1757

U. S. Geological Survey
OPEN FILE MAP
This map is preliminary and has not been edited for conformity with Geological Survey standards or nomenclature.

OCT 26 1973

EXPLANATION

GROUND MORAINE AND OUTWASH DEPOSITS COVER THE JACOBSVILLE SANDSTONE ALONG THE NORTHERN 1 TO 1½ MILE-WIDE MAP AREA. GENERALLY THIN BOULDER TILL BLANKETS THE AREA BUT THICKER PATCHES OF DRIFT ARE SITUATED ALONG OR NEAR PREGLACIAL DRAINAGES. FOR FURTHER INFORMATION ON THE SURFICIAL DEPOSITS SEE OPEN FILE REPORT (TRENT, V.A., 1973).

CAMBRIAN ?

[j]

JACOBSVILLE SANDSTONE*

REDDISH-BROWN TO BROWN QUARTZ PEBBLE CONGLOMERATE WITH INTERBEDS OF MEDIUM- TO COARSE-GRAINED QUARTZ PEBBLE SANDSTONE; SUB-ANGULAR TO WELL ROUNDED VEIN QUARTZ PEBBLES PREDOMINATE AVERAGE ¼" TO 2" (5-30 MM.) IN DIAMETER; LOCAL ZONES OF ABUNDANT QUARTZ PEBBLES 30-40MM IN DIAMETER; PEBBLES OF IRON FORMATION, DOLOMITE, AND OTHER PRE-KEWEENAWAN ROCKS COMMON. SPORADIC RED SHALE INTERBEDS 1' TO 2' THICK. BLEACHED SPOTS AND BANDS IN MASSIVE MEDIUM-TO COARSE-GRAINED SANDSTONE BEDS WITH PEBBLY HORIZONS; ROCK MAY BE LOOSELY CONSOLIDATED. THIS THICK COARSE FACIES IS PROBABLY A ALLUVIAL FAN DEPOSIT. MAY BE LATE PRECAMBRIAN OR EARLY CAMBRIAN BASED ON FIELD STUDIES BY HAMLIN (1961, P.7).

UNCONFORMITY

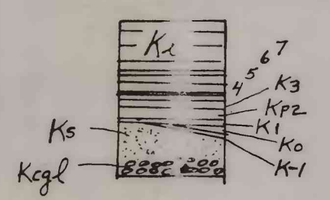
ELSONIAN(?) OROGENY

[gk]

ALKALIC GRANITE (YOUNGER), PEGMATITE, MICROGRANITE, APLITE, AND QUARTZ VEINS, IN LARGE MASSES, DIKES, STRINGERS AND APOPHYSES; MAINLY LOCATED NEAR CENTER OF MARENISCO QUADRANGLE AT A STRUCTURAL FOCAL POINT AND WHERE OFFSETS OCCUR ON FEEDER DIKES IN THE SOUTHWEST PART OF THE AREA. IN ADDITION TO SPLAYS OF YOUNG DIABASE DIKES LOCALIZED ALONG THESE STRUCTURES WARPED PENOKEAN STRATA INDICATE POST-LOWER KEWEENAWAN DEFORMATION. GRANITE INTRUDED HERE AND TO THE SOUTHWEST; GNEISS COMPLEX AND GRANITE APOPHYSES SUGGEST MORE AT SHALLOW DEPTH. NATIVE SILVER OCCURS ON FRACTURE SURFACES COATED WITH IRON OXIDE. QUARTZ VEINS OFTEN FILL TENSION FRACTURES; POTASH METASOMATISM AND HYDROTHERMAL MINERALIZATION.

Y - Z PRECAMBRIAN — UPPER, LOWER KEWEENAWAN

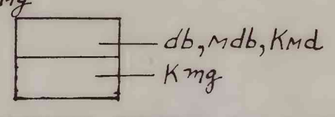
LOWER KEEWEENAWAN SERIES (SOUTH TRAP RANGE)



MONOCLINAL SEQUENCE OF BASALT AND ANDESITE FLOWS WITH INTERBEDDED QUARTZITE UNDERLAIN BY METASANDSTONE, Ks, AND RED-BED PEBBLE CONGLOMERATE, Kcgl, 25' TO 30' THICK. VARIABLE THICKNESS FROM WEST TO EAST, 1700' TO 2100' AND MEAN NORTHWARD DIP 60° TO 50° RESP. FLOWS MAPPED K1-K7; TEND TO INCREASE IN THICKNESS HIGHER STRATIGRAPHICALLY, ARE BASALTIC IN COMPOSITION, AND MAY BE PORPHYRITIC AND ELLYPSOIDAL STRUCTURED; TECTONIC CLASTIC DIKES AND VEINS FILL JOINTS, AMYGDALOIDAL ZONES AND INTER-FLOW SURFACES. A "TURKEY-TRACK" PORPHYRITIC FLOW, Kp2, IS THE MARKER HORIZON; VARIABLE HYPABYSSAL TEXTURES FROM GABBROIC TO BASALTIC; PILLOW STRUCTURES OBSERVED DEVELOPING WITH LATH CRYSTALS FLOCCULATING AROUND A SPHEROIDAL CENTER SUGGESTS A CONVECTION CELL; SOFT SEDIMENTS MAY BE INCORPORATED BETWEEN PILLOWS AND ARMOR THE OUTER RIND MARGINS; COARSE FELDSPAR LATH CRYSTALS, AND RED HALF MOON POTASH FELDSPAR PHENOCRYSTS COMMON. K3, A 60' THICK BASALT FLOW SHOWS MOST MINERALIZATION ALONG A TRANSVERSE FAULT IN SECTION 14, T.47N., R.44W. PIPE AMYGDULES BENT NORTHWEST IN SECTION 12, T.47N., R.45W. INDICATE THESE FLOWS MOVED IN THAT DIRECTION AND PROBABLY HAD AN INITIAL NORTH DIP; GNEISS DOMING RESULTED IN PRESENT ATTITUDE.

DIKES (YOUNGER)

DIABASE, db, METADIABASE, Mdb, DOLERITE, DIORITE, METADIORITE, Kmd, AND METAGABBRO, Kmg



GENERALLY BLACK BUT WHERE METAMORPHOSED GREENISH-BLACK, JOINT AND FRACTURE SURFACES COATED WITH IRON OXIDES; BROWN WEATHERED SURFACE AND PICK POINT GIVES LIGHT BROWN STREAK; TEND TO BE STRAIGHT AND MASSIVE; CONTAIN MAGNETITE AND NEGATIVELY POLARIZED EXCEPT FOR A POSITIVE 400' THICK DIKE NEAR MARENISCO; DISSEMINATED PYRITE BUT LESS THAN OLDER DIKES. LOCALIZED ALONG FRACTURES AND JOINTS NOTABLY IN A STRUCTURAL FOCAL POINT AT THE CENTER OF THE MARENISCO QUADRANGLE IN SECTION 28, T.47N., R.43W., AND IN A SWARM ALONG THE EAST MARGIN OF THE SAME QUADRANGLE; COMMON AS MULTIPLE DILATION DIKES IN OLDER METAGABBRO DIKES INDICATING REACTIVATION OF PREVIOUSLY JOINTED ROCK. ASSOCIATED, IN PART, WITH POST LOWER KEWEENAWAN FOLDING DUE TO GNEISS DOME UPLIFT. Kmg IS A FEEDER DIKE CROPING OUT IN THE SOUTHWEST - ITS LATH-SHAPED FELDSPARS AND HYPABYSSAL TEXTURES, INCLUDING SEMI-CIRCLE PHENOCRYSTS OF POTASH FELDSPAR RELATE IT TO THE Kp2 MARKER FLOW.

UNCONFORMITY

KILLARNEY (?) DEFORMATION

[gs]

QUARTZ VEINS, PEGMATITE, AND MICROGRANITE

X PRECAMBRIAN — MIDDLE; ANIMIKIE SERIES (HURONIAN OF OLDER REPORTS) — MIDDLE ANIMIKIE (MIDDLE HURONIAN)

COPPS FORMATION OF ALLEN AND BARRETT (1915), MODIFIED (TYLER SLATE)

[c]

CONGLOMERATE, CHERT PEBBLE CONGLOMERATE, QUARTZITE, FERRUGINOUS QUARTZITE, IRON FORMATION, FERRUGINOUS SLATE, GRAYWACKE, ARGILLITE, AND CARBONACEOUS SLATE. CHERT AND FERRODOLOMITE CROPING OUT WITH FERRUGINOUS QUARTZITE AT THE HEAD OF COPPS CREEK (BY THE OLD COPPS LEAD EXPLORATION) ARE BAD RIVER DOLOMITE AND PALMS FORMATION LITHOLOGIES RESPECTIVELY. THE COPPS FORMATION IS A MULTI-FACIES METASEDIMENTARY ROCK ASSEMBLAGE ABOUT 1500' THICK AND GENERALLY IN THE MUSCOVITE GRADE OF METAMORPHISM. THE COPPS FORMATION IS COEVAL WITH THE TYLER SLATE FURTHER WEST (IRVING AND VAN HISE, 1892, P.431; ATWATER, 1938, PP. 179-181).

UNCONFORMITY

PENOKEAN OROGENY

[gp]

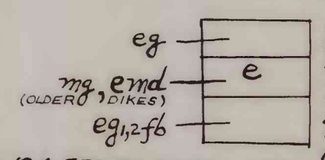
GRANITE (YOUNGER-NOT MAPPED); DIKES, STRINGERS, AND APOPHYSES OF GRANITE, PEGMATITE, MICROGRANITE, AND APLITE; QUARTZ VEINS AND STOCKWERKS WITH ASSOCIATED HYDROTHERMAL FLUIDS; AT OLD COPPS MINE A QUARTZ STOCKWERKS VEIN SYSTEM CUT CARBONATE AND CLASTIC ROCKS DEPOSITING SIGNIFICANT AMOUNTS OF GALENA, MINOR CHALCOPYRITE, AND A TRACE OF GOLD IN ONE QUARTZ SAMPLE. OCCURS MAINLY IN THE BORDER FACIES-CONTACT ZONE AND NEAR CENTER OF THE MARENISCO QUADRANGLE BESIDES ALONG JOINTS AND FRACTURES WITHIN THE OLDER GRANITE COMPLEX.

IRONWOOD IRON FORMATION

[i]

ALMOST ENTIRELY COVERED, KNOWN MAINLY FROM A FEW OUTCROPS, TEST PIT DUMP MATERIAL, AND EXPLORATION DRILLING AND MINING RECORDS (SEE DISCUSSION BY PRINZ (1967). OUTCROPS IN SECTION 21, T.47N., R.44W. ALONG THE LOGGING ROAD CONTAIN A NARROW CLASTIC HORIZON NEAR THE BASE THAT APPEARS TO BE SILICIFIED ROUNDED SAND GRAINS, IN THE GRANULAR CHERT FACIES, SIMILAR TO THE "SWEEPINGS-BED" DESCRIBED BY HOTCHKISS (1919, P.449) AND ALDRICH (1929, PP.156-8, 205) AT THE BASE OF THE PLYMOUTH MEMBER. R.G. SCHMIDT (1972, P.A12) NOTES THAT SOME OF THESE GRANULES MAY CONTAIN ORGANIC STRUCTURES. DRILL HOLES 801, 803, AND 805 IN SECTION 8, T.47N., R.44W. NORTH OF THE SILL CROSS FINELY LAMINATED AND STRAIGHT-TO THIN-BANDED FERRUGINOUS TUFF WITH CHERT IN OXIDE-SILICATE AND OXIDE-CARBONATE FACIES. DRILL HOLES 802, 804, AND 807 CUT LAMINATED TUFFS AND TUFFACEOUS ARGILLITE, CONTAINING DISSEMINATED MARTITE AND GLASSY SHARDS(?), WITH SOME AGGLOMERATE, QUARTZITE INTERBEDS, CHERT (SPORADIC FLINT), AND LOCAL PYRITE. VOLCANI-CLASTIC ROCKS SITUATED ALONG THE NORTH SIDE OF THE SILL IN SECTION 8 SUGGESTS THE IRON FORMATION IS LENSING OUT. COMPANY GEOLOGISTS FAMILIAR WITH THE STRATIGRAPHY IN THIS AREA THROUGH LONG EXPERIENCE BELIEVE THIS IS THE YALE MEMBER (WRITTEN COMMUNICATION: MR. E.L. BEUTNER, 1967); THE YALE MEMBER CONSISTS OF TUFF INTERBEDS, PYRITIFEROUS ARGILLITE AND UNOXIDIZED AND OXIDIZED IRON FORMATION IN THE CENTRAL GOGEBIC RANGE (SCHMIDT, R.G. 1972, P.A13); IT IS PROBABLE THAT THE LOWER PART OF THE IRONWOOD, THE PLYMOUTH AND YALE MEMBERS, UNDERLIES THIS AREA. EASTWARD THE IRONWOOD THINS AND IS STRUCTURALLY TRUNCATED IN A TIGHTLY FOLDED SOUTHWEST-PLUNGING SYNCLINE AT THE HEAD OF COPPS CREEK. NO EVIDENCE WAS OBSERVED TO SUGGEST THAT THE SOURCE OF THE IRON WAS DIRECTLY CONTRIBUTED BY MAGMATIC FLUIDS; ABUNDANT DATA INDICATES IRON FORMATION IS SPATIALLY ASSOCIATED WITH IRON-RICH MAFIC SOURCE ROCKS - A CONCLUSION PREVIOUSLY ARRIVED AT BY HUBER (1959, P.112).

EMPEROR VOLCANIC COMPLEX



METAMORPHOSED MAFIC DIKES, METAGABBRO, Mg, AND METADIORITE (DOLERITE), Md, CONSANGUINEOUS WITH LAVA FLOWS, eg, INTERBEDDED IN THE IRONWOOD IRON FORMATION; GREENISH COLOR, FRACTURE AND JOINT CONTROLLED, MAY BE SHEARED TO GREENSCHIST AND SINUOUS, GENERALLY NOT MAGNETIC, DISSEMINATED PYRITE COMMON; RECRYSTALIZED TO AMPHIBOLITE WHERE INTRUDED BY APOPHYSES OF GRANITE; MULTIPLE DILATION DIKES ARE COMMON INDICATING REACTIVATION AND INTRUSION OF YOUNGER DIABASE DIKES. A THICK SYNTECTONIC DIKE, emd, IN SECTIONS 1, T.46N., R.45W. AND 6, T.46N., R.44W., IS A FEEDER TO TWO LARGE PHACOLITHS WHICH FORM CUESTAS IN SECTIONS 26 AND 27, T.47N., R.44W., AND TO A 2000' THICK FEEDER SILL WHICH CROPS OUT IN THE AREA OF THE PUBLISHED REPORT (PRINZ, 1967). IN SECTION 15, T.47N., R.44W. THE SILL BROKE OUT EXTRUDING ELLIPSOIDAL FLOW BRECCIAS, eg1 fb, WITH INTERBEDDED SUBMARINE TUFFS, et; SUBSEQUENT FLOWS ALSO SHOW TRANSITIONS TO SPECTACULAR UNDEFORMED (THEREFORE SYNTECTONIC) ELLIPSOIDAL FLOW BRECCIAS, eg2 fb, AND VEINED AMYGDALOIDAL FLOWS, eg3. TECTONIC FLOW BRECCIA, eg1 fb, IS A HYBRID ROCK CONTAINING TENSION FRACTURED CLASTS OF OLDER eg FLOWS WHICH INDICATES A RESURGENCE IN THE HYDRAULIC SYSTEM DUE TO ANOTHER TECTONIC PULSE. PERVASIVE TENSION FRACTURING OF THESE ROCKS IS DUE TO GNEISS DOMING - IN OUTCROP THEY COMMONLY APPEAR TO BE "BREAKING-UP OR BREAKING-APART". THE COMPLEX IS INTERCALATED WITH AND OVERLIES THE IRON FORMATION. THIS VOLCANIC CENTER WAS REPORTED ON PREVIOUSLY BY VAN HISE (1892).

PALMS FORMATION - GNEISS COMPLEX

[p]

VARIABLY METAMORPHOSED, INTERBEDDED, ARGILLACEOUS AND ARENACEOUS ROCKS; UPPER QUARTZITE (FOOTWALL), INTERBEDDED QUARTZITE AND SLATE, ARGILLITE, RED CROSS-BEDDED QUARTZITE, MINOR CONGLOMERATE; IN LOW GREENSHIST FACIES AT COPPS CREEK; NARROW STRAIGHT TO LOCALLY WAVY (AND FLASER STRUCTURED) INTERBEDS OF ROUNDED QUARTZ SAND GRAINS AND ARGILLITE ARE CONSPICUOUS AND COMPRISE A STRIPED METASEDIMENTARY ROCK ORIGINATING IN A TIDAL OR SHORELINE ENVIRONMENT; RIPPLE MARKS, SCOUR AND FILL STRUCTURE, AND EXCELLENT SORTING WITH NO APPARENT GRADED BEDDING, AND FLASER BEDDING ARE INDICATORS; ROCKS CLOSELY FOLDED AND JOINTED, SHOW CLEAVAGE, DRAG FOLDS, AND BOUDINAGE STRUCTURE. METAMORPHIC GRADE INCREASES ABRUPTLY TO THE SOUTHWEST FROM COPPS CREEK, AS REPORTED BY ALLEN AND BARRETT (1915, PP. 41-43), WHERE THESE METASEDIMENTARY ROCKS ARE CONVERTED TO STRIPED AMPHIBOLITE PARAGNEISS, ORTHOGNEISS, AND PARASHIST IN THE AMPHIBOLITE FACIES. SLATY AND FRACTURE CLEAVAGE DISPLAYED IN CONJUGATE JOINT SETS IS RETAINED HERE AND THERE IN THE GNEISSIC AND SHISTOSE ROCKS AS WELL AS DISCRETE SAND GRAINS AND SERVE TO DOCUMENT THE DERIVED SEDIMENTARY ORIGIN OF THESE METAMORPHIC ROCKS. THE DRASTIC INCREASE IN METAMORPHIC GRADE IS DUE TO THERMAL EFFECTS OF SHALLOW PENOKEAN GRANITE AND DYNAMIC METAMORPHISM. THE UNIT THINS FROM 1000'(±) ON THE WEST TO 100' AT THE HEAD OF COPPS CREEK.

UNCONFORMITY

ANIMIKIE (UPPER HURONIAN)

BAD RIVER DOLOMITE

[br]

CHERTY METADOLOMITE, DOLOMITE, FERRODOLOMITE, CARBONACEOUS SHALLY FERRODOLOMITE, COMMONLY SILICIFIED. WHERE 250' THICK IN SECS. 17 & 18, T.47N., R.44W., HAS CHERT RUBBLE ZONE AT BASE AND INTERBEDDED QUARTZITE AT THE TOP; ALGAL STROMATOLITES WELL DEVELOPED IN SHALLOW MARINE FACIES HERE - A REGIONAL MARKER HORIZON. UNIT EXCAVATED IN NATURAL GAS PIPELINE TRENCH IN SECTION 28, T.47N., R.44W. (TRENT, V.A., 1969) AND IN FOUNDATIONS FOR COMPRESSOR STATION NO.7 WHERE ITS ATTITUDE IS N65E, 35SE. DATA INDICATES TIGHT CLOSURE ON THE WOLF MOUNTAIN ASYMETRICAL ANTICLINE. UNDERLYING KEEWATIN PILLOW LAVAS REVERSE TOP DIRECTIONS DUE TO THIS DEFORMATION WITH CONSEQUENT FAULTING 5 MILES TO THE NORTHWEST AT SUNDAY LAKE. BAD RIVER IS MISSING IN THE CENTRAL AREA EITHER DUE TO EROSION OR NON-DEPOSITION HOWEVER IT CROPS OUT IN A NARROW SHALLOW WATER FACIES (DELTAIC) AT THE COPPS MINE, SECS. 14 & 15, T.47N., R.43W., WHERE IT IS OVERTURNED AND INTERBEDDED THROUGH 5' TO 10' OF PALMS FORMATION.

SUNDAY QUARTZITE

[s]

QUARTZ PEBBLE CONGLOMERATE AT BASE, ORTHOQUARTZITE, INTERBEDDED CARBONATE AND QUARTZITE AT TOP. BASE OF PLATFORM MARKER UNIT AND THE ANIMIKIE (HURONIAN) SERIES. THINS FROM WEST, 150' TO 170' THICK, TO EAST WHERE AT THE HEAD OF COPPS CREEK A NARROW 6" FAULT SLICE IS EXPOSED IN SECTION 23, T.47N., R.43W.

UNCONFORMITY

ALGOMAN OROGENY

W PRECAMBRIAN — LOWER "ARCHEAN"

PRESQUE ISLE GRANITE COMPLEX

[g]

PEGMATITIC AND EQUIGRANULAR GRANITE, TONALITE, GRANODIORITE, DIORITE, GNEISSIC GRANITE, GRANITIC GNEISS, APLITE, MICRO-GRANITE, PEGMATITE, QUARTZ VEINS, AND MAFIC DIKES. THE PRESQUE ISLE GRANITE IS A COMPOSITE PLUTON ORIGINALLY INTRUDED INTO KEEWATIN STRATA AS A TABULAR, SUBVOLCANIC, SYNTECTONIC MASS DURING THE ALGOMAN OROGENY. THE MAPPED BORDER FACIES IS A TRANSITION ZONE FROM GNEISSIC GRANITE ALONG THE INNER MARGIN TO GRANITIC GNEISS TO METASOMATIZED GNEISS AND SHIST IN AND ALONG THE CONTACT ZONE. CHAOTIC CONDITIONS PREVAIL IN THE CONTACT ZONE WHERE ROCKS ARE REPEATEDLY INTRUDED, INTENSELY METASOMATIZED, AND DEFORMED THEREFORE EXTREMELY ALTERED. THE BORDER FACIES IS A REFLECTION OF INCREASED METAMORPHIC GRADE TOWARD THE OUTER MARGINS OF THE PLUTON. MINOR CONTAMINATION DOES TAKE PLACE IN THE CONTACT ZONE BUT MOST OF THE COMPLEXITY IS DUE TO PERIODIC THERMAL AND DYNAMIC METAMORPHISM. ZENOLITHS OR ROOF PENDANTS ARE COMMON, MOST HAVE FOLIATION THAT IS CONFORMABLE WITH THE GRANITE; SOME, HOWEVER, WITH FOLIATION OBLIQUE TO THE GRANITE ARE GOOD EVIDENCE FOR A MAGMATIC ORIGIN OF THE GRANITE. LATER INTRUSIONS OF GRANITE, PEGMATITE, POTASH-RICH FLUIDS AND QUARTZ VEINS WITH ORE METALS INTRUDE THIS GRANITE ALONG CONJUGATE JOINTS AND FRACTURES DURING AT LEAST TWO SUBSEQUENT PERIODS OF MAJOR DEFORMATION. MAFIC DIKES WERE SIMILARLY INTRUDED. SINCE THEY ARE FRACTURE AND JOINT CONTROLLED AND ARE RELATED TO A SPECIFIC PERIOD OF DEFORMATION THEIR DISTRIBUTION AND ATTITUDE PROVIDES THE DATA FOR UNRAVELING THE TECTONICS. ALTHOUGH THIS PLUTON HAS MOST OF THE FEATURES ATTRIBUTED TO EMPLACEMENT IN THE MESOZONE (BUDDINGTON, 1959, PP.695-697) RELATIVELY UNALTERED KEEWATIN FLOWS WITH DISCERNABLE CONTACTS, VESICULAR ZONES, AND UNDEFORMED PILLOWS NOTWITHSTANDING THEIR COMPRESSED RINDS, SUGGESTS A HYPABYSSAL OR SUB-VOLCANIC HISTORY.

KEEWATIN SERIES

[g]

AMYGDALOIDAL BASALT, ELLYPSOIDAL BASALT (WITH MINOR FLOW BRECCIA), GREENSHIST (PARASHIST) - IDENTIFIED BY RELIC SETS OF CLEAVAGE AND TWICE THE BACKGROUND RADIOACTIVITY OF THE MAFIC FLOWS, VEINED AND STRIPED ORTHOGNEISS, AND QUARTZ VEINS. VARIABLY METAMORPHOSED FROM LOW GREENSHIST TO HIGH GREENSHIST FACIES. VARIABLE THICKNESS 2300' IN WEST; 3500' THICK IN SECTION 2, T.46N., R.44W., TO TRUNCATION BY EROSION TWO MILES TO THE EAST IN SECTION 31, T.47N., R.43W.; THE PROXIMITY OF THE CONTACT OF THE GRANITE AND THE GREENSTONE IS INDICATED BY A ZONE OF GRANITE OUTCROPS WITH NUMEROUS GREENSTONE ROOF PENDANTS. A SINGLE GREENSHIST OUTCROP ON THE SOUTH SIDE OF THE PLUTON IS LOCATED ½ MILE EAST OF MARENISCO; THE OUTCROP IS TYPICAL OF KEEWATIN GREENSHIST (FRITTS, 1969). ANOTHER SMALL OUTCROP OF MAGNETIC GRAYWACKE(?) LOCATED JUST SOUTH OF THE MAPPED AREA AT MARENISCO ALONG THE RAILROAD TRACKS IS INTERPRETED AS PALMS FORMATION. IT IS ONE OF THE FEW OUTCROPS ON THE MARENISCO RANGE AND WAS CORRELATED WITH THE IRONWOOD IRON FORMATION BY R.C. ALLEN AND L.P. BARRETT (1915, PP.66-75). EXCELLENT BANDED ITABIRITE-TYPE IRON FORMATION IS FOUND IN THE SUBSURFACE TO THE SOUTHWEST AT MAGNETIC CENTER, WISCONSIN. IT IS PROBABLY AN IRON-RICH FACIES OF THE PALMS FORMATION AND THEREFORE MIDDLE HURONIAN AS THESE WORKERS CONTEND.

PRECAMBRIAN

* DESCRIPTIONS OF THE JACOBSVILLE SANDSTONE TRANSCRIBED FROM DRILL RECORDS SUPPLIED THROUGH THE COURTESY OF THE BEAR CREEK MINING CO. AND ADDITIONAL CORE LOGS (WRITTEN COMMUNICATION: W.S. WHITE, 5-5-65).

V.A. TRENT, U.S.G.S., 1973