



U.S. DEPARTMENT OF  
**ENERGY**

OFFICE OF  
**ENVIRONMENTAL  
MANAGEMENT**

# Long-Term Remediation of the Moab UMTRA Project

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Moab UMTRA Project

**Track 2.2**

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# Moab Site Background and History

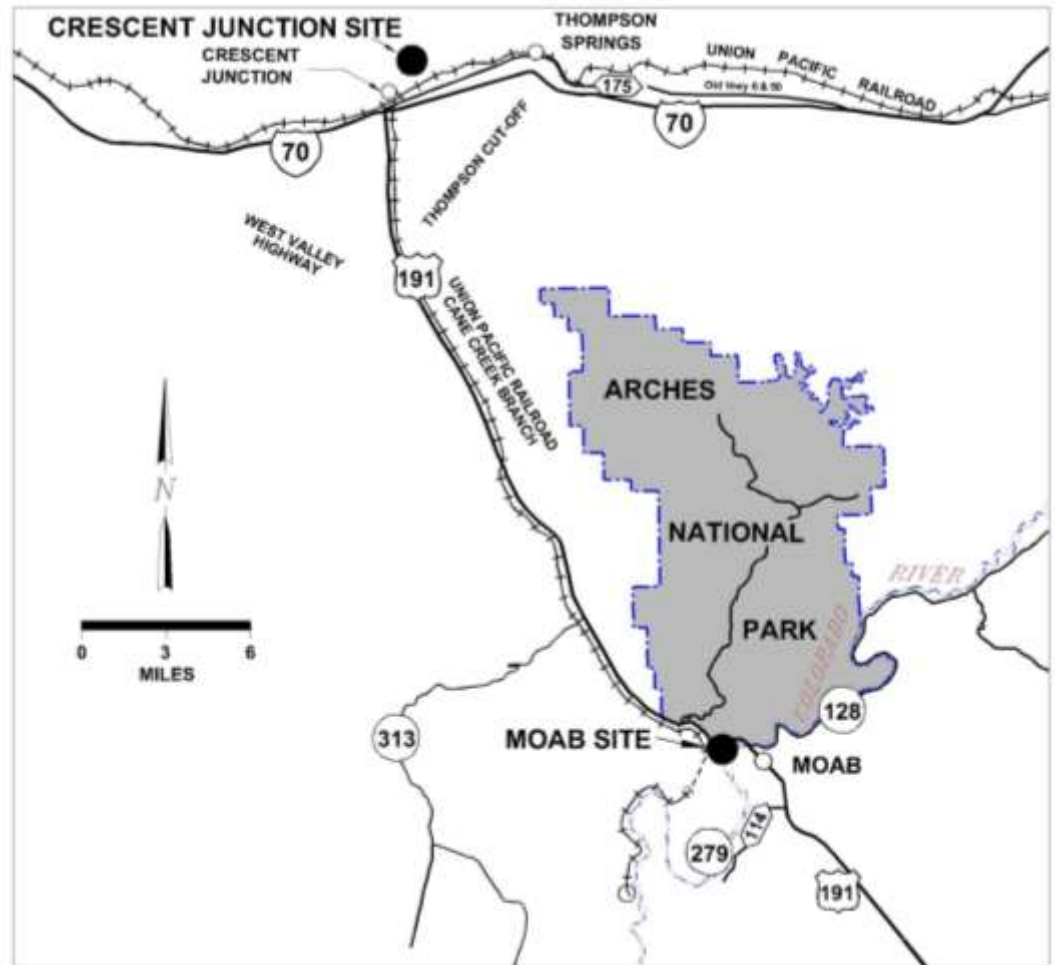
- Moab mill constructed in 1956
- Site operated from 1962 to 1984; filed for bankruptcy in 1998
- Regulated by U.S. NRC
- Ownership of millsite transferred to U.S. DOE in 2001



Circa 1966

# Moab Site Background and History

- Located about 3 miles northwest of Moab, Utah
- 480-acre site; 130 acres covered by uranium mill tailings pile
- Largest uranium mill tailings pile to be relocated in the world
- Toe of pile is 750 feet from west bank of Colorado River



# Project Scope



- Relocate uranium mill tailings and other contaminated materials from Moab site to Crescent Junction for permanent disposal
  - Predominantly by rail
- Actively remediate groundwater at the Moab site
- Remediate properties in vicinity of Moab that exceed U.S. EPA standards

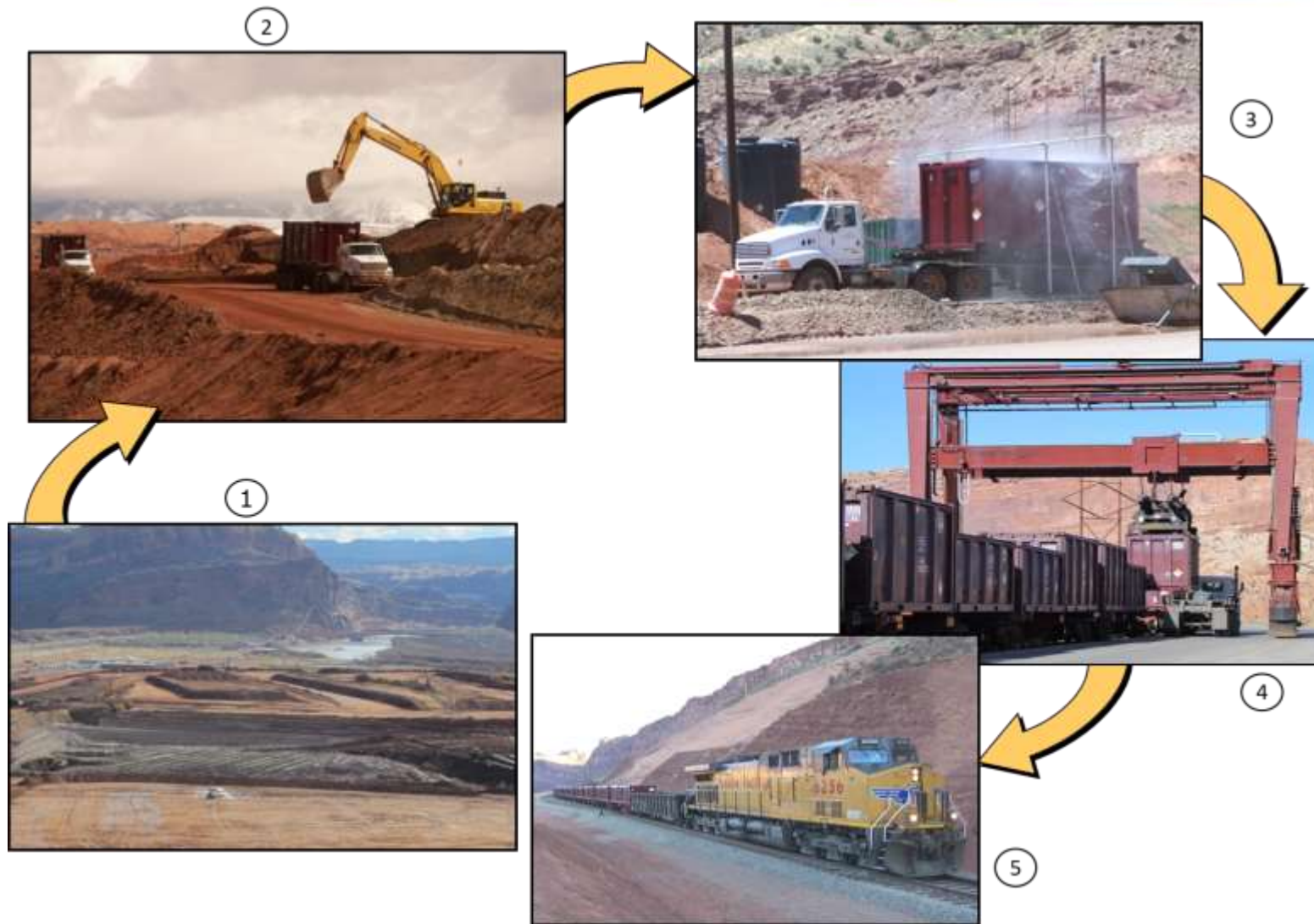


# Current Status

- Currently shipping 144 containers per train, two trains per week
- Through July 2018, more than 9 million tons of mill tailings (~58 percent of total) has been shipped and disposed



# Process Cycle in Moab





# Moab Site Challenges



Debris removal

Low Colorado River level



# Crescent Junction Disposal Site

- Cell is about 5,200 feet long by 2,400 feet wide
- Cell excavated in phases
- Tailings depth is 50 feet total, 25 feet below grade, 25 feet above
- 9-foot-thick, multi-layer cover





# Process Cycle in Crescent Junction



①



②



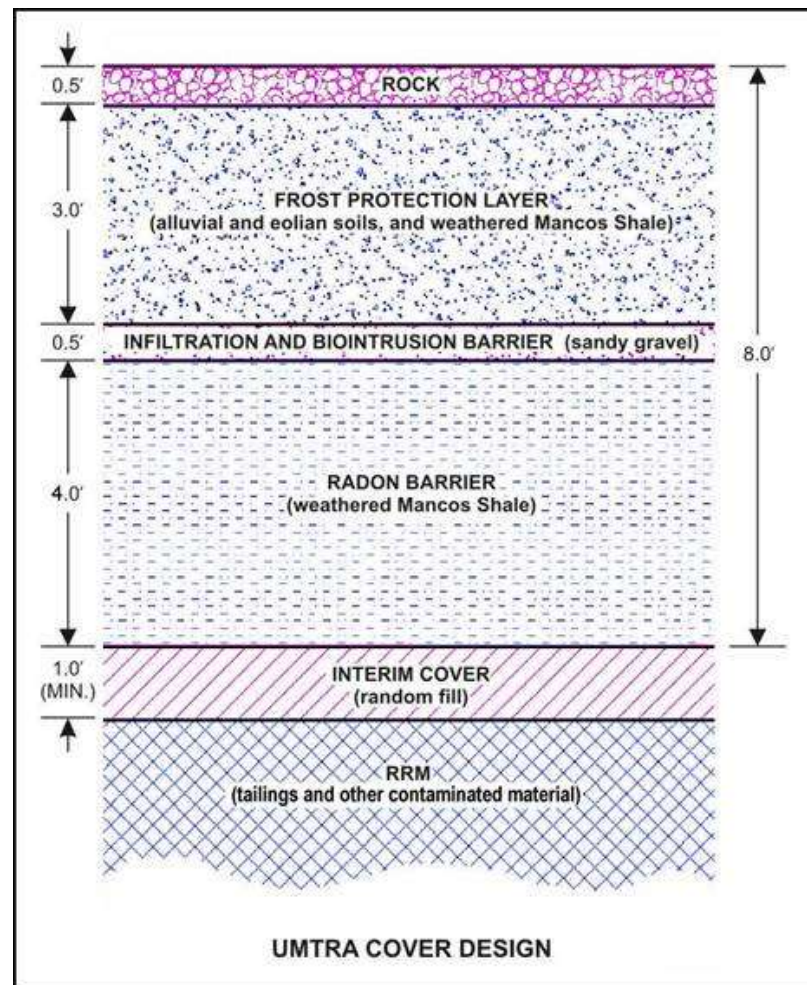
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# Disposal Cell Composition

- Once the final grade for tailings material is met, interim cover is placed on portions of the cell
- The cell's cover consists of multiple layers of soil and rock
- The rock for the biointrusion layer and the uppermost layer is being quarried to meet NRC specifications for durability, and is being hauled from Fremont Junction, Utah.





# Crescent Junction Hurdles

- Expensive cover
- Rock sourced from more than 90 miles away
- Is there a better way to place materials?





# Other Approaches?



- Identify causes that prevent covers from performing their best
- What are other sites using?
  - Vegetative
  - Hybrid
- Design/  
construction/  
materials  
successes