

**Murray
& Roberts**

**Murray & Roberts
Cementation**

CAPABILITY
AND SERVICES







INTRODUCTION

As a member of the Murray & Roberts group of companies, Murray & Roberts Cementation is a world-class mining contractor based in Johannesburg operating throughout Africa. We have been credited with the reputation of introducing the concept of contract mining to South Africa. This work was traditionally the exclusive domain of mine owners.

Our range of capabilities and services covers the entire spectrum of the mining value chain. It includes contract mining, mine development, mine engineering and mine services. We also operate the internationally respected Murray & Roberts Training Academy, focusing on occupationally directed technical skills and safety training.

Operational excellence is the foundation of the value we add to our clients. Our unique offering includes a specialised skills base and core mining technologies, with strategic equipment deployable globally.

Well known as a world class implementer of projects, we understand the nature of our clients' businesses. This knowledge and experience is leveraged to develop and implement client solutions and solve problems.

With a team that is committed to safety and environmental awareness, Murray & Roberts Cementation is a first choice mining contractor providing the best value underground mine development and contracting services.

ABOUT MURRAY & ROBERTS

Murray & Roberts is internationally recognised as a leading mining contractor as well as an engineering contracting and construction services company. Murray & Roberts Cementation is a South African based subsidiary of the Murray & Roberts Group.

The Underground Mining platform of Murray & Roberts operates globally, and its service offering spans the project life cycle. This includes feasibility studies, specialist engineering, vertical and decline shaft construction, mine development, specialist mining services such as raise boring and grouting, and contract mining. As one of the largest underground mining contractors in the world, the platform has significant market share in the jurisdictions in which it operates.

It has recently been engaged on projects in Australia, Canada, Indonesia, Mongolia, South Africa, USA, Mexico, Chile, Kazakhstan and Zambia. These include shaft sinking and equipping projects, decline and mine development projects, production mining projects, support and construction projects, and major ore handling infrastructure construction projects.

Murray & Roberts is a group headquartered in Johannesburg and is listed on the JSE. It also has offices in Mozambique, Zambia and Ghana. Australia, USA and Canada.





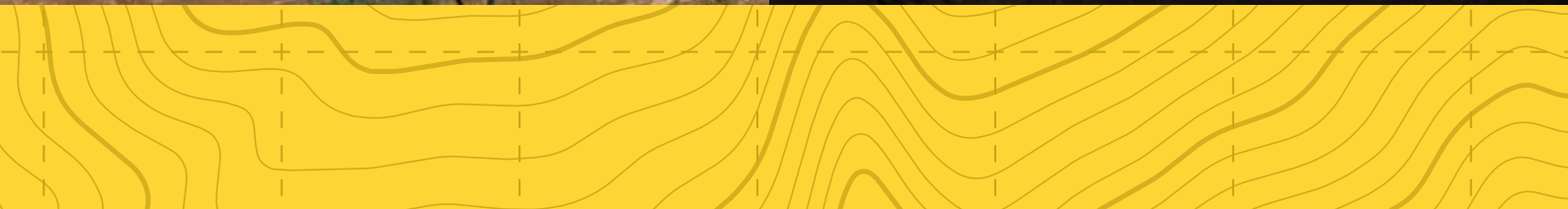
ABOUT MURRAY & ROBERTS CEMENTATION

As a world class mining contractor, Murray & Roberts Cementation offers a unique value offering to its markets. We provide a focused range of service offerings to our clients including the design and building of underground mine infrastructure and the specialised contract mining of underground operations. We have Joint Venture partners (Incorporated and Unincorporated) in Namibia, Tanzania, the DRC and Ghana where we undertake projects. In South Africa, we operate coal mining ventures with our Joint Venture partner.

Our strong strategic relationships make us the first choice for mining companies from upfront design to construction and operation. We add value to our clients through operational excellence, leveraging our skills base to provide flexibility for mining clients. We bring world class mining technologies to our projects, with globally deployable strategic equipment.

We are known for our efficiency and superior project delivery underpinned on a strong safety record. Our in-house design capability ensures streamlined and cost effective constructability. Our reputation as a world class implementer is grounded in our detailed understanding of our clients' businesses and needs. This allows us to harness our knowledge and experience to find solutions and solve problems while applying integrated operational risk management systems.

We engineer excellence into our projects by applying a suite of powerful systems. These include managing projects to Project Management Professional (PMP) principles, and achieving Zero Harm through systems such as the fatality risk control programme (FRCP). Our systems also put us at the leading edge of organisational performance in maintenance management, digital information strategy, talent management and performance management.





CONTRACT MINING

Murray & Roberts Cementation undertakes mechanised contract mining from early stages in the project life cycle.

From the detailed planning and procurement, we can equip and supply all necessary resources and services, and conduct ore extraction activities. Our services include mechanised mine development and production mining, mining equipment and fleet maintenance, and underground infrastructure design and installation.

MINE DEVELOPMENT

Murray & Roberts Cementation offers a complete range of mine development services including vertical and decline shaft sinking and equipping, and underground bulk excavation and haulage development, as well as tunnelling for stoping.

We develop large underground chambers such as hoist rooms, pump chambers, silos, dams and ore passes and install support and infrastructure necessary while also carrying out underground construction including civil engineering, mechanical and electrical aspects.

MINE ENGINEERING

Murray & Roberts Cementation fulfils an important need within the mining industry for an independent design-and-build service for shaft sinking and related mining activities. This specialist service is a natural extension of our in-house design services provided to support operational divisions. The service integrates our practical knowledge of mining operations with the design capability of a mine engineering department and the data banks of the estimating and scheduling department.

The outcomes are functional designs that is both practical and directly related to the operational services we offer in shaft sinking, contract mining, raise drilling, and other mining services. For the benefit of its customers, the global Murray & Roberts Group of mining businesses offers a forum for the exchange of cutting-edge techniques and best practices suited and tailor-made for every situation.

The key value offerings from Mine Engineering are: conceptual studies relating to shaft design, shaft sinking and infrastructural services; specialist pre-feasibility and feasibility studies for these services; mine design for sinking, horizontal development, stoping, surface infrastructure and backfilling; and shaft furnishings including hoisting conveyances, loading arrangements and materials handling facilities. We also offer draughting for mechanical, structural, piping, electrical and civil fields, as well as project estimating, scheduling, procurement, document control and operational risk assessment.



MINE SERVICES

Murray & Roberts Cementation is uniquely positioned to offer a comprehensive range of mining services. These include medium and large diameter shaft drilling both for hoisting and ventilation, drain and rescue hole drilling, underground exploration drilling, drop raising; and high pressure underground water management, control and cementation, water doors, cover drilling and grouting. We also construct underground dams and high pressure bulkheads, and design, construct and operate grout plants.





ENGINEERING SERVICES

Our Engineering Services facility, situated near Carletonville in South Africa's Gauteng province, provides specialised services to internal and external clients. These services address fields of scarce skills related to underground mining and construction, and in certain circumstances to plant and equipment. Our workshops conduct plant and equipment repairs and rebuilds, linking with the Murray & Roberts Training Academy, for the further hands-on development of artisan and technical skills.

For clients needing skills support, we are able to field highly specialised teams to carry out mini-projects in applications such as hoist rope installations, remedial rope repairs, complex surface-to-underground rigging, hoisting shaft repairs, and the installation of underground structures such as tips and conveyors. Similarly, we can also provide teams with skills in underground dewatering, dynamic winder testing, troubleshooting and rebuilding of trackless mining machinery (TMM), and digitisation field support and network installations.

All work is carried out with quality assurance and quality control planning and oversight and in accordance with our ISO certifications. Our strong balance sheet gives comfort to clients that delivery will not be compromised by cash constraints.

Engineering Services is also the custodian of the company transport fleet, strategic winder, compressor, fixed plant assets, shaft sinking and TMM mining equipment used on our projects – operating on a commercial rental basis. We pride ourselves on our values, safety performance, cost competitiveness, technical expertise, quality of work, response time and professionalism.

TRAINING ACADEMY

The Murray & Roberts Training Academy is a division of the Murray & Roberts Cementation Risk Department, focusing on occupationally directed technical skills and safety training. It is a fitting alignment in that everything we do is directed at managing the inherent risks that are common in people-driven workforces. Our objective is to make your workplace safer, more productive, technically proficient and values driven.

We take the risk out of workplace challenges ensuring not only that people are technically competent, but that they also adhere to occupational safety best practices. These in turn will reduce or eliminate workplace accidents, and create an environment that is fully compliant with industry-specific safety regulations. By cultivating the right attitudes and behaviours, your business can move forward in a dynamic and highly competitive business landscape.





Through a unique combination of blended learning encompassing instructor-led, simulations, virtual reality and online training modules, the Murray & Roberts Training Academy provides our clients with customised, site-specific training solutions for all levels of employees. Our training solutions cover occupational health and safety, technical skills competence and regulatory compliance.

The effectiveness of our training is based on our approach. Every business has unique operating environments and specific challenges; our solutions are a blend of best practice standards as well as bespoke solutions designed around customers' specific needs. Our methodology incorporates a range of technology such as e-learning, simulation, visual based training and integrated assessment based training that guarantees training with impact.



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