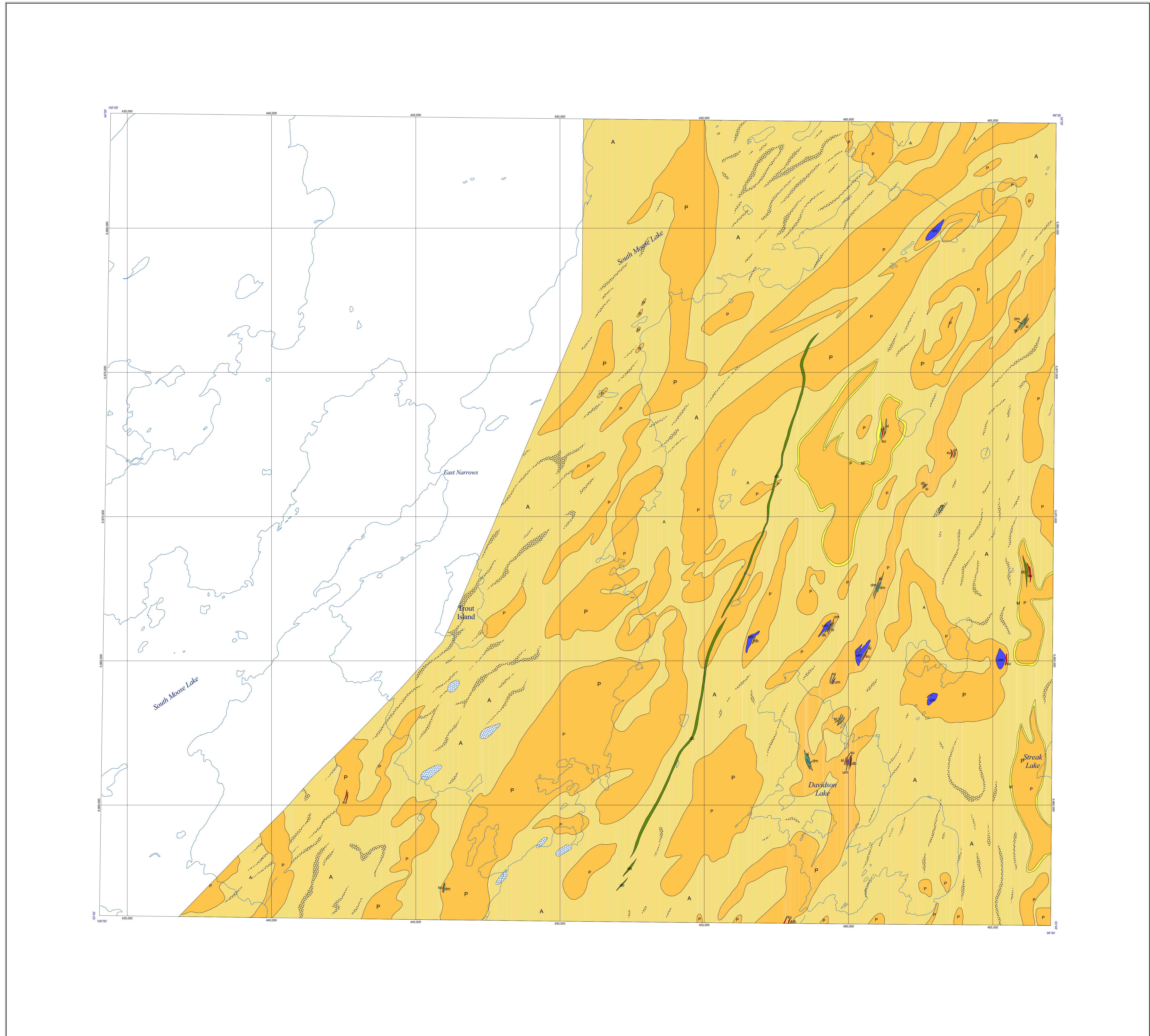
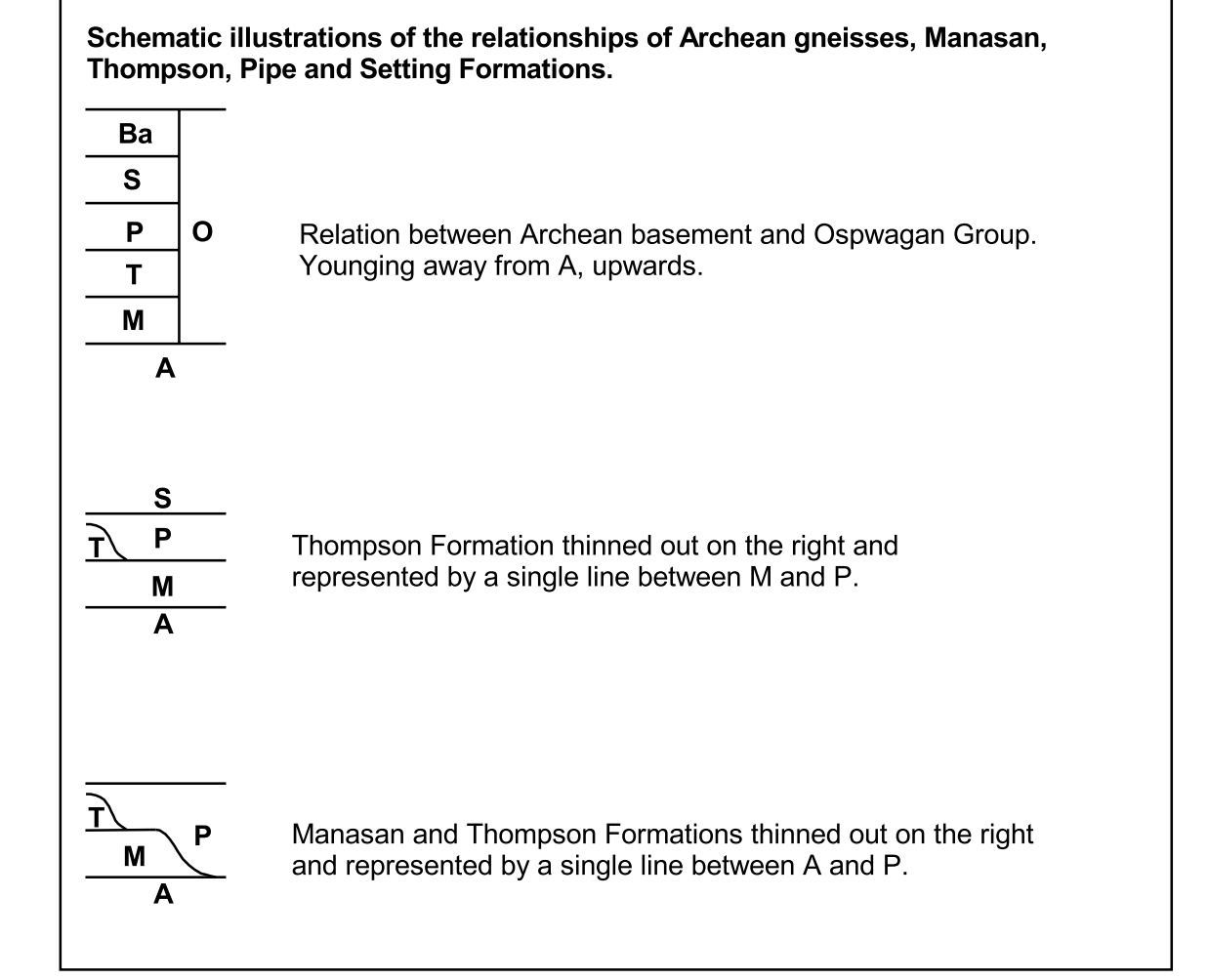


Geology of the Davidson Lake area (63G/13)



- LEGEND**
- INTRUSIVE ROCKS, ORTHOGNEISS**
- mb** Metadiabase or metabasite dykes. In O or A, usually belong to Malson dyke swarm
 - pg** Pegmatite
 - g** Granitic, granitoid rocks
 - bg** Biotite granite
 - qs** Quartz syenite
 - gb** Metagabbro, usually associated with um or occurring as subvolcanic sills
 - um** Dunite (serpentinized), metaperidotite, metapyroxenite, serpentinite, derived ultramafic schist, usually as sills in Ospwagan Group sequence
- G** GRASS RIVER GROUP, undivided; mainly magnetite-bearing paragneiss; locally hornblende-biotite, garnet- or sillimanite-bearing; laminated, thinly layered; in places crossbedded, pabbly; magnetitized; minor intercalations of felsic metavolcanic rocks
- B** BURNWOOD GROUP, undivided; greywacke-mudstone metaturbidite, garnet- and graphite-enriched; locally cordierite- and sillimanite-bearing; includes derived magnetite
- W** WINNIPEGONS BELT ASSEMBLAGE, undivided; ultramafic to mafic volcanic flows, massive, zoned, locally olivine- or clinopyroxene spinifex textured; aphanitic to ophitic texture common; pillow flows, hyaloclastite; also includes sub-greenschist facies thinly layered siliceous siltstone and calcareous siltstone
- O** OSPWAGAN GROUP SUPRACRUSTAL ROCKS, undivided; a sequence of clastic, chemical and metavolcanic rocks belonging to M, T, P, S Formations and Ba assemblage. If M Formation is not on the map, then areas of undivided Ospwagan group are defined solely on the basis of geophysical signature. In some instances, Ospwagan Group might not be present and the magnetic anomalies are reflection of increased magnetic content in basement only.
- Ba** Bah Lake assemblage, undivided; metabasalt flows, pillowed or massive, local breccia; derived amphibolite; metagabbro - diabase subvolcanic sills; perthite sills; minor interflow chert; iron formation, volcanogenic sediment
- pp** Picroite, massive or porphyroblastic
- S** Setting Formation, undivided; feldspathic quartzite and metapelite interlayered in varying proportions in a metabasite sequence
- P** Pipe Formation, undivided; sequence of sulphide, silicate and oxide facies iron formations; sulphidic; chert; metapelite; minor dolomite marble, calc-silicate; near the top sandstone - pelitic metabasite
- dm** Dolomite marble intercalation enclosed in silicate facies iron formation of P3
- ox** Iron formation, oxide facies, found only in P3
- si** Iron formation, silicate facies, stratigraphic position unknown unless determined by its host P1 or P2
- if** Iron formation, facies unspecified, stratigraphic position unknown
- T** Thompson Formation, undivided; marble or marble, layered, varied in composition and texture; olivine - plagioclase - diopside marble, coarse grained
- M** Manasan Formation, undivided; basal clastic rocks; metaconglomerate, sandstone, minor shale, graded beds, thin upwarp; semipelite schist, rhythmically layered, calc-silicate layer near the top; pegmatite segregations in high grade metamorphic derivatives
- A** ARCHEAN BASEMENT MEGMATITE - GNEISS, undivided, retrogressed, leucocratic to dolerite in composition, host to distinct bodies of orthogneiss (1 to 6), ages uncertain
- 6** Biotite granite orthogneiss
- AP** ARCHEAN PIKWITONEI GRANULITE BASEMENT, undivided; leucocratic to melanocratic magmatic and gneiss, orthopyroxene-bearing

- SYMBOLS**
- Fault
 - Geophysical anomaly of unknown origin
 - Structural trend derived from the vertical gradient of a magnetic anomaly
 - Contact



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SELECTED REFERENCES:

Beniger, W.R.A. and Scoates R.F.A., 1981: The Circum-Superior Belt: A Proterozoic plate margin? In Precambrian Plate Tectonics, ed. J.A. Kröner, Elsevier Scientific Publishing Company, Amsterdam, p. 297-330.

Bleeker, W. and Macek, J.J., 1988a: Thompson Nickel Belt Project: Pipe Pit Mine - in Report of Field Activities 1988, Manitoba Energy and Mines, p. 111-115.

Bleeker, W. and J. J. Macek, 1988b: Pipe Pit Mine (SMA, A, B, C, D, E, F, G and H) 1:400, Manitoba Energy and Mines, Geological Services, Preliminary Maps 1988T-1 to 1988T-8.

Bleeker, W., 1989: Lithostratigraphic map of the Thompson Open Pit, Thompson Nickel Belt, Manitoba, scale 1:1200, with accompanying map description, Geological Survey of Canada, Open File 2059.

Bleeker, W., 1990a: New structural - metamorphic constraints on Early Proterozoic oblique collision along the Thompson Nickel belt, northern Manitoba, Canada: in The Early Proterozoic: Trans-Hudson Orogen of North America, ed. J.F. Lawry and M.R. Stoffer, Geological Association of Canada Special Paper 37, p. 57-75.

Bleeker, W., 1990b: Thompson Area General Geology and Ore Deposits. in Geology and Mineral Deposits of the Fire Hill and Thompson Belts, Manitoba, Field Trip Guidebook, 8th IAGOD Symposium, (eds.) Galley, A.G., Bates, A.H., Syme, E.C., Bleeker, W., Macek, J.J., and Gordon, T.M., Geological Survey of Canada, Open File 2165, p. 93-106.

Bleeker, W., 1990c: Evolution of the Thompson Nickel Belt and its related deposits, Manitoba, Canada, unpublished Ph.D. thesis, University of New Brunswick, Fredericton, New Brunswick, 40pp.

Coile, C.J.A., Quirk, T.T., Bell, C.K., Cranstone, D.A., Campbell, F.H.A., 1972: Geology and mineral deposits of the Fire Hill, Lynn Lake and Thompson areas, Manitoba, and the Churchill-Superior front of the western Precambrian shield. Guidebook, field excursion A31-C31, International Geological Congress, XXIV Session, Canada.

Hubreges, J.J.M.W., 1980: The Archean Pikwitonei granulite domain and its position at the margin of the northwestern Superior Province, central Manitoba: Manitoba Mines Branch, Geological Paper 85-3, 16 p.

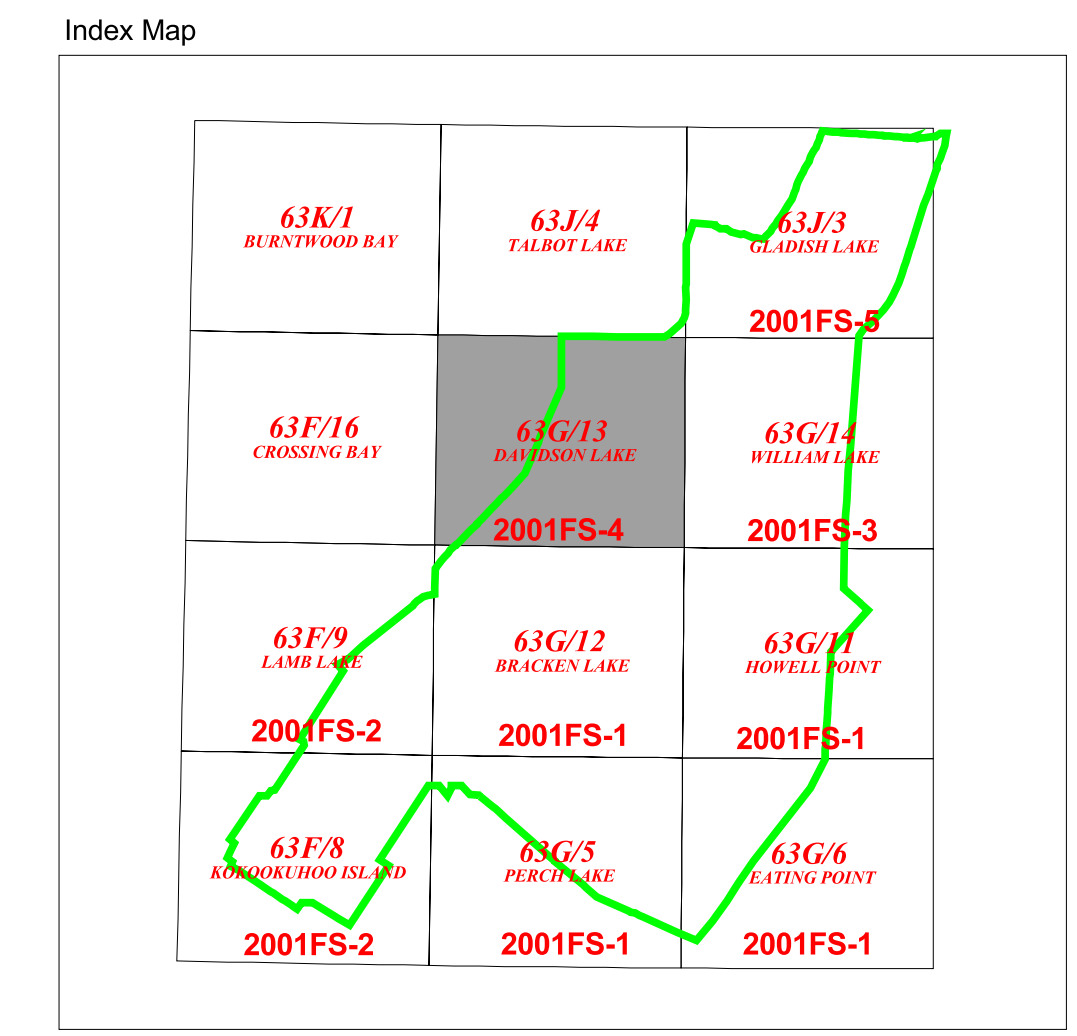
Macek, J.J. and Bleeker, W., 1989: Thompson Nickel Belt project - Pipe Pit Mine, Setting and Ospwagan Lake. In Report of Field Activities 1989, Manitoba Energy and Mines, Minerals Division, p. 73-87.

Macek, J.J. and Nagerl, P., 1992: Sub-Palaeozoic Precambrian geology of the Churchill-Superior Boundary Zone between the Hearge and Winnipeg Rivers (63J): Manitoba Energy and Mines, Geological Services, Open File OF92-3, 5p.

Predery, V.V. and Geological Staff, 1982: Geology and mineral sulphide deposits of the Thompson belt, Manitoba, in Precambrian sulphide deposits, H.B. Robinson memorial volume, (ed.) R.W. Hutchinson, J.D. Spence and J.M. Franklin, Geological Association of Canada, Special Paper 25, p. 165-209.

Scoates, R.F.J. and Macek, J.J., 1978: Malson Dyke Swarm: Manitoba Mines Branch, Geological Paper 78-1, 5 p.

Zwanzig, H.V., 1999: Mapping in the Setting Lake area (parts of NTS 63J/15 and 63J/1, 63J/2): in Report of Field Activities 1999, Manitoba Industry, Trade and Mines, Geological Services, p. 18-23.



This map is a preliminary representation of the results of a mapping and compilation program. It is not to be regarded as a final interpretation of the geology of the area. The data used in producing this map was transferred from unrectified airphotos and thus is subject to distortion. No attempt was made to remove this distortion for this preliminary release.

Suggested reference:
TMB Geology Working Group
2001: THOMPSON NICKEL BELT GEOLOGY, Manitoba Geological Survey, Preliminary Map 2001FS-3, Geology of the Davidson Lake area (63G/13), scale 1 : 50 000.

Map projection: Universal Transverse Mercator, Zone 14, North American Datum 1983.