

Conclusions

The proposed grindability test for fine materials does not require calibration by means of reference materials, and is sufficiently defined to be used as a standard test. The test is based on the assumption of a constant value of B , which represents the equivalent energy consumption per revolution of the Bond-grindability test mill. The available information indicates a value for B close to 198×10^{-7} kWh/rev. A value of B that is not close to 198×10^{-7} kWh/rev indicates that the standard Work Index found in the Bond-grindability test from which B was calculated is not accurate for the estimation of plant energy requirements.

Because the Bond standard grindability test uses a mill without lifters and a screen, instead of a classifier, to close the grinding circuit, it leads to erroneous Work Indexes when certain types of material are tested.

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All the Bond grindability tests were done under the supervision of Mr R. Rankin.

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SPOTLIGHT

on the excursion to Grootegeluk, Matimba, and Thabazimbi

by G.T.G. EMÈRE*

Introduction

With the assistance and encouragement of Mr B.C. Alberts, the Institute's immediate Past President and Iscor's Senior General Manager: Mining, the Committee of the Johannesburg Branch recently organized a two-day excursion for members to the northern Transvaal. The itinerary included visits to the Grootegeluk colliery, the Matimba power-generation utility, and the Thabazimbi iron-ore mine.

Initial arrangements catered for approximately 45 members. However, the response was very disappointing, with only 35 people participating in the first day's programme and the number being reduced to 27 for the second day. Even more disconcerting was the fact that, had it not been for several Institute members from outside the Johannesburg area—from as far afield as Natal and South West Africa/Namibia—the visit could not have been cost-justified.

For those members who were fortunate enough to be able to participate, it was readily apparent from the general comment that the venture was an unequivocal success. The technical presentations and site visits were both informative and stimulating, the hospitality superb, and the friendships established warm and genuine.

Although the inclement weather often threatened to dampen the proceedings, the flexibility built into the programme catered faultlessly for contingency arrangements to be implemented at very short notice and with remark-

able efficiency.

Grootegeluk

The party set off from Corner House at just after 14h00 on Tuesday, 18th October, to arrive in a very wet Ellisras at approximately 18h30 and to be enthusiastically welcomed and entertained by the Manager of the Grootegeluk colliery and members of his staff.

The following day started with a series of well-prepared presentations dealing with the geological, exploitation, and beneficiation aspects of what must be a most challenging enterprise. A tour of the open pit and the beneficiation plant followed the discussions. For an underground hard-rock miner such as myself, and for many other members of the party, the exposure to massive-scale opencast coal-mining practices and the complex beneficiation process associated with a product of diverse grades was most enlightening.

Matimba

Having enjoyed an excellent buffet luncheon, the group moved on to the Matimba power utility where, following a brief but very informative overview by the Project Manager, the party split up into smaller units to tour both the operating and the construction activities. Designed to eventually generate 4000 MW, the utility will boast the world's largest turbo-generators using the direct dry-cooled steam-condensing system. Other design features of note include a reduced consumption of coal in spite of the low-grade feed, and an enhanced efficiency of

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water consumption.

Thabazimbi

Following this all-too-brief visit, the party departed for Thabazimbi at 16h30. Although initially threatening, the weather cleared, and the group was accorded a magnificent evening's hospitality under the stars.

Thursday's programme opened with a number of well-prepared presentations dealing with all aspects of the Thabazimbi operation that fittingly set the scene for the excursions to follow in which members had the choice of three visits.

The first choice was an underground visit to view mining practices in general and, more specifically, to examine tunnel-support methods, where over recent years the use of timber sets and yielding steel arches has been phased out in favour of a more active system of 'split-sets', wire mesh, and Shotcrete—a system that has proved extremely successful, particularly in the highly weathered and unstable rock-mass environment.

The second group visited the opencast operations, particular attention being given to specific areas where slope-stability problems had been encountered due to subsidence resulting from underground mining activity.

The third group toured the workshop complex, where much emphasis was given to the implementation of a sound computer-based preventive maintenance system. Clearly, on any mine that utilizes large numbers of technically sophisticated vehicles and auxiliary mining equipment both underground and on surface, the need to reduce down-time to an absolute minimum while at the same time optimizing operating life is paramount. From

subsequent discussions with those who participated in this visit, it appears that the Management has achieved a significant measure of success with the realization of these objectives.

The morning was over all too soon and, having been entertained to yet-another gourmet buffet luncheon, the time came to bid farewell to our hosts and depart for Johannesburg.

Conclusion

Over and above emphasizing the technical excellence with respect to the various operations visited, I would like briefly to make certain personal observations. Throughout the two days' visit, one was impressed by the *esprit de corps* among employees and between Management and staff. The manifestations of a successful 'participative' management style were very evident. Secondly, a desire to keep pace with technological development and innovation was clearly apparent. Finally, an emphasis on 'good-housekeeping' was patently obvious. As is well known, the last 20 per cent of any task consumes 80 per cent of the time available, and this maxim is particularly relevant in this facet of total management.

To Donald Milella, the Branch Secretary, and Mrs Debbie Morgan, both from Rand Mines, I extend my sincere appreciation and that of the participants for a most successful endeavour. If Branch members have difficulty in finding time to participate in such excursions, they should try making the time to organize one!

To Iscor, many thanks and congratulations on a job being well done.



The group who went on the excursion to Grootegeluk, Matimba, and Thabazimbi