

The favorability map and recharge potential are both dependent on the type of materials. The potential favorability for higher yield from surficial aquifers is based on a qualitative interpretation of well log stratigraphy in 30 surficial wells and 139 bedrock wells with overburden greater than 40 feet. The rankings are preliminary.

The hydrogeologic classification is based almost entirely on the coarseness of the surficial materials, with the assumption that groundwater will be able to flow more easily through coarser materials than through finer ones. Potential aquifers that have finer-grained materials overlying coarser-grained ones are separated out as the finer-grained and probably less-permeable upper unit may provide protection from direct infiltration of surface waters.

Relatively thin, coarse-grained surface horizons that are less than 20 feet thick are ignored in this classification as they are unlikely to be a significant aquifer or provide as much protection to the underlying materials.

Legend

Favorable Surficial Materials in Surficial Wells (yield listed in GPM)

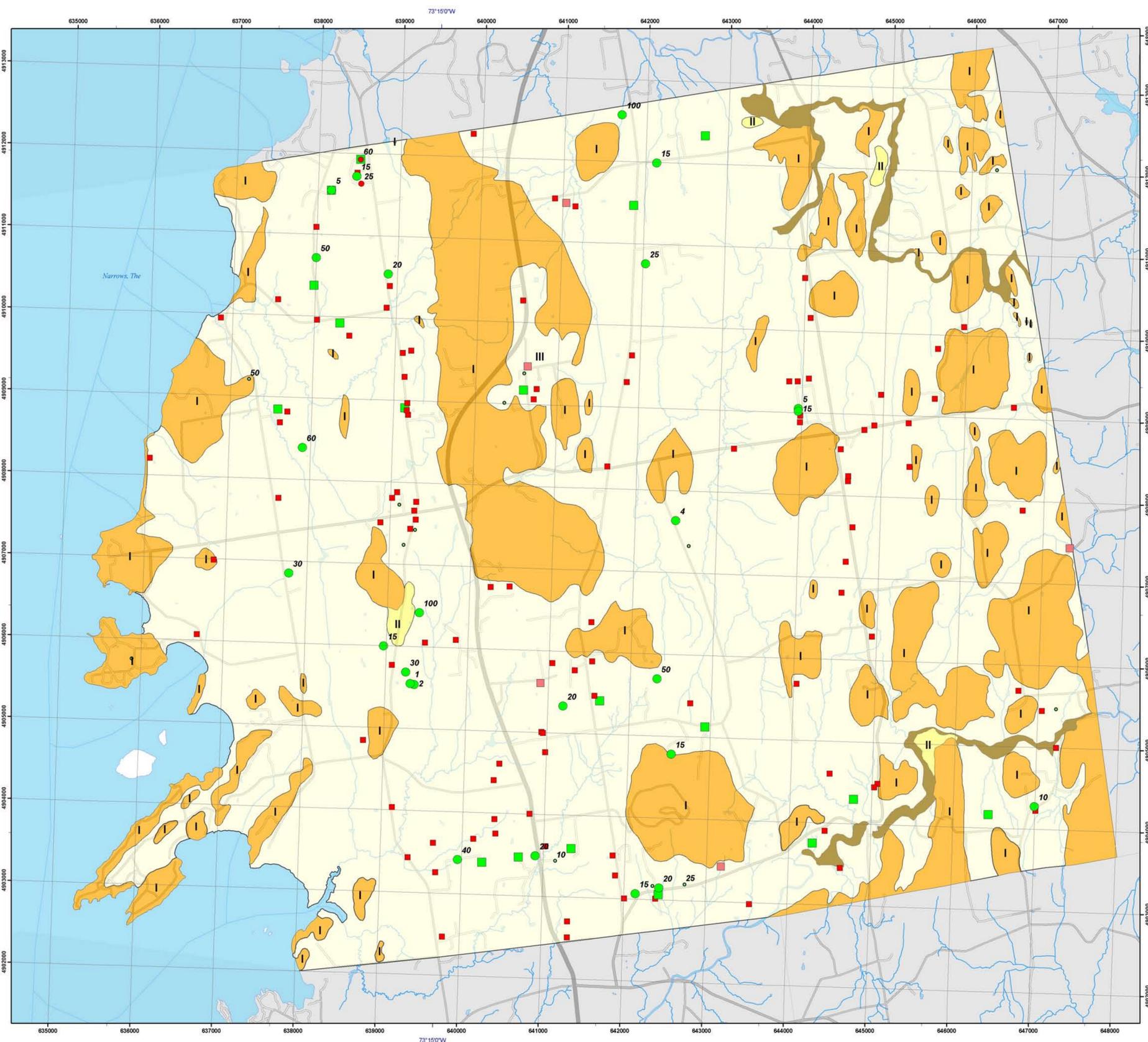
- High Favorability -coarser grained, more permeable materials either interlayered or at the base of the section
- Low Favorability - fine grained stratified material or silt- to clay - matrix till or thin (<20') surficial deposit
- Unknown

Favorable Surficial Materials in Bedrock Wells

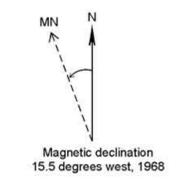
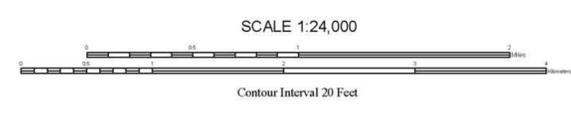
- High Favorability - coarser grained, more permeable materials either interlayered or at the base of the section
- Moderate to High Favorability - thick (>20') section of coarse grained stratified deposits or thick coarse grained stratified materials over fine grained stratified materials or till
- Low Favorability - fine grained stratified material or silt- to clay - matrix till or thin (<20') surficial deposit
- Unknown

Recharge Potential to Surficial Aquifers

- I Moderate recharge potential: Primarily located in areas of thin till and exposed bedrock outcrops. Sediment does not impede the infiltration of water into the underlying bedrock. Clay (Unit III) blankets most of the town and impedes the infiltration of water into bedrock and into gravels which may occur below the thin to thick clay. Recharge to the underlying gravels is, therefore, likely coming from the upland areas and/or near the interface of the Units I and III.
- II Low recharge potential: Characterized by unconsolidated sediment with some permeability which could allow water to infiltrate into underlying sediment.
- III Lower recharge potential: characterized by thin to thick deposits of impermeable unconsolidated sediment such as clay, silt and/or thick clay-rich till overlying the bedrock. The material tends to impede recharge of surficial aquifers below.
- Areas where groundwater discharges to the surface. These are low areas near streams and are largely underlain by alluvium. Groundwater discharge is also common along most streams and along pond margins.
- Waterbody
- Road
- ▭ Town Boundary



Base map from U.S. Geological Survey.
 Quadrangle names printed in blue.
 Geographic System: Vermont State Plane, meters, NAD 83.
 Geographic coordinates shown at topo corners are in NAD 83.
 Grid overlay on map is Universal Transverse Mercator,
 Zone 18N, NAD 27.
 Digital cartography: M. Gale and G. Springston
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FAVORABLE SURFICIAL MATERIALS AND RECHARGE POTENTIAL TO SURFICIAL AQUIFERS, CHARLOTTE, VERMONT

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