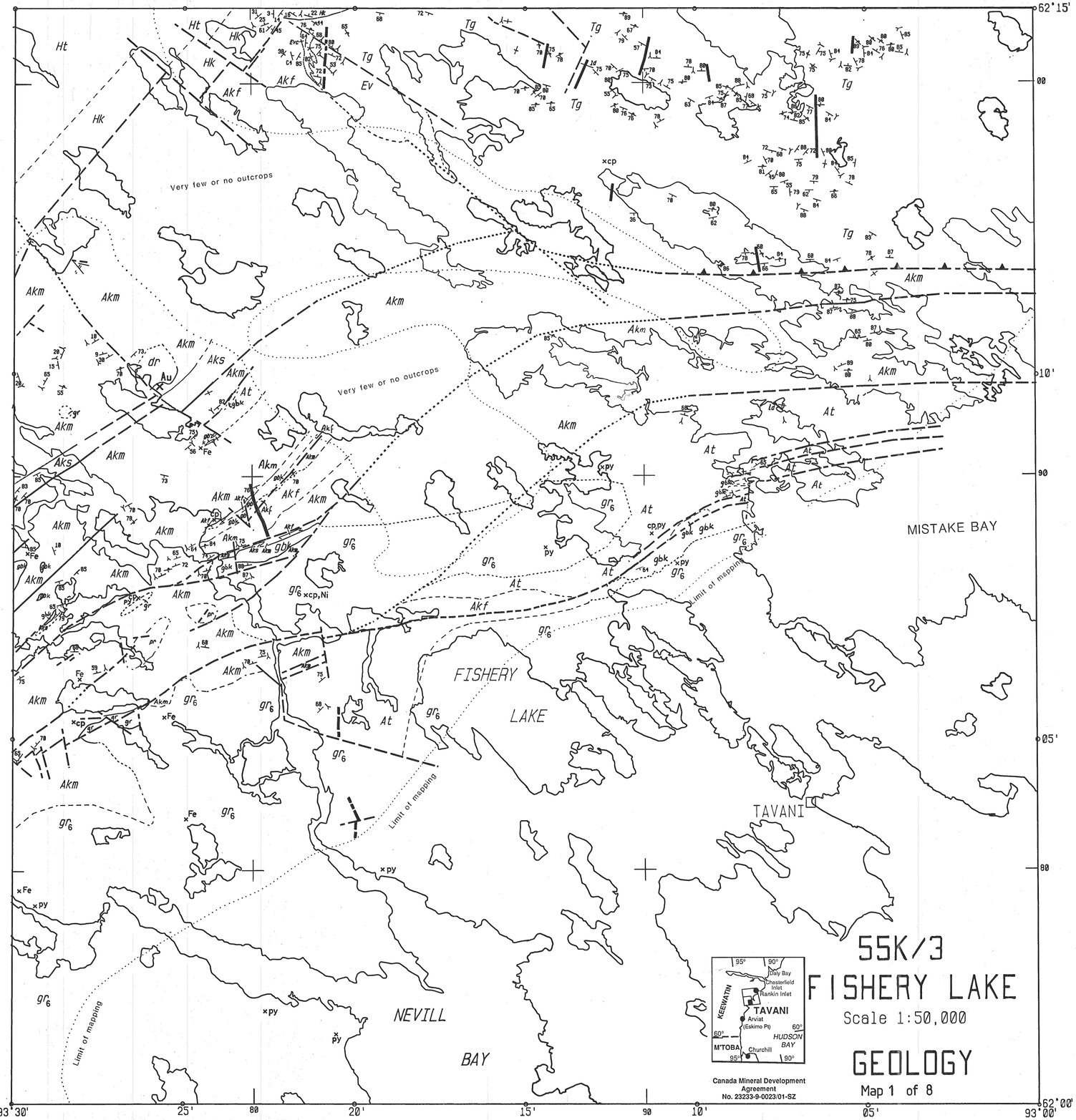

LEGEND

GEOLOGICAL SURVEY OF CANADA — COMMISSION GÉOLOGIQUE DU CANADA

PROTEROZOIC

md — Diabase Dykes -- gabbro and diabase dykes -- Mackenzie dyke swarm

gbh — Gabbro -- gabbro sills and plugs in the Hurwitz Group

ld — 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)

Ht — Tavani Formation -- white and pink lithic arkoses and feldspathic arenite/ litharenite, local shale partings, red shale rip-up breccia, and polymict conglomerate.

Hk — 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

gr — 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*), Tavani (*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.

pr — Porphyry -- quartz and quartz-feldspar porphyry, microgranite, and felsite forming dykes, plugs, and stocks, intruded into Atungag and Akliqnaktuk formations; possible subvolcanic intrusive equivalents of felsic volcanic rocks of the Akliqnaktuk formation. Age date on porphyry sheet at Gill Lake 2675 Ma (U-Pb zircon, highly discordant, upper intercept, minimum age).

fd — Felsite Dykes -- felsite dykes north of Last Lake, relationship to *pr* is unknown.

gb — Gabbro -- gabbro and related rocks (subordinate diabase, diorite, quartz-diorite, tonalite, trondhjemite around Gill Lake) of the Kiksautituk suite (***gbk***). Porphyritic, glomerophyric, 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.

dr — Diorite -- unknown relationship to *gbk* and *gbf*, no associated gabbro.

pd — Porphyritic Dykes -- porhyritic diabase dykes with leuco-gabbro or anorthosite xenoliths (relationship to gb and dr unknown).

mig — Migmatite -- mafic palaeosomes, dioritic to tonalitic neosomes, palaeosome relics suggest affinities with Atungag and Akliqnatuk formations.

Kaminak Supergroup

Tg — 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 pelite 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

Ev — 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 (***Evc***)

Ak — Akliqnaktuk formation -- ***Akm***-predominantly mafic volcanic rocks, lavas - pillowed, massive, variolitic, porphyritic and non-porhyritic; hyalocastite, 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.

At — Atungag formation -- mafic pillow lavas and sub-ordinate massive mafic lavas, lava tubes, dykes, sillls, minor chert.

S_0 (inclined,overturned,vertical)

Younging direction

S_1, (inclined, vertical)

S_2, (inclined, vertical)

S_3, (inclined, vertical)

lineation (mineral or stretching)

S_3 intersection lineation

Fold axis, F_1, F_2

Fold axial traces F_1, F_2, F_3

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.

5 km

Scale 1:50,000

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Canada Mineral Development Agreement, Contract No. 23233-9-0023/01-SZ

Contribution to Canada-Northwest Territories Mineral Development Subsidiary Agreement 1987-91, under the Economic Development Agreement. Project funded by the Geological Survey of Canada

Contribution à l'Entente auxiliaire Canada-Territoires du Nord-Ouest d'exploitation minérale 1987-1991, dans le cadre de l'Entente de développement économique. Projet subventionné par la Commission géologique du Canada

Northwest Territories Energy, Mines and Resources Secretariat

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