



Mine Mechanisation & Equipment (Pty) Ltd

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CRUSHER & CONVEYOR

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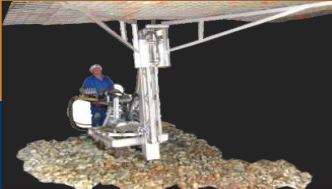
PIPE DESCALE & REBORE

3



TANKS • PONDS • CELLS

BLAST AREA CLEARING & SUPPORT



4

HEAVY DUTY VACUUMING



5

EQUIPMENT & WASHBAYS



6

C o m p a n y P r o f i l e



INTERNATIONAL



MINING



MANUFACTURING

BREAKTHROUGH MINING TECHNOLOGY

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COMPANY PROFILE



**MINE MECHANISATION & EQUIPMENT (PTY) LTD.
UMUSA MANUFACTURING (PTY) LTD.
UMUSA MINING & SERVICES (PTY) LTD.
MME INTERNATIONAL (PTY) LTD.**

Headquarters & Manufacturing Facility

Doornfontein Gold Mine

P.O. Box 779 ◦ Carletonville ◦ 2500 ◦ South Africa

Sales - South Africa

Tel: +27 (18) 789 1000 Email: sales@minemech.co.za

Sales - International

Tel: +27 (87) 701 1181 Email: salesdesk@mmei.co

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MINE MECHANISATION & EQUIPMENT (PTY) LTD

MM&E was established by Byron Christos in 1987 as a Mining Contracting Company with emphasis on mechanising of underground operations in the Gold and Platinum Mining industries.

Over the subsequent years the company developed a range of mining equipment, which is manufactured at its extensive facilities situated at the former Doornfontein Gold Mine in Carletonville.

The Company has established a reputation for Service Excellence.

UMUSA MINING & SERVICES (PTY) LTD

A Broad Based BEE (Black Economic Empowerment) Company established in September 2005 to take over all Mine contracting and manufacturing functions of Mine Mechanisation & Equipment (Pty) Ltd. (MM&E).

Shareholding of the company is held by MM&E and the UMUSA Trust with holdings of 70% and 30% respectively.

The Umusa Trust Shareholding is held by ten Charity Organisations active in the mining areas serviced by Umusa Mining.

Their mandate is to assist the poor, the sick, the aged and orphans, and to be a catalyst towards bringing conciliatory conditions whereby the mining industry, business and unions can work together to create jobs and dignity for the thousands of unemployed and unrepresented workers throughout the third world.

MME INTERNATIONAL (PTY) LTD

In 2015, MM&E established MME International (Pty) Ltd. This restructuring became necessary to effectively service the growing international business. All business outside of the Republic of South Africa is now handled by the international arm.



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MISSION STATEMENT

THE CORPORATION WISHES TO BE RECOGNISED FOR IT'S LEADERSHIP IN DEVELOPING EQUIPMENT, AND METHODS WHICH WILL IMPACT POSITIVELY ON UNDERGROUND PRODUCTIVITY AND WORKER ENVIRONMENT AND THEREBY MAKE A SUBSTANTIAL CONTRIBUTION TOWARDS JOB CREATION AND SUSTAINABILITY IN THE MINING INDUSTRY.

THIS OBJECTIVE WILL BE ACHIEVED WITH COMMITMENT, INTEGRITY AND EXCELLENCE, WHILST DEVELOPING THE SKILLS OF OUR PEOPLE.

JOB CREATION IN THE MINING INDUSTRY

The Corporation has developed specialised mega water jetting and Hydropower Stope and Development Drilling Operational Systems which have been proven to not only **increase mine production and profit by a minimum of 25%**, but also to create more job opportunities in other surface & underground skills categories.



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The MM&E Headquarters and Main Manufacturing Facility are situated at the former Doornfontein Gold Mine in the Carletonville District, South Africa (GPS: -26.401002, 27.320681)

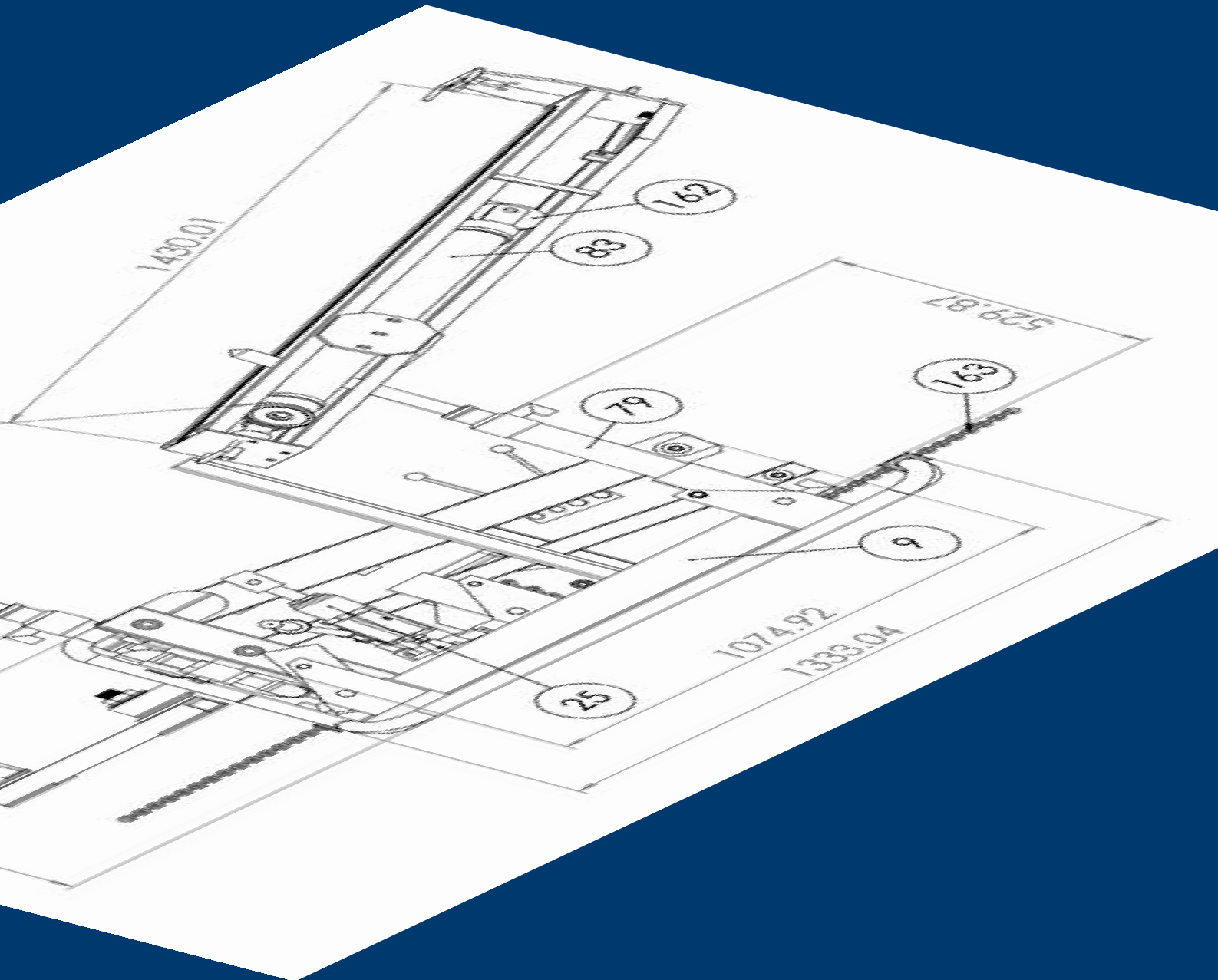


UMUSA MANUFACTURING (Pty) Ltd. workshops have been extended to 13000 m² to accommodate all manufacturing requirements including design, casting, fabrication, machining, electrical and mechanical fitting and finishing, to produce a wide range of products for the mining and other industries.

QUALITY

Our commitment to the highest quality control standards, processes and technology reflects our 30-year history of designing, manufacturing and servicing mining equipment that has made us the foremost supplier of mine bulk ore clearing and mega equipment cleaning solutions worldwide.

This commitment to quality is a key reason that we have remained the undisputed leader in mine jetting equipment for over 3 decades.



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CONTRACT SERVICES



Long-hole blast area cleaning and clearing utilising the MME Water Cannon and remote jetting buggy

Plant Cleanup Services covering silos, tanks, liners, piping systems and dams

Conveyor Spillage Clearing during operation (Zero downtime) utilising the MM&E Waterjet

Use of **MM&E's range of vacuum systems** for cleaning shaft bottoms/pits, removing mud accumulations and bulk high-grade ore recovery

Comprehensive Stope Cleaning Services including controlled water jetting and operations reporting

Vamping and Opening using MM&E single and double drum winches and water jets.

Semi-Mechanised Support Installation utilising MM&E Hydro-powered Roof bolter rigs

Hydro-powered long anchor drilling, installation of long anchors and cleaning utilising the MM&E Swivel Boom Moon Buggy Drill Rig and MM&E Water cannon

Shaft Sidewall and Orepass Clearing Service



MME WATERJETTING SYSTEMS

The single most effective tool for increasing tonnage



POND CLEANING IN MAURITANIA

Over the past 25 years the MME Mega Waterjet has been used extensively in the mining industry for the clearing of underground workareas, long-hole blast area cleaning, inclined and vertical shafts, haulages and orepasses, the cleaning of plant silos and tanks, dams and ponds, dump pockets and surge bins, as well as liners, pipe systems and heavy equipment (mobile assets).

In recent years it has also become a popular means of clearing conveyor spillage, primarily because this work can be carried out in confined areas with minimal or zero downtime. There is simply no better tool for the clearing and cleaning of debris and build-up across every facet of mining operations. To date over 4000 units have been commissioned, the overwhelming majority of these being in the mining industry. Over the past two and half decades we have developed methods and techniques utilising the jet that have made it the premier tool for mine clearing and cleaning operations.

Flow rate and Pressure

The waterjet provides 12 m³/hour of water at a nozzle pressure of 6 MPa and a reaction force of 43lbs. This ratio of flow rate to pressure has been found to be the most effective approach in the removal of residue build-up in pipes, liners, tanks, shafts and container sidewalls and for the clearing of blast material, dump pockets, surge bins and conveyor spillage. The clearing of run-of-mine rock is effective up to a distance of 12 meters from the nozzle (based on fragmentation < 300mm). Cleaning of piping systems with the use of the ROTOBORER® Pipe Descaling Rotors and plumb-rod lead-coupler can effortlessly be accomplished for lengths exceeding 60 meters. Further, the higher flow rate and comparatively lower operating pressure of the MME waterjet significantly reduces the risk of damage to piping systems, shafts, conveyors and other structures.

Manufacturing facilities and field operations

The MME Waterjet is manufactured in-house at our factory located in Carletonville, 100km outside of Johannesburg, South Africa. MME currently employs a workforce of approximately 850 in the field, of which 40% are involved in cleaning contracts and the remainder in onsite maintenance contracts.



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LIQUID RING VACUUM SYSTEMS

The quintessential bulk high-grade ore removal solution



MVAC 1700 & 3000

The M-Vac Liquid Ring Vacuum System is the optimal alternative for bulk ore and waste removal when conventional extraction methods are impractical. The multi-stage separation system includes patented automatic discharge mechanisms on both the primary collector bin and fines cyclone bowl. Consequently, operations are able to continue unimpeded.

The M-Vac comes in both mobile and portable versions and the smaller models can be rail mounted for the clearing of haulages and cross-cuts. The M-Vac 3000 is also available in a trailer mounted Diesel model.

Capacities range between 3.5 tons/hour to 7 tons/hour and volumes up to 5.4 m³/hour, and with particle sizes of up to 75mm.

PRIMARY COLLECTOR BIN

The mechanical automatic discharge system discharges wet and dry materials whenever the bin is full.

The bin will remain open for a maximum of 5 seconds ensuring continuous operation.



FINES CYCLONE BOWL

The unique design of the bowl provides cyclonic collection of fine particles and water carry-over from the collector bin.

The patented mechanical bypass system allows for uninterrupted operation during discharge.



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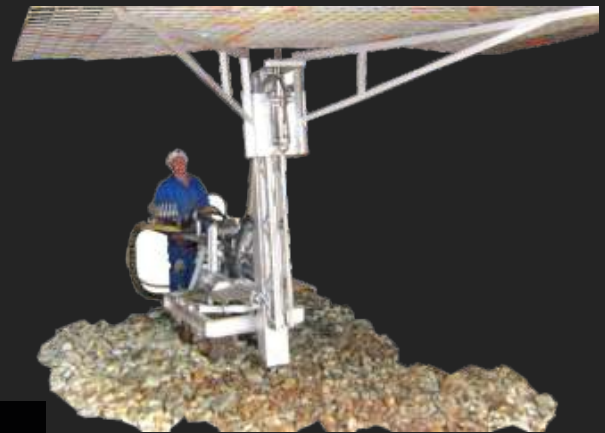
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MOON BUGGY ROOF BOLTER RIG

Full contract Roof Bolting with fast & simple mesh installation system

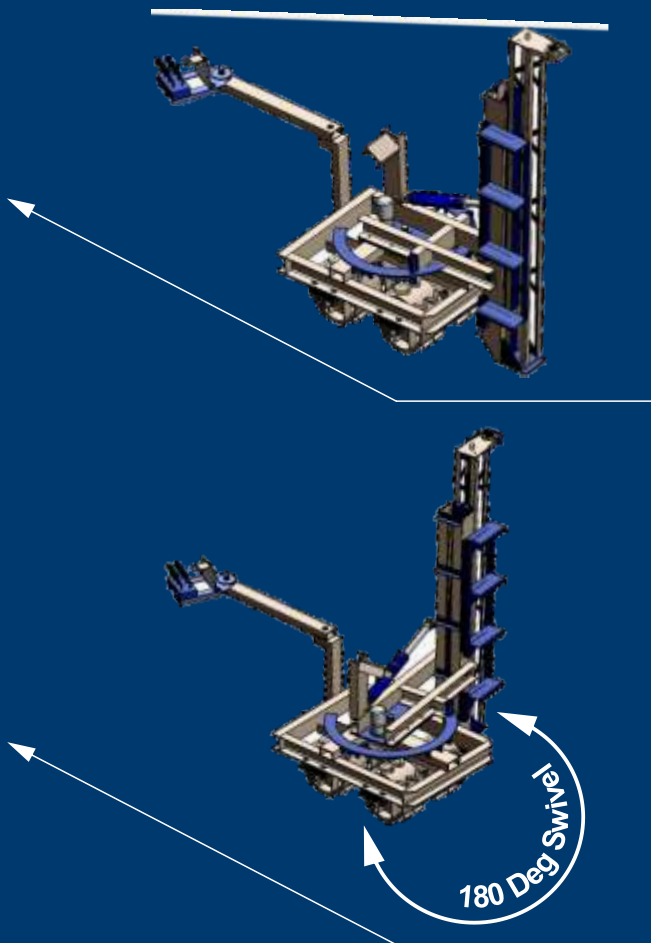


MOON BUGGY MESH INSTALLATION SYSTEM



Our roof bolting contract services utilize the in-house manufactured MM&E Moon Buggy Roofbolter Rig.

Incorporating the latest hydropower technology, MM&E roofbolters are both compact and powerful, able to install support in the most challenging of locations.



SPECIFICATIONS

Drive System	Hydropower driven pelton wheel driving hydraulic pump
Guide shell lift	Hydraulic
Extensions & Foot Anchor	Hydraulic cylinder
Guide Shell	1.8m to 2.4m as required
Drilling System	Hydropower drill & thrust system
Operation	Remote



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SERVICES & APPLICATIONS

Surface Applications

Cleaning plant silos, tanks and liners
Mega equipment & Washbays
De-barring and descaling
Desilting dams and sumps
Desludging/deslurring of plant piping
Cleaning mills
Clearing conveyor spillage

Underground applications

Long-hole Clearing & Cleaning
Roofbolting • Meshing & Lacing • Shotcreting
Clearing orepasses and shafts
Clearing drives and haulages
Stope panel cleaning
Back-area sweepings

Premier Customers operating in excess of 10 Jets

Impala Platinum (over 70 units)
Anglogold Ashanti (over 30 units)
Harmony Gold (over 70 units)
Anglo American Platinum (over 30 units)

Other major mining houses utilising the MM&E Equipment include, amongst others, Rio Tinto (RioZim), Centerra Gold (Kumtor), Mopane Copper and Yamana Gold.

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