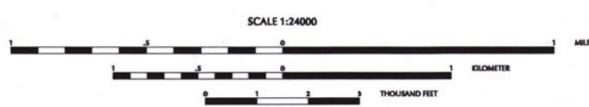


ADDISON CO. WINDSOR CO. **GEOLOGIC UNITS AND OUTCROP MAP**



Topography from USGS Mount Carmel, VT 7.5' quadrangle (1970 edition)
Contour Interval 20 feet
Digital map units in State Plane Coordinate System
National Geodetic Horizontal Datum of 1983
Roads and town boundaries from the Vermont Center for Geographic Information, Inc.

Geology mapped by N.M. Ratcliffe and G.J. Walsh 1996-1997.
Digitized by Walsh, James Reddy, and Jonathan Kim.



MN N
Approximate Mean Declination
15°00' West, 1980

AFFILIATIONS:
U.S. Geological Survey
Reston, Virginia 20192
Vermont Agency of Natural Resources,
Vermont Geological Survey
Waterbury, Vermont 05671

Digitized by

STRUCTURE MAP



Description of Map Units

(Not necessarily in stratigraphic order; minerals listed in order of increasing abundance)

- Kd Lamprophyre or diabase dike (Cretaceous)
- ROCKS OF WESTERN COVER SEQUENCE**
Moosalamoo Formation (Lower Cambrian and Late Proterozoic)
- CZmf Gray to black feldspathic biotite granofels and faser-bedded feldspathic quartzite
- CZmq Light gray to tan, thinly bedded, feldspathic quartzite
- CZmpg Black to dark gray siliceous phyllite, gritty quartz-pebble phyllite and biotite metawacke
- CZmt Gray-brown to green, laminated magnetite-rich metasilstone
- CZmtc Magnetite-cemented, dolomitic quartz-pebble conglomerate and cm-thick quartz-magnetite beds
- Forestdale Formation (Lower Cambrian and Late Proterozoic)
- CZhu UPPER UNIT, orange-brown weathering, quartzose dolomite and dolomitic quartzite
- CZfmg White-weathering feldspar-quartz grit and quartzite and reddish cross-bedded magnetite quartzite
- CZfdq Cross-bedded dolomitic quartzite and quartzose dolomite
- CZfnt Green to dark-gray magnetite-muscovite-chlorite-quartz phyllite
- LOWER UNIT, cream to beige weathering, massive, clean dolomite**
- CZfl
- CZfc Gray, dolomite-boulder and -cobble conglomerate interbedded with quartzwacke and dark green phyllite
- CZfbs Black graphitic phyllite with lenses of dark blue-gray dolomite
- Pinnacle Formation (Lower Cambrian and Late Proterozoic)
- CZpw Green to gray weathering, chlorite-quartz metawacke
- CZpmt Lustrous, magnetite-studded, chlorite-muscovite-quartz schist
- CZpqt Thinly bedded, quartz-pebble grit, metawacke, and chlorite-quartz phyllite
- COVER ROCKS OF THE GREEN MOUNTAIN MASSIF**
Fayston formation (Lower Cambrian and Late Proterozoic)
- CZfab Gray-green, albite-studded, magnetite-chlorite-albite-quartz-muscovite schist
- CZfag Silvery green, fine grained, chlorite-quartz-sericite schist
- CZfcb Rusty gray to black, carbonaceous to graphitic, chlorite-albite-quartz-muscovite schist with black dolomitic marble and rusty dolomitic quartzite
- CZfq Light gray quartzite and muscovite quartzite
- Tyson Formation (Lower Cambrian and Late Proterozoic)
- CZtab Gray-green, albite-studded, magnetite-chlorite-albite-quartz-muscovite schist
- CZtg Gray to gray-green chlorite-muscovite-quartz + /-magnetite phyllite and schist
- CZtrg Gray, rusty weathering, biotite-muscovite-quartz + /-chlorite schist and biotite-albite-quartz granofels
- CZtgmt Green to gray, magnetite-studded, chlorite-muscovite-quartz schist and albite granofels
- CZtd Massive, beige to light-gray weathering, dolomite and quartzose dolomite
- CZtbs Black to dark-gray, graphitic to carbonaceous albite-quartz-muscovite schist
- CZtq White quartzite
- CZtgr Gray-green biotite-chlorite-muscovite-plagioclase-quartz pebbly schistose grit and granofels
- CZtc Massive to bedded, muscovite-quartz pebble- to cobble-conglomerate and feldspathic conglomerate
- Mount Holly Complex(?) (Middle Proterozoic)
- Y7mg Highly mylonitic, biotite-muscovite gneiss and schist, protolith uncertain
- Mount Holly Complex (Middle Proterozoic)
- Yp Muscovite + /- garnet + /-tourmaline granite pegmatite
- Ykg Biotite-microcline augen gneiss and megacrystic pegmatite granite gneiss
- Ygg Biotite-muscovite granite gneiss
- Ymg Microcline-rich, muscovite-biotite-plagioclase migmatite gneiss and pegmatite-saturated microcline-plagioclase gneiss
- Yhg Massive hornblende-biotite-quartz-plagioclase gneiss and biotite tonalitic gneiss (possibly an intrusive rock)
- Ybg Biotite-chlorite-plagioclase-quartz + /-epidote gneiss with minor amphibolite
- Ybgt Dark, fine grained, small-garnet, biotite-plagioclase-quartz gneiss
- Ys Lustrous yellow-green, chlorite-muscovite-quartz phyllite and schist, includes relict chloritized garnet, pegmatite, and garnet-muscovite + /-chloritoid quartzite
- Yrg Rusty weathering, chlorite-muscovite-biotite-plagioclase(albite + epidote)-quartz gneiss and schist
- Ydm White to gray, coarse-to-medium grained dolomite marble with accessory tremolite and/or talc
- Ycs Dark- to pale-green, hornblende-actinolite-diopside calc-silicate rock
- Yq Massive, vitreous, tourmaline-muscovite quartzite
- Ya Amphibolite

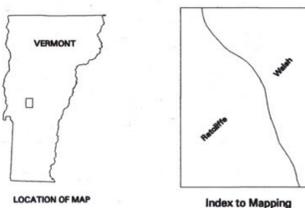
Explanation of Map Symbols

- Contacts
- Outcrops (areas of exposed bedrock examined in this study)
- Thrust fault, teeth on upper plate
- Strike and dip of foliation used to interpret formlines
- Strike and dip of inclined cleavage
- Strike and dip of vertical cleavage
- Strike and dip of inclined joint
- Strike and dip of vertical joint
- Mica mine

This plate is a paper representation of the digital bedrock geologic information for the Mount Carmel quadrangle located in Rutland, Windsor and Addison Counties, Vermont. The database was digitally compiled on a personal computer system using PC ARC/INFO version 3.5 by Environmental Systems Research Institute, Inc. This map was created in ARC/INFO version 7.0.4. The topography was obtained from a photographic negative separate of contour lines from the Mount Carmel (1970 edition) U.S.G.S. 7.5 minute topographic quadrangle. The negative was scanned on an IDEAL FSS 8000 raster-format scanner. The raster image was vectorized using GTX ODR Contour version 2.00 by GTX Corporation, Inc., and converted into an unattributed line coverage in ARC/INFO version 7.0.4.

Digital and Preliminary Bedrock Geologic Map of the
Mount Carmel Quadrangle, Vermont

by
N.M. Ratcliffe¹ and G.J. Walsh¹
1998



This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards (or with the North American Stratigraphic Code). Any use of trade names is for descriptive purposes only and does not imply endorsement by the U.S. Government.
This plate is part A and the database is part B of this Open-File Report. Both parts are available from the Vermont Geological Survey, telephone (802) 241-3608.