

**LEGEND**

GEOLOGICAL SURVEY OF CANADA COMMISSION GÉOLOGIQUE DU CANADA

**PROTEROZOIC**

- Diabase Dykes -- gabbro and diabase dykes -- Mackenzie dyke swarm
- Gabbro -- gabbro sills and plugs in the Hurwitz Group
- Lamprophyre Dykes -- minette with subordinate microtrachyte and syenite. A post-Kaminak dyke and a pre-Kaminak dyke swarm are recognised. Early dykes may be foliated, and are locally cut by Kaminak dykes.
- Diabase Dykes -- diabase dykes with abundant plagioclase megacrysts -- Kaminak dyke swarm. Margins sometimes foliated.

**Hurwitz Group (early Proterozoic)**

- Tavaní Formation -- white and pink lithic arkoses and feldspathic arenite/litharenite, local shale partings, red shale rip-up breccia, and polymict conglomerate.
- Kinga Formation -- (Whiterock Lake Member), white orthoquartzite, locally pink pure, carbonate rich layers and dolostone. HKs - sub-Whiterock member, reddened sandstone, siltstone, and shale, mass-flow polymict breccia, impure grey quartz-arenite

**ARCHEAN**

- Granitoids -- two groups recognised: late to post-tectonic granite to granodiorite plutons, include the 'East Lake' (gr), south Gill Lake (gr), and east Gill Lake (gr) plutons, and a granodiorite-monzonite body north of Last Lake (gr); syn-tectonic granitoids and granodiorite to granites and quartz-monzonite with subordinate quartz diorite, diorite and gabbro, include the north Gill Lake pluton (gr), Tavaní (gr) and Last Lake (gr) granites. Syn-tectonic granitoids have a marginal migmatite zone. Age dates (all discordant, upper intercept U-Pb zircon): south Gill Lake pluton - 2600-2640 Ma, east Gill Lake pluton - 2660 ± 2 Ma, north Gill Lake pluton - 2670 ± 4.6 Ma.
- Porphyry -- quartz and quartz-feldspar porphyry, microgranite, and felsite forming dykes, plugs, and stocks, intruded into Atungag and Akiqnaqtuk formations; possible subvolcanic intrusive equivalents of felsic volcanic rocks of the Akiqnaqtuk formation. Age date on porphyry sheet at Gill Lake 2675 Ma (U-Pb zircon, highly discordant, upper intercept, minimum age).
- Felsite Dykes -- felsite dykes north of Last Lake, relationship to pr is unknown.
- Gabbro -- gabbro and related rocks (subordinate diabase, diorite, quartz-diorite, tonalite, trondhjemite around Gill Lake) of the Kiksautiuk suite (gbk). Porphyritic, glomerophytic, and minor non-porphyritic varieties, all variably deformed especially at their margins (schistose margins). Gabbros, quartz-gabbros, and diorite of the 'Fat Lake' suite (gbf), all plagioclase megacryst bearing.
- Diorite -- unknown relationship to gbk and gbf, no associated gabbro.
- Porphyritic Dykes -- porphyritic diabase dykes with leuco-gabbro or anorthosite xenoliths (relationship to gb and dr unknown).
- Migmatite -- mafic palaeosomes, dioritic to tonalitic neosomes, palaeosome relics suggest affinities with Atungag and Akiqnaqtuk formations.

**Kaminak Supergroup**

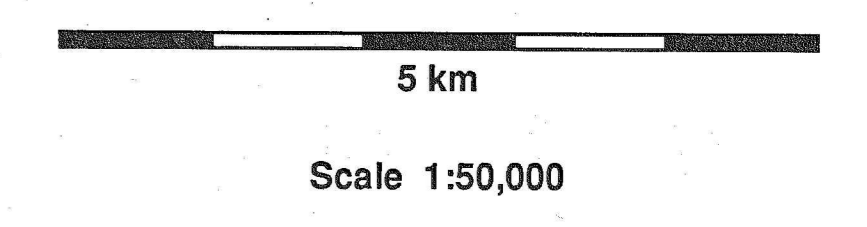
- Tagiulik formation - quartz-poor turbidites and magnetite-chert ironstone. Turbidite units range from coarse psammite wackes and matrix supported breccias to fine lithic siltstones and chert-ironstone. Conglomerate, carbonate, sulphidic pebbles locally developed at base of succession. Exposed base of Tagiulik formation at Gill Lake and Mistake Bay is a high strain zone (probable thrust). This formation is allochthonous with respect to the Kasigialik group.

**Kasigialik group**

- Evitaruktuk formation - dominantly quartz-rich greywacke; turbidite cycles grade from coarse arenite to shale-slate. Local feldspathic quartz-arenite and arkose, matrix-supported polymict conglomerate near base of succession (Evc)
- Akiqnaqtuk formation -- Akm-predominantly mafic volcanic rocks, lavas pillowed, massive, variolitic, porphyritic and non-porphyritic; hyaloclastite, epiclastic breccia. AKf - predominantly felsic volcanic rocks, rhyolitic and dacitic lavas, epiclastic breccia, and coarse sandstone. AKs - predominantly sedimentary, volcanoclastic arenite and siltstone, quartz arenite, polymict conglomerate, oligomict granite conglomerate (AKc), carbonate ironstone, chert, black slate.
- Atungag formation -- mafic pillow lavas and sub-ordinate massive mafic lavas, lava tubes, dykes, sills, minor chert.

- S<sub>0</sub> (inclined, overturned, vertical)
- Younging direction
- S<sub>1</sub>, (inclined, vertical)
- S<sub>2</sub>, (inclined, vertical)
- S<sub>3</sub>, (inclined, vertical)
- lineation (mineral or stretching)
- S<sub>3</sub> intersection lineation
- Fold axis, F<sub>1</sub>, F<sub>2</sub>
- Fold axial traces F<sub>1</sub>, F<sub>2</sub>, F<sub>3</sub>
- Geological Contacts observed, approximate, inferred
- Faults observed, approximate, inferred
- Thrust observed, inferred
- Edge of outcrop
- Lakes, coastline
- Minerals  
py - pyrite, po - pyrrhotite, cp - chalcopyrite, ga - galena, Au - gold, Fe - iron oxide, Ni - nickel, Zn - zinc

**GEOLOGY OF THE SOUTHWESTERN PART OF THE TAVANI MAP AREA (55K/3,4,5,6), DISTRICT OF KEEWATIN, N.W.T.**



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55K/4  
Scale 1:50,000  
**GEOLOGY**  
Map 2 of 8

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