



MARGINAL NOTES FOR BAKER LAKE MAP SHEET (56D)

1. INTRODUCTION

The geology of the Baker Lake map area (NTS 56) was mapped at a scale suitable for publication at a scale of 1:250 000 during the 1980 and 1981 seasons.

The area is divided into three geologically distinct regions, each with a characteristic suite of rocks. A northern region (Tekek Lake Sector) contains several generations of batholiths (1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11) and is cut by a zone of foliated granitoid rocks (7) trending into local mylonites (7) and cut by a zone of high grade gneisses (5, 6) which are cut by dikes (16, 17) and stocks (18, 19) and are overlain by the Dubawnt Group (10).

A critical problem is whether units from each of the sectors can be correlated with each other. On the legend and map, the northeast trending sector and so shown. It is possible that units 4, 7a, and 8a can also be correlated with units further west where they are shown as separate units.

The stratigraphic sequence of the Keyest River group constitutes another problem awaiting further work. The metamorphic problems of rocks assigned to the Dubawnt Group are reviewed with the possibility that stratigraphic names currently being used will be revised. The inferred and formal stratigraphic sequence first proposed by Schuch et al. (1982, Donaldson 1982) are almost certain to change.

2. EXPANDED LEGEND

Unit 1 (formally the Keyest River group) consists of metasedimentary rocks including white quartzites, siltstones, wackes, phyllites, mica schists, and polymictic paragneisses, calc-silicates bearing carbonates, iron formations and greenstone layers (Heywood and Schuch, 1981; Nadeau, 1981; Schuch et al., 1982). The quartzites extend northward from Whiteshills Lake in the west to the east of the Keyest River in the east.

Paraconglomerates occur in the west with quartzites and quartz pebbles set in a dark biotite-bearing matrix. Black silicified sandstone and quartz pebbles set in a dark biotite-bearing matrix. Black silicified sandstone and quartz pebbles set in a dark biotite-bearing matrix. Black silicified sandstone and quartz pebbles set in a dark biotite-bearing matrix.

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Unit 11 consists of an orange-weathering, medium to fine grained biotite granite carries magnetite, accessory sphene, and allanite. The intrusion contacts with all lithologies north and south of the fault zone are widely separated. Unit 11 is not in contact with unit 9, however, it is in contact with unit 10. Unit 11 is not in contact with unit 9, however, it is in contact with unit 10.

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3. LOCALITIES OF ECONOMIC INTEREST

The southern region contains a number of uranium showings described in detail by Miller (1980). Showings in the southeast corner were listed by Schuch and Heywood and Schuch (1981). Schuch et al. (1982) listed mineral showings in the east half.

The localities of economic interest are divided into three types: mineral showings, uranium showings, and other very rare, and ordinary random till samples unusually large amounts of one of Cu, Pb, U, Au.

3a. Mineral Showings

Table with 3 columns: Number on map, Mineral name, Reference. Lists various mineral showings and their locations.

3b. Uranium

Analyses of ²³⁸U/235U ratios, values in ppm except Fe

Table with 10 columns: Number on map, U, Th, Zr, Nb, Ta, Sn, Pb, Bi, Po, Fe. Lists uranium and thorium concentrations in various samples.

Note: Uranium for which no analytical data exists are marked on map but no numbers.

Note: This data has been analyzed by factor analysis (see Schuch 1983 for details) and the coherence of U, Th, Zr, Nb, Ta, Sn, Pb, Bi, Po and antipathetic relationship between U and Th is noted.

3c. Till

Anomalous till samples which are not gneiss (Fe less than 8%).

Table with 10 columns: Number on map, U, Th, Zr, Nb, Ta, Sn, Pb, Bi, Po, Fe. Lists till samples and their characteristics.

All analyzed till samples with U/Th ratios underlying unit and chemical data are shown in Table 1.

4. HINTS TO PROSPECTORS

Metallization targets for lead and silver mineralization may occur in black metapelites and mafic igneous rocks of the Keyest River group (Unit 1). Search for arsenic and/or gold may be profitable. Porphyritic textures (Unit 1) in contact aureoles, may yield concentrations of lead and silver.

The Dubawnt Group (Unit 10) contains a number of different types of uranium showings locally associated with mafic igneous rocks and metapelites (Miller, 1980).

The late gneisses (Unit 11), although they contain locally abundant uranium minerals, are not known to be economically important. Some of the till samples may reflect the rock beneath them. Radiometric anomalies (CSC: Mas 334565 for U, Th, and Fe) which are centered over the late gneisses.

Magnetic iron formations account for many of the larger magnetic anomalies (CSC: Mas 334565) which have been observed. The smaller anomalies, especially in the Chesterfield fault zone (Unit 7), have anomalies in the direction of the magnetic field which are characteristic of the anorthositic suite which may carry up to 30% magnetite.

The continental Thelon Formation unconformably overlies older Dubawnt Group units which locally bear precious metal localities. There is thus a potentiality of precious metal formation in palaeozoics in the Thelon Formation.

5. REFERENCES

List of references including works by Blake, D.H., Donaldson, J.A., Heywood, W.W., Miller, A.B., Nadeau, L., Park, J.K., Schuch, M., and others, covering geological and mineralogical studies in the region.

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