

# Umetco–Gas Hills Uranium Recovery Facility

## Site Location and Facility Description

The former Umetco Minerals Corporation (Umetco) Gas Hills Project facility is located approximately 60 miles east of Riverton on the border between Fremont and Natrona Counties, Wyoming (Figure 1). The site, including the tailings disposal and heap leach areas, covers approximately 1,920 acres, of which Umetco owns 280 acres and the remaining area is under the jurisdiction of the U.S. Bureau of Land Management (BLM). The U.S. Nuclear Regulatory Commission (NRC) has approved Umetco's Construction Completion Report. The U.S. Department of Energy (DOE) has submitted a draft Long-Term Surveillance Plan for technical review by NRC. Before license termination, DOE must arrange to transfer BLM land that is within the long-term care boundary.

## Facility Licensing and Operating History

The facility was constructed in 1959, and operations began in 1960. Additionally, heap leach activities at the site began in 1963. Mill operations were put into standby status in 1984 and later shut down in 1987. Reclamation was completed in 2006.

NRC approved the Umetco's Construction Completion Report in September 2008 and deleted License Conditions 10.C, 30, 54, 57, 58, 59, and 61 to reflect the NRC staff's acceptance of the Construction Completion Report and previously submitted and approved Final Status Survey Reports. The closure date for the former facility is yet to be determined.

## Tailings Management and Disposal

The former facility site is on the Wind River Formation, which comprises a sequence of alternating and discontinuous layers of sandstone, siltstone, claystone, and conglomerate. Groundwater beneath the site occurs in two flow regimes separated by a mudstone unit.

The shallower Southwestern Flow Regime (Figure 2) includes the upper portion of the Wind River Formation and is characterized by more oxidizing conditions. The deeper Western Flow Regime (Figure 2) includes the lower portion of the Wind River Formation, but is still part of the shallower aquifer. This aquifer is characterized by

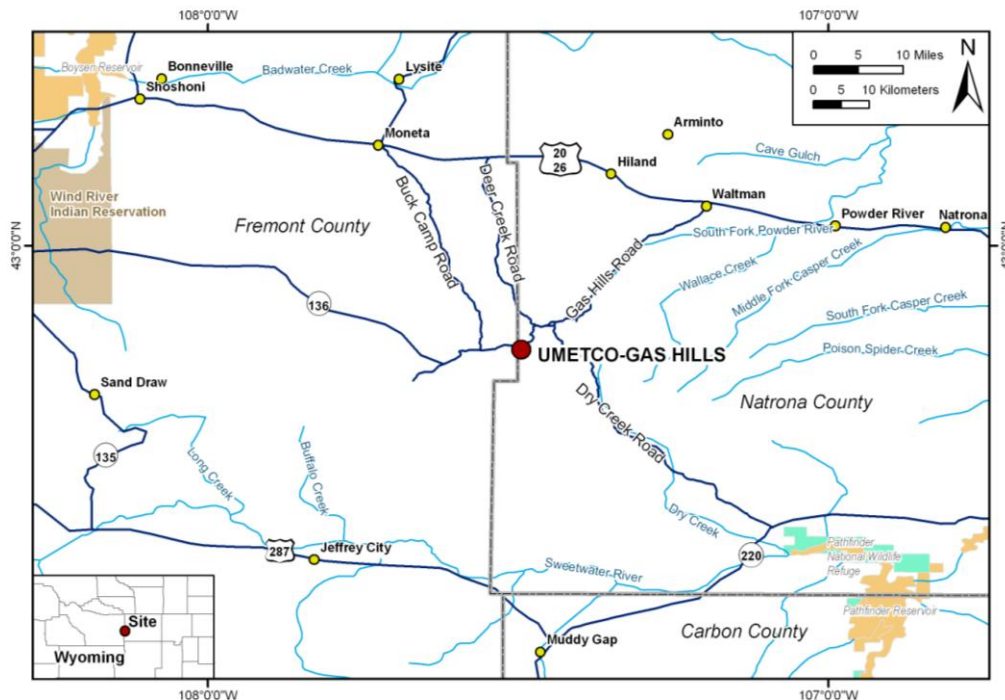
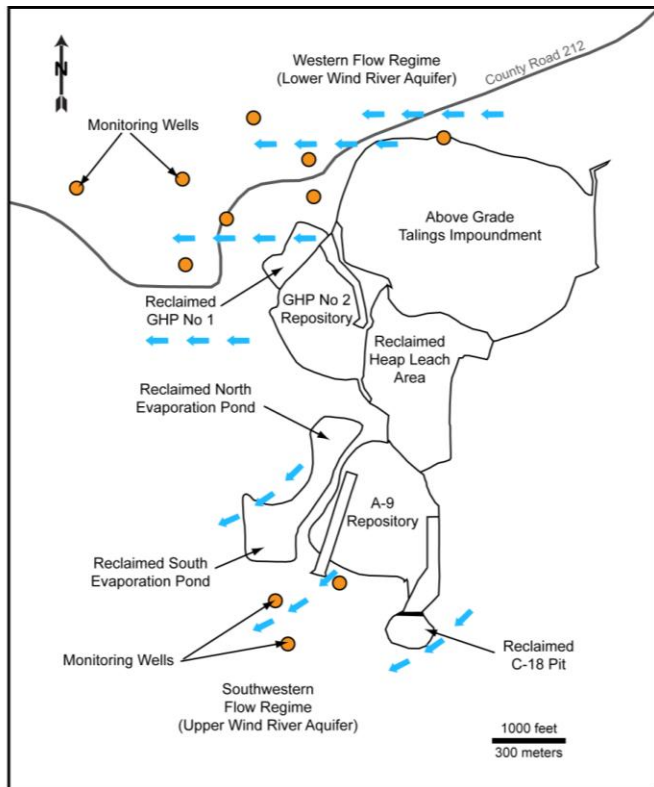


Figure 1. Umetco-Gas Hills Project Site Location Map



**Figure 2. Umetco-Gas Hills Site Layout**

more reducing conditions. Groundwater flows toward the Pathfinder Lucky Mc Uranium Mill site (Source Materials License SUA-672), which is located 5 miles from the Umetco site. Mining-related activities have affected groundwater quality as oxygenated surface water has percolated through open-pit mines, mine spoils, and backfill materials, dissolving previously reduced minerals

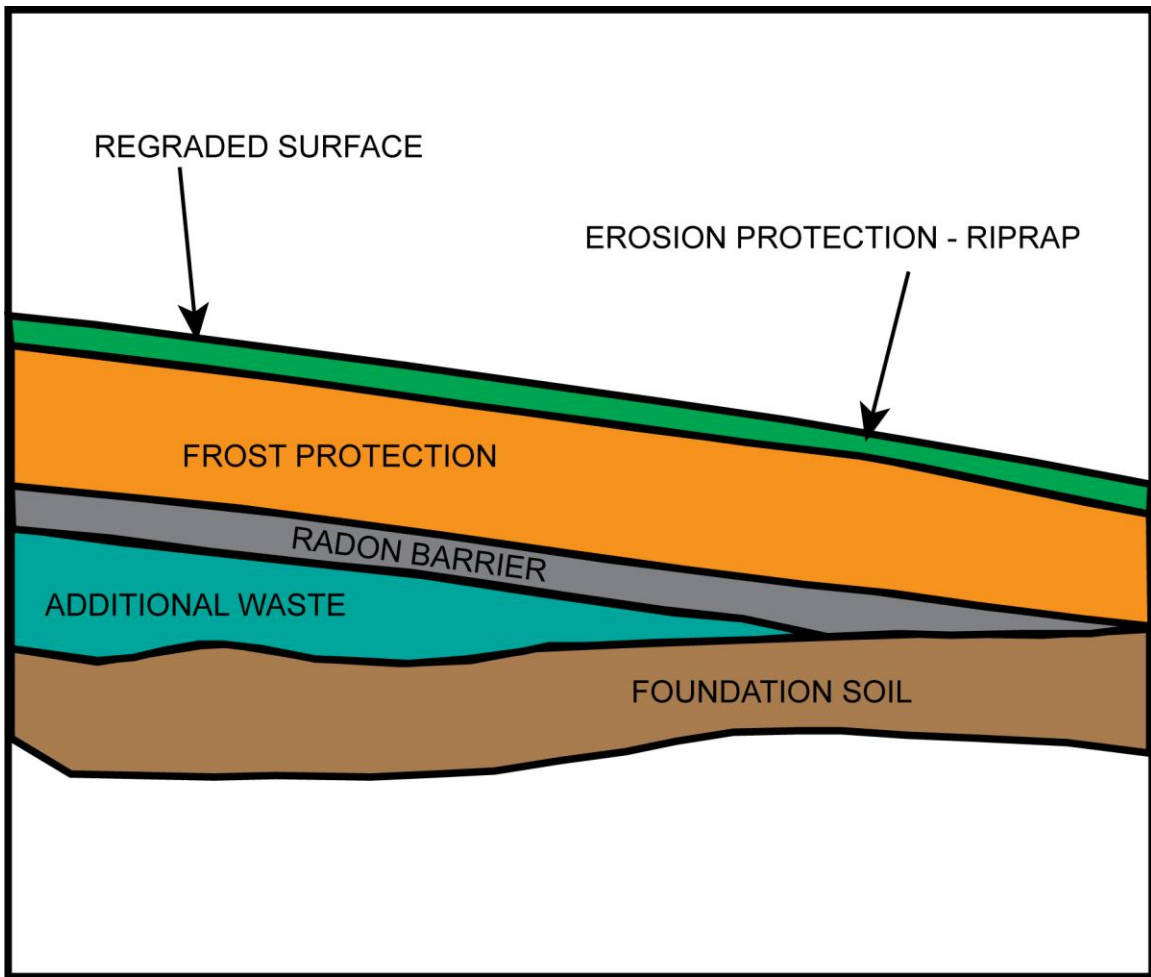
such as uranium and radium. Groundwater reclamation was completed in 2006.

Reclamation of the Heap Leach and Above-Grade Tailings Impoundment (AGTI) areas was completed in 2002. The cover for these areas included a radon barrier, filter layer, frost protection layer, and topsoil (Figure 3). The sides of the Heap Leach area also incorporated a radon cover and a frost protection layer. Riprap erosion protection covers the Heap Leach and AGTI areas. Reclamation of the A-9 Repository, C-18 Pit, and Gas Hills Pond No. 2 (GHP2) areas was completed in 2006. Reclamation activities at the A-9 Repository included placing a liner and regrading the slopes for the North and South Evaporation Pond. The A-9 Repository cover for these areas included a radon barrier, filter layer, frost protection layer, and riprap erosion protection. The C-18 Pit was backfilled with soil and regraded to promote soil drainage. At the GHP2 area, Umetco constructed a radon barrier and frost protection layer and placed riprap on top of the cover to limit erosion effects.

### Additional Information

For more information about the former Umetco Gas Hills Project facility, visit the NRC uranium recovery website at <http://www.nrc.gov/info-finder/materials/uranium/> or contact the NRC facility project manager, Richard Chang, at (301) 415-7188 or [richard.chang@nrc.gov](mailto:richard.chang@nrc.gov).

<sup>1</sup>Source: U.S. Department of Energy. "Long-Term Surveillance Plan for the Gas Hills East (UMTRCA Title II) Disposal Site, Fremont and Natrona Counties, Wyoming." Grand Junction, Colorado: U.S. Department of Energy. 2009.



**Figure 3. Schematic Cross Section of Covers for the Heap Leach, Above-Grade Tailings Impoundment, A-9 Repository, C-18 Pit and Gas Hills Pond No. 2 Areas<sup>2</sup>**

<sup>2</sup>Source: U.S. Department of Energy. "Long-Term Surveillance Plan for the Gas Hills East (UMTRCA Title II) Disposal Site, Fremont and Natrona Counties, Wyoming." Grand Junction, Colorado: U.S. Department of Energy. 2009.