CANADA

EDITION 1 46-O/7

Military users, refer to this map as: Reference de la carte pour usage militaire: SERIES A701 SERIE; MAP 46-O/7 CARTE; EDITION 1 MCE EDITION

DESCRIPTIVE NOTES

MAP-AREA 46 O/7 CONTAINS A POORLY EXPOSED MIXTURE OF BASEMENT GNEISSIC ROCKS, MIGMATITE, AND MEDIUM TO HIGH GRADE METASEDIMENTARY AND METAVOLCANIC ROCKS OF THE PENRHYN GROUP. THE BASEMENT COMPLEX CONSISTS OF LEUCOCRATIC QUARTZ MONZONITIC TO GRANODIORITIC, BIOTITE AND HORNBLENDE-BEARING GNEISS ($Agggb$). FOLIATED GRANITIC ROCKS AND PEGMATITE (Ag). SMALL AMPHIBOLITIC PODS AND DISRUPTED LAYERS OCCUR THROUGHOUT THE COMPLEX BUT ARE TOO SMALL TO ILLUSTRATE. IN THE SOUTHEAST PART OF THE AREA THE GNEISSIC ROCKS ARE WELL LAYERED AND FOLIATED. ALONG THEIR NORTHERN CONTACT PARTIAL MELTING OF THE ADJACENT UNIT OF PARAGNEISS (Arn), REMOBILIZATION OF THE GNEISSIC ROCKS AND EMPLACEMENT OF NUMEROUS GRANITIC BODIES (Ag) MAKES DIFFERENTIATION OF UNITS DIFFICULT AND THE CONTACT IS IMPRECISELY DELINEATED. GNEISS IN THE WEST-CENTRAL PART OF THE AREA IS INTERMINGLED WITH MIGMATITE OF UNIT Ang AND ALSO NOT EASILY DISTINGUISHED. A SMALL OUTCROP OF BASEMENT GNEISS IS PRESENT IN THE NORTHERNMOST PART OF THE AREA.

THE LOWER PART OF THE PENRHYN GROUP APPEARS TO BE ABSENT FROM THIS AREA. THE BASAL SEQUENCE OF ORTHOQUARTZITE AND SILLIMANITE PARAGNEISS COMMON IN ADJACENT MAP-AREAS WAS NOT OBSERVED; NOR WAS THE OVERLYING UNIT OF MARBLE. SUCH A LACK MAY BE THE RESULT OF LOCALIZED HEAT FLOW THAT MOBILIZED THE BASEMENT COMPLEX SO IT FLOWED INTO HIGHER STRATIGRAPHIC LEVELS. QUARTZO-FELDSPATHIC, BIOTITE-GARNET PARAGNEISS (Arn) WITH LARGE PORPHYROBLASTS OF FELDSPAR MANTLES THE BASEMENT COMPLEX AND IN MOST PLACES HAS BEEN INTRUDED AND DISRUPTED BY NUMEROUS PLUTONIC MASSES (Ag). RECRYSTALLIZED AND POSSIBLY PARTIALLY MELTED. THE MANTLING PARAGNEISS IS OVERLAIN BY A THICK SUCCESSION OF MARBLE (Arc) WITH MINOR CALCIUM-SILICATE GNEISS ($Arcs$) EXTENSIVELY INTRUDED BY MANY PEGMATITE SILLS (Ag). ONLY SOME OF THE LARGER SILLS ARE SHOWN. IN THE SOUTH THIS UNIT EXTENDS IN A BROAD BELT THAT DIPS GENTLY TO THE NORTH. A POSSIBLE REPETITION OF THIS UNIT IS FOUND IN SMALL SCATTERED OUTCROPS IN THE NORTH FORMING A SOUTHERLY-DIPPING BELT. THE MARBLE IS CREAM TO GREY-BLUE WEATHERING, WHITE, MEDIUM TO COARSE GRAINED AND COMMONLY CONTAINS GRAPHITE, DIOPSIDE AND QUARTZ. LOCALLY SCAPOLITE, EPIDOTE AND RARELY TREMOLITE ARE PRESENT.

THE MARBLE UNIT IS VARIOUSLY OVERLAIN BY BIOTITE PARAGNEISS (Arn), BIOTITE QUARTZITE ($Arqb$) AND QUARTZ-BIOTITE-MUSCOVITE SCHIST AND PSAMMITE ($Arqp$). THE LATTER TWO UNITS ARE INTIMATELY INTERBEDDED AND ARE DISTINGUISHED ON THE MAP IN MOST PLACES BY INDICATING THE PRESENCE OF MUSCOVITE AND POSSIBLE ANDALUCITE IN THE UNIT LABELLED ($Arqp$). INTERBEDS OF MARBLE ARE PLENTIFUL. THIN DISCONTINUOUS LAYERS OF APHANITIC, LIGHT GREY-GREEN META-VOLCANIC ROCKS, SOME APPARENTLY WITH RELICT AGGLOMERATIC TEXTURE, AND FINE GRAINED ROCKS POSSIBLY OF TUFFACEOUS ORIGIN ($Arvb$) ARE ASSOCIATED WITH UNIT $Arqp$. IN A ZONE EXTENDING FROM SOUTHWEST TO NORTHEAST ACROSS THE CENTRE OF THE AREA, THE QUARTZITE AND PSAMMITE ARE LIGHT TO DARK GREY, FINE TO MEDIUM GRAINED AND DISTINCTLY BEDDED. FOLIATION IS VISIBLE AS ALIGNED BIOTITE AND MUSCOVITE GRAINS AND ORIENTED BLEBS OF POSSIBLE PSEUDOMORPHS OF ANDALUCITE. THE PRESENCE OF WHITE MICA, QUARTZ AND ANDALUCITE CLEARLY INDICATE A LOWER METAMORPHIC GRADE THAN THAT IN SILLIMANITE AND POTASH FELDSPAR-BEARING ROCKS TO THE NORTH AND SOUTH.

THE RELATIONSHIP BETWEEN UNIT $Arqp$ AND THE SUBJACENT REMAINDER OF THE PENRHYN GROUP IS UNCERTAIN. UNCONFORMABLE RELATIONSHIPS ARE SUGGESTED BY THE DISPARITY BETWEEN INTENSITIES OF METAMORPHISM AND DEFORMATION AFFECTING THE TWO PARTS OF THE SUCCESSION. ZONES OF TRANSITION ARE RARELY SEEN AND ARE NARROW. NEAR THE LARGE RIVER IN THE SOUTHWEST UNIT $Arqp$ LIES ON UNITS Arn AND Arc, SUGGESTING UNCONFORMABLE RELATIONS DESPITE ABSENCE OF NOTABLE ANGULAR DISCORDANCE. IN THE EAST-CENTRAL PART OF THE AREA GENTLY DIPPING BEDS OF UNIT $Arqp$ APPEAR TO LAP OVER STEEPLY DIPPING MARBLE UNITS FORMING THE NOSE OF A RECUMBENT NORTHERLY PLUNGING FOLD. AVAILABLE EVIDENCE INDICATES THAT UNIT $Arqp$ WAS DEPOSITED ON PREVIOUSLY DEFORMED AND METAMORPHOSED ROCKS OF THE LOWER PART OF THE PENRHYN GROUP. HOWEVER, RAPID TRANSITIONS IN METAMORPHIC GRADE COULD BE CAUSED BY RESTRICTED ZONES OF HEAT FLOW ASSOCIATED WITH REGIONAL METAMORPHISM. REMOBILIZED BASEMENT GNEISS, "GRANITIZED" PARAGNEISS AND MIGMATITE ALL TESTIFY TO THE EFFECTS OF SUCH A MECHANISM. AN APPARENT TRANSITION FROM MUSCOVITE-ANDALUCITE-BIOTITE PSAMMITE TO BIOTITE PARAGNEISS WAS OBSERVED NORTH OF THE BARROW RIVER NEAR THE EAST BORDER OF THE AREA AND IN MAP-AREA 46 O/8. THE HYPOTHESIS OF UNCONFORMABLE RELATIONSHIPS REMAINS TO BE SUBSTANTIATED.

PEGMATITE, GRANITE AND QUARTZ MONZONITE (Ag) INTRUDE ALL UNITS OF THE BASEMENT COMPLEX AND THE PENRHYN GROUP. GRANITIC ROCKS ARE MODERATELY TO COARSE GRAINED, MASSIVE AND FAINTLY FOLIATED. AND CONTAIN QUARTZ, POTASH AND PLAGIOCLASE FELDSPARS AND BIOTITE. THE INTIMATE RELATIONSHIPS BETWEEN PEGMATITE AND MARBLE, AND GRANITE AND PARAGNEISS DESCRIBED ABOVE SUGGEST GENERATION OF SOME IGNEOUS MATERIAL DURING REGIONAL HIGH GRADE METAMORPHISM CLOSELY FOLLOWED BY ITS MIGRATION OF SOME OF IT TO HIGHER STRUCTURAL LEVELS. ALTHOUGH SOME CLEARLY FORMED IN SITU, OTHER MASSIVE AND DISCORDANT BODIES ARE BELIEVED TO POST DATE METAMORPHISM AND DEFORMATION.

INSUFFICIENT OUTCROP AND EXTENSIVE AREAS OF MIGMATITE PREVENT DELINEATION OF MANY MAJOR STRUCTURES. WHAT MAY BE AN EARLY (D_2) FOLD WITHIN THE PENRHYN GROUP IS EXPOSED ALONG THE EASTERN MARGIN OF THE AREA AND TO THE EAST IN MAP-AREA 46 O/8. THE NORTHERLY PLUNGE OF THIS LARGE ISOCLINAL, RECUMBENT FOLD IS TRANSVERSE TO ALL MACROSCOPIC STRUCTURES OF THE FOLD BELT. ITS FORM AND ATTITUDE SUGGEST THAT IT PRE-DATES EASTERLY AND NORTHEASTERLY TRENDING TIGHT TO OPEN D_3 AND D_4 FOLDS SEEN ELSEWHERE. TIGHT TO ISOCLINAL INTRAFOLIAL FOLDS AND PENETRATIVE FOLIATION (S_2) SUBPARALLEL TO BEDDING (S_0) ARE ADDITIONAL EVIDENCE OF D_2. TIGHT UPRIGHT FOLDS WITH HORIZONTAL EAST-WEST AXES OUTLINED BY MARBLE BEDS IN THE NORTHWESTERN PART OF THE AREA SOUTH OF THE BARROW RIVER ARE ASSIGNED TO D_3. THEY APPEAR TO DEFORM S_2 AND S_0 AND MAY BE AFFECTED BY LARGE OPEN D_4 FOLDS THAT EXTEND NORTHEAST ACROSS THE CENTRAL PART OF THE AREA. A NORTHEASTERLY TRENDING SYNFORM AFFECTING UNITS Arn, Arc AND $Arqb$ IN THE SOUTHEAST MAY BE RELATED TO D_4. FOLDING OR TO LATER (D_5) TRANSVERSE WARPING. IN THIS SAME REGION, WEST-NORTHWEST TRENDING FAULTS, SOME WITH SMALL RIGHT LATERAL APPARENT DISPLACEMENTS, FORMED DURING D_6.

REFERENCES

FAHRIG, W.F. 1970. DIABASE DYKE SWARMS: IN GEOLOGY AND ECONOMIC MINERALS OF CANADA. GEOLOGICAL SURVEY OF CANADA, ECONOMIC GEOLOGY REPORT NUMBER ONE, PP. 151 - 154.

HEYWOOD, W.W. 1967. GEOLOGICAL NOTES NORTHEASTERN DISTRICT OF KEEWATIN AND SOUTHERN MELVILLE PENINSULA, DISTRICT OF FRANKLIN. NORTHWEST TERRITORIES (PARTS OF 46, 47, 56, 57): GEOLOGICAL SURVEY OF CANADA, PAPER 66-40.

JACKSON, G.D. AND TAYLOR, F.C. 1972. CORRELATION OF PRECAMBRIAN ROCK UNITS IN THE NORTHERN CANADIAN SHIELD: CANADIAN JOURNAL OF EARTH SCIENCES, VOLUME 9, PP. 1650 - 1665.

GENERAL GEOLOGY

THE FOXE FOLD BELT EXTENDS IN AN EAST-NORTHEAST DIRECTION FROM SOUTHERN MELVILLE PENINSULA TO CENTRAL BAFFIN ISLAND. IT IS COMPOSED OF GRANITOID GNEISSIC ROCKS OF ARCHAEAN AGE (2500 Ma AND OLDER) OVERLAIN BY META-SEDIMENTARY ROCKS OF EARLY PROTEROZOIC AGE (APPROXIMATELY 2500 TO 1700 Ma) OF THE PENRHYN AND PILING GROUPS. THESE HAVE UNDERGONE POLYPHASE DEFORMATION AND METAMORPHISM MOSTLY DURING THE HUDSONIAN OROGENY. GENERATION AND EMPLACEMENT OF PLUTONIC ROCKS PRECEDED, ACCOMPANIED AND FOLLOWED DEFORMATION. DIABASE DYKES OF PRESUMED LATE PROTEROZOIC AGE CUT OLDER ROCKS.

THE ARCHAEAN ROCKS FORM A BASEMENT COMPLEX PREDOMINANTLY OF GRANITOID GNEISS ($Agggb$) AND FOLIATED GRANITIC ROCKS (Ag) WITH RELATIVELY MINOR AMOUNTS OF AMPHIBOLITE (Am) AND PARAGNEISS (Arn) AND OTHER META-SEDIMENTARY ROCKS (Aqb, Arb). THE GNEISSIC AND PLUTONIC ROCKS ARE LARGELY OF QUARTZ MONZONITIC TO GRANODIORITIC COMPOSITION: LEUCOCRATIC AND MAFIC VARIETIES OF GNEISS ARE ALSO COMMON BUT DO NOT CONSTITUTE A LARGE VOLUME OF THE COMPLEX. GNEISSIC LAYERING AND MINERAL FOLIATION FORMED OF BIOTITE AND HORNBLENDE ARE UBIQUITOUS BUT NOT ALWAYS CLEARLY VISIBLE. PLUTONIC ROCKS EMPLACED DURING AT LEAST THREE EPISODES OF IGNEOUS ACTIVITY CAN BE DIFFERENTIATED LOCALLY BUT CANNOT EASILY BE MAPPED REGIONALLY BECAUSE THEY ARE COMPOSITIONALLY SIMILAR TO ONE ANOTHER AND TO THE GNEISS WHICH APPEARS TO BE BOTH HOST AND PARENT TO THEM. DEFORMED AMPHIBOLITIC BODIES, PRESUMED TO BE DYKES, ARE OFTEN OBSERVED WITHIN THE COMPLEX AND SOMETIMES AT THE CONTACT WITH THE PENRHYN GROUP. WITH FEW EXCEPTIONS THEY HAVE NOT BEEN OBSERVED WITHIN THE GROUP AND ARE PRESUMED TO PRE-DATE IT. META-SEDIMENTARY AND META-VOLCANIC ROCKS NOT DEMONSTRABLY PART OF THE PENRHYN GROUP HAVE IN SOME PLACES BEEN ASSIGNED TO THE BASEMENT COMPLEX BUT THEIR AFFINITY IS UNCERTAIN GIVEN THE EVIDENT INTRICACIES OF STRATIGRAPHY AND STRUCTURE. SOME LITHOLOGIC SIMILARITY TO ROCKS OF THE PRINCE ALBERT GROUP IN NORTHERN MELVILLE PENINSULA EXISTS BUT SUCH CORRELATION IS TENOUS AT BEST.

THE PENRHYN GROUP CONSISTS OF PARAGNEISS (Arn $Arnq$) AND MARBLE (Arc) WITH SOME QUARTZ-BIOTITE PSAMMITE ($Arqb$,$Arqp$) AND CALCIUM-SILICATE GNEISS ($Arcs$) AND MINOR QUARTZITE (Arq). GARNET, BIOTITE AND SILLIMANITE SCHISTS ($Arnb$), AND META-VOLCANIC ROCKS (Arv,$Arvb$,$Arvq$). COMPLETE UNDERSTANDING OF THE STRATIGRAPHIC SUCCESSION IS LACKING AS MOST UNITS ARE DISCONTINUOUS AND LENSOID AND THE POSSIBILITY OF THE EXISTENCE OF FACIES CHANGES, UNCONFORMITIES AND CRYPTIC EARLY STRUCTURES RENDERS ITS DELINEATION DIFFICULT. A GENERAL ORDER TO THE UNITS CAN BE INDICATED. NONETHELESS, A THIN (50-100 M) BASAL SEQUENCE INCLUDES ORTHOQUARTZITE, RUSTY SILLIMANITE SCHIST, A SUSPECTED META-REGOLITH AND MINOR AMPHIBOLITE. MARBLE AND QUARTZO-FELDSPATHIC GRIT. THIS SEQUENCE IS OVERLAIN BY A PARAGNEISS UNIT OF MARBLE. CALC-SILICATE GNEISS AND INTERBEDDED QUARTZ-BIOTITE-FELDSPAR PARAGNEISS. THE CALCAREOUS UNIT IS FOLLOWED BY A THICK UNIT OF PARAGNEISSIC ROCKS WITH A THIN BED OF SCHISTOSE PARAGNEISS AT ITS BASE AND A UNIT OF MARBLE. CALCIUM-SILICATE GNEISS AND BIOTITE QUARTZITE. AT THE HIGHEST OBSERVED STRUCTURAL AND STRATIGRAPHIC LEVELS IS A UNIT OF $Arqp$-BIOTITE-MUSCOVITE PSAMMITE AND GREYWACKE. THE TOP OF THIS UNIT HAS NOT BEEN OBSERVED. THE RELATIONSHIP OF PRESENT OR ORIGINAL THICKNESS OF THE GROUP IS WELL DISGUISED BY THE RIVAL PROCESSES OF THINNING DURING DEFORMATION. REPETITION BY FOLDING AND DILATION BY SYNTECTONIC PLUTONISM.

THE PENRHYN GROUP APPEARS TO LIE UNCONFORMABLY ON THE BASEMENT COMPLEX. TECTONISM HAS OBLITERATED ANY ANGULAR DISCORDANCE AND UNCONFORMABLE RELATIONSHIPS ARE INFERRED BECAUSE OF 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. THE UPPERMOST UNIT OF THE PENRHYN GROUP MAY BE SEPARATED FROM THE REST OF THE GROUP BY AN UNCONFORMITY. CONTRASTS IN INTENSITY OF METAMORPHISM AND DEFORMATION AND UNEXPLAINED STRUCTURAL DISCORDANCE SUPPORT SUCH AN INTERPRETATION BUT RAPID TRANSITIONS OR FAULTING REMAIN VIABLE ALTERNATE EXPLANATIONS.

METAMORPHISM OF THE PENRHYN GROUP PRODUCED TWO LITHOLOGIC SUITES. MOST OF THE GROUP IS IN UPPERMOST AMPHIBOLITE FACIES AND CONTAINS THE ASSEMBLAGES GARNET-BIOTITE-SILLIMANITE AND CORDIERITE-SILLIMANITE-GARNET IN PARAGNEISS AND IN MARBLE. DIOPSIDE-FORSTERITE-CALCITE AS WELL AS SCAPOLITE AND A HUMITE GROUP MINERAL. ROCKS OF THE UPPERMOST UNIT OF THE GROUP ARE IN GREENSCHIST FACIES AND CONTAIN CHLORITE-MUSCOVITE-QUARTZ IN PELITIC UNITS. PORPHYROBLASTS OF A MINERAL TENTATIVELY IDENTIFIED AS ANDALUCITE ARE COMMON IN META-PSAMMITIC UNITS AND TREMOLITE OCCURS SPORADICALLY IN CALCAREOUS ROCKS.

POLYPHASE STRUCTURES INDICATING NUMEROUS EPISODES OF DEFORMATION OF THE BASEMENT COMPLEX AND THE PENRHYN GROUP EXIST THROUGHOUT THE FOLD BELT BUT UNEQUIVOCAL SEQUENTIAL RELATIONSHIPS AMONG THEM ARE RARE. THE EARLIEST DEFORMATIONAL PHASE (D_1) IS INFERRED TO HAVE AFFECTED THE BASEMENT COMPLEX PRIOR TO DEPOSITION OF THE PENRHYN GROUP. LITTLE IS KNOWN OF THIS PHASE. THE SECOND PHASE (D_2). THE EARLIEST OBSERVED IN THE PENRHYN GROUP. IS BELIEVED TO HAVE FORMED ATTENUATED ISOCLINAL FOLDS AND UBIQUITOUS FOLIATION (S_2). IN ALL BUT A FEW OUTCROPS S_2 IS PARALLEL TO BEDDING (S_0). MEAGRE EVIDENCE SUGGESTS THAT THE TREND OF D_2 STRUCTURES MAY HAVE BEEN NORTHERLY. THE EFFECTS OF D_2 ON THE PENRHYN GROUP REMAIN PROBLEMATICAL; BUT MAY BE RESPONSIBLE FOR SOME OF THE OBSERVED DISCONTINUITY OF UNITS DESCRIBED ABOVE.

THE THIRD AND FOURTH PHASES (D_3 AND D_4) PRODUCED PROMINENT MESO-AND MEGASCOPIC FOLDS THAT IMPOSE AN EAST-NORTHEAST STRUCTURAL GRAIN IN THE FOXE FOLD BELT. D_3 FOLDS ARE TIGHT TO NEARLY ISOCLINAL AND USUALLY RECUMBENT. AXIAL PLANE FOLIATION (S_3) IS NEARLY PARALLEL TO LIMBS (S_0) AND HENCE TO S_2 RENDERING SEPARATION OF PHASES D_2 AND D_3 VERY DIFFICULT. D_4 FOLDS ARE COAXIAL, OR NEARLY SO, WITH D_3 BUT ARE MORE OPEN AND GENERALLY UPRIGHT OR SLIGHTLY OVERTURNED. MESOSCOPIC D_4 FOLDS CAN OFTEN BE OBSERVED TO HAVE DEFORMED EARLIER STRUCTURES.

NORTH TO NORTHEASTERLY TRENDING BROAD TRANSVERSE FLEXURES (D_5) ALTER THE PLUNGES OF PRE-EXISTING FOLDS. FEW MESOSCOPIC STRUCTURES ASSOCIATED WITH THIS PHASE WERE OBSERVED. STEEPLY DIPPING FRACTURES AND FAULTS, MANY WITH NORTHERLY AND NORTHWESTERLY TRENDS ARE EVIDENCE OF THE LAST PHASE OF DEFORMATION (D_6). MOST FAULT DISPLACEMENTS APPEAR TO BE LEFT-LATERAL AND EAST-SIDE-UP.

METAMORPHISM IS BELIEVED TO HAVE ACCOMPANIED ALL PHASES OF DEFORMATION EXCEPT D_3 AND D_6. IT POSSIBLY REACHED ITS ZENITH DURING D_2 BUT MINERAL RECRYSTALLIZATION OUTLASTED MUCH OF THE PENETRATIVE DEFORMATION.

MASSIVE AND FOLIATED PLUTONIC ROCKS (Ag), CHIEFLY OF HORNBLENDE AND BIOTITE GRANODIORITE QUARTZ MONZONITE AND GRANITE INTRUDE THE BASEMENT COMPLEX AND THE PENRHYN GROUP. RESEMBLING GRANITOID ROCKS OF THE COMPLEX. SEPARATION OF THESE IS BASED LARGELY ON FIELD RELATIONSHIPS. FOLIATED PLUTONIC ROCKS. EXCEPT WHERE OBSERVED TO HAVE INTRUDED THE PENRHYN GROUP. ARE ASSIGNED TO THE COMPLEX (Ag). WHERE INTERMIXED INTO THE GROUP THEY (Ag) ARE CONSIDERED TO BE PRE- OR SYNTECTONIC WITH THE MAIN PHASES OF DEFORMATION. IN SOME LOCALITIES INTIMATE MIXING WITH AND PARTIAL MELTING OF PARAGNEISS HAS CREATED ROCK MAPPABLE ONLY AS MIGMATITE (Amg) ALTHOUGH LARGE SCREENS AND ZENOLITHS CAN BE DISTINGUISHED IN PLACES. COMMON LOCAL FORMATION OF PEGMATITE AND LEUCOCRATIC GRANITIC ROCK (Ag) IS BELIEVED COEVAL WITH DEFORMATION ALSO. MASSIVE, OFTEN CROSS-CUTTING PLUTONS (Ag) INVADED THE PENRHYN GROUP AFTER CESSATION OF DEFORMATION.

AVAILABLE RESULTS OF RADIOMETRIC ANALYSES INDICATE FORMATION OF THE BASEMENT COMPLEX PRIOR TO 2500 Ma WITH SOME EVENTS OCCURING POSSIBLY AS LONG AS 3000 Ma AGO (R.K. MANLESS, PERSONAL COMMUNICATION, 1976). DEFORMATION OF THE BASEMENT AND THE PENRHYN GROUP MAY HAVE TAKEN PLACE 2154 Ma AGO (JACKSON AND TAYLOR, 1972) AND AGAIN DURING THE HUDSONIAN OROGENY (*CIRCA* 1700 Ma AGO). POST-TECTONIC PLUTONS (1600 Ma OLD: HEYWOOD, 1966) WERE EMPLACED INTO THE FOLD BELT LATE IN THE OROGENIC HISTORY. FOLLOWING EXTENSIVE UPLIFT AND EROSION. DIABASE DYKES (Md) PRESUMED TO BE PART OF THE MACKENZIE DYKE SWARM OF *CIRCA* 1000 Ma AGE (FAHRIG, 1970) CUT ROCKS OF THE FOLD BELT. THESE ARE SPATIALLY ASSOCIATED WITH FAULTS AND FRACTURES FORMED DURING D_6 TECTONISM. SUBSEQUENT UPLIFT AND EROSION WAS FOLLOWED BY DEPOSITION OF ORDOVICIAN CARBONATE ROCKS. REMNANTS OF WHICH LIE NORTH AND SOUTH OF THE FOLD BELT.

This document was produced by scanning the original publication.

Ce document est le produit d'une numérisation par balayage de la publication originale.

MELVILLE
PENINSULA
BARROW RIVER
Md
Ag
Arn
Arc
Arqb
Arqp
Arq
Arv
Arvb
Arvq
Arcs
Am
Aub
An
Anb
Aq
Agggb
Aggdn
Ang
Apb
Apn
Apes
Apes
Apab
Apab
Apab