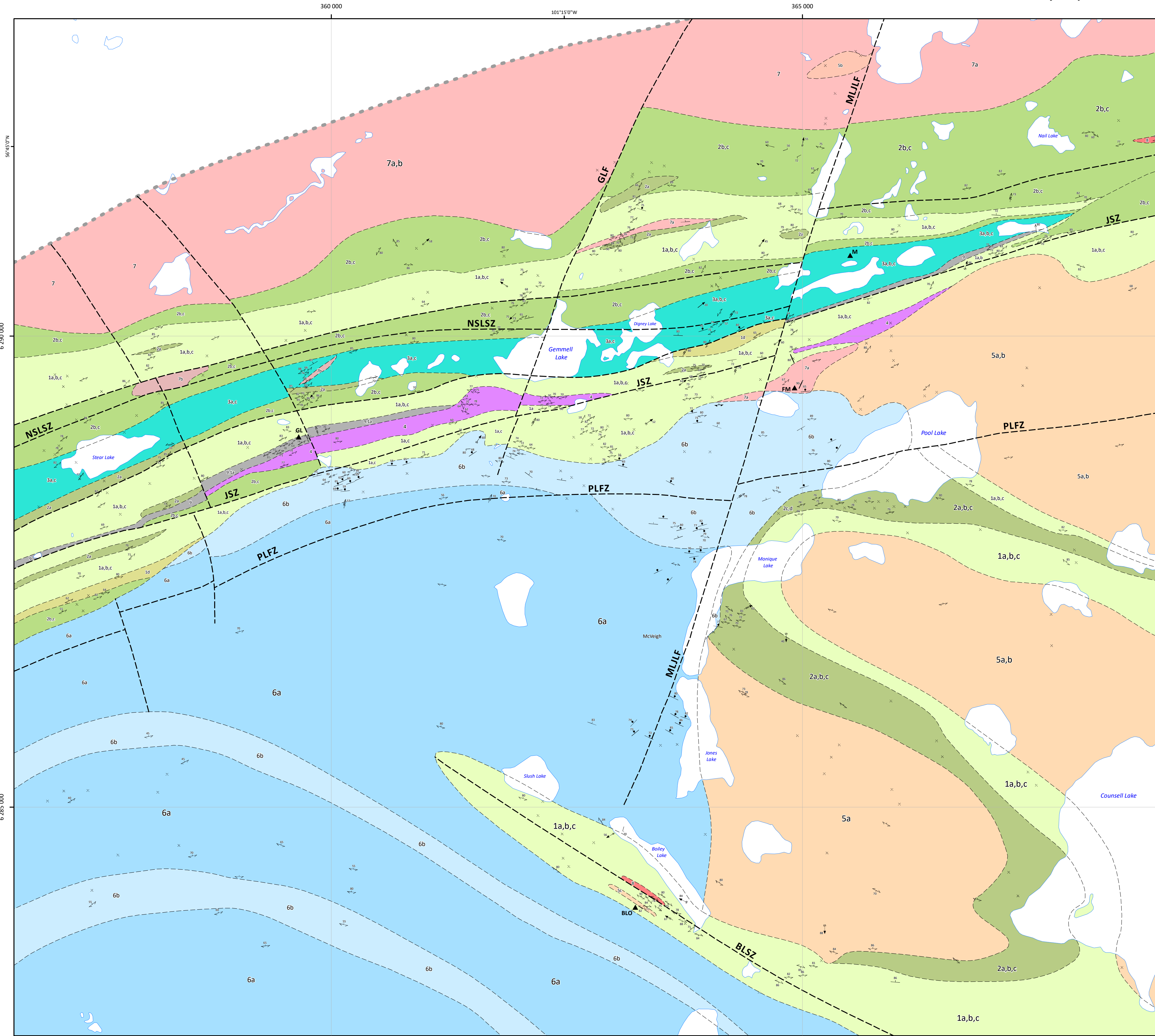




# Preliminary Map PMAP2019-2



### Legend

- Paleoproterozoic**
  - 9 Tectonite: mafic to felsic in composition
- Late intrusive suite**
  - 8 Quartz-feldspar porphyry, pegmatite and aplite
- Post-Sickle intrusive suite**
  - 7 Quartz diorite, tonalite and granodiorite (1831.0 ± 3.7 Ma, 1829 ± 2 Ma<sup>[1,2]</sup>)
    - 7a Quartz diorite, tonalite
    - 7b Granodiorite
- Sickle group**
  - 6 Sandstone, and polymictic conglomerate (1836 ± 15 Ma<sup>[3]</sup>)
    - 6a Arkosic sandstone, and quartz pebbly sandstone
    - 6b Polymictic conglomerate with minor pebbly sandstone
- Pre-Sickle intrusive suite**
  - 5 Gabbroic rocks, diorite, quartz diorite, tonalite, granodiorite, and granite (1891 ± 1 Ma to ~1870 Ma<sup>[1,4,5]</sup>) and associated pegmatitic and aplitic dikes
    - 5a Tonalite, granodiorite and granite and associated pegmatitic and aplitic dikes
    - 5b Diorite, quartz diorite, quartz syenite and minor gabbroic rocks
    - 5c Muscovite-bearing granite
- Wasekwan group**
  - 3 Sedimentary rocks intercalated with minor volcanic sedimentary rocks
    - 3a Argillite, siltstone and greywacke
    - 3b Banded iron formation
    - 3c Volcanic mudstone, siltstone, volcanic sandstone, and minor volcanic breccia
  - 2 Mafic to intermediate volcanic rocks, and syovolcanic intrusive rocks
    - 2a Diabase and gabbro
    - 2b Porphyritic basaltic andesite
    - 2c Plagioclase-phyric basalt, and aphyric basalt
    - 2d Pillow basalt
  - 1 Volcaniclastic rocks with minor volcanic rocks and volcanic sedimentary rocks
    - 1a Felsic to intermediate volcanic and volcaniclastic rocks
    - 1b Intermediate lapilli tuff and tuff
    - 1c Mafic lapillistone, mafic lapilli tuff, tuff, minor mafic mudstone, and derivative garnet-biotite schist
    - 1d Mafic tuff breccia and breccia

### Symbols

- Geological Structure**
  - Bedding: tops unknown, tops known
  - Pillows, tops unknown
  - Foliation: S<sub>1</sub>, S<sub>2</sub>, S<sub>3</sub>, S<sub>4</sub>
  - Gneissosity, generation unknown
  - Lineation: generation unknown, L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>, L<sub>4</sub>
  - Mineral lineation, rodding
  - Fold axis, generation unknown: symmetry unknown, symmetric, S-shaped
  - Fold axis, symmetry unknown: F<sub>2</sub>, F<sub>3</sub>, F<sub>4</sub>
  - Fold axial plane, generation unknown
  - Vein; dike
- Geological Boundaries**
  - Mapping limits
  - Contacts
  - Faults, shear zones
    - BLSZ: Boiley Lake shear zone
    - MLLJF: Moriak Lake-Jones Lake fault
    - GLF: Gemzell Lake fault
    - JSZ: Johnson shear zone
    - NLSLZ: North Star Lake shear zone
    - PLFZ: Pool Lake fault zone
- Mineral occurrences
  - FM: Finlay-McKinlay Au occurrence
  - GL: Gemzell Lake Au occurrence
  - M: McBride Lake occurrence
  - BLO: Boiley Lake occurrence
- Outcrop

### References

Baldwin, D.A., Syme, E.C., Zwanzig, H.V., Gordon, T.M., Hunt, P.A. and Stevens, R.P. 1987: U-Pb zircon ages from the Lynn Lake and Rusty Lake metavolcanic belts, Manitoba: two ages of Proterozoic magmatism; Canadian Journal of Earth Sciences, v. 24, no. 5, p. 1053-1063.

Beaumont-Smith, C.J. and Böhm, C.O. 2003: Tectonic evolution and gold metallogeny of the Lynn Lake greenstone belt, Manitoba (NTS 64C10, 11, 12, 14, 15 and 16); in Report of Activities 2003, Manitoba Industry, Economic Development and Mines, Manitoba Geological Survey, p. 39-49.

Gilbert, H.P., Syme, E.C. and Zwanzig, H.V. 1980: Geology of the metavolcanic and volcanoclastic metasedimentary rocks in the Lynn Lake area; Manitoba Energy and Mines, Mineral Resources Division, Geological Paper GP80-1, 118 p.

Turek, A., Woodhead, J. and Zwanzig H.V. 2000: U-Pb age of the gabbro and other plutons at Lynn Lake (part of NTS 64C); in Report of Activities 2000, Manitoba Industry, Trade and Mines, Manitoba Geological Survey, p. 97-104.

Yang, X.M. and Lawley, C.J.M. 2018: Tectonic setting of the Gordon gold deposit, Lynn Lake greenstone belt, northwestern Manitoba (parts of NTS 64C16): evidence from litho-geochemistry, Nd isotopes and U-Pb geochronology; in Report of Activities 2018, Manitoba Growth, Enterprise and Trade, Manitoba Geological Survey, p. 89-109.

<sup>[1]</sup>Beaumont-Smith and Böhm (2003); <sup>[2]</sup>Turek et al. (2000); <sup>[3]</sup>Lawley et al. (unpublished data, 2019); <sup>[4]</sup>Baldwin et al. (1987); <sup>[5]</sup>Yang and Lawley (2018)

## Preliminary Map PMAP2019-2

### Bedrock geology of the Gemzell Lake area, Lynn Lake greenstone belt, northwestern Manitoba (parts of NTS 64C11, 14)

Geology by X.M. Yang  
Cartography by L.E. Chackowsky

**Suggested reference:**  
Yang, X.M. 2019: Bedrock geology of the Gemzell Lake area, Lynn Lake greenstone belt, northwestern Manitoba (parts of NTS 64C11, 14); Manitoba Agriculture and Resource Development, Manitoba Geological Survey, Preliminary Map PMAP2019-2, 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.

Published by:  
Manitoba Agriculture and Resource Development, Manitoba Geological Survey, 2019

Copies of this map can be obtained from:  
Manitoba Agriculture and Resource Development  
Manitoba Geological Survey, Publication Sales  
360-1395 Ellice Avenue  
Winnipeg, MB R3G 3P2 Canada

Phone: 204-945-6569  
Toll free: 1-800-223-5215  
Email: minesinfo@gov.mb.ca  
Available for free download at [www.manitoba.ca/minerals](http://www.manitoba.ca/minerals)

### Location Map

