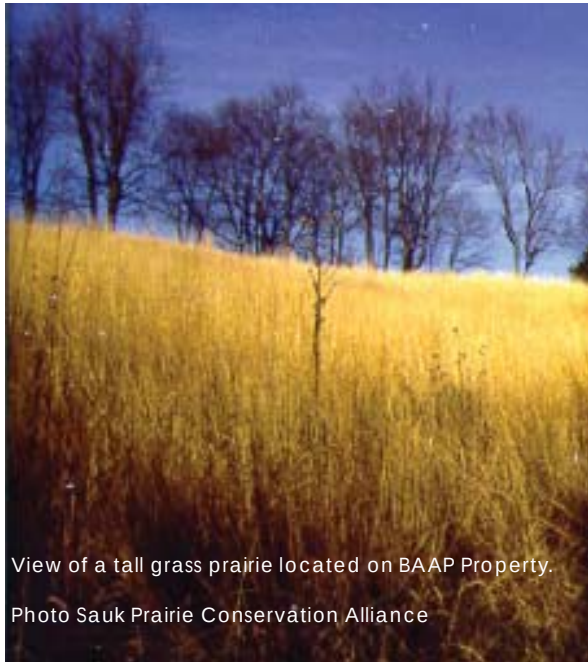


The Ecology of Geology

The diverse geology of the BAAP property helps to create the biological diversity seen on the surface. The rich, flat outwash plain supplies needed moisture to encourage the growth and development of tall grass prairie species. The gravelly moraine is ideal for the growth of oaks, forbs, and grass species allowing the development of the Oak Savannah. We also see the creation of oak woodlands on the thin, rocky soil coming from the south flank of the Baraboo hills. The geology is directly linked to the soils that provide the basis for the development of specific ecological communities.



View of a tall grass prairie located on BAAP Property.

Photo Sauk Prairie Conservation Alliance

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Badger Army Ammunition Plant: An Ancient Landscape



The surface features of the Badger Army Ammunition Plant are pronounced in aerial view.

The Badger Army Ammunition Plant (BAAP) straddles a diverse geologic landscape sculpted from ancient seas to more recent glacial activity. These paleoenvironments come together to form the surface features seen today at BAAP.

An Ancient Sea Cliff

520 million years ago most of Wisconsin was covered by a shallow sea whose violent storm waves carved into small subtropical islands made up of the 1.7 billion year old Baraboo quartzite to form the remnants of ancient sea cliffs. These islands included a ring of quartzite that today makes up the Baraboo hills. We can see evidence of this ancient environment today because in 1942 the developers of BAAP excavated for the development of water reservoirs clearing the sandstone that buried it. On the north side of these reservoirs at the northern boundary separating BAAP from Devils Lake State Park is where we find this feature manifested as deposits of large, wave-rounded boulders that broke away from the wall of quartzite.



Participants of a BAAP tour look at the outcropping of Baraboo Quartzite. -Photo P. Zedler



The terminal moraine cutting across Badger. Photo P. Zedler

A Glacial Divide

The final advance of the Laurentide Ice Sheet 17,000 years ago brought the edge of the Green Bay lobe to rest close to the center of the current BAAP property. The retreat of this ice body left clear marks on the land including:

- A Terminal Moraine
- An Outwash Plain
- An Outlet Channel
- Pitted/Polished Quartzite Boulders



A breached terminal moraine and its outwash plain.
www.cr.nps.gov/history/online_books/science/2/images/fig56.jpg

The front of the Glacier served as a bulldozer pushing rock and dirt ahead of it. As the glacier retreated it left this pile of rock and dirt to form the North/South trending terminal moraine, separating the glaciated terrain from the Driftless area.

West of this moraine is the flat lying outwash plain. This gravel, sand, and clay feature was formed by the run off of constantly melting water from the glacier. As the glacier continued to melt 14,000 years ago, the terminal moraine served as a dam holding the water back east of the moraine and creating glacial Lake Merrimac. On the south end of the property we can see the outlet channel where the moraine was breached allowing the lake to drain. The glaciated region east of the moraine is hummocky and dotted with pothole ponds created by the melting of buried ice chunks to form small water filled depressions.



Photo P. Zedler

A geologic map outlining the major geologic features. Note the terminal moraine, denoted by green, cutting N/S and the breach of the moraine, denoted by red, in the S that drained Glacial Lake Merrimac. Devils Hill State Park is located north of BAAP.

The last major feature attributed to this period of glaciation is smooth or pitted polished quartzite boulders. The presence of the ice sheet created cold, harsh winds that carried much silt and sand. Bombardment by small particles smoothed or pitted the resistant quartzite. We can see these features today near the water reservoirs.