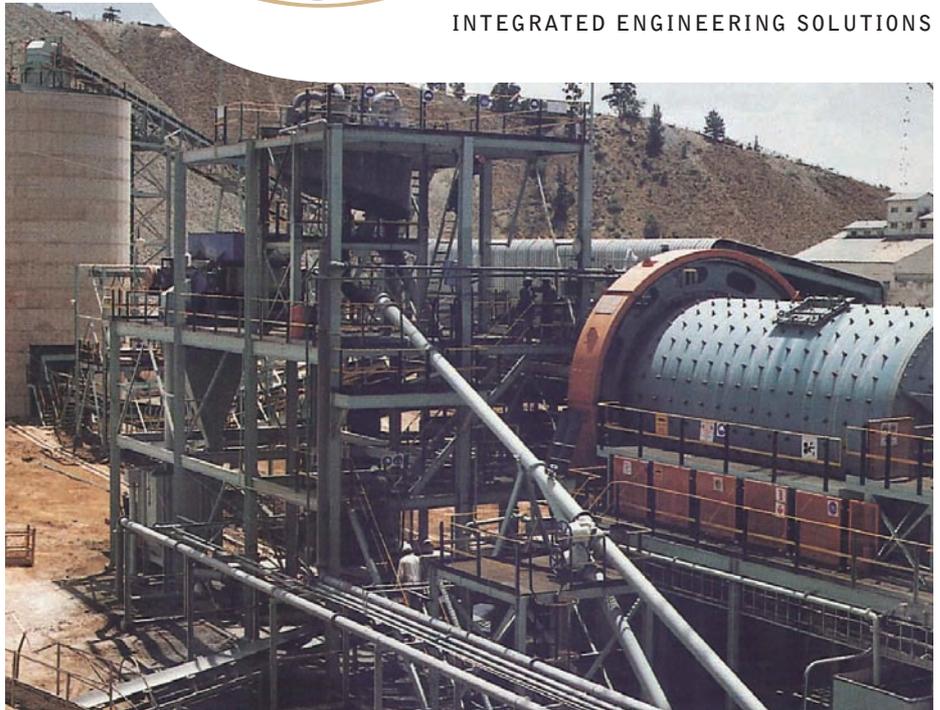


## BACKGROUND

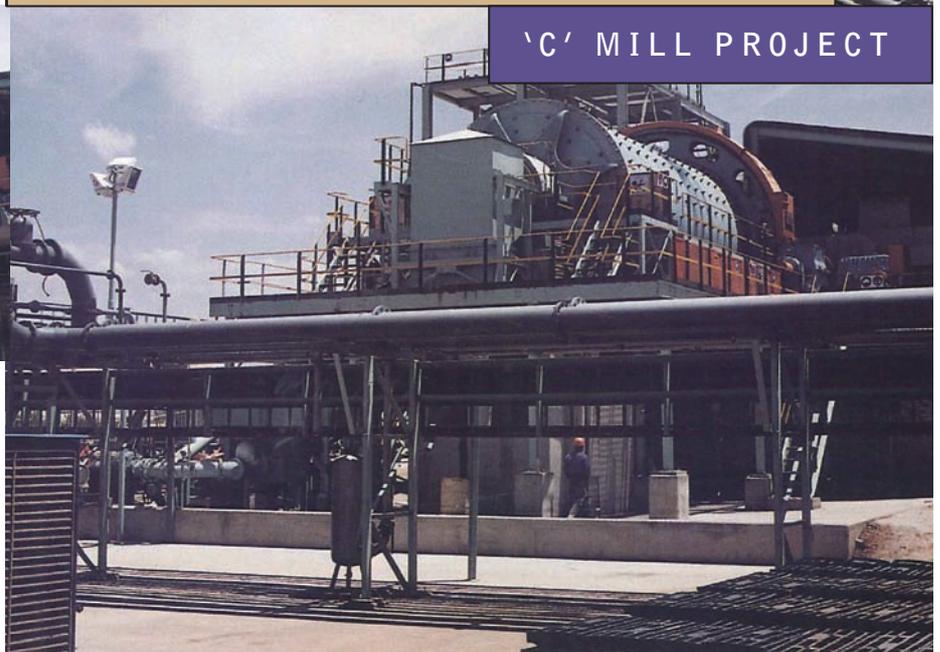
MAED recently completed a mill project installation at Buffelsfontein Gold Mines Limited, situated near Stilfontein in the North West Province of South Africa. The newly installed 'C' Mill has increased the mine's monthly ore throughput by 80 000 tonnes.

Prior to the project, material from both surface and underground sources were being batch milled through the S.A.G. mill plant, a plant designed to treat the surface dump material.



## BUFFELSFONTEIN GOLD MINE

### 'C' MILL PROJECT



## SCOPE OF WORK

Buffelsfontein negotiated the purchase of the 4.9m x 9.15m Fuller Vecor Mill from St. Helena Gold Mine in the Orange Free State and MAED was awarded the project management of the relocation of the mill to Buffelsfontein.

The mill was designed as a R.O.M. mill and has the following statistics:

Type	Fuller Vecor Ball Mill
Size	4.9m diameter x 9.15m long
Motor	Hitachi 3000kW
Gearbox	B.E.W.
Mill Speed	90% of critical speed
Discharge arrangement	Wet grate
Mill Lining	Manganese – steel cast liners
Grinding Media	100mm steel grinding balls
Duty	80 000 tpm R.O.M. ore
Ore feed size	Nominally minus 300mm
Product size	75% minus 75 micron
Mill erection sub-contractor	Robtek



## BUFFELSFONTEIN GOLD MINE

### 'C' MILL PROJECT

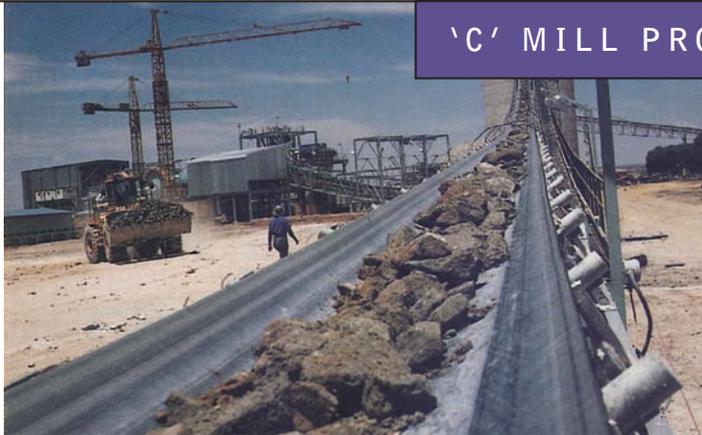
Civil work included all the conveyor foundations, mill foundations, mill area surface beds and bund areas, a MV and MCC substation and a 1000 ton lined silo. The civil sub-contractor was Group Five Civils.

Structural steel work included the silo feed conveyor gantry, a ball handling crane structure, mill feed conveyor and the mill area structural steel to cater for the mill, cyclones and linear screen.

The mechanical equipment comprised the complete mill, a tower crane, electromagnetic feeders, dilution water pumps, gland service pump, mill discharge pumps, thickener transfer pumps, spillage pump, new mill lubrication system, refurbished conveyors, cluster cyclone arrangement and linear screen. Sub-contractors Robtek, did the steel fabrication, erection, pipe-work and the mechanical equipment rigging.

Electrical scope included two incomers, mill feeder, auxiliary feeder, three transformers and MCC's all refurbished by the project from mine surplus equipment. The mine installed these and all the cabling.

Instrumentation and Controls included full PLC control complete with a SCADA supervisory system engineered by the mine.



## OPTIMIZATION

Our philosophy is one of reduced capital costs being achieved by managing projects on a partnership basis with our clients and streamlining the project team.

The installation of the 'C' Mill served a number of purposes; firstly it increased the mines monthly production, secondly the mill was selected to specifically treat the underground material and thirdly would return the 'A' and 'B' S.A.G. mills to the treatment of dump material.

Project execution without unnecessary overheads and extras ensure that our direct costs are the lowest in the industry.

MAED executed the project on an engineering, procurement and construction management (EPCM) basis. The total project was successfully completed for R12 400 000, two million rand under budget.

Civil work included all the conveyor foundations, mill foundations.

The duration for the project from concept to hot commissioning was eleven calendar months.