OUR CASE STUDIES

Garden initiative

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Advancing water circularity and savings through innovative filtration at Rossway Quarry

Raumix's Rossway Quarry in Midrand, Gauteng, continues to strengthen the sustainability of its operations through targeted investment in water-efficient technologies and circular resource management. Following the successful commissioning of the new wash plant in 2025, the quarry has taken a significant step forward by introducing a filter press system that delivers substantial water savings, reduces environmental risk, and enhances long-term operational resilience.

The introduction of the filter press has transformed Rossway's water recirculation process. While the wash plant previously achieved a 75% water recovery rate through its thickener system, the new filtration technology has increased this to between 85% and 90%. The press produces exceptionally clear water, described by operators as comparable to tap water, which is returned directly to the quarry's dams and recirculated into the plant's washing process.

The system also greatly reduces reliance on the site's slimes dam. Historically, fine material from the washing process was diluted and pumped to the dam, contributing to rapid loss of capacity and increasing environmental compliance requirements. By capturing fines in a dry cake format, the new filter press has allowed Rossway to avoid this entirely, significantly reducing the environmental risk associated with the slimes dam storage.

All water used in the plant continues to be sourced from the quarry pit, comprising groundwater, rainfall, mine runoff, and accumulated surface water. No municipal water is used in the operation. Any minor water losses from stockpiles drain back to the pit, contributing to an almost closed-loop water system. The only water released to the atmosphere is through dust suppression, ensuring responsible water stewardship across the site.

The choice of filtration technology followed an extensive investigation into sustainable, cost-effective alternatives for slurry management. Conventional solutions, including geotextile bags, screw presses, and locally manufactured filter presses, were found to be either unsuitable for the ultra-fine particle size of Rossway's material or prohibitively expensive.

Following detailed due diligence, including visits to international manufacturing facilities and operational sites, Rossway sourced a high-quality filter press from a leading Chinese supplier. The unit performed exceptionally well throughout its first year of operation, enabling the quarry to fully automate the filtration process during this time. The system now runs continuously with minimal intervention, reducing operational costs and improving efficiency.

With an average monthly plant water usage of 27 800 kilolitres, the additional 10% recovery provided by the filter press translates to an extra 2 700 kilolitres of water saved per month – more than 32 000 kilolitres annually. These savings directly reduce pumping costs and enhance long-term water security for the quarry, illustrating Raubex's commitment to the sustainability and profitability pillar. Our commitments are embedded in our culture.

The technology also presents new opportunities for product development and waste reduction. The dry cake produced by the press is currently undergoing testing for potential use as a liner material in waste facilities. If validated, this would create a sustainable reuse pathway for what was previously a waste stream.

The introduction of the filter press marks a major step forward in Rossway's transition toward full circularity in its washing process. By separating solids from water with high efficiency, the quarry can recover clean water, generate a stable byproduct for potential reuse, and eliminate the need for traditional slimes storage.

Furthermore, the team believes the technology has broader applications across the wider Group, including at other Raumix quarries and selected OMV operations. With its low capital cost and strong performance, the filter press represents a scalable solution that can support environmental improvements at multiple sites.

The commissioning and optimisation of the filter press mark an important advancement in Rossway Quarry's sustainability journey. By significantly increasing water recycling, reducing dependency on slimes dams, and exploring circular uses for process fines, the quarry is demonstrating industry-leading innovation in resource efficiency. As the operation continues to refine and expand its water-saving initiatives, it remains committed to sustainable growth that benefits both the environment and the communities it serves.

Community beekeeping initiative – growing sustainable livelihoods through partnership

Raubex has long prioritised community-driven development, with a focus on economic participation, local enterprise support, and environmental stewardship. In alignment with these priorities, and as part of Bauba's SLP commitments, a collaborative beekeeping initiative at the Kookfontein Mine (situated in Rustenburg in the North West province) is empowering local entrepreneurs in the community while promoting sustainable land use and biodiversity restoration.

The initiative originated within the Royal Bafokeng Enterprise Development programme, which identified a cohort of aspiring small business owners interested in agricultural opportunities, including beekeeping. Ten individuals, seven women and three men, were selected based on their motivation, commitment, and potential to develop a viable community enterprise. Their participation reflects a deliberate emphasis on inclusivity, female empowerment, and local economic upliftment.

Initially established at an unused section of a local stadium, the project repurposed the old pool area and surrounding trees to house the first hives. With the continued support of the Royal Bafokeng, a permanent site has now been secured on nearby community farmland. This location will enable the expansion of hive capacity, increased honey production, and future value-added activities. The transition will also include essential infrastructure support, such as access to basic services and electricity, helping to strengthen long-term operational sustainability.

A specialist beekeeping service provider was appointed to train participants in technical hive management, safe handling practices, honey extraction and processing, and the maintenance of healthy colonies. Recognising that sustainable livelihoods require robust business management skills, Bauba complemented this technical training with support in financial management, project sustainability planning, and general enterprise administration. These competencies will be essential as the group transitions from start-up phase to a fully independent, self-managed enterprise.

Operating under the brand name Something Sweeter, the group already produces, packages, and brands its own honey and honey-derived products, including lip balm and hand lotion. All packaging, branding, and design work is completed by the participants, showcasing not only their passion for the enterprise but also their growing confidence, creativity, and ownership of the business.

Honey production now consistently exceeds 20kg per month, with products sold both within the local community and to the mine. Honey purchased from the business has also been given to employees and visitors as corporate gifts. In addition, a new off-take agreement is currently being finalised with an external buyer, signalling the enterprise's growing commercial maturity and its ability to access broader markets.

The quality of the group's honey has already received international recognition. Something Sweeter placed third in a global honey competition recently. This is an achievement that demonstrates the potential of rural, community-run enterprises to deliver world-class products when given the right support and opportunity.

Beyond economic and social benefits, the initiative contributes meaningfully to environmental sustainability. Bees are vital pollinators, supporting ecosystem resilience and agricultural productivity. Strengthening local bee populations aligns with regional environmental priorities, particularly in areas where mining operations coexist with community land use. By cultivating sustainable beekeeping skills and promoting pollinator health, the project creates enduring ecological value.

Regular site visits with the DMRE ensure the initiative maintains sound governance, transparency, and alignment with SLP objectives. The partnership between Bauba and the Royal Bafokeng remains central to its success, with Bauba providing funding and technical support while the Royal Bafokeng offers land, coordination, and ongoing collaboration.

What began as a small group of residents exploring agricultural opportunities has developed into a thriving, community-owned enterprise with the potential for future expansion. The initiative demonstrates how strategic partnerships, long-term investment, and grassroots participation can create sustainable livelihoods. It further illustrates how agriculture-based microenterprises can complement mining operations by delivering social, environmental, and economic value.

As the enterprise prepares to relocate to its permanent site, scale production, and enter new markets, it continues to reflect the shared vision of Bauba and the Royal Bafokeng, which is to enable communities to build resilient, self-sustaining futures rooted in local opportunity and collective effort.

Cultivating sustainability at Donkerhoek Quarry: Oscar Sambo's community-rooted garden initiative

When Oscar Sambo first joined Donkerhoek Quarry in September 2024, he brought with him an enthusiasm for growing things, a quiet passion that would soon transform into a tangible expression of Raubex's environmental and social values. What began as a personal initiative to collect small plant cuttings from around the site quickly flourished into something far more meaningful: a thriving garden that demonstrates the power of individual action to influence workplace culture and uplift the surrounding community.

> "What started as a handful of plants has become a living example of sustainability."

Oscar's first steps were simple but intentional. Using only what was available onsite, he began nurturing shrubs and flowers, creating pockets of greenery where before there were only offcuts from the quarry landscape. His efforts immediately caught the attention of colleagues, not only for their visual impact but for the level of care, patience, and intention behind them.

Recognising his commitment, management allocated a small section of land for food production. Oscar began cultivating spinach, cabbage, and onions, relying entirely on natural soil nutrition enhanced by compost he produced himself. By repurposing leaves and bark into nutrient-rich compost, he eliminated waste streams while improving soil health, showcasing how sustainable practices can be implemented without requiring significant resources.

> Oscar shows that sustainability is not just policy, but practice.

Within months, the vegetable garden expanded beyond expectations. Rows of leafy greens and healthy crops became a daily reminder of what can be achieved through resourcefulness and dedication.

Oscar's impact extended far beyond the garden's boundaries. The harvest was generously shared with colleagues, strengthening teamwork and well-being on site. Even more significantly, produce was donated to the nearby primary school, reinforcing the Quarry's relationship with the surrounding community and directly contributing to local food security.

Oscar also cultivated connections in another way by gifting plants to visitors and coworkers. These small, living gifts served as both tokens of appreciation and symbols of environmental stewardship, sparking conversations about composting, gardening, and greener living. Through these exchanges, Oscar brought environmental awareness to life, not through speeches or posters, but through shared experience.

> Through Oscar's hands, Donkerhoek Quarry has gained more than a garden – we've gained a symbol of resilience, community, and care.

Today, the garden stands as a testament to how ESG values can be embedded in everyday operations. Oscar's work demonstrates that meaningful sustainability initiatives do not always begin with large budgets or formal programmes. Sometimes, they begin with one person who sees potential in a patch of ground and chooses to nurture it. Sustainability in Raubex is not just a pillar in our strategy but is embedded in our culture.

His initiative continues to encourage colleagues to think differently about waste, about food, and about the role each person plays in shaping a more sustainable workplace. It illustrates how environmental responsibility and social upliftment often go hand in hand, and how even small acts can create lasting impact.