

SPOTLIGHT

Iron Ore and Manganese Ore Metallurgy 2011

5–7 September 2011, Misty Hills, Muldersdrift

This was the first conference on iron ore and manganese ore metallurgy to be held in South Africa. South Africa has extensive iron ore and manganese ore resources, and globally it is an important producer and exporter of these ores. South African iron ore supports the local iron and steel industry and South African manganese ore supports the local ferromanganese industry. There are a number of iron ore and manganese ore mines in operation, as well as a number of projects being considered for development, greenfield mines, and brownfield expansions of existing mines. The metallurgy of iron ore and manganese ore in South Africa is critical, given that most of the deposits require beneficiation to produce saleable products.

This conference concentrated on the comminution, beneficiation, and agglomeration of iron ore and manganese ore. Comminution covered crushing, screening, and grinding. Beneficiation covered DMS, gravity concentration, magnetic separation and flotation. Agglomeration covered pelletizing, and sintering. Mineralogy and analytical chemistry were also included to highlight their critical contributions to iron ore and manganese ore metallurgy. The current status of the technologies and equipment employed were presented, as well as future developments.

Convenors

Chairman, Marek Dworzanowski (Anglo American)
Ian du Plessis (Multotec)
Jeremy Bosman (Pescos)
Johann Grobler (Independent consultant)
Marius Visser (African Rainbow Minerals)
Henk Bouwer (African Rainbow Minerals)
Carl Bergmann (Mintek)
David Wellbeloved (Kalagadi Resources)

Presentations

Forty-one presentations were delivered over a 3 day period from 5 to 7 September 2011, covering a wide range of comminution, beneficiation, and agglomeration topics within the iron ore metallurgy field. Although there were only two presentations directly related to manganese ore metallurgy, most of the iron ore presentations were equally applicable to manganese ore. The keynote speakers were chosen to present a global perspective on the conference theme, thus allowing local delegates to gain insight into developments in their fields outside of South Africa. On the first day, Professor



Laurindo Leal Filho of Sao Paulo University presented on iron ore flotation in Brazil. On the second day, Dr Xiong Dahe, inventor of the SLON vertical pulsating high-gradient magnetic separator, presented on the applications of the SLON for iron ore and manganese ore in China. On day three, Mr Derek Miller, a retired consultant formerly with BHP Billiton Iron Ore, gave an overview of developments in iron ore metallurgy in Australia over the last 40 years. There was significant interaction between presenters and delegates at the end of each presentation and during the breaks. The technical debates were very constructive and contributed to the knowledge sharing objective of the conference.

Outcome

This event attracted delegates mainly from South Africa. A total of 167 delegates attended the conference, representing mining companies, research institutes, academic institutions, technology suppliers, and equipment and reagent suppliers. Feedback from the delegates was very positive, and a repetition of the event in the future was supported. It is hoped that the future conference will attract more participation from the manganese ore operations, given their virtual absence from this event.

The organizing committee is very grateful to the following companies for their sponsorship of the conference.

- AMEC
- Anglo American
- CiDRA Minerals Processing
- Derrick Corporation
- Eriez Magnetics
- FLSmidth
- Ludowici Meshcape
- Multotec
- Outotec
- ScanMin Africa
- Sinosteel
- Xstrata Technology



M. Dworzanowski

*Chairman
Conference Organizing Committee*