

ACKNOWLEDGEMENTS

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Division). This approach has led to developments in stoping techniques that would otherwise not have been attempted.

The author also wishes to express his sincere thanks to Mr L. V. Grobler, General Manager, Buffelsfontein Gold Mining Company Limited, for his assistance, and to

Mr P. Loubser and Mr H. Kruger, Assistant Managers, for their invaluable support in developing and introducing the new systems.

REFERENCE

CHRISTOS, B. P. Mechanisation at Buffelsfontein Gold Mining Company Limited 1973-1974. Circular 1/75 Association of Mine Managers, 1975.

Discussion of the above paper

M. B. ALGEO*

The management and staff of Buffelsfontein Gold Mining Company Limited are to be congratulated on the excellent performances described in the paper presented by Mr Christos. In this day and age, with the current economic and labour situation, the mining industry is

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being constantly pressed to increase the productivity of ever-diminishing quanta of resources. The paper has outlined a very suitable blue print of action that could be implemented by most mine managements.

In the area of improved face advance, the Union Section of Rustenburg Platinum Mines Limited has failed to achieve results comparable

with those of Buffelsfontein. Fig. 1 illustrates the 40 per cent improvement in the rate of face advance attained over the past sixteen months.

Over the same period, the major effort by management has been directed towards improving the labour productivity, and an indication of the results obtained in these areas may be of some interest.

The performance of the stopers is shown in Fig. 2. The indicated increase in output (82 per cent) is commensurate with that attained at Buffelsfontein. The performance of Black labour has been represented in terms of both the total tonnage broken per total underground Black and centares per stoping Black. It is felt that the former is more meaningful and representative of the cost of production. Fig. 3 represents this achievement, and Fig. 4 shows the achievements attained on the basis of centares broken per stoping Black.

Significantly, the results displayed in Fig. 4 are in excess of those given for Buffelsfontein. Contributing to these achievements are the following primary factors:

1. Complement setting in accordance with standards derived by universally accepted work-study methods.
2. A continuous process of work rationalization and evaluation in terms of an ordered set of priorities that reflect the emphasis of the Company's objectives and policies.
3. Training of Black and White

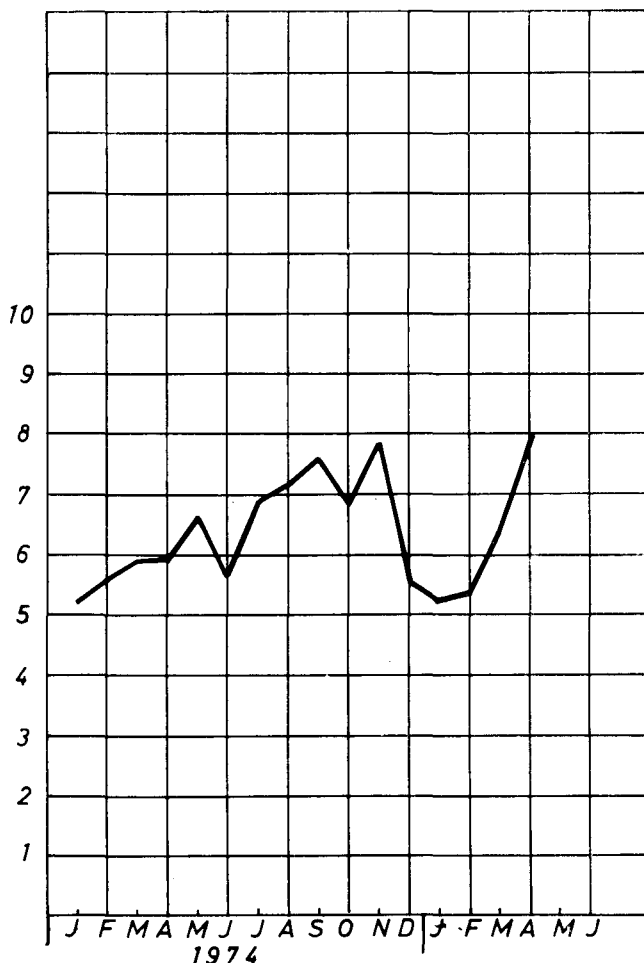


Fig. 1—Stope-face advance in metres (Rustenburg)

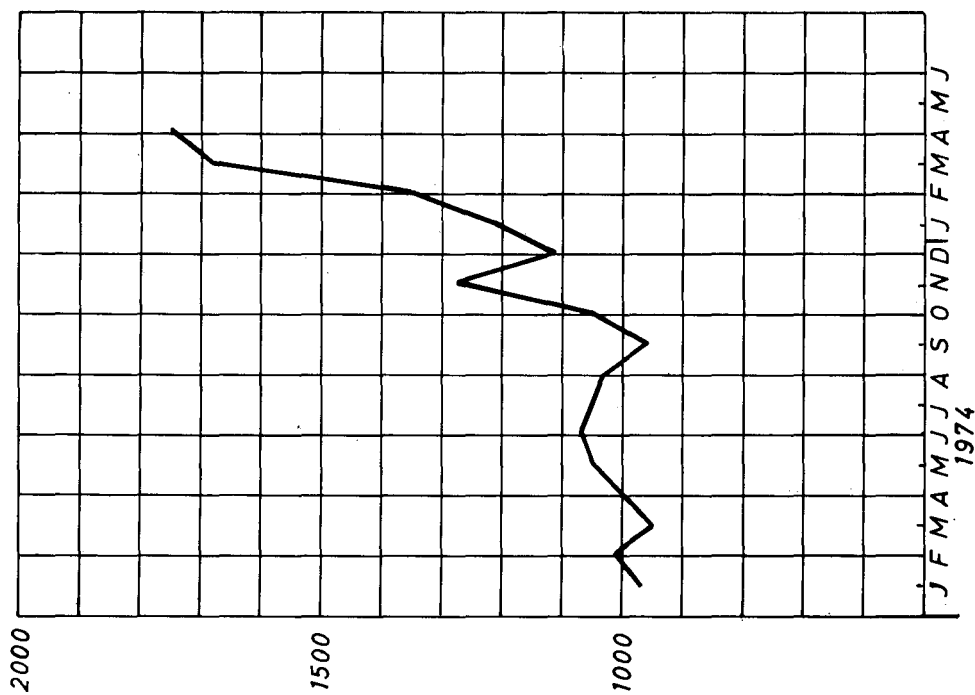


Fig. 2—Centares per stoper (Rustenburg)

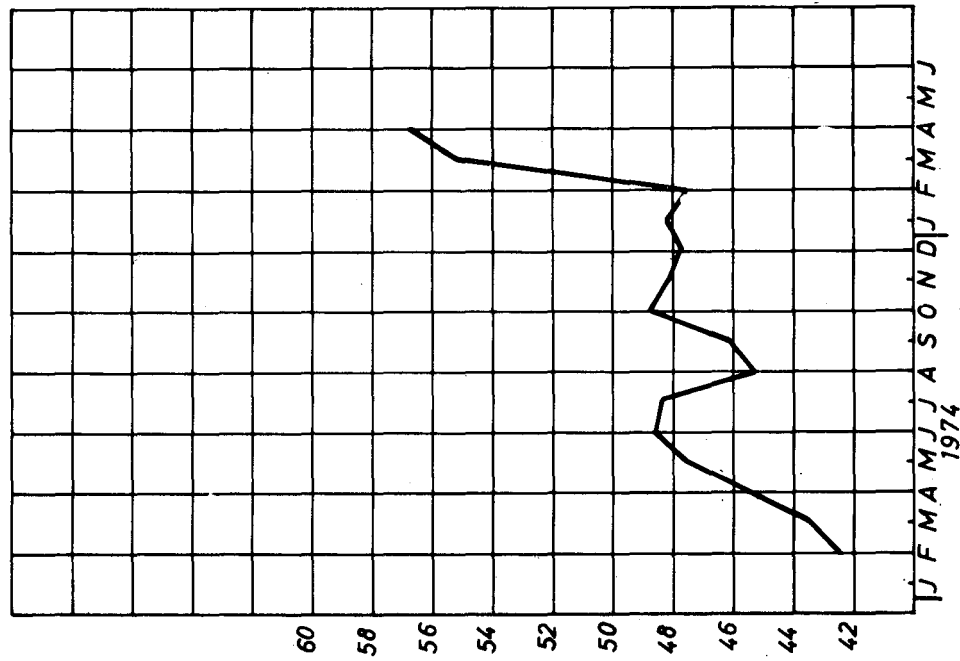


Fig. 3—Tonnage broken per underground Black (Rustenburg)

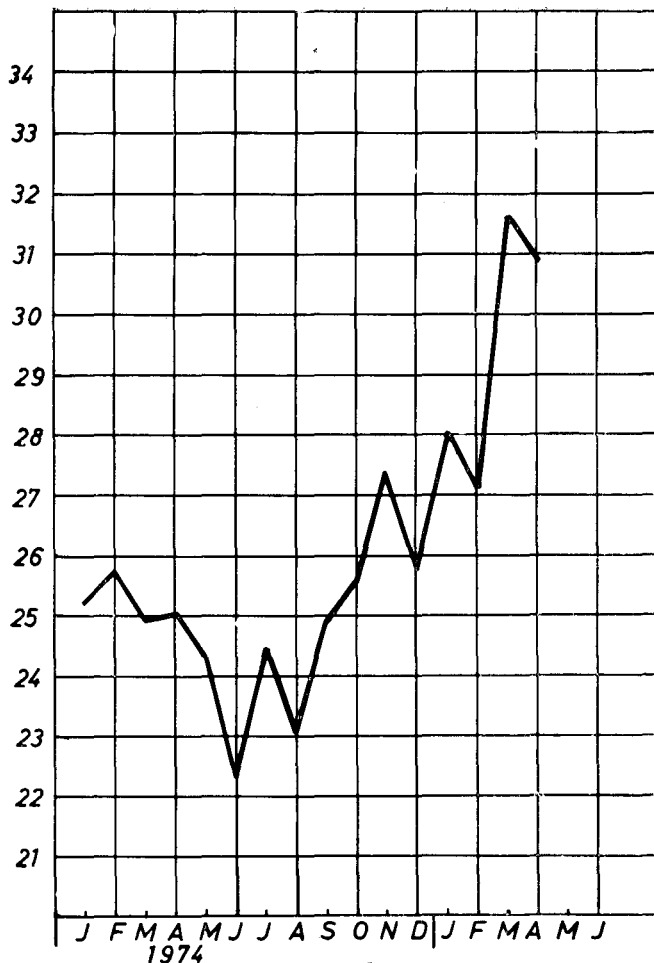


Fig. 4—Centares per stoping Black (Rustenburg)

Stress in rock

The ISRM Symposium, 1976 is to be held in Sydney from 9th to 13th August, 1976. It is being organized by The Australian Geomechanics Society as a regional symposium of the International Society for Rock Mechanics. Its objective is to discuss, at an international level, advances in the investigation of stress in rock. In

1969 an ISRM Symposium on Determination of Stresses in Rock Masses was held in Lisbon; this 1976 Symposium will cover subsequent and other developments.

The theme is *Investigation of Stress in Rock* and includes

- Methods of stress measurement
- Monitoring of stress changes
- Factors affecting stresses in

rock

Case histories of stress measurement.

Enquiries should be directed to The Conference Manager, ISRM Symposium, 1976, The Institution of Engineers, Australia, 157 Gloucester Street, Sydney, N.S.W. 2000, Australia.

Thermal analysis

The First European Symposium on Thermal Analysis will be held at the University of Salford on 20th to 24th September, 1976. It is envisaged that all aspects of thermal analysis will be covered, including instrumentation and technique, aspects of physical, organic and polymer chemistry, and the application of thermal methods in the

applied sciences such as mineralogy, corrosion, pharmaceuticals, ceramics, building materials, and glass technology. This list is not to be regarded as complete but merely to illustrate the type of coverage that is envisaged. The symposium workbook will be available to all the participants and will contain ex-

tended abstracts of all the papers to be presented.

Further information is obtainable from The Honorary Secretary, Local Organising Committee for the Thermal Methods Group, Dr D. Dollimore, Reader in Physical Chemistry, University of Salford, Salford, M5 4WT, England.

labour for standard performance achievement.

In respect of the first point, it should be noted that the mine's short-term objective is in excess of 35 centares per stoping Black with the current mining methods and equipment.

In conclusion, it is not felt that further significant increases in labour productivity would be obtained by an increase in the rate of stope-face advance. However, an improved rate of face advance would have a material impact on the utilization of equipment and capital outlay.

Acknowledgement

Acknowledgement must be made to the Consulting Engineers and Manager of Rustenburg Platinum Mines Limited (Union Section) for permission to make this contribution.