

LEGEND

Cambrian and Ordovician Bedrock Lithologies

- MB Marble, limestone, dolostone and dolomitic marble.
- QZ Quartzite of the Danby, Monkton & Cheshire formations.
- QZ-MB Quartzite with interbedded carbonates, Danby Fm.
- PH Phyllite
- PH-MB Phyllite with interbedded marble, Breeze Fm.
- SL-PH Slate and phyllite, St. Catherine Fm. .
- SC Schist

- Rock Outcrop
- Bedrock wells with yield > 10 gallons per minute
- Town Boundary

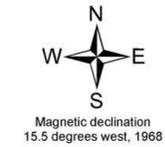
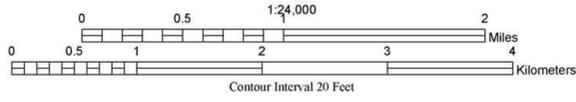
EXPLANATION

This map shows the extent of major bedrock lithologies in Brandon. The town is underlain by a bedrock aquifer developed in marble and quartzite lithologies. Yield and depth information is given in the table below. High yield bedrock wells tend to align with the approximate location of the contact between the Cheshire quartzite and the overlying marble. Higher yield wells also occur along the flank of the Otter Valley where a subbed marble ridge curves to form the eastern valley flank. Recharge enhancement from the ridge tops immediately east of these high yield wells is a possible explanation. A third area of higher yield occurs where there is a distinct folded pattern or kink in the exposure trace of the Danby quartzite-marble unit. Enhanced recharge from ridge tops may contribute and it is likely that the rock may be more highly fractured in the kink area. Lastly, higher yield wells occur in Sugar Hollow where marble and is ringed by surrounding mountain flanks. Recharge to the valley marble from the surrounding mountain flanks may be a viable explanation.

On Plate 5, the static levels of the bedrock wells in town were contoured using a 50ft interval to show the extent of the bedrock aquifer piezometric surface. The piezometric surface is the level water will rise to in a well bore penetrating bedrock. This surface is higher beneath the mountains and lowland ridges and hills; it is lower in the valleys.

Map Unit	# of Wells	Mean GPM	Standard Deviation	Mean Depth (ft)	Standard Deviation
MB	178	26	82	345	195
QZ	62	13	12	308	164
QZ-MB	9	11	15	468	216
PH-MB	28	11	19	380	191
SL-PH	0				
PH	2	18	3	248	38
SC	7	18	21	295	90

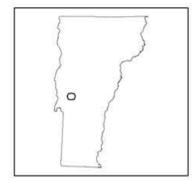
Base map from U.S. Geological Survey.
Quadrangle names printed in blue.
Coordinate System: Vermont State Plane, meters, NAD 83.
Geographic coordinates shown at topo corners are in NAD 83.
Grid overlay on map is Universal Transverse Mercator, Zone 18N, NAD 27.
Digital Cartography by Marci Young and Marjorie Gale
Date: December 2008



BEDROCK TYPE AND HYDROGEOLOGIC UNIT BRANDON, VERMONT

by
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