

The Uses and Limitations of Ground Penetrating Radar in Understanding Quaternary Till Structures in Northern Vermont

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Abstract

A field study was conducted at multiple sites throughout northern Vermont using ground penetrating radar to examine sediment deposits consisting of sands, gravels, and other Quaternary sedimentary deposits most probably associated with till and fluvial deposits. The investigation consisted of multiple transects through areas in the towns of West Bolton and Waterville Vermont to determine potential uses and limitations of ground penetrating radar in studying the surficial geology of northern Vermont. These transects were performed in various topographical situations such as a lightly vegetated (heavily cleared for use as a golf course) terrace in West Bolton, within a filled bedrock pothole in a former stream channel, and across the sediment filled bedrock channel itself at the Waterville field site. These, and future field sites to be explored throughout the remainder of the winter, will be used to determine whether or not ground penetrating radar is a worthwhile investigative tool for subsurface analysis of sedimentary deposits in fields such as glacial geology and geomorphology in Vermont.