

Geologic features of the Sauk Prairie area

Location. This site is along the east side of Highway 12, about 1.9 km north of the intersection of Highway Z, about 11.6 km north of Sauk City, sec. 23, T10N, R6E (Sauk Prairie, Wisconsin, Quadrangle, 7.5-minute series, topographic, U.S. Geological Survey, 1975) (fig. 1). This site is easily reached from the northbound lane of Highway 12. There is room to park several vehicles in the pullout for the Baraboo Range historical marker. Highway 12 is a divided highway in this area; southbound travelers will need to travel beyond the site to find an appropriate place to enter the northbound lanes.

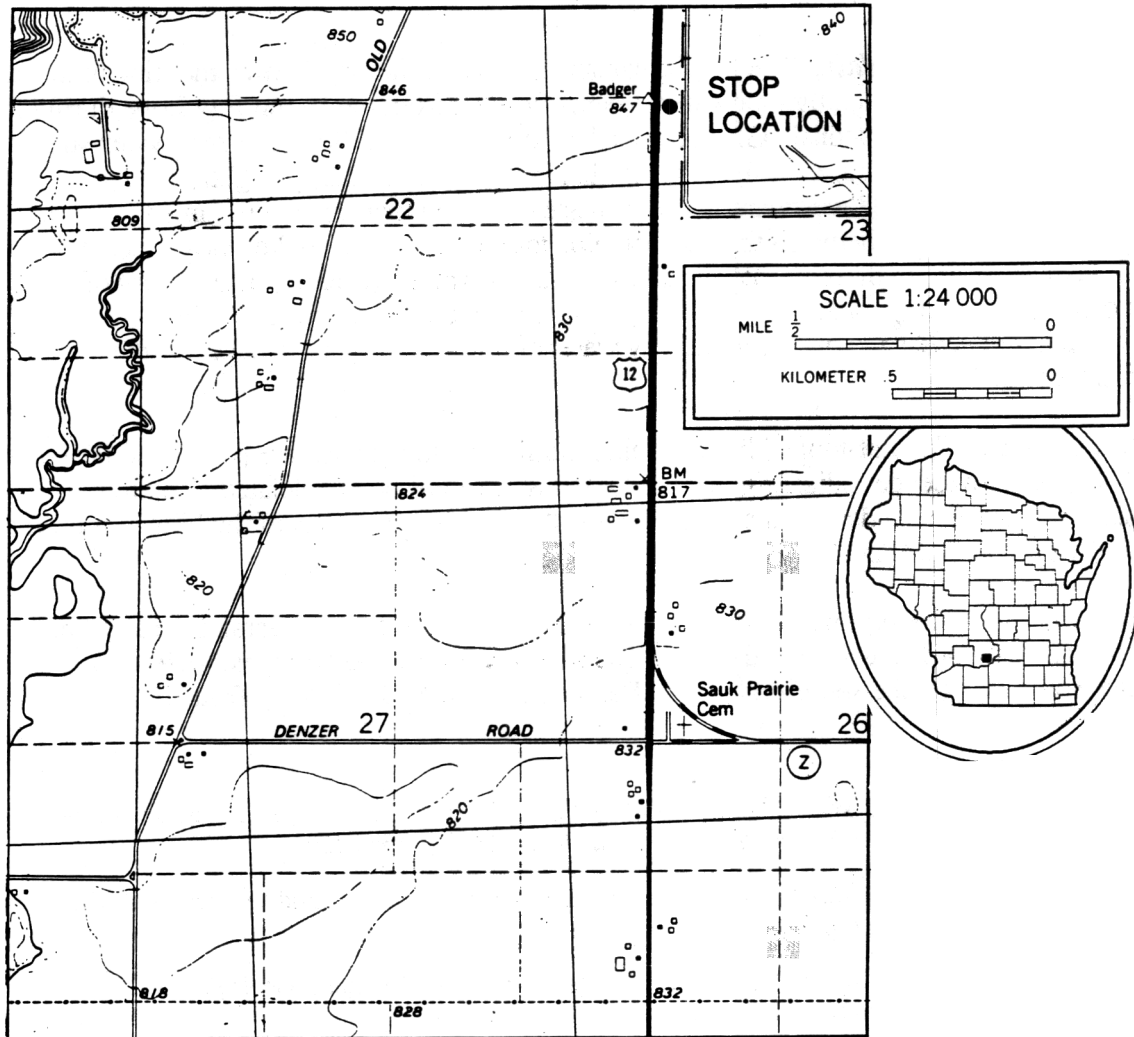


Figure 1. Location of Sauk Prairie area; map shows the flat character of the broad outwash plain on which the stop is located.

Authors. John W. Attig and Lee Clayton, 1990.

Significance. This site provides the opportunity to view the Johnstown moraine, the Johnstown outwash plain and related features, the hills of the Driftless Area (to the west), and the Baraboo Hills (to the north).

The Johnstown moraine. The low ridge about 500 m east of the stop is the Johnstown moraine, named for Johnstown, Wisconsin, east of Janesville. Deposited between about 18,000 and 15,000 years ago, the Johnstown moraine marks the outermost extent of the Green Bay Lobe of the Laurentide Ice Sheet (Attig and others, 1985, Clayton and Moran, 1982). In this area the Johnstown moraine is a hummocky ridge, typically about 300 m wide. To the north-northeast the moraine crosses the crest of the Baraboo Hills. The moraine shows up as a small bump on the skyline. Where the Johnstown moraine crosses the Baraboo Hills it is a narrow ridge, typically no more than 50 m wide. The Johnstown moraine is much broader and has much more relief where it crosses the north and south ends of Devils Lake gorge. The surface of the moraine is typically hummocky and is littered with a variety of rock types, some of which indicate long-distance glacial transport. As you travel north on Highway 12 from this site, you can see the Johnstown moraine behind the U.S. Army Badger Ammunition Plant.

The Johnstown outwash plain. The broad, flat surface west of the Johnstown moraine in this area is the outwash plain deposited by meltwater streams flowing from the Green Bay Lobe during the Johnstown Phase of the Wisconsin Glaciation (Clayton and Attig, 1990). The meltwater-stream sediment in this area is typically 30 m or more thick and is predominantly slightly gravelly sand. As this outwash plain expanded westward and its surface elevation increased, it dammed lakes in the eastward-draining streams between the bedrock hills to the west. These lakes have since drained, but thick lake sediment in these tributaries attests to their former existence. The history of these lakes is discussed by Clayton and Attig (1990). This site is located at the edge of a meltwater-stream channel cut across the outwash plain by water draining from glacial Lake Wisconsin during Elderon time (fig. 1).

The Driftless Area. The flat-topped hills forming the skyline to the west are part of the Driftless Area. There is no evidence indicating that the Driftless Area has been glaciated. The hills are composed of Cambrian sandstone and Ordovician dolomite. The flat tops of the hills in this area are underlain by Oneota dolomite.

The Baraboo Hills. The skyline to the north of the stop is the crest of the Baraboo Hills, which are composed primarily of Proterozoic quartzite. The part of the Baraboo Hills visible from this stop is part of the South Range, the south limb of the Baraboo Syncline (Dalziel and Dott, 1970).

References

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