

FOR MORE INFORMATION

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TUBA CITY COMMUNITY
UPPER AND LOWER MOENKOPI VILLAGES



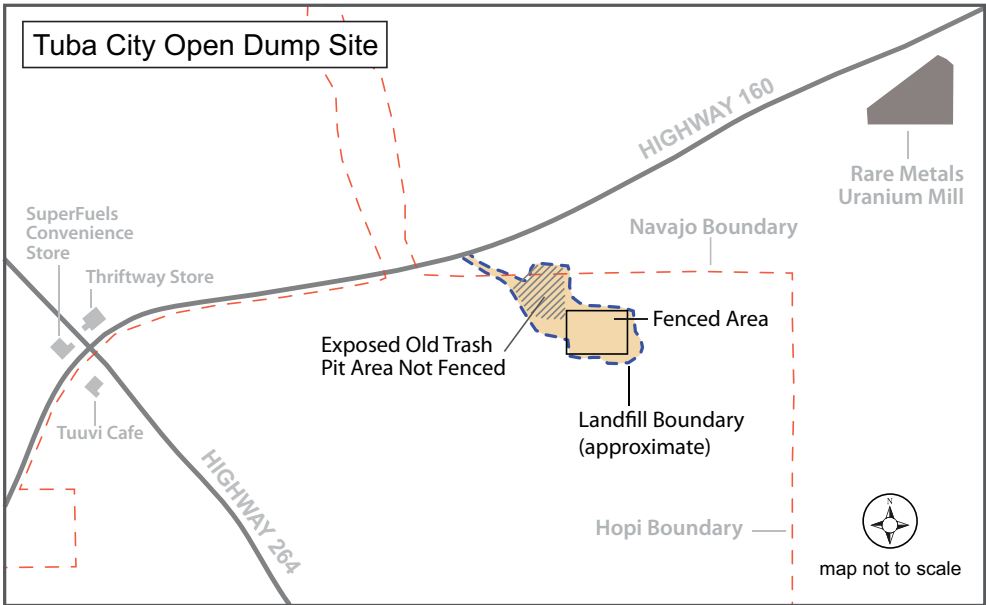
INTRODUCTION: TUBA CITY OPEN DUMP SITE ISSUES
MAY 2006

ISSUES AT THE TUBA CITY OPEN DUMP SITE

Based upon information provided by life-long residents, the Hopi Water Resources Program, Environmental Protection Office (Hopi EPO), and Navajo Nation Environmental Protection Agency (NN EPA) are investigating whether the Tuba City Open Dump site may contain radioactive and hazardous waste. This mixed waste (radioactive and hazardous waste) was allegedly dumped during the operation of the former Rare Metals Corporation of America, a uranium mill tailings facility located approximately six miles northeast of Tuba City (see map). The Rare Metals facility processed uranium ore into high-grade uranium from as early as 1962 to 1968 to support U.S. military efforts.

Recent site investigations and groundwater monitoring indicate the presence of radionuclides in the shallow groundwater. Levels for radionuclides at the Tuba City Open Dump site exceed the U.S. Environmental Protection Agency (US EPA) maximum contaminant levels. However, the site investigation indicates that the deep groundwater at the Open Dump is within safe drinking water levels. The shallow groundwater is of concern to all parties involved in this project. Both the shallow and deep groundwater are not being used for drinking water. Navajo Tribal Utility Authority is providing water to Navajo residents. Hopi residents get their drinking water from domestic wells nearby the Open Dump site. So far, neither Navajo nor Hopi drinking water has been impacted.

In 1997, the U.S. Bureau of Indian Affairs (BIA) covered and fenced off twenty acres of the site. However, there were no other actions taken for the remaining portions of the site and the exposed old trash pit area remains unfenced (see map). The Hopi Tribe and Navajo Nation would like the Open Dump site to be clean closed, which means moving the waste off tribal lands to a facility designed to accept contaminated solid waste material.



GLOSSARY

Clean Closure: Remove all contamination from the landfill and replace with clean fill.

Fill: “soil” material used to fill in spaces where contaminated material was removed.

Hot Spot: An area that has the highest level of concentrated contamination.

Landfill: A regulated site with controls for waste disposal.

Landfill Closure: Federal solid waste landfill closure regulations require a permanent cover (cap) to be placed over the landfill with monitoring wells.

Maximum Contaminant Levels (MCLs): Federal Water Standards used to measure contaminant levels in drinking water and groundwater.

Open Dump: A site where trash is disposed that does not comply with federal landfill requirements.

Permanent Cap: An engineered cover placed over the area used to reduce the amount of water entering into the surface.

Radionuclides: Radioactive materials.



SITE BACKGROUND

The Tuba City Open Dump site is located on land under two tribal jurisdictions. In 1996, the Ninth Circuit Court of Appeals designated 28 acres of the approximately 30-acre site to be on the Hopi Reservation and two acres to be on the Navajo Reservation. The Open Dump site is located adjacent to Arizona State Highway 160, approximately one mile east of the State Highway 264 junction, across from the Tuba City fairgrounds. The site consists of two main units: a newer section used from the 1980s until 1997 and an older area that was used from the 1940s until the 1980s.

Since the 1940s, the site was a dumping area where local businesses, schools, agencies, and the public dumped waste. During this time, it was not regulated nor supervised as a solid waste disposal site. The BIA periodically provided maintenance to the site by constructing and back filling trenches at the dump site. In addition, both BIA and the tribes used the facility for municipal solid waste disposal. In 1995, the BIA initiated assessment studies to determine the waste deposition, the status of the hydrology, and local soil impacts at the Open Dump site. The Tuba City Open Dump site was administratively and operationally closed in 1997.

WHAT ASSESSMENT ACTIVITIES HAVE BEEN DONE SO FAR?

Since 1999, the Tuba City Open Dump team (consisting of US EPA, BIA, Hopi Tribe and NN EPA) has conducted many assessment activities to understand the environmental conditions at the Open Dump site. The majority of these investigations have been funded by BIA. These assessments include:

- waste characterization (on-going)
- groundwater assessment and monitoring (on-going)
- comparison of radioactive waste material at the Open Dump to former nearby operational facility (on-going)
- closure alternative analysis plan (on-going)
- site survey (in progress)
- investigation of health concerns associated with the Open Dump (in progress)
- records search at Grand Junction Colorado (in progress)
- background study of naturally occurring uranium (in progress)
- geophysical survey (recently completed by USGS)
- soil gas survey (completed)

Additionally, the Tuba City Open Dump team and the Villages of Moenkopi meet several times a year and also hold conference calls to discuss on-going investigations, plan future actions for the site, and coordinate community involvement activities.

Pictured on the right: Data collection at a groundwater monitoring well near the Tuba City Open Dump site. As part of the site investigation currently underway at the Open Dump site, groundwater chemistry data is gathered to determine what contaminants may possibly be in the groundwater.



SITE TIMELINE

1940: Tuba City Open Dump began operation as an unregulated and unsupervised waste disposal site.

1995: BIA initiated various studies to determine waste deposition, subsurface groundwater and soil conditions, and closure strategies and cost.

1996: The Ninth Circuit Court of Appeals designated 28 acres of the approximately 30-acre site to be on the Hopi Reservation with the rest on the Navajo Reservation.

1997: Tuba City Open Dump was administratively and operationally closed in August.

OPTIONS FOR THE TUBA CITY OPEN DUMP SITE

US EPA, the Hopi Tribe, NN EPA and BIA, are working to find an appropriate [landfill closure](#) option for the Open Dump site. All options considered must be consistent with federal and tribal legal requirements and must protect human health, the environment, and future land use. Currently, there are three possibilities for the Open Dump site:

Clean Closure – Removing all contamination from the [landfill](#) and then backfill the area with clean [fill](#).

Permanent Cap with Monitoring – Placing a [permanent cap](#) over the entire landfill and installing a groundwater monitoring network to monitor the landfill.

Hotspot Removal with Monitoring – Removing the areas of the landfill where contaminants exceed regulatory levels, capping the entire landfill, and installing a groundwater monitoring network to monitor the landfill.

In addition to finding the best option for the Tuba City Open Dump, results from the soil and groundwater sampling events will determine further actions in the surrounding area.

FUTURE ACTIONS

A closure alternatives analysis report is being developed to determine options for the cleanup of the Tuba City Open Dump site. The report will identify the source of waste contamination in the dump site and the potentially responsible party or parties. The report will also outline which of the cleanup options (described in the section above) is the most appropriate for the site. Next steps include:

- Completion of BIA investigative activities to determine the extent and location of radionuclide contamination.
- Contact and update the Department of Energy on investigation efforts and to discuss the findings.
- Conduct a public meeting scheduled for September/October 2006 to share information with the communities and public.



If you would like to be added to the mailing list for the Tuba City Open Dump site, please call the toll free number (800) 231-3075 and leave a message with your name or address for the Tuba City Open Dump mailing list or fill out this portion and return it to: Pui Man Wong, U.S. EPA Community Involvement Coordinator, 75 Hawthorne St. (SFD-3), San Francisco, CA 94105. You may also fax this portion to Pui Man Wong at (415) 947-3528 or subscribe to the Tuba City Open Dump listserve by emailing wong.puiman@epa.gov.

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