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Diaphragm walled tunnel awaits Newcastle Metro scheme. 5F.
GROUND ENGNG.V7,N5,SEPT.1974,P46-47.
An account is presented of the construction of a 4,181sq.m diaphragm wall scheme using the sub-pavement tunnel construction in Newcastle-upon-tyne.

In-situ stresses in ground and stress around underground openings

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Determination of in-situ stresses around underground excavations by means of hydraulic fracturing.-Final technical report. 47F,19T,32R.
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An extensive laboratory investigation was undertaken to establish the applicability of hydraulic fracturing as a method of in-situ stress measurement around underground excavations in inhomogenous, anisotropic, prefractured rock subjected to high compressive stresses. In particular the applicability of the method to the Coeur d'Alene Revett quartzite, the theory of the method and experimental procedures are described. The major conclusion of the investigations was that the Revett quartzite is basically amenable to hydraulic fracturing stress measurements without modifying the present theory.

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GOLDSCHEIDER,M UNIV.KARLSRUHE,D
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This paper reports a continuation of the work by these authors on the effect of rate of extraction on the stress and displacement distribution around a longwall working. Previous considerations are extended to the case of an abandoned working face. The asymptotic formula for the extent of the fracture zone in the abandoned longwall face, and its time dependence, have been determined. Auth.

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A sandbox model used to examine the stress distribution around a simulated longwall coal-face. 12F, 1T,19R.
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It has been shown that surface cracks as well as holes can be represented in terms of surface dislocations. These surface dislocations exist in order to ensure that no tractions act on any free surface within a stressed body. Using numerical techniques, it is shown that the energy as well as the stress field associated with cracks or holes can be determined. In principle then, any hole or crack problem can be solved to any degree of approximation using the dislocation formulation described herein. Auth.

Surface subsidence and caving

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Determination of parameters and indices for forecasting displacement of overlying rock strata using modelling with a photoelectric analogue. In Polish.
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The design and operating principle of a photoelectric analogue intended for photo-modelling of displacements and rock strains under the effect of mining are descri The method of determining certain parameters of Kochmanski's theory and for forecasting indices of subsidence along determined directions is given. Auth.

Temporary and permanent supports

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Resin anchors on Dartford tunnel.-A short note on the use of a high strength, thixotropic resin anchor grouting system in the U.K.1F.
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Friction rock stabilizers and their application to ground control problems - abstract of paper for the 1974 SME Fall Meeting, Acapulco.
MINING ENGINEERING,AIME,V26,N8,AUG.1974,P51.
The technique of using friction rock stabilizers to reinforce and stabilize roof formations is described. The system of roof control in which these are used is based upon the principle of complete frictional contac between the stabilizer and the geological formation to minimize rock movement.

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Testing and evaluation of prototype tunnel support systems.
UNIV.ILLINOIS,URBANA-CHAMPAIGN,REPORT,AUG.1973.
This report presents the results of engineering studie related to the development of new and improved tunnel support systems. Steel fibre reinforced regulated-set concrete has been proposed for use as a slipformed cor crete lining which can be placed immediately behind a tunnel boring machine. Mix design studies and field pumping tests for this new concrete are described. Th design, construction, and operation of a large-scale test facility to test both circular and horseshoe-shap tunnel supports with a span of 10 feet are described. These tests are expected to result in the adoption of more effective and economical liners and supports. Finally large-scale tests which will evaluate the structural behaviour of steel fibre regulated-set concrete are described. These tests are being conducted in connection with the development of an extruded line tunnelling system. Auth.