

handle the maximum amount of dross in the feed to within 95% confidence limits. Table I shows the mean size gradings and standard deviations.

From this table it will be seen that the amount of -6 mm material in the feed varies considerably. In fact two standard deviations above the mean is nearly double the mean.

As the +6 mm material from the dross screens gravitates to the washery drum the washer was designed on the basis of the maximum amount of +6 mm material in the feed, i.e. when the minimum amount of -6 mm exists in the feed.

All circuits from the dross screens on were therefore designed to handle these maximum tonnages.

To allow for variations in the market demand a re-crush circuit was installed capable of handling coal from all size fractions above 18 mm. This circuit draws coal from the final product bins which include a cobbles bin. The cobbles bin although not common on coal mines has proved most valuable and has given no trouble with regard to size grading of the loaded product. A vibrating 32 mm screen ahead of the cobbles boom loader extracts any undersize material made in the bin. This undersize material is delivered to the re-crush circuit.

To control the amount of -3 mm material to the maximum of 22% allowed by Escom in mixed smalls, 3 mm screens were installed. Due to the difficulty of screening -3 mm material the suppliers warned that a large screening area would be necessary and then no guarantees of efficiency could be given. The screening of -3 mm material is in fact proving difficult and efforts are being made to achieve better screening results.

Table II shows a few of the main designed tonnages to demonstrate the average, theoretical maxima and actual figures used.

The above approach to the design allowed the mine to come into production without experiencing any real teething troubles.

## SECOND SESSION: Chairman P. A. VON WIELLIGH

*Paper:* 'A follow-up report on longwall coal mining at Durban Navigation Collieries (Pty) Ltd by M. J. Deats.

*Contributors:* R. T. Naude, Dr M. D. G. Salamon, P. du P. Kruger, R. B. MacGillivray.

*Paper:* 'Onlangse Produktiwiteitsverbeteringe op Blinkpan Koolmyne Beperk' deur A. C. Coetzee.

*Bydraers:* S. P. Ellis, G. Edwards, J. D. Flint, N. P. J. Coetzee, A. D. Vos, D. J. Moloney, Dr M. D. G. Salamon, C. J. Beukes.

## THIRD SESSION: Chairman DR M. D. G. SALAMON

*Paper:* 'The Application of Continuous Mining Machines at Coalbrook Collieries' by R. E. Burnton and J. G. Ferguson. (R. E. Burnton to present).

*Contributors:* D. J. Moloney, R. E. Cowley, F. E. Kirstein, J. D. Flint, R. B. MacGillivray.

## Chairman's summary

**A. W. S. Schumann** The first reason for today's success lies in the very high standard which was set by our speakers today and I think that we owe a very special vote of thanks to Messrs P. M. C. Wilson, A. A. Oakes, M. J. Deats, A. C. Coetzee, R. E. Burnton and J. G. Ferguson.

This, however, cannot account for the fact that there was a tremendous response even before anyone knew who was going to speak or what they were going to speak about.

I suggest that the response was enthusiastic because people expected a more informal gathering with a greater opportunity for feedback, for an exchange of views and for questions and answers. The very popularity of the idea has defeated its own ends to some extent. This gathering is too big and many people must have been left with questions unanswered. Possibly one should arrange for a number of meeting places—there are many in the Chamber and the surrounding mining houses—and then have separate meetings in the morning with joint reporting session in the afternoon. Alternatively, we could have a symposium after the colloquium, using Webster's definition of a symposium as 'a drinking party of merry fellows'. We all know that it is easy to discuss mining into the small hours.

Obviously one cannot summarise today's papers and discussions, but I would like to make a few comments on technical matters and after that I would like to speak for a moment about what I see as major trends or tendencies which arise from discussions of this nature.

Regarding the question of placing a village on a mine or away from a mine, I would mention that there is quite a body of literature on the adverse sociological effects on the development of children in any community in which the great majority of parents share the same occupation. It is something to be avoided if possible.

We discussed the concept of the moving stockpile. If this is proved to be successful, it could save a considerable amount of money for Escom who could then avoid the construction of very large and costly staithes which are now regarded as parts of power stations. One does not see why both a moving stockpile and a staith should be necessary. By the way, speaking of Escom, I see that Mr Bob Scott is here; he has stopped pulling my leg by saying that we sell stone to Escom; perhaps someone has told him that if this is true, it must be the cheapest stone you can buy in this country.

My next point relates to the use of epidiascope. It struck me again that this instrument which provides a visual image to accompany your message, can be very effective if it is properly used. These papers speak of a great deal of hard work which went into their preparation, and one really feels that the authors should have taken a few minutes more to prepare their drawings specifically for the epidiascope. There should be nothing on the drawing which is not necessary to illustrate a particular point and there should be nothing on the drawing which is not visible from the back of the hall. In particular, if one cannot read the figures along the sides, then one