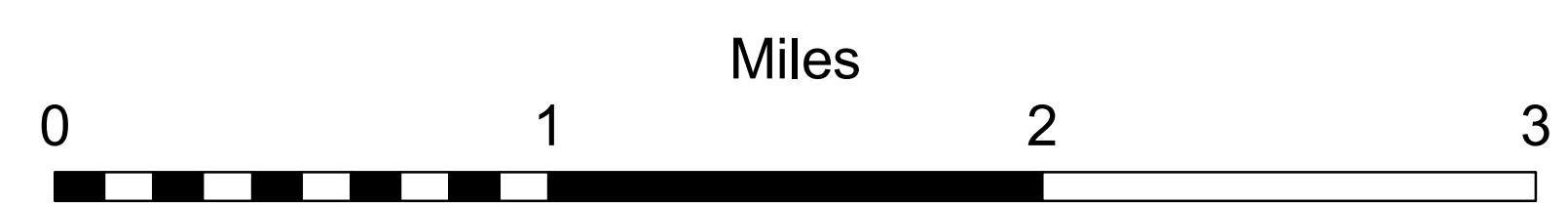
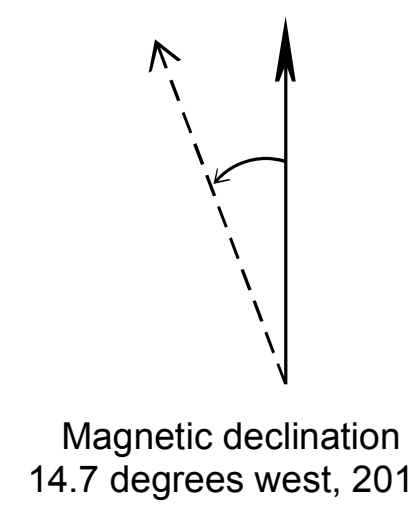
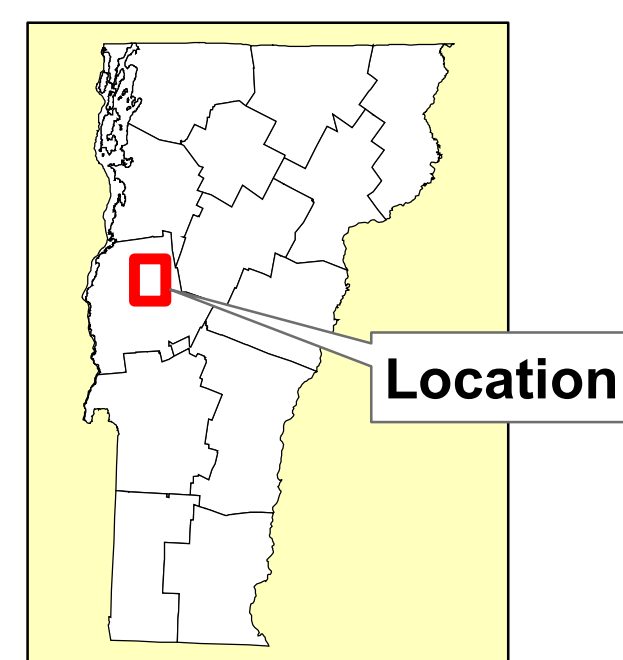


- DESCRIPTION OF MAP UNITS**
- Holocene Deposits**
 - gf Graded or Filled. Area of extensive artificial excavation or filling.
 - ar Artificial Fill. Artificially emplaced earth along road beds, embankments and low-lying areas.
 - w water
 - Hal Alluvium. Silt, sand, and gravel deposited by modern streams. Deposits include stream channel and bar deposits and finer-grained floodplain deposits. Minor wetland deposits are common within these areas and are not distinguished. Thickness in the tributaries is typically less than 3 meters, although the depth may be much greater in the valleys of the larger streams.
 - Hpm Wetland Deposits. Peat or Muck. Thick accumulation of organic matter with minor clastic sediment. Commonly overlying lacustrine sediments or till. Thickness of organic horizons ranges from 0.3 meter to greater than one meter.
 - Hw Wetland Deposits. Accumulations of organic matter and/or clastic sediment. Commonly overlying lacustrine sediments or till. Thickness of organic horizons (where present) ranges from 0.3 meter to greater than one meter.
 - Haf Alluvial Fan Deposits. Boulder, pebble, and cobble gravel and pebbly sand deposited at the mouths of tributaries. Commonly less than 5 meters thick.
 - Hst Stream Terrace Deposits. Silt, sand, pebble, cobble, and boulder gravel deposited on terraces above the modern floodplains of streams. Commonly overlying lacustrine sediments. They represent former floodplains that have been dissected by younger streams. Generally less than 5 meters thick.
 - Htal Talus. Fans or aprons of fallen rock at the base of steep slope segments. May contain colluvial (slope-wash) deposits as well. Of variable thickness.
 - Hco Colluvium and/or Talus. Fans or aprons of sediment at the base of steep slope segments. Slope-wash and/or talus deposits of variable thickness.
 - Holocene or Pleistocene Deposits**
 - Qtct Mix of Till, Colluvium, and Talus. Heterogeneous deposits at the base of steep slope segments on the Hogback Mountains. See Hco and Pt descriptions.
 - Pleistocene Deposits**
 - Picod Delta Deposits, Coveville Stage of glacial Lake Vermont. Coarse gravels and gravelly sand deposits, generally well-sorted, deposited at the mouth of the ancestral New Haven River. These deposits make up the upper horizons on most of the main terrace at the Village of Bristol, mantling thick kame terrace deposits that are exposed on the eastern edge of the terrace.
 - Picos Shoreline Deposits, Coveville Stage of glacial Lake Vermont. Shallow-water deposits consisting of well-sorted sand and/or gravel deposits.
 - Pibrd Delta Deposits, glacial Lake Bristol. Sand and gravel deposited as a (metre?) delta into glacial Lake Bristol east of Bristol Village and southeast of Rocky Dale in the south-central part of the quadrangle. Lake level at this time was probably controlled by an outlet in the defile between the Hogback Mountains and South Mountain at Bristol Village.
 - Pibrs Shoreline Deposits, glacial Lake Bristol. Shallow-water deposits consisting of well-sorted sand and/or gravel. In the Baldwin Creek valley at elevations of about 890 to 950 feet. Lake level at this time was probably controlled by an outlet in the defile between the Hogback Mountains and South Mountain at Bristol Village.
 - Pibr2 Lake Deposits, glacial Lake Bristol. Sand and gravel deposited as ice-contact and meteoric deltas and associated fluvial sediments deposited in glacial Lake Bristol. Lake levels were probably controlled by outlets in the southern reaches of Baldwin Creek or in the defile between the Hogback Mountains and South Mountain at Bristol Village. Numbers denote relative ages of the deposits (1 = oldest, 3 = youngest).
 - Pibr1 Lake Deposits, glacial Lake Bristol. Sand and gravel deposited as ice-contact and meteoric deltas and associated fluvial sediments deposited in glacial Lake Bristol. Lake levels were probably controlled by outlets in the southern reaches of Baldwin Creek or in the defile between the Hogback Mountains and South Mountain at Bristol Village. Numbers denote relative ages of the deposits (1 = oldest, 3 = youngest).
 - Plst Lake Deposits, glacial Lake Starksboro. Coarse gravel and sand deposited as ice-contact deltas and associated alluvial sediments into glacial Lake Starksboro. The level may have been graded to a spillway near the junction of Beaver Brook and Baldwin Creek.
 - Plf Lake Deposits. Fine-grained. Clay, silt, and very fine to fine sand deposited in deeper waters. Commonly varved. Dropstones are locally common. Deposited in Coveville or Upper Fort Ann Stages of glacial Lake Vermont.
 - Plc Lake Deposits. Coarse-grained. Well-sorted sand and/or gravel deposited in shallow waters or as proximal subaqueous outwash from delta at Bristol Village. Deposited in Coveville or Upper Fort Ann Stages of glacial Lake Vermont.
 - Plu Lake Deposits, undifferentiated. Coarse- to fine-grained lake deposits. Deposits in the Lewis Creek valley north of Starksboro are probably mostly from Coveville Stage. Deposits west of Hogback Mountains and west of Bristol Village are from Coveville or Upper Fort Ann Stage.
 - Pickt Kame Terrace Deposits. Poorly- to moderately-sorted, generally weakly bedded, sand, gravel, and silt deposits. These lie beneath the delta deposits on the main terrace at Bristol Village.
 - Pic Ice-contact Deposits. Unsorted to poorly-sorted sand, gravel, and silt deposited in contact with glacial ice. Includes esker and possible kame or kame terrace deposits in the western part of the quadrangle.
 - Ptw Wave-washed Till. Similar to Pt and Ptt, but with low-relief wave-cut shorelines. Found on slopes below the Coveville level of glacial Lake Vermont.
 - Ptth Thick Till. Dense to very dense, unsorted to very poorly sorted, sand- to silt-matrix till. Surface boulders are common. Thickness is highly variable, but general from 5 meters to greater than 30 meters. Bedrock outcrops are uncommon.
 - Pt Till. Dense to very dense, unsorted to very poorly sorted, sand- to silt-matrix till. Surface boulders are common. Thickness is highly variable, from less than 1 meter to greater than 30 meters.
 - Ptt Till. Thin. Descriptions as in preceding unit. Thickness highly variable but generally less than 3 meters and bedrock outcrops are very common. The till is particularly thin on the Hogback Mountains in the center of the quadrangle.
 - rk Bedrock exposures.
 - Field Sites** (black dot)
 - Bedrock Outcrops** (black circle)
 - Crag and Tail Landforms** (purple line)
 - Glacial Striations** (red arrow)
 - Kettle Holes** (purple circle)
 - Water Bodies** (blue area)
 - Streams** (blue line)
 - Meltwater Channels** (red line)
 - Pre-Coveville Shorelines** (orange line)
 - Spillway** (green line)
 - Terrace Edges** (green line)
 - Till Bench Edges** (red line)
 - Bristol Town Boundary** (red outline)
 - Upper Fort Ann Shoreline of Glacial Lake Vermont** (orange outline)
 - Lower Fort Ann Shoreline of Glacial Lake Vermont** (yellow outline)
 - Coveville Shoreline of Glacial Lake Vermont** (green outline)
 - Town Boundaries** (black outline)
 - Quadrangle Boundaries** (black outline)

Scale 1:24,000



Contour Interval 20 feet



Base map from U.S. Geological Survey. Coordinate System: Vermont State Plane, meters, NAD 83. Geographic coordinates shown at topo corners are in NAD 83. Grid overlay on map is UTM, Zone 18N, NAD83.

Digital cartography by George Springston, February 24, 2015. Research supported by the Vermont Geological Survey, Dept. of Environmental Conservation, VT ANR.

The views and conclusions contained in this document are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the State of Vermont.

Surficial Geologic Map of Bristol, Vermont (Draft)

by
**George E. Springston, Ethan J. Thomas,
 and Jonathan J. Kim**
 2015



Published by:
 Vermont Geological Survey, Marjorie Gale, State Geologist
 Department of Environmental Conservation
 Agency of Natural Resources
 1 National Life Drive, Davis 2
 Montpelier, VT 05620-3902
<http://www.anr.state.vt.us/dec/geo/vgs.htm>