



**Legend**

**Intrusive rocks**

- 12 Granitic pegmatite; locally with garnet, cordierite and sillimanite
- 11 Granodiorite; medium-grained; foliated; non magnetic
- 10 Hornblende-biotite diorite; medium-grained; foliated
- 9 Mafic to ultramafic dikes and sills; intrudes the Sickle and Burntwood group rocks

**Sickle group**

- 8 Sillimanite arkose; abundant sillimanite knots with magnetite in the core; abundant sillimanite occurs in foliation planes
- 7 Quartz pebble conglomerate; majority rounded quartz pebbles; rare felsic and mafic pebbles
- 6 Biotite arkose; well bedded, magnetic; locally with garnet and sillimanite; locally contains pebbles
- 5 Hornblende arkose; magnetic; coarse-grained
- 4 Polymictic conglomerate; felsic, intermediate and mafic cobbles

**Burntwood group**

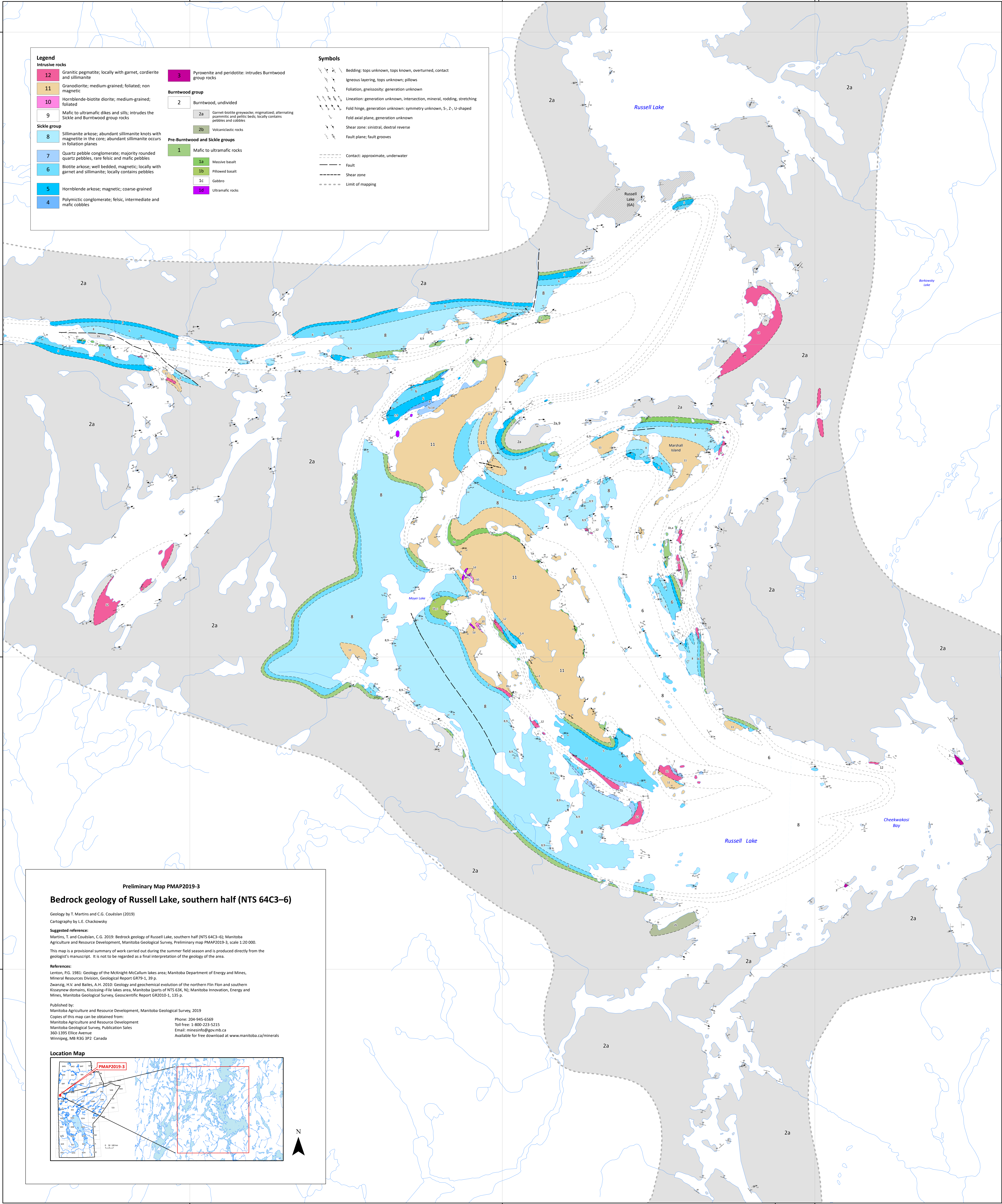
- 2 Burntwood, undivided
- 2a Garnet-biotite greywacke; migmatized; alternating psammitic and pelitic beds; locally contains pebbles and cobbles
- 2b Volcaniclastic rocks

**Pre-Burntwood and Sickle groups**

- 1 Mafic to ultramafic rocks
- 1a Massive basalt
- 1b Pillowed basalt
- 1c Gabbro
- 1d Ultramafic rocks

**Symbols**

- Bedding: tops unknown, tops known, overturned, contact
- Igneous layering, tops unknown; pillows
- Foliation, gneissosity; generation unknown
- Lineation; generation unknown, intersection, mineral, rodding, stretching
- Fold hinge, generation unknown; symmetry unknown, S, Z, U-shaped
- Fold axial plane, generation unknown
- Shear zone: sinistral, dextral reverse
- Fault plane; fault grooves
- Contact: approximate, underwater
- Fault
- Shear zone
- Limit of mapping



**Preliminary Map PMAP2019-3**

**Bedrock geology of Russell Lake, southern half (NTS 64C3-6)**

Geology by T. Martins and C.G. Couëslan (2019)  
Cartography by L.E. Chackowsky

**Suggested reference:**  
Martins, T. and Couëslan, C.G. 2019: Bedrock geology of Russell Lake, southern half (NTS 64C3-6); Manitoba Agriculture and Resource Development, Manitoba Geological Survey, Preliminary map PMAP2019-3, scale 1:20 000.  
This map is a provisional summary of work carried out during the summer field season and is produced directly from the geologist's manuscript. It is not to be regarded as a final interpretation of the geology of the area.

**References:**  
Lenton, P.G. 1981: Geology of the McKnight-McCallum lakes area; Manitoba Department of Energy and Mines, Mineral Resources Division, Geological Report GR79-1, 39 p.  
Zwartig, H.V. and Ballez, A.H. 2010: Geology and geochemical evolution of the northern Flin Flon and southern Kisseyew domains, Kissinging-File lakes area, Manitoba (parts of NTS 63K, N); Manitoba Innovation, Energy and Mines, Manitoba Geological Survey, Geoscientific Report GR2010-1, 135 p.

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**Location Map**

**Scale 1:20 000**

UTM Zone 14, NAD83