Lab scale mineral beneficiation

Trusted.
Independent.
Committed.

SGS

Our extensive global laboratory network, metallurgical testing facilities & locally available lab scale beneficiation setup support processes used in the exploration and treatment of most minerals, metals and deposits globally.

Beneficiation

Beneficiation reduces the ore size and gange separated from the ore. The beneficiation process is specific to the deposit, as all ores have their unique mineralogy. Separation can occur efficiently by taking advantage of the physical, electrical and magnetic properties. SGS provides a comprehensive range of mineral test work. All physical separation techniques can be tested at SGS, on the laboratory scales. We have expertise in the following beneficiation techniques support most of the processes that are used in the exploration and treatment of most metals and commodities globally. All physical separation techniques can be tested at SGS, on the laboratory scale. We have expertise in the following beneficiation techniques including;

- Mineral Characterization
- Scrubbing
- Crushing
- Bond Ball Mill Grindability Index
- Gravity Separation
- Magnetic Separation
- Selective Flocculation
- Floatation
- Flowsheet Development
- Plant Design Solution

.

Mineral characterization

Mineral characterization involves identifying and describing minerals based on their physical, chemical and structural properties.
GS has full range of services includes various scientific techniques such as XRF, XRD, SEM & Microscopy for grain size determination of wanted minerals vs gangue minerals characterization studies.

Scrubbing

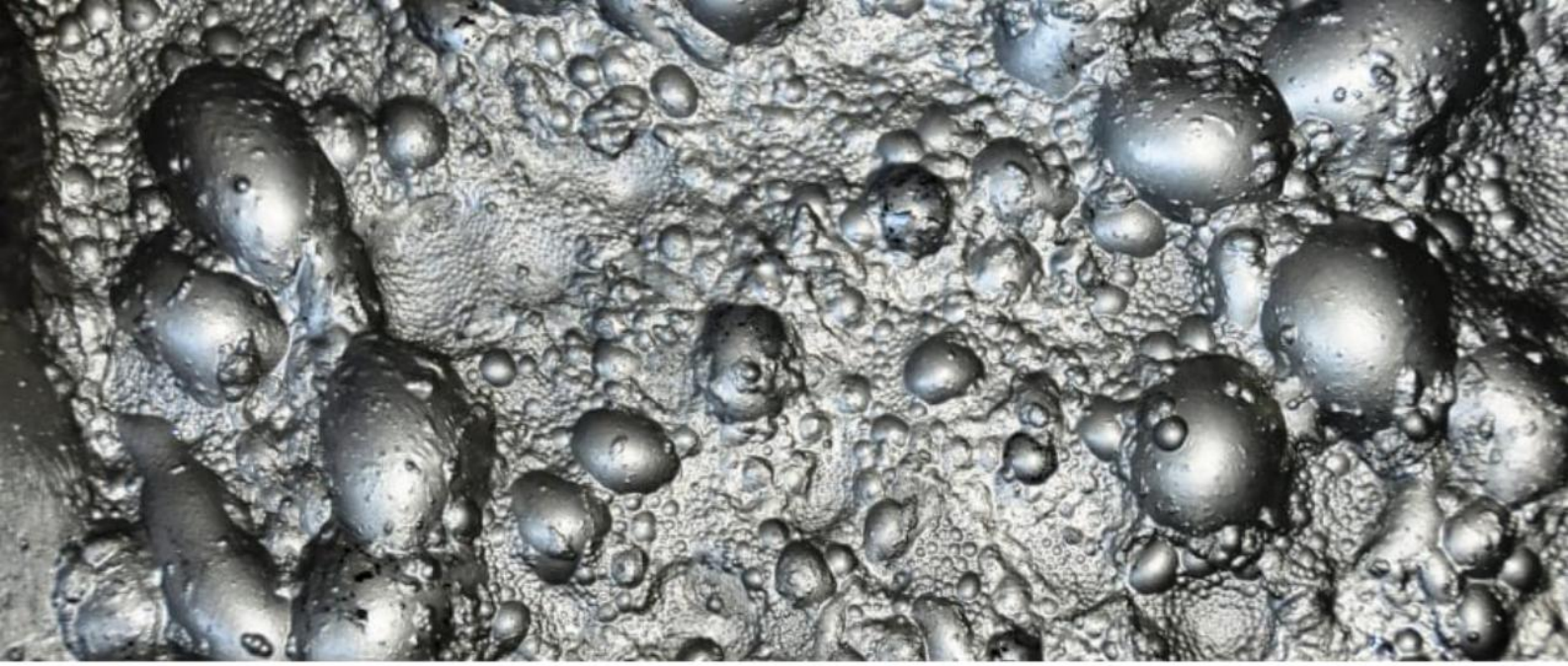
Scrubbing is the process whereby clays, slimes and any potential oxidization present in or on the ore typically is removed by using water. Scrubbing conditions, on the ore surface for further beneficiation. Crushing and grinding are preformed after the scrubbing stage.

Bond ball mill grindability index

This is the measure of resistance of a material to ball mill grinding. It is used to estimate the energy required for grinding a given material in a ball mill.

Gravity separation

Gravity separation separates minerals based on the difference in density. SGS has a full range of gravity separators including jigging, shaking tables and spirals. Given the high efficiency and low cost of this method, gravity separation is the first consideration in a flowsheet development program.



SGS's experience combines knowledgeable skill sets and industry expertise in beneficiation help ensure higher product quality, optimize recovery rates, lower costs and improve revenue.

Magnetic Separation

A full range of magnetic separators is available, from low intensity drum separators to high gradient/intensity separators, in addition to wet or dry feeds. SGS's range of separators meet a wide range of requirements, including:

- Expertise with the designing of magnetic separators suitable for designated minerals.
- Assist with the commissioning of magnetic separators within your process
- Conduct audits of existing operations
- Trouble shooting/diagnostic assistance to overcome processing problems
- Assist with the development of existing magnetic separators to meet new process challenges.

Selective Flocculation

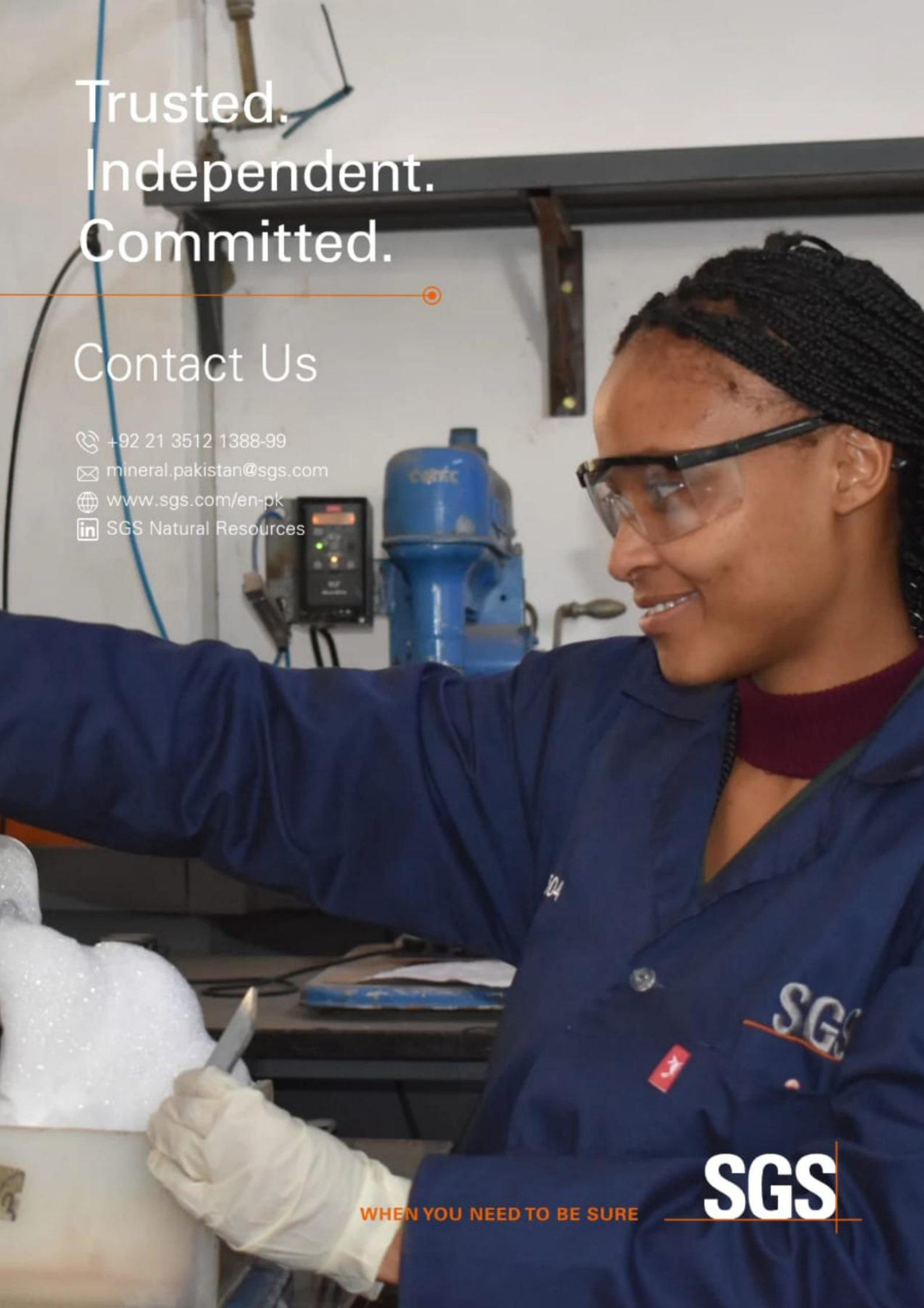
Flocculation is used for the removal of clays and gangue with the use of liquid reagents. Flocculation can be used to separate visible sediments and materials and to treat colloids. A colloid is a solution which looks uniform, but consists of one or more components blended together. Selective flocculation is accomplished through the employment of partially carboxylated polyacrylamides or other reagents as the selective flocculant.

Flotation

SGS has extensive experience designing and installing flotation systems. Our experts understand how to integrate, design, fabricate, commission, maintain and troubleshoot flotation circuits. We have been involved in the design and construction of many mineral flotation circuits globally.

Flowsheet development

Flowsheet development in mineral beneficiation is the creation of a detailed plan outlining the steps to extract the valuable minerals from ore. It includes information on crushing, grinding, separation, and other techniques to optimize mineral recovery



Trusted.
Independent.
Committed.

Contact Us

+92 21 3512 1388-99
mineral.pakistan@sgs.com
www.sgs.com/en-pk
SGS Natural Resources

WHEN YOU NEED TO BE SURE

SGS