

URANIUM MINING LEGACY WASTE IN THE FOUR CORNERS REGION

- ✓ **500 or More Historic Mine Sites**
- ✓ **Comingled, Orphan & “Mom and Pop” Operations**
 - ✓ **Cold War Legacy**
 - ✓ **Not Tailings - UMTRCA**

NEXT STEPS?

Request from House Committee on Government Oversight and Reform

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2007: Waxman Hearing

January 16, 2008

Mr. Keith Takata
 Director, Region 9 Superfund Program
 U.S. Environmental Protection Agency
 75 Hawthorne Street
 San Francisco, CA 94105

Dear Mr. Takata:

Thank you again for meeting with us on December 5, 2007, to discuss your plan to address the health and environmental impacts of uranium contamination in the Navajo Nation. We believe that implementation of the federal agency action plans will begin to address these impacts, and we encourage you to proceed as rapidly as possible, consistent with your consultation responsibilities to the Navajo Nation. These action plans, however, are beginning.

The draft action plans do not clearly delineate a course of action for fully resolving the problem. Given the extent of the contamination that is already known, it is obvious that the contamination cannot and will not be cleaned up in the 3- to 9-month timeframes of the draft plans. We need a 5-year plan from each agency that sets out specific cleanup objectives, specific timeframes for achieving those objectives, and the new authorities and funding necessary to achieve those objectives. These plans will provide the Congress, the Navajo Nation, and the public with concrete benchmarks against which to measure the progress of the federal agencies in cleaning up the contamination.

We therefore request that your agency prepare a 5-year action plan for addressing uranium contamination in the Navajo Nation. We are making a similar request of other responsible agencies. In developing your plan, please work with the other agencies to ensure that the federal response is coordinated and effective. The 5-year action plan should specify its cleanup objectives and include specific timeframes and cost estimates for those objectives.

Among the specific objectives that one or more of the 5-year action plans should include are:

Mr. Keith Takata
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- Assessment of structures and water sources that are likely to be contaminated;
- Cleanup of all structures found to be contaminated above safe levels;
- Provision of alternate water supplies for residents consuming contaminated water;
- Tiered assessment of abandoned mines, with more detailed assessments of those most likely to pose environmental or health problems;
- Cleanup of the Northeast Churchrock mine site and additional high-priority abandoned mine sites;
- Cleanup of the Tuba City Highway 160 site;
- Cleanup of the Tuba City dump;
- Remediation of groundwater contamination at the three mill sites; and
- Conduct of one or more case control studies of health risks faced by individuals residing near mill sites or abandoned mine sites.

We request that you provide the Committee with your agency's draft 5-year action plan by February 19, 2008. If you have any questions regarding this request, please contact Jeff Baran or Andy Schneider of the Committee staff at (202) 225-4407.

Thank you for your continuing cooperation in this matter.

Sincerely,

Henry A. Waxman
 Henry A. Waxman
 Chairman

Tom Davis
 Tom Davis
 Ranking Minority Member

cc: Mr. Jim Nussle
 Director, Office of Management and Budget

August 2010

Assessment of Health and Environmental Impacts of Uranium Mining and Milling

Five-year Plan Grants Mining District, New Mexico



Lisa Price

Grants Mining District Coordinator

Region 6 EPA (6SF-TR)

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Dallas, TX 75202

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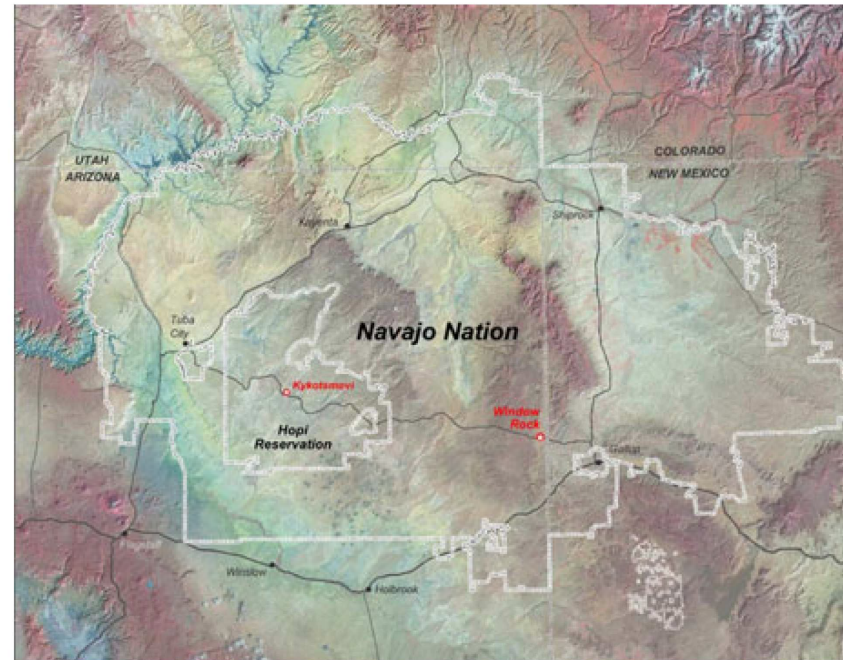
photo courtesy of Brenda Cook

Health and Environmental Impacts of Uranium Contamination in the Navajo Nation

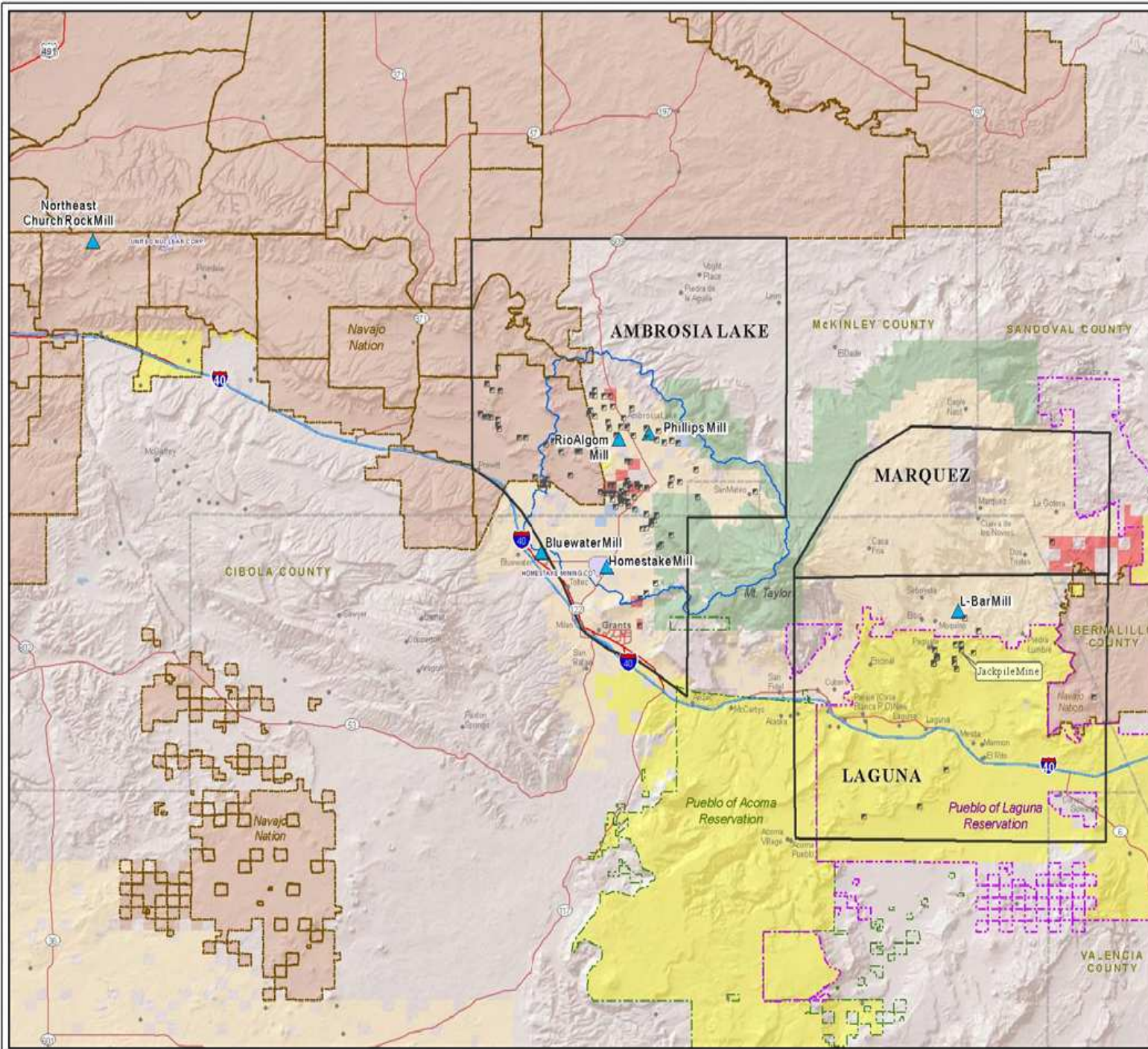
Five-Year Plan

as requested by
House Committee on Oversight and Government Reform

June 9, 2008



Grants Mining District



Legend

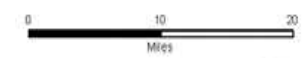
- Uranium Mine
- ▲ Mill Location
- City or Town
- Uranium Sub-District
- ▭ Pueblo of Acoma
- ▭ Pueblo of Laguna
- ▭ Navajo Nation
- ▭ San Mateo Basin
- ▭ NPL Site
- ▭ Navajo Nation Ownership

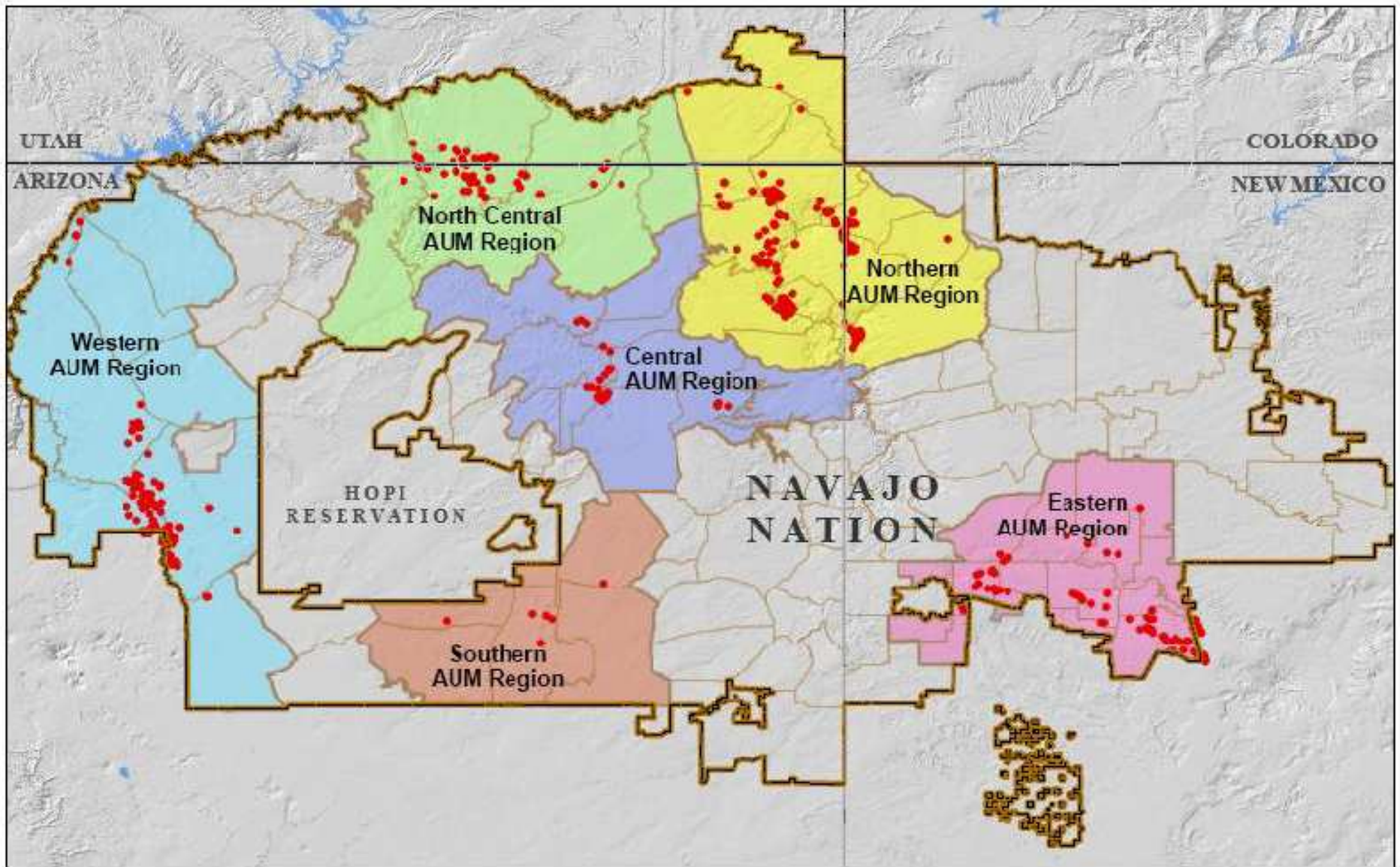
Land Ownership for Tracts with Mines

- ▭ Bureau of Land Management
- ▭ Forest Service
- ▭ Tribal Land
- ▭ Private Land
- ▭ State Land

Note:
The Land Ownership layer as displayed is not complete. The only areas displayed are those containing one or more mines.

Sources:
MMD Legacy Uranium Mine Inventory, 12/2008; EPA Region 6 NPL; Navajo Land Department, TIGER/Lane 2008; Tribal Lands; ESRI 2008 Base Features and Relief; Land Ownership from Bureau of Land Management.

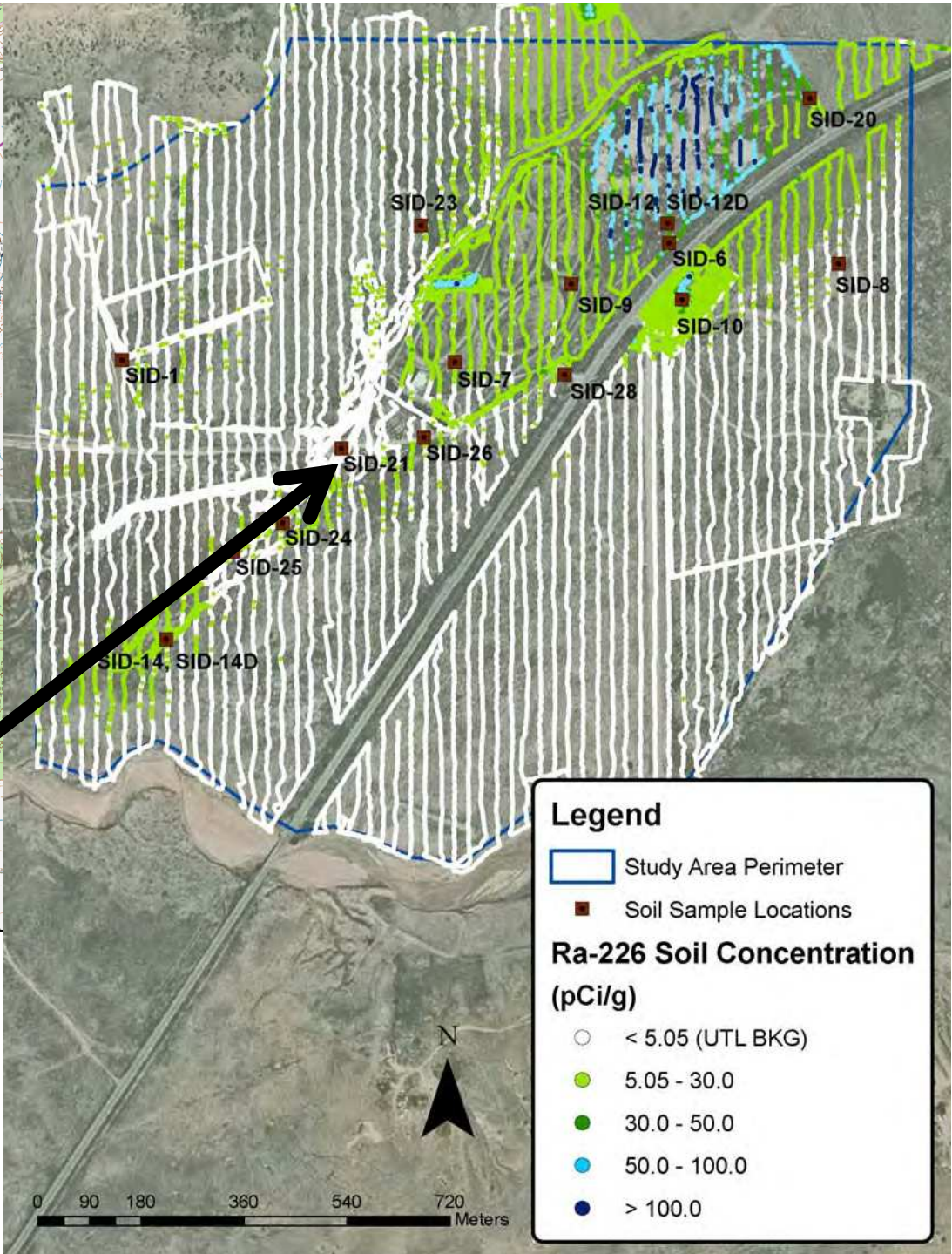
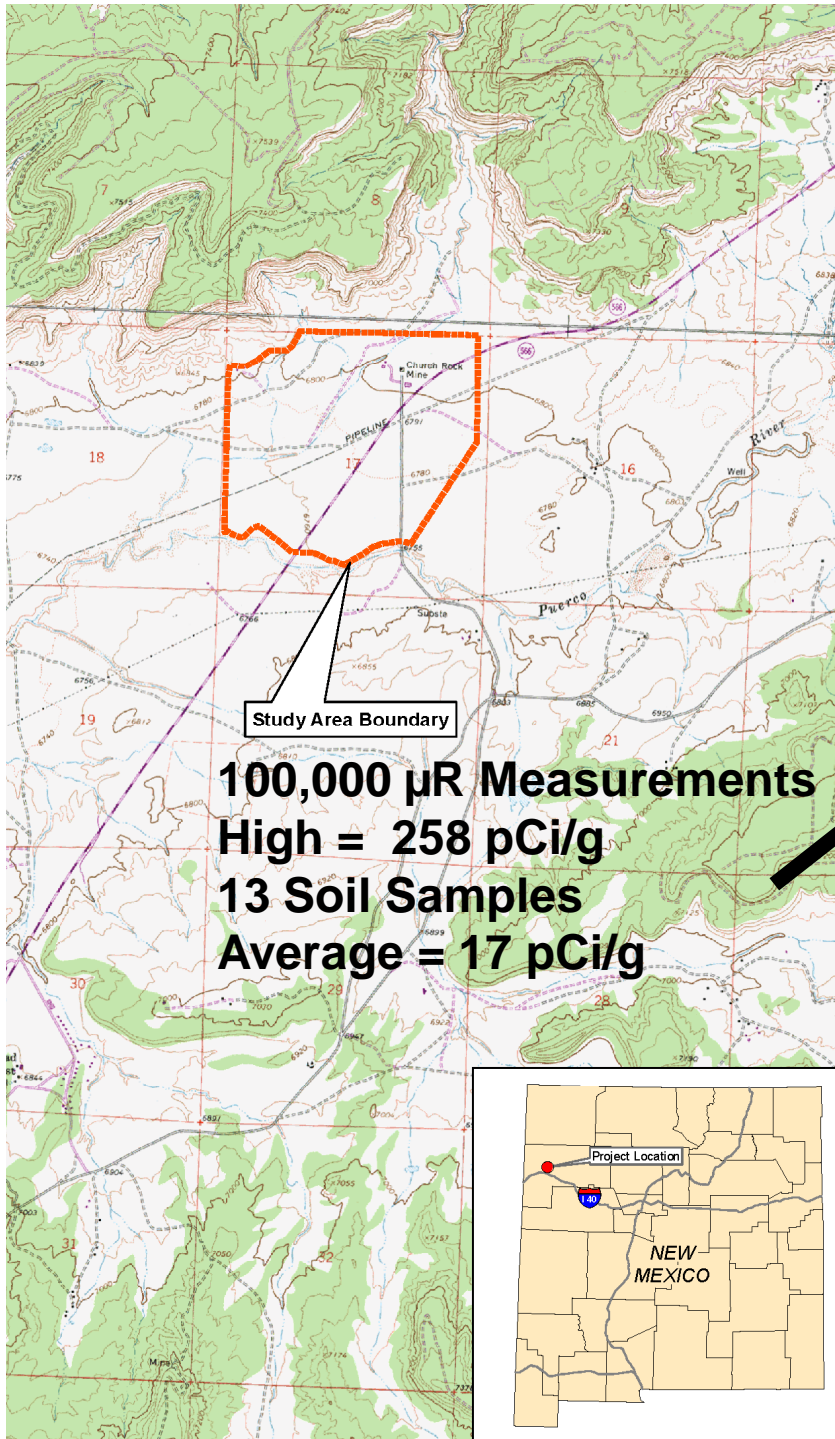




**Abandoned Uranium Mine Locations
and AUM Regions
on the
Navajo Nation**

• Abandoned Uranium Mines

50 25 0 50 Miles



TNORM Standard



- ✓ Background
- ✓ Multi Agency Radiation Survey & Site Investigation Manual (MARSSIM)
- ✓ Background + 66% or 95% UTL
 - ✓ 5/15 pCi/g (11e(2))
 - ✓ 30 pCi/g (NORM)



Exponential Volume

EPA 11e. (2) Standards at 40 CFR 192.12

Remedial actions shall be conducted so as to provide reasonable assurance that, as a result of residual radioactive materials from any designated processing site ... The concentration of Ra-226 in land averaged over any area of 100 square meters shall not exceed the background level by more than **5 pCi/g**, averaged over the first 15 cm of soil below the surface, and **15 pCi/g**, averaged over 15 cm thick layers of soil more than 15 cm below the surface.

Oil & Gas NORM New Mexico at 20.3.14.1403

For release for unrestricted use, persons who receive, possess, use, process, transfer, distribute, transport, store or dispose of NORM are exempt from the requirements of these regulations if: the NORM present is at concentrations of **30 pCi/g** or less of Ra-226, above background...in soil, in 15 cm layers, averaged over 100 square meters.

Disposal Options



- ✓ On site cover
- ✓ **Direct Disposal of *Non-11e.(2)* Byproduct Material In Uranium Mill Tailings Impoundments. 1. Limited Capacity for High Volume, Low Activity Wastes. 2. Few Tailings Remain Open. 3. Under UMTRCA, Material Must be Processed “Primarily” for its Source Material Content to Generate 11e.(2) Byproduct Material.**
- ✓ Offsite options \$\$\$\$

\$ Options



✓ **SMRCA**

✓ **PRPs**

- ✓ **Legislative Authority to Fund the 1947 – 1960 AEC Procurement Contracts, 1962 – 1966 Allocations, 1967-1970 Allocation Stretch Outs & Comingled Mine Waste**

Huge volumes of low activity waste, high cost of removal must lead to creative thinking.

- ✓ Public opinion must be addressed.**
- ✓ Safe in situ closure against the costs and risks of removal must be considered.**