Engineering in Yukon

Keno Silver Mining

Top: Bill Boyle operating a dragline and winch, late 1930s. Yukon Archives, W.S. Hare fonds #6998

In 1903 prospector Jake Davidson made an important discovery of silver-lead ore in the Keno area, although a decade elapsed before its potential was realized. In 1919 more than 500 claims were staked, and from the 1920s until the early 1980s the Keno silver mining industry was one of the pillars of the territorial economy.

Below: Horses hauling silver ore, Keno City, 1921. In the winter of 1922–23, TYC introduced the first Caterpillar tractor to the area; tractors soon replaced horses.
Yukon Archives, A.K. Schellinger fonds #5828

Mining companies and their engineers had to be resourceful in the face of many challenges. Severe weather included hot summers and cold winters; north-facing slopes had no sun for ten weeks each winter.

Wood for mine timbers and heat had to be hauled up the steep mountainsides and water was frozen much of the year. Permafrost underlay most of the ground.

Left: A four-wheel-drive "Gugg"[enheim] truck, 1920 model.
YA, A.K. Schellinger fonds #5841

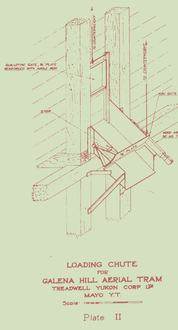
Because the area was so remote, transportation costs were high. Horses hauled ore in doubled up oat sacks in the early years, but were replaced by caterpillar tractors and trucks. A year's worth of supplies — as well as all ore shipments — had to be shipped via sternwheelers during the short summer season. In the early years, the ore was handled up to ten times before it reached the smelter.

Above: E. Miles Flynn, consulting engineer for Yukon Galena Hill Mines Ltd., leads an underground gang out as miners prepare to fire a blast.
Yukon Archives, John R. O'Neill collection 88/120 #5

Left: Jack MacDairmid, Roy Thomas and Pete Petitot underground, circa 1930.
Yukon Archives, W.S. Hare fonds #6956

Below: Ore bags were stockpiled in Mayo until they could be loaded on to a sternwheeler.
Yukon Archives, John R. O'Neill collection 88/120 #7

Aerial Tramway

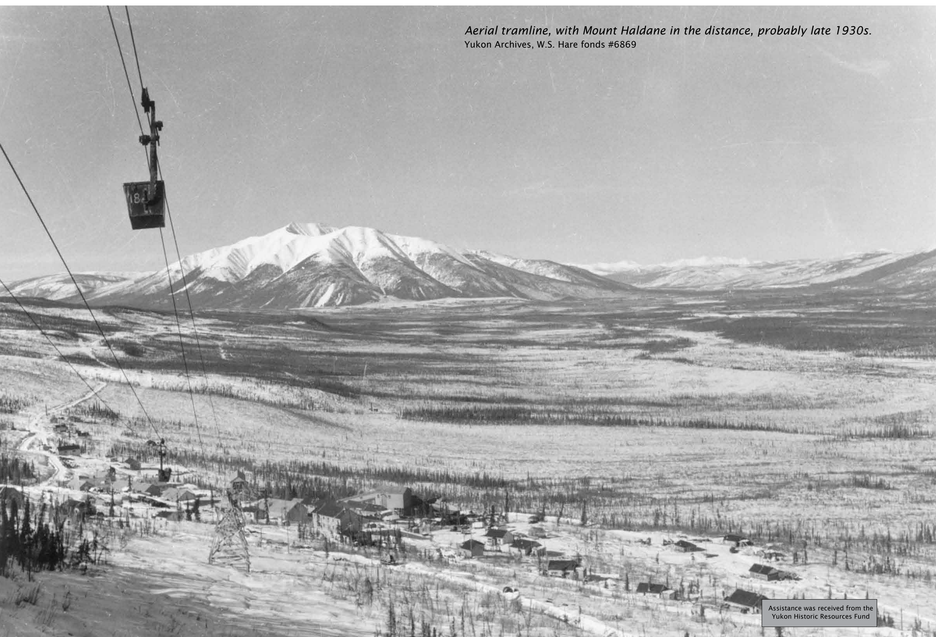


In 1938 the management of the Treadwell Yukon Corporation (TYC) decided to build an aerial tramway between the Calumet and Elsa mines to transport ore and supplies. An aerial tramline would be more efficient than trucks and not be affected by road conditions.

Livingstone Wernecke, General Superintendent of TYC — which owned the two mines — ordered John Scott, a recent engineering graduate, to design and construct the tramline. Construction had to be finished before freeze-up, and Scott had very little time to make his calculations.

Fortunately, TYC Corporation already owned a small tramway in the area, which had been constructed in 1929. The company dismantled it and used some of the material for the new tram, which was similar in design. This saved both money and time.

In 1941 John Delbert Scott wrote a thesis titled The Design and Construction of the Galena Hill Aerial Tramway. *This drawing of a loading chute for the tram is from that thesis. The 4,400-metre tram extended over a change in elevation of more than 400 metres. Scott was the 12th person registered as a professional engineer in Yukon.* Yukon Archives, John Scott fonds, MSS 231



Aerial tramline, with Mount Haldane in the distance, probably late 1930s.
Yukon Archives, W.S. Hare fonds #6869

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Association of Professional Engineers of Yukon