

Mount McLennan

Location: 62.767636°N 139.57037°W

DETAILS:

North of Mount McLennan, within the Dawson Range, the morphology of a steep (30 degree) northeast-facing slope contrasts distinctly from its southwest-facing counterpart by displaying prominent solifluction lobes with stone stripes on their top surfaces. These lobes have developed within coarse colluvium at elevations between 1300 m and 1425 m. Higher up on the slopes, there is likely an insufficient thickness of colluvium above bedrock to develop lobes. The colluvium is likely a product of intense frost shattering. The bedrock on both slopes is mapped as being primarily composed of granitic rocks by Ryan et al. (2013). However, the solifluction lobes reaching valley bottom were observed by Lipovsky and Bond (2012) to be composed of felsic to intermediate volcanic rock fragments. The subdued cirque form of this basin led Duk-Rodkin (1999) to propose that this upland experienced cirque glaciation during early Pleistocene.



Figure 1. Solifluction lobes developed within colluvium on steep northeast-facing slope north of Mt. McLennan. Note the contrast in vegetation and form of the southwest facing slope in the foreground. It is likely that solifluction lobes developed only in the bottom half of the slope because it was only in this setting that colluvium thicknesses were sufficient to develop lobes. Note the stone stripes on the top surface of the lobes and on the slope above the lobes.



Figure 2. A 60 cm deep pit in the front of a solifluction lobe at the toe of the slope reveals mostly loose cobble and pebble-sized angular rubble with very little fine material.

REFERENCES AND FURTHER READING

Lipovsky, P.S. and Bond, J.D., 2012. Surficial Geology of Home Creek (115J/13). Yukon Geological Survey, Energy, Mines and Resources, Government of Yukon, Open File 2012-5, scale 1:50,000.

* Ryan, J.J., Zagorevski, A., Williams, S.P., Roots, C., Ciolkiewicz, W., Hayward, N. and Chapman, J.B., 2013. Geology, Stevenson Ridge (northwest part), Yukon. Geological Survey of Canada, Canadian Geoscience Map 117, scale 1:100,000.