Geologic studies in the Moody Creek (84M/02) map area were undertaken to map surficial geology, establish glacial history, and classify materials geotechnically. Surficial geology mapping was completed by Kowalchuk et al. (2006). The stratigraphy is represented by 7 units: 1) advance glaciolacustrine; 2) englacial/subglacial gravels; 3) till; 4) retreat glaciolacustrine; 5) till 6); alluvium; and 7) peat. The Laurentide Ice Sheet advanced over shale bedrock and glaciolacustrine sediments, resulting in clay-silt tills. At glacial maximum, flow was southwestward. During deglaciation flow was westward, and subglacial gravels were deposited. During deglaciation, regional drainage was blocked, forming Glacial Lake Hay. Glaciolacustrine sediments occur to 410 m, and shorelines occur at 340m. Iceberg scours are between 340 and 400 m. A readvance covered most of the area flooded by Glacial Lake Hay. Gravel aggregate is in short supply, and the active pit exploits sub-till gravel. Soils are clay rich, with high plasticities, and high moisture contents. Sphalerite was discovered in till samples.