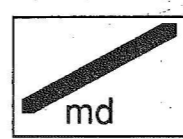
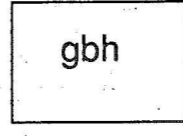
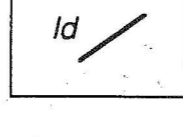

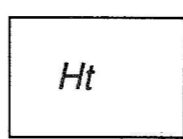
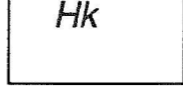


LEGEND

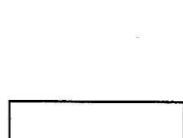
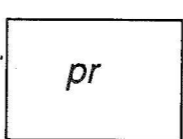
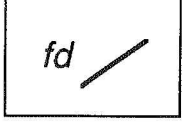
PROTEROZOIC

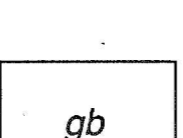
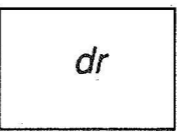
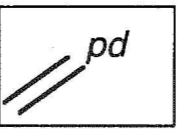
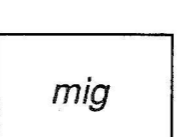
-  Diabase Dykes -- gabbro and diabase dykes -- Mackenzie dyke swarm
-  Gabbro -- gabbro sills and plugs in the Hurwitz Group
-  Lamprophyre Dykes -- minette with subordinate microtrachyte and syenite. A post-Kaminak dyke and a pre-Kaminak dyke swarm are recognised. Early dykes may be foliated, and are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

Hurwitz Group (early Proterozoic)

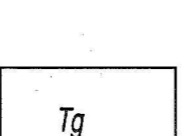
-  Tavaní Formation -- white and pink lithic arkoses and feldspathic arenite/litharenite, local shale partings, red shale rip-up breccia, and polymict conglomerate.
-  Kinga Formation -- (Whiterock Lake Member), white orthoquartzite, locally pink pure, carbonate rich layers and dolostone. HKs - sub-Whiterock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

ARCHEAN

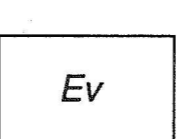
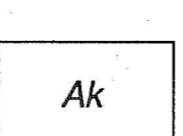
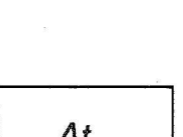
-  Granitoids -- two groups recognised: late to post-tectonic granite to granodiorite plutons, include the 'East Lake' (gr1), south Gill Lake (gr2), and east Gill Lake (gr3) plutons, and a granodiorite-monzonite body north of Last Lake (gr4); syn-tectonic granitoids and granodiorite to granites and quartz-monzonite with subordinate quartz diorite, diorite and gabbro, include the north Gill Lake pluton (gr5), Tavaní (gr6) and Last Lake (gr7) 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 ± 2.6 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 Atungak and Aklignaktuk formations; possible subvolcanic intrusive equivalents of felsic volcanic rocks of the Aklignaktuk 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.

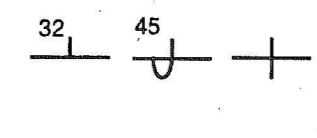

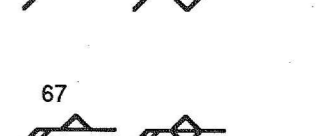
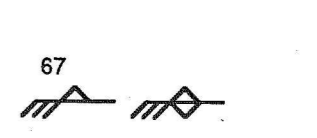
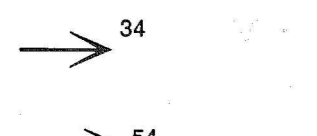
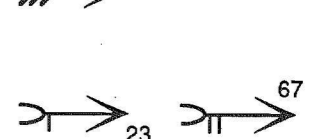
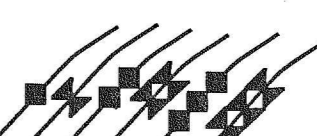



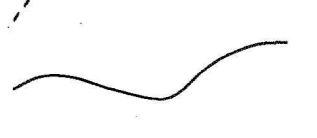




-  Gabbro -- gabbro and related rocks (subordinate diabase, diorite, quartz-diorite, tonalite, trondhjemite around Gill Lake) of the Kiksautuk suite (gbk). Porphyritic, glomerophytic, and minor non-porphyritic varieties, all variably deformed especially at their margins (schistose margins). Gabbros, 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 Atungak and Aklignaktuk formations.

Kaminak Supergroup

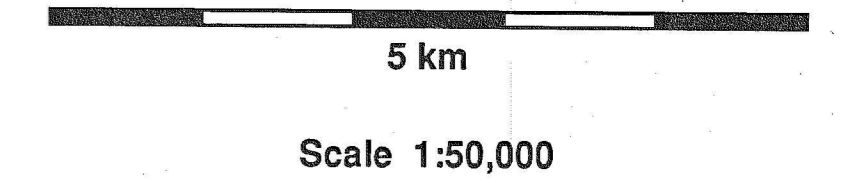
-  Tagiulik formation - quartz-poor turbidites and magnetite-chert ironstone. Turbidite units range from coarse psammite wackes and matrix supported breccias to fine lithic siltstones and chert-ironstone. Conglomerate, carbonate, sulphidic pebbles locally developed at base of succession. Exposed base 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; turbiditic cycles grade from coarse arenite to shale-slate. Local feldspathic quartz-arenite and arkose, matrix-supported polymict conglomerate near base of succession (Ev).
-  Aklignaktuk 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.
-  Atungak formation -- mafic pillow lavas and sub-ordinate massive mafic lavas, lava tubes, dykes, sills, minor chert.

-  S₀ (inclined, overturned, vertical)
-  Younging direction
-  S₁ (inclined, vertical)
-  S₂ (inclined, vertical)
-  S₃ (inclined, vertical)
-  lineation (mineral or stretching)
-  S₃ intersection lineation
-  Fold axis, F₁, F₂
-  Fold axial traces F₁, F₂, F₃
-  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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Northwest Territories Energy, Mines and Resources Secretariat

Energy, Mines and Resources Canada / Énergie, Mines et Ressources Canada



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