



U.S. DEPARTMENT OF  
**ENERGY**

OFFICE OF  
**ENVIRONMENTAL  
MANAGEMENT**



# Material Disposal Areas

## Overview and MDA C

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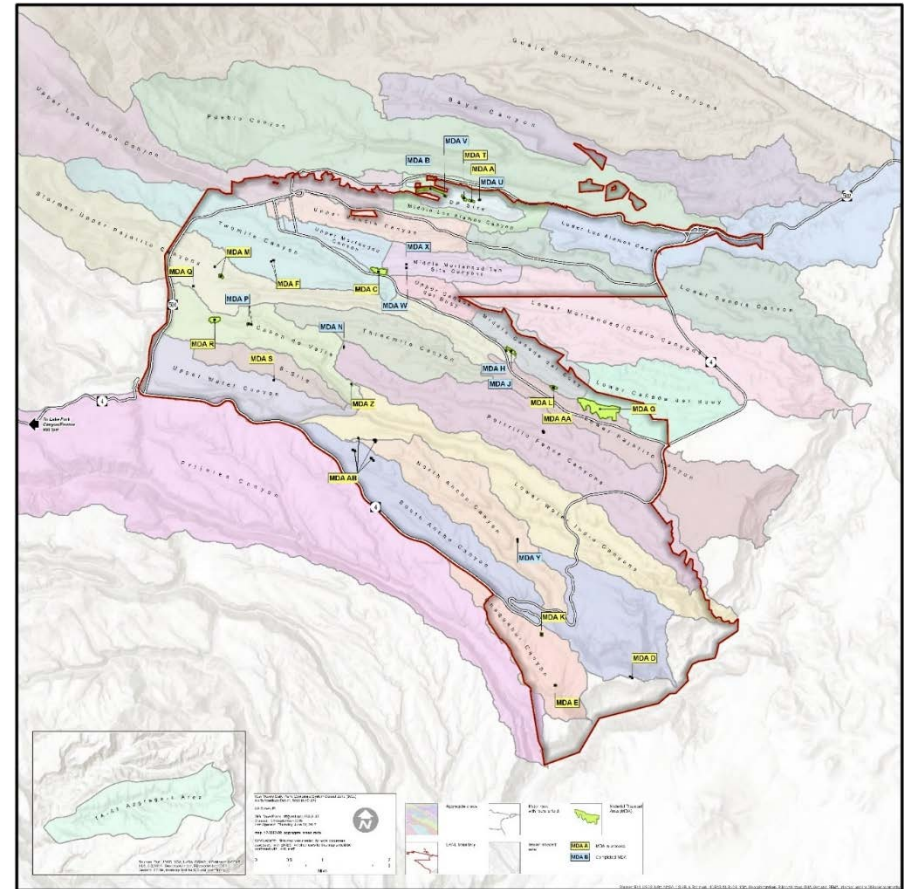
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# Material Disposal Areas Overview

- Historical disposal locations that consist of shafts, pits, trenches, piles, and dispersed
- Material Disposal Areas (MDAs) were used for disposal of liquids, sludges, solids, volatile organic chemicals, non-nuclear explosive residues, and radioactive compounds and rad-contaminated materials
- 26 MDAs – 8 on N3B’s contract: A, C, G, H, L, T, AB, W.
- Variability of resolution on inventory
- Regulatory status for the 23 MDAs ranges from minimal site investigation data, to well characterized, to remediated
- Evidence of releases from some MDAs
  - ❖ Vadose zone contamination
    - Primarily volatile organic compounds (VOCs) and tritium
    - Evidence of limited release of sorbed contaminants - radionuclides
  - ❖ No known groundwater contamination associated with releases from an MDA
- Consent Order has 5 MDA Campaigns



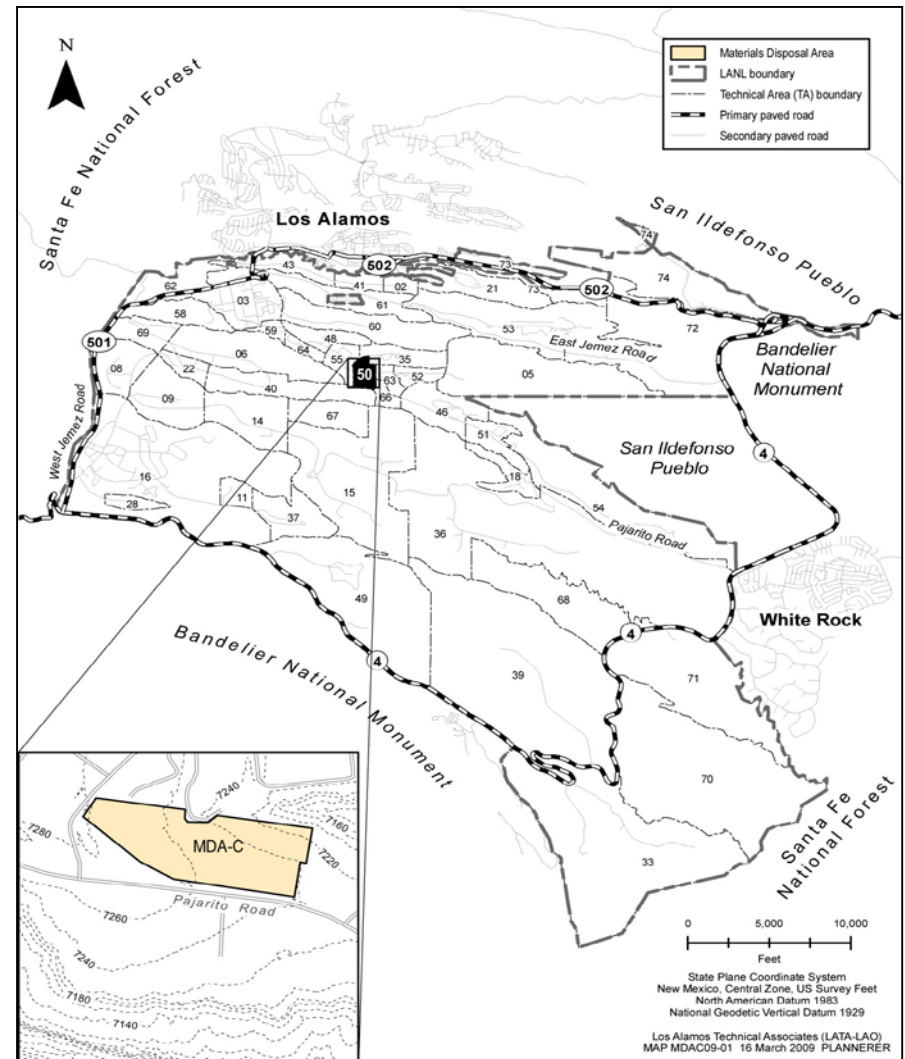


- Development of an overarching “decision tool” for all MDAs that will establish a set of guiding principles and modeling tools
  - Evaluation of risk/dose
  - Documentation of decision process
  - Public participation
- MDA L
  - Monitoring for vapor-phase VOCs in subsurface (~300 ft below ground surface) beneath MDA. Groundwater at ~935 ft
  - Interim Measure was conducted in 2015 to contain the vapor plume and ensure protection of the regional aquifer
  - Ongoing semi-annual monitoring (with annual reporting) is being conducted to monitor for potential new releases and to evaluate potential plume rebound
- MDA C
  - Monitoring for vapor-phase VOCs in subsurface (~400 ft) beneath MDA. Groundwater at ~1300 ft.
  - Ongoing semi-annual monitoring (and annual reporting) provides basis for evaluating the conceptual model proposed in the Corrective Measures Evaluation (CME)
  - Expected to be first MDA completion under N3B
  - CME Report is with NMED for review
    - Presents alternatives analysis
    - Statement of Basis (regulatory decision) possible in 2020
    - Corrective measures implementation (CMI) plan in 2021?





- ❑ Solid Waste Management Unit (SWMU) 50-009
- ❑ Located in Technical Area 50, along Pajarito Road
- ❑ Inactive 11.8-acre landfill





# MDA C: Background

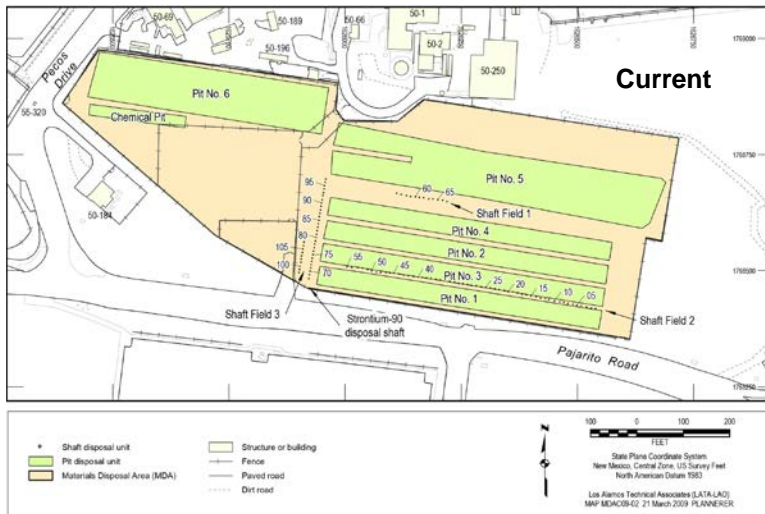
- 6 disposal pits (~12 - 25 ft below original ground surface)
- 108 shafts (~4 - 25 ft below original ground surface)
- Used for disposal from 1948 to 1974
  - Uncontaminated classified materials
  - Metals and hazardous constituents
  - Radioactively contaminated materials



1960 Aerial Photo



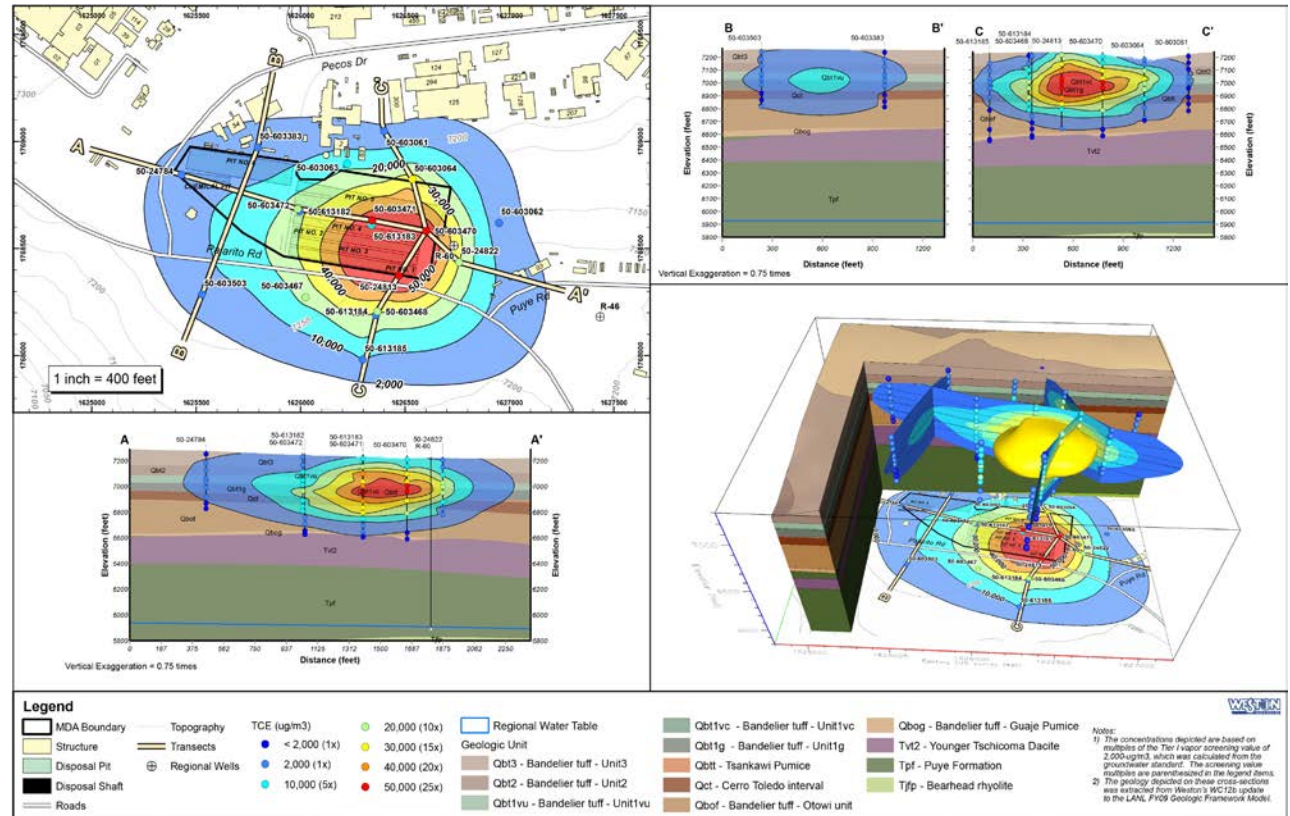
Current Photo





# MDA C: Site Contamination

- Vapor-phase plume beneath disposal area (Trichloroethylene, TCE). Largely co-located with tritium
- Plume “detached” from surface indicates “pulsed” release of VOCs
- Monitoring indicates plume stability





# MDA C: Next Regulatory Steps

As described in the 2016 Consent Order –

- CME Report
  - Evaluates remedial alternatives based on:
    - Threshold Criteria: 1) protectiveness, 2) attainability of media cleanup objectives, and 3) control of source
    - Balancing Criteria: 1) long-term reliability and effectiveness, 2) reduction of toxicity, mobility, or volume, 3) short-term effectiveness, 4) implementability, and 5) cost
- NMED conducts review of CME Report
- NMED selects remedy and issues a “Statement of Basis” for public comment
- NMED selects a final remedy after considering public comment
- N3B and EM-LA prepare a Corrective Measures Implementation Plan
  - includes design, construction, operation, maintenance, and monitoring of the selected remedy





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# Questions?

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