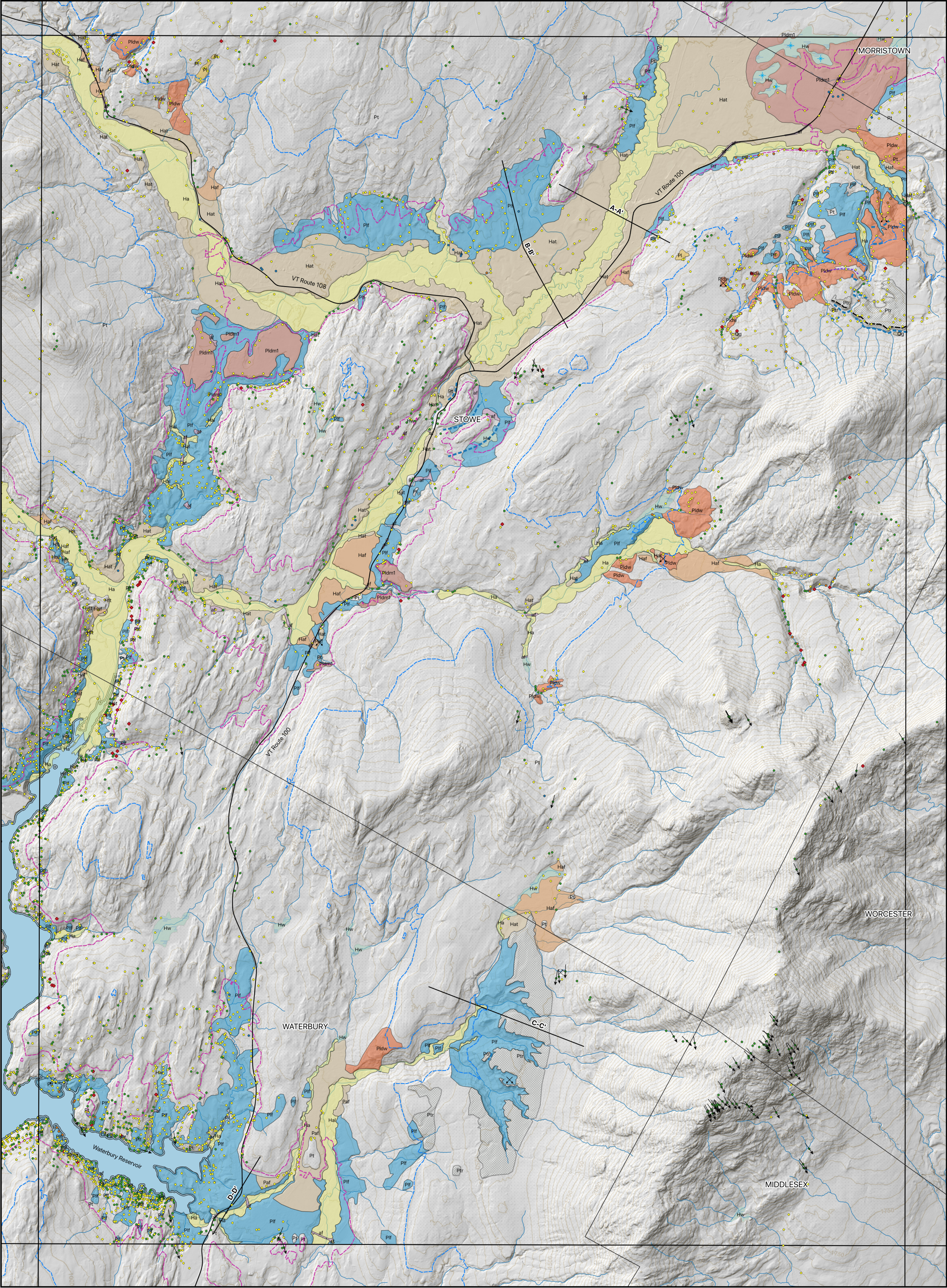


Surficial Geologic Map of the Stowe 7.5-Minute Quadrangle, Vermont

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2020



EXPLANATION OF MAP UNITS

Holocene Deposits

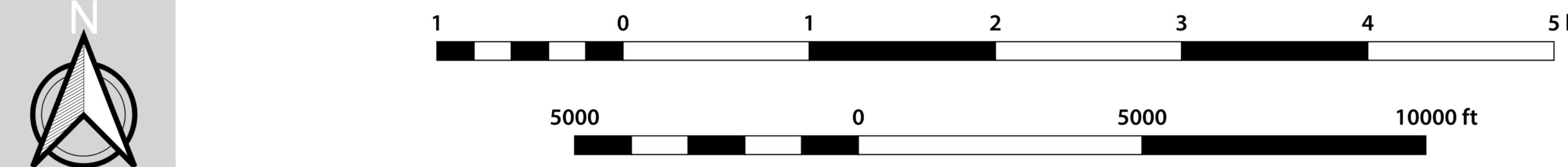
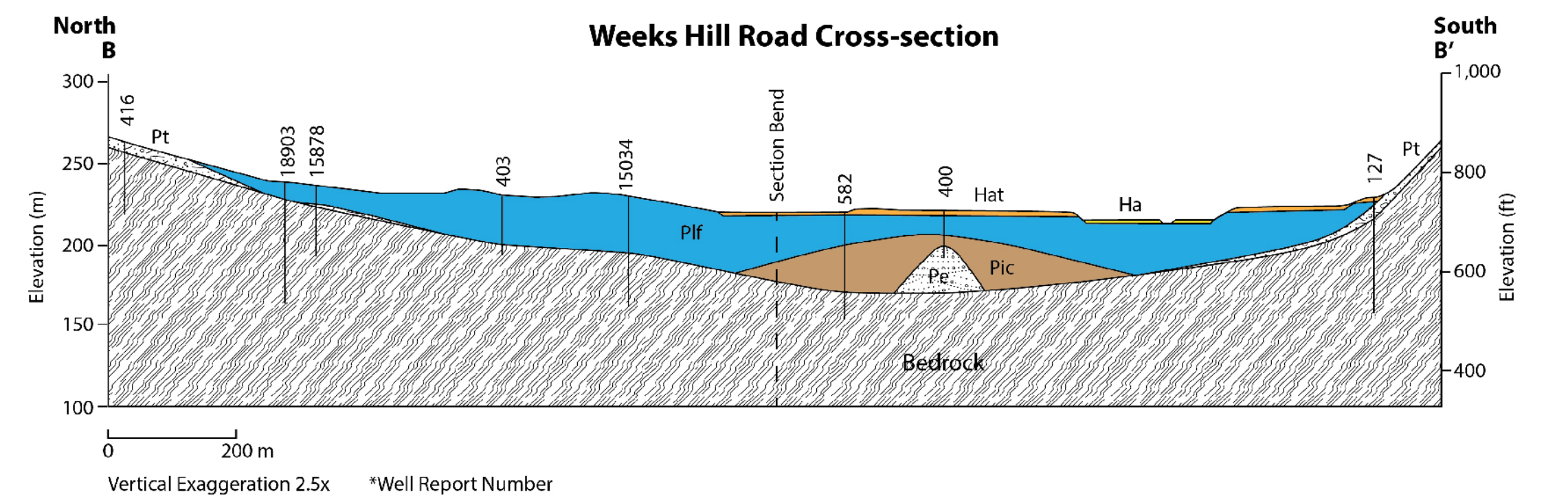
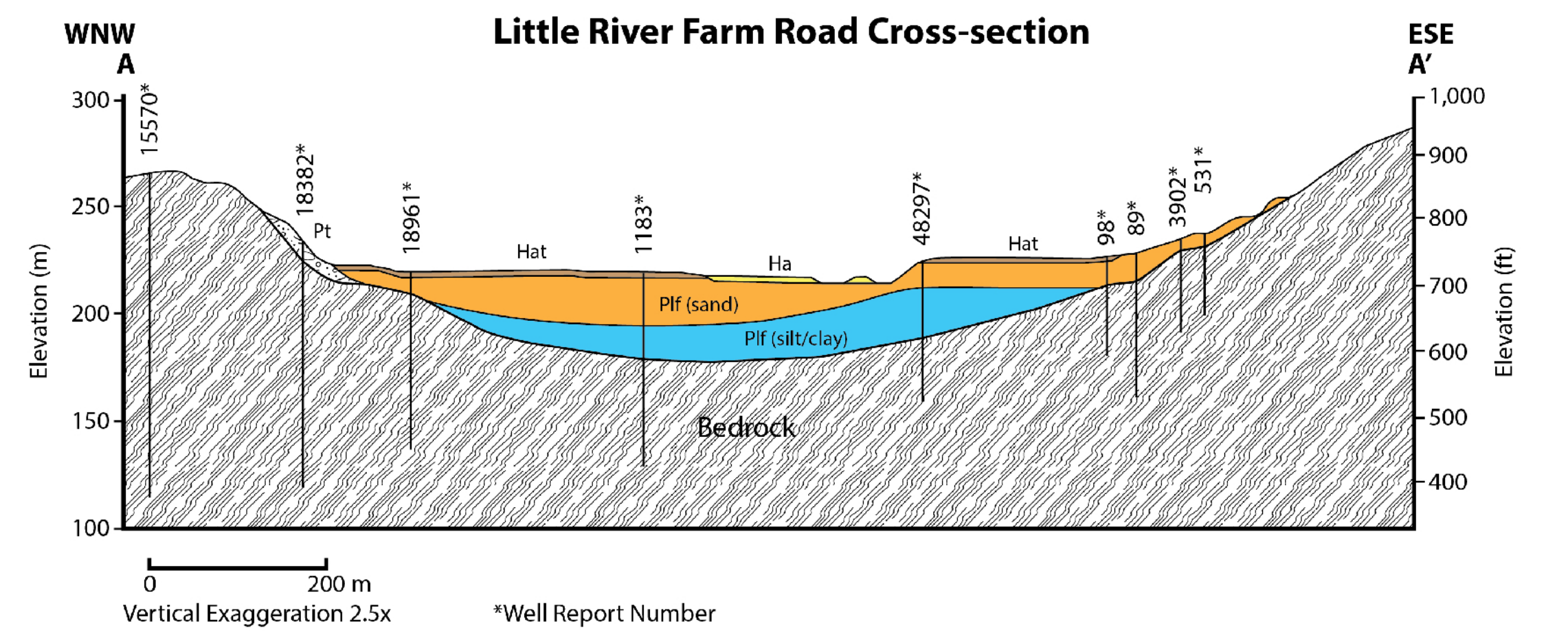
- af Artificial Fill: Artificially-emplaced material along road beds, embankments and in developed areas. Material varies from natural sand, gravel, or till to various artificial waste materials. Thickness varies.
- Hw Wetland Deposits: Accumulations of organic matter and/or clastic sediment in low-lying areas. Includes a wide variety of wetland types. Commonly overlying other deposits such as alluvium, lacustrine sediment, or till. Larger deposits are shown.
- Ha Alluvium: Silt, sand, and gravel deposited by modern streams. Includes stream channel, bar, and floodplain deposits. Wetland deposits are common within these areas and are not distinguished. Thickness in tributary valleys is typically less than 3 meters, although the depth may be much greater in the valleys of the larger streams.
- Hat Alluvial Terrace Deposits: Silt, sand, and gravel deposited on terraces above the modern floodplains of streams. They are composed of a variety of channel, bar, and floodplain deposits. Generally less than 5 meters thick.
- Haf Alluvial Fan: 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 Deposits

- Paf Pleistocene Alluvial Fan: Similar to above, but deposited during the late Pleistocene when streams incised into recently abandoned deltas.
- Pif Lacustrine Sediments (Fine-grained): Clay, silt, and very fine to fine sand deposited in deeper waters. Commonly laminated. Deposited in distal lake bottom environment of a proglacial lake.
- Pldm1 Glacial Lake Mansfield 1 Delta: Well-sorted sand and gravel deposited in a glacial lake at the mouth of a tributary stream. Includes topset, and foreset beds. May also include proximal bottomset beds if exposures permit. Although foresets are commonly steep, delta foresets in shoaling lakes may have considerably lower dips.
- Pldw Glacial Lake Winooski Delta: Well-sorted sand and gravel deposited in a glacial lake at the mouth of a tributary stream. Includes topset, and foreset beds. May also include proximal bottomset beds if exposures permit. Although foresets are commonly steep, delta foresets in shoaling lakes may have considerably lower dips.
- Pl Lacustrine Deposits, Undifferentiated: Coarse- to fine-grained sediment deposited in a proglacial lake.
- Qg Sand and Gravel, Undifferentiated: Encompasses a wide variety of coarse-grained surficial materials in cases where information is inadequate to determine age and environment of deposition.
- Ptr Readvance Till: Extremely poorly sorted, moderately dense, silt-matrix diamict with abundant clasts ranging in size up to 2 m in diameter. Occurs above lacustrine deposits at ~365 m in the Thatcher Brook valley. Commonly <3 m thick. See Springston and Dunn, 2006.
- Pt Glacial 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.

Map Symbols

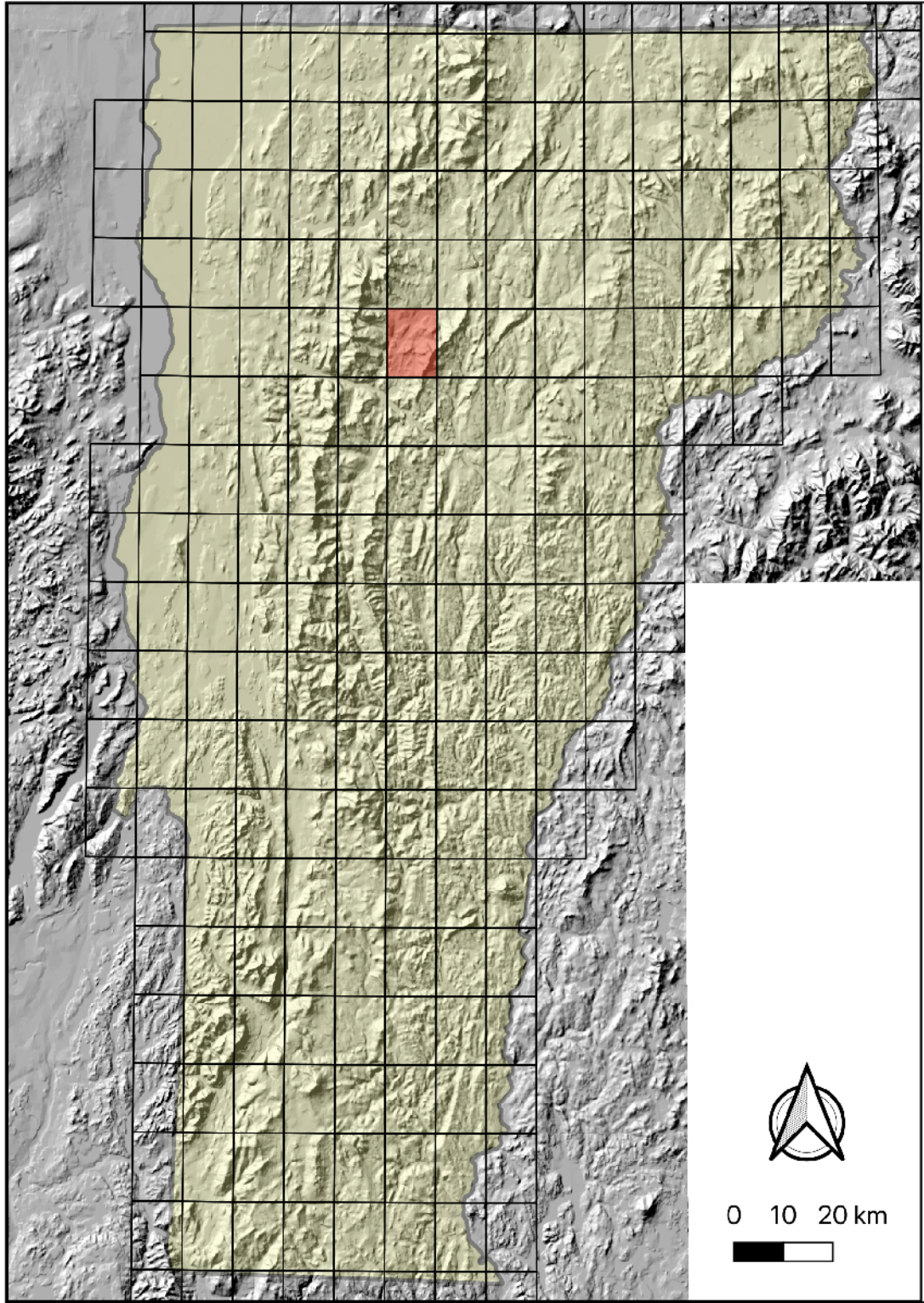
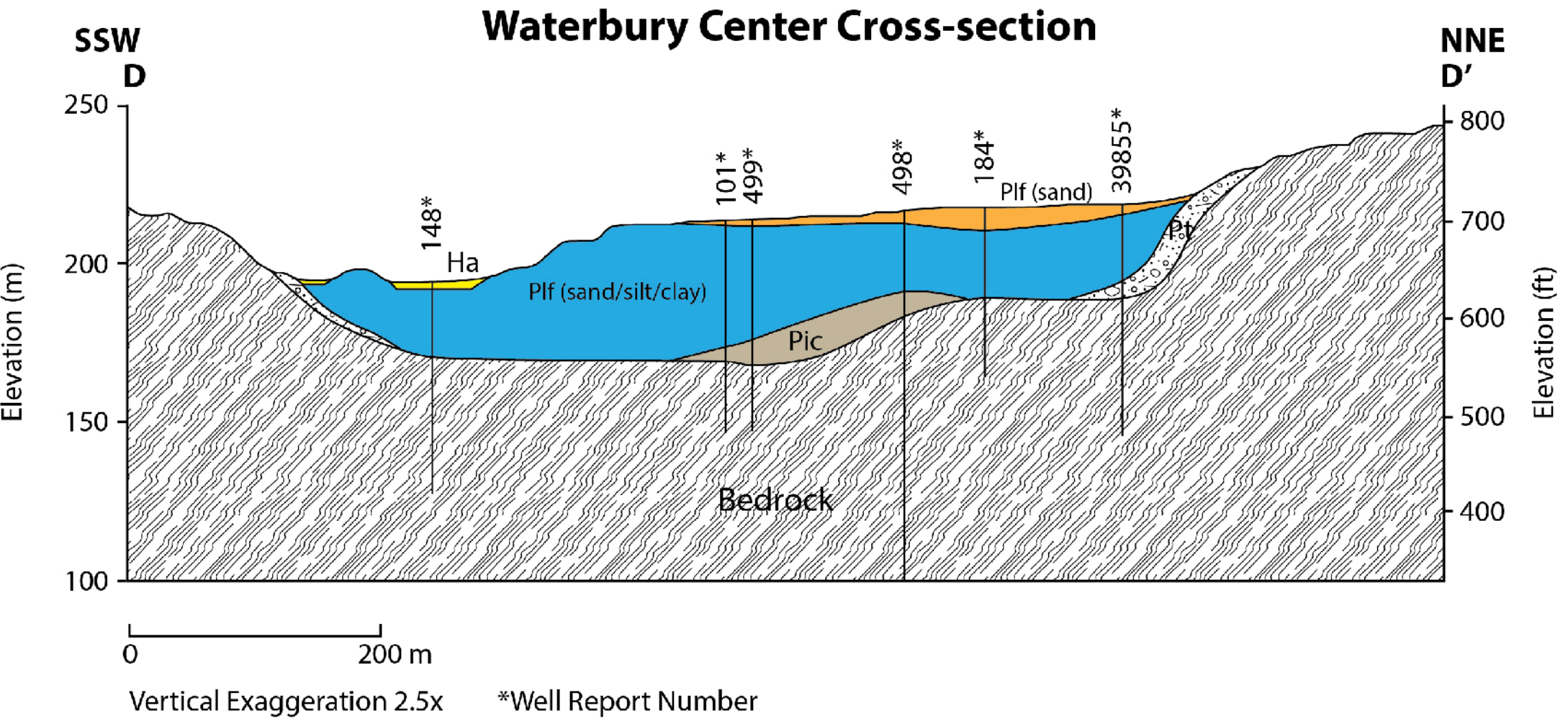
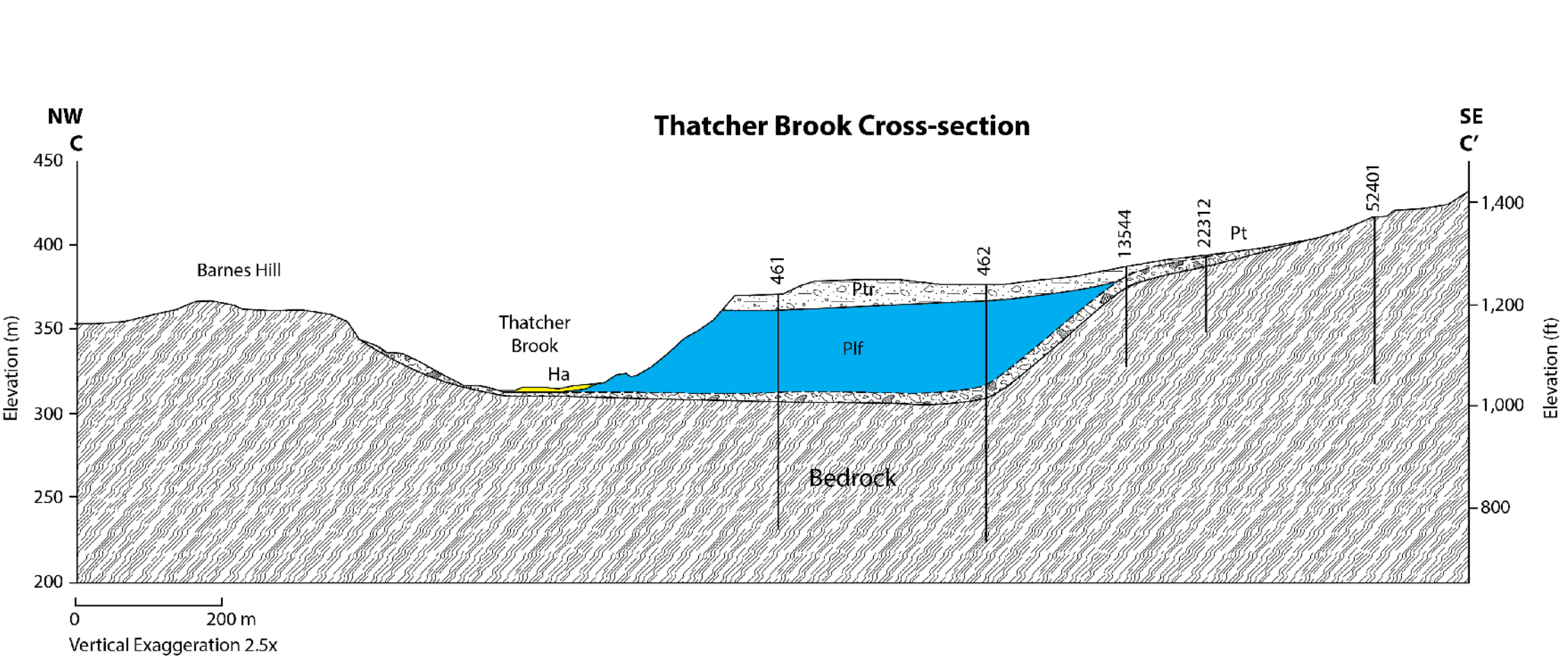
- Surficial Material or Landform Observation Site
- Bedrock Outcrops
- Water Well
- Glacial Striations: Arrow points in inferred down-glacier direction.
- Large (>4 m diameter) Erratic
- Landslide (small)
- Kettles
- Landslide (large)
- Gravel Pit
- Rock Quarry
- Abandoned Channel
- Projected Elevation of Glacial Lake Mansfield 1
- Glacial Lake Winooski Shoreline Bench
- Projected Elevation of Glacial Lake Winooski
- Moraine Ridge
- Geologic Cross-sections
- Geologic Contact: Approximate location of surface separating different types of surficial geological materials.

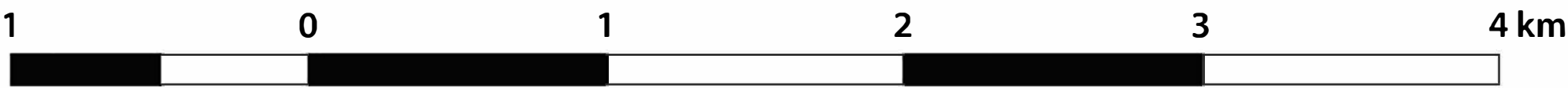
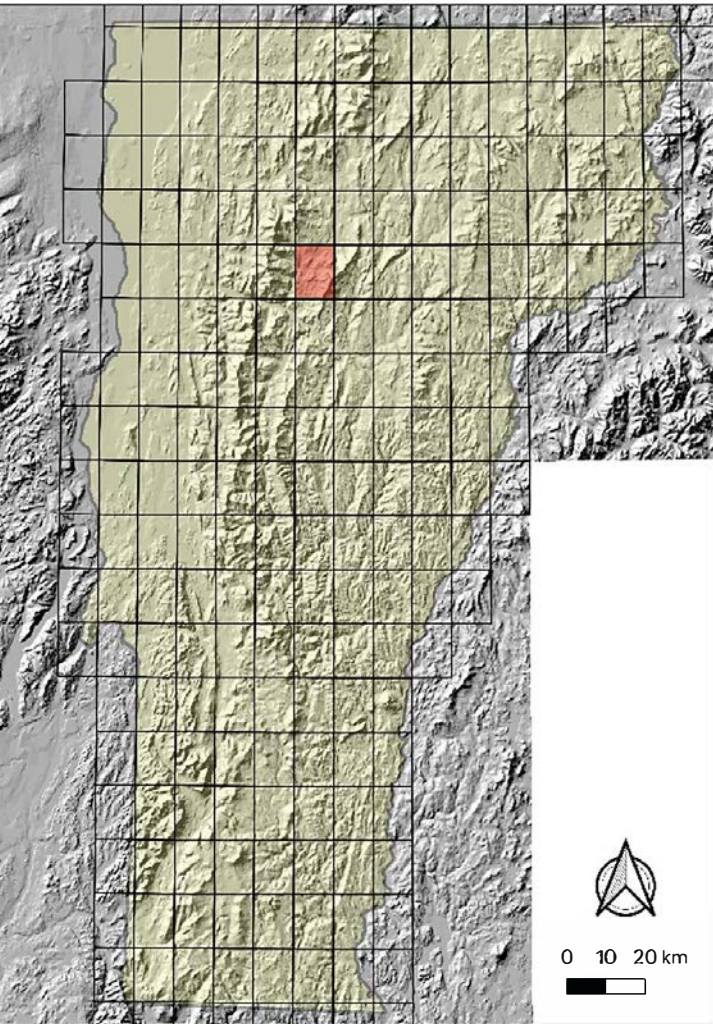
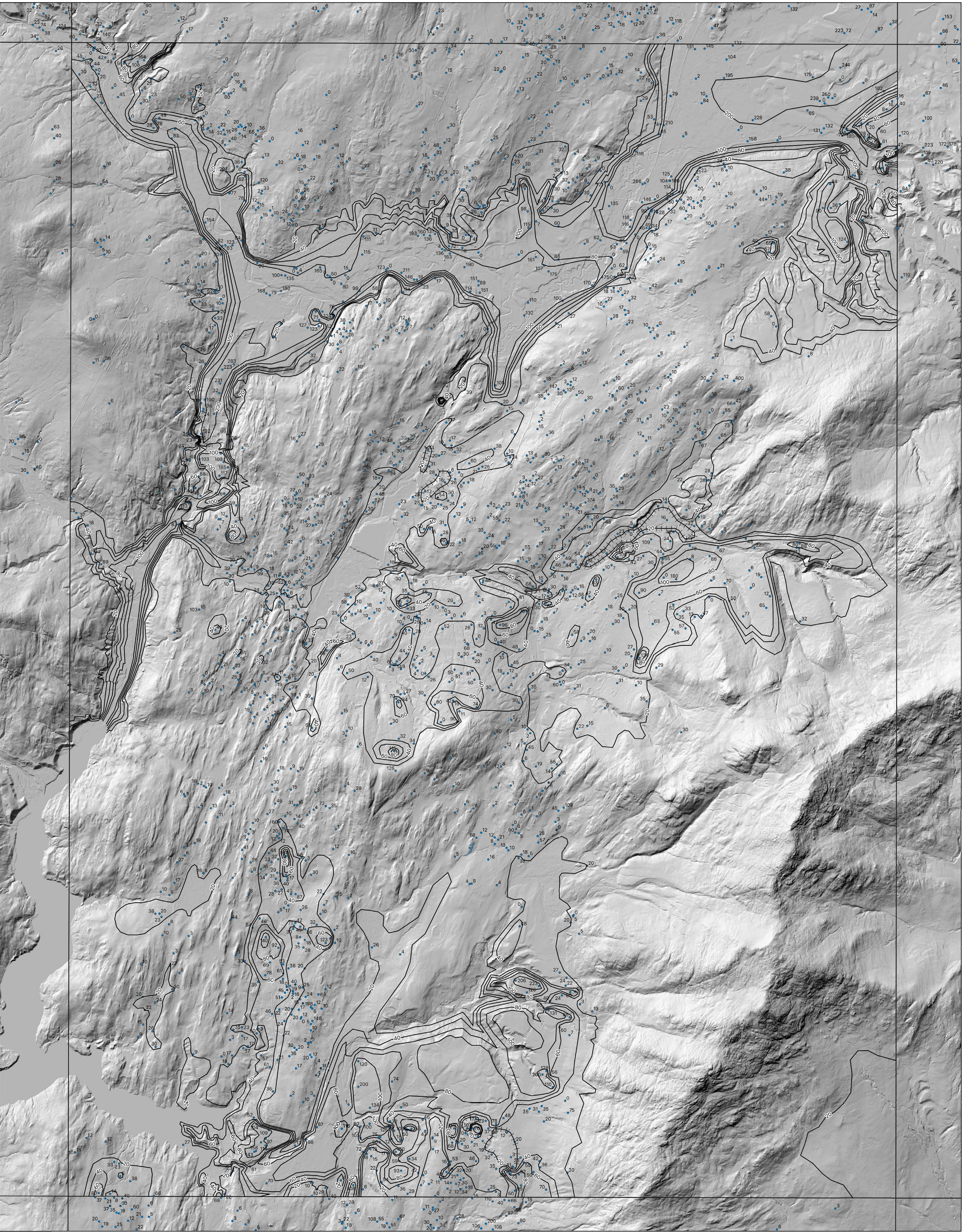


Field Assistants: Corey Beutel, Caleb Bogin,
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Mapping in Thatcher Brook Drainage
modified from Springston and Dunn, 2006.

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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 U. S. Government.

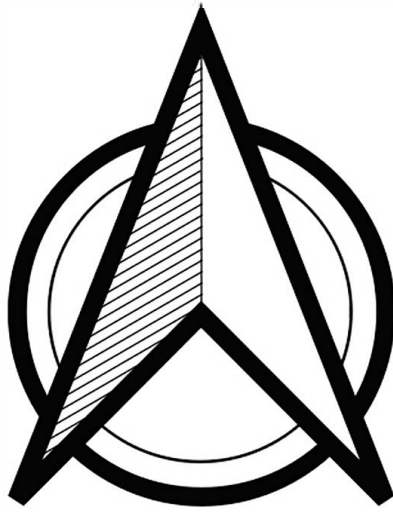




VG200-1: Isopach Map of Surficial Materials Stowe 7.5-Minute Quadrangle

Explanation of Map Symbols

- Contours of Surficial Materials Thickness (20 ft contours for areas with thickness <100 ft)
- |||| Depression Contours
- Domestic Water Wells (Number denotes "overburden" thickness)
- Field Sites
- Bedrock Outcrops



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VG2020-1: Bedrock Hydrogeologic Map Units

Stowe, Vermont 7.5-Minute Quadrangle

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Explanation of Map Units

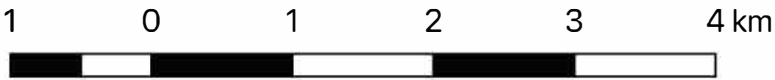
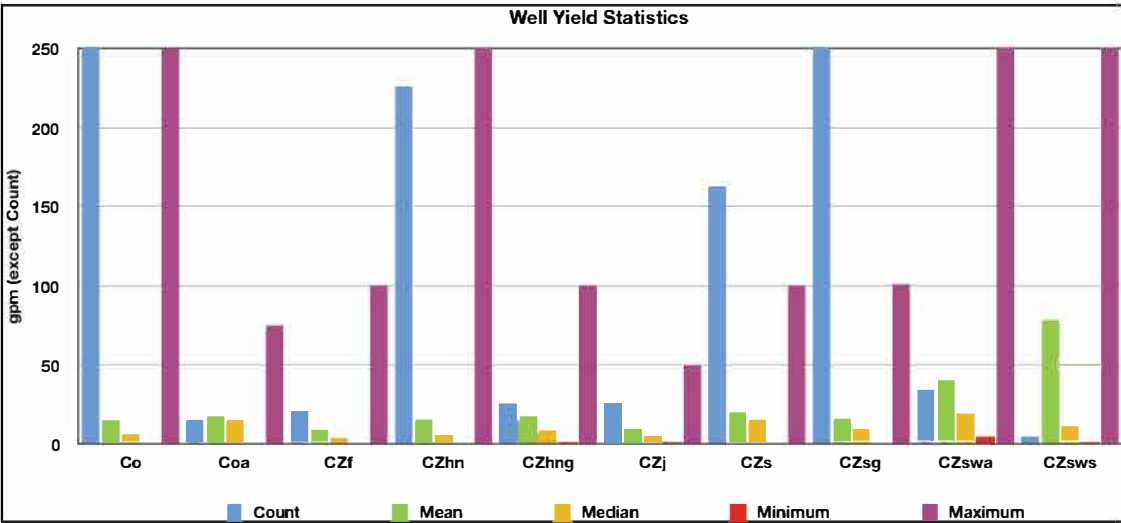
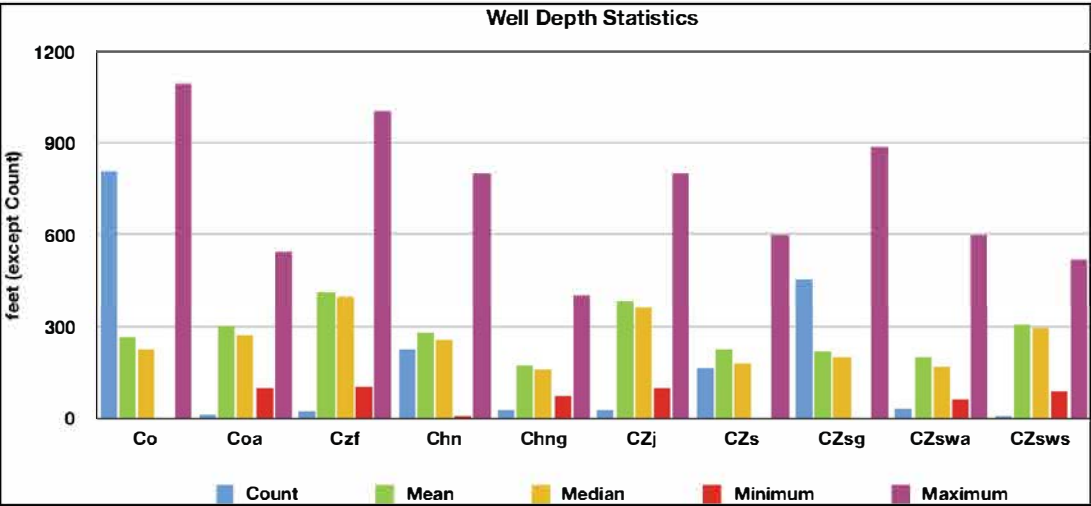
Domestic Water Wells

- <1 gpm
- 1-5 gpm
- 5-10 gpm
- 10-25 gpm
- >25 gpm

Bedrock Geologic Units

- Co: Ottawaquechee Formation
- Coa: Ottawaquechee Formation (amphibolite member)
- CZf: Fayston Formation
- CZhn: Hazens Notch Formation
- CZhng: Hazens Notch Formation (greenstone member)

- CZj: Jay Peak Formation
- CZs: Stowe Formation
- CZsg: Stowe Formation (greenstone member)
- CZswa: Stowe Formation (amphibolite member)
- CZsws: Stowe Formation (kyanite schist member)



VG2020-1: Recharge Potential of Surficial Materials Stowe 7.5-Minute Quadrangle, Vermont

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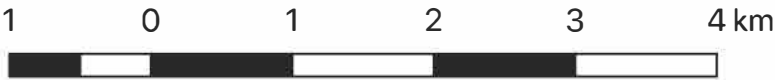
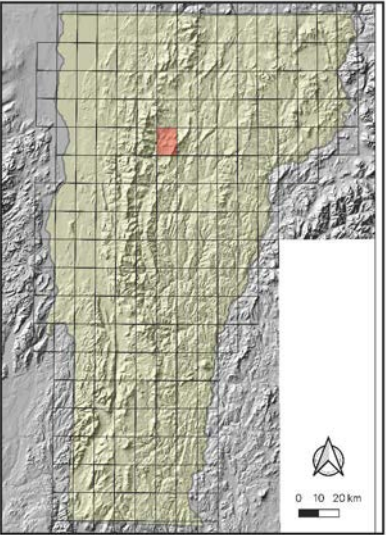
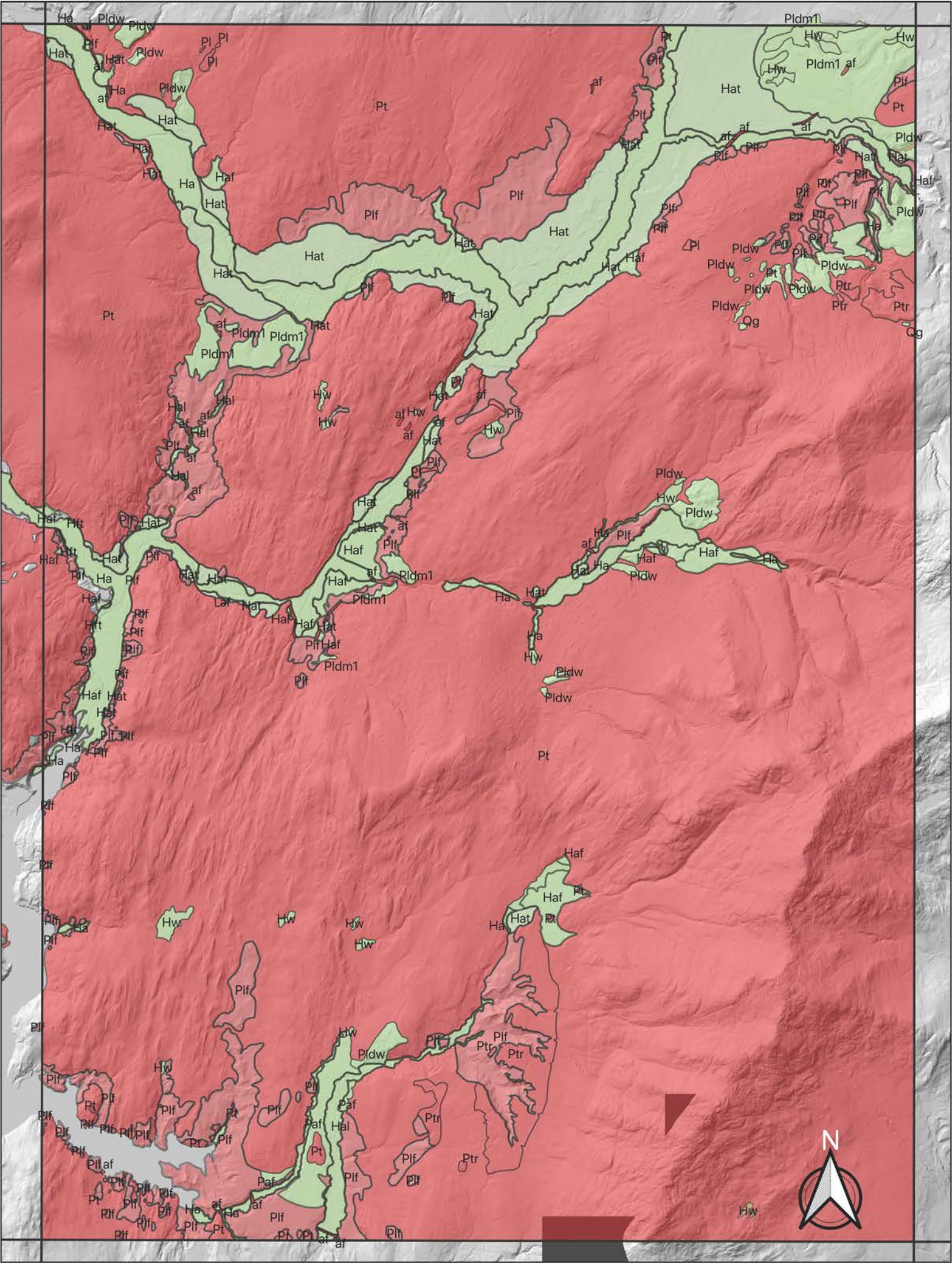
Explanation to Map Units

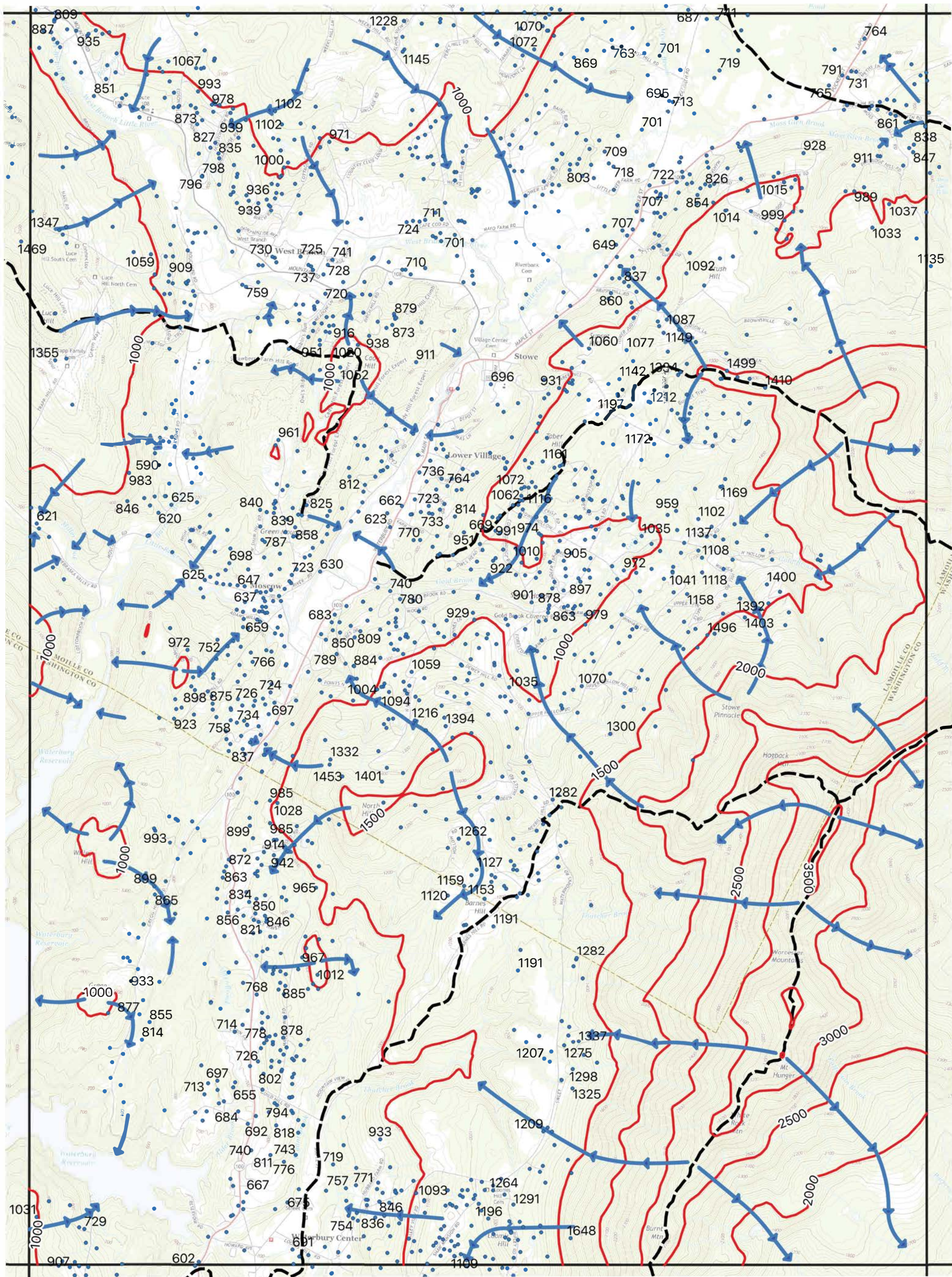
High Recharge Potential: Surficial Materials with High Porosity and Permeability

- Hw Wetlands
- Ha Alluvium
- Hat Alluvial Terrace Deposits
- Haf Alluvial Fan
- Paf Pleistocene Alluvial Fan
- Pldm1 Glacial Lake Mansfield 1 Delta
- Pldw Glacial Lake Winooski Delta
- Qg Sand and Gravel, Undifferentiated

Low Recharge Potential: Surficial Materials with Low Permeability

- af Artificial Fill
- Plf Lacustrine Sediments (Fine)
- Pl Lacustrine Deposits, Undifferentiated
- Ptr Readvance Till
- Pt Glacial Till





**VG2020-1: Potentiometric Surface Contours and Flow Lines
Stowe 7.5-Minute Quadrangle, Vermont**

Explanation to Map Symbols

- Domestic Water Well: Static Water Table Elevation given where available.
- Potentiometric Surface Contour: Elevations given in feet.
- ➔ Generalized Groundwater Flow Line
- - - Watershed Boundary (Drainage Divide)



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