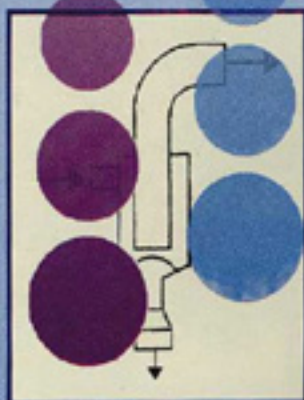
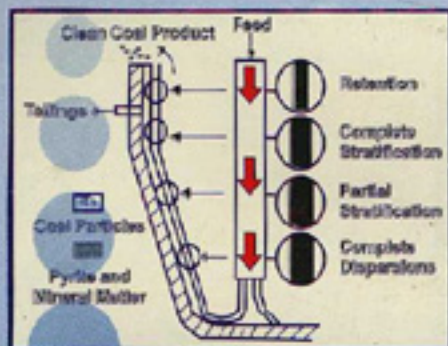
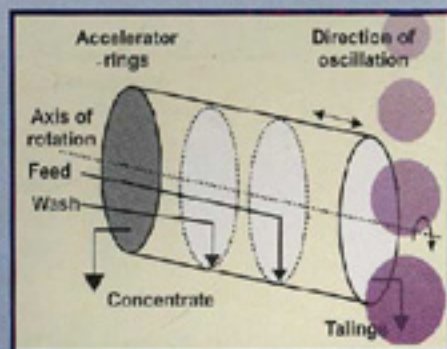


ADVANCED GRAVITY SEPARATION



Editors :
R. SINGH
A. DAS
N. G. GOSWAMI

National Seminar

ADVANCED GRAVITY SEPARATION

(August 30 – September 01, 2007)

Compendium of Papers

Editors :

R. SINGH

A. DAS

N.G. GOSWAMI



National Metallurgical Laboratory

(Council of Scientific & Industrial Research)

Jamshedpur - 831 007

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EDITORIAL

Gravity separation methods which exploit the difference in densities of minerals to bring about a separation are the oldest beneficiation techniques known to mankind. Although with the advent of froth flotation, the relative importance of gravity separation in twentieth century has gone down, substantially higher tonnage of material is treated by gravity concentration than by flotation. Gravity separation is by far the most utilized concentration technique and is an integral part of most mineral processing flowsheets including the processing of coal, beach sands, iron, gold, platinum, tin, tungsten and chromium ores. Gravity based processes are comparatively more economical and environment friendly.

One of the major problems of gravity separation is its limitation in treating particles in the fine size range. During the last two decades considerable R & D efforts have been put in to design and develop efficient gravity separators for the treatment of fines. The application of centrifugal forces in some of the separators has made it possible to treat the fines by gravity methods giving rise to a new genre of concentrators known as enhanced gravity separators. A number of notable developments in conventional gravity separation have also taken place over the last few decades, e.g., teeter bed separators, fluidized bed separators, etc. The urge to keep abreast with the recent developments in this area has been felt by the scientific and academic communities, plant practitioners as well as equipment manufacturers. A National Seminar on Advanced Gravity Separation (AGS-2007) is being organized during August 30-September 01, 2007 by National Metallurgical

Laboratory, Jamshedpur with support from Indian Institute of Mineral Engineers towards an attempt to accomplish this objective.

The present volume consists of papers under deliberation in AGS -2007 covering various aspects of advanced gravity separation. The topics covered include-Role of Characterization in Gravity Separation, Enhanced Gravity Separation, Mathematical Modeling, Processing of Atomic and Industrial Minerals as well as Coal and Iron ore processing.

We are grateful to Prof. S.P. Mehrotra, Director, NML and Mr. K.K. Bhattacharyya, Deputy Director and Head, Mineral Processing Division for their encouragement in organizing the Seminar and bringing out the proceedings volume. We are thankful to all the authors who have contributed papers in the Seminar. Thanks are also due to all the sponsors for their moral and financial support towards the success of the Seminar and publication of the volume.

*30th August, 2007
Jamshedpur*

*R. SINGH
A. DAS
N.G. GOSWAMI
(Editors)*

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