

# **URANIUM RECOVERY FACT SHEET — White Mesa Uranium Mill**

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**Glen Canyon Group/Sierra Club**

## **WHAT IS THE WHITE MESA MILL?**

The White Mesa Uranium Mill is owned and operated by International Uranium Corporation (IUC), a Canadian corporation. The Mill is located 4 miles north of the White Mesa Ute community and 6 miles south of Blanding, Utah. It was built in 1979 to process uranium ore from the Colorado Plateau. In 1987 it began receiving "alternate feed material" (uranium-bearing radioactive waste) for processing. Since 1999 the mill has relied solely on alternate feed. From 1999 to 2002 the Mill stockpiled almost three hundred thousand tons of radioactive waste. From June 2002 to May 2003 the stockpiled waste was processed for its uranium content. The radioactive and toxic tailings and processing chemicals are placed in the tailings impoundments.

## **WHAT ARE THE HEALTH and ENVIRONMENTAL HAZARDS?**

- The tailings impoundments at White Mesa were constructed with thin plastic liners between two layers of crushed rock. IUC is depending on the calcareous sandstone under the ponds to neutralize the extremely acidic tailings pond solution if the ponds should leak. However, the strong solution may instead create preferential pathways through the rock to groundwater below. Utah is assessing the reliability of the liners.
- The leak detection system will not detect a leak until groundwater has already been contaminated.
- The Mill emits radioactive and toxic air pollutants including radon and thoron (gases) and sulfur dioxide and nitrogen oxides (particulates). Windblown particulates and gases travel off-site. Massive amounts of radioactive waste are stockpiled on site for a period of years. Most of the stockpiled materials are not covered and can blow off-site. White Mesa residents report "smelling" the pollutants from the Mill.
- Unmarked inter-modal containers loaded with the hazardous materials drive on Utah highways. Materials are usually offloaded from the railroad at Cisco, Utah, trucked to Interstate 70, east to Highway 191, and south through Moab, Monticello, and Blanding to the Mill just north of the White Mesa Ute community.

## **WHAT ARE OTHER COMMUNITY CONCERNS?**

- The Mill site is sacred to Native Americans. More than 200 rare and significant historical cultural sites are on the Mill property. These include burial sites, large kivas and pit houses, storage pits, and artifacts.
- The communities of White Mesa and Bluff are concerned that the major Navajo Sandstone aquifer, which provides drinking water to the area, will be contaminated. This primary drinking water aquifer underlies the Mill site.
- The State of Utah and/or local communities have fought almost every proposal to bring radioactive waste to the White Mesa Mill for processing as "ore."

## **WHAT ARE THE ECONOMICS?**

- Due to falling uranium prices, IUC suspended all its U.S. mining activities in 1999. IUC is now only seeking contracts to receive the Moab Mill tailings and to receive and process "alternate feed material."
- While IUC sells some recovered uranium or vanadium, their primary source of revenue is fees received from the receipt of the various uranium-bearing wastes. IUC has stockpiled over 33,000 barrels of material from Cameco, pending the return of higher uranium prices. The Mill is now on stand-by until the next run.

## WHAT IS PROCESSED AT WHITE MESA AND WHERE DOES IT COME FROM?

### Current shipments of radioactive waste to the White Mesa Mill:

- Additional contaminated materials from Tonawanda, New York, and Ontario, Canada, for processing.
- Up to 5,000 cubic yards of radioactive waste per site from various in situ leach sites, for direct disposal.

### Possible future shipments of radioactive waste to the White Mesa Mill

- IUC plans to process Department of Energy (DOE) nuclear weapons complex low-enriched uranium (LEU), depleted uranium (DU), and normal uranium (NU) that will first be blended at the Nuclear Fuel Services' facility. Some of the LEU contains technetium-99, strontium-90, and plutonium.
- IUC has received a license amendment to process 470,000 tons of radioactive thorium milling wastes and contaminated soil from the Maywood, New Jersey, FUSRAP and Superfund Site, containing thorium-232 and progeny, lanthanum, lithium, alkaloids, volatile organic compounds (VOCs), semi-VOCs, metals, and pesticides. IUC has not obtained a contract from the U.S. Army Corps of Engineers to receive the waste.
- IUC proposes to slurry the 13 million tons of tailings from the former Atlas Uranium Mill at Moab. The DOE is evaluating the environmental impacts of this proposal as one of the remedial action alternatives.

### Past shipments of radioactive waste to the White Mesa Mill

- 1,248 drums of DOE mixed waste containing uranium, thorium, protactinium, radon, selenium, carbon tetrachloride, and 2-butanone (Manhattan Project, Nevada Test Site).
- More than 270,000 tons of contaminated soil (Tonawanda, New York, Ashland 1 FUSRAP site).
- 44,000 cubic yards of soil containing uranium, thorium, radium, and oil refinery byproducts (Tonawanda, New York, Ashland 2 FUSRAP site).
- Over 93,000 tons of contaminated soil (Tonawanda, New York, Linde FUSRAP site).
- 2,197 tons of calcined radioactive byproduct and 10 tons uranium hexafluoride (Ontario, Canada).
- 2,910 tons of thorium-232-bearing materials (Lakehurst, New Jersey).
- 17 tons of uranyl nitrate hexahydrate (Rhône-Poulenc Basic Chemicals Company).
- 2,343 tons of calcium fluoride and 1,526 tons of KOH solution (Allied Signal, Metropolis, Illinois).
- 17,000 tons of waste sludge containing lead, thorium, uranium, and other toxic metals (Molycorp, Inc., mine at Mountain Pass, California).

## WHO REGULATES THE MILL?

- The U.S. Nuclear Regulatory Commission (NRC) has had responsibility for the Mill since the Mill was proposed in 1977. The State of Utah is in the process of obtaining regulatory responsibility for uranium mills and 11e.(2) byproduct material in Utah. For more information: <http://www.radiationcontrol.utah.gov>.
- Contrary to claims by the NRC and IUC, the feed material being processed at the White Mesa Mill is not "ore." The processing of wastes from other mineral processing activities has never been addressed by an NRC Programmatic Environmental Impact Statement (EIS) or a site-specific White Mesa EIS.

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