

Doing more with less

Restructuring a quarry to take advantage of opportunities renders the operation sustainable.



Photographs by Dominic Uys



Janho Quarry & Crushing, a sand quarry in Muldersdrift near Johannesburg, has been upgrading since Renico Construction bought it in 2008. It is one of many contracting outfits lured into managing its own supply chains by owning its raw materials. Despite the failure of many of its peers, Renico seems to be making headway. The company is on a new course of action aimed at reducing resource use and adding to its current product offering.

SECURING SUPPLY

Acquiring the quarry in 2008 for R20-million (about US\$2,4-million), the company's rationale for the acquisition was a marked increase in its involvement in the construction industry and, at that time, construction activity in the surrounding area had been on the rise.

Purchasing a quarry to complement a construction business seems to make sound business sense, especially when one considers the fact that Renico is involved in a number of construction projects in Lanseria, Krugersdorp and Roodepoort. However, it must be noted that many large contractors have burned their fingers badly as this approach requires a thorough understanding of the many disciplines needed to make a success of a quarry venture.

"Gaining control of Janho Quarry not only ensures our holding company's supply of sand and stone in the area but, importantly, also provides necessary products at reduced cost," says quarry manager Lourens Swanepoel. The quarry provides Renico with around 6 000 m³ to 8 000 m³ of sand and stone every month.

IDENTIFYING NEEDS

Restoring order to the quarry was one of the main objectives. "Our main challenge has been changing the formerly chaotic management of the quarry," says quarry manager Lourens Swanepoel. "Excavation was undertaken in a haphazard manner when the property was littered with excavation pits. It seems that digging was done without planning. We immediately outlined an excavation schedule beginning at the furthest end of the property with the intention of working our way to the other. In addition, we created a rehabilitation plan for the excavated pits."

SUBCONTRACTING SHUNNED

The quarry accumulates stockpiles in a two-month cycle. Excavation then stops for two weeks so that maintenance can be completed. "We have not seen too much change in the building sector's demand in our area and, even with maintenance stoppages, we have been able to keep up with demand," Swanepoel states.

As it is able to satisfy requirements, the company has not had to outsource any quarry work, and it does not want to. "In our experience, subcontracting tends to have a negative effect on quality, operational efficiency and costs in the long run," adds Swanepoel. "The large fleet of plant available via Renico Plant Hire makes it possible to ramp up production when needed."

The company is keeping the operation simple which means that the management structure must be as lean as possible. For example, aside from Swanepoel's responsibilities as quarry manager, his portfolio includes logistics and transport management.

CAREFUL CONSIDERATION

To ensure that plans to revitalise the quarry are implemented properly, mobile and existing resources had to be considered carefully. In addition, decisions to expand the main operation have been carried out while further strategic business opportunities are investigated.

OPERATIONAL IMPROVEMENTS

To complement the addition of new mobile resources, and in line with the company's strategy, a new wash plant has been built and a modern 100 000-unit-per-day brick-making plant has been erected – a marked improvement from the 60 000 units produced by the old plant on a daily basis and on target to increasing production to approximately 140 000 bricks per day by 2012. "At the moment, we are only producing around 60 000 to 70 000 bricks of 7 MPa on a daily basis but, with our investment and the old plant which we will continue to use, we are well on course to increase this," says Swanepoel.

A plant to bag sand in 40 kg bags quantities is also on site. Although this operation is not owned by Janho or Renico but a private

BUSINESS SOLUTION

The future of a business lies in its ability to change track in order to pursue a sustainable future.

- 1 Janho is aiming to produce 140 000 bricks per day.
- 2 Accumulating stockpiles in two-month cycles is sufficient to meet the quarry's demand.
- 3 Janho is trying to reduce its resource use and become environmentally conscious. It is focusing on conserving its raw materials and water resources.

contractor, Chris du Toit, it contributes to the quarry's overall profitability. This plant is capable of bagging 400 bags of sand and mixes per hour.

WASTE NOT

One of the important initiatives at the quarry is recycling process water on site. "We use a lot of water in various on-site operations," says Swanepoel. "All water used in our sand-making operation, for example, is routed back to on-site reservoirs for reuse."

However, he points out that all water cannot be recycled. "Water for dust control, for instance, is lost. We use about 10 000 m³ of water and recycle around 8 000 m³ which equates to an approximate loss rate of about 3% per month." The procedure is simple but effective. Water for the brick plants is drawn from a borehole and accumulated rainwater is used in the wash plant. Once used, the water is diverted into a number of settling ponds where the solids are collected. Solids-free water is then pumped to a main operation to enable continuous water supply to the entire operation.

A NEW MARKET

Another measure with more practical than environmental motivation is a building-rubble recycling operation being erected at the quarry. Swanepoel says: "Over the next year or so, we anticipate a significant amount of building rubble and concrete will need to be managed – mainly from Lanseria and the surrounding area. We're, therefore, in the process of obtaining a recycling permit from local government." ■