



Radioactive Structures Removal Action Compensation Agreements

**Navajo Stakeholders' Workshop
November 3, 2009**



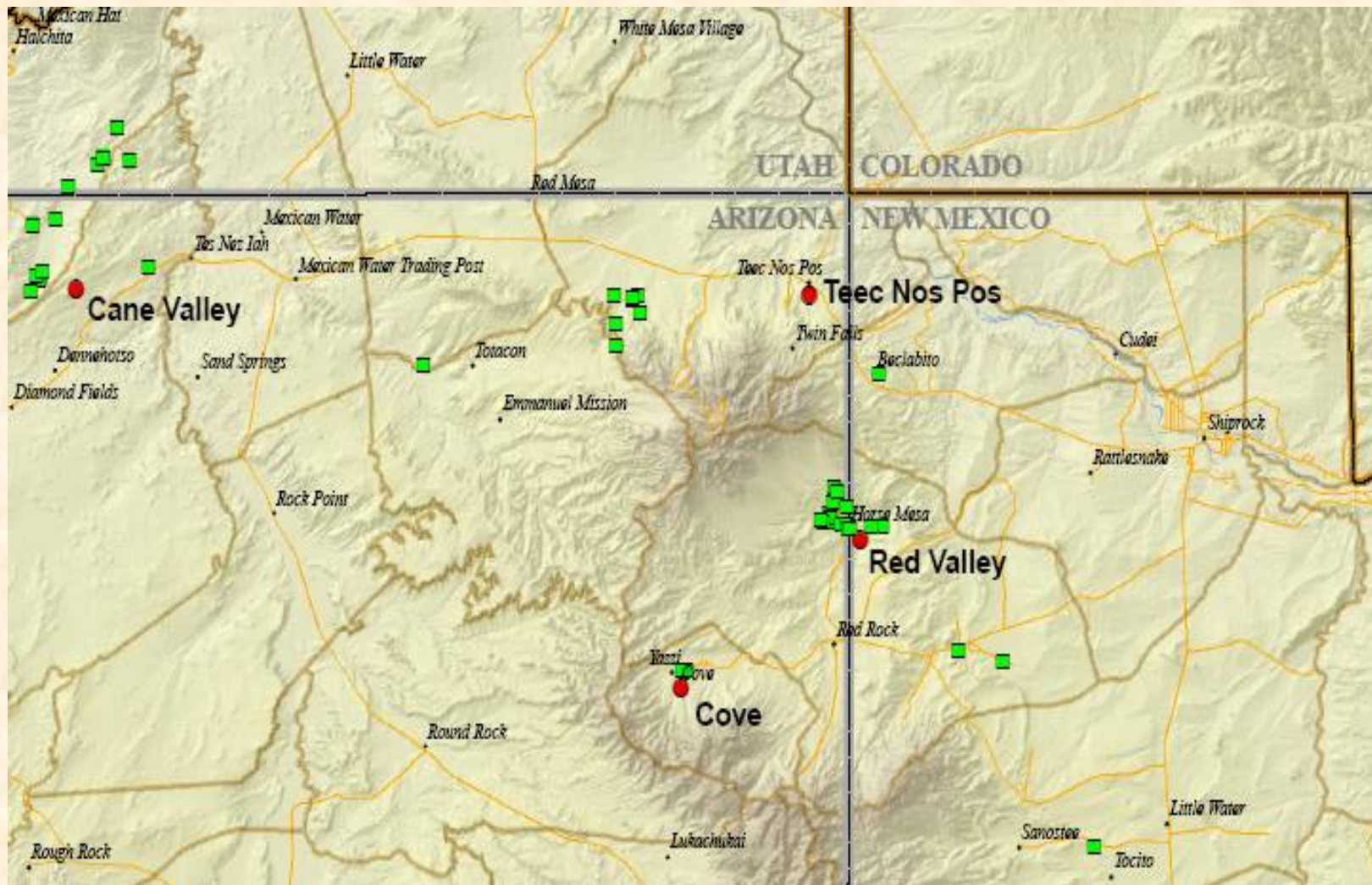
What Are We Going To Talk About

- ◆ Background
- ◆ Assessments and Removal Activities
- ◆ Compensation
- ◆ Status of sites
- ◆ What's next?

Background - The Problem

- ◆ Residential structures may have been constructed from or on top of radioactive materials derived from uranium mining activities, including tailings, uranium ore, and other technically enhanced naturally occurring radioactive materials (TENORM).
- ◆ Materials found to have elevated radioactivity included:
 - ❖ natural sandstone shaped into blocks and used for the foundation and/or walls of a hogan and home.
 - ❖ cement used for foundations and floors which was mixed with uranium mine tailings.
 - ❖ Cinder blocks contaminated by tailings.
- ◆ In addition, surface soil surrounding residential structures may have been contaminated with TENORM.
- ◆ Radioactive materials used in the construction of homes and hogans, as well as contamination in surface soil, can result in exposure of the residents to radiation.

Phase I Limited Focus: Teec Nos Pos, Cane Valley, Red Valley, Cove + Tuba City



Assessment - Definitions

- ◆ A homesite is a Navajo Nation designation for a residential property that consists of a home and a specific area of land. The homes vary from traditional Navajo mud and wood hogans to modern wood frame or cinder block homes. Each homesite is assigned a specific area of land based on Navajo Nation traditions and policies.
- ◆ Structures are defined as any building, home, hogan, shed, or other structure that was possibly habitable at the time of the assessment, or could possibly become habitable in the future.

Example Structures



Indoor Radiation Assessment



- ◆ Interior radiation surveys were performed for all structures that met the assessment criteria by a two-person assessment team.
- ◆ Radiological survey data and structure characteristics were documented.

PST collects CPM readings using Radiation Ratemeter Sodium Iodide Detector (3x3)

Removal Activities

- EPA assessed 113 Structures on 56 homesites. EPA determined that 27 of the structures needed to be remediated. *Tuba City: 4 additional structures at 3 homesites.*
- Soil from 10 residential yards also needed to be excavated.
- Response actions began in August 2008 in the Cove & Red Valley Chapter areas.



The Plan – Dirty to Clean in Only Six Steps

- ◆ Secure funding
- ◆ Determine remediation options
- ◆ Secure access and determine compensation preference
- ◆ Provide temporary relocation options to impacted structure residents
- ◆ Remediate property
- ◆ Build Replacement or Provide compensation

Easy Right?

Removal Options and Challenges

◆ Options:

- ❖ (1) Remove contamination
- ❖ (2) Demolish Structure

Structural Engineer Evaluation

◆ Challenges

- ❖ Historic Preservation Clearance
- ❖ Getting Equipment
- ❖ Getting Water
- ❖ Remote locations with poor accessibility
- ❖ Disconnecting Utilities (and later, Connecting Utilities)
- ❖ Access – Coordinating with structure owners

Compensation Agreements

- ◆ Three Compensation options were offered:
 - ❖ Financial Settlement
 - ❖ Rebuild by Owner
 - ❖ Rebuild by EPA
 - Log home or Modular option
- ◆ Impacted residents were relocated to hotels or other structures on the homesite or nearby.
- ◆ Temporary storage was provided to residents who were having a structure replaced.
- ◆ Other Compensation
 - ❖ Utility Bills
 - ❖ Mileage
 - ❖ Motor Home Rental
 - ❖ Septic system pumped



Where Things Stand

- ◆ 25 compensation agreements signed
 - ❖ 10 – Financial settlements
 - ❖ 1 – Rebuild by owner
 - ❖ 14 – Rebuild by EPA



Removal Activities – Cleaning up

- ◆ Between August 2008 and October 2009
 - ❖ 27 structures were demolished
 - ❖ 10 soil excavations were completed
 - ❖ 1,008 cubic yards of construction debris & 2,340 cubic yards of soil was transported to an approved disposal facility.



Removal Activities – Replacement Structures

- ◆ “Rebuild by EPA” compensation option selected by owners of 14 structures.



What's Next for Phase I?

- ◆ 7 structures now complete
- ◆ 7 external shells by December 2009
- ◆ Phase I building complete by early summer 2010



What's in store for Phase II?

- ◆ **NNEPA's screenings in or near Church Rock Chapter**
- ◆ **EPA's planned assessments in November**
 - ❖ To be followed, as necessary, by compensation agreements and further removal activity
- ◆ **Future NNEPA assessments**

