Vermont Geological Survey Open File Report VG10 - 1
Derivative Groundwater Resource Maps for Charlotte, VT
Plate 2

LEGEND

- Inferred groundwater flow lines
- Potentiometric surface, 100' contour interval
- Water well, labelled by static water elevation in feet; green - gravel well, yellow- bedrock well
- Lake/Pond/Stream
- Roads
- Town Boundaries

Vermont DEM (30 meter) Layer File, VT ANR & VCGI
Elevation Model
Res: 1 : 0.878
Value
High : 4381
Low : 69
Hillshade
Value
High : 254
Low : 0

EXPLANATION

The elevation of the static water level in bedrock wells is reported in the well log data and these elevations were contoured on the Potentiometric Surface and Inferred Groundwater Flow Lines map. The static level of water in a well is a useful parameter as it is a factor in determining the amount of water that is stored in the well bore, and thus, available to be pumped into a house or other structure using the water. These data were contoured using a 100 ft contour interval and control points are the well points, thus the contours are approximate. The reported static level for a well may be unreliable if the measurement was made before a well had completely recovered from pumping. In general, static water levels also exhibit seasonal fluctuations and the date of data collection also affects the potentiometric surface interpretation.

Groundwater flows down the hydraulic gradient from a high potentiometric level to a low potentiometric level. Flow lines can be drawn on a potentiometric surface map and are drawn at right angles to the potentiometric contours. A glance at the groundwater flow lines reveals the general path of groundwater flow from regions of higher potential to regions of lower potential. The potentiometric surface map and the accompanying flow lines show very general directions or pathways of recharge from higher regions in an aquifer to regions of discharge in lower portions of an aquifer. Flow lines commonly mimic the topography, however, the thick clay is a complicating factor in Charlotte. Groundwater flow in the underlying bedrock and in any permeable deposits below the clay may be quite different from surface flow. Therefore, a minimal number of flow lines are shown in the clay areas, reflecting this uncertainty.

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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: M. Gale and G. Springston
Date: May 2010

SCALE 1:24,000

Contour Interval 20 Feet

Magnetic declination
15.5 degrees west, 1968

LOCATION MAP

POTENTIOMETRIC SURFACE AND INFERRED GROUNDWATER FLOW LINES, CHARLOTTE, VERMONT

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2010

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