

Raglan Mine, Nunavik, Québec



• Thermistor strings, grounding rod and mounting post installation



• Radio antenna adjustment



• Telemetry station



• Raglan Mill plant as seen from above

GKM Consultants delivered a long-term monitoring system to monitor the thermal regimes (up to 70 m in depth) of the tailings area in and around the mine quarries and water collection basins at the XStrata Nickel–Mine Raglan in the arctic part of Québec province. The scope of work included the design and installation of thermistor strings and data acquisition systems.

Using Geokon’s Micro-1000 Datalogger system, along with a radio telemetry system, permafrost temperature data can be obtained instantly at the main office, which is several kilometers away. Here, environmental engineers and technicians can view the data to monitor the stability of the tailings area.

Located above 61° latitude, in Nunavik, the automatic monitoring system is designed to operate in severe arctic weather conditions, utilizing solar panels and cold weather rated batteries (for backup redundancy).

The dataloggers are housed in “double enclosures” to add protection from wind-driven snows that may result from strong winter blizzards. The system also allows for manual readings for on-site checking and redundancy.

In total, the data acquisition system monitors and records temperatures from over 200 high-precision thermistor beads four times a day.

GKM Consultants and Geokon are proud to have been involved in such a complex and challenging monitoring project, which contributes to the further understanding of mining operations in a cold region environment.