

Book review*

● *A manual on mines rescue, safety and gas detection*, by J. Strang and P. Mackenzie-Wood. Australia, Austcue, US\$25. (Available through Hampo Systems (Pty) Ltd.)

Reviewer: W. Holding

The book had its origins in a set of notes used by one of the authors for training purposes at the Southern Mines Rescue Station in New South Wales. It is a *tour de force* as regards the sheer volume and variety of information imparted to the reader. The technical level is such as to give the reader a reasonable working knowledge of the various subjects without trying to make him (or her) an expert in any one of them.

The book is divided into thirteen sections:

- Section 1 The Mines Rescue Organisation
- Section 2 Breathing Apparatus
- Section 3 Mines Rescue Equipment
- Section 4 Gases
- Section 5 Gas Detection Instruments
- Section 6 Outbursts
- Section 7 Colliery Explosions and Ignitions
- Section 8 Fires
- Section 9 Fire Gases and their Interpretation
- Section 10 Hot and Humid Atmospheres
- Section 11 Resuscitation and First Aid
- Section 12 The Mines Rescue Team Rules and Procedures
- Section 13 Bibliography.

The book thus contains a mixture of topics, some of them based on the authors' considerable experience in the field of Mines Rescue, and others based on acquired knowledge and study.

It is understandable that the most impressive sections of the book are those in which the authors have written first hand, as it were. These matters are covered very thoroughly, and there is even a somewhat grisly, but undoubtedly valuable, sub-section on how to handle corpses which have started to decompose.

As far as the other related matters are concerned, they are also handled well on the whole, but it would indeed be unusual if everything in a book of this nature could

be recommended without reservation.

In the section on gases, for instance, in reference to sulphur dioxide, no mention is made of a most potent source of the gas, namely, dust ignitions in mines where sulphide ore is being mined. This is surprising, as such ignitions are certainly not unknown in Australia. Also, the performance of fixed time anemometer traverses, as advocated in the book, is not accepted practice in South Africa.

However, it is on the subject of heat stress where the most marked differences occur between some views propounded in the book and those generally held in South Africa. In particular, the impression is given that experience, *per se*, influences a person's capacity to work in hot humid conditions, whereas in South Africa it is considered that natural heat tolerance and scientifically conducted acclimatisation are really the significant factors. The heatstroke symptoms listed in the book are appropriate to advanced heatstroke, and may be of limited value in recognising the onset of the condition. In addition, the taking of salt after work in hot conditions is now considered in South Africa to be of little or no benefit. As regards the treatment of heatstroke victims, the immersion of a victim in ice water, and other forms of 'drastic' cooling, as advocated in the book are judged in South Africa to be positively dangerous. Finally, wet and dry bulb temperature limits quoted for inspired air seem to be rather extreme.

The reference works quoted in this section of the book are from the British and American mining industries. These are countries in which hot and humid conditions represent abnormal situations, as opposed to South Africa, where such conditions are part and parcel of daily life in the mines. A notable absence is that no reference is made to the vast amount of work carried out in South Africa on heat-related matters over many years.

The literary standard of the book is high apart from occasional lapses in grammatical punctuation, which were found to be a little irritating. The standard of the diagrams and photographs is very good.

Summing up, there are a few misgivings about the technical content of the book but these, it must be emphasised, are confined largely to one section only, out of thirteen. The book as a whole is a good one and well worth obtaining because of its comprehensive nature and because it refers to work which has not been well published hitherto in South Africa.

* From the *Journal of the Mine Ventilation Society of South Africa*, August 1986, page 115, and published here by permission of that Society.