Ripley, B.D., Doe, T.W., Baker, D.G. Hydraulic Jacking Testing at the Wahleach Power Tunnel Project. 1991 Tunnelling Association of Canada Annual Publication.

Hydraulic Jacking Testing at the Wahleach Power Tunnel Project

B.D. Ripley
B.C. Hydro
Vancouver, B. C.
T.W.Doe
Golder Associates
Seattle, Washington
D.G. Baker
B.C. Hydro
Vancouver, B. C.

Abstract:
A two phase hydraulic jacking test program is being carried out at the Wahleach Power Tunnel Project for British Columbia Hydro and Power Authority, owners of the project. At Wahleach, approximately 740m of the existing pressure tunnel and shaft is being replaced because of creeping slope deformations. The purpose of the testing program is to determine minimum in situ stresses across existing rock discontinuities along the alignment of the replacement pressure tunnel and shaft in order to locate the transition from steel lined to unlined sections. The first phase of a program of hydraulic jacking testing was performed in March 1990 in a 509m long drill hole (DH-S10), located approximately coincident with the replacement pressure shaft. The first phase test results have been used to locate the end of the steel lining for design purposes. A second phase of hydraulic jacking testing is planned for the Fall 1990 to locate the end of the steel lining for construction purposes. The paper summarizes the testing performed in DH-S10; discussing the principles of hydraulic jacking, the methodology used in performing the tests, the influence of the test results on design, and compares the results with those obtained at other sites with similar geologic and topographic conditions.

Keywords: Bedrock is granodiorite with minor felsic and mafic dykes; Hydraulic Jacking; Testing in DH-S10; Comparison with Common Criteria and Other Sites; Influence of Test Results on Design.

This Compilation of TAC Papers was prepared courtesy of Hatch Mott MacDonald