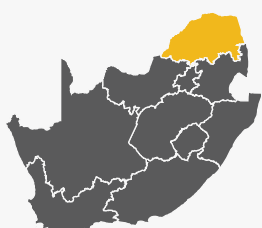




VALTERRA PLATINUM – SANDSLOOT EXPLORATION DECLINE

Ventilation on Demand (VOD)



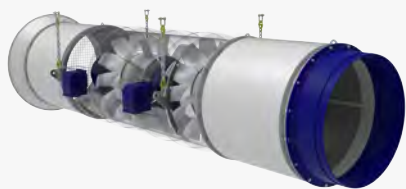
MINE/PROJECT LOCATION:
Mogalakwena Sandsloot, South Africa

YEAR OF PROJECT:
2025

CLIENT:
ValTerra Platinum

CONTRIBUTORS
Angelique Trollip; Warren Marler

PROJECT FOCUS:
Implementation of Dual Speed Fans as part of a Ventilation on Demand System.



PROBLEM:

Valterra Platinum's Mogalakwena Sandsloot Exploration Decline operations faced significant ventilation constraints. The amount of primary airflow that could be drawn from the two declines was limited in the absence of the first ventilation raisebore being holed. The operation employs massive mining methods, and as a result, underground track less mobile machinery with large engine ratings requires up to 45 m³/s of air to be delivered to the working faces.

Additionally, multiple headings often required usable volumes of air simultaneously, necessitating careful ventilation management to prevent recirculation and ensure flexibility during development advances. A Ventilation on Demand (VOD) solution was essential to address these challenges effectively

TECHNICAL CAPABILITY:

Dwyka Mining Services and Clemcorp Australia collaborated to provide a tailored solution.

About Clemcorp Australia: Established in 1993, Clemcorp Australia is a leading supplier of underground mining ventilation equipment. With over 25 years of experience, the company specialises in designing and manufacturing high-efficiency axial flow fans and ventilation control devices. Clemcorp's products are renowned for their reliability and performance in challenging mining environments.

About Dwyka Mining Services: Founded in 2012, Dwyka Mining Services is a pan-African mining technology integration partner. The company focuses on assisting underground mining clients in adopting and adapting to evolving technologies, with a primary emphasis on enhancing safety, health, and environmental conditions. Dwyka's expertise lies in sourcing, developing, and deploying mining-ready solutions across the continent to empower teams with technology for safer operations.

SOLUTION:

Clemcorp Australia supplied CC1400MK4 Dual Speed Axial Fans, each fitted with dual 110kW / 37kW motors, offering up to four modes, including a low speed setting specifically designed to limit the volume of air drawn from the decline. These dual-speed fans are engineered to operate at two distinct speeds, providing flexible and responsive ventilation control aligned with real-time mining requirements. This operational versatility enables the optimisation of airflow, reduces energy consumption, and mitigates ventilation challenges such as air recirculation and damage to ducting, particularly as ducting is extended in newer development ends.

To complement the fan systems, Clemcorp supplied custom-designed dual-speed starter panels. These panels enable the automated control of fan speed transitions, ensuring smooth and efficient adjustments between operating modes in response to evolving ventilation demands.

RESULT:

Valterra Platinum's Mogalakwena Sandsloot Exploration Decline successfully executed the plan, integrating the CC1400MK4 Dual Speed Axial Fans and automated starter panels into their operations. This integration enabled more precise control over ventilation, meeting the varying demands of multiple headings and significantly reducing the risk of air recirculation.

Comment from Valtterra Platinum Staff Member Warren Marler:

"The collaboration with Dwyka Mining Services and Clemcorp Australia has provided us with a robust and adaptable ventilation system that delivers flexibility and allowed us greater control within our ventilation network to meet our specific needs."

An added benefit was the significant power savings achieved by operating the fans at the lower 37kW speed when full airflow was not required. This reduction in power consumption contributed to lower operational costs and improved the project's overall sustainability. The ability to switch between high- and low-speed operation provided Valtterra Platinum with flexibility, demonstrating a clear return on investment (ROI) and helping to justify the capital outlay based on long-term energy efficiency gains.

Comment from Valtterra Platinum Staff Member Angelique Trollip:

"Clemcorp fans have been successfully deployed across several Anglo American and Valtterra Platinum projects. These units have proven to be exceptionally robust, consistently performing beyond standard operating conditions. The introduction of a dual-speed fan fleet has been particularly valuable during challenging conditions at the Sandsloot exploration decline. We continue to collaborate with Dwyka Mining Services on R&D initiatives aimed at further enhancing the manageability and performance of auxiliary ventilation systems across our operations."

PRODUCTS & SERVICES PROVIDED:

- ☒ Clemcorp Dual Speed Axial Fans – CC1400Mk4 (2 x 110kW / 37kW)
- ☒ Dual Speed Custom Remote Starter Panels
- ☒ Ventilation on Demand

CONCLUSION:

The partnership between Clemcorp Australia and Dwyka Mining Services delivered a customised Ventilation on Demand solution that addressed the unique challenges faced by Valtterra Platinum's Sandsloot Exploration Decline. The deployment of the CC1400MK4 Dual Speed Axial Fans, alongside automated starter panels, exemplifies the effectiveness of integrating advanced ventilation technologies with automation to enhance mining operations while achieving operational savings.