General

6/6/00

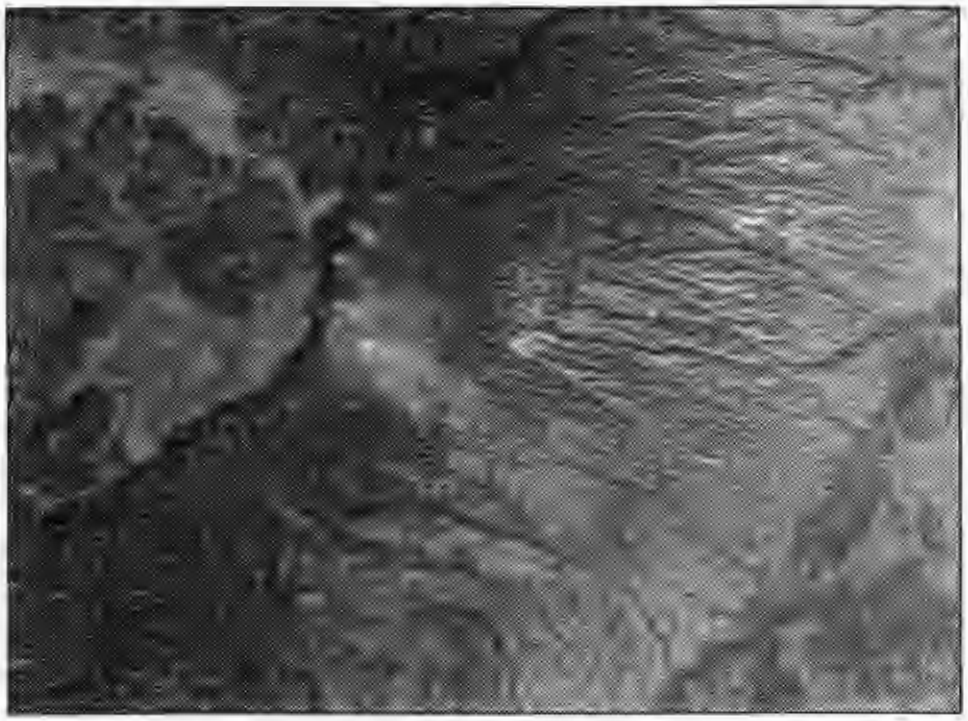
The Cerro Grande Fire

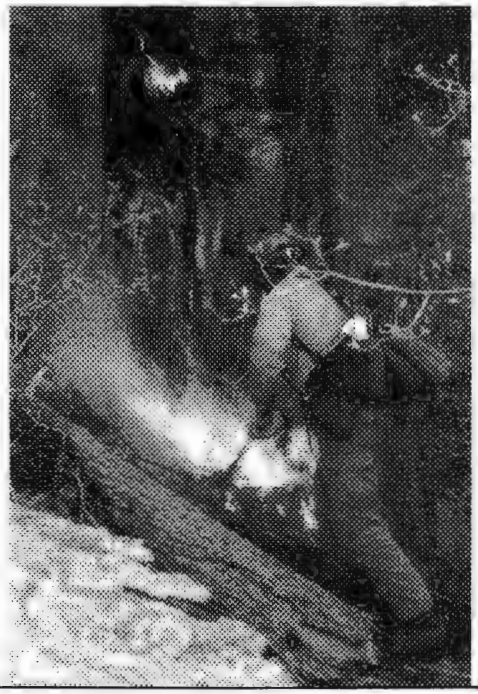
New Mexico Environment Department

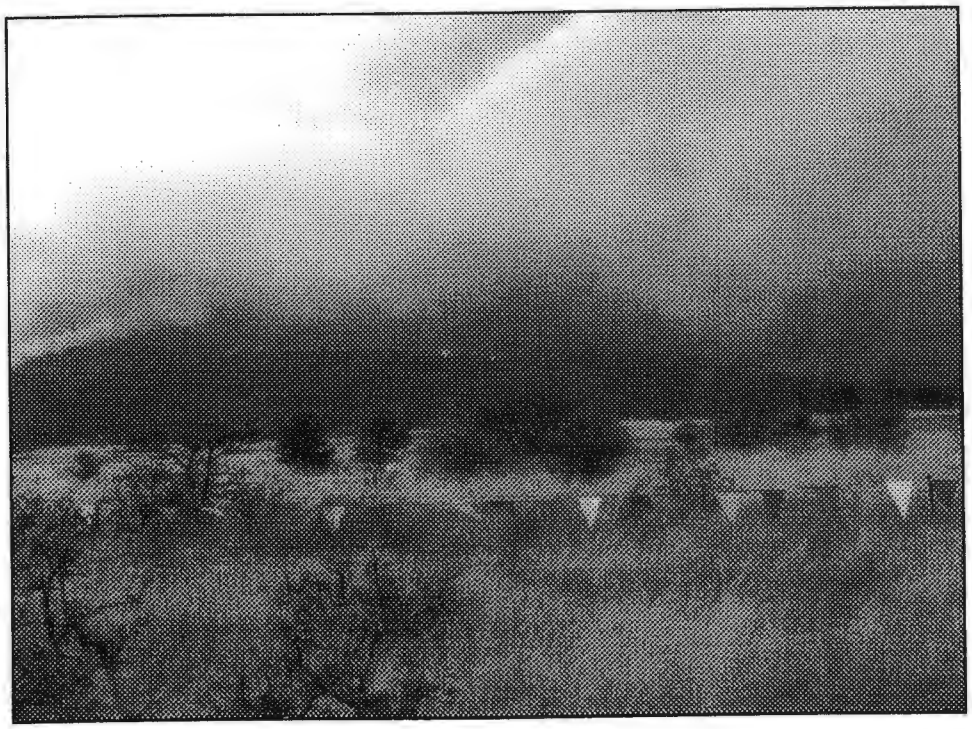
The Cerro Grande Fire

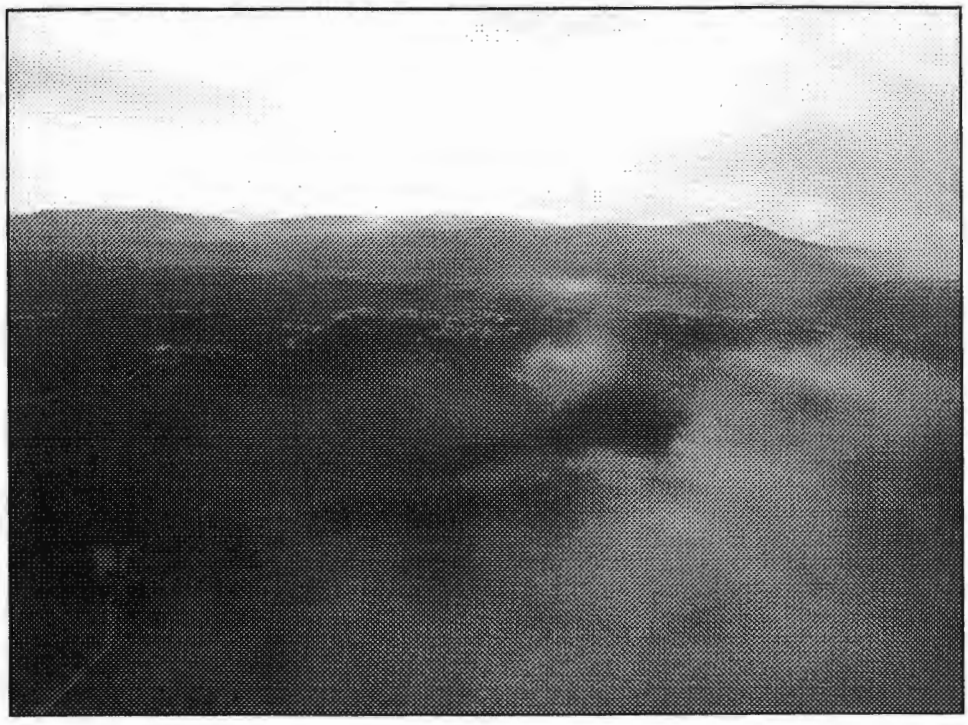
- Started as a prescribed burn at Bandelier National Monument on May 4
- Personnel "failed to properly plan and implement" the prescribed burn
- 48,000 acres burned
- Nearly 300 Homes Damaged or Destroyed
- 18,000 people evacuated
- Los Alamos National Laboratory affected

13387



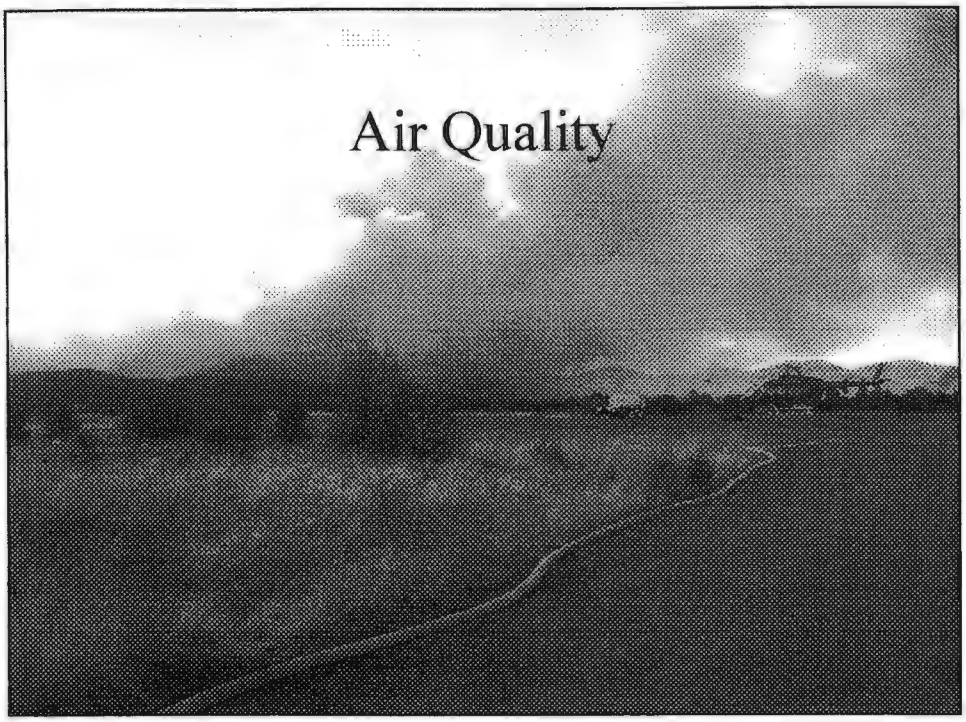


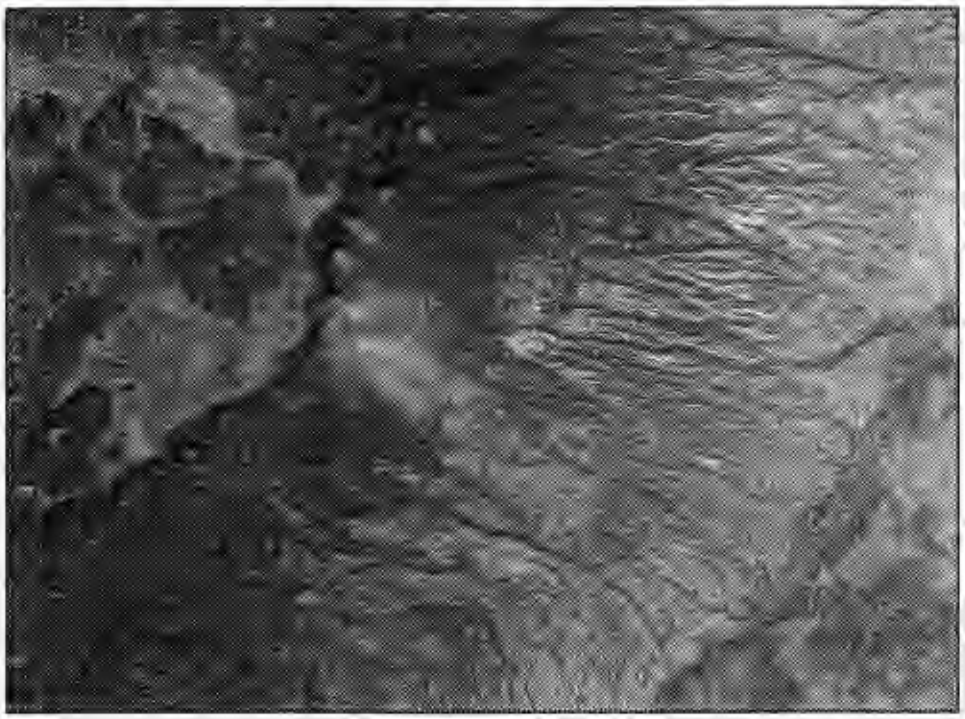




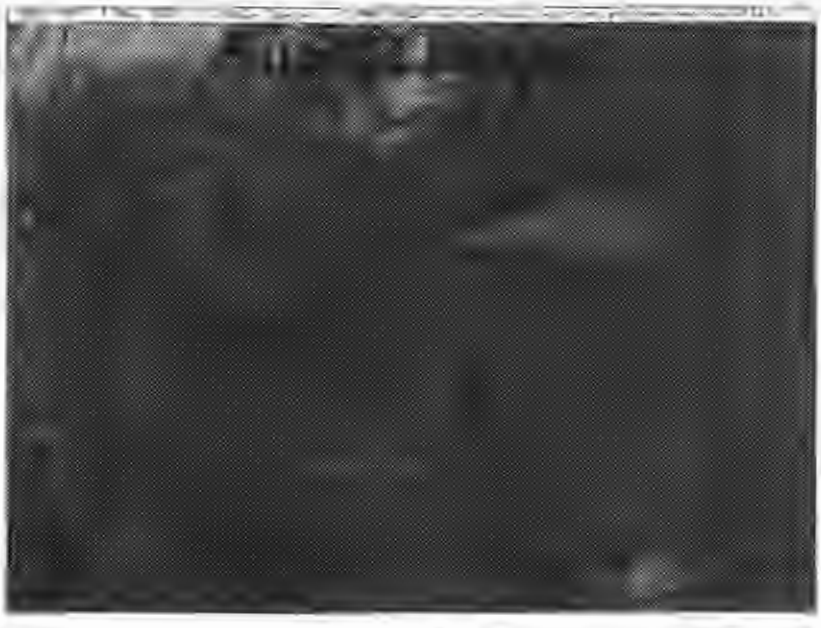
The Cerro Grande Fire

- Air Quality
- Town Site Cleanup
- Public Health Concerns
- Los Alamos National Lab
- Environmental Impacts
- NMED Activities, Funding, Needs

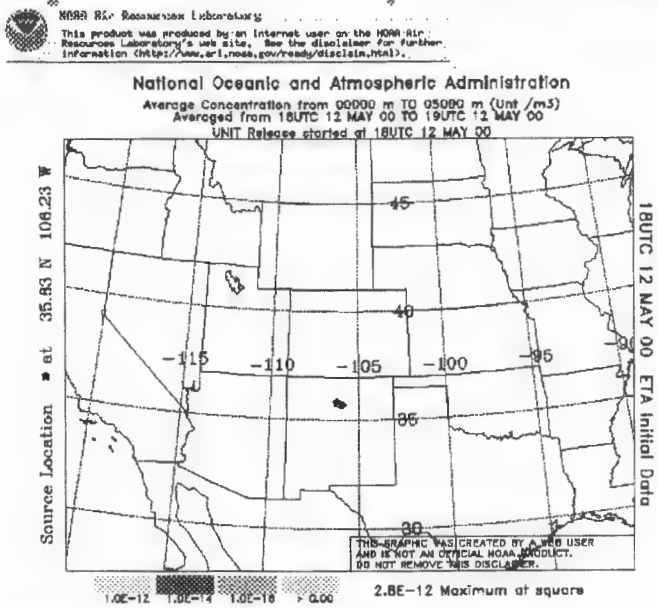

Air Quality



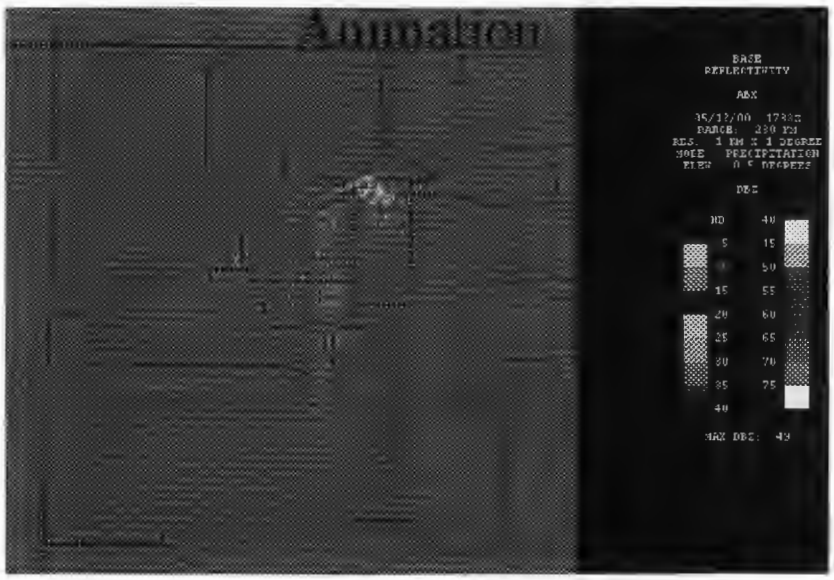
6:15 pm May 10 GOES satellite image



May 12 to 14 smoke plume simulation



May 12 NEXRAD weather radar animation



Air Quality

Monitoring Efforts: NMED

- DOE Oversight Bureau Co-located Sites
- Radiation Swipe Samples
- Air Quality Bureau Particulate Monitors
- Split Samples with Los Alamos National Laboratory
- Asbestos Air Monitoring and Swipe Samples

Air Quality

Monitoring Efforts: EPA

- Chemical Monitors
- Environmental Radiation Air Monitoring System

Air Quality

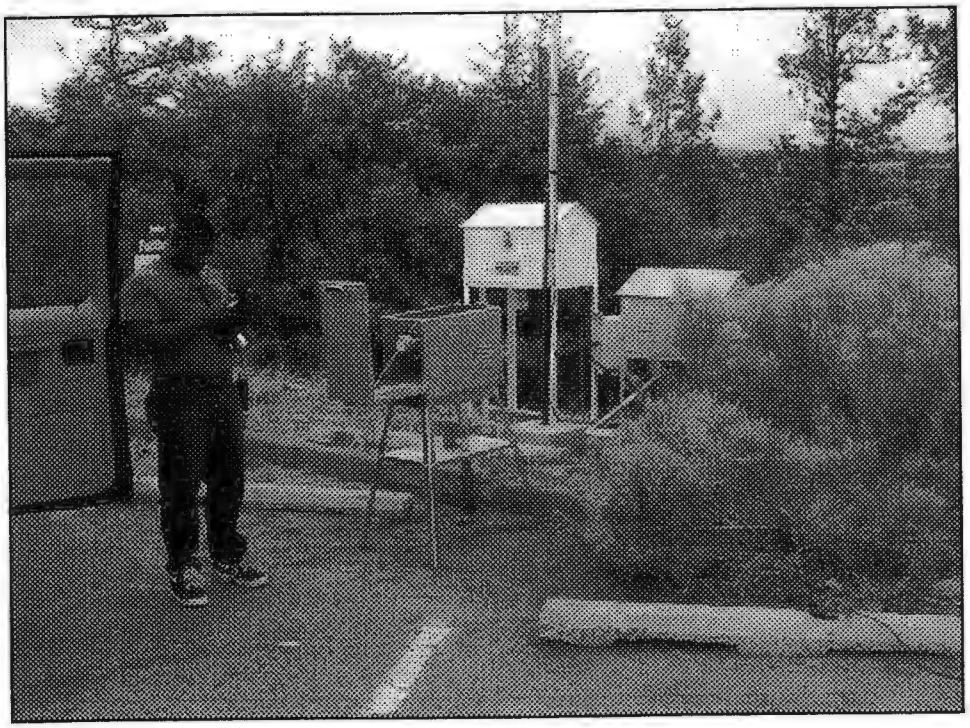
Monitoring Efforts: Department of Energy

- Los Alamos National Laboratory
  - AIRNET
  - NEWNET
  - Grab Samples on Lab Land
- Radiological Assistance Program
  - Grab Samples in Northern New Mexico

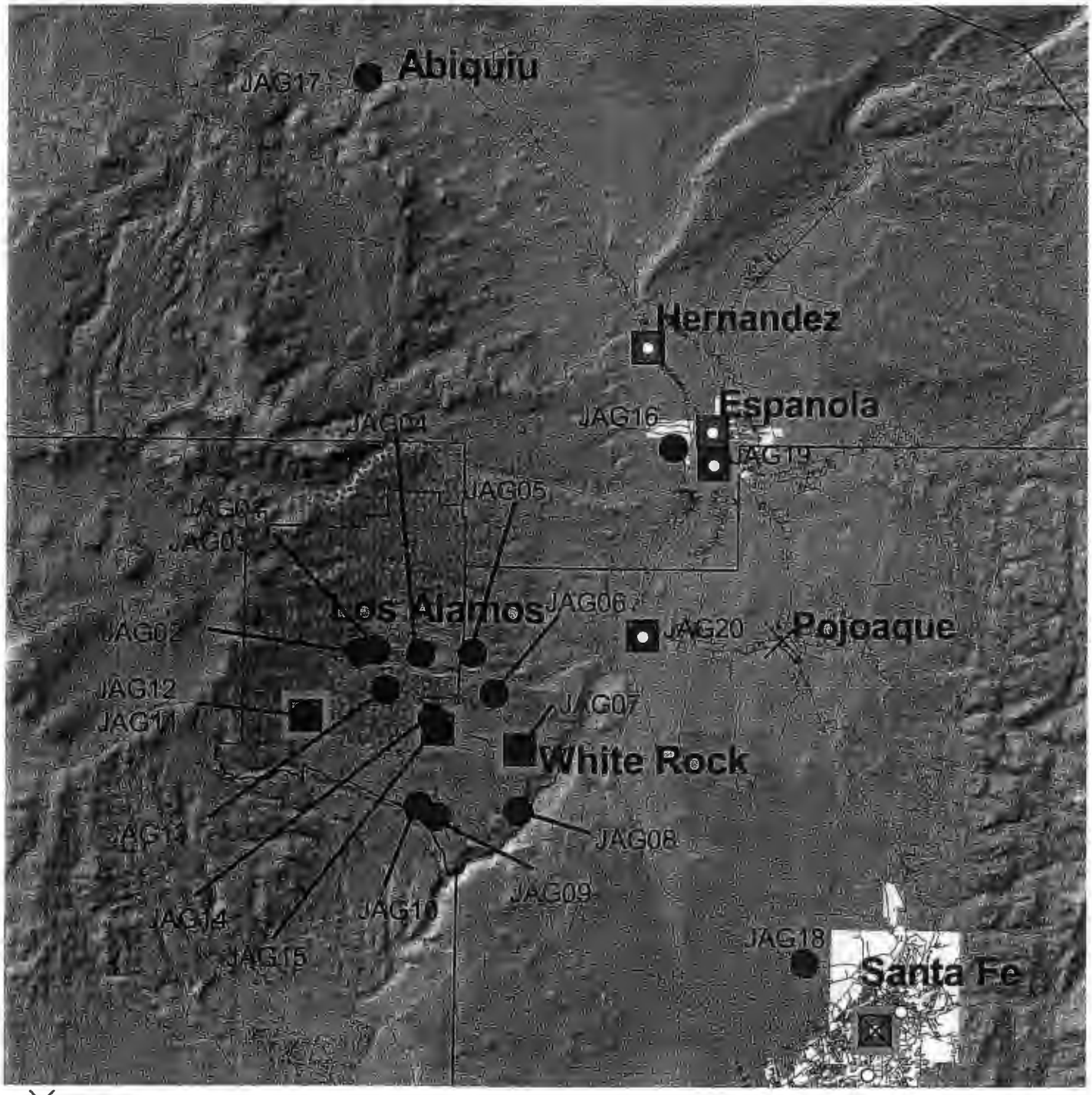
Air Quality

Monitoring Efforts: Joint Assessment Group

- Members
  - Los Alamos National Laboratory (LANL)
  - Radiological Assistance Program (RAP)
  - Environmental Protection Agency (EPA)
  - New Mexico Environment Department (NMED)
- Radiation Monitoring Network on and off Laboratory Land



Joint Assessment Group Rad and Particulate Matter Monitoring
during the Cerro Grande Fire



PM2.5
PM10
JAG Sampling Locations
Total Suspended Particulate
EPA Monitoring Locations
Roads
County Lines
City Boundary
Burned area as of May 18, 2000

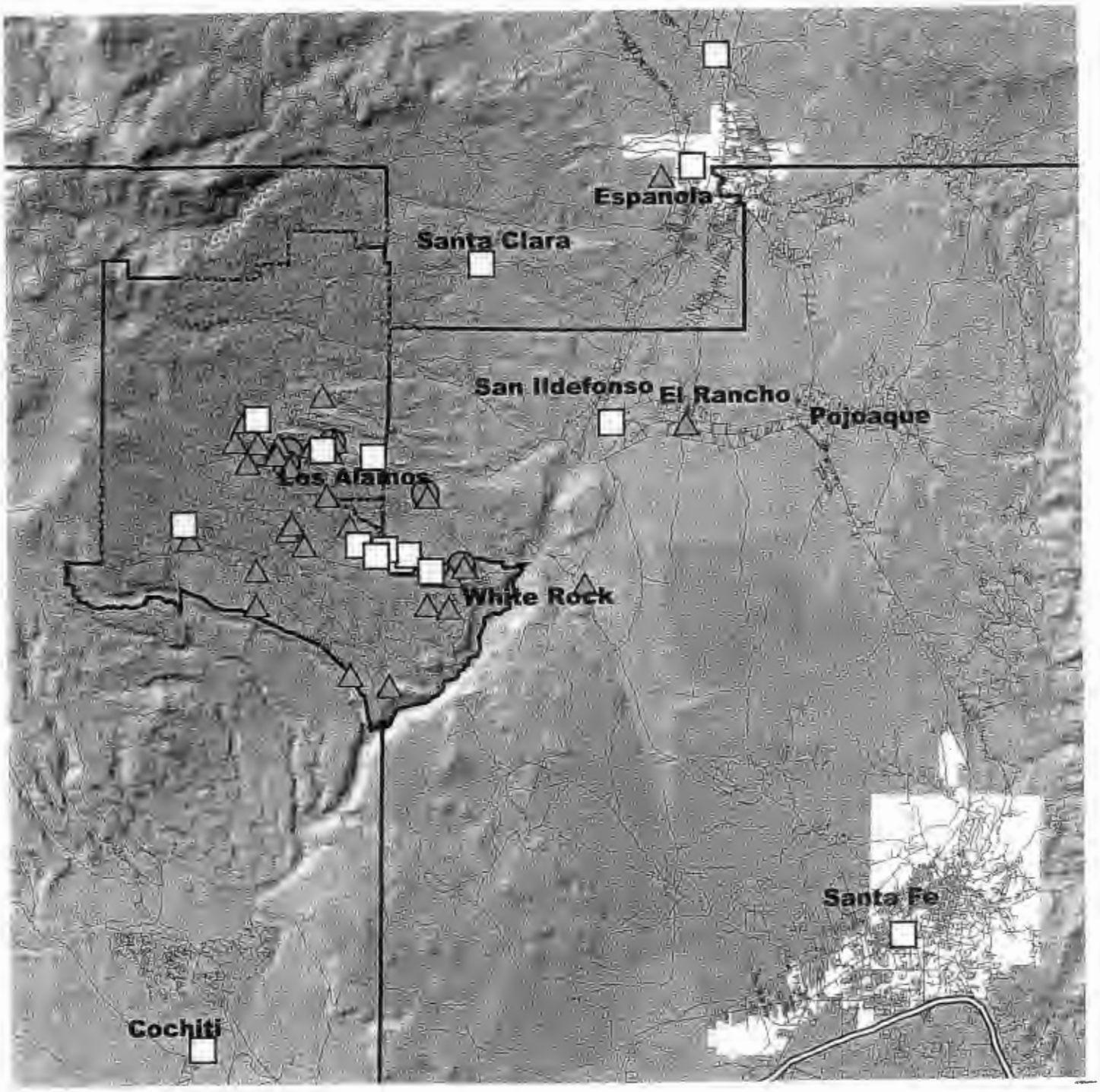
5 0 5 10 Miles

N

New Mexico Environment Department
Air Quality Bureau
May 23, 2000

A

AIRNET, NEWNET and NMED DOE Oversight Monitoring Locations



Radiation Monitors

- AIRNET
- NEWNET
- NMED-DOE Oversight
- Interstate Highway
- Roads
- Burned area as of May 18, 2000
- Counties

5 0 5 10 Miles

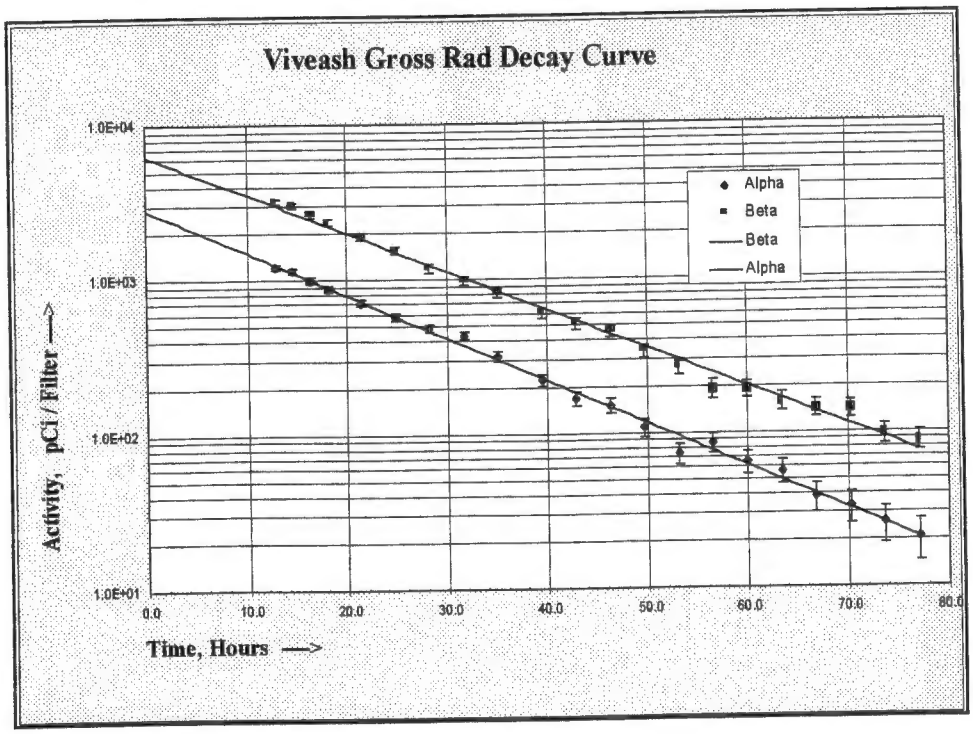
N

New Mexico Environment Department
Air Quality Bureau
May 23, 2000

Air Quality

Monitoring Results

- Radiation
  - Gross Rad
  - Isotopic
- Asbestos
- Particulate Matter

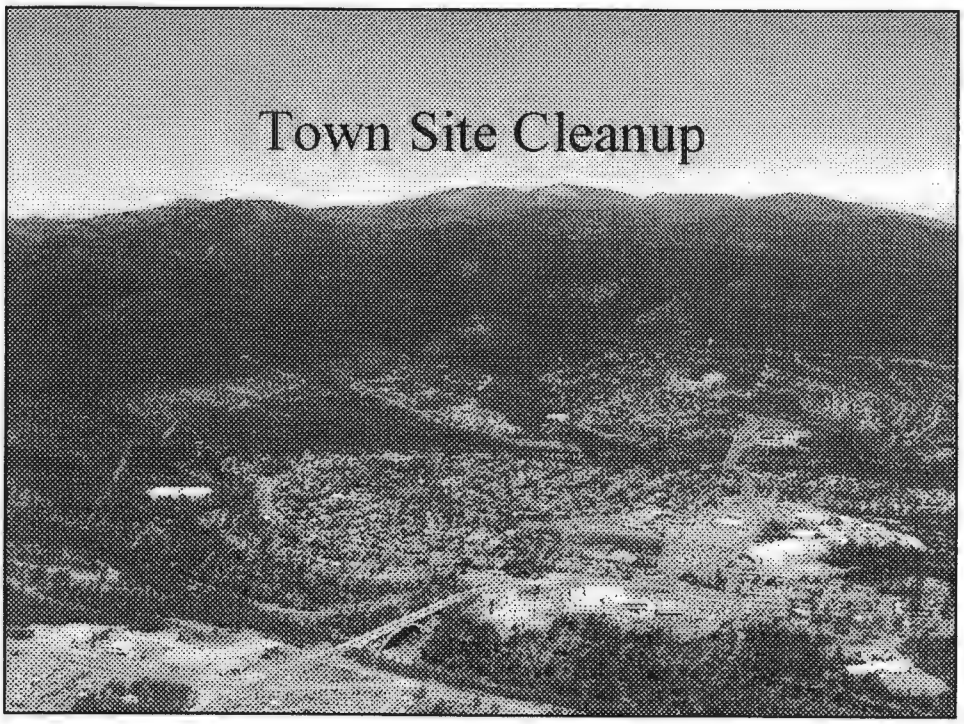


Air Quality
Monitoring Results

- Chemical
  - Pesticides
  - Heavy Metals
  - Volatile Organics
  - Polyaromatic Hydrocarbons
  - Dioxins

Data & Press Releases onto web

- Many data requests from the public
- How did we get information out quickly?
  - Internal test web pages built over the weekend of 5/13/00
  - Collaborative Effort
  - Published on NMED web site starting 5/15/00
  - Three to four updates daily as data arrived
- This is an example of how NMED web site can be improved

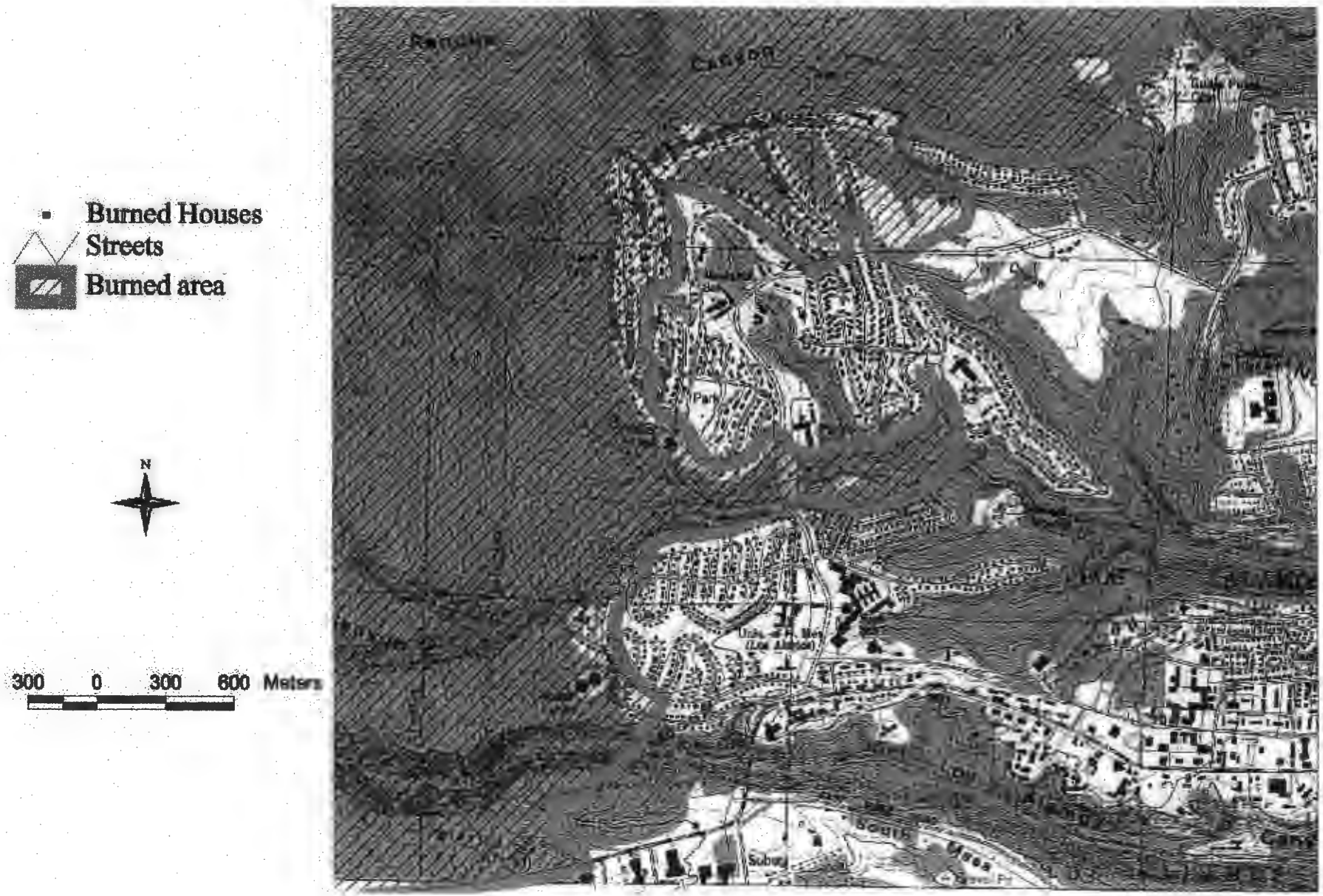


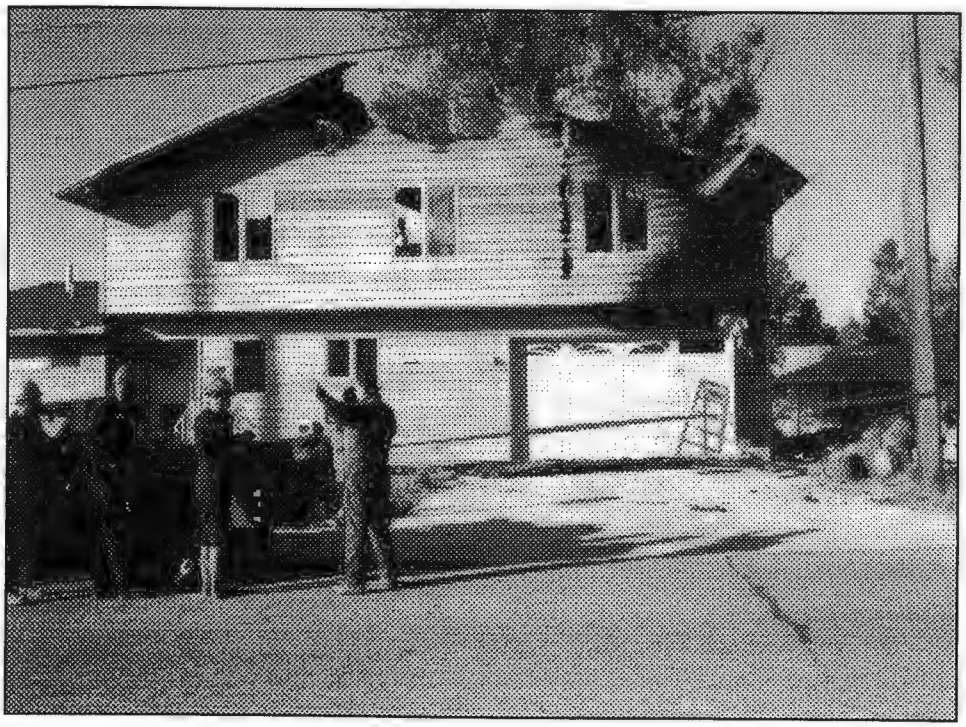
Town Site Cleanup

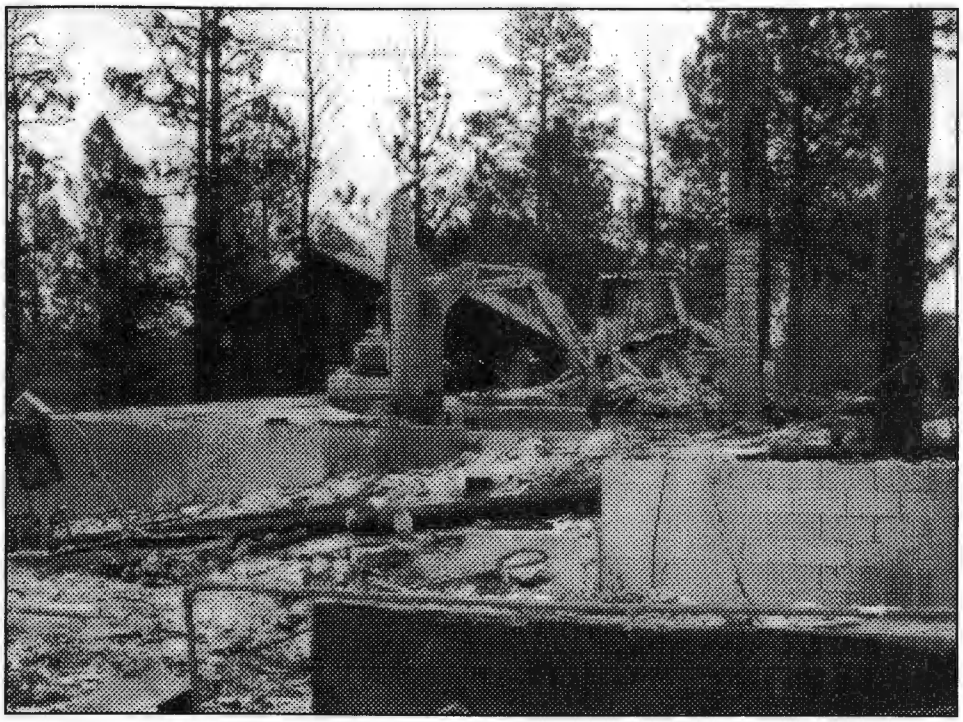
- Site Security
- Worker Safety
- Asbestos, Rad, Haz
- Encapsulation
- Disposal

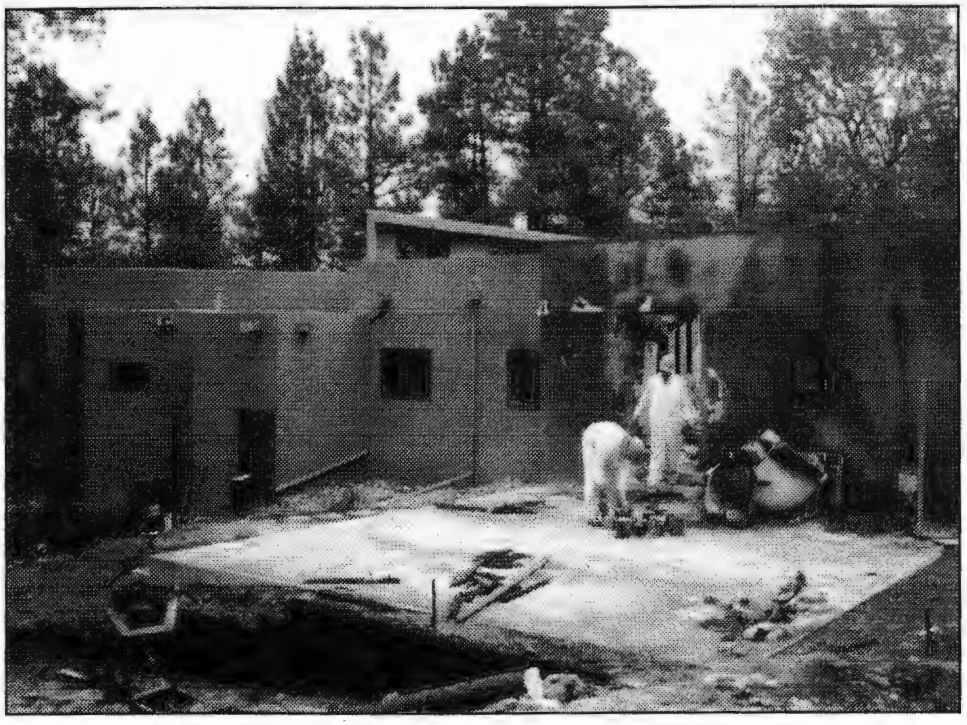
BAER Burn Severity Map

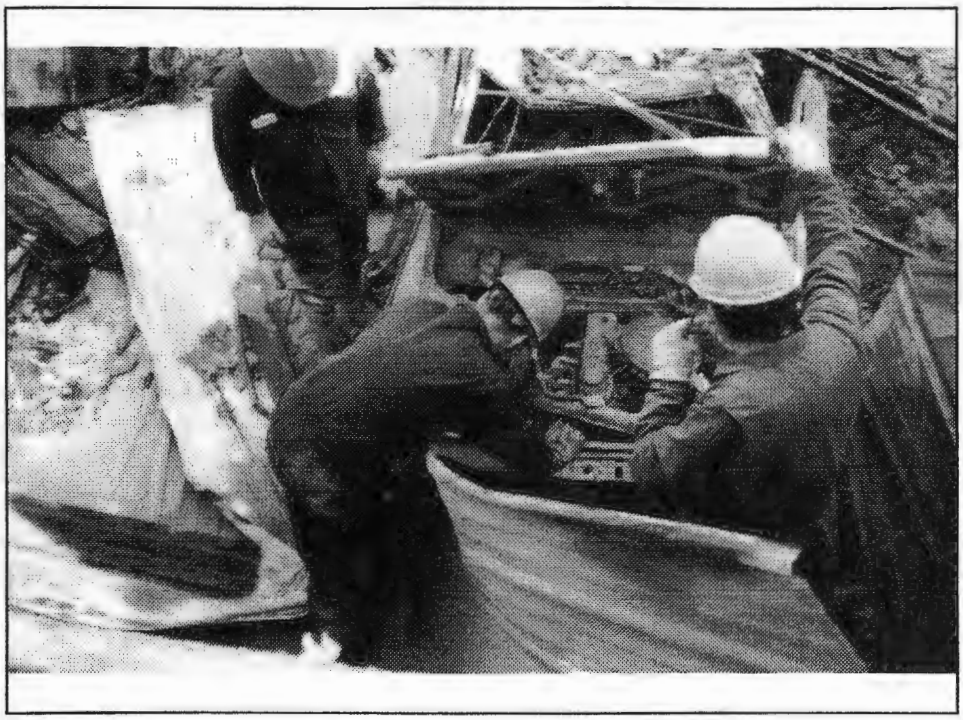
Burned Residences in Los Alamos

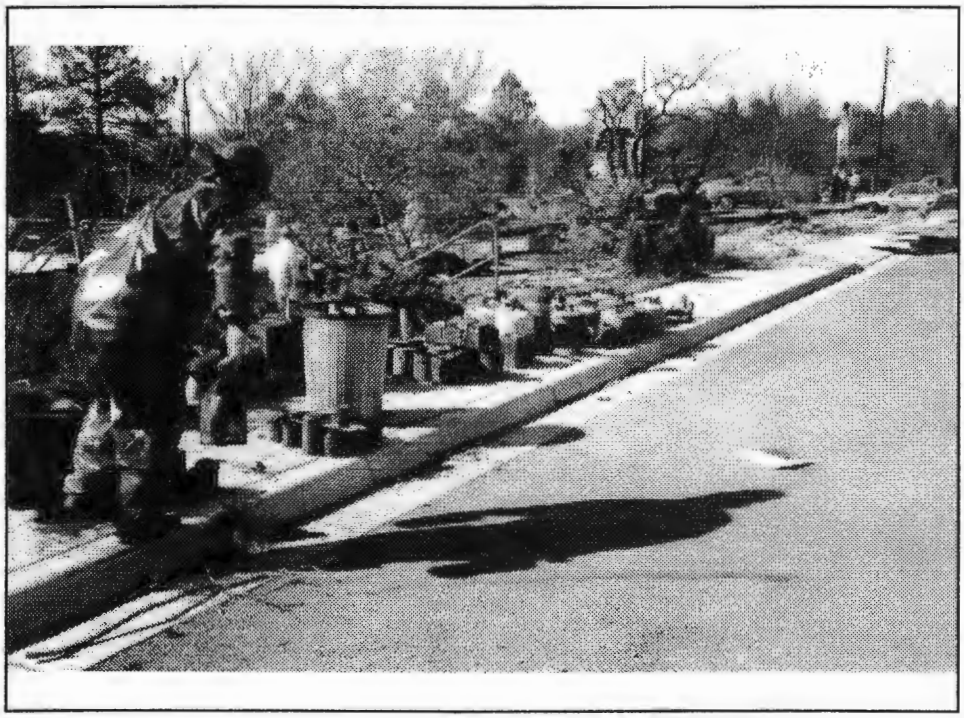












Town Site Cleanup

- 150 Cubic Yards of Hazardous Materials Removed
- Unexploded Ordnance, Radioactive Materials, Household Hazardous Waste
- Asbestos Concerns Remain

Public Health Concerns

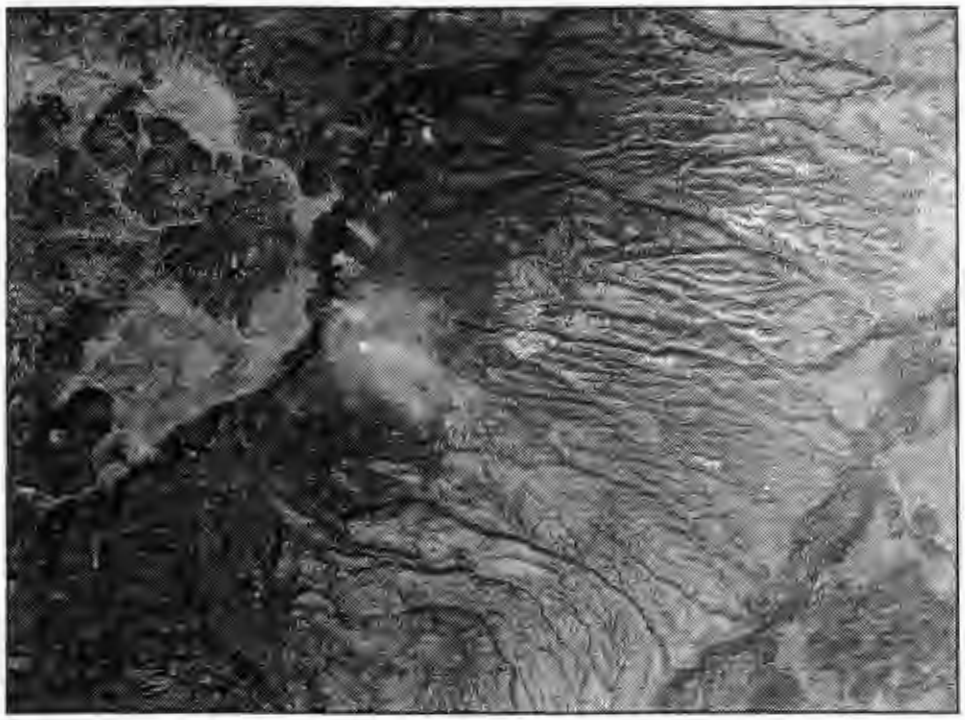
- Water System
- Food Safety
- Infrastructure

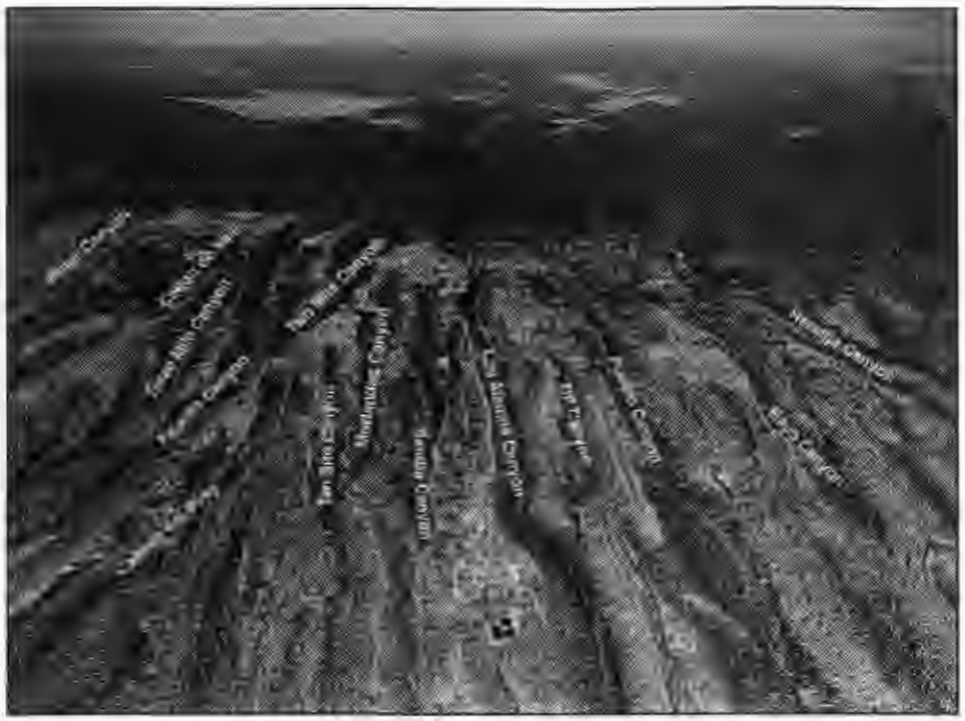
Los Alamos National Laboratory

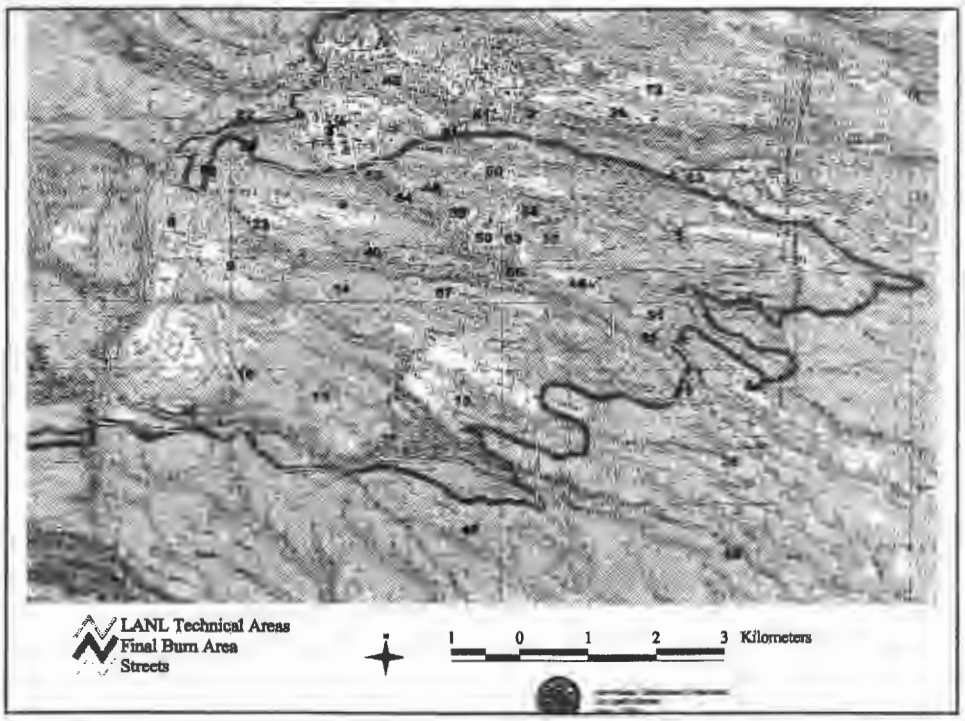
- RCRA-Permitted Facility
- Nuclear Weapons & Technical Research
- Hundreds of Contaminated Sites
- Hazardous & Radioactive Materials
- Unexploded Ordnance
- Significant Data Gaps

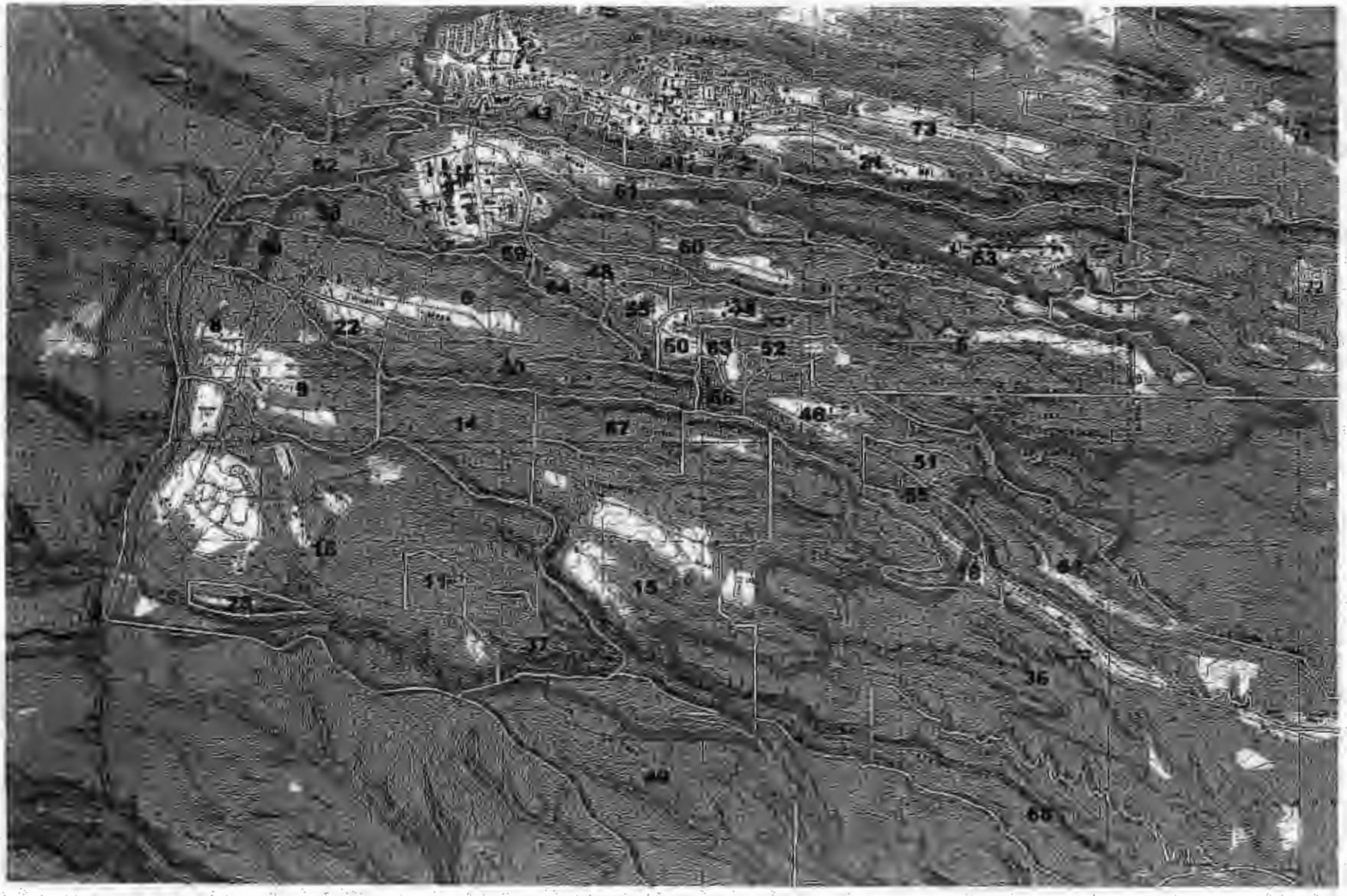
Los Alamos National Laboratory

- Fire Burned "Low to Moderate"
- No "Major" Releases
- Probably Lots of "Minor" Releases
- Over 600 Potential Release Sites in Burned Area
- Over 300 "affected" sites






LANL Technical Areas
Final Burn Area
Streets
1 0 1 2 3 Kilometers



LANL Technical Areas
Final Burn Area
Streets

N

1 0 1 2 3 Kilometers

New Mexico Environment Department
Air Quality Bureau
June 6, 2000

Los Alamos National Laboratory

- Firing Sites, Disposal Areas, Areas of "Diffuse" Contamination Affected
- Area G and other Waste Storage Areas Not Affected
- Canyons Susceptible to Post-Fire Erosion

Potential Environmental Crisis

Potential Environmental Crisis

- Habitat Destruction
- Sediment Transport (Rio Grande)
- Debris Flows
- Water & Air Pollution
- Infrastructure
- Ecology

Watershed

- BAER Team
- Restoration Activities
- Best Management Practices
- Downstream Impacts

LANL Restoration Activities

- Impact Assessment Teams
  - Modeling
  - Canyon Contaminant Transport
  - Best Management Practices
  - Accelerated Remediation
  - Engineering
  - Ecology
  - Air
  - Risk Assessment

LANL Restoration Activities

- NMED Sampling Activities
  - Air
  - Ground Water
  - Surface Water
  - Ash
  - Sediment and Soils
  - Vegetation

LANL Restoration Activities

- Risk Assessment
  - Collect Appropriate Data
  - Fill Data Gaps
  - Establish Data Credibility
  - Support Health Advisories

Interagency Collaboration

- Department of Health
- Department of Public Safety
- Energy, Minerals, & Natural Resources Department
- Federal (EPA, DOE, FEMA, USFS, USPS, CDC, Corps of Engineers)
- Local (Counties, Municipalities)
- Tribal

NMED Activities

- Emergency Operations Center
- Air Monitoring
- LANL Oversight
- Townsite Cleanup
- Environmental Sampling
- Consultative Services
- Interagency Collaboration

NMED Costs

- Staff Time
- Monitoring
- Sampling & Analysis
- Contractors
- Public Information

NMED Revenues

- General Fund
- Hazardous Waste Emergency Fund
- FEMA
- DOE Agreement in Principle
- Program Monies

NMED Needs

- Establish Contingency Fund For Emergencies
- Bolster Hazardous Waste Emergency Fund
- Augment DOE Agreement in Principle
- Revisit State All-Hazards Plan
- Fund Information Dissemination