



## SCOPE OF WORK

An 8 ton batch AARL Elution Plant and CIP plant was installed at the Blyvooruitzicht gold mine. The successful installation enabled the closure of the filter plant in February 1999.

The commissioning of the carbon circuits has resulted in the overall gold recovery rate increasing from 91% to 97%.

The Blyvooruitzicht elution plant has the capacity to treat two 8 ton batches of carbon per day and include handling facilities to toll treat carbon from other sources. Typical loaded carbon values are 2500 g/t, with eluted carbon grades consistently below 50 g/t.

DURBAN ROODEPOORT DEEP LTD

BLYVOORUITZICHT GOLD MINE

ELUTION AND GOLD RECOVERY







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## BLYVOORUITZICHT GOLD MINE

### ELUTION AND GOLD RECOVERY

The elution plant includes:

- A self contained reagent storage and make-up area
- Carbon receiving and measuring tanks
- Acid wash column
- Elution Column
- Heating System: Primary and recovery heat exchangers  
Thermal oil heater
- Carbon regeneration plant
- Carbon sizing and transfer to CIP
- Closed water circuit for carbon transfer: includes carbon fines removal by means of a plate and frame filter press



Pregnant solution at 250ppm reports to one of two 100 m<sup>3</sup> eluate tanks, and is recycled through four electrowinning cells. These cells are configured in parallel, producing a barren solution of < 10ppm in under twelve hours.

A split elution is practiced whereby a lower volume at a higher tenor reports to electrowinning, effectively reducing the number of cells and the cycle time required.

Gold sludge is recovered by means of a high pressure wash facility, filtered, dried and smelted in an induction furnace with a capacity of 30 litres, and an average smelt time of 30 minutes per batch.

## MAED TECHNOLOGY ADVANTAGE

**Improved security and labour optimisation**

**Increase overall gold recovery**

Carbon circuits result in a 6% increase in gold recovery rate.

**Reducing power consumption**

through the use of diesel fired thermal oil heaters and carbon regeneration kiln.

**Eliminate hazardous acid digestion of mild steel cathodes** by the installation of electrowinning cells containing stainless steel cathodes.