Surficial Geologic Map of the Joe's Pond 7.5 Minute Quadrangle, Vermont

Vermont Geological Survey Open-File Report VG2017-6

By
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2017

Scale = 1:24,000

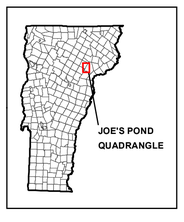
Contour Interval = 20 feet

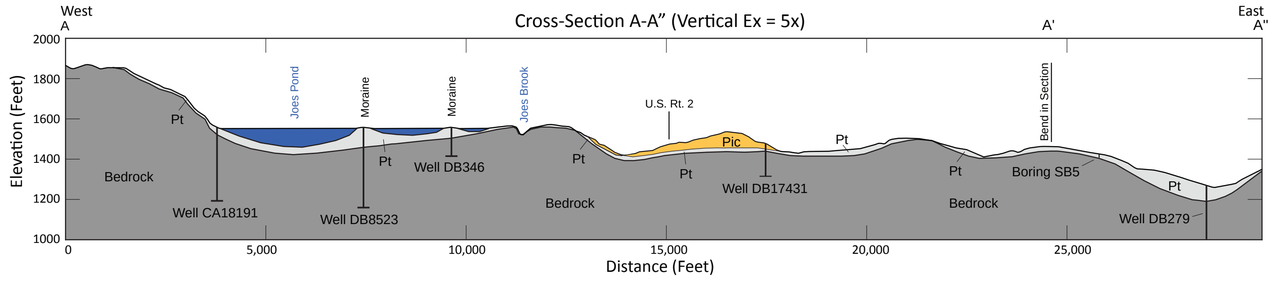
0 0.5 1 Kilometers

0 0.25 0.5 1 Miles

Coordinate System: Vermont State Plane, FIPS 4400, NAD83
Grid Overlay: UTM Zone 18N, NAD 1983
Basemap data from VCGI.
Elevation data derived from USGS NED 10m DEM.

Approximate Mean Declination, 2017
14.5° Magnetic North — True North





Description of Map Units

Holocene

ar — Artificial Fill.
Artificially-emplaced earth along road beds, embankments and in low-lying areas.

Hal — Alluvium.
Silt, sand, and gravel deposited by modern streams. Deposits include stream channel and bar deposits and finer-grained floodplain deposits. 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 Joes Brook valley.

Hw — Wetland Deposit.
Accumulations of clastic sediment and/or organic matter. Commonly includes areas of alluvium and commonly overlaying till. Only a few of the larger deposits are shown. The areas shown as wetland deposits at the north end of Joes Pond are a complex mosaic of alluvium and wetland peat or muck deposits. Thickness in the smaller wetlands is generally less than one meter, but the deposits at the north end of Joes Pond are probably considerably greater.

Hpm — Wetland Deposit, Peat or Muck.
Thick accumulation of organic matter with minor clastic sediment. Commonly overlaying other sediments such as alluvium, lacustrine deposits, or till. Thickness of organic horizon ranges from 0.3 meter to greater than one meter.

Hst — Stream Terrace Deposit.
Silt, sand, pebble, cobble, and boulder gravel deposited on terraces above the modern floodplains of streams. They represent former floodplains that have been dissected by younger streams.

Pleistocene

Pic — Ice-contact Deposits.
Unsorted to poorly-sorted sand, gravel, and silt deposited in contact with glacial ice. Deformation features are common.

Pick — Ice-contact Deposits, Kames.
Descriptions as in the preceding unit. Isolated small hills of sand, silt, and gravel interpreted to have been deposited in depressions in glacial ice. Encountered at one location in the northeastern portion of the quadrangle between Morrill Brook and Pope Brook.

Pt — Till.
Dense to very dense, unsorted to very poorly sorted, fine-sandy-silt to silt matrix till. Munsell color of relatively unweathered samples is commonly 5Y3/1 to 5Y3/2, but deep, unweathered samples range from N3/0 to N4/0. Surface boulders are common. Thickness of the till is highly variable, from less than 3 meters to greater than 30 meters. Includes small areas of talus (fans or aprons of fallen rock at the bases of cliffs) and colluvium (slope-wash deposits on the lower portions of slopes). Exposures of fine-sand- to medium-fine-sand matrix till were encountered, mostly in the south-central portion of the quadrangle to the southeast of Joes Pond, in the vicinity of Keiser Pond and Harvey Hollow. There, the sandy till is moderately loose and reddish brown (10YR3/2). Individual exposures of the sandy till are shown by green symbols.

Ptth — Till, Thick.
Description as for the finer-grained parts of the preceding unit. Distinguished from preceding by anomalous thickness (commonly exceeding 30 meters). Found in the northeastern portion of the quadrangle on the east flank of the Kittredge Hills and in the southwestern portion of the quadrangle to the southwest of Mollys Pond.

Description of Map Symbols

○	Field Stations	K	Kettle Hole	·	E911 Site Locations
○	Till Geochemistry Sites	⚒	Quarry	⊢	Cross-Section Line
○	Sandy-Matrix Till	⛏	Sand & Gravel Pit	▭	Study Area
○	Bedrock Outcrops	▪	Sand/Gravel Resources	▭	Town Boundary
●	Water Wells	↑	Striations	—	State/Town Roads
■	Borings	▬	Meltwater Channel	- - -	Trails
♦	Erratics	▬	Moraine	▲	Summits (Elevation)

View of rolling hills of the Sawyer Brook valley in south-central part of study area. Taken from Barber Farm on Deweysburg Road looking northeast.

Glacial striations on phyllite outcrop. Compass and pencil parallel to striations oriented 159°. In northwest of study area on Old Duke Road, Station JP866.

Ice-contact sediments from kame deposit. Medium sand overlying find sand and silt showing soft-sediment deformation. From Pierce's Pit, located south of Morrill Road at Station SJ95.

Exposure of dense silt till in landslide on Morrill Brook, Station JP602.

Closeup of freshly eroded dense silt till at Station JP602.

Deeply weathered silt till at Site JP1, southwest of Keiser Pond. Weathered clasts of phyllite and sandy marble are easily scraped with a trowel.

Thank you to many volunteers and landowners who allowed access to their property. Mapped area aligns with Joe's Pond 7.5-Minute Quadrangle based on the North American Datum of 1927. Blue quadrangle boundaries are derived from North American Datum of 1983. Additional Bedrock Outcrops derived from the Vermont Geological Survey "Bedrock Outcrops" Layer hosted by Vermont Center For Geographic Information.

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