

Base from U.S. Geological Survey  
1:24000, 1:62000

## EXPLANATION

## Bedrock wells

○ Wells yielding 2 gallons per minute or less    ● Wells yielding 3 to 14 gallons per minute    ● Wells yielding 15 gallons per minute or more

## Bedrock hydrogeologic units

Lithology	Ground water
Contains metamorphic and plutonic rocks: the Mount Holly complex (metavolcanic and gneiss with minor granulite); metasedimentary and carbonaceous rocks; the Caves, Tyre, Rock, Pinnacle and Underhill Formations (mainly schist and phyllite with minor quartzite, conglomerate and carbonates); and igneous intrusive rocks.	Occurs in a system of interconnected fractures of otherwise impermeable rock. Fractures have been enlarged by solution in the carbonaceous limestone. Increasing permeability. Median well yield is 5 gal/min.
Predominantly non-carbonate rocks of the Champlain and Vermont Valleys: the Moss Island phyllite (phyllite and schist); the Delta, Ledge, and Goshen Formations (predominantly quartzite with dolomite, some schist, phyllite and conglomerate).	Occurs in a system of interconnected fractures in otherwise impermeable rock. Median well yield is 6 gal/min.
Predominantly carbonate rocks of the Champlain and Vermont Valleys: the Forestgate, Dunham, Winooski, Clarendon Springs, Shelburne, Bascom, Chipman and Glen Falls Formations (mainly dolomite, marble and limestone with quartzite and phyllite).	Occurs in a system of interconnected fractures which have been locally enlarged by solution. Median well yield is 7 gal/min. The water is hard to very hard. Median water hardness is 250 milligrams per liter.
Predominantly slates and phyllite rocks of the wet side of the Vermont Valley and the Taconic Front: the Winooski, Chipman, and Glen Falls Formations (predominately graphitic phyllites and slates with minor dolomite and quartzite); and the St. Catherine Formation (slate, phyllite and quartzite). Common problems are cavities, rock material sloughing into wells.	Occurs in a system of poorly interconnected fractures which are short and narrow, leading to a decrease of the yield. Median well yield is 1 gal/min. The occurrence of hydrogen sulfide gas (sulfur odor) and excessive concentrations of iron are common water-quality problems.

Scale 1:48000  
1 2 3 4 MILES  
3000 0 3000 6000 9000 12000 15000 18000 21000 FEET  
1 2 3 4 KILOMETERS  
CONTOUR INTERVAL 20 FEET  
NATIONAL GEODETIC VERTICAL DATUM OF 1929

Bedrock Geology and Yields of Selected Wells in Bedrock,  
Rutland Area, Vermont

1982