

Province of British Columbia
 Ministry of Energy, Mines and Petroleum Resources
PRELIMINARY MAP #1
GEOLOGY OF THE TOODOGGONE RIVER AREA, NTS 94E

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MINISTRY MAPS 1971 TO 1984, MAINLY 1981-1984. ADDITIONAL SOURCES OF INFORMATION: ASSESSMENT REPORTS; GEOLOGICAL SURVEY OF CANADA OPEN FILE 483, 1977; RADIOMETRIC DATING (K/Ar) BY J. HARKAL, THE UNIVERSITY OF BRITISH COLUMBIA.

LEGEND

- QUATERNARY AND RECENT**
- UNCONSOLIDATED GLACIAL, FLUVIOGLACIAL, ALLUVIAL, AND COLLUVIAL DEPOSITS
- CRETACEOUS**
- UPPER CRETACEOUS**
- 68/70 TUFF GROUP (HARD CREEK FORMATION)
 - POLYGENIC CONGLOMERATE, SANDSTONE, SHALE, CARBONACEOUS MUDSTONE
- JURASSIC**
- LOWER AND (?) MIDDLE JURASSIC**
- "TOODOGGONE VOLCANIC" (?) HAZELTON GROUP
- 9 GREEN TO GREY QUARTZITE PORPHYRY (1) BOTITE HORNBLENDE PLAGIOCLASE PORPHYRY FLOWS AND TUFFS; QUARTZITE SEGMENTS OF MEDIUM TO ABOUT 3 METERS THICK AND HAVE REDDISH TUFF UNITS TOWARD THE SOUTH AND WEST. THE QUARTZITE IS A MAFIC AND GRANULITE TYPE. THE TUFF UNITS CONTAIN EXTENSIVE ZONES OF EPIDIOXIDE, PSEPHIC ROCK WITH CHARACTERISTIC SALBORNITE, AND PLAGIOCLASE CRISTALS
 - CONGLOMERATE WITH SOME GRANITIC CLASTS, GRADED, CROSS-BEDDED GREENISH-BROWN SANDSTONE, TUFF, EPIDIOXIDE SEGMENTS OF MEDIUM TO ABOUT 3 METERS THICK AND HAVE REDDISH TUFF UNITS TOWARD THE SOUTH AND WEST. LOCAL CONGLOMERATE AND SANDSTONE ARE COMMON. INCLUDES LAPPLI TUFF AND BRECCIA UNITS AS WELL AS MAFIC AND GRANULITE DEPOSITS
 - MAFIC TUFFS IN THIN, WELL-SORTED UNITS. SOME EPIDIOXIDE SANDSTONE AND SANDSTONE. RARE PLANT FRAGMENTS IN SOME BEDS. MAFIC LAPPLI TUFF
 - ADDOGACHO CREEK FORMATION
 - 1 PALE REDDISH GREY TO DARK RED-BROWN QUARTZITE BOTITE HORNBLENDE PORPHYRY FLOWS AND TUFFS. THE ROCKS CONTAIN MAFIC AND GRANULITE CLASTS. INCLUDES LAPPLI TUFF AND BRECCIA UNITS AS WELL AS MAFIC AND GRANULITE DEPOSITS
 - 1A CRYSTALLINE TUFF LAPPLI TUFF AND RARE AGGLOMERATE WITH INTERSPERSED EPIDIOXIDE BEDS. TUFFaceous SEGMENTS AND MAFIC CONGLOMERATE THAT LOCALLY CONTAINS GRANITIC CLASTS. MAFIC HORNBLENDE PLAGIOCLASE PORPHYRY FLOWS AND TUFFS
 - 1B QUARTZITE MAFIC PLAGIOCLASE PORPHYRY - GRADED, DARK, INTERBEDDED WITH MAFIC SAND-APPEARING GREY TO GREEN, CALCINIZED AND EPIDIOXIDE-ACTIVED WOOD CONTAINING MAFIC INCLUSIONS OF MAFIC VOLCANICS AND THEIR METAMORPHIC ROCK CLASTS
- LOWER TO MIDDLE JURASSIC (GARTNER, 1978)**
- "GREY DIAPYR"
- 8 DARK TO PALE GREY OR GREEN QUARTZITE BOTITE HORNBLENDE PLAGIOCLASE PORPHYRY FLOWS AND TUFFS. QUARTZITE SEGMENTS OF MEDIUM TO ABOUT 3 METERS THICK AND HAVE REDDISH TUFF UNITS TOWARD THE SOUTH AND WEST. LOCAL CONGLOMERATE AND SANDSTONE ARE COMMON. INCLUDES LAPPLI TUFF AND BRECCIA UNITS AS WELL AS MAFIC AND GRANULITE DEPOSITS
 - 8A POLYGENIC CONGLOMERATE WITH ABUNDANT TRILITE AND GREY DIAPYR CLASTS IN A QUARTZITE SANDSTONE MATRIX
 - 8B GREEN SHALE, CONGLOMERATE DERIVED ENTIRELY FROM GREY DIAPYR
 - TOODOGGONE CREEK, ASH TUFFS AND FLOWS
 - 7 REDDISH-BROWN SANDSTONE, PURPLE QUARTZITE PLAGIOCLASE PORPHYRY FLOWS AND TUFFS, AND BRECCIA, WITH LESSESS AGGLOMERATE, LAMAR, AND EPIDIOXIDE BEDS. INCLUDES LAPPLI TUFF AND BRECCIA UNITS AS WELL AS MAFIC AND GRANULITE DEPOSITS
 - 7A EPIDIOXIDE RED BEDS - MAFIC SANDSTONE, SANDSTONE, CONGLOMERATE, AND BLUE SHALE. CONTAINS SOME CRISTAL TUFF
 - TUFF PEAK FORMATION
 - 6 PALE PURPLE, GREY AND GREEN BOTITE AUSTITE HORNBLENDE PLAGIOCLASE PORPHYRY FLOWS AND TUFFS. INCLUDES SOME LAPPLI TUFF AND BRECCIA UNITS
 - 6A CONGLOMERATE OR LAMAR DERIVED FROM UNITS 6 AND 8B, WITH GRADED AND LOCAL CONGLOMERATE AND SANDSTONE. INTERBEDDED GREEN FLOWS, LAPPLI AND CRISTAL TUFFS
 - 6B FLOWS SIMILAR TO UNIT 6 BUT CONTAINING ORANGE OPHIOCLASE MEGACRISTS
- MAFIC CREEK FORMATION**
- 5 PURPLE, LAVENDER, GREY, PALE GREY-GREEN, "CROSSED" FINE TO MEDIUM GRAINED PLAGIOCLASE PORPHYRY FLOWS. INCLUDES SOME LAPPLI TUFF, BRECCIA, AND MAFIC EPIDIOXIDE BEDS
 - 5A INTRUSIVE DOME WITH AUTOGRADED CARANAGE AND FLAMING BRECCIA
- MAFIC FLOW AND TUFF UNIT**
- 4 BASALT FLOWS - THIN BEDED, PURPLE TO DARK GREEN, COMMONLY EPIDIOXIDE, FINE GRAINED PORPHYRY FLOWS AND TUFFS. INCLUDES SOME LAPPLI TUFF, BRECCIA, AND MAFIC EPIDIOXIDE BEDS
 - 4A MAFIC INTRUSIVE DOME WITH AUTOGRADED CARANAGE AND FLAMING BRECCIA
 - 4B LAPPLI CRYSTAL AND ASH TUFF, WELL BEDED, INCLUDES MAFIC THIN BEDDED PORPHYRY FLOWS AND TUFFS. INCLUDES SOME LAPPLI TUFF, BRECCIA, AND MAFIC EPIDIOXIDE BEDS
 - 4C PORPHYRY BOTITE HORNBLENDE PORPHYRY FLOWS WITH TRACES OF QUARTZ AND FELDSPAR. INCLUDES SOME LAPPLI TUFF, BRECCIA, AND MAFIC EPIDIOXIDE BEDS. IN PART EQUIVALENT TO UNIT 4
- TRASSIC**
- UPPER TRASSIC**
- 14A GROUP
- 14A MAFIC AND GRANULITE PORPHYRY BASALT FLOWS AND BRECCIAS WITH LESSESS FINE GRAINED ANDREITE TO BASALT FLOWS AND MAFIC INTERBEDDED SILTSTONE, TUFFaceous SANDSTONE, AND GREEN CLAYSTONE LENSES THAT MAY BE PART OF THE "MAGNETA GROUP"
- PALEOZOIC**
- DEVONIAN**
- 15A GROUP
- 15A MAFIC AND GRANULITE PORPHYRY BASALT FLOWS AND BRECCIAS WITH LESSESS FINE GRAINED ANDREITE TO BASALT FLOWS AND MAFIC INTERBEDDED SILTSTONE, TUFFaceous SANDSTONE, AND GREEN CLAYSTONE LENSES THAT MAY BE PART OF THE "MAGNETA GROUP"
- INTRUSIVE ROCKS**
- JURASSIC**
- LOWER JURASSIC (DYKES, SILLS, AND SMALL PLUGS)**
- A BASALT
 - B BOTITE HORNBLENDE PORPHYRY - BASALTIC STOCK, DIOXAL TRILITE (OR TALLA HILLER)
 - C BOTITE HORNBLENDE DORTY-GABBRO
 - D PORPHYRY PLAGIOCLASE GABBRO
- LOWER TO MIDDLE JURASSIC (DYKES AND STOCKS)**
- E1 QUARTZ MONZONITE, GRANODIORITE - MEGACRISTIC IN PART, MAFIC SYENITE OR QUARTZITE SYENITE ALONG CONTACTS
 - E2 GRANODIORITE, QUARTZ DIOXITE - MEDIUM GRAINED, PORPHYRY, FOLDED IN PART
 - F FELDSPAR PORPHYRY HORNBLENDE FELDSPAR PORPHYRY - DYKES AND PLUGS. RARE QUARTZ FELDSPAR PORPHYRY
- SYMBOLS**
- MINERAL OCCURRENCE (MINERAL INVENTORY FILE NUMBER) x 43
 - MINERAL PROSPECT (MINERAL INVENTORY FILE NUMBER) x 54
 - EXPLORATION CAMP
 - PLACER WORKINGS
 - PARK BOUNDARY
 - ROAD
 - MAN OUTCROP AREAS
 - FAULT (OBSERVED, INFERRED)
 - THRUST OR REVERSE FAULT (OBSERVED, INFERRED)
 - GEOLOGIC CONTACT (DEFINED, ASSUMED)
 - BEDDING, LAYERING, FOLIATION (HORIZONTAL, INCLINED, VERTICAL)
 - FOLD AXES
 - FOSSIL LOCALITY (PLANT DEBRIS)
 - RADIOMETRIC DATE SAMPLE SITE, AGE IN Ma
 - VOLCANIC VENT
 - HYDROTHERMAL ALTERATION
 - FERRICrete, QUATERNARY FERRUGINOUS BRECCIA
 - SILICA CLAY MINERALS + ALUNITE, BARITE
 - CLAY MINERALS + ALUNITE, SILICA, HEMATITE
 - GOSSAN LIMONITE ZONE



