



- Legend**
- Neoproterozoic**
- Granitoid intrusive rocks**
- 12a Pegmatitic granite, pegmatite and minor apatite
 - 12b Late granodiorite, granite: fine, medium to coarse grained, locally porphyritic (biotite, ± muscovite, ± garnet)
 - 12c Inconnu pluton: granodiorite, granite and minor diorite to quartz diorite, and gneissic granitoids
 - 12d Inconnu pluton I: medium-, coarse- to very coarse grained granodiorite and granite; locally porphyritic, pinkish granodiorite and granite (amphibole, zircon, ± muscovite), and minor diorite to quartz diorite
 - 12e Inconnu pluton II: fine-, medium- to coarse-grained gneissic granodiorite, and granite; strongly foliated (biotite, amphibole, ± muscovite, ± garnet)
- Sedimentary, and volcaniclastic and related intrusive rocks**
- 11 Euclid Lake assemblage (2657.1 ± 7.4 Ma)¹¹; lithic greywacke, siltstone, arkose and minor iron formation; fine- to medium-grained, dark grey volcaniclastic sandstone, and intercalated mafic rocks
- Tonalite-trondhjemite-granodiorite (TTG) suite**
- 10 TTG suite including Maskwa Lake batholith II (2725 ± 6 Ma¹²); tonalite, trondhjemite, granodiorite, minor quartz diorite and quartz-feldspar porphyry; medium to coarse grained, locally porphyritic (amphibole, zircon, ± biotite); minor fine- to medium-grained gabbroic dikes cutting the TTG suite
- Sedimentary, and volcaniclastic and volcanic rocks**
- 9 Cat Creek assemblage (2735.7 ± 3.8 Ma)¹³; lithic greywacke, siltstone, conglomerate with felsic volcanic and granitoid clasts, and garnet-bearing gneiss; minor volcaniclastic sandstone, lapillistone; minor gabbroic dikes
- ¹¹ Wang, 1993; ¹² Houlié et al., 2013; ¹³ Gilbert et al., 2008; ¹⁴ this study; ¹⁵ Bailes et al., 2003

- Mafic to ultramafic intrusive rocks**
- 8 Gabbroic rocks: fine- to coarse-grained gabbro occurring as dikes or sills, with locally leucocratic to melanocratic varieties
- Mayville intrusion (units 3 to 7; 2742.8 ± 0.8 Ma¹⁴) and Euclid Lake intrusion (units 3 and 6; 2743 ± 1 Ma¹⁵)**
- 7 Gabbro: medium grained, locally strongly magnetic; part of Mayville intrusion
 - 6 Leucogabbro to gabbroic anorthosite: coarse to very coarse grained and locally megacrystic
 - 5 Gabbroic anorthosite to anorthosite: coarse to very coarse grained and locally megacrystic, glomeroporphyritic
 - 4 Heterolithic breccia: very coarse grained to megacrystic leucogabbro, anorthosite and basalt fragments (sub-metre to decametre in size) in a mafic to ultramafic matrix; locally with massive to disseminated sulphide minerals and/or disruptive chromitite layering
 - 3 Melagabbroic and pyroxenitic rocks: fine- to medium-grained melagabbro; medium to coarse, locally very coarse grained pyroxenite; locally strongly foliated, magnetite-bearing chlorite schist, amphibolite and minor chromitite
- Mafic volcanic rocks and synvolcanic gabbroic rocks (Mayville assemblage¹⁶; Northern MORB-type formation¹⁷)**
- 2 MORB-type basalt: aphanitic, very fine to fine grained, pillowed to massive basalt, and plagioclase-phyric basalt; minor quartzite
 - 2a Synvolcanic gabbro: fine to medium grained

- Mesoarchean**
- Granitoid intrusive rocks (old granitoid basement)**
- 1 Maskwa Lake batholith I: medium- to coarse-grained, locally porphyritic granite, granodiorite, tonalite and quartz diorite (2782 ± 11 Ma¹⁸; 2832.3 ± 0.9 Ma¹⁹; 2844 ± 12 Ma²⁰; 2852.8 ± 1.1 Ma²¹), and granitic gneiss

- Geological symbols**
- Bedding: facing unknown, facing known
 - Crenulation cleavage, sense unknown, generation unknown
 - Dike, dip known
 - Fold axis, shape unknown, generation unknown
 - Fault plane: sense unknown, dextral
 - Flow banding, facing known
 - Foliation: generation 1, 2, 3, unknown
 - Gneissosity: generation 2, unknown
 - Igneous layering: facing known, overturned
 - Joint
 - Mineral lineation
 - Shear band, generation unknown: dextral, sinistral
 - Shear zone: unknown sense, dextral, sinistral
 - Vein, dip known
- Boundaries**
- Fault
 - Geological contact, approximate
 - Geological contact, defined
 - Geological contact, inferred
 - Mapping limit
 - Powerline
 - Trail
 - Provincial road
 - Minor road
 - Outcrop
- Mineral deposits or occurrences**
- A Euclid Lake chromite deposit
 - B New Manitoba mine (Cu-Ni deposit)
 - C Irgon rare-metal pegmatite deposit
 - D Cat Lake Au-Ag deposit
 - E Acme Ni-Cu occurrence
 - F Copper contact
 - G M2 deposit
 - H M2W zone
 - I Hittite
 - J PGE zone
- Mafic-ultramafic intrusions**
- ELI Euclid Lake intrusion
 - CLI Cat Lake intrusion
 - MI Mayville intrusion
 - NMMI New Manitoba Mine intrusion

Map GR2020-1-1

Bedrock geology of the Cat Creek-Euclid Lake area, Bird River greenstone belt, southeastern Manitoba (parts of NTS 52L11, 12)

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Suggested reference:
Yang, X.M. and Houlié, M.G. 2020: Bedrock geology of the Cat Creek-Euclid Lake area, Bird River greenstone belt, southeastern Manitoba (parts of NTS 52L11, 12); Manitoba Agriculture and Resource Development, Manitoba Geological Survey, Geoscientific Report GR2020-1, Map GR2020-1-1, scale 1:20 000.

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Houlié, M.G., McNicoll, V.J., Bécu, V., Yang, X.M. and Gilbert, H.P. 2013: New age for the Mayville Intrusion: implication for a large mafic-ultramafic event in the Bird River Greenstone Belt, southeastern Manitoba; Geological Association of Canada-Mineralogical Association of Canada, Joint Annual Meeting, Winnipeg, Manitoba, May 22-24, 2013, Abstract with Programs.
Wang, X. 1993: U-Pb zircon geochronology study of the Bird River greenstone belt, southeastern Manitoba; M.Sc. thesis, University of Windsor, Windsor, Ontario, 96 p.

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Location Map

Approximate mean declination (2020) for centre of map is 1°26.1' east, annual change decreasing 4.4' west.