MANITOBA
DEPARTMENT OF ENERGY AND MINES
MINERAL RESOURCES DIVISION

LEGEND

PRECAMBRIAN

INTRUSIVE ROCKS

13 — Gabbro and diabase
(13a) olivine norite; (13b) gabbro; **(13c) diabase, porphyritic diabase**

12 — Metagabbro and metadiabase
(12a) gabbro; (12b) porphyritic diabase

11 — Metagranodiorite
(11a) granodiorite, porphyritic granodiorite and granite; (11b) pegmatite; (11c) feldspar porphyry; (11d) aplite

OXFORD LAKE GROUP

10 — Metagreywacke, meta-arenite; minor metapelite, amphibolite, paragneiss
(10a) feldspathic greywacke, minor pebbly greywacke, lithic wacke, argillite and iron formation; **(10b) arenite, arkosic wacke; (10c) pelite and calc-silicate rock;** (10d) amphibolite; (10e) amphibole-biotite gneiss; (10f) garnet-, andalusite-, staurolite- and cordierite-bearing schists and gneisses; (10g) iron formation

9 — Metaconglomerate; minor metagreywacke
(9a) polymictic volcanogenic conglomerate; **(9b) polygenic conglomerate,** minor pebbly **greywacke and greywacke;** (9c) polymictic conglomerate with volcanic and sedimentary clasts

8 — Metamorphosed porphyritic volcanic rocks and related sedimentary rocks
(8a) pillowed basalt
(8b) shoshonite, minor absarokite; ($8b_1$)massive absarokite; ($8b_2$) massive and pillowed shoshonite; ($8b_3$)volcanic fragmental rocks of shoshonitic composition; ($8b_4$)oligomictic conglomerate of shoshonitic composition
(8c) porphyritic andesite; ($8c_1$) massive flow; ($8c_2$) pillowed flow; ($8c_3$) volcanic fragmental rocks; ($8c_4$) oligomictic conglomerate
(8d) porphyritic dacite and rhyolite; ($8d_1$) massive flow; ($8d_2$) pyroclastic rocks; ($8d_3$) oligomictic conglomerate
(8e) volcanic fragmental rocks and conglomerate with porphyritic, felsic to intermediate and minor mafic fragments, minor tuff and wacke; ($8e_1$) predominantly tuff-breccia and pyroclastic breccia; ($8e_2$)predominantly tuff and lapilli-tuff; ($8e_3$) conglomerate
(8f) porphyroblastic hornblende schist; (8g) feldspathic greywacke, siltstone, argillite and minor chert; (8h) tuff and lapilli-tuff; (8i) porphyritic diabase, gabbro; (8j) porphyritic biotite diorite

BAYLY LAKE COMPLEX

7 — Metamorphosed intrusive rocks of mainly granodioritic composition; granite and tonalite; minor syenite
(7a) tonalite; **(7b) tonalite, granodiorite and porphyritic granodiorite; (7c) granodiorite, granite and porphyritic granite;** (7d) granite; (7e) nepheline-cancrinite syenite, alkali feldspar syenite; (7f) alkali syenitic pegmatite and aplite; (7g) quartz-feldspar porphyry; (7h) lamprophyre, diabase; (7i) pegmatite, aplite

6 — Gneisses and gneissoid rocks of mainly tonalitic composition; minor gabbro, hornblendite, clinopyroxenite and amphibolite
(6a) layered tonalitic to granodioritic gneiss with concordant amphibolite layers; (6b) amphibolite; (6c) hornblende-plagioclase gneiss; (6d) protomylonitic quartz monzonite, dioritic gneiss; (6e) pegmatite; (6f) hornblendite, clinopyroxenite; (6g) gabbro; (6h) tonalite gneiss and gneissoid tonalite

5 — Metamorphosed extrusive rocks of andesitic composition and related sedimentary rocks; mafic dykes and carbonate-quartz veins (Lynx Bay assemblage)
(5a) intermediate and felsic pyroclastic breccia and tuff-breccia; (5b) intermediate and felsic tuff and lapilli-tuff; (5c) carbonate-quartz-sulphide bodies and veins; (5d) quartz wacke, conglomerate, minor greywacke and argillite; (5e) chloritoid-bearing quartz-carbonate-chlorite-sericite schists; (5f) diabase

4 — Metamorphosed intrusive rocks of mainly tonalitic composition; minor granodiorite and gabbro
(4a) gneissoid tonalite, quartz diorite, granodiorite and granite; minor pegmatite, aplite and diorite; (4b) gneissoid tonalite; (4c) porphyritic tonalite and minor porphyritic granodiorite; (4d) intrusive breccia; **(4e) granodioritic augen-gneiss; (4f) quartz-feldspar porphyry, feldspar porphyry; (4g) hybrid rocks derived from units 1, 2 and 4; (4h) diabase, gabbro;** (4i) lamprophyre; (4j) amphibolite

HAYES RIVER GROUP

3 — Metamorphosed volcanogenic sedimentary rocks and minor volcanic rocks
(3a) greywacke, tuff, minor intermediate and mafic flows and volcanic fragmental rocks; (3b) tuffaceous greywacke, minor graphitic argillite, tuffisite and pebble conglomerate; (3c) monomictic conglomerate; (3d) polymictic conglomerate; (3e) feldspathic greywacke, minor pebble conglomerate, siltstone, chert and tuff; **(3f) feldspathic greywacke, minor argillite;** (3g) cordierite schist; (3h) feldspathic greywacke, minor amphibolite

2 — Metamorphosed felsic volcanic, subvolcanic and related sedimentary rocks
(2a) felsic to intermediate flows, related intrusions and volcanic fragmental rocks; minor mafic flows and sedimentary rocks; ($2a_1$) porphyritic rhyolite and dacite, minor related intrusions, pyroclastic rocks and minor mafic flows; ($2a_2$) aphyric felsite; ($2a_3$) dacitic pyroclastic breccia, related arkose
(2b) felsic to intermediate volcanic fragmental rocks, minor rhyolite and sedimentary rocks; **(2c) iron formation;** (2d) quartz-feldspar porphyry; (2e) fuchsite quartzite; (2f) anthophyllite-, cordierite- and cummingtonite-bearing gneisses; (2g) calc-silicate gneiss

1 / 1a — Metamorphosed mafic volcanic and related subvolcanic rocks; minor ultramafic rocks; minor sedimentary rocks
($1a_1$)ultramafic rocks; ($1a_2$) ultramafic rock with spinifex texture; ($1a_3$) serpentinized peridotite; ($1a_4$) ultramafic rocks of possible Hayes River Group age; ($1a_5$) melanogabbro, hornblendite; ($1a_6$) olivine hornblendite
(1b) basalt, minor andesite, related sills, minor basic tuff; ($1b_1$) massive basalt, minor andesite; ($1b_2$) pillowed basalt, minor andesite; ($1b_3$) variolitic pillowed basalt, minor andesite; ($1b_4$) amygdaloidal pillowed basalt and andesite; ($1b_5$) flow breccia and pillow breccia
($1c_1$)porphyritic andesite and basalt, minor dacite and related sills; ($1c_1$)massive porphyritic andesite and basalt, minor dacite; ($1c_2$) pillowed porphyritic andesite and basalt; ($1c_3$) porphyritic pillow breccia, volcanic fragmental rocks
(1d) megaphyric andesite, basalt and related minor intrusions; ($1d_1$) massive megaphyric andesite and basalt; ($1d_2$) pillowed megaphyric andesite and basalt
(1e) mafic subvolcanic rocks; ($1e_1$) equigranular gabbro; ($1e_2$) porphyritic gabbro; ($1e_3$) plagiophyric dolerite; ($1e_4$) mesocratic porphyry, quartz gabbro, granophyre
(1f) mafic to intermediate pyroclastic rocks, minor greywacke, argillite and basalt; (1g) epidotised basalt, epidote amphibolite; **(1h) amphibolite, amphibolitic schist, minor feldspathic greywacke;** (1i) amphibole-biotite gneiss, diopside-amphibole gneiss; (1j) garnet amphibolite; **(1k) blastomylonite**

NOTES

Units 1 to 3 do not necessarily denote stratigraphic order, although unit 1 generally comprises the basal part of the Hayes River Group. The Bayly Lake Complex, defined by Hubregtse in report GR83-1A, postdates the Hayes River Group; rocks of units 1 to 7 have been eroded prior to deposition of the Oxford Lake Group. Age relationships are not implied by units 4 to 6; unit 7 generally postdates units 4 to 6. Units 8 to 13 are in stratigraphic order.

All rocks have been metamorphosed, except for some dykes of unit 13, but the prefix "meta" has been omitted from the subunits.

Units not occurring on this map are indicated in light type and unit boxes are blank.

SYMBOLS

- Area of outcrop; small outcrop; probable outcrop
- Frost heaved blocks
- Geological boundary (defined, approximate, assumed, gradational, underwater)
- Bedding, tops known (inclined, overturned, amount of dip unknown)
- Bedding, tops unknown (inclined, vertical, amount of dip unknown)
- Inclusion layering (amount of dip unknown)
- Foliation (inclined, vertical, amount of dip unknown, dip unknown)
- Cataclastic foliation (inclined, dip unknown)
- Foliation and parallel primary layering (inclined, vertical, amount of dip unknown)
- Foliation and parallel metamorphic layering (inclined, vertical, amount of dip unknown)
- Fracture cleavage, strain slip cleavage (inclined, vertical, amount of dip unknown, dip unknown)
- Minor fold axis (inclined, vertical)
- Symmetry (symmetrical, asymmetrical S-shaped, asymmetrical Z-shaped)
- Minor fold axial plane (inclined, vertical)
- Combined symbol showing S-asymmetrical fold with axis plunging 45 degrees and axial plane dipping 60 degrees
- Mineral lineation (inclined); microcrenulation (inclined); boudin axis (inclined); igneous inclusion (inclined)
- Fault (approximate, inferred)
- Mineral occurrence: pyrite
- Mapping juncture
- Reef; swamp

Geological Services Branch, Mineral Resources Division, Winnipeg
To accompany MRD Geological Reports GR83-1B, GR83-1C and GR83-1D

Geology by

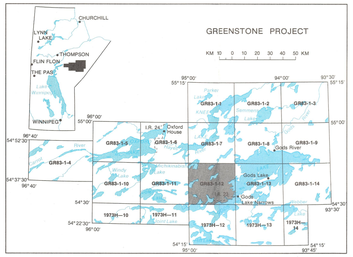
H.P. GILBERT 1972; B.E. MARTEN 1973
and F.J. ELBERS 1972

Cartography by

M.W. TIMCOE

INDEX MAP

The corresponding sheet of the National Topographic System is 53L-10
Air photographs covering this map may be obtained from the National Air Photo Library, Ottawa
The magnetic declination at the centre of the map is approximately
3°03'East (1983) and is decreasing by 13' annually



95°00' 380000m.E. 390000m.E. 400000m.E. 94°30'
54°45' 54°30'
6160000m.N. 6150000m.N.

MAGILL LAKE · Hawkins Lake · Hepburn LAKE · Lake · Brown Lake · Hignell Lake · Hebden Lake · Wartless Lake · Creek · Vermilyea Lake · Touchwood Lake · Wapasheshwin River · Komayakos Rapids · BROWN BAY · GODS LAKE

H.P. GILBERT 1972
B.E. MARTEN 1973
F.J. ELBERS 1972
B.E. MARTEN 1973

GOD'S LAKE INDIAN RESERVE 23

Scale 1:50 000

KILOMETRES 1 0 1 2 3 4 5 KILOMETRES

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DEPT. OF ENERGY & MINES MANITOBA
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MAP GR83-1-12

VERMILYEA LAKE

GR83-1-C c.1