



U.S. DEPARTMENT OF

**ENERGY**

Legacy  
Management

# Monument Valley, Arizona, Processing Site

## COMMUNITY INFORMATION



*Monument Valley, Arizona, Processing Site (1958)*



*DOE Conducts Tests To Determine if Plants Can Aid in Groundwater Cleanup (2014)*

## Monument Valley Site Background

- 1955–1968 Uranium-ore processing mill operates at the Monument Valley site, on land leased from the Navajo Nation. During milling operations, chemicals from mill-tailings piles and ponds leaked into the soil and groundwater.
- 1968 Mill closes and land is returned to the Navajo Nation. Mill buildings and equipment are torn down.
- 1992–1994 U.S. Department of Energy (DOE) cleans up materials from former milling operations.
- 1994 Mill tailings are shipped to a disposal cell in Mexican Hat, Utah. A cover that prevents radon gas from escaping, and reduces the amount of water that drains through the disposal cell, is constructed over the materials.
- 1997–Present DOE performs long-term care at the Monument Valley site.

## DOE Activities at the Monument Valley Site

### Site Activities

DOE, in coordination with the Navajo Tribal Utility Authority (NTUA), installed waterlines to the homes of Monument Valley residents and is providing a clean water supply to those residents. DOE also employs some of the residents to help watch over the site and provide support for other DOE activities. Groundwater is sampled once each year to measure its chemical levels. Several large fields of native plants are being grown at the site to see how they can help clean contaminated groundwater.

### Groundwater Cleanup

Contamination remaining in site groundwater includes nitrate and ammonia, which are the same chemicals



*Scientist Taking a Fourwing Saltbush Sample from the Phytoremediation Test Plot*

that are in the fertilizers used to help grow crops. Because the groundwater contains some of the same components as fertilizer, DOE conducted tests to see if plants could be used to help clean up the groundwater. The process is called phytoremediation.

## Phytoremediation

Phytoremediation is the use of plants to prevent the movement of contaminants. Black greasewood and fourwing saltbush were planted at the Monument Valley site to test their ability to help control the movement of contaminated groundwater. The plants can sustain themselves without irrigation if their roots are able to grow down to reach the groundwater.

DOE will provide Monument Valley residents with information for long-term activities at the site.

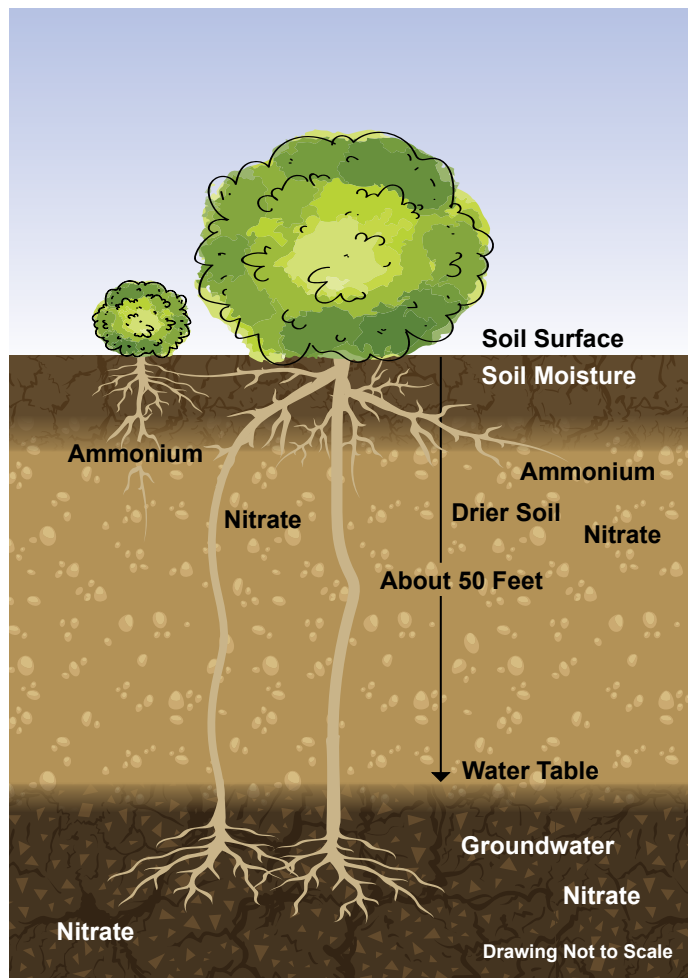
## Contacts

DOE is responsible for cleaning up groundwater at the Monument Valley site to protect human health and the environment. The Navajo Nation provides oversight for DOE activities.

Questions about the site? Visit DOE's website at <https://www.lm.doe.gov/monvalley/Sites.aspx> or contact:

Angelita Denny, Site Manager  
U.S. Department of Energy  
Office of Legacy Management  
Phone: (970) 248-6621  
Email: [angelita.denny@lm.doe.gov](mailto:angelita.denny@lm.doe.gov)

Madeline Roanhorse, Program Manager  
Navajo AML/UMTRA Department  
Phone: (928) 871-6982  
Email: [mroanhorse@frontiernet.net](mailto:mroanhorse@frontiernet.net)



Phytoremediation

## Other Navajo Nation, Uranium-Related Programs

This table includes programs and people you may contact to learn more about the services available to you if you have questions about uranium exposure and your health.

| Agency and Contact Information  | Program   |
|---|---|
| <b>Navajo Area Indian Health Service</b><br>Contact: Dolores Gruber<br>Phone: (505) 368-7402 or<br>1-800-549-5644, ext. 7402<br>Email: <a href="mailto:dolores.gruber@ihs.gov">dolores.gruber@ihs.gov</a> | <b>Community Uranium Exposure Journey to Healing Program:</b><br>This program provides health monitoring, health promotion, and health education to people across the Navajo Nation. It focuses on people exposed to uranium by living in the community rather than by working at uranium mines or mills. |
| <b>Navajo Area Indian Health Service</b><br>Contact: Johnna Rogers<br>Phone: (505) 368-7397 or<br>1-800-549-5644, ext. 7397<br>Email: <a href="mailto:johnna.rogers@ihs.gov">johnna.rogers@ihs.gov</a>    | <b>Navajo Birth Cohort Study:</b> The primary goal of this study is to determine whether exposure to uranium waste affects birth outcomes and childhood development on the Navajo Nation.   |
| <b>Navajo Area Indian Health Service</b><br>Contact: Rena Gould<br>Phone: (505) 368-7054<br>Email: <a href="mailto:rena.gould@ihs.gov">rena.gould@ihs.gov</a>   | <b>Radiation Exposure Screening and Education Program (RESEP):</b> This program offers assistance to miners and millers, including applying for compensation and healthcare services.   |
| Contact: Denise Bartley NP-C<br>Phone: (505) 368-7392<br>Email: <a href="mailto:Denise.Bartley@ihs.gov">Denise.Bartley@ihs.gov</a>  |   |