ONTARIO DEPARTMENT OF MINES AND NORTHERN AFFAIRS

PRELIMINARY MAP P.668
GEOLOGICAL SERIES

PANACHE LAKE AREA (West Part)

DISTRICTS OF SUDBURY AND MANITOULIN

Scale 1 inch to 1 mile

NTS Reference: 41 I/4, 41 I/5
GSC Aeromagnetic Maps: 1522G, 1523G

LEGEND

CENOZOIC
PLEISTOCENE AND RECENT
Sand, gravel, clay

PALEOZOIC
ORDOVICIAN
Limestone, shale, sandstone, conglomerate

UNCONFORMITY

PRECAMBRIAN

GRENVILLE PROVINCE

23 — 23 Orthogneiss, felsic intrusions
23a Amphibolite

22 — 22 Paragneiss[a]
Metaconglomerate, para-amphibolite, quartzite, layered pelitic gneiss, migmatite

SOUTHERN PROVINCE

PROTEROZOIC
Late Mafic Intrusions[b]
21 — 21 Diabase, olivine diabase

INTRUSIVE CONTACT

Late Ultramafic and Alkalic Intrusions
20 — 20a Mongowin pluton[c]: Peridotite, pyroxenite, diorite, quartz diorite, granophyre
20b Nemag Lake, Kusk Lake fenite intrusions: Aegirine riebeckite albite breccia

INTRUSIVE CONTACT

Sudbury Nickel Irruptive
19 — 19 Norite, gabbro, diorite, quartz diorite, quartz diorite breccia, granophyre, transition zone rocks

INTRUSIVE CONTACT

Grenville Front Felsic Plutonic Rocks
18 — 18a Eden Lake Plutons: Trondhjemite, diorite, gabbro
18b Killarney, Chief Lake Batholiths: Quartz monzonite, quartz diorite, pegmatite

INTRUSIVE CONTACT

Nipissing Diabase
17 — 17 Hornblende metagabbro, gabbro, diabase

INTRUSIVE CONTACT

Creighton Pluton
16 — 16 Quartz monzonite, granite

INTRUSIVE CONTACT

HURONIAN SUPERGROUP
COBALT GROUP
Bar River Formation
15 — 15 Orthoquartzite, ferruginous argillite

Gordon Lake Formation
14 — 14 Argillite, siltstone, sandstone

Lorrain Formation
13 — 13 Feldspathic and kaolinitic sandstone, orthoquartzite

Gowganda Formation
12 — 12 Conglomerate, argillite, sandstone

LOCAL DISCONFORMITY

QUIRKE LAKE GROUP
Serpent Formation
11 — 11 Sandstone

Espanola Formation
10 — 10 Limestone, dolomite, calcareous siltstone, sandstone

Bruce Formation
9 — 9 Conglomerate, sandstone

LOCAL DISCONFORMITY

HOUGH LAKE GROUP
Mississagi Formation
8 — 8 Sandstone, argillite

Pecors Formation
7 — 7 Argillite, siltstone, sandstone

Ramsay Lake Formation
6 — 6 Conglomerate, sandstone

LOCAL DISCONFORMITY

ELLIOT LAKE GROUP
McKim Formation[d]
5 — 5 Argillite, siltstone, sandstone

Matinenda Formation
4 — 4 Sandstone, conglomerate

Copper Cliff Formation[d]
3 — 3a Mafic metavolcanics, greywacke, siltstone, sulphide facies iron formation
3b Felsic metavolcanics: Rhyolite, dacite

UNCONFORMITY

ARCHEAN
Early Mafic Intrusions[e]
2 — 2a Gabbro, anorthositic gabbro, anorthosite

Felsic Plutonic Rocks[f]
1 — 1a Quartz monzonite, granodiorite, granite, migmatite

Breccia

a. Equivalent, in part at least, to the Huronian of the Southern Province.
b. Keweenawan-type; Sudbury swarm.
c. Recent radiometric age determinations (W.R. Van Schmus, personal communication) indicate that this pluton is similar in age to the Nipissing Diabase (2150±50 m.y.).
d. Formerly classified as pre-Huronian, "Sudbury Series".
e. Age relative to Archean felsic plutonic and Huronian rocks uncertain. Formerly classified as "Haileyburian" and "Nipissing" by various workers.
f. Algoman-type; includes mafic dikes and inclusions.

SYMBOLS

Geological boundary, observed.

Fault.

Anticline, syncline, with plunge.

Mineral occurrence.

Past producing mine or quarry.

Producing mine or quarry.

PRODUCING MINES AND QUARRIES

Indusmin Ltd.
1. Killarney quarry - Badgeley Island — si

International Nickel Co. of Canada Ltd., The
2. Crean Hill Mine — Ni, etc.
3. Ellen pit — Ni, etc.
4. Lawson quarry — si
5. Totten Mine — Ni, etc.

PAST PRODUCERS

Aer Nickel Corp.
6. Kidd Copper Mine — Ni, etc.
7. Birch Island quarry — stone
8. Bousquet Mine — Au

International Nickel Co. of Canada Ltd., The
9. Chicago Mine — Ni, etc.
10. Vermilion Mine — Ni, etc.
11. Victoria Mine — Ni, etc.
12. Worthington Mine — Ni, etc.
13. Long Lake Mine — Au
14. McMillan Mine — Au
15. Panache Lake Quartz Ltd. — si
16. Shakespeare Mine — Au
17. Sheguiandah quarry — si
18. Spanish River Mines Ltd. — Cu

OTHER OCCURRENCES

19. Agnew Lake Mines Ltd. — U
20. Agnew Lake occurrences — U
21. Drury Township occurrences — U

Falconbridge Nickel Mines Ltd.
22. Lockerby property — Ni, etc.
23. Sudbury Shakespeare occurrence — Ni, Cu
24. Howry Creek occurrence — Au
25. Jo-Ami Gold Mines Ltd. — Au
26. Kusk Lake occurrence — Zn
27. Nemag Lake occurrence — Nb
28. Owen property — Ni, Cu
29. St. Leonard Lake occurrences — W
30. Wallace Mine — Ni

METAL AND MINERAL REFERENCE

(Only the predominant metal in an occurrence is named).

Au ..... Gold
clay ..... Clay
Co ..... Cobalt
Cu ..... Copper
Nb ..... Niobium
Ni ..... Nickel
si ..... Silica (quartzite)
st ..... Stone (building)
tr ..... Trap rock
U ..... Uranium
W ..... Tungsten
Zn ..... Zinc

SOURCES OF INFORMATION

Geological compilation by K.D. Card, January, 1971.

Geology from published maps of the Geological Survey of Canada and the Ontario Department of Mines, and from unpublished maps by F.W. Chandler, J.R. Henderson, S.B. Lumbers, and mining companies.

Base map derived from maps of Forest Resources Inventory, Ontario Department of Lands and Forests.

Magnetic declination approximately 7°W., 1970.

Issued 1971.

ADJOINS P 669

BIBLIOTECA "CONIGLIO" [illegible] IGUNIC AM[illegible]
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