Bedrock Control on Surficial Deposits and Groundwater Issues in Part of the Knox Mountain Granite: NE Vermont

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Abstract

The Knox Mt. granite pluton that intruded the northern half of the Winnoski River valley follows the western margin of the Knox Mt. granite exactly. Slopes in the Knox Mountains show a north-south asymmetry with east-west striking face (south side) of Marshfield Mountain that is parallel both to dominant fracture sets and moraine complexes. The northern half of the Winnoski River valley follows the western margin of the Knox Mt. granite exactly. Glacially scoured topography in central Maine: dunlin, Late Pleistocene history of northeastern New England

Introduction

Groups of closely spaced, naturally occurring, radially oriented, tension fractures in granite are described in central Maine in and near the Greenville plutonic belt and consider these to be similar to Rogen fractures. They also describe similar moraines in areas to the east that are underlain by the same granite (Fair and MacClintock 1970). The authors are not aware that similar moraine complexes have ever been described before in Vermont. However, these do appear to be similar to those described in central Maine. The most easterly moraines of this region are underlain by the M. Devonian Knox Mt. granite pluton that intruded 75% of this region is underlain by the M. Devonian Knox Mt. granite pluton that intruded 190 to 200 million years ago. Bedrock control on the thickness and distribution of surficial deposits. These thick surficial deposits may form localized areas of higher well yields.

Figure 2- Surficial Context

Winooski River

Figure 3- Bedrock Geologic Map

Figure 4- Combined Bedrock and Surficial Maps

Figure 5- Moraine Complexes

Figure 6- Bedrock Control of Moraine Complexes

Figure 7- Truck Surficial Deposits

Figure 8- Naturally-Occurring Radioactivity in Groundwater