

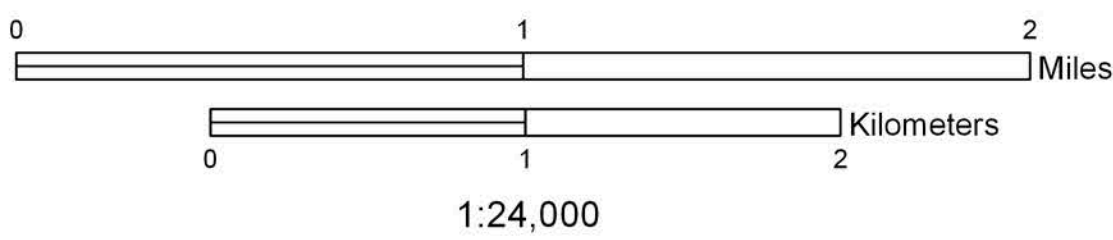
Surficial Geologic Map of the Proctor Quadrangle, Vermont

Vermont Geological Survey Open-File Report VG2019-4A

John G. Van Hoesen
May, 2019

- E911 Site
- Field Site
- ⊖ Glacial Erratic
- ⊖ Mass Wasting

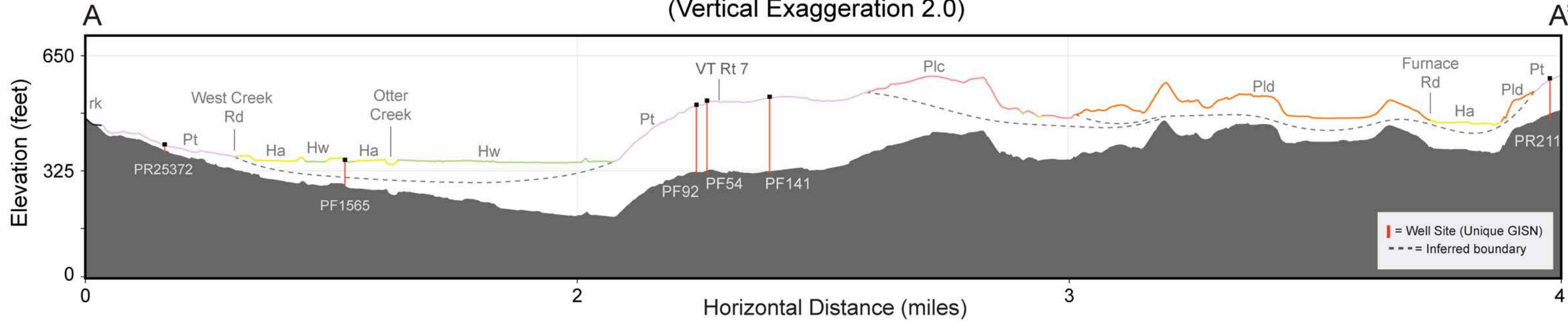
**Vermont Geological Survey
VG2019-4, Plate 1**
Contours: 50 feet
Grid Overlay: UTM Zone 18N, NAD 83
Basemap Source: VCGI (derived from 0.7m LIDAR)
Coordinate System: Vermont State Plane, FIPS4400, NAD83



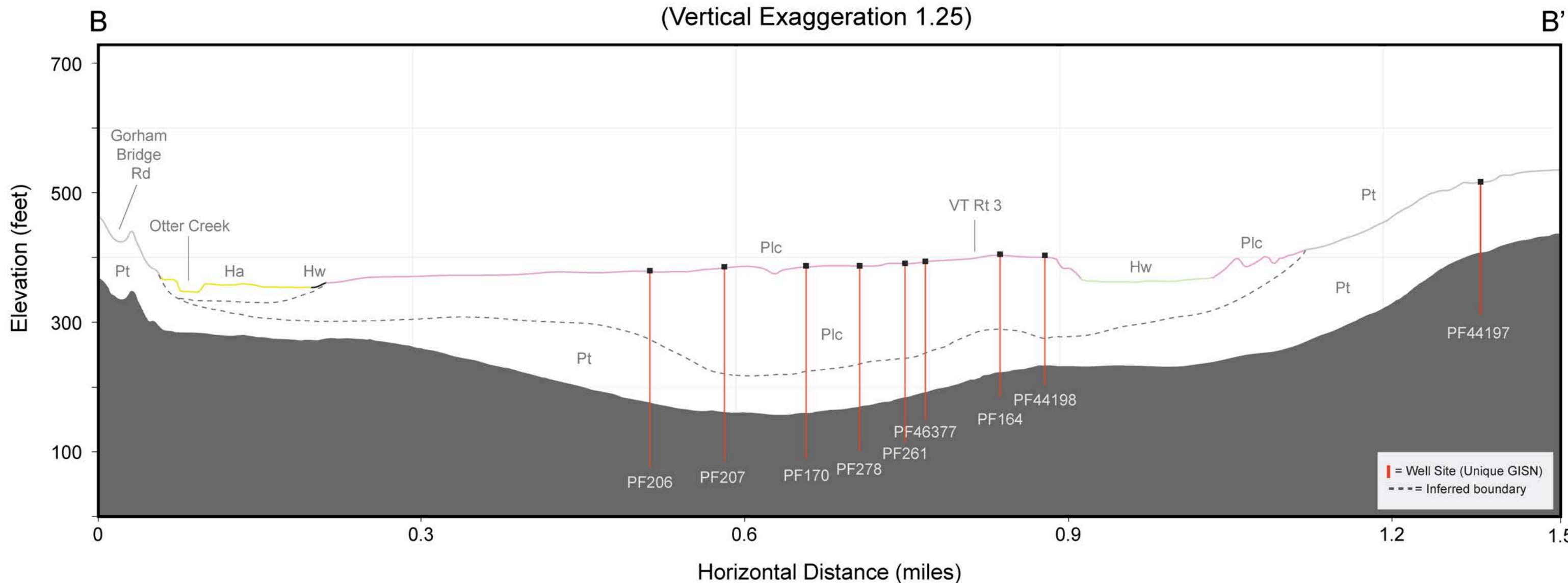
14 1/2°
TRUE NORTH
MAGNETIC NORTH
APPROXIMATE MEAN
DECLINATION, 2019



Cross-Section A-A' (Vertical Exaggeration 2.0)



Cross-Section B-B' (Vertical Exaggeration 1.25)



Description of Map Units

Holocene

- af** Artificial Fill
Artificially-emplaced material along road beds, embankments, and in developed areas. Material varies from natural sand, gravel, or till to various artificial waste materials. Thickness varies.
- Ha** Alluvium
Silt, sand, and gravel deposited by modern streams. Includes stream channel, bar, and floodplain deposits. Thickness in tributary valley is typically less than 3 meters but thicker deposits fill the Castleton and Otter Creek Valleys.
- Hw** Wetland Deposits
Accumulations of organic matter and/or clastic sediment in low-lying areas. Includes a variety of wetland types. Commonly overlying other deposits such as alluvium, lacustrine sediment, or till. Especially common in Castleton and Otter Creek Valleys.
- Hc** Colluvium
Fans or aprons of slope-wash sediment that have accumulated at the base of steep slope segments. Thickness is highly variable, although usually less than 3 meters.
- Hat** Alluvial Terrace Deposits
Silt, sand, and gravel deposited on terraces above the modern floodplains of the Castleton and Otter Creek Rivers. They are composed of a variety of channel, bar, and floodplain deposits. Generally less than 5 meters thick.
- Haf** Alluvial Fan Deposits
Boulder, pebble, and cobble gravel and pebbly sand deposited at sites where steep stream gradients are sharply reduced. Common at the mouths of steep tributaries where they meet the main stream. Commonly less than 5 meters thick.

Pleistocene

- Pic** Ice-Contact Deposit, Undifferentiated
Unsorted to poorly-sorted stratified sand, gravel, and silt deposited in contact with glacial ice. Surface may contain scattered kettle holes formed by melting of buried ice blocks or be highly complex kame and kettle.
- Pik** Kame Terrace Deposits
Composed primarily of stratified sand and gravel, deposited between an ice-sheet and the adjacent side of the valley. Sediment is derived primarily from meltwater, with variable contributions from the valley sides. May include subaqueous grain flows and debris flows. Materials may be some combination of lacustrine and fluvial deposits.
- Plc** Lacustrine Deposits, Coarse-Grained
Well-sorted sand, pebbly sand, and/or gravel deposited in shoreline, shallow water, or lake bottom environments of a glacial lake. They are most extensive in the Otter Creek Valley.
- Pls** Lacustrine Deposits, Shoreline
Rare exposures of well-sorted fine to coarse sand, pebbly sand, pebble gravel, or cobble gravel deposited in beach or nearshore environments.
- Pld** Lacustrine Deposits, Delta
Well-sorted sand and rare gravel deposited in a glacial lake at the mouth of Furnace Brook.
- Pt** Till
Very dense to loose, unsorted to very poorly sorted material deposited directly from glacial ice. Contains a wide range of grain sizes, from clay or silt up to large boulders. Matrix commonly dominated by the silt or sand fraction. Surface boulders are generally common. Thickness is highly variable, from less than 3 meters to greater than 30 meters. The thickest deposits occur along the east-central slopes of the quadrangle.
- rk** Bedrock
Areas of extensive bedrock exposures.



Extensive deposits of lake silts and sand underlying fields along Florence Creek Road, Pittsford.



Characteristic and common lobate topography, associated with lake sediments, that occurs throughout Otter Creek Valley.



Recently excavated coarse sand associated with small delta, located on Plains Road, Pittsford.



Close-up of historical stream terrace along Sugar Hollow Road, Pittsford.



Rock walls comprised of rounded cobbles and boulders derived from kame terrace deposits. Common along the northern extent of Sugar Hollow Road.



Borrow pit exposed in lacustrine lake sand deposits off Kendall Hill Road, Pittsford.



Exposure of laterally extensive lake sand exposed along Corn Hill Road.



View of a lobate tongue of coarse sand exposed along VT State Route 3 (north of Deerfield Acres).



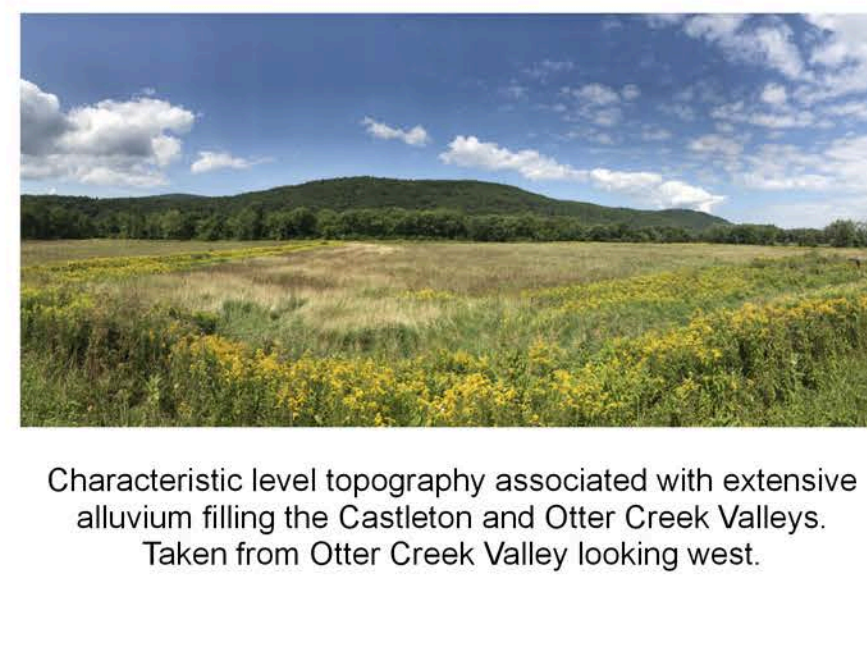
Characteristic streamlined topography of regions mantled with thick glacial till on the slopes of Grandpa's Knob.



Isolated exposure of well-sorted lacustrine shoreline deposits near Williams Street in Proctor, VT.



Glacial erratic (~1-m across) of granite found adjacent to rock wall in Pittsford.



Characteristic level topography associated with extensive alluvium filling the Castleton and Otter Creek Valleys. Taken from Otter Creek Valley looking west.

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