Rock Outcrop. Areas of predominantly outcrop with patches of till or slump on the topography. Deposits are located in low lying TM areas that are prone to flooding.

Holocene

Kame. Stratified and unstratified sand, gravel and boulders with variable silt. Deposits have intermediate to high permeability and are a good confined aquifer. Groundwater is generally shallow and generally unstable due to seasonal changes in permeability.

Lake Clay-Silt. Fine grained varved or thinly laminated deposits of silt and clay. Deposits are generally stable and are often subject to periodic flooding. Deposits are a good aquifer.

Moraine. Unstratified and stratified silt, sand, gravel and boulders that may form ridges or low hills. Deposits have intermediate to high permeability and are a good confined aquifer. Groundwater may be subject to seasonal changes in permeability.

Ground Moraine. Hummocky till with sand and gravel ranging from stratified and well-sorted gravel sand to unstratified and poorly sorted cobbles, sand, gravel and boulders. Deposits are subject to seasonal changes in permeability. Deposits have intermediate to high permeability and are a good confined aquifer. Groundwater may be subject to seasonal changes in permeability.

Kame Moraine. Stratified and unstratified gravel and sand with till and boulders. Deposits are subject to seasonal changes in permeability. Deposits may be unstable due to seasonal changes in permeability and are a good confined aquifer. Groundwater may be subject to seasonal changes in permeability.

Pre-Moraine. Unstratified and stratified till, sand, gravel and boulders that may form a single or multiple underlying bedrock. Deposits have intermediate to high permeability and are a good confined aquifer. Groundwater may be subject to seasonal changes in permeability.

Pre-Middle Miocene. Deposits subject to seasonal changes in permeability. Deposits have intermediate to high permeability and are a good confined aquifer. Groundwater may be subject to seasonal changes in permeability.

Recent

Artificial Fill. Variable materials used as artificial fill along rail beds, road beds, embankments and low lying areas. Deposits are commonly shown on the map. Deposits are generally stable except steep slopes where rock slides and rockslides may occur.

Ash and Ashfall. Deposits layering of variable thickness consisting of ash and volcanic ash from a volcanic eruption. Deposits are generally unstable due to seasonal changes in permeability.

Fluvial Terrace. Fine sand, silt and gravel, generally areas less than 0.1 meters thick overlying other materials. Deposits may be unstable due to seasonal changes in permeability.

Deep MAR. Unstratified and stratified silt, sand, gravel and boulders that may form ridges or low hills. Deposits have intermediate to high permeability and are a good confined aquifer. Groundwater may be subject to seasonal changes in permeability.

Till. Deposits subject to seasonal changes in permeability. Deposits have intermediate to high permeability and are a good confined aquifer. Groundwater may be subject to seasonal changes in permeability.
Aquifer Recharge Potential as a Function of Surficial Materials in the Bennington Area, Vermont

Vermont Geological Survey Open File Report VG2017-1: Plate 2

David J. DeSimone, PhD
2017

Recharge Potential

1. Areas of highly permeable overburden that are believed to be comparatively thick and persistent based upon well logs and the character of the deposits. The extensive kame moraine and outwash with adjacent kamic areas have the highest potential to recharge the bedrock aquifer. A kame moraine consists of predominantly fluvial sediment that may have lenses and interbeds of low permeability till that are typically not laterally extensive. Outwash is a highly permeable fluvial deposit of gravel and sand with little or no impermeable sediment. Adjacent kamic deposits may have both permeable and impermeable interbedded sediments.

2. Areas of intermediately permeable materials including kamic sediment, outwash, moraine, eroded till, fluvial terraces and alluvium. The kamic areas are likely the most permeable sediment of this category and consist largely of gravel and sand. The area of outwash included in this group has an unknown thickness and may overlie bedrock or till. The small morainal feature is not well expressed and may be more kame moraine in sediment texture. Eroded till punctuated by several bedrock exposures suggests comparatively easy recharge to the bedrock aquifer. Fluvial terraces and alluvium consist of gravel, sand and silt in variable proportions with highly variable surface layer permeability.

3. Areas of thin till overlying bedrock. The upper meter or so of the till is typically weathered to a more permeable texture than the underlying till. Weathered till should allow water infiltration to bedrock more easily than unweathered till. The process of soil formation oxidizes and alters the upper meter or so of the sediment and thinner areas of till may be weathered throughout the sediment profile. In addition, this group includes small rock outcrops within areas of till.

4. Areas of thick impermeable till. Thick till has a thicker profile of unweathered till beneath the soil zone than weathered till. Unweathered till has an extremely low permeability and low recharge potential. A small area of exposed glacial lake clay-silt is also assigned to this category as clay-silt has a very low permeability.

Vermont Geological Survey Open File Report VG2017-1: Plate 2 of 3
Scale 1:12,000
Contour Interval = 20 ft

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Digital Cartography by Colin Dowey

Surficial Geology of the Bennington Area, Vermont: Cross Sections

Authors: David J. DeSimone, PhD and Colin Dowey


Land surface elevation derived from VT Lidar Hydro-flattened DSM (2 meter) - 2012 - Bennington from the Vermont Center for Geographic Information.
Bedrock surface elevation derived from Lidar Data, Outcrop Locations, and Well Completion Reports.