

- (vi) Wet operations, generally, employed in India for processing of iron ores result in the rejection of 15 to 25% of ore processed in the form of slimes (finer than 0.155 mm).
- (vii) Extensive investigations carried out at RRL, Bhubaneswar, National Metallurgical Laboratory (NML), NMDC, etc. on the recovery of iron values lost in the tailing of washing plants of India reveal that nearly 50% of iron values lost can be recovered involving gravity and/or magnetic separation which are commercially established. Superfines recovered can suitably be used as part feed in sinter fines. The processes recommended for commercial operations are (a) cycloning and filtration with or without the use of dispersants and (b) wet high intensity magnetic separation/high gradient magnetic separation.
- (viii) in a typical experiment, it has been possible to obtain a concentrate containing 65% iron, 1.8% alumina and 1.4% silica with an iron recovery of 80% from the tailings of Barsuan iron ore plant containing 52.5% iron, 7.4% alumina and 7.8% silica through selective flocculation employing search. Use of iron values recovered from slimes in fines form as a portion of sinter feed has been found feasible up to 40% in charge with good strength of the product.
- (ix) As compared to the world scenario, the low grade iron ores like banded hematite quartzite (BHQ) or banded hematite shell (BHS) having iron content below 50% have not so far been beneficiated. Only the high grade or marginal grade ores are generally treated by the following process technologies:
 - i) Dry screening process
 - ii) Washing process including wet screening and classification. Very often scrubbing step is preceded
 - iii) Washing and gravity separation (Jigging)
 - iv) Magnetic separation and gravity separation (Spirals)
 - v) The ore processing schemes of some major ore mines are given below: