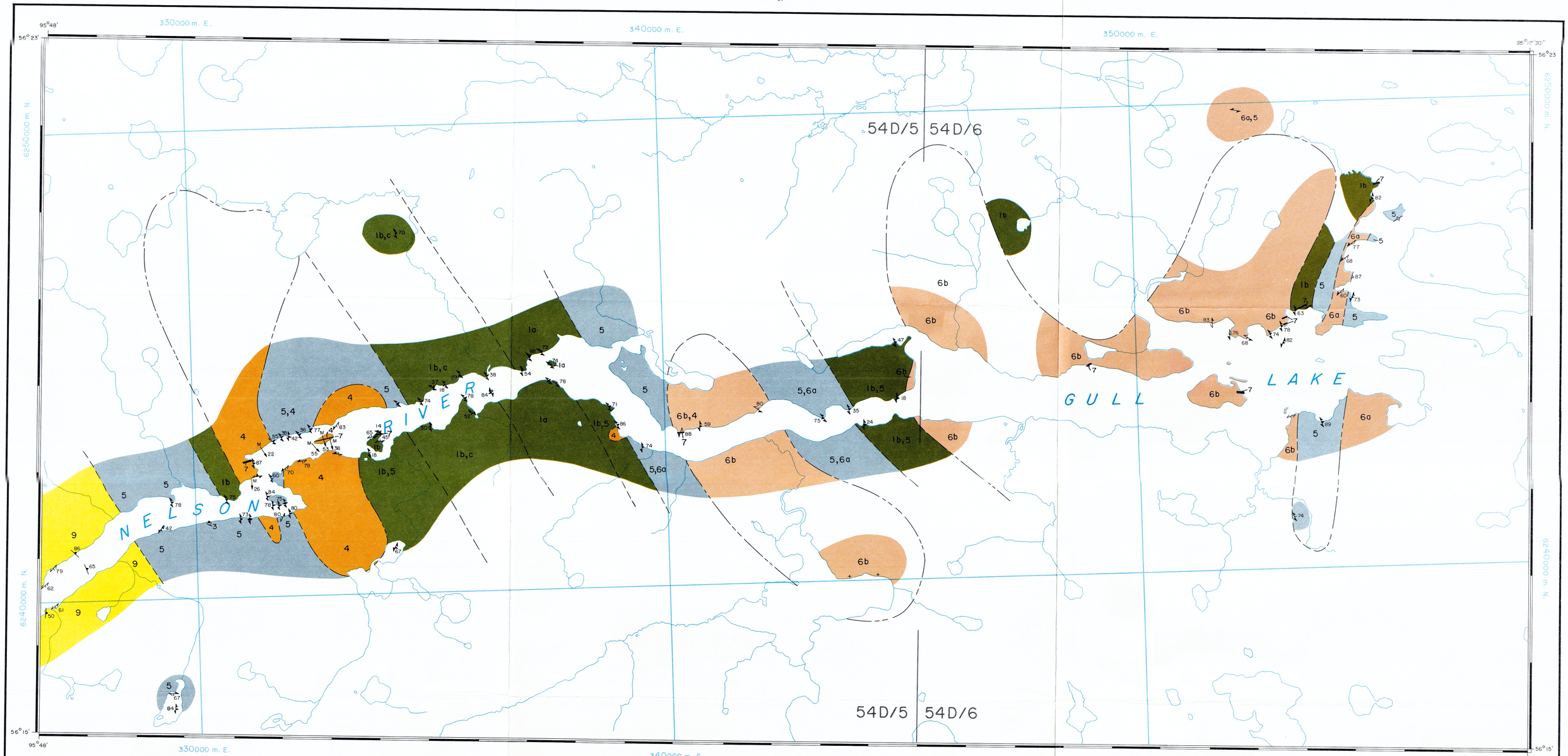
Manitoba
Energy and Mines



LEGEND

PHANEROZOIC

PALEOZOIC

HUDSON BAY BASIN

22 — Ordovician limestone and sandstone of the Portage Chute Formation - Bad Cache Rapids Group

PRECAMBRIAN

PROTEROZOIC

CHURCHILL/SUPERIOR BOUNDARY

21 — Cataclastic rocks and mylonites of unknown origin derived from rocks of both Superior and Churchill Provinces

21a — Layered mylonites

21b — Cataclastic granitic to tonalitic gneisses of unknown origin

21c — Cataclastic amphibolite and garnet amphibolite of unknown origin

CHURCHILL PROVINCE

Intrusive Rocks

20 — Diabase dykes

19 — Granite; massive, white to pink, biotite-bearing

18 — Tonalite to granite; 18a) tonalite-granodiorite; massive to foliated; 18b) granodiorite-granite

Sickle Metamorphic Suite

17 — Arkosic metatexite; units 13, 14 and 15 undivided

16 — Metagreywacke; garnet-cordierite-sillimanite-magnetite gneiss

15 — Meta-arkose; massive to well layered, sillimanite-bearing gneiss; 15a) migmatite, arkose derived

14 — Feldspathic greywacke-psammite gneiss; biotite-magnetite gneiss; 14a) delicately layered feldspathic greywacke gneiss, locally iron-rich; 14b) migmatite, greywacke derived

13 — Hornblende-plagioclase metagreywacke; massive to well layered; 13a) polymictic metaconglomerate; 13b) hornblende-plagioclase migmatite, greywacke derived

Burntwood River Metamorphic Suite

12 — Psammitic gneiss; layered, magnetite-garnet-biotite gneiss

11 — Amphibolite; 11a) layered hornblende-diopside amphibolite; 11b) massively layered amphibolite

10 — Greywacke gneiss and migmatites; units 10a, 10c and 10d undivided

10a — Psammitic gneiss, with minor semi-pelitic to pelitic gneiss layers; locally sillimanite-bearing

10b — Arkosic gneiss; interlayered with 10a

10c — Greywacke gneiss; interlayered psammitic to pelitic metasedimentary rocks

10d — Pelitic greywacke gneiss

SUPERIOR PROVINCE

PROTEROZOIC (INCLUDING HUDSONIAN TECTONITES)

9 — Tectonic complex; well foliated and discontinuously layered gneiss, comprising reworked Kenoran migmatites and early intrusive rocks.

9a — Granodiorite gneiss; highly foliated, and thinly laminated gneiss derived from unit 5

8 — Granite; 8a) dykes, sills and small irregular bodies of pink biotite granite, pegmatite and aplite; 8b) Fox Lake granite

■ 7 ■ — Diabase dykes

ARCHEAN

6 — Granite, granodiorite; 6a) dykes, sills and irregular bodies of massive to foliated grey granite; 6b) Gull Lake granite

5 — Hornblende and hornblende-biotite gneiss; comprising mobilized and injected layered gneiss and agmatites (derived from units 1, 2 and 3) with 10 to 75% tonalite to granodiorite

4 — Tonalite-granodiorite, with hornblende clots, containing 0 to 25% inclusions of units 1 and 3

3 • — Mafic to ultramafic dykes; trains of recrystallized, tremolite-chlorite-talc-biotite bearing ultramafic boudins within units 1, 4, 5 and 8

2 — Anorthosite complex

2a — Anorthosite

2b — Anorthositic gabbro gneiss

1 — Amphibolite and metagabbro; 1a) garnet amphibolite and garnet—diopside—hornblende—plagioclase granofels; 1b) amphibolite and hornblende—diopside—plagioclase ± (hypersthene) granofels; 1c) mesocratic to leucocratic plagioclase—hornblende-quartz (±biotite) granofels and gneiss

Geological contact (defined, approximate, under water, located by airborne magnetic survey)

Foliation and parallel primary layering (vertical, inclined, dip unknown)

Foliation and parallel metamorphic layering (vertical, inclined, dip unknown)

Metamorphic layering (vertical, inclined, dip unknown)

Inclusion layering (vertical, inclined, dip unknown)

Foliation or schistosity (vertical, inclined, dip unknown)

Second generation foliation or schistosity (vertical, inclined, dip unknown)

Cataclastic foliation and/or parallel mylonitic layering (vertical, inclined, dip unknown)

Linear structures

Mineral lineation (plunge indicated)

Microcrenulation (plunge indicated)

Deformed clasts (plunge indicated)

Minor folds

Axis (plunge indicated)

Axial plane (inclined, vertical)

Fold symmetry (symmetrical, S-shaped, Z-shaped)

Zones of cataclasis associated with the Churchill/Superior boundary

Minor faults (defined, approximate)

Major fold axis of first generation (anticline, syncline)

Major fold axis of second generation (anticline, syncline)

Isolated outcrop

Scale 1:50 000

KILOMETRES 1 0 1 2 3 4 KILOMETRES

MILES 1 0 1 2 3 MILES

SYMBOLS

Original shoreline

Present shoreline (limit of Kettle Rapids Generating Station Forebay (1972), Long Spruce Generating Station forebay (1978)

Hydro dam axis

Earth fill dykes

To accompany Geological Report GR82—1

Geology by: M.T. CORKERY, 1975; T.G. FROHLINGER, 1975

Compiled by: M.T. CORKERY

Cartography by: E. TRUMAN

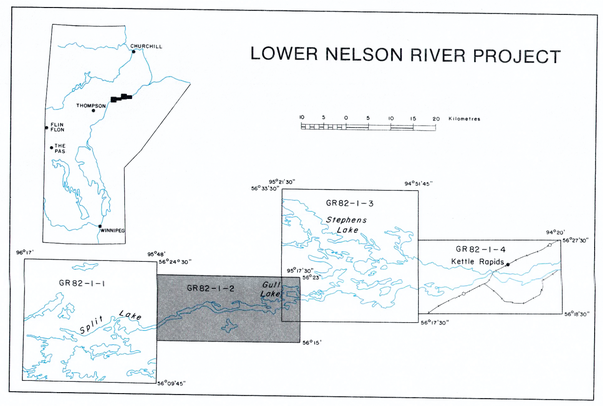
STRATIGRAPHIC NOTE

Metasedimentary rocks of the Sickle and Burntwood Metamorphic Suites, units 10 through 16, are in stratigraphic order; however, sub-units within each group may not represent a stratigraphic sequence.

The age relationship of Churchill Province intrusive rocks, units 18 and 19, is not certain.

The approximate magnetic declination at the centre of the area is 3°47'E (1982) and is decreasing by 14.4' annually.

INDEX MAP



MAP GR 82-1-2

GULL LAKE