

DESCRIPTIVE NOTES

MAP-AREA 46 O/8 MOSTLY CONTAINS ROCKS OF THE PENNSYLVANIA GROUP, THE BASEMENT COMPLEX APPEARING ONLY IN A BROAD BELT ACROSS THE SOUTHERN PART OF THE AREA.

WITHIN THE BASEMENT COMPLEX IN THE SOUTHERN PART OF THIS AREA IS A 'Z' SHAPED STRUCTURE OF ORTHOQUARTZITE (Oq), AMPHIBOLITE (Am) AND PARAGNEISS (Pn).

GENEISSIC ROCKS OF THE COMPLEX ARE WELL FOLIATED OR SHEARED NEAR THE CONTACT WITH THE PENNSYLVANIA GROUP. THE BASAL SEQUENCE OF THE GROUP INCLUDES SCHISTOSE (Sch) AND RUSTY (Rst) PARAGNEISS CONTAINING SILLIMANITE, GARNET, BIOTITE AND GRAPHITE; BIOTITE PARAGNEISS (Pnb) AND MINOR AMPHIBOLITE (Amn).

THE PENNSYLVANIA GROUP CONSISTS OF PARAGNEISS (Pna, Pnb) AND MARBLE (Ma) WITH SOME QUARTZ-BIOTITE PSAMMITE (Anq, Anp, Anr) AND CALCIC-SILICATE GNEISS (Apc, Ag).

THE PENNSYLVANIA GROUP APPEARS TO LIE UNCONFORMABLY ON THE BASEMENT COMPLEX. TECTONIC HAS OBLITERATED ANY ANGULAR DISCORDANCE AND UNCONFORMABLE RELATIONSHIPS ARE INFERRED FROM THE CLEAR LITHOLOGIC CONTRAST AND THE COMMON PRESENCE OF THE THIN ORTHOQUARTZITE UNIT WITH RARE FELDSPATHIC GRIT BEDS LYING UPON A VARIETY OF ROCK TYPES IN THE COMPLEX.

METAMORPHISM OF THE PENNSYLVANIA GROUP PRODUCED TWO LITHOLOGIC SUITES. MOST OF THE GROUP IS IN UPPERMOST AMPHIBOLITE FACIES AND CONTAINS THE ASSEMBLAGES GARNET-BIOTITE-SILLIMANITE AND CORDEDITE-BIOTITE-GARNET IN PARAGNEISS AND IN MARBLE. DIOPHIDE-FORBITE-CALCITE AS WELL AS SCAPOLITE AND A HUMITE ROCK MINERAL. ROCKS OF THE UPPERMOST UNIT OF THE GROUP ARE IN GREENSCHIST FACIES AND CONTAIN CHLORITE-MUSCOVITE-QUARTZ IN PELTIC UNITS. PORPHYROBLASTS OF A MINERAL ARE COMMON PRIOR TO THE DEFORMATION OF THESE LITHOLOGIC UNITS.

POLYPHASE STRUCTURES INDICATING NUMEROUS EPISODES OF DEFORMATION OF THE BASEMENT COMPLEX AND THE PENNSYLVANIA GROUP EXIST THROUGHOUT THE FOLD BELT. IT IS UNLIKELY THAT FULL ADJURATION OF THEIR FORM WILL BE POSSIBLE.

NORTH-NORTHEAST TRENDS D₂ AND D₄ FOLDS FORM THE DOMINANT STRUCTURAL GRAIN IN THE SOUTHERN HALF OF THE AREA. DELINEATION OF FOLDS IN THE POORLY EXPOSED NORTHERN HALF WAS NOT ATTEMPTED. D₂ FOLDING FORMED GREEN OPEN MARKS WITH NORTHERLY TRENDS AXES. THE LATEST OBSERVED DEFORMATIONAL PHASE (D₄) IS FAULTING WITH PROMINENTLY LEFT-LATERAL DISPLACEMENT ON NORTHERLY AND NORTHWESTERLY TRENDS FAULT PLANES.

GENERAL GEOLOGY

THE FOXE FOLD BELT EXTENDS IN AN EAST-NORTHEAST DIRECTION FROM SOUTHERN MELVILLE PENINSULA TO CEDER BAYFIN ISLAND. IT IS COMPOSED OF EARLY PROTEROZOIC ROCKS OF ARCHEAN AGE (2500 Ma AND OLDER) OVERLAIN BY META-SEDIMENTARY ROCKS OF EARLY PROTEROZOIC AGE (APPROXIMATELY 2500 TO 1700 Ma) OF THE PENNSYLVANIA AND PELTING GROUPS.

THE ARCHEAN ROCKS FORM A BASEMENT COMPLEX PREDOMINANTLY OF GRANITOID GNEISS (Aggdn) AND FOLIATED GRANITIC ROCKS (Ag) WITH RELATIVELY MINOR AMOUNTS OF AMPHIBOLITE (Am) AND PARAGNEISS (An). THESE ROCKS WERE DEFORMED BY THE HUDSONIAN OROGENESIS AND METAMORPHISM MOSTLY DURING THE HUDSONIAN OROGENESIS. GENERATION AND EMPLACEMENT OF PLUTONIC ROCKS PRECEDED, ACCOMPANIED AND FOLLOWED DEFORMATION. DIABASE DYKES OF PRESUMED LATE PROTEROZOIC AGE CUT OLDER ROCKS.

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LEGEND

LATE(?) PROTEROZOIC HYDRIAN (Hd) BROWN WEATHERING, DARK GREEN TO BLACK, FINE TO MEDIUM GRAINED PYROXENE DIABASE.

INTRUSIVE CONTACT (Ag) ORANGE AND BUFF WEATHERING, WHITE, TAN AND GREY, MASSIVE AND FOLIATED, ORANGE TO COARSE GRAINED, BIOTITE AND HORNBLENDE, GRANODIORITE, QUARTZ MONZONITE, GRANITE AND LEUCOCRATIC EQUIVALENTS. SOME PORPHYRITIC VARIETIES, INCLUDING 'SPOON' AND 'CANTON' TYPES. METAMORPHIC ROCKS ARE NOT DIFFERENTIATED. INCLUDES ZENOLITHS.

EARLY PROTEROZOIC APHEIDIAN (Arva) WHITE AND LIGHT GREEN WEATHERING, LIGHT GREY, MASSIVE, LAYERED AMPHIBOLITE SILICIOUS ROCK (ACID VOLCANIC ROCK ?).

INTRUSIVE CONTACT (Anq) MICRITIC COMPOSED OF UNITS Anr AND Anm IN LIT-PAR-LIT, ZENOLITHIC AND TEXTURALLY TRANSITIONAL. INCLUDES INTERESTS OF UNITS.

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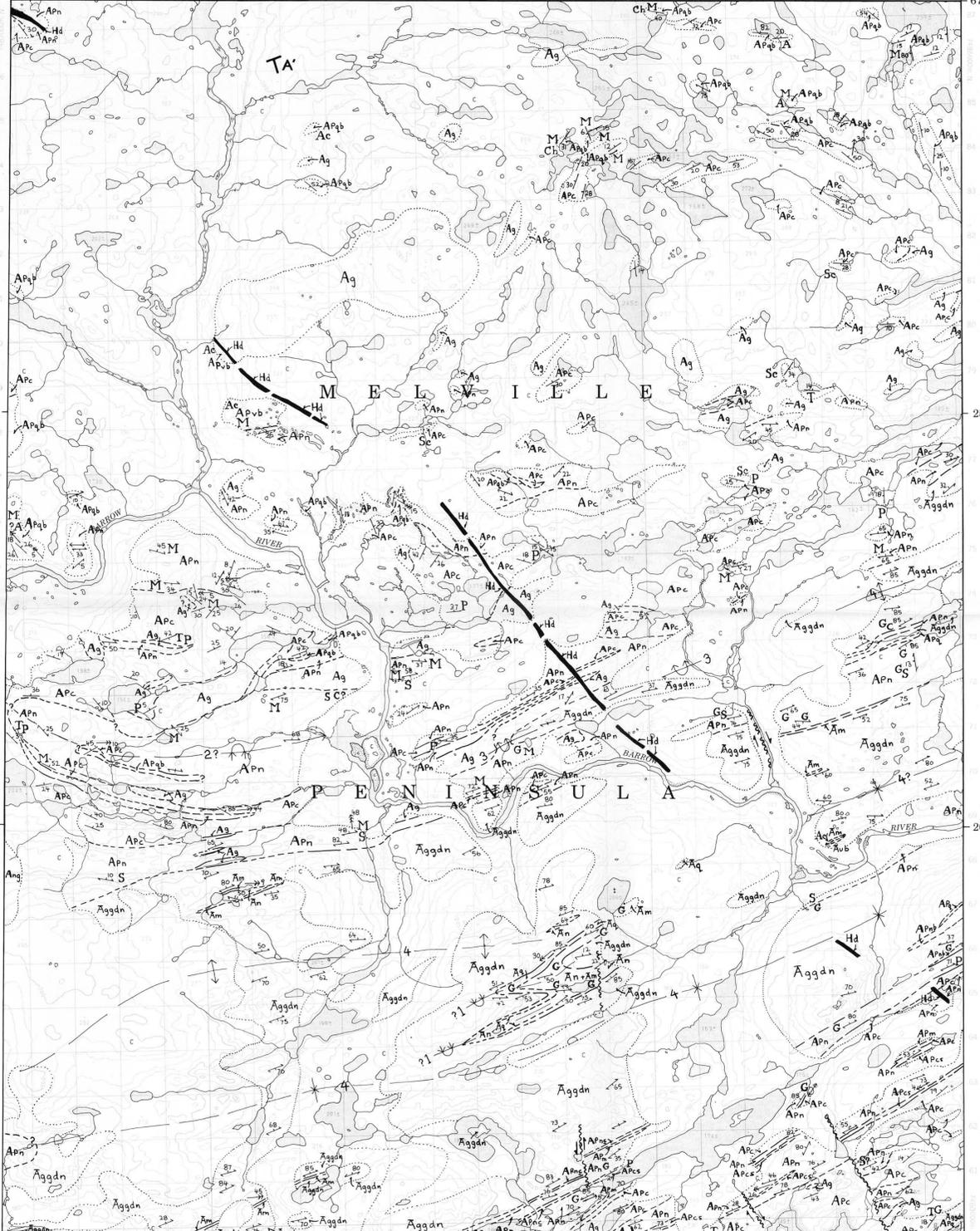
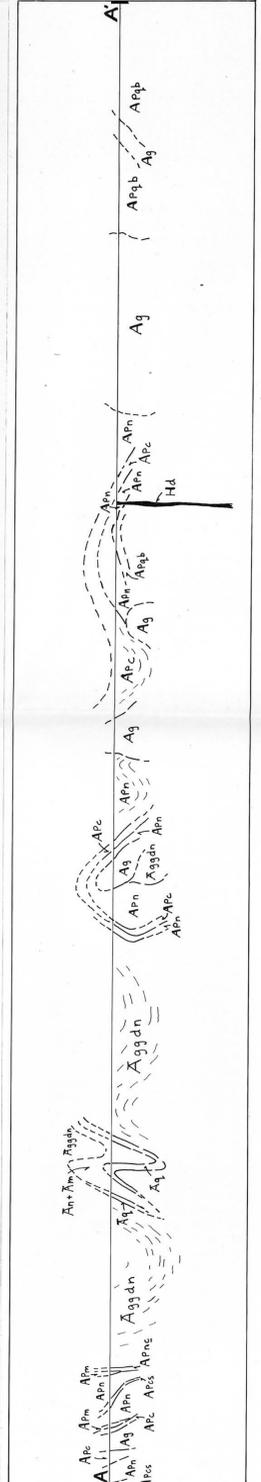
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LEGEND - LÉGENDE. ROADS AND RELATED FEATURES. LANDMARK FEATURES. BOUNDARIES AND SURVEY CONTROL. FRONTIERS ET POINTS DE RÉFÉRENCES. PHOTOGRAPHY. PHOTOGRAPHIE. REVISION. RÉVISION. ONE THOUSAND METRE UNIVERSAL TRANSVERSE MERCATOR GRID. QUADRILLAGE DE MILLE MÈTRES UNIVERSAL TRANSVERSE DE MERCATOR. CONVERSION SCALE FOR ELEVATIONS. ÉCHELLE DE CONVERSION DES ÉLEVATIONS. Mètres 0 100 200 300 400 500 600 700 800 900 Mètres. Feet 0 100 200 300 400 500 600 700 800 900 Feet. The magnetic compass may be used for orientation. LES BOUSSELES SERVENT ÉGALEMENT À L'ORIENTATION. LE COMPAS À ÉCHÈLE DE MILLE MÈTRES.



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DISTRICT OF FRANKLIN NORTHWEST TERRITORIES. ELEVATIONS IN METRES ABOVE MEAN SEA LEVEL. CONTOUR INTERVAL: 10 METRES. Scale 1:500,000 Échelle. DISTRICT OF FRANKLIN NORTHWEST TERRITORIES. ÉLEVATIONS EN MÈTRES AU-DESSUS DU NIVEAU MOYEN DE LA MER. ÉQUIDISTANCE DES COURBES: 10 MÈTRES. Échelle 1:500 000. ESTABLISHED BY THE DIRECTION DES LÉVÉS ET DE LA CARTOGRAPHIE, MINISTÈRE DE L'ÉNERGIE, DES RESSOURCES MINÉRIELLES ET DES TRANSPORTS, OTTAWA, EN 1974. DÉTERMINÉ PAR LA DIRECTION DES LÉVÉS ET DE LA CARTOGRAPHIE, MINISTÈRE DE L'ÉNERGIE, DES RESSOURCES MINÉRIELLES ET DES TRANSPORTS, OTTAWA, DU QUÉBEC EN 1974.