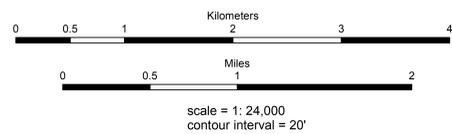


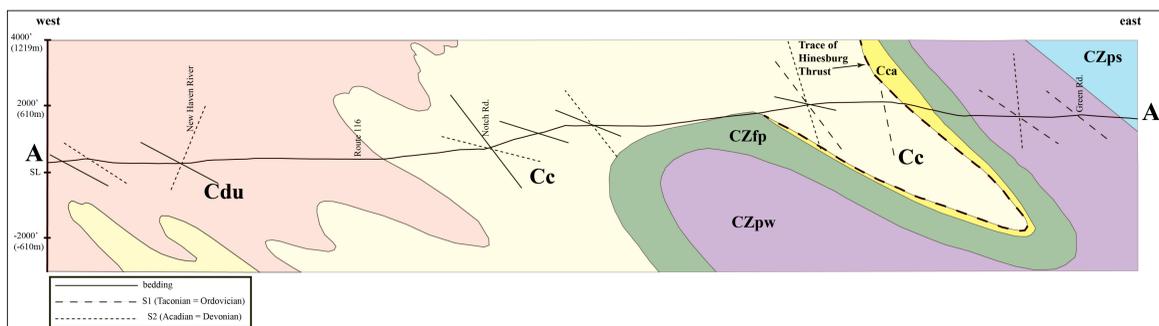


Base map of the South Mountain Quadrangle from
U.S. Geological Survey
Coordinate System: Vermont State Plane, meters, NAD 83.
Grid overlay on map is Universal Transverse Mercator,
Zone 18N, NAD 83
Digital Cartography by Jonathan Kim
Date: June 2014



Bedrock Geologic Map of the Northern Portion of the South Mountain Quadrangle, Addison County, Vermont

Authors: Jonathan Kim, Marjorie Gale, Kevin Chu, Malayika Cincotta, and Laura Cuccio
2014



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Description of Map Units

Os	Shelburne Formation (Ordovician) White-weathering, mottled gray and white, fine to very fine grained gray limestone and white marble; commonly with thin (<1mm) reticulated rusty-weathering dolomite layers; locally karstic.
Csp	Clarendon Springs Formation (Upper Cambrian) Tan-weathering, massive, cream to light gray dolostone.
Cd	Danby Formation (Upper Cambrian) Orange and punky-weathering, thin to thick bedded, fine to medium grained, gray pebbly quartzite, massive, light gray vitreous quartzite, and laminated sandy dolostone; cross-beds are common.
Cw	Winooski Formation (Middle Cambrian) Buff-weathering, massive to thick bedded, fine grained, gray to pink dolostone; interbedded with sandy, laminated dolostone +/- cross-beds; interbedded with Monkton Fm. at base; contact with Danby Fm. is gradational.
Cm	Monkton Formation (Middle Cambrian) Purplish brown-weathering, fine to medium grained, dark red to light gray, thin bedded quartzite with interbedded shale and dolostone; mud cracks and ripple marks are present along bedding planes; upper contact with Winooski Fm. is by interbedding.
Cdu	Dunham Formation (Lower Cambrian) Brown-weathering, massive, irregularly-bedded buff to gray to white dolostone. Contact with underlying Cheshire and overlying Monkton Formations is gradational and interbedded.
Cc	Cheshire Formation (Lower Cambrian) Light to dark gray, fine to medium grained, quartzite and argillaceous quartzite with minor phyllite. Beds of dolostone occur near contact with Dunham Fm. and quartzite has a pinkish hue. Discontinuous, white, mottled, rippled quartzite beds from 2.5 to 20 cm occur locally.
Cca	Fine to medium grained, gray and rusty weathered, dark gray argillaceous quartzite with abundant quartz veins.
CZfp	Fairfield Pond Formation (Cambrian and Neoproterozoic) Gray to gray green, light gray to light brown weathered, fine grained quartz, sericite, chlorite phyllite. Fine, light gray laminations are common. Magnetite is common near the base of the unit. Contact with overlying Cheshire Fm. is gradational.
CZfd	Forestdale Formation (Cambrian and Neoproterozoic) Light brown, brown to black weathered, sandy dolarenite. Typically thickly bedded with thin interbedded chlorite schist.
CZpw	Pinnacle Formation (Cambrian and Neoproterozoic) Light to dark gray, medium to coarse grained, massive to thick bedded, quartz, feldspar, muscovite, chlorite, biotite metawacke with minor carbonate. Locally contains conglomeratic beds less than 1 m thick with well-rounded quartz (commonly blue-gray) and gneiss pebbles less than 5 cm long. Characteristic "Pinnacle" lithology.
CZps	Light gray to gray green, rusty weathered, fine grained, massive quartz, feldspar, muscovite, metawacke and schist with minor chlorite, epidote, magnetite and tourmaline. Biotite is rare and rock fragments are absent. Laminations are locally well developed.
CZpl	Light green, locally rusty, silver gray weathered, fine grained quartz, plagioclase, muscovite, magnetite, chlorite schist. Abundant magnetite porphyroblasts (<7mm) are diagnostic. Locally interbedded with chlorite rich metawacke and dolomite.
CZpcg	Poorly sorted, matrix supported, quartz and gneiss cobble conglomerate. Cobbles up to 55 cm in diameter and rare quartzite boulders up to 3 m in diameter have been observed. Matrix is gray weathered quartz, feldspar, biotite, muscovite, chlorite schist with minor calcite and magnetite.
Ymhl	Mount Holly Complex (Mesoproterozoic) Dark green to black, medium to coarse grained, garnet, plagioclase amphibolite altered to epidote, chlorite, quartz, biotite, actinolite, plagioclase schist with minor carbonate and sphene. Contains xenoliths of Ymhq, (Y3agb, Chittenden Intrusive Suite of Ratcliffe and others, 2011)
Ymhg	Pink gray, light gray, and greenish white, fine to coarse grained quartz, plagioclase gneiss with varying amounts of sericite, chlorite, microcline and biotite. Other minor minerals include epidote, apatite, calcite, garnet, tourmaline, rutile, zircon, magnetite and sphene. (Y1,2bg of Ratcliffe and others, 2011)
Ymhq	Massive, light blue to gray weathered quartzite with minor amounts of sericite, biotite, chlorite, plagioclase, rutile and opagues. Interbedded with tourmaline chloritoid schist (Ymht). (Middle to Early Mesoproterozoic Y2q of Ratcliffe and others, 2011)
Ymht	Rusty weathering, fine grained, quartz, chloritoid, tourmaline, sericite schist with minor chlorite, graphite and zircon. Interbedded with Ymhq.

Explanation of Structural Symbols

This Study	25 Strike and dip of bedding.
45	Strike and dip of S1 spaced cleavage (Taconian=Ordovician); axial planar to reclined isoclinal folds that may be rootless/intrafolial.
60	Strike and dip of S2 crenulation or fracture cleavage (Acadian=Devonian); axial planar to open-tight asymmetric, folds.
21	Trend and plunge of L1 stretching/ intersection lineation (Taconian); proxy for F1 fold axis.
45	Trend and plunge of L2 crenulation lineation (Acadian); proxy for F2 fold axis.
32	Trend and plunge of F1 fold axis.
30	Trend and plunge of F2 fold axis.
DelloRusso and Stanley (1986)	30 Strike and dip of bedding
30	Strike and dip of dominant foliation

Explanation of Map Symbols

•	Field stations (outcrops)- this study
■	Outcrop polygons- DelloRusso and Stanley (1986)
Certainty of Lithologic Contacts	
-----	approximate
————	known

