

# Nevada National Security Site (NNSS) – Groundwater Characterization Process



**Bill Wilborn**, U.S. DOE Nevada Field Office  
**Sam Marutzky**, Navarro Research & Engineering Inc.

2015 WM Symposia – Panel Session 072  
March 18, 2015



**EM** *Environmental Management*

safety ❖ performance ❖ cleanup ❖ closure

[www.em.doe.gov](http://www.em.doe.gov)

# Co-chair Introductions

- Bill Wilborn, Federal Project Director and Project Management Professional
  - Underground Test Area (UGTA) Activity Lead for nine years
  - 20 years experience within Nevada Field Office Environmental Management Program
  - Bachelor of Science in Geology from University of Nevada, Las Vegas
- Sam Marutzky, Project Manager and Project Management Professional
  - UGTA Project Manager for 7 years
  - 30 years experience with DOE/Air Force Environmental Projects
  - Bachelor of Science degree in Electrical Engineering from University of Colorado, Masters degree in Business Administration from Mesa State College



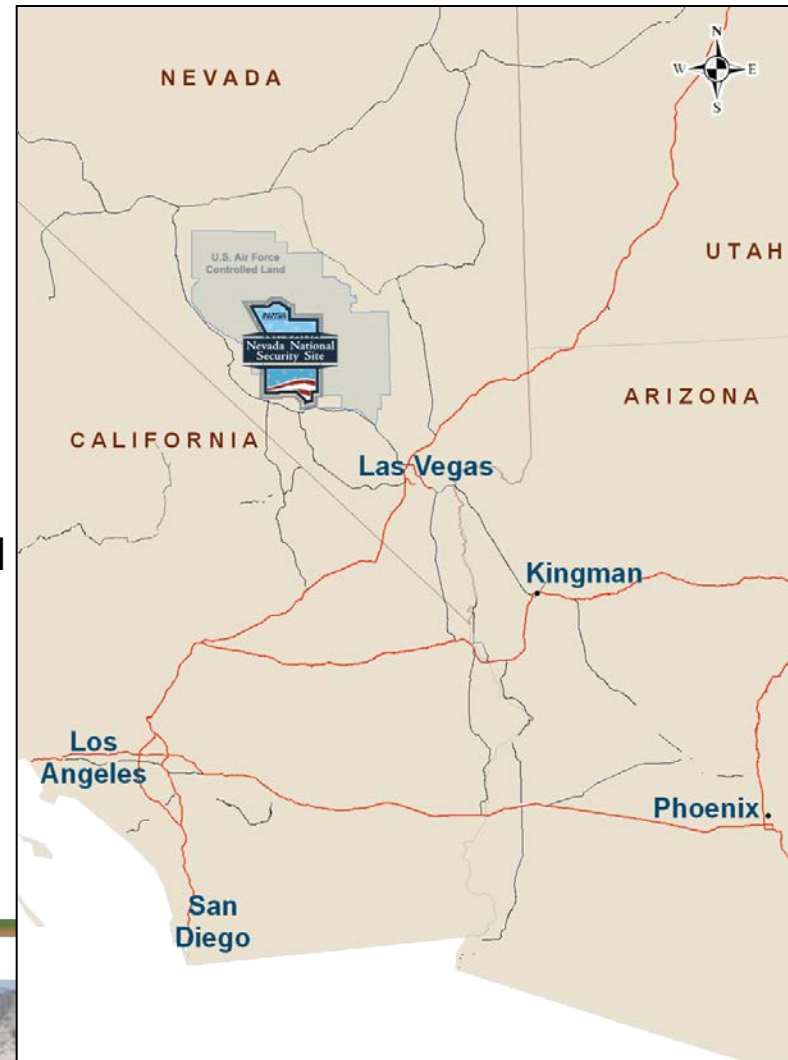
*EM* Environmental Management

safety ❖ performance ❖ cleanup ❖ closure

# NNSS Background

Large, geographically-diverse, research, evaluation and development complex that supports homeland security, national defense and nuclear nonproliferation

- Big – 1,360 square miles (352,238 hectares)
- Secure – Access to site is controlled
- Remote – Surrounded by additional 4,500 square miles (~1.2 million hectares) of federally-owned land
- Historically used for nuclear research, development and testing (1951-1992)
- Responsible U.S. agency is Department of Energy (DOE), National Nuclear Security Administration Nevada Field Office

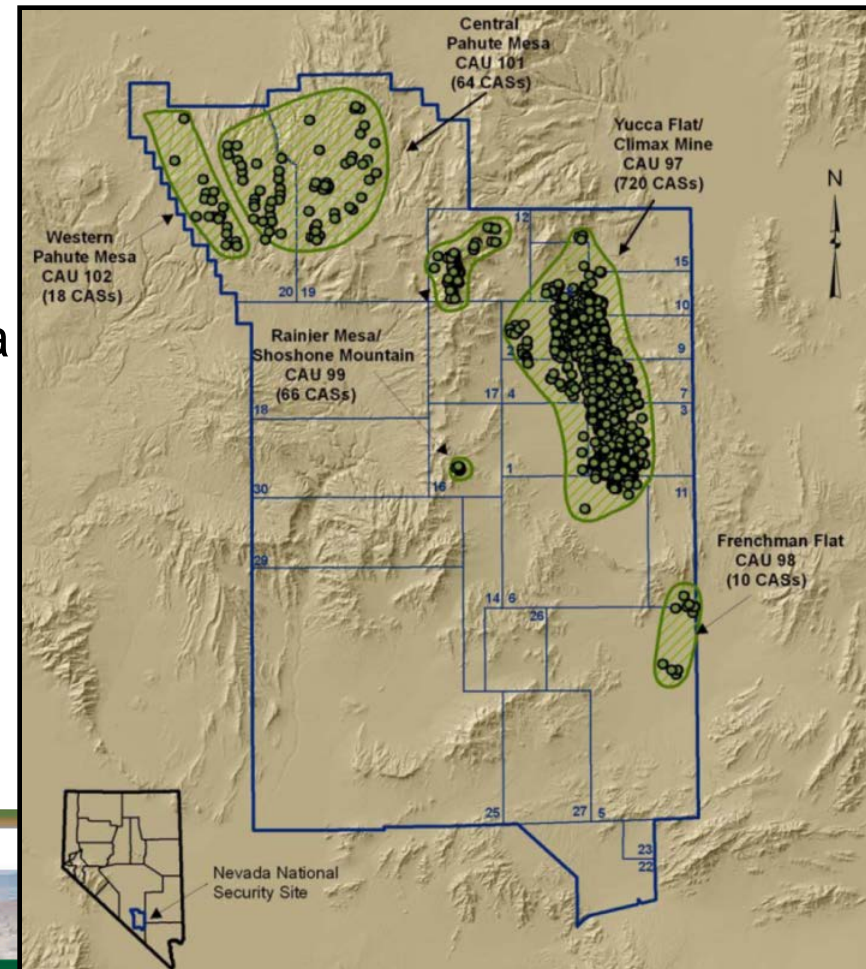


**EM** Environmental Management

safety ❖ performance ❖ cleanup ❖ closure

# Groundwater Characterization Need

- 828 underground nuclear tests conducted at depths ranging from 90 to 4,800 feet (~27 to 1,460 meters) below the surface
  - Released 132 million curies directly into the subsurface environment
  - About one-third of tests conducted in or near groundwater
- Larger tests conducted on Pahute Mesa where 61% of underground contamination is located
- Underground Test Area (UGTA) program established to understand impacts through groundwater characterization

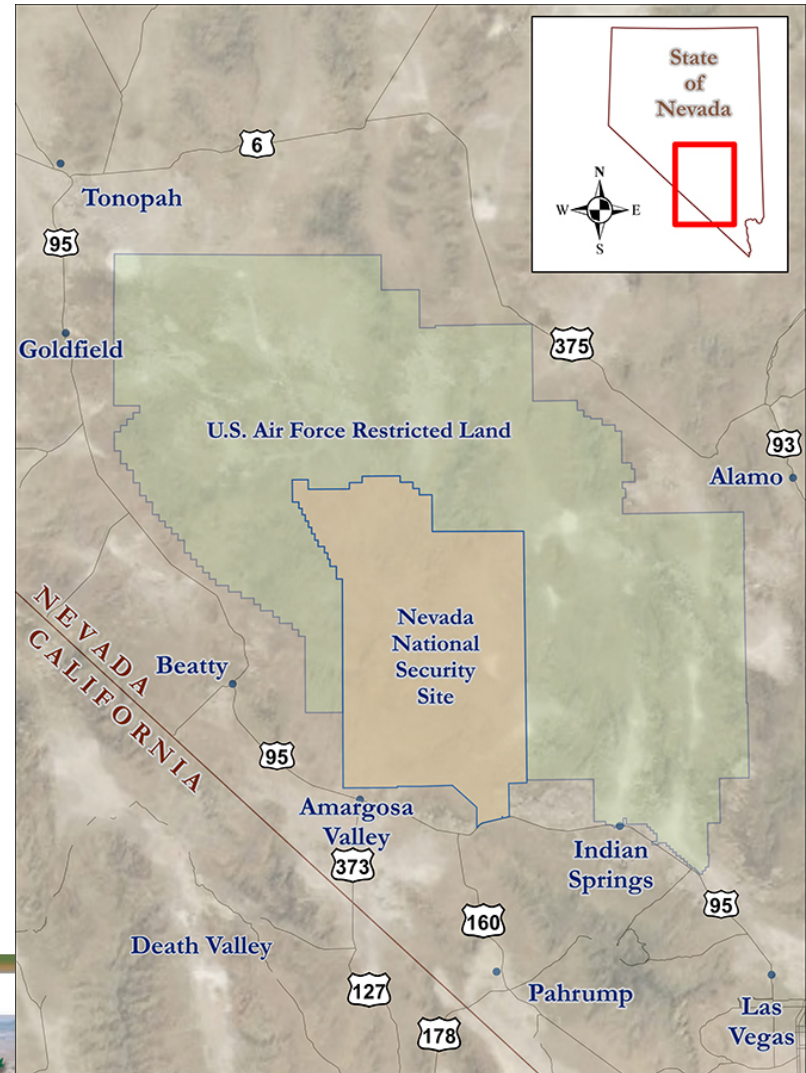


**EM Environmental Management**

safety ❖ performance ❖ cleanup ❖ closure

# UGTA Closure Objectives

- Closure with implementation of long-term closure monitoring network and institutional controls
- Continued monitoring to evaluate the protection of long-term closure strategy
- Periodic evaluations of model and monitoring network



**EM** Environmental Management

safety ❖ performance ❖ cleanup ❖ closure

# UGTA Partners



Navarro Research and Engineering, Inc.



NEVADA DIVISION OF  
**ENVIRONMENTAL  
PROTECTION**



**EM** Environmental Management

safety ❖ performance ❖ cleanup ❖ closure

# Presenters

- Irene Farnham  
Science Advisor, Underground Test Area Activity  
Navarro Research & Engineering Inc.
- Charles E Russell  
Deputy Directory of the Division of Hydrologic Sciences  
Desert Research Institute
- Donna Hruska  
Chair  
Nevada Site Specific Advisory Board



*EM Environmental Management*

safety ❖ performance ❖ cleanup ❖ closure

# Presenters

## (Continued)

- Justin Marble  
Hydrologist, Office of Soil and Groundwater Remediation  
U.S. Department of Energy
  
- Christine Andres  
Chief, Bureau of Federal Facilities  
State of Nevada Division of Environmental Protection



*EM* Environmental Management

safety ❖ performance ❖ cleanup ❖ closure



# Thank You for Your Participation!

- Please turn off cell phones and take any side conversations outside the room
- Please hold your questions until the end of each presentation
- After all presentations have been given, and as time permits, you will have an opportunity to ask additional questions
- Please join us at our afternoon NNSW Waste Management panel discussion, session 93, which begins at 1:30pm in room 102BC
- More questions after today? Contact us at [envmgt@nnsa.doe.gov](mailto:envmgt@nnsa.doe.gov)



*EM* Environmental Management

safety ❖ performance ❖ cleanup ❖ closure