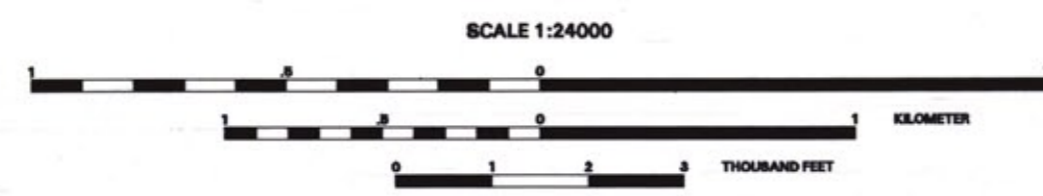


Description of Map Units

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

- DEVONIAN DIKES**
- Dg Biotite-muscovite granite
- DEVONIAN AND SILURIAN WAITS RIVER FORMATION**
- DSwr Dark-gray garnet-muscovite phyllite
- UNNAMED AMPHIBOLITE AND QUARTZITE**
- DScv Thin-bedded, amphibolite, quartzite and granofels
- ORDOVICIAN CRAM HILL FORMATION**
- Och Black biotite schist and slabby quartz granofels
- Ochf Finely laminated, hornblende-biotite-plagioclase-quartz granofels (felsic volcanoclastic)
- ORDOVICIAN BARNARD GNEISS**
- Oba Fine-grained, dark-green amphibolite; minor felsic layers
- Obn Mixed white, hornblende-biotite-plagioclase-quartz rock and hornblende-biotite-quartz-plagioclase gneiss
- Obf Gray to white, medium-grained, biotite-quartz-plagioclase gneiss possible felsic volcanic rock
- ORDOVICIAN CRAM HILL FORMATION IN THE SPRING HILL FOLD**
- Ochv Well-layered felsic to intermediate volcanoclastic rocks
- Ochq Quartzite and chlorite-muscovite-quartz granofels
- ORDOVICIAN MORETOWN FORMATION**
- Oml Pin-striped muscovite-biotite-quartz-plagioclase granofels and quartzite
- Omba Black, slabby, rusty biotite-quartz schist, locally carbonaceous
- Omgg Greenish-gray to gray-garnetiferous, chlorite-muscovite-plagioclase-quartz granofels and schist
- Oma Amphibolite
- Omhfs Gray to greenish, hornblende facies schist, and cotecule
- Omfq Gray to tan-gray, feldspathic quartzite
- Ombq Black to gray, massive to bedded, highly jointed, vitreous quartzite
- Omfgc Light-green to gray, well-bedded, pinstripe biotite-chlorite granofels, cotecule and schist (resembles Oml)
- Omgfs Green feldspathic schist
- Omgrt Gritty feldspathic quartzite
- Omak Green, pitted, highly weathered ankeritic greenstone
- Omwv Fine-grained, carbonaceous + f-garnet-biotite-muscovite-quartz schist and phyllite at Whetstone Hill
- Omwwa Amphibolite
- Omwmc Magnetite cotecule and quartzite
- Omwq Black to gray vitreous quartzite
- Omwfq Feldspathic quartzite
- Omwv Volcanoclastic andesite breccia
- Omwg Green metasiltstone
- Omd Hornblende-plagioclase granofels or coarse-grained amphibolite
- ORDOVICIAN AND CAMBRIAN STOWE FORMATION**
- OCa Light-green, biotite-chlorite-quartz schist + f-magnetite
- OCaa Amphibolite
- OCags Light-green to gray, garnet-chlorite-muscovite-quartz schist and feldspathic biotite granofels
- CAMBRIAN OTTAUQUECHEE FORMATION**
- Co Dark-gray to black, fine-grained carbonaceous biotite-muscovite-quartz schist
- Coq Black to gray, vitreous quartzite
- CAMBRIAN AND LATE PROTEROZOIC PINNEY HOLLOW FORMATION**
- CZph Light-green, fine-grained lustrous + f-magnetite + f-garnet, chlorite-muscovite-quartz schist
- CZpha Amphibolite
- CZphms Green-gray, metasiltstone
- CZphf Light-gray, biotite-plagioclase-quartz granofels (possible felsic volcanoclastic rock)
- CZphgt Muscovite-chlorite-quartz-pebble schist and grit
- CAMBRIAN AND LATE PROTEROZOIC PLYMOUTH FORMATION**
- CZpfq Gray-tan, pin-striped, biotite-plagioclase quartzite and schistose quartzite
- CZpbs Dark-gray, carbonaceous, biotite-muscovite schist
- LOWER CAMBRIAN AND LATE PROTEROZOIC TYSON FORMATION**
- CZts Gray to tan-gray, well-laminated, fine-grained quartz phyllite
- CZtg Greenish + f-magnetite, chlorite-muscovite-quartz schist
- CZtgc Conglomerate and feldspathic grit
- LATE PROTEROZOIC HOOSAC FORMATION**
- CZhrab Rusty, biotite-muscovite-albite-quartz schist
- CZh Muscovite-biotite-albite-quartz schist and granofels
- CZhtg Rusty, garnet-muscovite-biotite-albite schist
- CZhtm Amphibolite
- ORDOVICIAN TO LATE PROTEROZOIC ULTRAMAFIC ROCKS**
- OZu Serpentine and talc
- OZt Talc schist
- MIDDLE PROTEROZOIC MOUNT HOLLY COMPLEX**
- Intrusive Rocks**
- Yp Pegmatite
- Ygp Granitic gneiss
- Ygp Felchville trondhjemite gneiss-gray to whitish gray, medium- to fine-grained, biotite trondhjemite gneiss
- Yhd Hornblende dioritic gneiss
- Yhda Fine-grained, equigranular hornblende-plagioclase amphibolite
- Yt Biotite trondhjemite gneiss at Terrible Mountain
- Metasomatic or Migmatitic Rocks**
- Yfg White to pinkish gray, medium-grained, aplitic to gneissic magnetite-felsic gneiss
- Ymig Pinkish gray, streaked, epidote-biotite-plagioclase-microcline-granitic migmatite gneiss
- Paragneiss and Metavolcanic Rocks**
- Ybg Well-layered, biotite-quartz-plagioclase gneiss and amphibolitic gneiss
- Yg Amphibolite
- Yrg Rusty muscovite-quartz schist, garnet-quartzite and rusty sulfidic amphibolite
- Ycs Calo-silicate gneiss, minor marble, diopside-hornblende rock, actinolite marble
- Ym White to gray, phlogopite-calcite-marble, graphite marble, actinolite-dolomite marble
- Yrs Rusty quartz-muscovite + f-chlorite schist to richly garnetiferous quartz schist
- Ymcs Greenish lustrous, chlorite-rich, muscovite-quartz schist, a retrograde variety of Yrg or Yrs
- Ylq Massive, vitreous, well-jointed quartzite on Ludlow Mountain
- Yq Thin-bedded, white to gray, vitreous quartzite and garnet quartzite
- Yhg Medium- to coarse-grained, hornblende-plagioclase gneiss

Topography from the Andover, VT quadrangle (1871 edition)
Contour Interval 20 feet
Map projection is polyconic
Digital map units in State Plane Coordinate System
National Geodetic Horizontal Datum of 1927
Roads and town boundaries from the Vermont Center for Geographic Information, Inc.



MN N
Approximate Mean Declination
14°30' West, 1871

Geology mapped by Ratcliffe in 1992-1995.
Digitized by Laura Cadmus¹ and Gregory Walsh¹.

**Digital Bedrock Geologic Map of the
Andover Quadrangle, Vermont**

by
N.M. Ratcliffe¹
1996

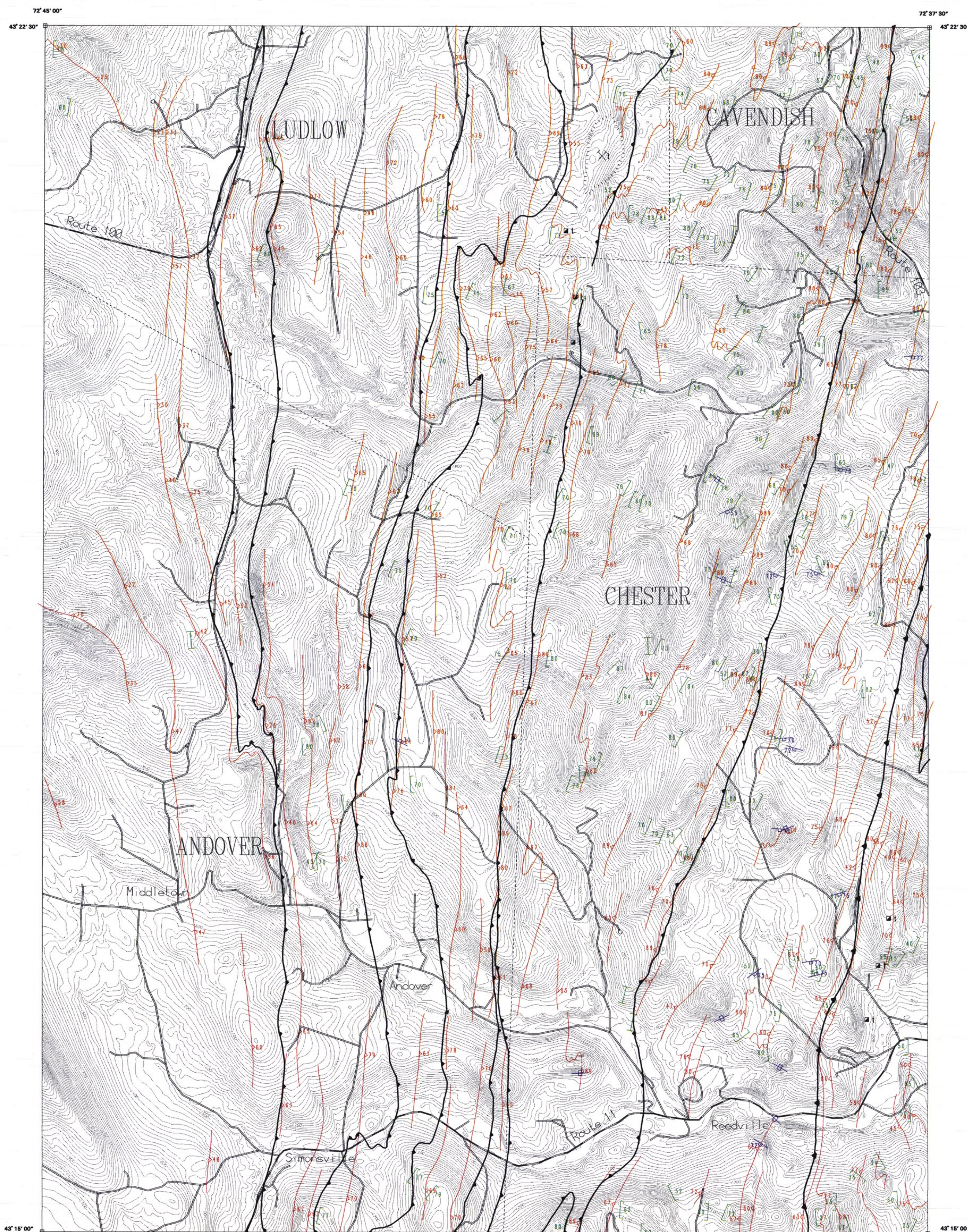
Explanation of Map Symbols

- Contacts
- Outcrops (areas of exposed bedrock examined in this study)
- Thrust fault, teeth on upper plate
- Overturned thrust fault, teeth show dip, bar on upper plate

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

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.
Plate 1 and 2 are part A and the database is part B of this Open-File Report. Both parts are available from the Vermont Geological Survey, telephone (802) 241-3468.





Explanation of Map Symbols

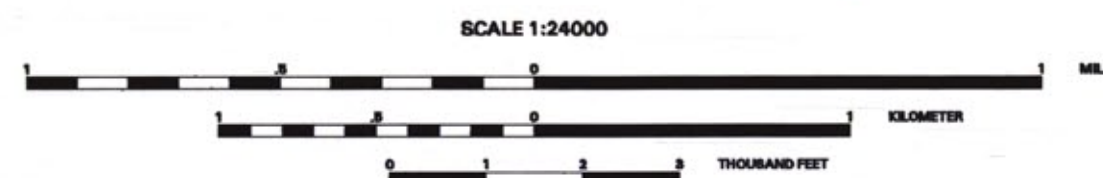
- Foliation (Schistosity)
 - Strike and dip of inclined foliation on interpretive form-lines
 - Strike and dip of vertical foliation on interpretive form-lines
- Brittle Features
 - Strike and dip of inclined joint
 - Strike and dip of vertical joint
- Cleavage
 - Strike and dip of inclined cleavage
 - Strike and dip of vertical cleavage
- Thrust Faults
 - Thrust fault, teeth on upper plate
 - Overturned thrust fault, teeth show dip, bar on upper plate
- Quarries and Mines
 - Talc
 - Active quarry
 - Inactive mine
 - Limit of large quarry or strip mine

Plates 1 and 2 are a paper representation of the digital bedrock geologic information for the Andover Quadrangle located in Windsor county, Vermont. All of the bedrock geology data were obtained from Ratcliffe (1996), and were digitally compiled on a personal computer system using PC ARC/INFO version 3.4D Plus by Environmental Systems Research Institute, Inc.. The data shown on Plate 1 were exported to ARC/INFO version 7.0 where solid color fill patterns were generated, and faults were drawn using symbols from a lineset (alcwrg.lin) from ALACARTE software (Fitzgibbon and Wentworth, 1991). The compilation procedures discussed in Walsh and others (1994) were used in the preparation of this report, with the exception of the topography. The topography was obtained from a photographic negative separate of contour lines from the Andover, VT (1971 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 OSR Contour version 2.00 by GTX Corporation, Inc., and converted into an unattributed line coverage in ARC/INFO version 7.0.

These plates are derivative products and should not serve as the primary source for the complete geologic information for this area; the correct reference should be number 2 below:

1. Fitzgibbon, T.T., and Wentworth, C.M., 1991, ALACARTE user interface: AML code and demonstration maps, Version 1.0: U.S. Geological Survey Open-File Report 91-587.
2. Ratcliffe, N.M., 1996, Bedrock geologic map of the Andover Quadrangle, Windsor county, Vermont: U.S. Geological Survey Open-File Report 96-32, scale 1:24000.
3. Walsh, G.J., Ratcliffe, N.M., Dudley, J.B., and Merrifield, T., 1994, Digital bedrock geologic map of the Mount Holly and Ludlow quadrangles, Vermont: U.S. Geological Survey Open-File Report 94-229, scale 1:24000.

Topography from the Andover, VT quadrangle (1971 edition)
Contour Interval 20 feet
Map projection is polyconic
Digital map units in State Plane Coordinate System
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Roads and town boundaries from the Vermont Center for Geographic Information, Inc.



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Geology mapped by Ratcliffe in 1992-1995.
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**Digital Bedrock Geologic Map of the
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