

# Visit to Premier (Transvaal) Diamond Mining Company Limited

On the 14th February, 1973, 44 members of the Institute were the guests of Premier (Transvaal) Diamond Mining Company Limited.

On arrival at the Mine offices, the guests were met by the Manager, Mr Sewel, who in a short speech welcomed them. Mr Sewel held the members' interest in his description of the history of the Mine and the economics of its production. This was followed by a talk, with the aid of a working model of the underground workings, by the Mine Superintendent of the basic mining principles involved at Premier Mine. The Metallurgical Superintendent took over and gave a resumé of the flow

of blue rock from shaft to sorting room. The visitors were then split into their various groups for surface and underground trips, which alternated, morning and afternoon.

The highlights of the surface trip were the visit to the top of the No. 1 shaft headgear and the diamond-sorting room. These afforded enthusiastic questions and discussions from the visitors.

The underground tour was equally absorbing, the most interesting parts being the new slugger crusher station installation and the two methods of mining, especially the block caving method with its attendant rock re-

moval system using slushers of size up to 200 hp.

Lunch was held at the Golf Club, and Mr V. C. Robinson expressed the appreciation of the members for the hospitality and the trouble taken by Mr Sewel and his staff to make the visit a success.

The visit ended at 4.30 p.m.

The Institute records with gratitude the manner in which its members were received and the attention given by the Management and Staff of Premier (Transvaal) Diamond Mining Company Limited to ensure a full, interesting, and thoroughly pleasurable day.

## Metrication News

### PRESSURE GAUGES

There appears to be doubt in some circles about the general acceptance of the pascal (Pa) as a unit of pressure and stress. The Metrication Department wishes to make it quite clear that the pascal is the only SI unit of pressure and stress, and that this unit is now recognized in most countries of the world.

The pascal has been given legal standing in many European countries and has been accepted as the recommended pressure unit in Australia and New Zealand. In July, the Metric Advisory Board of New Zealand reaffirmed its previous recommendation to adopt the pascal as unit of pressure and stress.

Gauges calibrated in pascals (Pa), kilopascals (kPa), and megapascals (MPa) are becoming increasingly available. In South Africa, it is expected that the tyre-pressure gauge calibrated in kilopascals will soon be a familiar sight to motorists. In many of the 1972 car handbooks, the kilopascal is used exclusively as the unit of pressure.

It is strongly recommended that every effort be made to obtain pressure gauges calibrated in pascals (or its preferred multiples) when ordering new equipment, as this can save unnecessary expenditure at a later stage. The Metrication Department will gladly advise on the availability of these instruments, or on

ways to alter obsolete dials of existing instruments.

Note: Although the pascal is the only SI unit of pressure and stress, any of the preferred prefixes may be used with this unit. The kilopascal (kPa) is suitable for general pressure applications, while the megapascal (MPa) is more appropriate for higher pressures and stresses.

In a letter to the Chairman of the Metrication Advisory Board, the Department of Mines made it clear that pressure gauges calibrated in pascals are not only acceptable, but are being recommended in view of the proposed amendment to the regulations next year.

## NATIONAL INSTITUTE FOR METALLURGY NASIONALE INSTITUUT VIR METALLURGIE

REPORT ● VERSLAG

No. 1430

### THE USE OF THE EKCO MINERAL ANALYSER FOR THE DETERMINATION OF COPPER AND ZINC IN THE PRESENCE OF IRON

27th June, 1972

Investigator: Gisela Domel

#### SYNOPSIS

The Ekco Mineral Analyser—a portable, radio-isotopic X-ray-fluorescence instrument—is briefly described, and its principles of operation are discussed. Calibration graphs are given for copper, zinc, nickel, and iron in synthetic ore concentrates. Special attention is paid to the interference effects of iron on copper and zinc determinations, and of copper and zinc on the determination of each other. The mechanism of the interelement interferences encountered is discussed, and techniques for correcting for some of these interferences are outlined.