

# Progress of Sandia's Environmental Restoration Operations

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# Overview of Sandia's Environmental Restoration Project

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- Mission – Identify, Characterize & Remediate sites where hazardous &/or radioactive materials have been released
- Scope: 313 Environmental Restoration (ER) sites
- All activities regulated by New Mexico Environment Department (NMED) under the 2004 Compliance Order on Consent (COoC)
- DOE/NNSA and Sandia Corporation are in compliance COoC and Federal and State requirements



# Overview of Sandia's Environmental Restoration Project

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- Very successful, completely closed 278 of 313 ER sites through the NMED regulatory process
- 35 sites in corrective action process
- Presentation will review progress, in completing corrective action at 35 sites
- 12 months progress – no public meeting in October 2013 due to Government Shutdown
- Overview of FY 2015 Budget Request and Work Schedule for ER Operations



## Remaining 35 Sites

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- 23 Sites in “Corrective Action Complete” regulatory process
- 5 Soil sites undergoing groundwater investigations
- 3 “Active mission” sites with deferred corrective action
- 1 Mixed Waste Landfill
- 3 Groundwater Areas of Concern (AOCs)

Burn Site

Tijeras Arroyo

Technical Area V



## Remaining 32 Sites

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  - Burn Site
  - Tijeras Arroyo
  - Technical Area V



## Remaining 32 Sites

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## 23 ER Sites in Corrective Action Complete Regulatory Process

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- Old septic systems, drain fields & surface testing areas
- Characterization and remediation has been completed
- Submitted to NMED for approval of Corrective Action Complete
  - NMED solicited public comments, September 17, 2012
  - Public Hearing, that addresses granting Corrective Action Complete status to these 23 sites, is scheduled to begin May 5, 2014



## Remaining 32 Sites

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→ 5 Soil sites undergoing groundwater investigations

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## 5 Sites Requiring Groundwater Investigations

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- Background: April 8, 2010 letter from NMED:
  - Sites 149 & 154 – use existing wells to characterize GW
  - Sites 8/58 – install 2 GW characterization wells
  - Sites 68 – install 3 GW characterization wells
- Wells installed late summer 2011
- Completed 8 quarters of sampling and analysis of all 5 sites in fall 2013
- Analytical results reported in ER Quarterly Reports to NMED and in the SNL Annual Groundwater Monitoring Report



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# Mixed Waste Landfill 2011

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# Mixed Waste Landfill

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- Long-Term Monitoring and Maintenance Plan (LTMMMP) approved by NMED on January 8, 2014
- NMED's approval of LTMMMP was appealed on February 3, 2014
- Currently implementing LTMMMP
  - Planning to installing 4 deep soil vapor monitoring wells in May 2014
  - Ongoing monitoring of groundwater and maintenance of cover



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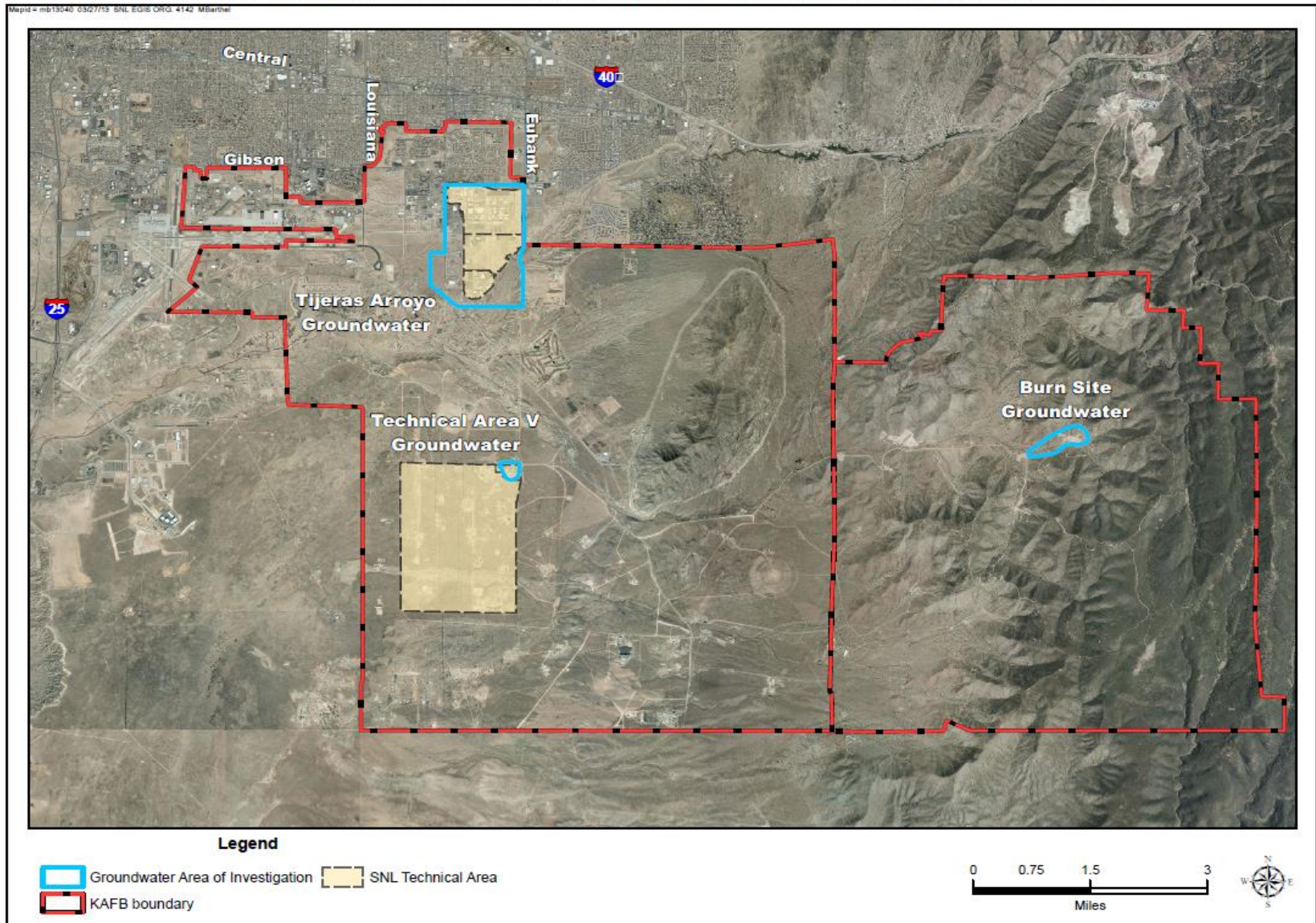
Burn Site

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# Sandia National Laboratories, New Mexico - Groundwater Areas of Concern





# Burn Site GW AOC





# Burn Site GW AOC

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- Contaminated with nitrate (most wells) and perchlorate (1 well)
  - Nitrate: 0 to 37 parts per million (ppm) (regulatory standard is 10 ppm)
  - Perchlorate: 0 to 9 parts per billion (ppb) (no drinking water standard established)





# Burn Site GW AOC

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- Fall 2013, DOE HQ completed an Internal Remedy Review (IRR) of possible corrective actions for contaminated groundwater
  - Results of IRR documented in memo dated October 30, 2013
  - Based on stable isotope chemistry and hydrogeologic conditions, IRR recommended a “weight-of-evidence approach,” to evaluate if nitrates in groundwater are from DOE operations
  - Allow time for weight-of-evidence process, DOE/NNSA and Sandia requested extension to March 31, 2016 to complete the current conceptual model (CCM) and the Corrective Measures Evaluation (CME) Report
  - Continuing to monitor the groundwater



# Tijeras Arroyo GW AOC

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# Tijeras Arroyo GW AOC

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- “Perched groundwater” 250 ft. below Tech Area 1, 2 and 4
- Contaminated with nitrate (5 wells) and TCE (1 well)
  - Nitrate: 0 to 33 ppm (regulatory standard is 10 ppm)
  - TCE: 0 to 9 ppb (regulatory standard is 5 ppb)
- No single source of contamination has been identified
- NMED approved Groundwater Investigation Report (February 2010)
- NMED reviewing CME Report from 2005
- Continuing to monitor the groundwater

# Technical Area V GW AOC

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## Technical Area V GW AOC

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- Regional groundwater 500 ft. below surface
- Contaminated with nitrate and TCE
  - Nitrate: 0 to 14 ppm (regulatory standard is 10 ppm)
  - TCE: 0 to 19 ppb (regulatory standard is 5 ppb)
- No single source of contamination has been identified
- Letter dated December 5, 2013, DOE/NNSA and Sandia requested that NMED withdraw the 2005 TA-V CME Report, and an updated CCM and CME Report will be submitted by November 21, 2014
- Continuing to monitor GW



# Summary of Status of Sandia's ER Operations

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Addressing remaining 32 ER sites

- NMED Public Hearing, that addresses granting CAC status to 23 sites scheduled May 5, 2014
- 5 soil sites undergoing GW characterization – required GW characterization completed and results reported
- MWL: LTMMP approved and being implemented
- 3 Groundwater AOCs:

Burn Site GW AOC: Conducting weight-of-evidence for source of nitrates, updated CME Report and CCM due to NMED March 31, 2016 & continuing to monitor GW

Tijeras Arroyo GW AOC: NMED reviewing 2005 CME Report & continuing to monitor GW

Tech Area V GW AOC: CME Report and updated CCM due to NMED on November 21, 2014 & continuing to monitor GW



# Overview of FY 2015 Budget Request and Work Schedule for ER Operations

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- FY2015 Congressional Request: \$2.801 M
- Work Scheduled includes:
  - Submittal of Updated TA-V Groundwater Corrective Measures Evaluation Report to NMED
  - Continue groundwater evaluations at two other Groundwater Areas of Concern
  - Submittal of Class III Permit Mod Request to NMED for Corrective Action Complete at the Mixed Waste Landfill





## Questions & More Information

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- NMED SNL/NM information -  
<http://www.nmenv.state.nm.us/HWB/snlperm.html>
- UNM Zimmerman Library  
Lobo Vault SNL/NM collection -  
<http://repository.unm.edu/handle/1928/10963>
- Annual Groundwater Monitoring Report -  
[http://www.sandia.gov/news/publications/environmental\\_reports/index.html](http://www.sandia.gov/news/publications/environmental_reports/index.html)
- Sandia National Laboratories Community Involvement -  
284-5200