



WOLFF
MINING

CAPABILITY STATEMENT



Innovative and Automotive Solutions



About **Wolff Mining**

Wolff Mining (Wolff) provides a range of automated and innovative solutions such as large scale satellite bulk dozer push, semi-autonomous blast hole drilling, contract mining services, excavator pre strip fleets, civil earthworks, site clearing and rehabilitation works.

Why choose Wolff Mining?

Wolff Mining (Wolff) provides a range of automated and innovative solutions. We offer a wide variety of heavy equipment that includes 80-800 tonne Excavators, CAT D11T Bulldozers, drills and a range of ancillary equipment.

Wolff Mining is well-known in the industry for our ability to implement and optimise semi-autonomous tractor system (SATS) technology, in a world's-first application into a mining production environment.

We pride ourselves on innovation and technology and have been recognised for our efforts by winning multiple awards, including Contract Miner of the Year at the 2018 Australian Mining Prospect Awards.

Wolff also has long standing relationships and arrangements in place with manufacturers and suppliers such as Caterpillar, Hastings Deering and Komatsu, as well as long-term contracts with major mining companies including BHP Mitsubishi Alliance (BMA), Wesfarmers and Peabody Energy.

NATIONAL GROUP

Wolff Mining is part of the National Group. The National Group comprises of leading companies from the mining, resources, transport and logistics industries.

Being part of the National Group enables us to offer tailored solutions through our extended range of products, services and complementary entities. This adds significant value and process efficiencies that can be passed onto our customers.

Contact Wolff Mining

For more information, contact Wolff Mining on:

Phone: 1300 848 461
Website: www.wolffmining.com.au
Email: Leon.Williamson@wolffgroup.com.au
Address: Level 3, 68 Marine Parade,
Southport BC, QLD 4215



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Semi-autonomous tractor system (SATS) technology

Wolff Mining has an established partnership with Caterpillar and Hastings Deering to implement and optimise semi-autonomous tractor system (SATS) technology, in a world's-first application into a mining production environment.

World's first SATS Technology

Our implementation of SATS into a mining production environment is a 'ground breaking' technological advancement and the world's first application. Wolff Mining has established an ongoing partnership with Caterpillar and Hastings Deering to implement and optimise semi-autonomous tractor system (SATS) technology.

We are leaders in the field of mining automation, with the necessary experience, expertise and a proven track record. We have the products, technology and capability to consistently meet and exceed expectations.

Wolff Mining can help up-scale mining operations, increase production efficiencies whilst minimising costs and the risk to employee or contractor safety.

As the technology is further developed, the system is anticipated to deliver productivity outcomes that rival or even overtake manned dozer operations.

Maximum efficiency at minimum cost

Increased utilisation has resulted in cost reductions, increased efficiency and productivity resulting in mutually beneficial outcomes for our clients'.

SATS technology has consistently and comparably demonstrated advantages over manual in-cab operations. Due to eliminated exposure of workers to unsafe or harsh working environments, safety improvements have also been realised and the welfare to workers vastly improved.

SATS allows for the semi-autonomous operation of up to three dozers by one operator from a mobile remote office (WACC).

This process enables maximum efficiency and increased production at minimal cost.

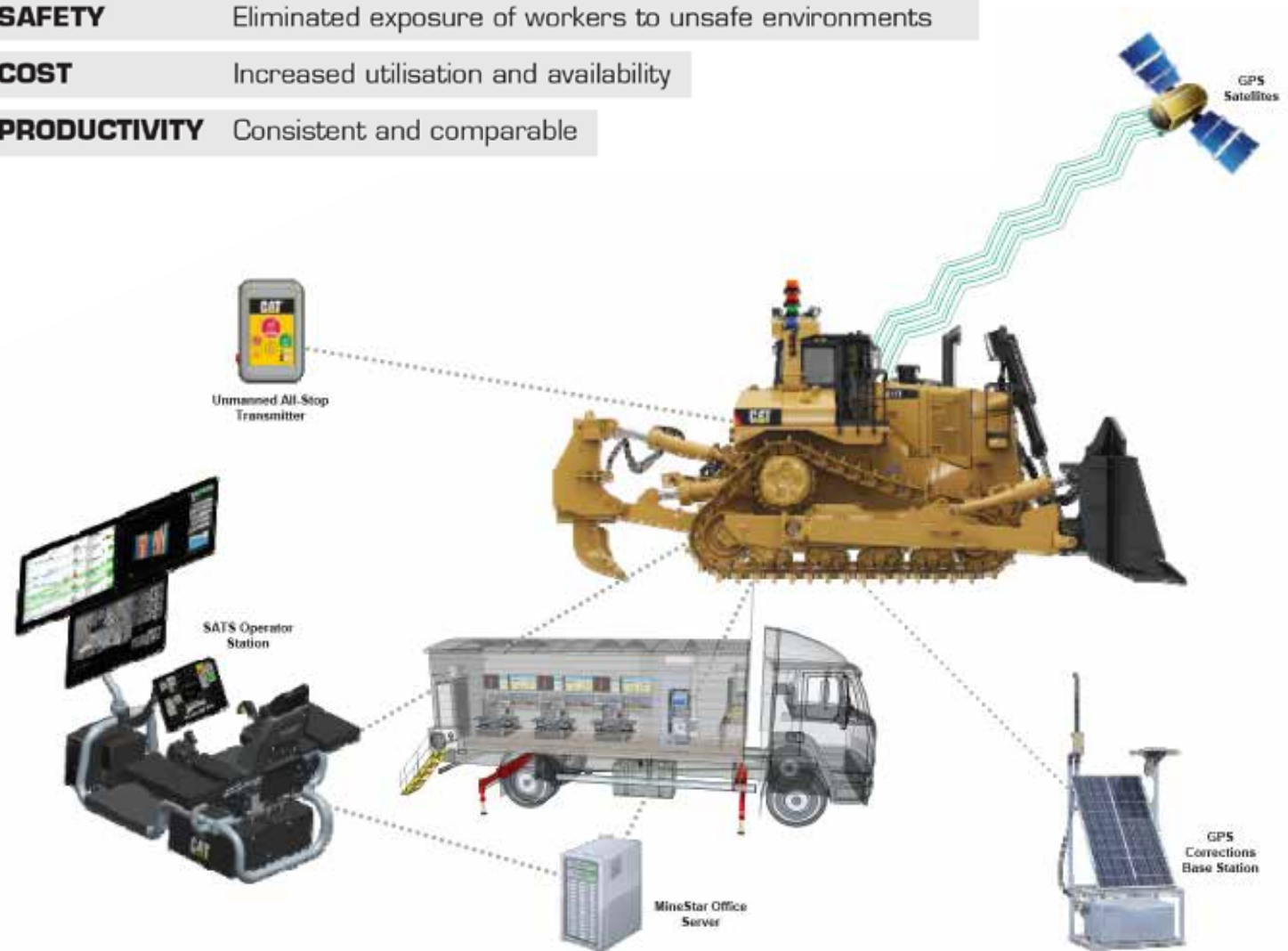


**WOLFF
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A focus on innovation, automation and technology

- ✓ **SAFETY** Eliminated exposure of workers to unsafe environments
- ✓ **COST** Increased utilisation and availability
- ✓ **PRODUCTIVITY** Consistent and comparable





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Semi-autonomous large scale satellite bulk dozer push

Wolff Mining is recognised as the leading satellite bulk dozer push operator, with operations to be expanded throughout Australia and internationally.

Satellite bulk dozer push

Wolff Mining is recognised as the leading satellite bulk dozer push operator in the Bowen Basin, Central Queensland (CQ) area. We are currently expanding our operations throughout Australia and internationally.

Past and current bulk dozer push contracts have resulted in volumes up to 4,800,000 LCM's a month and 36,000,000 LCM a year in the CQ area alone.

Over the past ten years, we have been operating major dozer push projects and have consistently exceeded our clients' safety and production targets.

Wolff Mining has continued to lead the industry in large scale satellite bulk dozer push and continues to further refine and develop methodology.

The new methods have included trailing new technology and the ongoing analysis of input factors to achieve maximum productivity and cost effectiveness.

Extensive bulk dozer push experience

BMA Blackwater Mine

Completed (2007 - 2014) bulk dozer push contract of approx. 50M LCM.

Wesfarmers Curragh Mine

Commenced 2008, approx. 65M LCM of bulk push and coal uncovering works utilising a fleet of D11T Bulldozers and an Excavator. In 2013, Wolff Mining was awarded an additional contract for dozer push operations.

Yancoal Yarrabee Mine

Completed (2011 - 2013) bulk dozer push contract of approx 10M LCM.

Peabody Moorvale Mine

Completed a bulk dozer push contract during 2016.

Peabody Coppabella Mine

Wolff Mining commenced a three-year bulk dozer push contract during 2015.



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Semi-autonomous blast hole drilling

Semi-autonomous blast hole drilling

Wolff Mining can provide semi-autonomous CAT MD6420B Blast Hole Drilling Rigs and facilitate drilling services. The MD6420B comes as standard with automatic features such as auto-level, single pass auto-drill and auto raise/lower mast.

Designed for heavy open pit and surface mining, the drills produce greater operating fuel efficiency, safer and more precise electro-hydraulic controls, computer controlled drilling and real-time machine health monitoring with built-in diagnostic tools. We are continuing to further extend the automated features on our expansive range of drills.

Experience with blast hole drilling

Peabody Moorvale Mine

On site since 2015 with a 3 year contract. In addition, Wolff Mining are contracted to operate and maintain Peabody's Atlas Copco pit viper Blast hole drill rig.

Peabody Coppabella Mine

On site since February 2016 undertaking blast hole drilling services at a rate of 35,000m/month.





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Mining services

Civil Construction

Wolff Mining has extensive experience in mine site civil earthworks and provide a range of services including; exploration and drill pads, seismic lines, road construction and maintenance, haul road construction and maintenance, pit and spoil drainage design, top soil removal and placement and dragline pad construction.

BMA Blackwater Mine

Long term contract from 2007 for back access road maintenance and geo works. Additional 2016 civil contract work for road construction and CHPP maintenance.

Minyango

Seismic lines and drill pad construction, including pad rehabilitation.

Wesfarmers Curragh

S-Pit Sediment Control - Construction Project Management.

Pre-Strip Topsoil Removal

Wolff Mining's extensive experience in the black coal industry enables the company to provide innovative and cost effective contract mining solutions.

These have included the provision of pre-strip fleets and the management and operation of principle supplied fleets.

We have an expansive fleet and an experienced pre-strip workforce. This enables us to offer fast turnaround times of pre-strip and topsoil removal processes to the highest of standards.

BMA Saraji Mine

On site since July 2014 - 2016 with a project team of 12 removing topsoil and undertaking ancillary earthworks.

Peabody Coppabella Mine

Completed during 2012 full box-cut and east pit re-alignment of 6M BCM over 11 months.



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Mine Site Rehabilitation

Rehabilitation Services

Mine site rehabilitation is an important step in order to ensure plants, animals and local communities can continue to prosper post-mining.

Wolff Mining's site clearing and rehabilitation capabilities includes the clearing and grub of greenfield sites, general mine site maintenance, site rehabilitation including re-shaping, topsoil spreading and seeding.

Wolff Mining uses dozer push optimisation techniques to produce rehabilitation designs, which incorporate water catchment and contour banks built into the final surface as opposed to building on top of final land formations.



This methodology results in a more stable landform, incorporating drainage works as constructed and therefore minimising erosion.

Wolff uses GPS controlled equipment for maximum efficiency when facilitating mine site rehabilitation services such as our one pass seeder and fertiliser machine. Our CAT D9 comes with a seeder hopper on the front and a fertiliser spreader at the rear.

We also work to ensure that generous amounts of vegetation are left along the cut and fill intersections. This can be raked into parking areas while bulk earthworks are undertaken and later placed on top of the final surface to create sanctuary for wildlife and plants.

Our services go above and beyond current legislative requirements and we can tailor mine rehabilitation services to suit your short and long term goals.





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