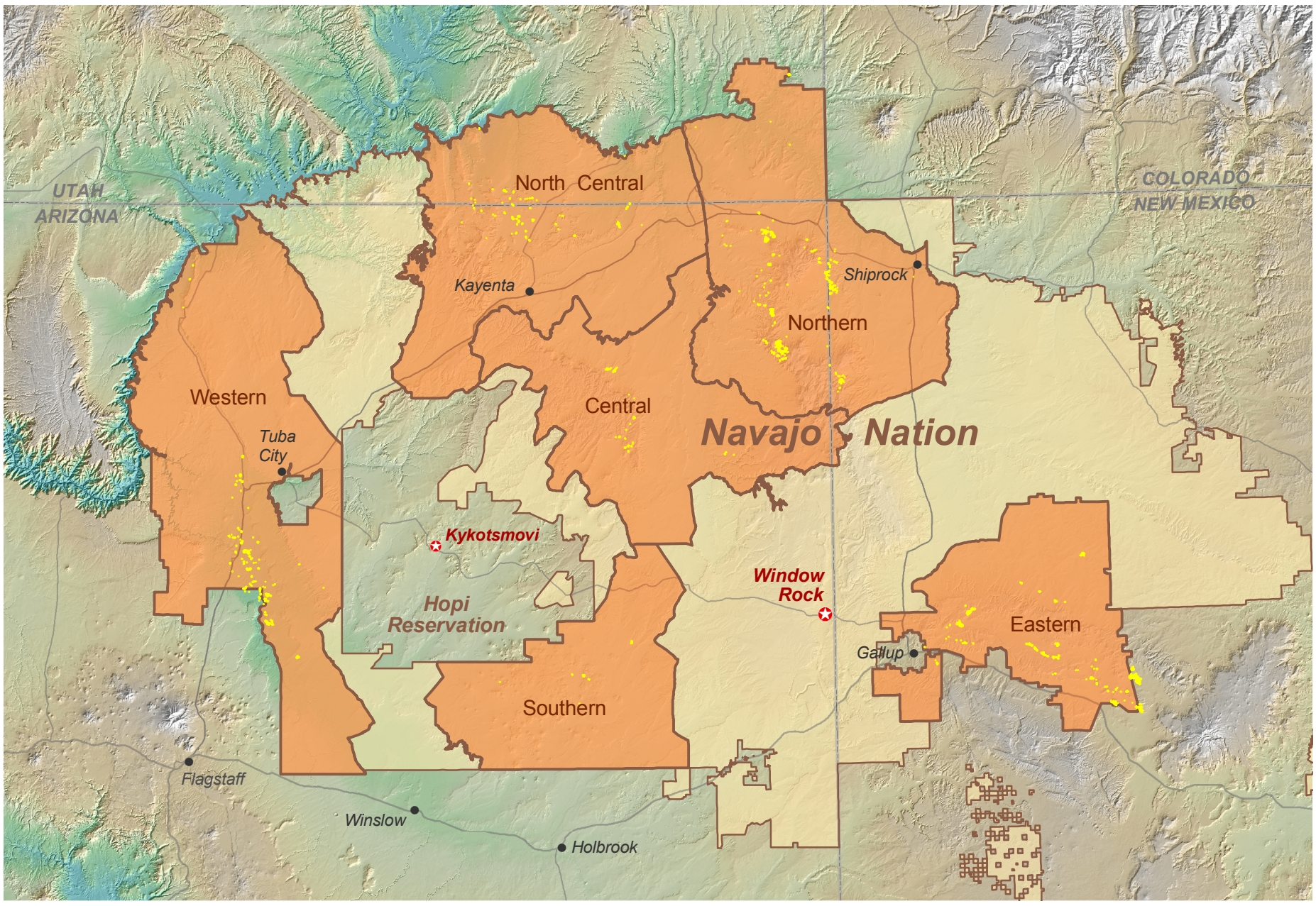
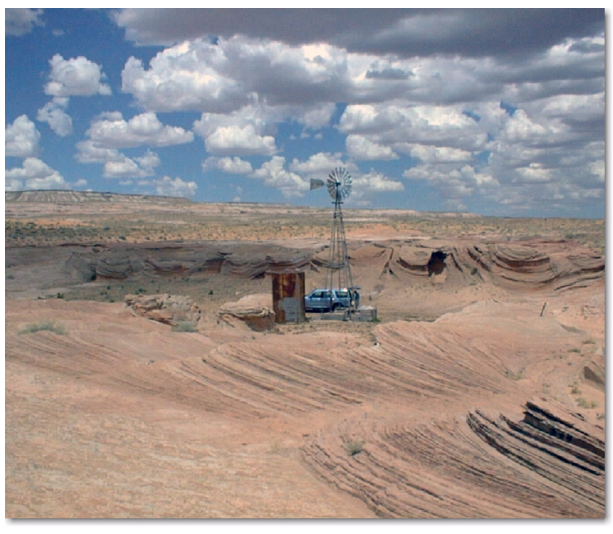
ABANDONED URANIUM MINES AND THE NAVAJO NATION

Navajo Nation AUM Screening Assessment Report And Atlas With Geospatial Data





Screening Assessment Report and Atlas with Geospatial Data prepared by the U.S. Army Corps of Engineers
under an Interagency Agreement for the U.S. Environmental Protection Agency, Region 9
in Cooperation with the
Navajo Nation Environmental Protection Agency and the
Navajo Abandoned Mine Lands Reclamation Program

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REPORT COVER AND PHOTO CREDITS

The map on the cover shows the boundaries of the Navajo Nation and Hopi Reservation on a shaded-relief map. The Navajo Nation encompasses approximately 27,000 square miles in portions of three states: Arizona, New Mexico, and Utah. The map also shows the areas where uranium was mined across the Navajo Nation. Abandoned uranium mines (AUM) with mapped locations are shown in yellow on the map. Uranium mines were generally clustered in six regions of the Navajo Nation: North Central, Northern, Central, Eastern, Southern, and Western. The six regions are shown in orange on the map.

Photos from each of the six regions are depicted on the cover (clockwise from top left):

North Central Region: West Mitten Butte located in the Monument Valley Navajo Tribal Park, Oljato Chapter, Utah. Photo courtesy of TerraSpectra Geomatics (November 22, 2002).

Northern Region: Shiprock Peak (Tse' Bit' A'i' - Rock with Wings), a volcanic neck and dike located about 13 miles southwest of Shiprock, New Mexico in the Shiprock Chapter. Photo courtesy of TerraSpectra Geomatics (August 20, 2002).

Central Region: Spider Rock, an 800 foot red sandstone monolith located in Canyon de Chelly National Park, in the Chinle Chapter, Arizona. Photo courtesy of TerraSpectra Geomatics (May 7, 2001).

Eastern Region: Church Rock is a steeple shaped sandstone pillar located in the Red Rock State Park, about 10 miles east of Gallup, New Mexico, in Church Rock Chapter. Photo courtesy the McKinley Soil and Water Conservation District, USDA Service Center, (Accessed on April 6, 2007 at URL *http://mckinleyswcd.com/churchrock.jpg*).

Southern Region: Aerial view of the Hopi Buttes Volcanic Fields looking west. Photo courtesy Louis J. Maher, Dept. of Geology and Geophysics, Univ. of Wisconsin, Madison (Accessed on April 11, 2007 at URL *http://esp.cr.usgs.gov/hopibuttes*).

Western Region: Standing Rock Well in the central area of the Tuba City Chapter, Arizona. Photo courtesy the U.S. Army Corps of Engineers (August 12, 1998).

REPORT GRAPHIC ELEMENTS

Graphic elements used throughout this report are patterned after the Navajo Nation seal and flag. The seal (shown above) was designed by John Claw, Jr. of Many Farms, Arizona and was officially adopted by the Navajo Tribal Council in 1952, by resolution CJ-9-52. The original Navajo Nation seal bears a ring of 48 arrowheads that symbolize the Tribe's protection within the 48 states (as of 1952). Within this ring of arrowheads are three concentric circles that are open at the top. The circles represent a rainbow and symbolize the Navajo Nation. Within these rings are two corn plants, the sustainer of life for the Navajo, their tips yellow with pollen. Between the corn plants are a horse, cow, and sheep, representing livestock. The yellow sun shines from the east (at the top) on the four sacred mountains that are represented by their ceremonial colors: white, turquoise, yellow, and black. In May 1988, the Navajo Nation Council amended the original wording from "the Great Seal of the Navajo Tribe" to "the Great Seal of the Navajo Nation." They also increased the number of arrowheads to 50 to include representation of the states of Hawaii and Alaska (Navajo Nation Hospitality Enterprise, 2005).

In the Navajo Creation Story, it is told that their Creator placed them on a land between the following four mountains, which represent the four cardinal directions:

- Mount Blanca Sacred Mountain of the East — Dawn or White Shell Mountain,
- Mount Taylor Sacred Mountain of the South — Blue Bead or Turquoise Mountain
- San Francisco Peaks Sacred Mountain of the West — Abalone Shell Mountain
- Mount Hesperus Sacred Mountain of the North — Obsidian Mountain

The Navajo Nation flag (shown below), was designed by Jay R. Degroat, a Navajo student from Mariano Lake, New Mexico. It was officially adopted by the Navajo Nation Council in 1968 by Resolution CMY-55-68. On a tan background, the outline of the Navajo Nation is shown in copper, with the outline of the original 1868 Treaty Reservation in dark brown. At the cardinal points in the tan field are the four sacred mountains. A rainbow symbolizing Navajo sovereignty arches over the Navajo Nation and the sacred mountains. In the center of the Nation, a circular symbol depicts the sun above two green stalks of corn, which surrounds three animals representing the Navajo livestock economy, and a traditional hogan and modern home. Between the hogan and the home is an oil derrick symbolizing the resource potential of the Nation, and above this are representations of the wild fauna of the Nation. At the top, near the sun, the modern sawmill symbolizes the progress and industry characteristics of the Navajo Nation's economic development (Navajo Nation Hospitality Enterprise, 2005).

The Navajo consider east to be where everything begins — east signifies dawn and all things good and beautiful. On the Navajo Nation seal, the Navajo convention of east as "up" is used. For this document, the placement of the sacred mountains on the borders follows the cartographic convention of north at the top, as depicted on the Navajo Nation flag.