



Navajo Abandoned Uranium Mines (AUMs)

A Site Assessment Update

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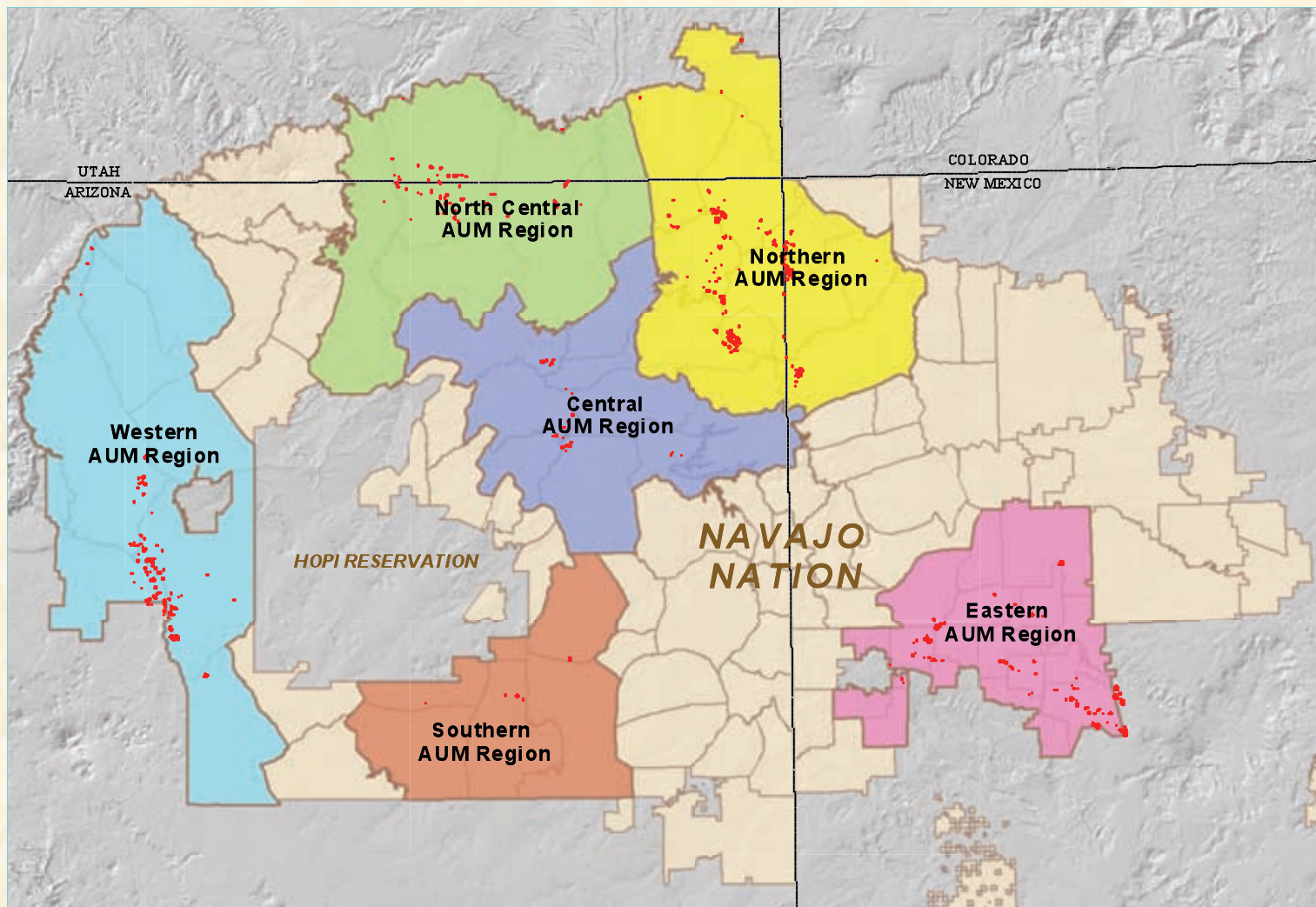
Table of Contents

- ◆ **Background on AUMs**
- ◆ **AUM Collaborative Process**
- ◆ **Eastern Region Site Screens**
- ◆ **2009 and beyond**

Background on AUMs

- ◆ The mining of uranium on Navajo lands began officially in 1944 and ceased in 1986.
- ◆ Nearly 4 millions tons of uranium ore was mined from more 500 mine locations. These are now considered the universe of Abandoned Uranium Mine (AUM) sites.
- ◆ Starting in 1994, the Region 9 office of the U.S. Environmental Protection Agency started a direct investigation of AUM AML sites.
- ◆ From 1994 through 2005, the Navajo AML Program reclaimed approximately 944 AUM sites and mine features, at a cost of approximately \$23,000,000.

Six AUM Regions – 55 of 110 Chapters



Background (cont'd)

- ◆ EPA conducted aerial surveys of six major uranium mining regions on Navajo lands using helicopters and remote sensing equipment. Complete in 2000.
- ◆ From 2000 to 2007 EPA compiled all available data into a GIS database, and issued an atlas in 2007.
- ◆ Copies of the AUM Atlas were distributed to all 55 Chapter in 2008. Additional distributions are planned.

Aerial Survey of Uranium Mine Areas

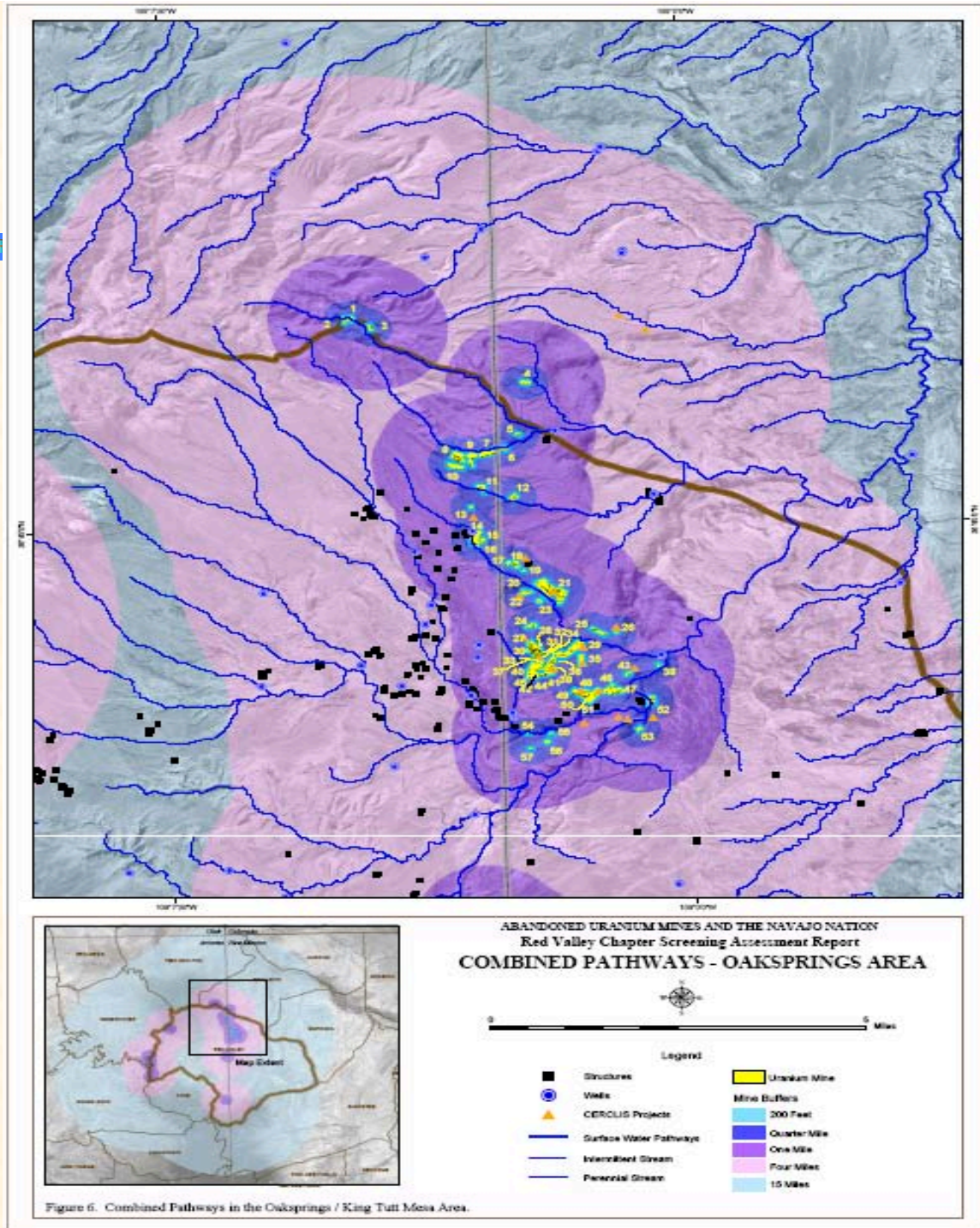
Bell B412
showing
side pod
carrying
gamma
detector
to measure
Bismuth²¹⁴



AUM Collaborative Process

- ◆ In 2008 EPA began working on the 5-year plan for AUMs. This included a mutual decision with Navajo EPA for them to focus on screening structures and for U.S. EPA to focus on screening AUM sites.
- ◆ In 2008 U.S. EPA, Navajo EPA and Navajo AMLRP agreed that the best way to ensure that all AUM sites are screened is to work through the six AUM mining regions in the following order: Eastern, Northern, Western, North Central, Central, and Southern.

**Example
from
Atlas
In Red
Valley
Showing
King
Tutt
Mesa
Sites**



Eastern Region Site Screening

- ◆ For the Eastern AUMs, the challenges include: developing new screening process for AUMs, mapping the complex land ownership patterns, and establishing a working relationship with the agencies in New Mexico.
- ◆ The status and ownership of the “checkerboard” pattern of land includes: Navajo Trust, Trust allotments, BLM, Public Order lands, State of New Mexico, and privately owned on fee lands.

Screen Form

Site screen form is designed to focus on location of nearby structures and sources of drinking water, and on the reclamation status.

Navajo Abandoned Uranium Mine Site Screen Report

This form is for use at the site of abandoned uranium mines (AUM) located on Navajo Nation lands. Applicable sites include all mine and mine features that have or have not undergone reclamation by the Navajo Abandoned Mine Lands Reclamation Program, including features, adits and pits. Applicable sites also include all AUM sites listed in the USEPA CERCLIS database, all sites listed in the 2008 AUM GIS Report issued by USACOE and USEPA, all AUM sites on allotment lands associated with the Navajo Nation, and any and all AUM sites lands not listed in any database located on Navajo lands. Reconnaissance of any sites located on lands adjacent to Navajo lands but that are or may be impacting Navajo lands will need to be coordinated with the authorities appropriate to those lands.

The purpose of the form is to ascertain the status and location of the identified AUM site, to record all immediate site information associated with the mine site and to document the recommendation and/or decision on what additional steps, if any, are needed at the site.

_____ AUM Site

Navajo AUM Eastern Region

Prepared by:

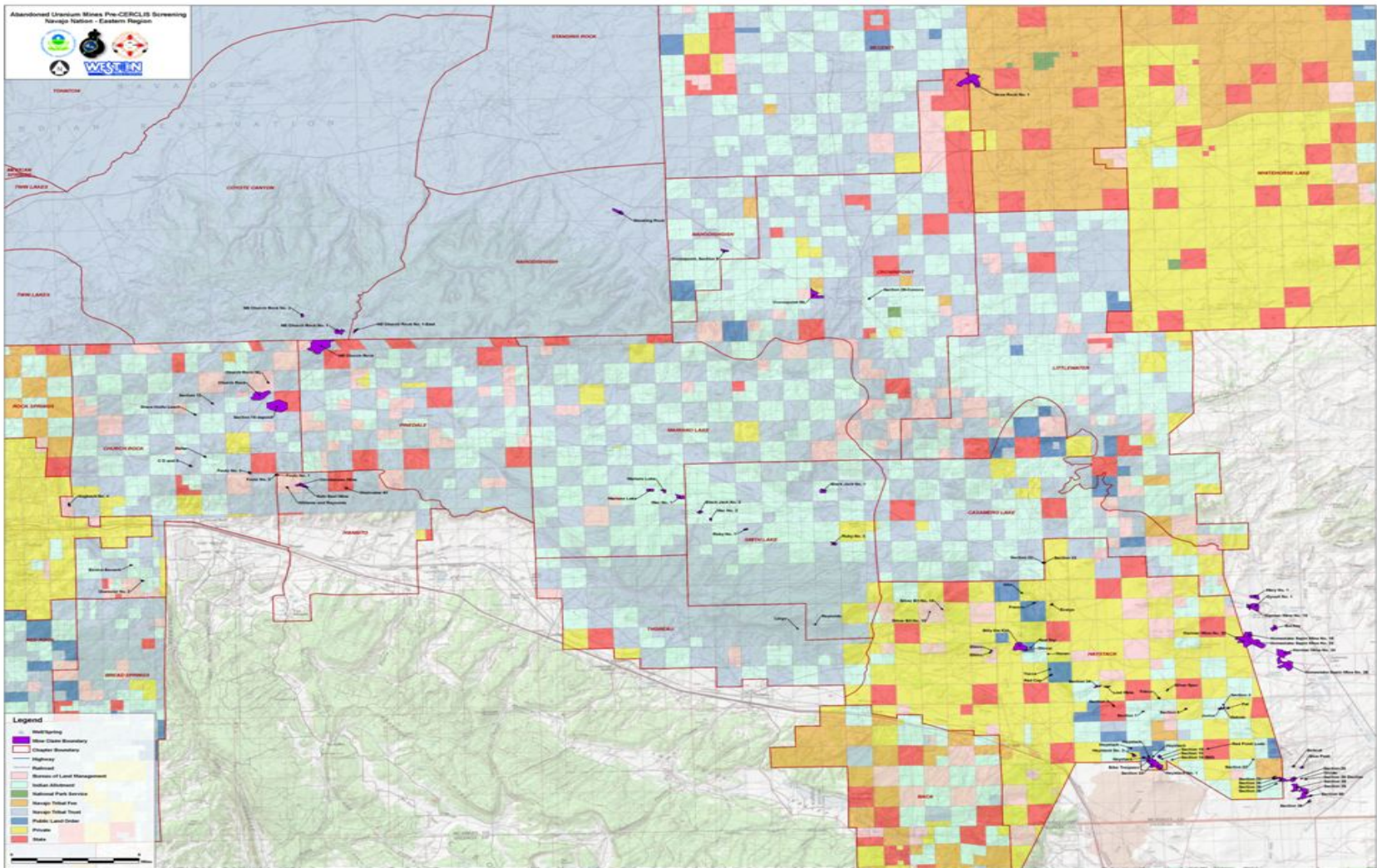
Weston Solutions, Inc.

Contract: W91238-06-F-0083

12767.063.496.1111

_____ 2009

Eastern Checkerboard land patterns



Eastern Region Site Screening

- ◆ In late 2008 Weston Solutions, Inc. conducted site screens at 83 AUM sites in the Eastern Region. These include 16 sites on New Mexico lands that are within a mile of the Navajo Tribal lands boundary.
- ◆ Approximate count of number of sites on land status:
 - ◆ Tribal Trust 16
 - ◆ Allotments 27
 - ◆ BLM 8
 - ◆ Public Land Ordinance 8
 - ◆ New Mexico lands 8
 - ◆ Private (fee lands) 16
- ◆ CDs with the reports of these sites are available at the conference.
- ◆ Transmittal copies will be sent to the agencies.

AUMs – next steps

- ◆ EPA will consult with the Navajo EPA and the other agencies on establishing a process for review and prioritization of the sites that may warrant further investigation.
- ◆ EPA is gathering information on the the viable companies as Potentially Responsible Parties (PRPs) for funding to pay for the cleanups that are still needed.
- ◆ Field work for Screens at 103 sites in the Northern Region is complete. Goal is to complete reports by March of 2010.

An AUM at Cove Mesa



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