

OUTSTANDING GEOLOGIC FEATURE OF PENNSYLVANIA

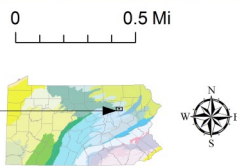
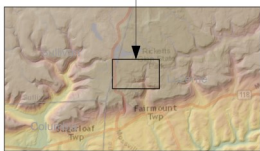
MIDWAY CREVASSE, LUZERNE COUNTY

Stuart O. Reese, 2016



Location

Ricketts Glen State Park, Luzerne Co., Fairmont Twp.,
lat: 41.33011, lon: -76.29084 (parking); lat 41.32930,
lon: -76.28184; Red Rock 7.5-minute quadrangle



Geology

The Highland Trail at Ricketts Glen State Park provides an easy route to Midway Crevasse. At this location, the trail shifts from a wide, wooded path to a narrow passageway—a “crevasse”—through large blocks of sandstone. The rock is Mississippian Burgoon Sandstone, a coarse-grained, crossbedded sedimentary rock that originated as sand carried by streams more than 330 million years ago from weathering highlands to the southeast. The sand included a scattering of white quartz pebbles. Over time, these sediments were buried and turned to rock. Later, uplift and millions of years of erosion exposed the sandstone.

Although the Burgoon Sandstone is a very resistant formation, widely spaced, vertical fractures called joints have partitioned it into blocks of rock. These blocks are not bedrock but rather have been detached from a nearby outcrop about 100 feet upslope to the north. Glacial striations on bedrock both north and south of the Midway Crevasse show that ice moved nearly due south off the Appalachian Plateau and down the Allegheny Front. At the foot of

the Allegheny Front, the ice was moving to the southwest, nearly parallel to the Front. Despite the glacier overriding the area during the Late Wisconsinan about 20,000 years ago, the blocks of rock probably did not separate from the outcrop until after glaciation ended.

During postglacial times, while it was still very cold, the rocks detached from the outcrop along joints by frost wedging and slid downhill by gravity. This movement happened very slowly through many freeze-thaw cycles over partially frozen ground. Further frost wedging and weathering formed smaller slabs and blocks, but the slow ride from its parent outcrop was gentle enough to keep the blocks of Burgoon Sandstone fairly intact.



Recommended Reading

Inners, J. D., and Fleegeer, G. M., eds., 2006, The Haystacks, “Ricketts Folly,” and the end of the world—geology of the Glaciated Allegheny High Plateau, Sullivan, Luzerne, and Columbia Counties, Pennsylvania: Annual Field Conference of Pennsylvania Geologists, 71st, Red Rock, Pa., [Guidebook](#), 129 p.

Braun, D. D., and Inners, J. D., 1998, Ricketts Glen State Park, Luzerne, Sullivan, and Columbia Counties—The rocks, the Glens, and the falls (2nd ed.): Pennsylvania Geological Survey, 4th ser., [Trail of Geology 16-013.0](#), 10 p.

[Ricketts Glen State Park](#) web page of DCNR.