The spring(s), on property owned by Daniel Antonovich, sits on the thinly-bedded carbonate member of the Shaw Mountain Formation. This unit is greyish-green phyllite and phyllitic granofels that are interlayered with gray to dark gray phyllites. This unit is overlain by medium-coarse grained biotite granite composed of K feldspar, plagioclase feldspar, quartz, and biotite +/- muscovite, garnet.

The groundwater from seven bedrock wells was tested for the following constituents of concern that may affect human health: Gross Alpha (naturally-occurring radioactivity), Arsenic (As), and Bicarbonate (HCO₃⁻). The results of the testing are presented in Table 1.

For the wells tested, the concentration of Gross Alpha was below the detection limit for all samples. Arsenic concentrations were all below the EPA MCL of 10 ppb. Bicarbonate concentrations ranged from 131 to 420 mg/L.

Many of the high-yielding (>20 gpm) bedrock and surficial wells (orange and red symbols) in the southeastern part of East Montpelier are found in the Ordovician rocks, which have lower average yields compared to the Silurian-Devonian formations (DSn, DSw1, DSw2, DSwt). The average depth for a well completed in Ordovician rock formations (OCm) is 20% greater than a well completed in Silurian-Devonian rock formations (DSn, DSw1, DSw2, DSwt = SDall).

The average yield for all wells in the town is 20.8 gpm. The yields range from 0.45 to 3.6 gpm.

The Surficial Geology, East Montpelier, 1:24,000 scale map (Figure 5) shows the locations of the bedrock and surficial wells. The Surficial Geology, East Montpelier, 1:24,000 map (Figure 6) shows the potentiometric conditions in the town.

The groundwater recharge in the town is dominated by the pulse of groundwater derived from early spring rains and snowmelt. The groundwater discharge is dominated by the water use and evapotranspiration processes. The groundwater flow is directed towards the North Branch in the NW quarter of town and toward the Winooski River and tributaries in the SE three-quarters of town.