

Status of Sandia's Environmental Restoration Operations



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April 19, 2010**





Overview of Sandia's Environmental Restoration (ER) Project

- Mission – Identify, Characterize & Remediate sites where hazardous &/or radioactive materials have been released
- Scope:
 - 265 Environmental Restoration sites (ER sites)
 - 3 Groundwater Areas of Concern (GW AOCs)
- Regulated by New Mexico Environment Department (NMED)



Overview of Sandia's ER Project

- Very successful, completely closed 232 of 265 ER sites
- Status of remaining 33 ER sites & 3 GW AOCs



Order of Presentation

- 33 remaining ER sites
 - Chemical Waste Landfill (RCRA regulated unit)
 - Mixed Waste Landfill (RCRA solid waste management unit (SWMU))
 - 26 SWMUs in “Corrective Action Complete” regulatory process
 - 5 SWMUs undergoing groundwater investigations
- 3 GW AOCs (regulated as SWMUs)
 - Burn Site GW AOC
 - Tijeras Arroyo GW AOC
 - Technical Area V GW AOC



Chemical Waste Landfill

- 1.9 acre interim-status landfill operational from 1962 to 1985
- SNL completed 2 Voluntary Corrective Measures to excavate landfill and treat soil below landfill
- NMED approved terms of Post-Closure Care Permit and other documents (October 2009)
- Submitted “CWL Final RCRA Closure Report” & Certification of Closure (September 2010) – documents closure conducted in accordance with approved Closure Plan
- When Final RCRA Closure Report is accepted by NMED, Post Closure Care Permit will go into effect & site transferred to Long-Term Stewardship (LTS) Program

Installing Monitoring Well at CWL





Mixed Waste Landfill - Background

- 2.6 acre landfill
- Operational 1959 to 1988
- Received ~ 3,700 yd³ low-level radioactive & mixed waste
- Groundwater monitoring since 1990
- Numerous characterization studies to NMED 1990 - 2008
- After Public Hearing on remedy selection, NMED issued *Final Order* (2005) selecting evapotranspirative (ET) cover w/ bio-intrusion barrier as remedy, setting other requirements
- Cover constructed (2009)



Mixed Waste Landfill - Status

- January 2011 - NMED accepted DOE & Sandia report on investigation of toluene in groundwater at MWL – MWL not source of very low levels toluene
- Report documenting construction of ET cover to NMED (January 2010)
- NMED Public Meeting on cover construction report (December 14, 2010)
- NMED Public comment period on cover construction report November 29, 2010 to February 28, 2011
- NMED reviewing cover construction report

Mixed Waste Landfill Cover 2009





26 SWMUs in Corrective Action Complete Process

- Include former: septic systems & drain fields, surface testing areas & burn sites
- Characterization & remediation completed 2007
- NMED April 8, 2010 guidance letter:
 - 26 SWMUs – NMED agrees corrective action complete, and approval of corrective action completed will be addressed in Public Hearing on SNL site wide RCRA Operating Permit
- Status: Participate in Public Hearing process, when scheduled by NMED



5 SWMUs

Requiring Groundwater Investigations

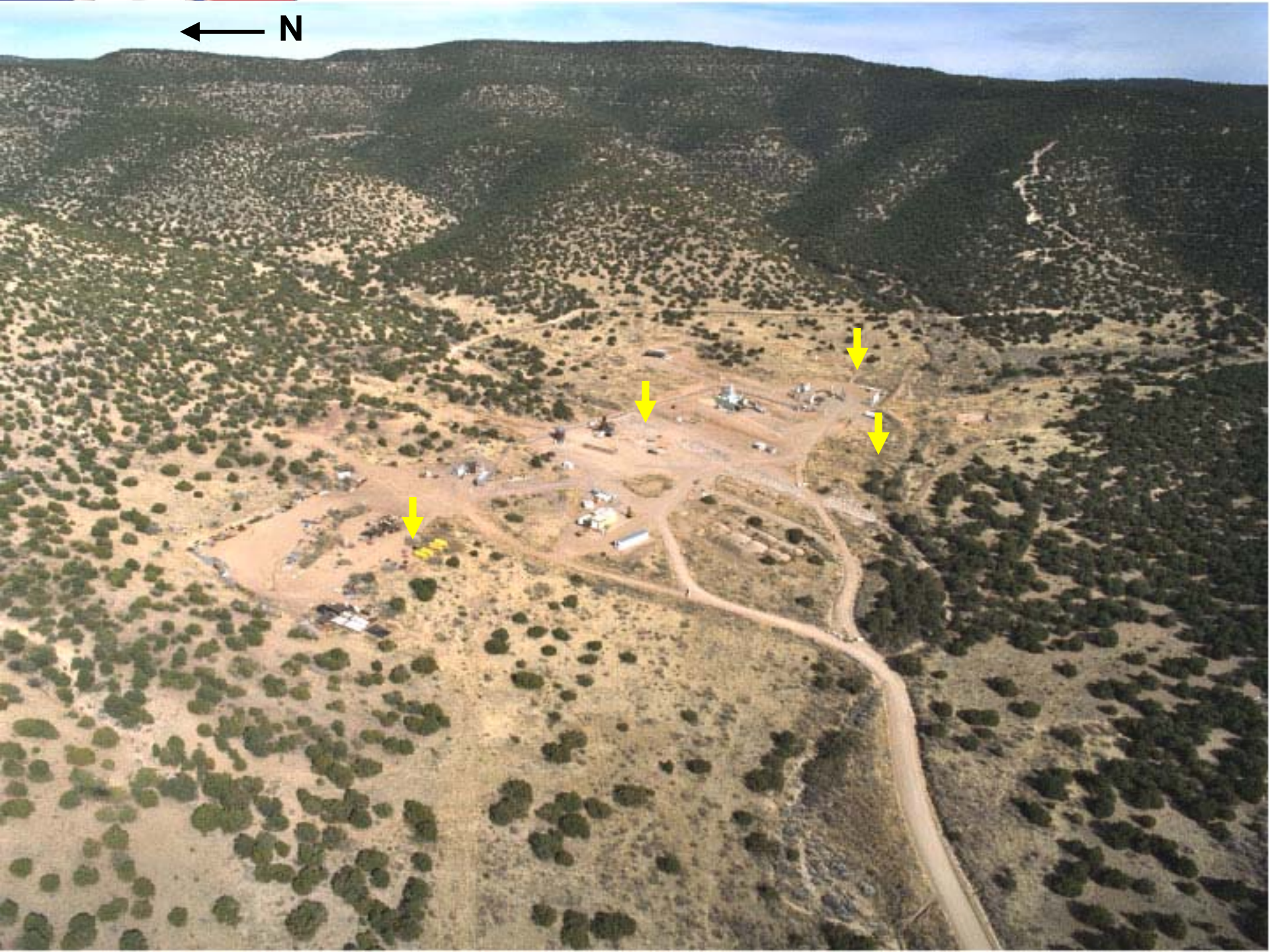
- Includes former septic systems & drain fields, surface testing areas & a burn site
- Characterization & remediation completed 2007
- NMED April 8, 2010 guidance letter to SNL:
 - SWMUs 149 & 154 – use existing wells to characterize GW
 - SWMUs 8/58 & 68 – install 5 GW characterization wells
- Status:
 - SWMUs 149 & 154 – NMED approved Work Plans, quarterly analysis of GW started March 2011
 - SWMUs 8/58 & 68 – NMED approved Work Plans (January, 2011), GW monitoring well installations started in April 2011



Burn Site GW AOC

- GW monitored since 1996
- Contaminates in GW:
 - Nitrates: 0 to 40 ppm (standard 10 ppm)
 - Perchlorate: 0 to 9 ppb (no drinking standard)
- Installed 4 GW monitoring wells and 10 soil borings (July – August 2010)
- Site Characterization Report being written (July target)

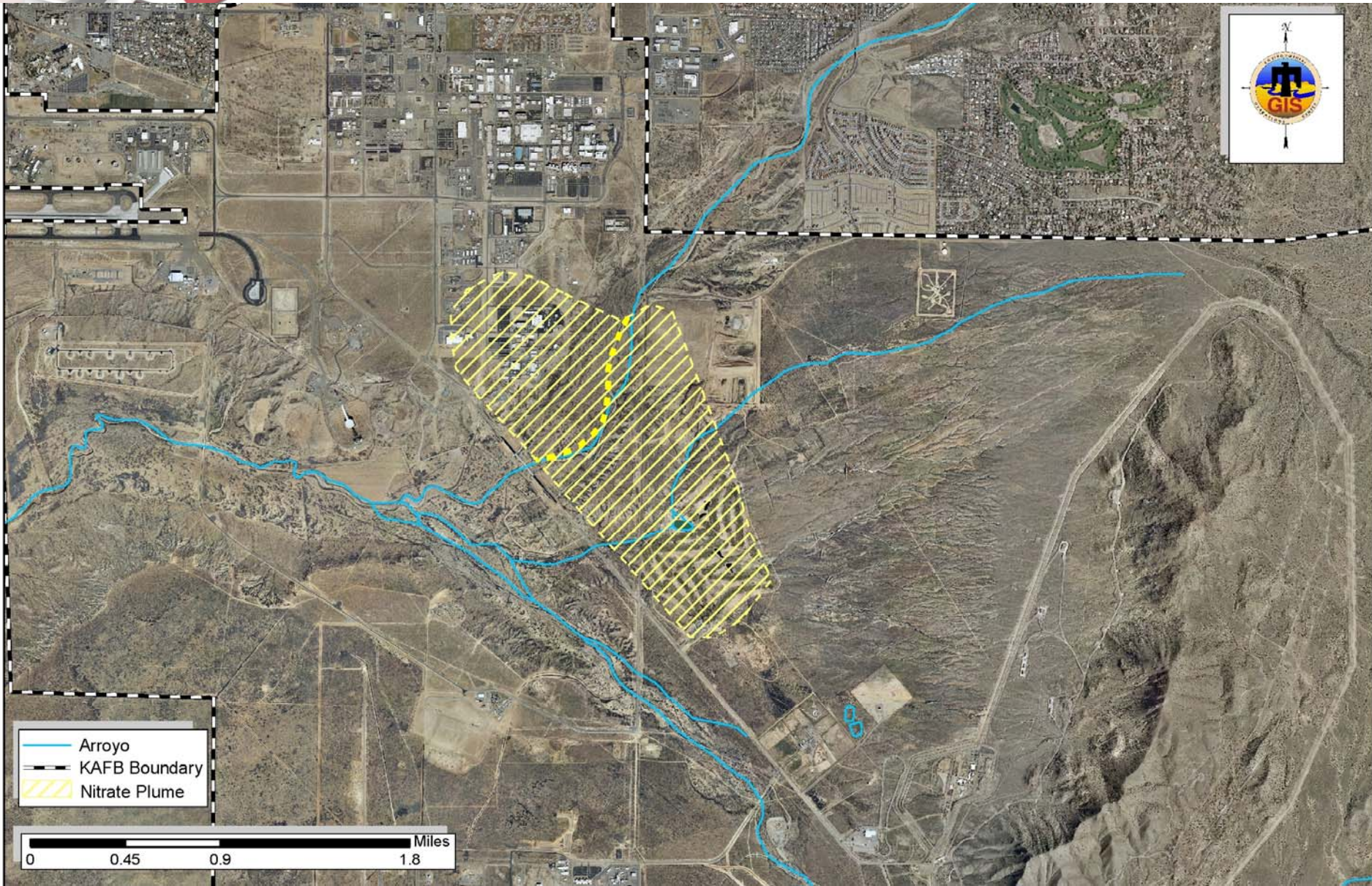
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Tijeras Arroyo GW AOC Background & Status

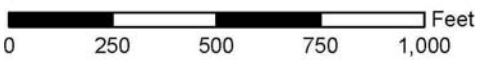
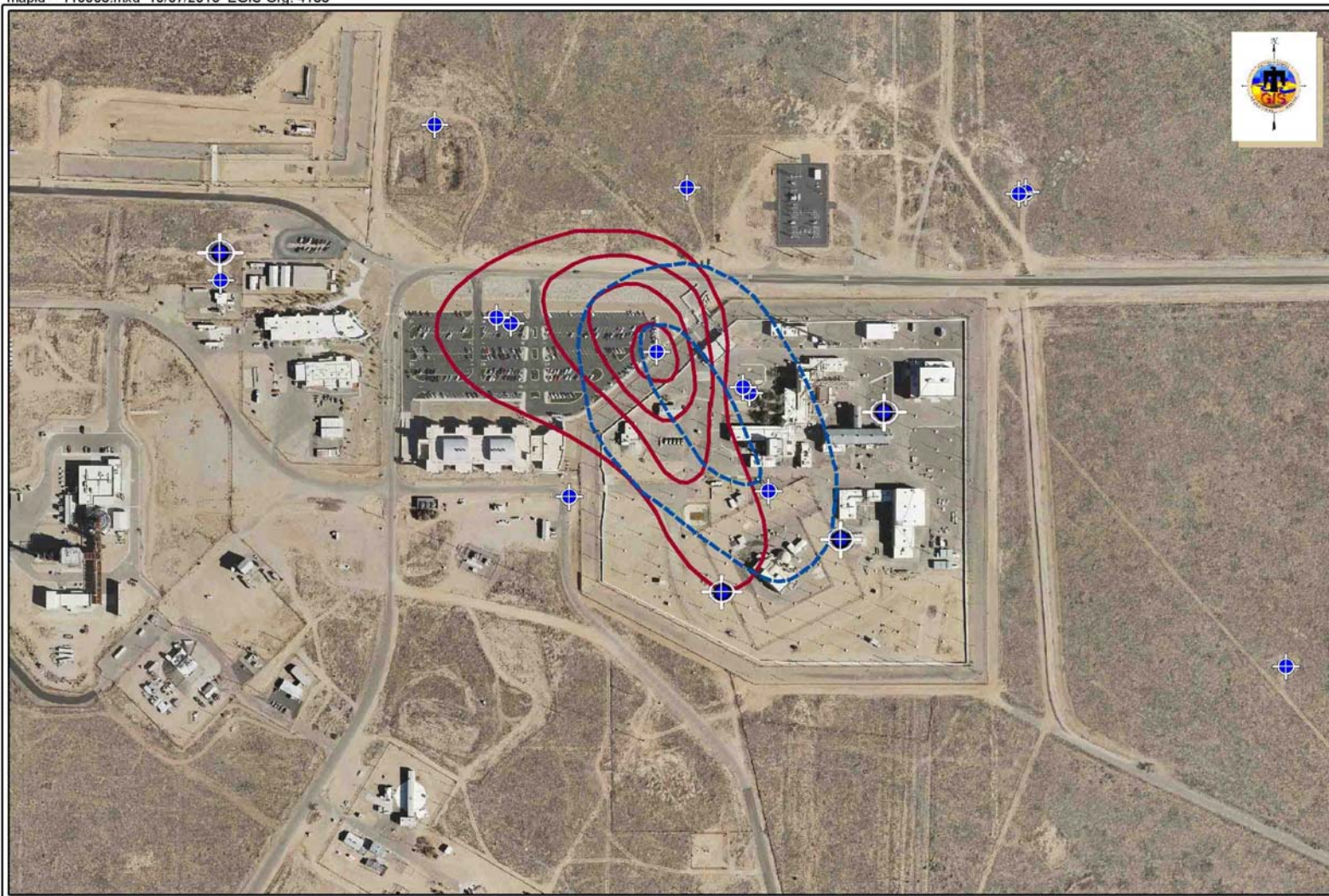
- GW monitored since 1992
- Contaminates in GW:
 - Nitrates: 0 to 38 ppm (standard 10 ppm)
 - Trichloroethylene (TCE): 0 to 9 ppb (standard 5 ppb)
- AOC covers several square miles
- Four potential contributors: SNL, KAFB, City of Albuquerque, and natural infiltration from Tijeras Arroyo
- NMED approved Groundwater Investigation Report (February 2010)
- NMED reviewing Corrective Measure Evaluation Report from 2005





Technical Area V GW AOC Background & Status

- GW monitored since 1992
- Contaminates in GW:
 - Nitrates: 0 to 15 ppm (standard 10 ppm)
 - TCE: 0 to 26 ppb (standard 5 ppb)
 - from “industrial” operations, not reactor operations
- Installed 4 additional GW wells in November 2010 (now 16 GW monitoring wells)
- Installed 3 deep soil vapor wells in March 2011
- Conducting quarterly analysis new GW wells
- SNL writing Well Installation Report (target July)



— TCE Contour - 5/2003 - SNL CME Report 7/2005
- - - TCE Contour - 5/2008 - SNL Draft meeting 9/2008 C.I. = 5 ug/L

⊕ Groundwater Monitor Well

Installing 10 stainless steel vapor sampling ports in 500 ft deep vapor well at TA-V





Summary

Sandia's ER Project

- Addressing remaining 33 ER sites & 3 GW AOCs
 - CWL: NMED reviewing Final RCRA Closure Report
 - MWL: Cover Construction Report completed: public meeting, public comment period & NMED reviewing
 - 26 SWMUs in CAC process: NMED agrees CAC & SNL will participate in Public Hearing process, when scheduled
 - SWMU 149 & 154: work plans approved, quarterly analysis of GW
 - SWMU 8/58 and 68: work plans approved, installing 5 GW wells
 - Burn Site GW AOC: writing report on 4 GW wells & 10 soil borings, quarterly analysis of GW
 - Tech Area V GW AOC: installed 4 GW wells & 3 deep vapor wells, writing installation report, quarterly analysis of GW
 - Tijeras Arroyo GW AOC: NMED reviewing Corrective Measures Evaluation Report, periodic analysis GW



Questions & More Information

- For more information about Sandia's ER Project, go to SNL's Long-Term Environmental Stewardship (LTES) web site and click on Legacy:
<http://ltes.sandia.gov/>
- Additional questions? Call SNL's Community Involvement Program at 284-5200