



2018 AWARDS FOR ENGINEERING EXCELLENCE

Award of Merit

Brucejack Mine Power Transmission Line



Consultant

Stantec

Owner/Client

Pretium Resources Inc.

Category

Energy and Industry

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Pretium Resources Inc. engaged Stantec to provide the detailed design, procurement management and field support for the construction of a single circuit, 138 kilovolt transmission line north of Stewart, BC, to supply power to its Brucejack Mine for the next 30 years.

Terrain constraints led to a large portion of the transmission line to be constructed by helicopter. The chosen route was challenging—crossing glaciers, snowfields, bedrock, forested landscapes, elevations of up to 2000 meters, and a host of related geographical hazards that included 10 metres deep snow, rock falls, debris flows, and snow and rock avalanches.

Stantec's innovative design uses a special conductor, the first ever in Canada, to cross a glacier span of 2.2 kilometers. This conductor was key to maintaining a reliable power supply to the mine, which was a paramount concern for reducing costly interruptions to mine operations. Based on the rugged terrain, extreme weather-related loads, custom structure, and foundation designs were all developed by Stantec's engineering team.

Using new tools made identifying and characterizing existing and potential hazards more accurate than ever before for Stantec's Geotechnical team. The hazard mapping helped us define the route alignment and identify any potential constraints of each transmission structure location.

Our Power team performed fieldwork for route planning and optimization, collaborating with our transmission line, foundation, and geotechnical engineers, and geohazards and geomorphology specialists. Our multidisciplinary team worked collaboratively to help the client find an economical solution on schedule, exemplifying our 'we are better together' value.