



# THE YUKON DITCH

In the early 20th century, mining promoter A.N.C. Treadgold devised a plan to bring water to the Klondike from the head of the Twelve Mile River, 112 km away. The intensive large-scale mining that had started to transform Klondike gold mining required huge amounts of water.

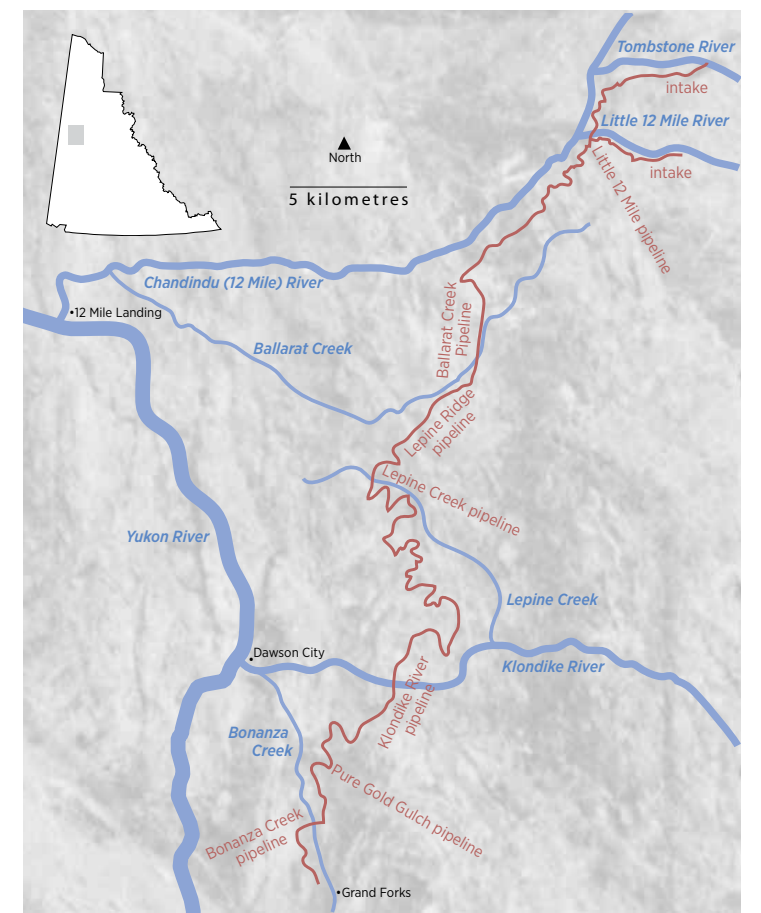


*A canvas-lined section of the ditch, near Cripple Creek, 1909.*  
YA, A.K. Schellinger fonds #5996

Treadgold convinced the Guggenheim family of New York to invest in the area, and in 1906 they formed the Yukon Gold Company (YGC). YGC started work on putting Treadgold's plan into operation. They consolidated a large number of gold mining claims in the Klondike and acquired the water rights for the Tombstone and Little Twelve Mile rivers.



*Flume, pressure box and wood stave siphon.*  
YA, Emil Forrest fonds, 80/60 #108



Map based on Ken Johnson 2012: *Recreating the Yukon Ditch near Dawson City, Yukon.*  
Background: YA, Emil Forrest fonds 80/60 #75

The Yukon Ditch — as it became known — was an enormous undertaking, requiring large amounts of capital as well as able engineering and management. The system included 61 km of ditch, 31 km of wooden flume and 20 km of pipe. With a drop in elevation of almost 350 metres over its course, it used gravity alone to transport the water. Water pressure at the Klondike River was close to 500 pounds per square inch.



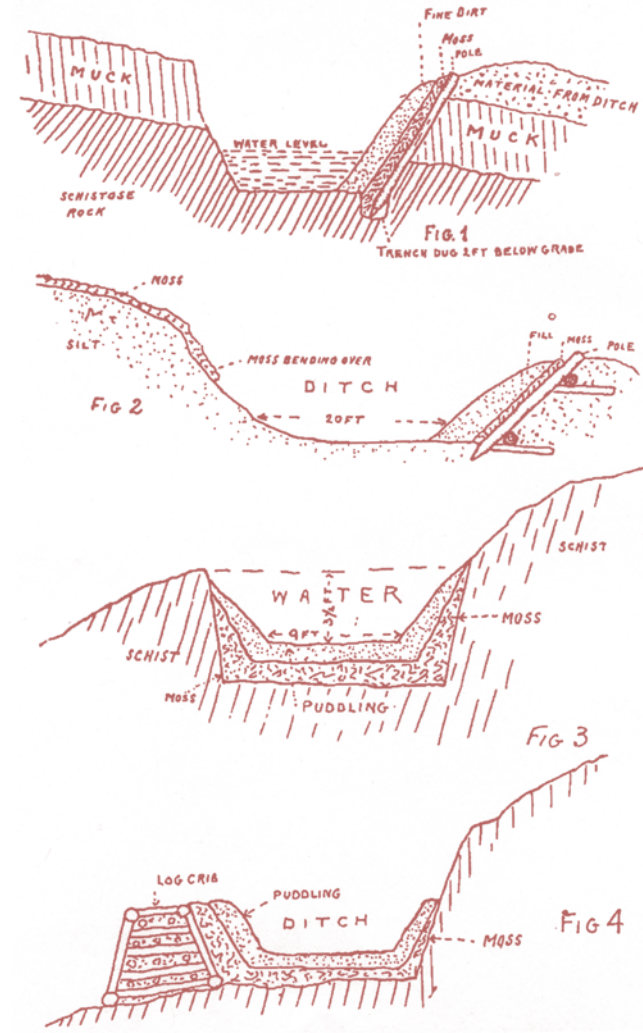
*A broken section of Yukon Ditch pipe.*  
Dawson City Museum 1984.234.100

The project traversed rugged and remote country. Workers first had to survey the route and clear a 20-metre right-of-way through dense brush, moss, forest and soggy ground.

Whenever the ditch crossed a valley, a section of flume or pipe had to be constructed. YGC built a steam-powered sawmill and milled local spruce there for the flumes. They used imported redwood for the stave pipe, which was more than one metre in diameter and bound with one-cm iron bands.

Organizing and equipping the project was another colossal challenge. Freight and supplies were transported from Dawson by sternwheel riverboats 35 km north to Twelve Mile Landing, near the mouth of the Twelve Mile River. They then had to be freighted 50 km up the Twelve Mile River to the construction camps. Because the ground was soft and uneven, heavy freight was transported in the winter over roads built of snow and ice.

Construction of the ditch began in 1906 and employed up to 1,700 men. Completed in 1909, the project cost more than three million dollars.



*Engineers developed a range of methods to deal with the difficulties of terrain and permafrost.*  
YA, PAM 1909-04

*Assembling redwood-stave pipe, 1907.*  
Dawson City Museum 1984.234.99



*When one of the pipes broke, by any chance, the devil himself was loose, and the whole ditch line had to be shut down...*  
Margaret Strong, whose husband, Art, was a hydraulic engineer with YGC, circa 1907

*Flume at Barnes Gravel Mine, Lovett Gulch, 1916.*  
YA, A.K. Schellinger fonds #5986

