THE ARCHAEAN ROCKS FORM A BASEMENT COMPLEX PREDOMINANTLY OF GRAN-ITOID GNEISS (Aggdn), LAYERED QUARTZO-FELDSPATHIC GNEISS (Agn) AND FOLIATED GRANTIC ROCKS (Ag, Ag, and Ag,), WITHIN WHICH ARE RELATIVELY MINOR AMOUNTS OF AMPHIBOLITE (Am) AND METASEDIMENTARY AND METAVOLCANIC ROCKS OF THE PRINCE ALBERT GROUP. THE GNEISSIC AND PLUTONIC ROCKS ARE LARGELY QUARTZ MONZONITIC TO GRANODIORITIC IN COMPOSITION; LEUCOCRATIC AND MAFIC (Aga) VARIETIES ARE 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. METAVOLCANIC (AAM), AAb, AAva, AAub) AND METASEDIMENTARY (AAn, AAnm AAif, Aaq) ROCKS OCCURING AS DISCONTINUOUS ZONES AND LENSES WITHIN THE BASEMENT COMPLEX OF THE FOXE FOLD BELT ARE CORRELATED WITH THE PRINCE ALBERT GROUP OF THE NORTHWESTERLY ADJACENT COMMITTEE FOLD BELT ON THE BASIS OF CONSIDERABLE LITHOLOGIC SIMILARITY. THE STRATIGRAPHY OF THAT PART OF THE GROUP WITHIN THE FOXE FOLD BELT IS UNKNOWN BUT IT HAS BEEN DESCRIBED BY CAMPBELL (1974) AND SCHAU (1975A) WITHIN THE COMMITTEE FOLD BELT. A LENSOID SILL OF ANORTHOSITIC GABBRO (AAb) AND LAYERED AMPHIBOLITE (AAM), AS WELL AS POSSIBLY RELATED AMPH-IBOLITIC DYKES (Aam2) MAY INTRUDE OR BE GENETICALLY RELATED TO

AMONGST THE GNEISSIC ROCKS OF THE COMPLEX ARE PRESUMED TO BE SOME THAT FORM THE BASEMENT TO THE PRINCE ALBERT GROUP BUT UNCONFORM-ABLE RELATIONS, IF PRESENT ARE MASKED BY DEFORMATION AND PLUTONIC ACTIVITY. SOME GNEISSIC UNITS, PARTICULARLY PARTS OF UNIT Agn, MAY BE DERIVED FROM THE PRINCE ALBERT GROUP OR SOME STILL OLDER METASEDIMENTARY SUCCESSION BY MIGMATITIC PROCESSES. GRANITOID GNEISS UNITS OF PROBABLE PLUTONIC ORIGIN (Ag1 ,Ag2 ,Ag3) MAY BE OLDER AND YOUNGER THAN THE PRINCE ALBERT GROUP. IN THE COMMITTEE FOLD BELT, PORPHYRITIC GRANITE RESEMBLING THAT OF UNIT Ag HAS INTRUDED THE GROUP (SCHAU, 1975A). ELSEWHERE, AGE RELATIONS ARE COMMONLY EQUIVOCAL. MORE DETAILED STUDIES OF THE BASEMENT COMPLEX HAVE BEEN MADE BY FRISCH (1974, 1975) AND SCHAU (1975A, 1975B).

THE GROUP.

THE PENRHYN GROUP CONSISTS OF PARAGNEISS (Alpn, Alpng) AND MARBLE (ALPC) WITH SOME QUARTZ-MICA PSAMMITE (ALPQD, ALPQM) AND CALCIUM-SILICATE GNEISS (ALPCS). MINOR ORTHOQUARTZITE (ALPQ), AMPHIBOLITE (Alpm), PELITE (Alpp) AND VERY MINOR IRON FORMATION (Alpif) ARE ALSO PRESENT. COMPLETE UNDERSTANDING OF THE STRATIGRAPHIC SUCCES-SION 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 METAREGOLITH AND MINOR AMPHIBOLITE, DOLOMITIC MARBLE QUARTZO-FELDSPATHIC GRIT, RUSTY PYRITE-MAGNETITE IRON FORM-ATION AND CONGLOMERATE WITH QUARTZ AND HEMATITE CLASTS. THIS SEQ-UENCE IS OVERLAIN BY A PREDOMINANTLY CALCAREOUS UNIT OF MARBLE, CALCIUM-SILICATE GNEISS AND SOME PARAGNEISSIC INTERBEDS. THE CALC-AREOUS UNIT IS FOLLOWED BY A THICK UNIT OF PARAGNEISSIC ROCKS AND A UNIT OF MARBLE, CALCIUM-SILICATE GNEISS AND BIOTITE QUARTZITE. AT THE HIGHEST OBSERVED STRUCTURAL AND STRATIGRAPHIC LEVELS IS A UNIT OF QUARTZ-BIOTITE AND/OR MUSCOVITE PSAMMITE AND METAGREYWACKE. THIS UNIT IS VARIABLE IN GROSS LITHOLOGY AND VARIOUSLY INTERBEDDED AND COMPOSITIONALLY GRADATIONAL WITH PARAGNEISS (Apnqb), CALCIUM-SILICATE GNEISS AND MINOR MARBLE, THE TOP OF THE PENRHYN GROUP HAS NOT BEEN OBSERVED. THE RELATIONSHIP BETWEEN PRESENT AND

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 ORTHO-QUARTZITE UNIT WITH RARE FELDSPATHIC GRIT AND HEMATITE-CLAST CON-GLOMERATE BEDS LYING UPON A VARIETY OF ROCK TYPES IN THE COMPLEX. METAMORPHISM IN THE FOXE FOLD BELT PRODUCED 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. IN PELITIC AND SEMI-PELITIC ROCKS, THE REACTIONS: MUSCOVITE + QUARTZ -> SILLIMANITE + K FELDSPAR

ORIGINAL THICKNESS OF THE GROUP IS WELL DISGUISED BY THE RIVAL

PROCESSES OF THINNING DURING DEFORMATION, REPETITION BY FOLDING

ANDALUCITE → SILLIMANITE CAN BE DELINEATED IN RESTRICTED AREAS. RETROGRADE, OR LATER LOW GRADE METAMORPHISM IS PROBABLE BECAUSE OF EXTENSIVE ALTERATION OF HIGH GRADE MINERALS.

POLYPHASE STRUCTURES INDICATING NUMEROUS EPISODES OF DEFORMATION OF THE BASEMENT COMPLEX, THE PRINCE ALBERT GROUP AND THE PENRHYN GROUP EXIST THROUGHOUT THE TWO FOLD BELTS BUT UNEQUIVOCAL SEQUEN-TIAL RELATIONSHIPS AMONG THEM ARE RARE. THE EARLIEST DEFORMATIONAL PHASE IS INFERRED TO HAVE AFFECTED THE BASEMENT COMPLEX PRIOR TO DEPOSITION OF THE PENRHYN GROUP. TECTONIC TRENDS IN THE BASEMENT COMPLEX AND THE PRINCE ALBERT GROUP WITHIN THE FOXE FOLD BELT ARE FOR THE MOST PART CONFORMABLE WITH THOSE OF THE OVERLYING PENRHYN GROUP AND PRE-PENRHYN STRUCTURES ARE NOT READILY DISTINGUISHABLE. STRUCTURES IN THE COMMITTEE FOLD BELT HAVE BEEN DESCRIBED BY CAMPBELL (1973, 1974), FRISCH (1974), REESOR, ET AL. (1975) AND SCHAU (1973, 1974, 1975A, 1975B). Some deformation of the Prince ALBERT GROUP MAY HAVE ALSO PRECEDED DEPOSITION OF THE PENRHYN GROUP. A SECOND PHASE OF FOLDING, THE EARLIEST OBSERVED IN THE PENRHYN GROUP, IS BELIEVED TO HAVE FORMED ATTENUATED ISOCLINAL FOLDS AND UBIQUITOUS FOLIATION. IN ALL BUT A FEW OUTCROPS THIS FOLIATION IS PARALLEL TO BEDDING. MEAGRE EVIDENCE SUGGESTS THAT THE TREND OF EARLY PENRHYN STRUCTURES MAY HAVE BEEN NORTHERLY. THE EFFECTS OF THIS FOLDING EPISODE ON THE PENRHYN GROUP REMAIN PROBLEMATICAL, BUT MAY HAVE RESULTED IN SOME OF THE OBSERVED DISCONTINUITY OF UNITS DESCRIBED ABOVE.

LATER EPISODES OF FOLDING PRODUCED PROMINENT MESO- AND MEGASCOPIC FOLDS THAT IMPOSE AN EAST-NORTHEAST STRUCTURAL GRAIN ON THE FOXE FOLD BELT. TIGHT TO NEARLY ISOCLINAL RECUMBENT STRUCTURES ARE FOLDED BY LATER NEARLY COAXIAL, MORE OPEN, UPRIGHT TO OVERTURNED FOLDS. THESE LATER FOLDS CAN OFTEN BE OBSERVED TO HAVE DEFORMED EARLIER STRUCTURES.

IN NUMEROUS PLACES GNEISSIC BODIES OF THE BASEMENT COMPLEX CAN BE SEEN TO LIE ON AND POSSIBLY WITHIN THE PENRHYN GROUP. SUCH REL-ATIONSHIPS SUGGEST EITHER THE PRESENCE OF LARGE ALLOCHTHONOUS NAPPES OR SMALLER SCALE, LOCALLY OVERTURNED FOLDS AND THRUST FAULTS. THE TIME OF MOVEMENT OF THE BASEMENT MASSES IS UNCERTAIN BUT AS THEY ARE FOLDED ABOUT NORTHEASTERLY TRENDING AXES, THEY ARE PRE-SUMED TO HAVE BEEN EMPLACED DURING THE EARLY DEFORMATION OF THE PENRHYN GROUP.

North to northeasterly trending broad transverse flexures alter THE PLUNGES OF PRE-EXISTING FOLDS. FEW MESOSCOPIC STRUCTURES ASSOCIATED WITH THIS PHASE WERE OBSERVED. IT MAY BE RELATED TO SYN- AND POST-TECTONIC PLUTONIC INTRUSION. STEEPLY DIPPING FRAC-TURES AND FAULTS, MANY WITH NORTHERLY AND NORTHWESTERLY TRENDS ARE EVIDENCE OF THE LAST MAJOR PHASE OF DEFORMATION. MOST FAULT DISPLACEMENTS APPEAR TO BE LEFT LATERAL AND EAST-SIDE-UP. MINOR EVIDENCE OF EAST-WEST FAULTING THAT MAY HAVE AFFECTED LATE PROT-EROZOIC DIABASE DYKES (HId) HAS BEEN OBSERVED.

METAMORPHISM IS BELIEVED TO HAVE ACCOMPANIED ALL PHASES OF DEFORM-ATION UP TO THE LATE NORTHEASTERLY TRENDING OPEN FOLDING. IT POSSIBLY REACHED ITS ZENITH DURING THE PRECEDING NORTHEASTERLY-TRENDING ISOCLINAL PHASE, BUT MINERAL RECRYSTALLIZATION OUTLASTED MUCH OF THE PENETRATIVE DEFORMATION. RETROGRESSIVE METAMORPHISM MAY HAVE ACCOMPANIED LATEST FOLDING EPISODES OR BEEN POST-TECTONIC. CONTACT METAMORPHIC AUREOLES ARE LIKELY PRESENT AROUND POST-

TECTONIC GRANITIC PLUTONS (Alg). Massive and foliated plutonic Rocks (Ag1, Ag2, Ag3, Ag), Chiefly OF HORNBLENDE AND BIOTITE GRANODIORITE, QUARTZ MONZONITE AND GRANITE INTRUDE THE BASEMENT COMPLEX AND THE PENRHYN GROUP, FOLIATED PLUTONIC ROCKS, EXCEPT WHERE OBSERVED TO HAVE INTRUDED THE PENRHYN GROUP ARE ASSIGNED TO THE COMPLEX. WHERE INTRUSIVE INTO THE GROUP (Alg) THEY ARE CONSIDERED TO BE PRE- OR SYN-TECTONIC TO THE MAIN PHASES OF DEFORMATION. COMMON LOCAL GENERATION OF PEGMATITE AND LEUCOCRATIC GRANITIC ROCK (Ag) IS BELIEVED TO BE COEVAL WITH DEF-ORMATION ALSO. MASSIVE, OFTEN CROSS-CUTTING PLUTONS (ANg) IN-

AVAILABLE RESULTS OF RADIOMETRIC ANALYSES INDICATE FORMATION OF THE BASEMENT COMPLEX PRIOR TO 2500 MA AGO, WITH SOME EVENTS OCCUR-RING POSSIBLY AS LONG AS 2900 MA AGO (R.K. WANLESS, PERSONAL COM-MUNICATION, 1976). ACID VOLCANIC ROCKS OF THE PRINCE ALBERT GROUP ON THE WEST SIDE OF MELVILLE PENINSULA HAVE YIELDED A PRELIMINARY

VADED THE PENRHYN GROUP AFTER CESSATION OF DEFORMATION.

DATE OF ABOUT 2700 Ma (R.K. WANLESS, PERSONAL COMMUNICATION, 1977). DEFORMATION OF THE BASEMENT COMPLEX AND THE PENRHYN GROUP MAY HAVE TAKEN PLACE 2134 MA AGO (JACKSON AND TAYLOR, 1972) AND AGAIN DURING THE HUDSONIAN OROGENY (CIRCA 1700 MA AGO). POST-TECTONIC PLUTONS (1600 Ma old, Heywood, 1967) WERE EMPLACED INTO THE FOLD BELT LATE IN THE OROGENIC HISTORY. FOLLOWING EXTENSIVE UPLIFT AND EROSION, DIABASE DYKES (HId) PRESUMED TO BE PART OF THE MACKENZIE DYKE SWARM OF ABOUT 1000 Ma AGE (FAHRIG, 1970), CUT ROCKS OF THE FOLD BELT. THESE ARE SPACIALLY ASSOCIATED WITH FAULTS AND FRACTURES TRENDING NORTHWEST. SUBSEQUENT UPLIFT AND EROSION WAS FOLLOWED BY DEPOSITION OF SILURIAN AND ORDOVICIAN CARBONATE ROCKS (OSC), REMNANTS OF WHICH LIE NORTH AND SOUTH OF THE COMMITTEE AND FOXE FOLD BELTS AND BORDERING FOXE BASIN.

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DESCRIPTIVE NOTES

MAP-AREA 46 0/16 IS UNDERLAIN CHIEFLY BY THE BASEMENT COMPLEX. THE PENRHYN GROUP IS EXPOSED ONLY IN THE SOUTHEAST AND NORTHWEST CORNERS AND MUCH OF THE NORTHEAST QUARTER IS BURIED BENEATH RECENT ALLUVIUM AND MARINE DEPOSITS. LAYERED GNEISS (Agn) COMPRISES MUCH OF THE COMPLEX, ALTHOUGH LARGE MASSES OF FOLIATED GRANODIORITE AND ORTHOGNEISS (Ag1) ARE EXPOSED ACROSS CENTRAL PARTS OF THE AREA, PARTICULARLY NEAR BODIES OF THE PRINCE ALBERT GROUP. METASEDIMENTARY (AAn , AAQ , AAIf) AND META-VOLCANIC (AAM1) UNITS OF THE GROUP OUTLINE PART OF AN OPEN SYNFORM ALONG THE SOUTHWEST BORDER THAT EXTENDS INTO MAP-AREA 46 0 15. THESE UNITS ARE OVERLAIN TO THE EAST BY A LARGE FOLDED LENSOID SILL OF ANORTHOSITIC GABBRO (AAb) AND LAYERED AMPHIBOLITE (AAm1). A SMALLER BODY OF ANORTHOSITE LIES NEAR THE SOUTHEASTERN BORDER AND MAY HAVE BEEN PART OF THE MAIN MASS. THE PRINCE ALBERT GROUP AND THE ANORTHOSITE ARE IN TURN OVERLAIN TO THE WEST AND EAST, RESPECTIVELY, BY ORTHOGNEISS (Ag1). THE CONTACT IS WELL DEFINED AND SOMEWHAT SHEARED AND MAY BE A FAULT. LAYERED GNEISS (Agn) LIES ABOVE THE ORTHOGNEISS EAST OF THE MAIN ANORTHOSITE BODY. THE BASEMENT COMPLEX IS STRUCTURALLY UNDERLAIN BY THE PENRHYN GROUP IN THE NORTHWEST AND SOUTHEAST CORNERS OF THE AREA. ORTHO-QUARTZITE OF THE BASAL SEQUENCE OF THE GROUP IS NOT PRESENT HERE BUT IS EXPOSED ALONG THE CONTACTS IN ADJACENT MAP-AREAS. RUSTY PARAGNEISS (Alpnc) AND MUSCOVITE-GARNET SCHIST ARE THE PROMINENT BASAL UNITS IN THE SOUTHEAST AND ARE FOLLOWED BY BIOTITE QUARTZ-ITE (APQD) AND MASSIVE DOLOMITIC MARBLE (APC). A THICK MARBLE UNIT LIES BELOW GNEISS ALONG THE NORTHWESTERN CONTACT AND IS UNDERLAIN (GOING UP SECTION) BY PARAGNEISS (APn) AND CALCIUM

SILICATE GNEISS (APCS). EARLIEST OBSERVED STRUCTURES IN THE BASEMENT COMPLEX ARE PERVAS-IVE FOLIATION AND GNEISSOSITY AND RARE ISOCLINAL FOLDS. THE NORTHERN EXTREMITY OF THE LARGE ANORTHOSITIC GABBRO SILL FORMS A VERY TIGHT, WESTERLY OVERTURNED SYNFORM WITH A GENTLY PLUNG-ING SOUTH TRENDING AXIS. THE AXIS IS PARALLELED BY EARLY MIN-ERAL LINEATION IN WESTERLY ADJACENT GNEISS AND PARAGNEISS (AAN). THE FOLD OPENS TO THE SOUTH-SOUTHEAST WHERE IT IS APPARENTLY OVER-RIDDEN BY ORTHOGNEISS (Agn). THE ANORTHOSITE IS FOLIATED PRIMARILY ALONG ITS MARGINS AND WITHIN INCLUDED LAYERED AMPHIB-OLITE UNITS. ITS CRYSTALLINE INTERIOR PARTIALLY ESCAPED THE EFFECTS OF REGIONAL DEFORMATION.

THE BORDERING ZONES AND POSSIBLY THE WHOLE OF THE BASEMENT COM-PLEX IN THIS AREA LIE ON PENRHYN GROUP STRATA AND MAY BE ALLO-CHTHONOUS, IE. THE LOWER LIMB OF A VERY LARGE NAPPE. IT AND THE PENRHYN GROUP HAVE BEEN FOLDED ABOUT NORTHEASTERLY TRENDING AXES. LITTLE EFFECT OF EARLY ISOCLINAL PENRHYN FOLDING IS EVIDENT WITH-IN THE BASEMENT COMPLEX - ONLY ITS CONTACT ZONE IN THE SOUTHEAST APPEARS HIGHLY DEFORMED ALONG NORTHEAST TRENDS. LATER OPEN FOLD-ING AFFECTED BOTH BASEMENT AND COVER. RELATIVE TIMING OF VARIOUS EVENTS IS NOT CLEAR. BASEMENT STRUCTURES TRANSVERSE TO REGIONAL TRENDS OF THE FOLD BELT AND POSSIBLY THRUST FAULTS IN THE BASE-MENT LIKELY PRE-DATE THE PENRHYN GROUP. EMPLACEMENT OF THE BASEMENT COMPLEX OVER THE GROUP PRE-DATES OR IS COEVAL WITH EARLY NORTHEASTERLY TRENDING DEFORMATION.

TWO EPISODES OF FAULTING AFFECTED THE AREA. NORTHWEST FAULTS COMMONLY CONTROL OR ARE ASSOCIATED WITH LARGE DIABASE DYKES (HId). FAULTS CUTTING ANORTHOSITIC GABBRO IN THE WEST-CENTRAL AND EASTERNMOST PARTS OF THE AREA HAVE PROBALE RIGHT LATERAL APPARENT DISPLACEMENT. SEVERAL EAST-WEST FAULTS WITH PRONOUN-CED RIGHT LATERAL OFFSETS CUT THE ANORTHOSITE SILL NEAR ITS NORTH

A SMALL OUTCROP OF FOSSILIFEROUS PALAEOZOIC CARBONATE (OSC) LIES ON THE ISLAND IN THE LARGE LAKE NEAR THE EAST EDGE OF THE AREA. ITS PRESENCE IN THAT DEPRESSION SUGGESTS THAT THE PRESENT EROSION SURFACE MAY NOT DIFFER GREATLY FROM THE PALAEOZOIC ONE IN SOME

PALAEOZOIC ORDOVICIAN AND SILURIAN OSc | BUFF AND LIGHT GREY DOLOMITE

LATE(?) PROTEROZOIC HADRYNIAN

PHANEROZOIC

HId Brown WEATHERING, DARK GREEN TO BLACK, FINE TO MEDIUM GRAINED

LEGEND

UNCONFORMITY

INTRUSIVE CONTACT

EARLY PROTEROZOIC APHEBIAN AND YOUNGER (?)

ORANGE AND BUFF WEATHERING, WHITE, TAN AND GREY, MASSIVE AND FOLIATED, MEDIUM TO COARSE GRAINED, BIOTITE AND HORNBLENDE GRANODIORITE, QUARTZ MONZONITE, GRANITE AND LEUCOCRATIC
EQUIVALENTS. SOME PORPHYRITIC VARIETIES. PEGMATITE COMMONLY CONTAINING QUARTZ, FELDSPAR, MUSCOVITE AND BIOTITE; RARELY TOURMALINE. PRE-AND POST-TECTONIC PLUTONS ARE NOT DIFFERENTIATED. INTRUSIVE CONTACT

APHEBIAN PENRHYN GROUP

REY, FINE TO MEDIUM GRAINED, THIN TO THICK BEDDED, QUARTZ-MPqm | UREY, FINE TO MEDION GRATILE, SOME WITH ANDALUCITE (
PORPHYROBLASTS; MUSCOVITE SCHIST, META-GREYWACKE,

APP BLACK, FISSILE, VERY FINE GRAINED, "SOOTY" PELITE. EY, FINE TO MEDIUM GRAINED, THIN TO THICK BEDDED, QUARTZ-

AND RARELY CORDIERITE. GRADATIONAL CONTACTS WITH UNIT ALPO IN APD BROWN, RUSTY AND TAN WEATHERING, BUFF AND GREY, FINE TO MEDIUM

GRAINED, QUARTZ-BIOTITE-FELDSPAR, QUARTZ-FELDSPAR-BIOTITE GARNET-SILLIMANITE AND QUARTZ-FELDSPAR-BIOTITE-GRAPHITE PARAGNEISS AND MINOR SCHIST. MINOR CORDIERITE-BEARING PARAGNEISS. INCLUDES SOME INTERBEDS OF UNITS APRIC , APC Alphab Units Alpab and Alph; interbedded, gradational and undifferentiated. GREY AND GREY-GREEN, MEDIUM TO COARSE GRAINED THIN BEDDED,

CALCIUM-SILICATE GNEISS AND MARBLE-QUARTZITE WITH QUARTZ-CALCITE-PLAGIOCLASE-DIOPSIDE AND ACCESSORY SCAPOLITE, ACTINOLITE, GRAPHITE, EPIDOTE AND BIOTITE. COMMONLY INTERBEDDED WITH AND PASSING LATERALLY INTO UNIT ALPC. APC WHITE, GREY AND GREY-BLUE, MEDIUM TO COARSE GRAINED, MASSIVE AND

BEDDED MARBLE WITH CALCITE-DIOPSIDE-MICROCLINE-QUARTZ AND MINOR DOLOMITE, SCAPOLITE, PHLOGOPITE, GRAPHITE, A HUMITE GROUP MINERAL AND TREMOLITE. INTERBEDDED WITH AND PASSING LATERALLY INTO UNIT APCS. INCLUDES SMALL BEDS OF UNIT APN. PEGMATITE OF UNIT ALG

RUSTY, FINE TO MEDIUM GRAINED, GRAPHITIC PARAGNEISS WITH PYRITE A DARK GREEN, FINE TO MEDIUM GRAINED, MASSIVE AND FOLIATED AMPHIBOLITE; SOME BIOTITE-GARNET AMPHIBOLITE.

WHITE TO GREY-BLUE, MEDIUM TO COARSE GRAINED, MASSIVE AND FAINTLY BEDDED, ORTHOGUARTZITE WITH MINOR FELDSPAR, WHITE MICA AND PHLOGOPITE. MINOR QUARTZO-FELDSPATHIC GRIT, CONGLOMERATE WITH HEMATITE CLASTS, GREY-GREEN DIOPSIDE-CHLORITE ROCK (META-REGOLITH?). BIOTITE-GARNET-SILLIMANITE SCHIST AND AMPHIBOLITE.

Apif Rusty, Massive Pyrite, Magnetite IRON FORMATION. UNCONFORMITY

Ag1 FOLIATED, MASSIVE AND PORPHYRITIC GRANITE AND GRANITOID GNEISS. FOLIATED FELDSPAR AUGEN GRANITE; MINOR GRANITOID GNEISS. DLIATED HORNBLENDE GRANODIORITE AND AMPHIBOLITIC GRANITOID

Agn LAYERED GRANODIORITIC GNEISS; MINOR AMPHIBOLITE. MIGMATITE OF UNITS Ag, Ag, AND/OR Agn.

RANGE, GREY AND TAN, MEDIUM TO COARSE GRAINED, LAYERED AND DLIATED, BIOTITE AND HORNBLENDE GRANODIORITIC, QUARTZ
DIZONITIC AND LEUCOCRATIC GNEISS. INCLUDES ROCK OF UNITS Alg. Ag, Ag, Agn Ang AND SMALL BODIES OF Am.

DARK GREEN FOLIATED AMPHIBOLITE, META-GABBRO AND HORNBLENDE-PLAGIOCLASE GNEISS,

AAM FOLIATED AMPHIBOLITE DYKES.

PRINCE ALBERT GROUP

AYERED AMPHIBOLITE.

FOLIATED AND MASSIVE, DARK GREY, COARSE GRAINED ANORTHOSITIC GABBRO; MINOR AMPHIBOLITE. Aaub FOLIATED, SERPENTINIZED ULTRAMAFIC ROCK.

AAn QUARTZ-BIOTITE-FELDSPAR PARAGNEISS, SOME HORNBLENDE-BEARING.

MUSCOVITE-QUARTZ-FELDSPAR PARAGNEISS. AAif DARK BLUE-GREY LAYERED OXIDE FACIES IRON FORMATION.

AAVa LIGHT GREY, FINE GRAINED LAYERED ACID VOLCANIC ROCKS.

AAq WHITE, MEDIUM TO COARSE GRAINED, MASSIVE ORTHOQUARTZITE; MUSCOVITE- AND RARELY FUCHSITE-BEARING.

..... Boundary of areas extensively drift-covered. ------ GEOLOGICAL BOUNDARY GRADATIONAL, POORLY-EXPOSED, IMPRECISELY LOCATED OR NOT OBSERVED.

/ BEDDING AND COMPOSITIONAL LAYERING (HORIZONTAL, INCLINED,

FOLIATION, SCHISTOSITY, GNEISSIC LAYERING AND CLEAVAGE (HORIZONTAL, INCLINED, VERTICAL, DIP UNKNOWN); EARLIEST OR ONLY OBSERVED.

AXIAL PLANES (INCLINED, VERTICAL) ASSOCIATED WITH FOLDS DEFORMING BEDDING AND COMPOSITIONAL LAYERING. EARLIEST OR AXIAL PLANES (INCLINED, VERTICAL); ASSOCIATED WITH FOLDS OF LATER PHASES OBSERVED TO HAVE DEFORMED BEDDING OR EARLY FOLIATION.

Lineation (Plunging, Horizontal); Formed by Fold AXES, BEDDING FOLIATION INTERSECTION (X), MINERAL GROWTH OR RODDING (R).

MULLION (M), AND BOUDIN AXES (B); EARLIEST OR ONLY OBSERVED. INFATION (PLUNGING, HORIZONTAL); FORMED BY BEDDING-FOLIATION AND FOLIATION-FOLIATION INTERSECTION (X), MINERAL GROWTH OR RODDING (R) AND MULLION (M) AND FOLD AXES ASSOCIATED WITH FOLDS

OBSERVED TO HAVE DEFORMED BEDDING OR EARLY FOLIATION.

HIGH ANGLE FAULT (DEFINED, APPROXIMATE); ARROWS INDICATE ▲ _ LOW ANGLE FAULT (DEFINED, APPROXIMATE); TEETH IN DIRECTION OF

NOTE ON DATA PRESENTATION

LITHOLOGIC AND STRUCTURAL DATA SHOWN IS THAT OBTAINED IN THE FIELD AUGMENTED BY ONLY LIMITED INTERPRETATION. NO ATTEMPT HAS BEEN MADE TO EXTEND LITHOLOGIC UNITS TO CONSTRUCT AN INTEGRATED STRATIGRAPHIC AND STRUCTURAL MODEL. LITHOLOGIC UNITS IN THE LEGEND ARE NOT ARRANGED IN TEMPORAL ORDER, AS THIS IS LARGELY UNCERTAIN, EXCEPT THAT BASAL UNITS OF THE PENRHYN GROUP ARE LISTED BELOW OTHER PARTS OF THE GROUP. DESCRIPTION OF MESOSCOPIC STRUCTURES IS LIMITED TO MORPHOLOGY OF COMMON TYPES. MESOSCOPIC STRUCTURES ARE ASSIGNED A POSITION (EARLY OR LATE) IN THE TECTONIC HIERARCHY BASED UPON INTERPRETATION OF LOCAL FIELD RELATIONSHIPS ONLY. THIS POSITION CANNOT BE DIRECTLY RELATED TO DEFORMATIONAL PHASES WHICH FORMED LARGE FOLDS OR TO MESOSCOPIC STRUCTURES IN NEARBY AREAS. NO ATTEMPT HAS BEEN MADE TO INTEGRATE MESOSCOPIC FEATURES INTO A MEGASCOPIC STRUCTURAL SYNTHESIS. AXIAL TRACES OF MEGASCOPIC FEATURES ARE NOT PORTRAYED AS THOSE OF EARLY FOLDS ARE LARGELY INTERPRETATIVE AND THOSE OF LATE FOLDS CAN BE DEDUCED FROM ATTITUDES OF PLANAR STRUCTURES ON THE MAP.

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CANADA

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