

TITLE: Fisher River Breccia

LOCATION: NW 1/4, SW 1/4, Sec. 4, T.31N., R.6W, Chippewa County, Cornell
15' quadrangle



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DATE: September 1974

SUMMARY OF FEATURES:

This unusual breccia contains many rock types not seen elsewhere in this region. The poorly sorted, subangular to subrounded fragments are mainly of massive, schistose and gneissic greenstone, hornblende gabbro, metapyroxenite, anorthosite(?) and granite. The breccia grades southeast across strike into a sheared granitic rock. The origin of the breccia is in question.

DESCRIPTION:

Poorly sorted, subangular to rounded clasts in this heterolithic breccia are dominantly mafic rock types, including basaltic greenstone, hornblende gabbro, pyroxenite(?) and anorthosite(?). Subordinate granitic clasts are found. The fine-grained feldspar-biotite-quartz matrix is of remarkably small volume. Many of the rocks in this breccia do not crop out in this area, but they are abundant in nearby glacial deposits--a factor indicating that a high proportion of the region north of here is underlain by mafic igneous rocks. Biotite appears to have been formed after emplacement of the breccia as evidenced by the widespread occurrence of biotite in clasts originally containing other mafic minerals.

Outcrops of cataclastic biotite granite(?) gneiss along Fisher River about 0.5 km south of here and in outcrops about 250 m WSW of here contain

no such clasts. Fine-grained hornblende tonalite(?) intruded by much coarser hornblende tonalite(?) crops out just northwest of Fisher River bridge 0.5 km southeast of here. Banding in the coarse quartz diorite trends E-W vertical. Both rocks are lineated, probably as a result of shearing. Leucogranite pegmatite veins in these rocks have been segmented and displaced along cataclastic foliation. A late, massive leucogranite (low % dark minerals) is not sheared. Is the breccia a tectonic breccia? Is it a clastic dike like those of the Sudbury District, Ontario? Is it a tillite?



Figure 1. Roadside outcrop of heterolithic breccia showing wide variety of rock components. Scale is 15 cm long.