

ATLANTIC CITY IRON MINE, WYOMING CASE STUDY POST-RECLAMATION 17-YEAR STATUS¹

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Abstract: In the early 1990's, an 81 ha (200 ac) tailings impoundment at an abandoned taconite operation in Wyoming was a source of blowing dust. The tailings portion of the site qualified for reclamation under Wyoming's Abandoned Mine Land program and adjacent un-reclaimed waste rock dumps, railroad fills, and a tailings decant pipeline were eventually included in the project. As described in previous ASMR papers and presentations (1999 and 2004), the reclamation design included: incorporating commercially available organic amendments and fertilizers into a 300 mm (12 in.) thick "cap" of a sterile gravelly clay loam cover material, planting trees in the protective wind/snow shadows of rock berms and rock snow fences, lowering the water level in a flooded mine pit that was feeding uncontrolled seeps, and constructing a tailings pond spillway that allows flood control while minimizing seasonal water level fluctuations in the pond. Reclamation was virtually complete in 2001. A highway that was originally re-routed around the site in the 1960's was returned to its original alignment (across a waste rock dump and the tailings basin) in about 2005. Historic Google EarthTM imagery from 1994, 2006, 2012, and 2014 and observations during a half-day site tour in the fall of 2018 provide the basis of an informal assessment of the site's current status, which reclamation techniques appeared to work or not, and an educated guess as to how the ecology of the site may continue to evolve.

Additional Key Words: Tailings, Waste rock, Alpine revegetation.

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3. Work presented was conducted near 42°32'12.66"N; 108°44'18.54"W.