

## Mineral Processing

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# Mining is the world's fifth largest Industry

Iron & Steel is the Major Industry that contributed most of the developments. But there are many minerals that offer excellent business opportunities for the entrepreneurs of the world.



#### Applications

The Industrial Minerals find extensive uses in Paints, Coatings, Rubber, Adhesives & Sealants, Plastics, Pharmaceuticals, Paper, Agricultural Pesticides, Glass & Ceramics, Digital Devices and other Industries.



#### Mineral Processing

Basics

- Mineral processing is a major division in the science of Extractive Metallurgy. Extractive metallurgy has been defined as the science and art of extracting metals from their ores, refining them and preparing them for use.
- The mineral processing operations are Drilling, Crushing &
  Screening, Grinding, slurry processing, Pyro processing, Material
  Handling, compacting etc
- Mineral processing equipment includes a wide range of machinery and products designed to process ROM stockpile material into a refined mineral unit. These solutions include screening systems, gravity concentrators, hydrocyclones, magnetic separators, filter presses and industrial centrifuges.



#### The Mining Business

Issues Involved

- The mining and quarry fronts are the starting points for recovery of rock and mineral values from surface and underground deposits.
- An important aspect of any mineral processing study is an analysis of how material is distributed whenever streams split and combine. This knowledge is necessary when a flow sheet is being designed and is also essential when making studies of operating plants.
- After locating a deposit, additional testing must be done to prove it can be profitable
- Mines must obtain environmental permits that must follow a set of standards

### Mineral Resources

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## Mineral Data Bases (Partial List)

<u>Asbestos</u>	Cordierites	<u>Fluorspar</u>	<u>L-Selenomethionine</u>
<u>Asphalt</u>	<u>Cryolite</u>	Gem Stone	<u>Lava</u>
<u>Barite</u>	<u>Diamond</u>	<u>Gypsum</u>	<u>Mica</u>
<u>Bauxite</u>	<u>Dolomite</u>	<u>Granite</u>	Micro Silica
Beryllium	<u>Diatomite</u>	<u>Garnet</u>	<u>Chromite</u>
Borax	<u>Feldspar</u>	<u>Iron Ore</u>	Magnesium Carbonate
<u>Calcium Carbonate</u>	<u>Ferrous Pyrite</u>	<u>Kaolin</u>	Phosphate Rock
Carbonate Minerals	<u>Forsterites</u>	<u>Kyanite</u>	<u>Zeolite</u>



