833198 ROCK BOLT REINFORCEMENT SYSTEM TO STABILISE SHAFT INTERSECTIONS AND PIT BOTTOM ROADWAYS DURING UNDERGROUND RECONSTRUCTION
Singh, R N; Heidarieh Zadeh, A M
Proc 23rd Symposium on Rock Mechanics, Berkeley, 25-27 August 1982, P961-970. Publ New York: AIME, 1982

The paper presents a stability investigation of shaft intersections and pit bottom roadways in the vicinity of upcast and downcast shafts at a colliery in the UK. A scheme of instrumentation was aimed at monitoring the strata displacement surrounding the pit bottom roadways and shaft intersections. The borehole instrumentation results together with a theoretical analysis suggested that the cause of instability could be attributed to the drivage of a roadway within the shaft pillar. A semi-empirical technique was used to calculate the amount of support resistance required to reinforce the pillar to take additional abutment load.

833199 EQUIPMENT, AUTOMATION, ROCK MECHANICS PRINCIPLES AND SAFETY INTERFACES IN THE CONTROL OF ROOF AND RIBS OF MINES
Scott, J J
Proc 23rd Symposium on Rock Mechanics, Berkeley, 25-27 August 1982, P971-984. Publ New York: AIME, 1982

Presents the basic principles to be followed to create a truly inherently safe mining system. The need to relate the support mechanism to be employed to the ground reaction curve and basic rock mechanics principles is pointed out. Following support selection the mechanics of installation must be developed through cooperation between mine engineers, mine operators, safety personnel and government inspectors.

Surface Structures

Dams and embankments

See also: 833087, 833232, 833233, 833253, 833262

833200 KOTMALE CHANGES UPSET SWEDISH PLANS
Ferguson, H
New Civ Engr, N524, 20 Jan 1983, P30-35

Case study of the construction of the Kotmale Dam, Sri Lanka, part of the Mahaweli power scheme. The rock fill dam, originally to have a clay core, has been shifted 200m downstream and now has an upstream concrete membrane. Problems encountered included an area of highly unstable ground right on the axis of the dam, a thick bed of crystalline limestone threatening leakage under the dam, and some major faults which could have led to reservoir induced seismicity. Also, the downstream drive hit a zone of highly unstable jointed quartzite, requiring the use of steel arch ribs, shotcrete, mesh, rock bolts and extensive grouting.

833201 SETTLEMENT OF TWO OIL TANKS ON KADUNA LATERITIC SOILS IN NIGERIA
Ola, S A
Q J Engng Geol, V15, N4, 1982, P317-324

Studies the concept of elastic settlement, using an ideal field situation of an unsaturated, relatively uniform and homogeneous soil loaded for a short period. For the cases of the tanks, the calculated elastic plus consolidation settlements agree well with the settlements observed during water tests. The consolidation settlement was found to be relatively insignificant and for the case of unsaturated, lateritic soil loaded for a short period, the elastic settlement can be used to predict settlements.

833202 LONG-TERM MONITORING OF EMBANKMENT DAMS IN BRITAIN
Penman, A D M; Kennard, M F
Int Water Power Dam Constr, V34, N11, Nov 1982, P19-26

The development of various types of dam monitoring instruments are described, with examples of installation and operating experience in Britain. Settlement and pore pressure records from 1950 onwards are also examined and assessed. 23 refs.

833203 INSTRUMENTING AUSTRALIA'S CETHANA DAM
Fitzpatrick, M D; Barnett, R H W
Int Water Power Dam Constr, V34, N11, Nov 1982, P26-31

Describes the monitoring system used at Cethana Dam, Australia, and presents data collected over a 10 year period.

833204 SAFETY MONITORING OF CONCRETE DAMS
Fanelli, M; Giuseppetti, G
Int Water Power Dam Constr, V34, N11, Nov 1982, P31-33

A rationale for the development of a system of checking the safety of dams is described. The main factors considered are the stresses present at the contact between dam and foundation.

833205 BUILDING BRAZIL'S NOVA AVANHANDAVA DAM
de Moraes Leme, C R
Int Water Power Dam Constr, V34, N11, Nov 1982, P47-51

A case study of the Nova Avanhandava Dam constructed in basaltic rock. Design considerations took into account fractured, weathered or permeable areas distributed in a sound and impervious rock mass throughout the foundation. A geotechnical classification of the rock was used in stability analyses. An earth-rockfill dam was built on the right bank and an homogeneous earth dam on the left bank.

833206 ICOLD'S 14 CONGRESS. PART TWO
Int Water Power Dam Constr, V34, N8, Aug 1982, P37-40

Reviews some of the papers presented at the Congress on the following topics: sedimentation of reservoirs and slope stability, and materials and construction methods for embankment dams and cofferdams. See item 833209 for part 1.

833207 ADDING A FIFTH UNIT TO IDAHO'S BROWNLEE DAM
Hougen, O; Runyan, K
Int Water Power Dam Constr, V34, N7, July 1982, P15-18

A case study of the construction of the fifth unit at the Brownlee dam, Idaho, USA. Rock mechanics studies revealed the need for heavy rock reinforcement. High strength steel bolts grouted into place with a fast setting resin were chosen, together with wire meshing.