Sandstone

The market for natural sandstone products is growing and there is sufficient resource availability to meet the local demand. Growing markets being in the area of tiles, whilst the demand for cladding and building blocks has been growing at a lesser pace, linked to Architectural trends.

Other smaller potential emerging markets that are demonstrating potential for market growth being landscape features, such as paving and curb stones, (linked to Garden trends), mosaics, patio uses, fireplaces and interior features.

Import figures show dramatic increases of over 300% over the last 3 years, whilst exporting of sandstone has in the last 2 years started showing an increase to countries like the USA.

Most sandstone for addressing the South African Tile market is being imported from India and Indonesia, priced at R100 less than local sandstone.

The role of the Small Scale Mining division at Mintek was to assess the forming methods, firing methods and quality control measures. The quality control measures will assist the miners to have standards, which are acceptable to the contractors, and hence bigger volumes of bricks can be supplied to them.

South African sandstone supply has not met market demands due to a number of issues such as price, inefficient supply due to poor or lack of logistical planning and limited colour ranges, and in some areas, linked to bad porosity issues. A local competitor currently being Namibian sandstone which has a purple vein that runs through it.

Five product sets have been identified:
- Natural hand-carved sandstone
- Tiles and mosaics
- Building blocks
- Cladding for buildings
- Other including tombstones, curbstones, fireplaces, landscaping etc.

Mintek
Small Scale Mining & Beneficiation
200 Malibongwe Drive
Randburg 2125
South Africa

Private Bag X3015
Randburg 2125
South Africa

Phone: +27 11 709 4367/4017/4038
Fax: +27 11 709 4581
E-mail: ssmbmarketing@mintek.co.za
Some small scale operators are making a living by mining various dimension stone deposits and selling the material on an ad-hoc basis generally to the building trade.

Examples of projects where Mintek is assisting are:

- Sandstone at QwaQwa where the seven SSMs have been registered and assisted to get their mining permits. A market study has also been done. One of these miners has enough orders to apply for funds to double his output.

- Travertine makes beautiful tiles and slabs and the miner has a mining permit and a viable business plan to develop this industry near Port St. Johns.

- A BEE group was helped to drill their deposit which was shown to contain suitable black granite (dolerite).

- A group of women has been assisted in setting up a beneficiation plant to treat waste granite at a quarry in North West Province. A second group has been trained and are being helped to find funds to set up in Gauteng.

The role of Mintek Small Scale Mining and Beneficiation Division (SSMB) is to create sustainable small scale mining enterprises which will, in turn, create jobs and opportunities for economic development and poverty reduction.

Our philosophy when interacting with SMMEs is to investigate ways to actively involve as much of the local community in the project as possible, even if this integrating with non-mining areas such as tourism and agriculture. Examples of where this approach is being used include:

- Brick making at a waste treatment plant where the waste is used to make concrete bricks for RDP housing;

- Recovering rock from waste dumps, and training the miners to carve the rock into saleable tourist curios.

To service the small-scale mining subsector, we have the following competencies, all with specialisation in small-scale mining:

- Beneficiation and value addition
- Training and skills development
- Quality, safety and environmental issues
- Exploration geology
- Mineral processing
- Applied mineralogy
- Ceramic technology
- Hydrometallurgy
- Electrical and mechanical engineering
- Agriculture
- Business Planning and Marketing
- Social and Labour Planning
- Mining

Mintek SSMB carries out the pre-feasibility and feasibility stages of a small-scale mineral related project and strives to provide a complete package of the technical and financial expertise lacking in the small-scale sector. In this arrangement Mintek SSMB has been involved in more than 20 projects. These have included:

- First-time entrepreneurs with limited experience and expertise have been assisted to set up a granite beneficiation plant to manufacture cobblestones and other products

- Seven small scale sandstone miners have been assisted to obtain their mining permits and will now be helped with the marketing of their products

- They are in the process of developing a tile cutting and polishing venture, and are prepared to assist stone carvers to locate suitable waste from the quarry. This material has the same composition as marble with interesting grey, brown, cream and white wavy lines. Like marble it is fairly easy to carve.

- Aragonite is a sort of calcite and the deposit near the Namibian border ranges in colour from white to orange. Being soft it carves easily and takes on a good polish. This material makes beautiful statues.

- There is a verdite deposit in Mpumalanga near Barberton that is being mined by hand on an ad hoc basis by some SSMs. This material is green and very suitable for carving.

Mintek SSMB has assisted some miners with their application for mining rights to a travertine deposit near Port St Johns in the Eastern Cape.

There are artisans miners at a number of ornamental stone deposits who mine the rock and then sell it if around R2K/ton. It makes more sense for them to beneficiate the rock and add value at their site. Three groups of such miners within South Africa were identified by Mintek Small Scale Mining and Beneficiation Division, and were trained to carve busts and statuettes from the stone near their homes.

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Background

Ornamental Stone

Beneficiaries trained in making ornaments

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Beneficiaries making Granite Cross

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Red granite splitting block

Backgound

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