

Compilation of Outcrops of Precambrian Rock in Northern Oconto County and Adjacent
Segments of Forest, Langlade, Marinette, and Menominee Counties, Northeastern
Wisconsin.

by

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Outcrop data, compiled mainly from theses, has been plotted on 7.5 minute (1:24,000) topographic quadrangles for northern Oconto County and parts of adjacent Forest, Langlade, Marinette, and Menominee Counties. The parts of the adjacent counties that are included in the compilation are on quadrangles that overlap with northern Oconto County. Outcrop locations have been plotted on the Breed, Fredenberg Lake, Langlade, Markton, McCaslin Mountain, Mountain, Otter Lake, Reservoir Pond, Roaring Rapids, Shadow Lake, Shay Lake, Thunder Mountain, Townsend, Wabeno, and Wheeler Lake quadrangles (see included Index to U.S. Geological Survey Topographic Maps of Wisconsin for locations of quadrangles).

Outcrop locations are from the cited references and have not been field checked for accuracy of location or rock type. Rock names in the Mountain area (see key on Mountain quadrangle) are from Lahr (1972) and Medaris and others (1973), with slight modifications. The abundant exposures in the Mountain area are probably some of the most accurately located because of the relatively large scale of the outcrop maps from which they have been taken (in Mancuso, 1957; and Lahr, 1972). Where a conflict in rock names from one source to another exists in the Mountain area, the names assigned by Lahr (1972) have been used.

The rocks of the area can be divided into three main groups. The oldest group is composed of volcanic, plutonic, and sedimentary rocks formed during the approximately 1,800-1,900 Ma Penokean orogeny. The second group, which postdates the Penokean orogeny, consists of the quartzites exposed in the McCaslin Mountain and Thunder Mountain areas. The youngest group consists of members of the approximately 1,485 Ma Wolf River batholith.

Foliation and bedding symbols on the compilation maps are typically plotted adjacent to the outcrop from which they were obtained. In the McCaslin Mountain area some outcrop locations are so poorly defined that the outcrops have not been plotted, but foliation and bedding symbols from the source maps have been plotted at the approximate location of these outcrops.

The original copies of the topographic maps have color coding of rock types. These copies are on file at the Wisconsin Geological and Natural History Survey.

MAIN SOURCES OF OUTCROP LOCATION (in the approximate order of use).

- Lahr, M.M., 1972, Precambrian geology of a greenstone belt in Oconto County, Wisconsin, and geochemistry of the Waupee metavolcanics [M.S. thesis]: Madison, University of Wisconsin, 62 p. 1:24,000 map.
- Mancuso, J.J., 1957, Geology and mineralization of the Mountain area, Wisconsin [M.S. thesis]: Madison, University of Wisconsin, 32 p. 1:12,000 map.

- Mancuso J.J., 1960, Stratigraphy and structure of the McCaslin district, Wisconsin [Ph.D. thesis]: East Lansing, Michigan State University, 101 p. 1:125,000 map.
- Myles, J.R. 1972, Petrology of a granitic terrane in northeastern Wisconsin [M.S. thesis]: Madison, University of Wisconsin, 90 p. 1:48,000 map.
- Olson, J.M., 1982, The sedimentation and petrology of the lower Proterozoic McCaslin Formation, northeastern Wisconsin [M.S. thesis]: Duluth, University of Minnesota, 105 p. Approximately 1:50,000 map.
- Hoffman F.V., and Wheelwright, O.W., 1943, Unpublished map of the McCaslin Mountain area. Wisconsin Geological and Natural History Survey. Approximately 1:30,000.
- Motten, R.H., III, 1972, The bedrock geology of the Thunder Mountain area, Wisconsin [M.S. thesis]: Bowling Green State University, Ohio, 59 p. 1:10,000 map.
- Witt, C.A., 1985, Fracture characteristics of Wolf River granite in Langlade and Oconto Counties, Wisconsin [M.S. thesis]: Northeastern Illinois University, 158 p. 1:24,000 maps.
- Thwaites, F.W. Looseleaf field notes. Filed by township and range at the Wisconsin Geological and Natural History Survey.
- Sims, P.K., 1989, Geological map of Proterozoic rocks near Mountain, Oconto County, Wisconsin. 1:24,000.
- Road Materials, notes and maps. Filed at the Wisconsin Geological and Natural History Survey.

OTHER PUBLICATIONS ON THE GEOLOGY OF THE AREA.

- Anderson, J.L., 1975, Petrology and geochemistry of the Wolf River batholith [Ph.D. thesis]: Madison, University of Wisconsin, 297 p.
- Anderson, J.W., 1978, Radiometric study of selected middle Precambrian quartzite-metaconglomerate units in northern Wisconsin [M.S. thesis]: Milwaukee, University of Wisconsin, 102 p.
- Cochran, M.D., 1966, A re-evaluation of the Hagar Rhyolite Porphyry [M.S. thesis]: Bowling Green State University, Ohio.
- Hoffman, F.V., 1943, Map of McCaslin Mountain, Wisconsin, drawn from aerial photographs [B.A. thesis]: Madison, University of Wisconsin, 11 p. Approximately 1:30,000 map.
- Kalliokoski, J., 1976, Uranium and thorium in Precambrian rocks, Upper Peninsula, Michigan, and northern Wisconsin, with thoughts on other possible settings: Houghton, Department of Geology and Geologic Engineering, Michigan Tech University, 294 p.
- Medaris, L.G. Jr., Anderson J.L., and Myles, J.R., 1973, The Wolf River batholith-a late Precambrian rapakivi massif in northeastern Wisconsin, in Guidebook to the Precambrian geology of northeastern and northcentral Wisconsin: 19th Annual Institute on Lake Superior Geology, Madison, Wisconsin, p. 9-29; 43-57.
- Miller, J.J., 1980, The distribution, abundance and nature of radioactive minerals in the subsurface of the McCaslin Formation, McCaslin district, northeastern Wisconsin [M.S. thesis]: Bowling Green State University, Ohio, 67 p.
- Read W.F., 1962, The McCaslin Syncline: 26th Annual Tri-State Geological Field Conference, Guidebook, p. 2-13.

- Roberts, W.C., 1951, The High Falls Granite [M.S. thesis]: Madison, University of Wisconsin.
- Sims, P.K., Klasner, J.S., and Peterman Z.E., 1990, The Mountain shear zone, northeastern Wisconsin-a discrete ductile deformation zone within the early Proterozoic Penokean orogen: U.S.G.S. Bulletin 1904-A, p. A1-A15.
- Van Schmus, W.R., Medaris, L.G., Jr., and Banks, P.O., 1975, Geology and age of the Wolf River batholith, Wisconsin: Geological Society of America Bulletin, v. 86, p. 907-914.