Murphy, D.K., Levay, J. Rock engineering on the La Grande Complex, Quebec. 1985 Tunnelling Association of Canada Annual Publication.

Rock engineering on the La Grande Complex, Quebec

D. KENT MURPHY
Rousseau, Sauve, Warren Inc., Montreal, Quebec
JERRY LEVAY
Societe d'energie de la Baie James, Montreal, Quebec

Abstract:
Rock engineering has played an important role in the design and construction management of the La Grande Complex a 13 750 MW hydroelectric development in the James Bay area of northern Quebec. Confidence in the strength and erosion resisting properties of the Precambrian granitic and metamorphic rocks of the region has led to some innovative design solutions as well as a policy of flexible response to rock support requirements. Experience gained with unlined tunnels and channels for hydraulic purposes is discussed. The importance of closely controlled drilling and blasting procedures in some areas of the work such as the crane support ledges at LG 2 and a diversion conduit excavation at LG 4 is also noted. The success of the flexible, generally optimistic approach to rock excavation and support activities in the Complex is due in large measure to the good communication links existing among design, cost control and construction elements within the management group, the Societe d'energie de la Baie James.

Keywords: James Bay area; hydroelectric potential of the La Grande River; Canadian Shield; granitic rocks ranging in texture from massive to gneissic; The management system; Rock engineering; Rock quality and design trends; Rock support considerations; Surveillance routines.