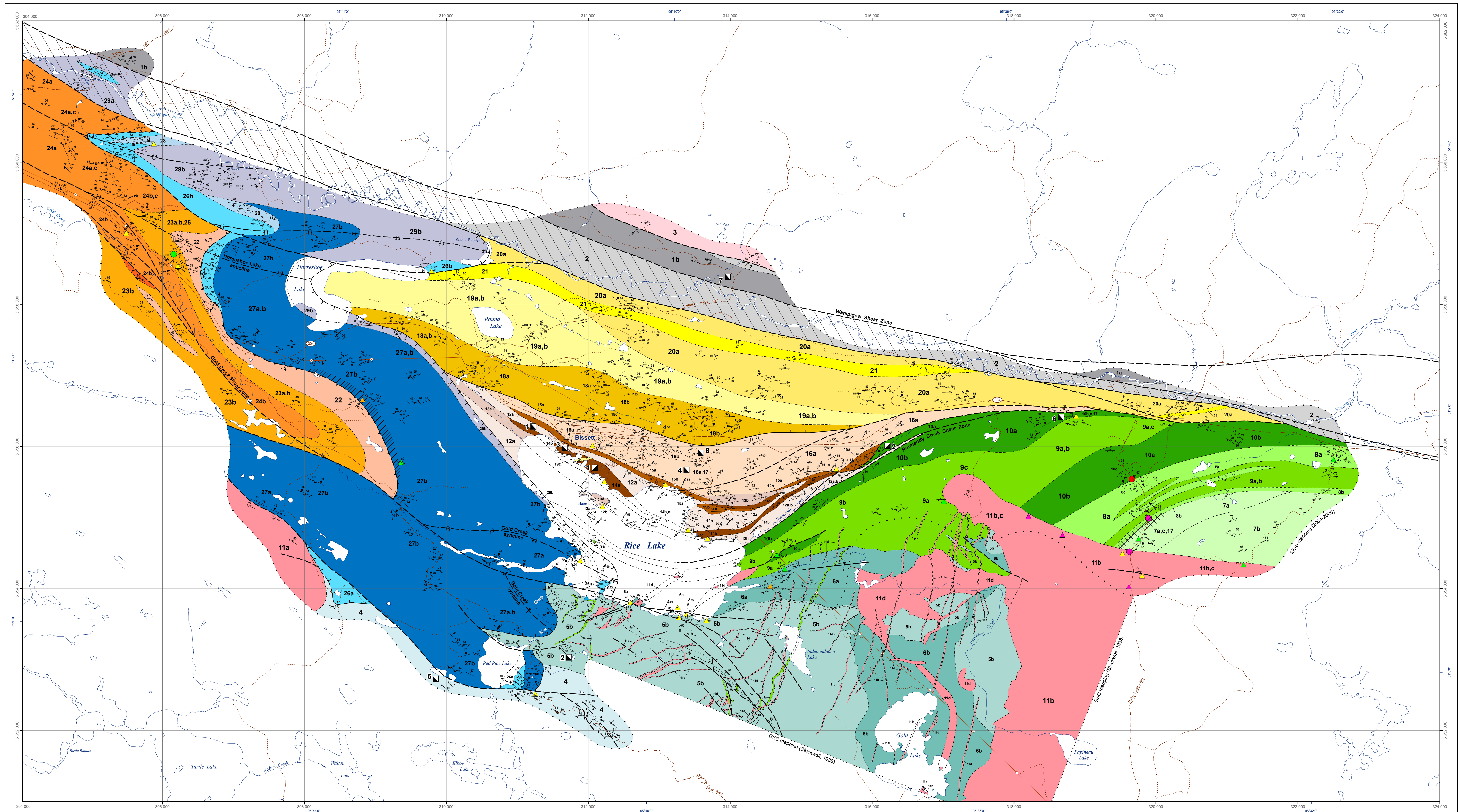




Geology and structure of the Rice Lake area, Rice Lake greenstone belt, southeastern Manitoba (parts of NTS 52M4, 52L13)



Legend

SAN ANTONIO ASSEMBLAGE (<2705 Ma; Percival et al., 2006a)

- 29 Greywacke and mudstone: rhythmic interbeds
29a Medium- to very coarse-grained greywacke with blue-quartz granules and pebbles (<2735 Ma; this study)
29b Fine- to medium-grained feldspathic greywacke
28 Quartz wacke: planar-bedded
27 Unseparated arenite and wacke: medium- to very coarse grained, with pebble lags
27a Cross-bedded
27b Planar-bedded
26 Conglomerate, minor sandstone interbeds
26a Tonalite boulder conglomerate
26b Polymictic cobble conglomerate: 1-5% quartz pebbles

BIDOU ASSEMBLAGE

Gold Creek unit

- 25 Quartz-feldspar porphyry
24 Intermediate epidaxitic and effusive volcanic rocks
24a Heterolithic pebble to boulder volcanic conglomerate
24b Volcanic sandstone: massive to thinly interbedded with volcanic mudstone
24c Includes minor amygdales and associated volcaniclastic rocks
23 Basalt and gabbro: tholeiitic, arc affinity
23a Pillowed, aphyric basalt flows, minor pillow breccia
23b Gabbro: may include massive basalt flows
22 Intermediate volcaniclastic rocks: massive to fragmental

Round Lake unit

- 21 Rhyolitic quartz-feldspar porphyry (hypabyssal: 2715 ±2 Ma; this study)
20 Felsic epidaxitic rocks: homblende-phyric, >2% quartz crystals
20a Volcanic conglomerate, sandstone, mudstone: typically well-layered
19 Intermediate volcaniclastic rocks: homblende-phyric, <2% quartz crystals
19a Massive to faintly layered crystal-lapilli tuff
19b Monolithic tuff breccia, breccia
19c Plagioclase-hornblende porphyry "feeder" dikes cutting Townsite unit
18 Heterolithic volcanic conglomerate
18a Family layered boulder to cobble conglomerate, with minor sandstone
18b Consists mainly of crystal-lapilli, lapilli-tuff clasts
18c Includes minor basalt lapilli tuff: calcalkalic, sanukitoid, evolved-arc affinity (not mappable at this scale)
17 Diabase: calcalkalic, sanukitoid, evolved-arc affinity

Townsite unit

- 16 Dacitic crystal-rich volcaniclastic and epidaxitic rocks, minor gabbro dikes and sills (unit 17)
16a Massive and brecciated crystal-lapilli tuff
16b Includes bedded volcanic sandstone and heterolithic volcanic conglomerate
15 Aphyric to sparsely plagioclase-phyric basalt and basaltic andesite: tholeiitic, arc affinity
15a Pillowed, massive and brecciated basalt flows, variably amygdales
15b Derived epidaxitic rocks: stratified, with minor chert
14 Gabbro: tholeiitic, arc affinity
14a Leucogabbro
14b Melagabbro
14c Layered melagabbro and leucogabbro
13 Heterolithic pebble to cobble volcanic conglomerate: minor amygdales and basalt dikes and tubes (unit 15)
13a Homogeneous and massive: mainly felsic volcanic detritus
13b Heterogeneous and crudely stratified: minor felsic volcanic sandstone; contains up to 10% aphyric basalt clasts
12 Felsic volcanic sandstone and pebble conglomerate: minor amygdales and basalt dikes (unit 15)
12a Massive to faintly layered volcanic sandstone, minor mudstone
12b Interbedded massive and thin-bedded volcanic sandstone

Ross River plutonic suite

- 11 Felsic plutonic rocks
11a Biotite granodiorite (2724 ±1 Ma; this study)
11b Hornblende-biotite tonalite and granodiorite
11c Includes abundant enclaves of gabbro or felsic volcaniclastic rock
11d Quartz-feldspar-biotite-hornblende porphyritic granodiorite

Rainy Lake Road unit (includes dikes of units 11d and 17)

- 10 Aphyric basalt: Fe-tholeiitic, MORB affinity
10a Pillowed flows, variably amygdales; minor breccia
10b Massive flows, minor breccia
10c Heterolithic volcanic conglomerate
9 Gabbro, diabase: Fe-tholeiitic, MORB affinity
9a Massive, melanocratic, locally disseminated or pyroxene porphyritic
9b Quartz gabbro, contains up to 10% blue-quartz
9c Contains plagioclase glomerocysts
8 Bedded greywacke and mudstone, with abundant gabbro sills (unit 9)
8a Includes mafic breccia and subvolcanic intrusions
8b Felsic epidaxitic rocks: includes volcanic conglomerates with solid-sulphide clasts (<2727 ±2 Ma; this study)
7 Porphyritic to aphyric dacite: abundant gabbro sills (unit 9)
7a Aphyric dacite breccia, tuff breccia, lapilli tuff
7b Feldspar-phyric dacite breccia, tuff breccia, lapilli tuff
7c Includes bedded volcanic sandstone, mudstone

Independence Lake unit (includes dikes of unit 9 and 11d)

- 6 Aphyric to sparsely feldspar-phyric andesite: includes minor classic dikes, likely sourced from unit 12
6a Massive to pillowed flows, breccia, tuff breccia, lapilli tuff
6b Porphyritic basalt (Stokwell, 1938): massive to brecciated
5 Porphyritic andesite
5a Massive
5b Breccia, tuff breccia
4 Heterolithic pebble to boulder volcanic conglomerate: mainly subrounded andesite-dacite clasts

WANIPIGOW RIVER PLUTONIC COMPLEX

- 3 Biotite tonalite and granodiorite

LITTLE BEAVER ASSEMBLAGE

- 2 Chloritic mylonite and tectonite: uncertain precursor
1 Psammitic and semipelite schist: layered, gametiferous
1a Includes iron formation
1b Includes gabbro

Geology by: S.D. Anderson (2004-2005)

Cartography by: M.E. McFarlane

Symbols

Geological contacts

- Approximate
- Fault/Shear Zone
- Thrust fault
- Disconformity
- Angular unconformity

Fold-axial traces (F₃)

- Overtuned syncline
- Syncline
- Overtuned anticline

Planar structures

- Bedding: tops unknown, upright, overturned
- Pillows: top known
- Foliation: generation unknown, S₁, S₂, S₃, S₄
- Shear bands: dextral
- Fold axial plane: F₁, F₂

Linear structures

- Intersection lineation: L₁, L₂
- Stretching lineation: L₁, L₂
- Fold axis, F₁: symmetrical
- Fold axis, F₂: asymmetrical Z, S
- Fold axis, F₂: Z asymmetry

- Wanipigow Shear Zone
- Chlorite-garnet alteration
- Sericite/pyrite, ankerite alteration
- Limit of MGS mapping
- Limit of GSC mapping
- Gravel road
- Trail
- Power line

Active mines (Au)

- 1 - Rice Lake
- 2 - San Gold #1 (SG-1)

Deposits/prospects (Au)

- 1 - Cartwright
- 2 - Fox
- 3 - Gabrielle
- 4 - Gold Standard
- 5 - Puckrock
- 6 - San Gold #3 (SG-3)
- 7 - Vernon
- 8 - Wingold

Alteration sites

- Ankerite-sericite
- Chlorite-epidote
- Chlorite-sericite-ankerite
- Epidote
- Sericite-ankerite-sericite

Mineral occurrences

- Sphalerite, pyrite, pyrrhotite-chalcocopyrite
- Pyrite
- Tourmaline

INDEX MAP

