

Midnite Mine Superfund Site – 100% Basis of Design Report

Spokane Indian Reservation, Washington

November 2015

What is the 100% Basis of Design Report?

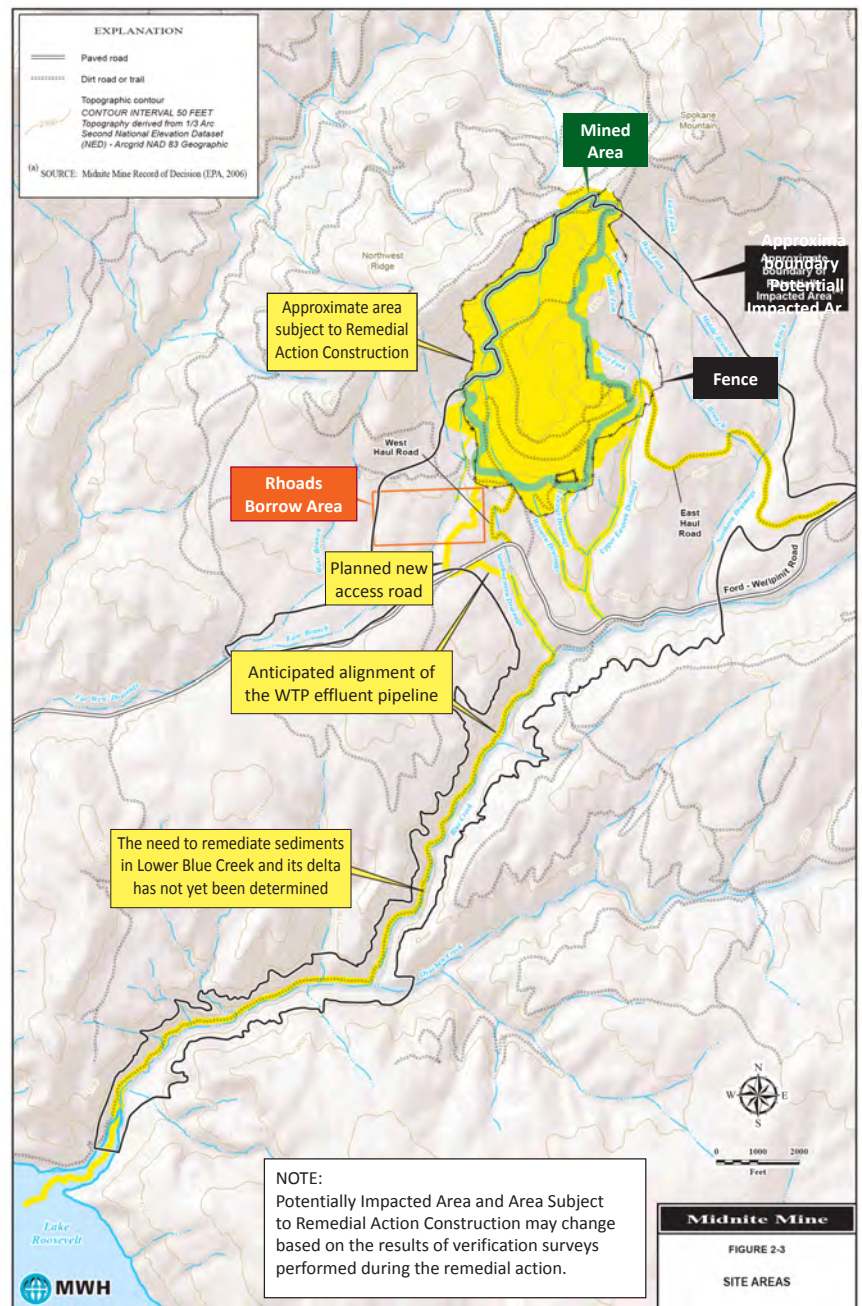
At the Midnite Mine Superfund Site, the remedial design phase of the cleanup is complete. The technical specifications for cleanup remedies and technologies have been designed and described in the final Basis of Design Report.

The report consists of design investigations, cleanup performance standards, technical specifications and engineering designs for the cleanup, health and safety plans, and a project schedule. The design report also documents compliance with substantive environmental requirements, and includes results of a Green and Sustainable Remediation evaluation. The Dust Control and Air Quality Monitoring Plan is still under preparation and will be available soon.

This final report includes consideration of community input and concerns, particularly those of the Spokane Tribe of Indians.

Remedial action follows completion of the remedial design phase. It involves the actual construction and implementation phase of Superfund site cleanup. The Dawn Mining Company and Newmont USA will implement the cleanup, which is anticipated to begin in May 2016. The U.S. Environmental Protection Agency will oversee the cleanup.

The Midnite Mine Superfund Site is located on the Spokane Indian Reservation in Stevens County, Washington.



Work Summary

The Basis of Design Report is the first step in the cleanup process. The cleanup includes the following:

- **Earthwork:** Prepare the two open pits for consolidation of mine waste rock by removing contaminated water and sediments and placing a layer of drain rock and liner in the pit bottoms.
- **Excavation:** Excavate mine waste rock, protore, and contaminated soils and sediments from the waste rock piles, access roads, and drainages.
- **Backfill:** Consolidate the mine waste rock, protore, and contaminated soils and sediments in the lined pits.
- **Cover:** Cover the consolidated waste rock, protore, and contaminated soils and sediments to limit water infiltration and migration of contaminants.

Some components of the remedial design are still ongoing. The design of the new Water Treatment Plant is on hold pending completion of WTP investigations and studies, and the reissuance of the NPDES permit for the WTP. Once complete, treated water from the new WTP will be discharged through a new pipeline to the Spokane Arm of Lake Roosevelt.

Earthwork

Pits 3 and 4 are both open pit mines partly filled with water. The water will be pumped out; bottom sediments removed and temporarily stockpiled; pit walls scaled and measures taken to guard against rock fall; and a layer of drain rock placed at the bottom before these pits are backfilled.

The Backfilled Pits Area is a group of interconnected pits. They will not be excavated. Groundwater will be pumped out and the pits covered similar to the other pits.

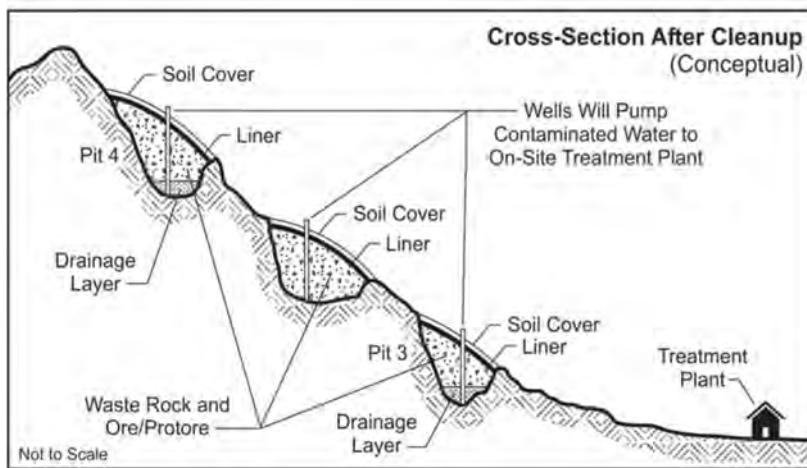
Pit surfaces will be contoured to drain water towards sumps where the water can be pumped to the Water Treatment Plant.

Excavation

Mine waste, protore, and rock have been stockpiled in several areas throughout the mined area of the site. The stockpiles will be moved into Pits 3 and 4. Where water drained from road areas that used contaminated mine waste or from the mined area along drainages, sediments became contaminated. Any contaminated sediments will be excavated and placed in Pits 3 and 4.

Placing Materials and Covers

Pits 3 and 4 will have a liner resting above the layer of drain rock in the bottom to protect the drainage layer and sumps from the contaminated materials above. The excavated materials, including the stockpiled sediments from the bottom of Pits 3 and 4, will be placed above the liner. The most-contaminated material will be placed in the central portions of the pits above the groundwater level and deeper than 15 to 20 feet from the surface and away from the edges.



Each pit, including those in the Backfilled Pits Area, will have a cover. The cover is designed to reduce water seeping into the pits and for surface water management. Once the cover is in place, the pit is covered with topsoil and plants.

Water Treatment Plant and Pipeline

Groundwater and surface water will be diverted away from the pits so as to not become contaminated. Water in the Backfilled Pits Area, Pits 3 and 4, and the downgradient drainages will be removed using wells and alluvial collection trenches and then treated at the new Water Treatment Plant. The new Water Treatment Plant will treat the water to address the uranium and metals. The sludge from this process will be either processed at a uranium mill or disposed of at a facility licensed to handle low-level radioactive materials. The treated water will go by pipeline to the Spokane River Arm of Lake Roosevelt. A NPDES permit, which is currently being worked on, will set the discharge standards for the treated water.

Schedule

Site preparation work will occur in 2016. This work includes installation of contractor facilities, access road construction, stockpile relocation, and work related to the Construction Support Zone. The major components of cleanup will occur between 2017 and 2024.

Long-Term Site Management

Site management will be ongoing at the site even after cleanup. Site management will include the operations and maintenance of the Water Treatment Plant, groundwater wells, surface and stormwater management, and other site work. Institutional controls will limit access to the site and restrict the use of groundwater in areas where waste is contained, including Pit 3, Pit 4, the Backfilled Pits, and areas between pits. The Mined Area will be fenced. Future land use will permit wildlife foraging and stock grazing as well as foot passage. Yearly reports will be prepared and yearly site management meetings will be held.



Existing Midnite Mine - Mine Wastes and Facilities



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**Copies of the Midnite Mine Superfund Site 100% Basis of Design
Report, October, 2015 are available for review at:**

EPA's web site:

<http://yosemite.epa.gov/R10/CLEANUP.NSF/sites/midnite>

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Call for an appointment.

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