

RESOURCES REVIEW

Jarahfire Drilling Exploration - Drilling excellence through experience

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ORICA PARTNERSHIP WITH OYU TOLGOI DRIVING CONTINUOUS IMPROVEMENT

Orica, a global leader in mining and infrastructure solutions, has played a pivotal role in Mongolia's mining sector for over two decades. Through its advanced blasting systems, technical services, and digital innovations, Orica has helped optimise operations across both underground and surface mining sites, none more significant than Oyu Tolgoi.

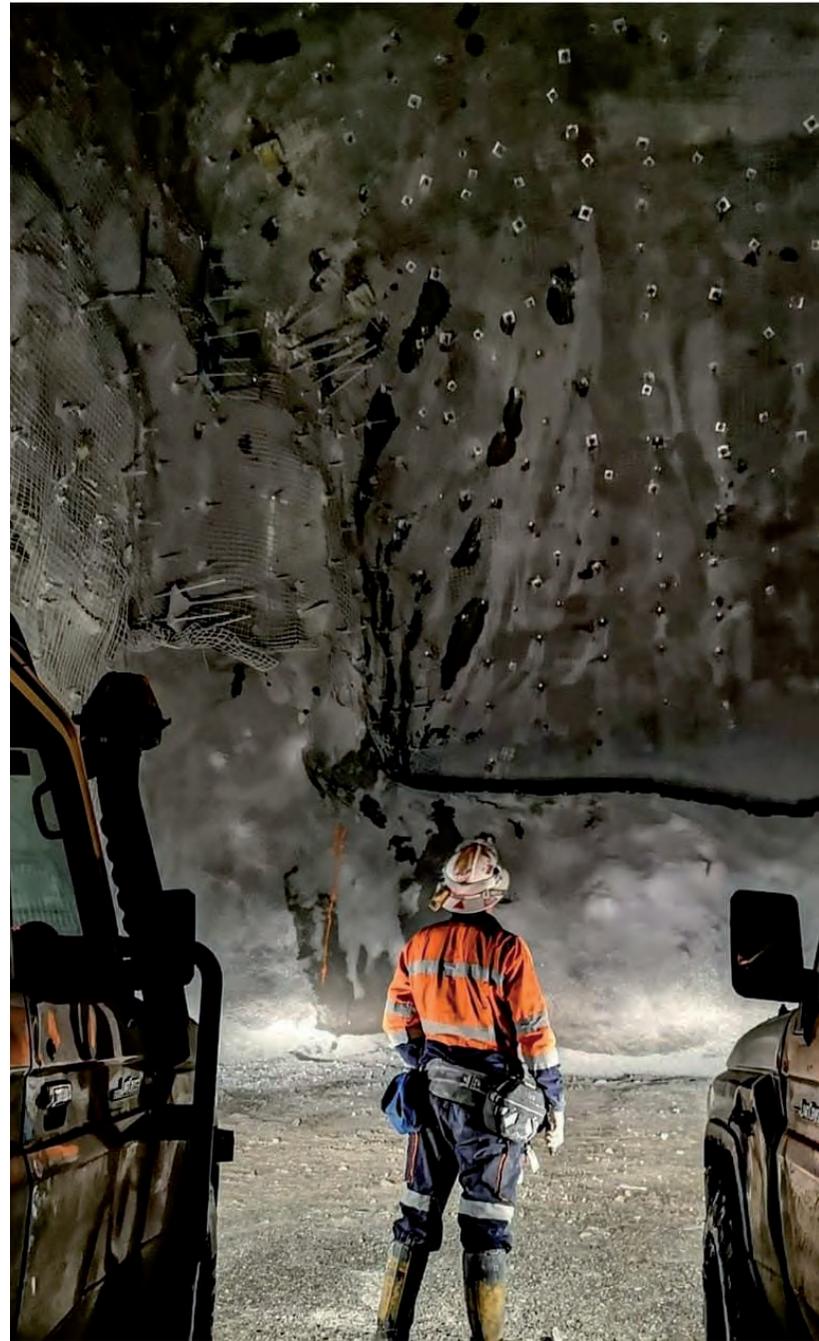
Located in the South Gobi Desert, Oyu Tolgoi is one of the world's largest known copper and gold deposits and an important asset to Mongolia. Following the completion of a seven-year underground expansion in 2023, the site is now on track to become one of the top five copper producers globally later this decade. Orica has been instrumental in this transformation, supporting the mine through a continuous improvement program that has enhanced productivity, efficiency, and cost-effectiveness.

Since partnering with the mine in 2019, Orica has worked closely with the site to drive significant improvements in drill and blast practices to minimise disruptions in shovel uptime and material movement—ultimately reducing the effect on ore quality delivered to the mill.

Chris Batten, Technical Solutions Manager of Orica, explained: “The i-kon III system provides us with the capability to better manage vibration compared to standard non-electric systems. The flexibility in timing allows us to better control the blasts to reduce the risk of damage to the final walls. The use of AVM also gives us the ability to accurately predict the vibration results from a blast and adjust to achieve a suitable result. This combination has helped us work with Oyu Tolgoi to deliver value to their surface operations.”

Orica's extensive range of services integrates seamlessly to provide comprehensive solutions for mine sites. Their offerings include advanced blasting techniques, digital solutions, and specialised services like shaft sinking. At Oyu Tolgoi, Orica's use of i-kon™ III electronic detonators and Fortis™ Eclipse™ bulk explosives has been instrumental in expanding blast patterns and improving fragmentation. This has led to significant cost savings and increased blast volumes, demonstrating Orica's ability to deliver tailored solutions that meet the unique needs of their partners.

Batten said: “The wide range of densities and energies within the Orica bulk product range has enabled us to



The team at Oyu Tolgoi successfully introduced i-kon™ III electronic blasting system on site - the first site in Mongolian mining history to use electronic detonators in surface operations.

“Orica’s commitment to innovation and adaptability ensures that the site continues to benefit from the latest technologies and best practices.”

drive improvements. The ability to expand patterns whilst maintaining suitable fragmentation and equipment productivity has helped us increase blast sizes, improving equipment utilisation and reducing costs. The ability to directly measure blast fragmentation using the Orica FRAGTrack system has also simplified our ability to confirm blast performance linked to any changes and ensure the projects were successful.”

This success is largely attributed to the collaborative approach. By working together to identify challenges, trial solutions, and implement changes, the partnership has fostered a culture of ongoing optimisation. Regular feedback and shared goals have driven consistent improvements in efficiency and productivity.

The continuous improvement program at Oyu Tolgoi has yielded impressive results. By combining production, trim, and presplit blasts, Orica has reduced blasting delays and increased shovel operating time. This has allowed for additional material movement and higher-grade ore processing, adding significant value to the mine’s operations. Furthermore, Orica’s innovative use of pocket charges in the stemming zone has improved blast fragmentation, reducing the need for rockbreaker time and increasing direct feed to the mill.

Luis Grijalva, Territory Manager of Orica, noted: “By partnering with the Oyu Tolgoi team in a structured way with a clear focus on value delivery, we have been able to deliver significant improvements. Working together to identify problems and areas where improvements could drive value to their operations and then delivering as a team has produced quantifiable benefits and brought our teams closer together.”

This long-term partnership has laid a strong foundation for future advancements. Orica’s commitment to innovation and adaptability ensures that the site continues to benefit from the latest technologies and best practices. The successful implementation of combined blasting techniques and pattern expansion has opened the door to further optimisation.

Grijalva said: “The ongoing partnership between Orica and Oyu Tolgoi demonstrates our focus and commitment on continuous improvement from both partners in the search of excellence. Our recently renewed agreement acknowledges the capability that Orica has, to work with Oyu Tolgoi in delivering value to the operation and speaks to the solid relationship



The team at Oyu Tolgoi during an important milestone in 2022 - breaking through to underground with the C2S project conveyor decline.

that we have built as a result. We are also very proud of our Mongolian Technical Services Engineers who are driving these technologies and the introduction of Orica’s global innovations to the Mongolian mining industry. Continued advances that Orica has developed in blasting technology such as WebGen, Cyclo, 4D and FRAGTrack Gantry provide us with additional opportunities to work together with Oyu Tolgoi, unlocking more opportunities to optimise Oyu Tolgoi mining operations.”

Partnering with Orica means more than just accessing world-class blasting solutions — it’s about joining forces with a trusted leader in technical knowledge, digital solutions, and agile problem-solving. Orica’s ability to rapidly adapt to changing site needs, develop tailored solutions, and deliver consistent results makes them an invaluable partner for mining and industrial operations. With a global footprint that ensures security of supply, and expert teams available for on-site consultation and technical support worldwide, Orica is ready to help operations thrive.

To download full case studies on Oyu Tolgoi or discover how Orica can help your site achieve more, visit www.orica.com.