

Map showing contamination plumes and well locations at Moab.

# DOE Reclamation Work at the Moab Site

In October 2001, ownership of the former uranium-ore processing site near Moab, Utah, was transferred to the U.S. Department of Energy for cleanup and reclamation. Today, the Moab Uranium Mill Tailings Remedial Action (UMTRA) Project is relocating approximately 16 million tons of uranium mill tailings and other contaminated materials to a DOE-constructed disposal cell near Crescent Junction, Utah. In addition, the project is remediating groundwater at the Moab site and assessing vicinity properties in Moab, remediating those with contamination that exceeds established criteria.

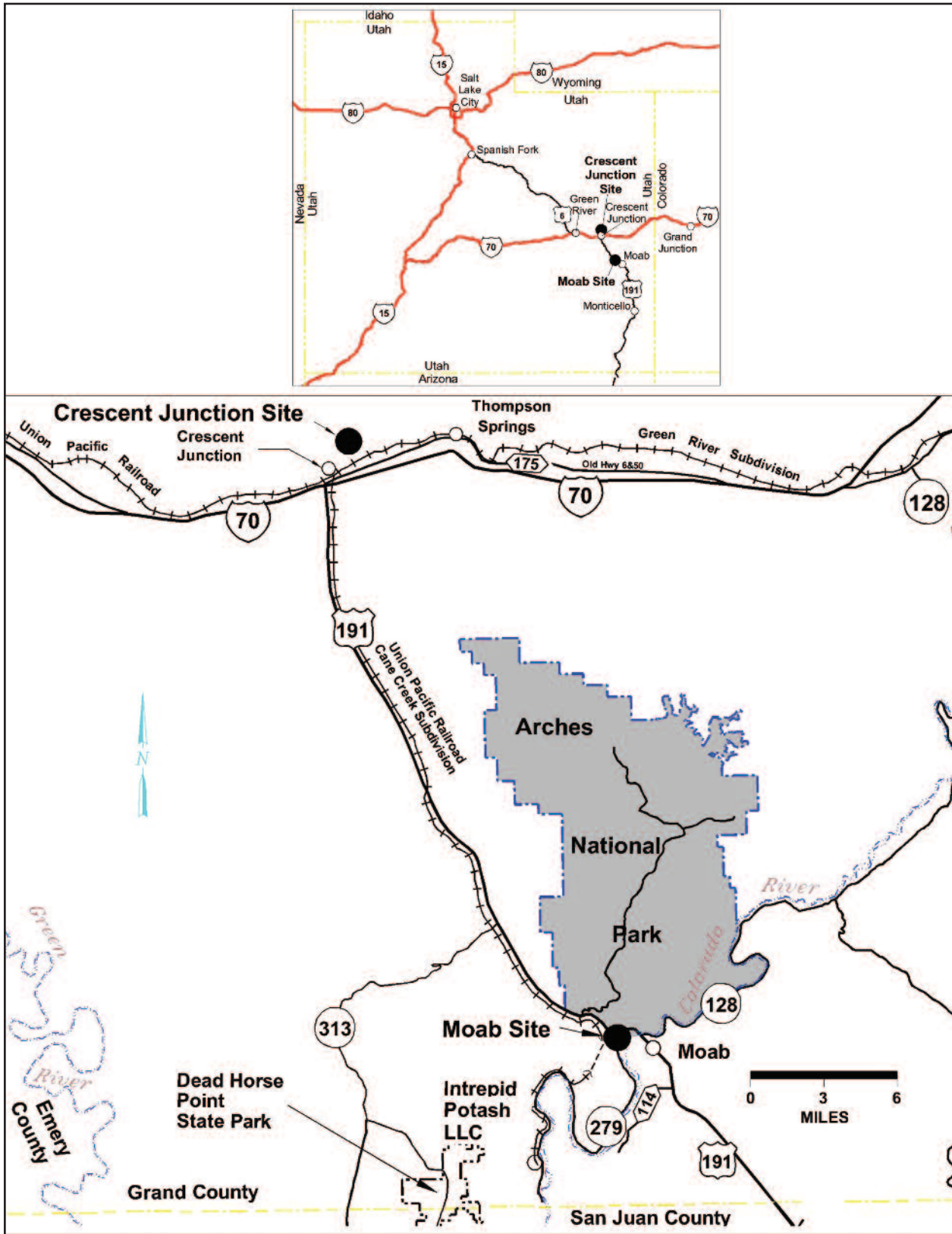
The Moab site encompasses approximately 480 acres; a 130-acre mill tailings pile occupies much of the western portion. Steep sandstone cliffs border the site on the north and

southwest, while the Colorado River forms the southeastern boundary of the site. The entrance to Arches National Park is located less than one mile northwest of the site.

## The Moab Uranium Mill Tailings Remedial Action Project is relocating approximately 16 million tons of uranium mill tailings for disposal.

The Crescent Junction tailings disposal site is located approximately 30 miles north of the Moab site. It was, in part, selected as the permanent disposal site because of its excellent geological setting and proximity to rail and truck services. The U.S. Department of Interior permanently transferred five hundred acres at the Crescent Junction site to the DOE for the disposal cell. In addition, almost 950 acres are in temporary withdrawal to support construction and tailings placement activities.

The Moab UMTRA Project has two prime contractors: Portage Inc. is the remedial action contractor, responsible



Maps showing location of the Moab site.

for transporting a portion of the tailings and handling day-to-day maintenance and operations at both the Moab and Crescent Junctions sites, while S&K Aerospace LLC is the technical assistance contractor, responsible for technical and administrative support services, groundwater cleanup, and assessment of vicinity properties.

## TAILINGS REMOVAL

Tailings excavation, conditioning, and transport operations run four days a week, Monday through Thursday, at the Moab site. One train a day runs to Crescent Junction.



*A dicer turns over wet tailings at the Moab site.*



*A gantry crane loads and unloads containers to and from railcars.*



*Conditioned tailings are loaded into a container for shipment.*

Currently each train is up to 35 railcars long, and each railcar holds four tailings containers. As of early August, the project has shipped and disposed of a total of more than 5.4 million tons.

Excavated tailings material that is too wet for compacting in the disposal cell is conditioned to reach the desired moisture content before shipping to Crescent Junction. Conditioning consists of spreading the tailings on the pile and turning the material over several times using a harrow-type piece of farm equipment to promote drying.

### **GROUNDWATER/ SURFACE WATER REMEDIATION**

Prior to DOE site ownership, no efforts were made to prevent contaminated groundwater from directly discharging to the Colorado River. Primary contaminants include ammonia and uranium. In 2003, the DOE began



*Tailings are end-dumped from a container into the Crescent Junction disposal cell.*



*Surface water sampling of the Colorado River backwater channel adjacent to the Moab site.*



*Surface water sampling of the Colorado River main channel downstream of the Moab site.*



*Measurement of water levels in the well field at the Moab site.*

implementing an interim action system that currently includes eight extraction wells and more than 30 freshwater injection wells. The system is designed to protect surface water quality and to recover ammonia, uranium, and other contaminants prior to discharge to the Colorado River. Injection of filtered freshwater into the subsurface creates a hydraulic barrier between the ammonia plume and backwater channels of the river, which serve as suitable habitat for young fish.

Pumps move extracted groundwater via pipeline to a lined, four-acre evaporation pond constructed on top of

the tailings pile. Water from the evaporation pond is used for dust suppression on the tailings pile and fed to enhanced evaporators for elimination.

The DOE conducts sampling of the surface water and groundwater to assess the performance of the interim action system. In addition, the project conducts sitewide sampling twice yearly and compares results to those found in sampling locations upstream and downstream from the Moab site.

For additional information on the Moab project, go to [www.gjem.energy.gov/moab](http://www.gjem.energy.gov/moab). ■