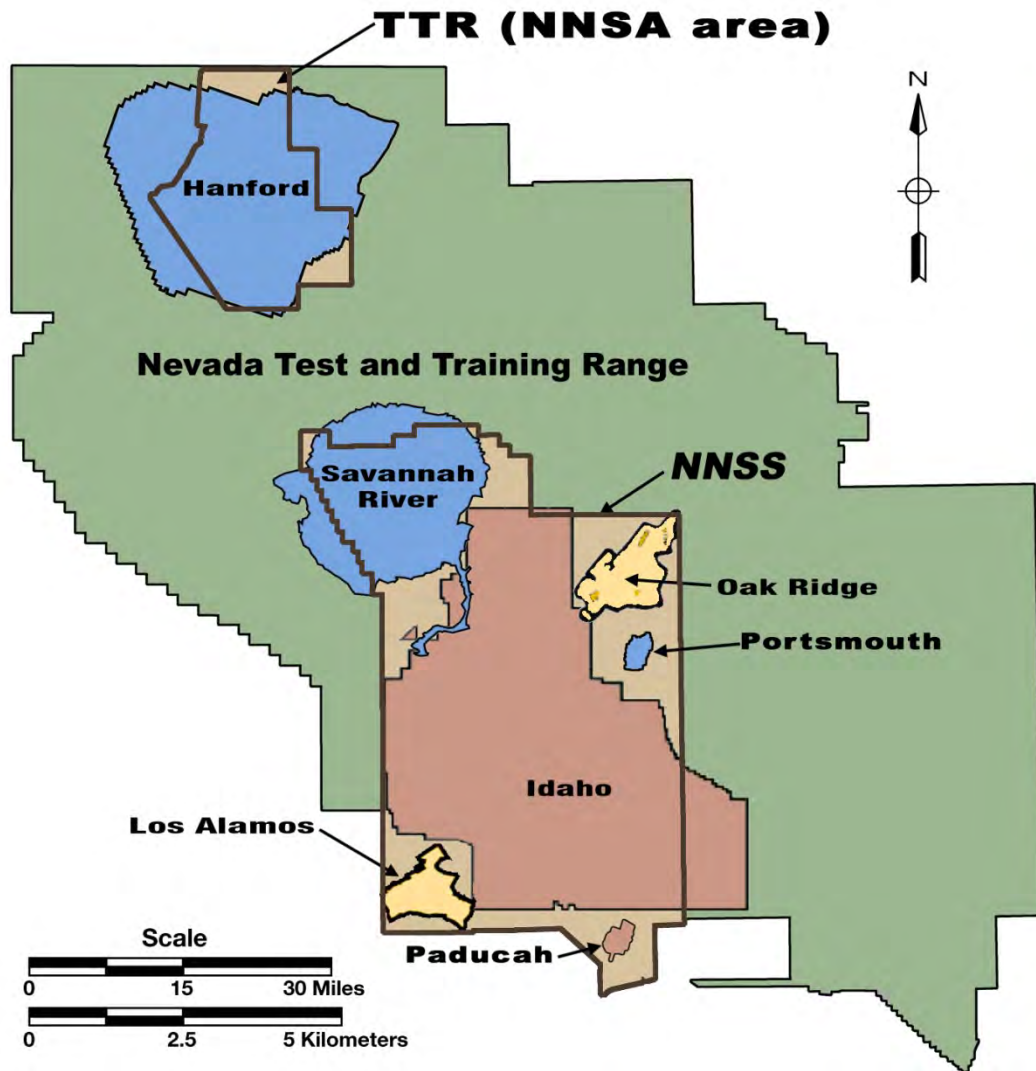


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# DOE Site Comparisons



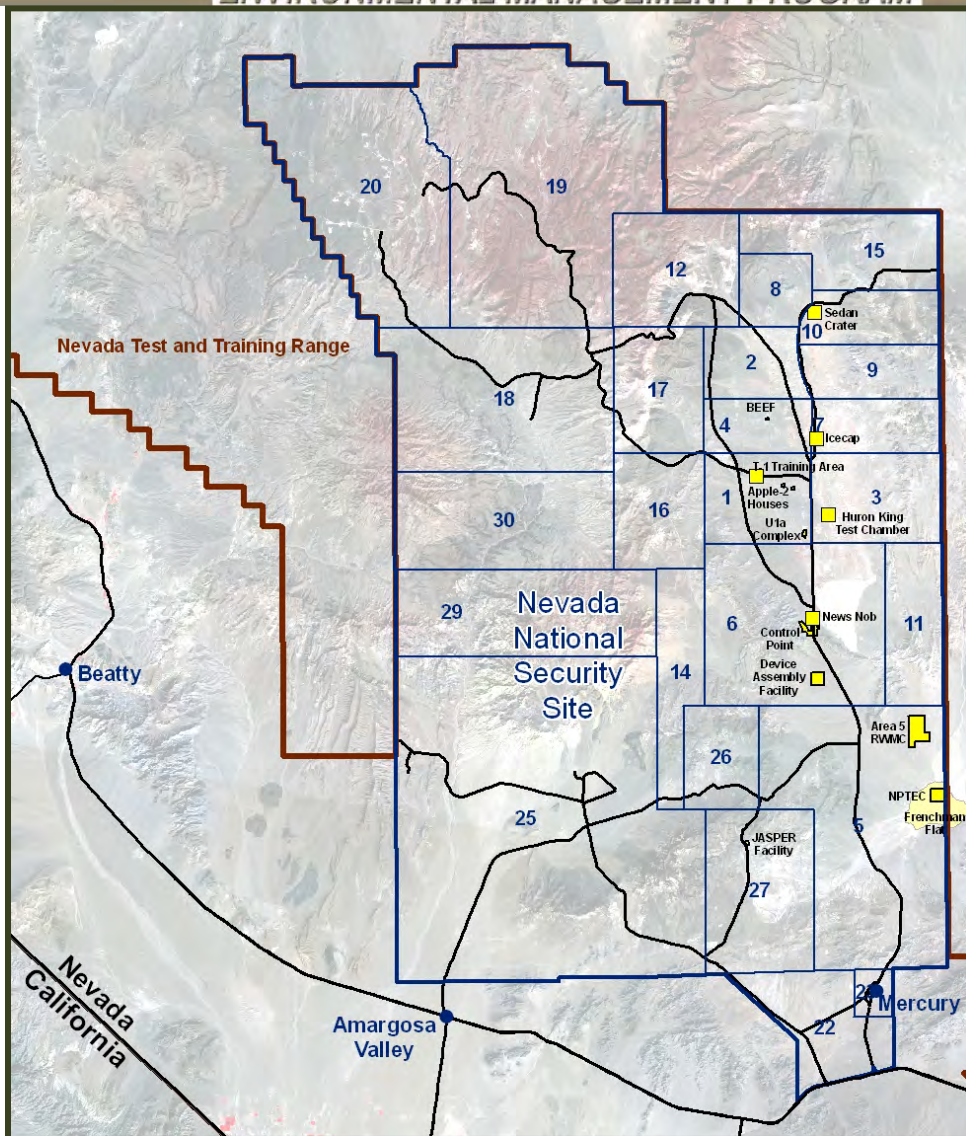
Site	Sq. Mi.
Hanford	560
Idaho	893
Los Alamos	43
Oak Ridge	53
Paducah	5
Portsmouth	6
Savannah River	310
<b>TOTAL</b>	<b>1,870</b>
NNSS	~1360
TTR (NNSA area)	~280
<b>TOTAL</b>	<b>~1640</b>



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# Nevada National Security Site Tour Map



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# Historic Activities

- First NNSS atmospheric nuclear test detonated on January 27, 1951
- Conducted 928 atmospheric and underground nuclear tests between 1951 and 1992
- Development and testing of nuclear weapons generated radioactive waste



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# Area 5 Radioactive Waste Management Complex (RWMC)

- Low-level radioactive waste disposal began in 1961
- DOE and Department of Defense waste generator sites across the complex ship packaged low-level and mixed low-level
- In addition to disposal, MLLW may be stored at the RWMC in accordance with a Resource Conservation and Recovery Act permit



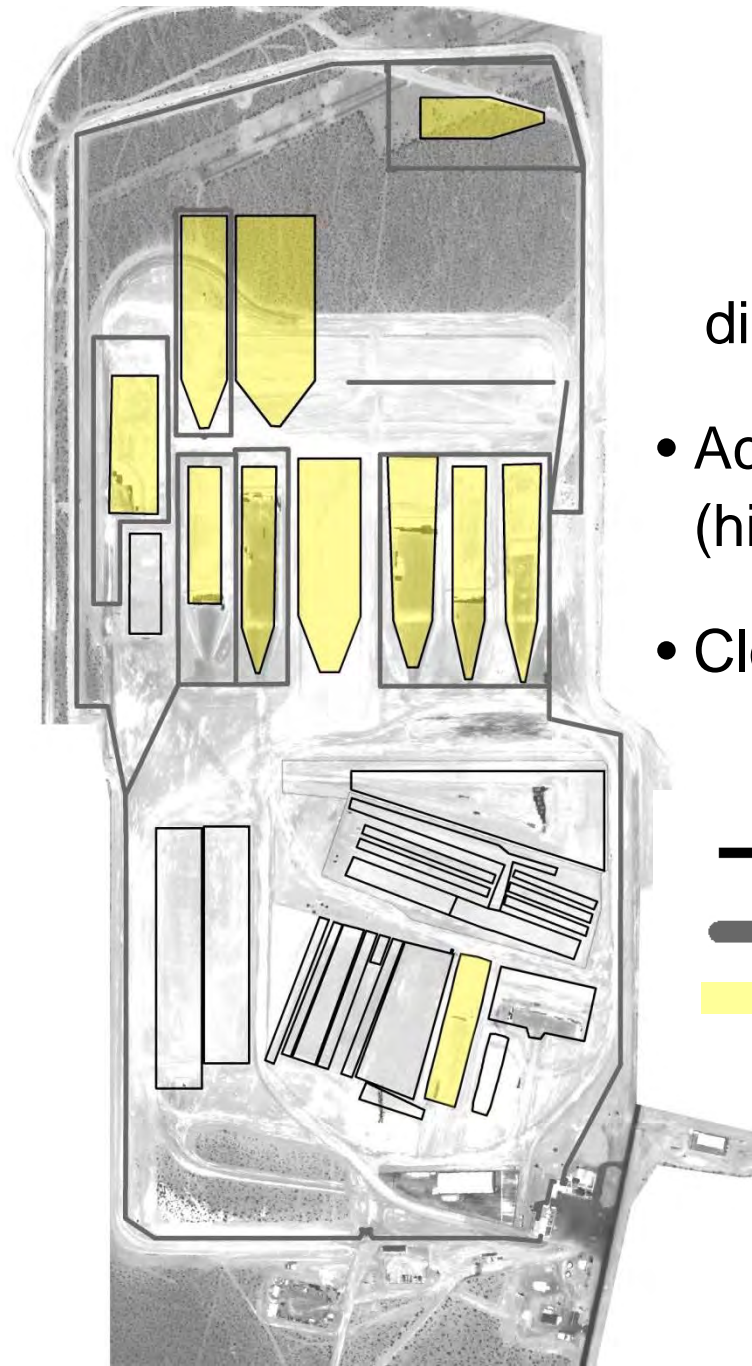
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# Area 5 RWMC (continued)

- Total disposed volume:
  - More than 20 million cubic feet
- Available capacity (existing cells):
  - Approximately 9.5 million cubic feet



## Existing disposal cells:

- Active – 11 (highlighted)
- Closed - 27

- Pit Boundary
- Fenceline
- Active cell



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# Area 5 RWMC

(continued)

## Monitoring Locations:

- Air (2)
- Groundwater (3)
- Meteorology (1)
- Radon Flux (1)
- Soil Gas (1)
- Soil Moisture (8)
- Soil Temperature (1)
- Thermoluminescent Dosimeters (12)



Depth to Groundwater:  
Approximately 800 feet



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# Nonproliferation Test and Evaluation Complex (NPTEC)



- Unique 67-acre facility equipped to test sensors using a variety of release methods, including chemical releases, wind tunnel releases, and portable release systems
- Provides sensor arrays for ground truth data, an explosives pad, weather data instrumentation, calibrated release systems, and 24-hour release capability
- Environmental Impact Statement allows release of hazardous materials for training, field-testing of detectors, plume dispersion experimentation, and equipment and materials testing



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# Atmospheric Test Relics

(continued)



*Concrete shelter domes prior to the 1957 Priscilla test*



*Effect of the test on the concrete shelter dome*

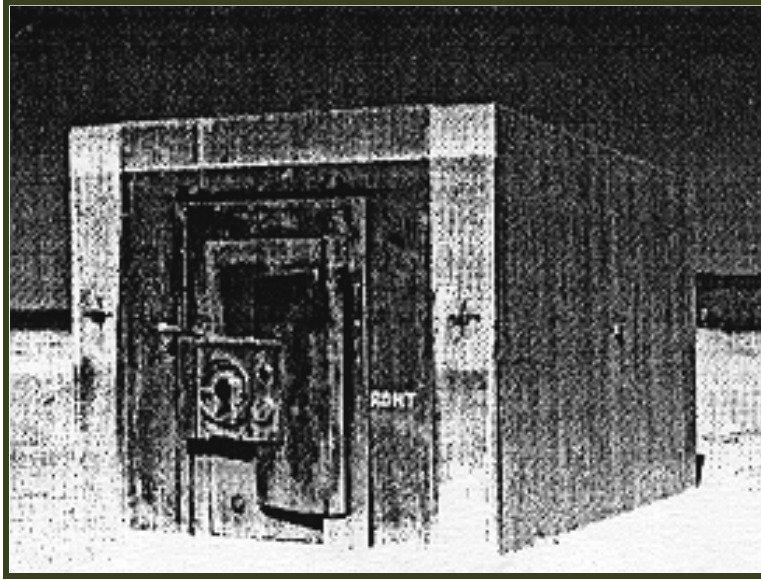


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# Atmospheric Test Relics



*Bank vault prior to the  
1957 Priscilla test*



*Effect of the test on the vault*



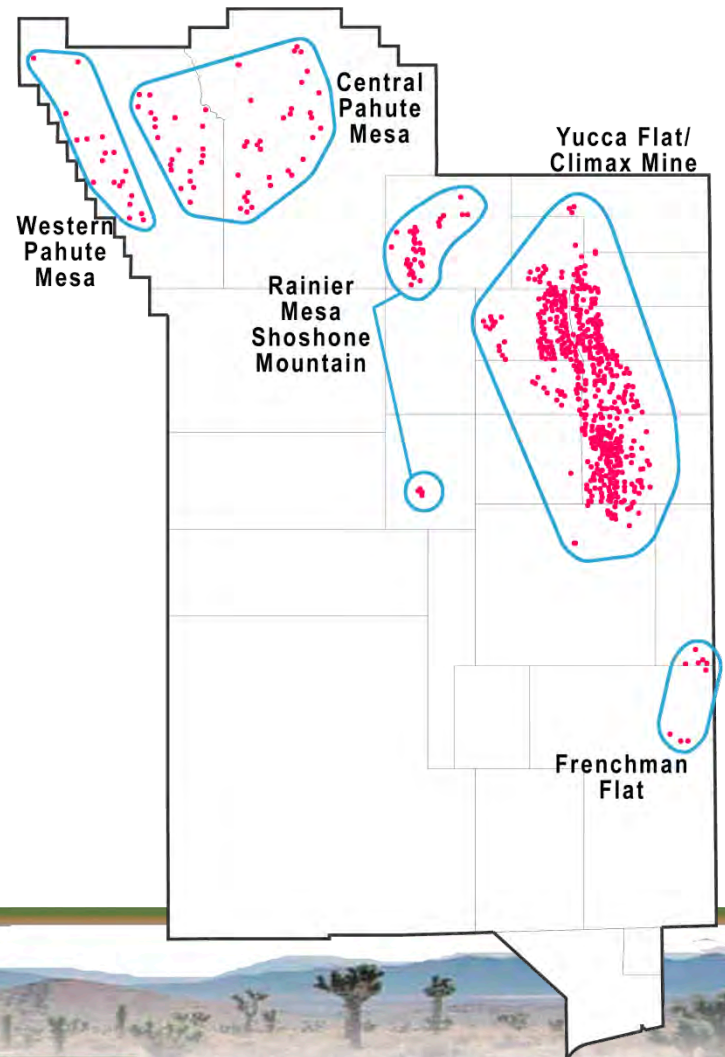
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# Underground Test Area (UGTA) Sub-Project

- Conducted 828 underground nuclear tests at depths ranging from approximately 90 to 4,800 feet below the ground surface
- About one-third of tests occurred in, near, or below the water table, which resulted in groundwater contamination



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# UGTA Sub-Project

(continued)

- The UGTA sub-project evaluates the historic testing impacts on groundwater resources and study the extent of contaminant migration
- The scope includes collection of multiple sources of field data in order to create a 3-D computer model
  - This model includes groundwater, flow and transport parameters
- The models will be used to aid in the selection of monitoring well locations



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# Homeland Security: Increasing Activity at the NNSS



- Radiological / Nuclear Countermeasures Test and Evaluation Complex
  - National test bed for radiation detectors/sensors
  - Realistic operational environment allows use of significant quantities of nuclear material
- Advanced Spectroscopic Portal (ASP) monitoring



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# Device Assembly Facility (DAF)

- 100,000 square-foot facility
- Assembly cells designed to withstand the effects of explosions
- Glovebox for JASPER target assembly
- Current location for Criticality Experiments Facility missions



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# Control Point-1 (CP-1)

- Command post used for conducting nuclear tests



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# News Nob



*Soldiers pose by News Nob, a vantage point for atmospheric tests established for the media*



*Journalists set up on News Nob to witness an atmospheric test in March 1953*



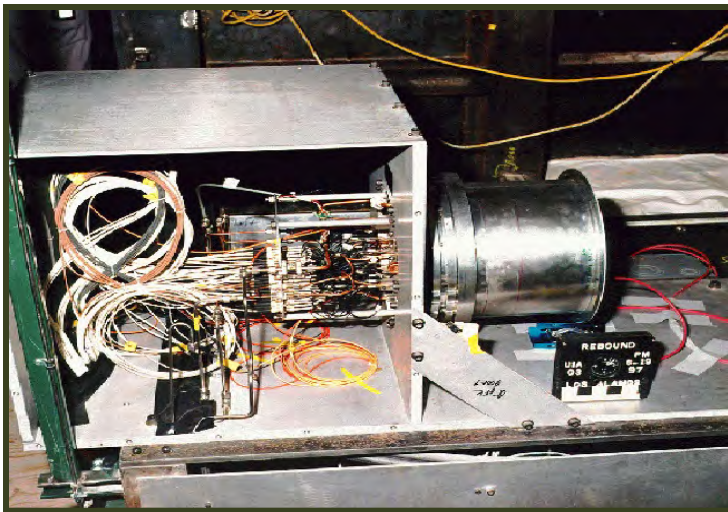
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# U1a

- Underground laboratory for subcritical experiments
- Data for National Laboratories
- Safety and reliability of stockpile



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