

The main aspect of the sand retreatment programme is a new R6 million plant which is designed to recover and treat sand and slime from dumps on the Crown Mines and Mayfair properties, for the recovery of gold, silver and iron pyrites.

The sand is conveyed to the plant by conveyor belts after being loaded by electrically powered shovels. The slime is monitored using high pressure water guns and pumped to the plant.

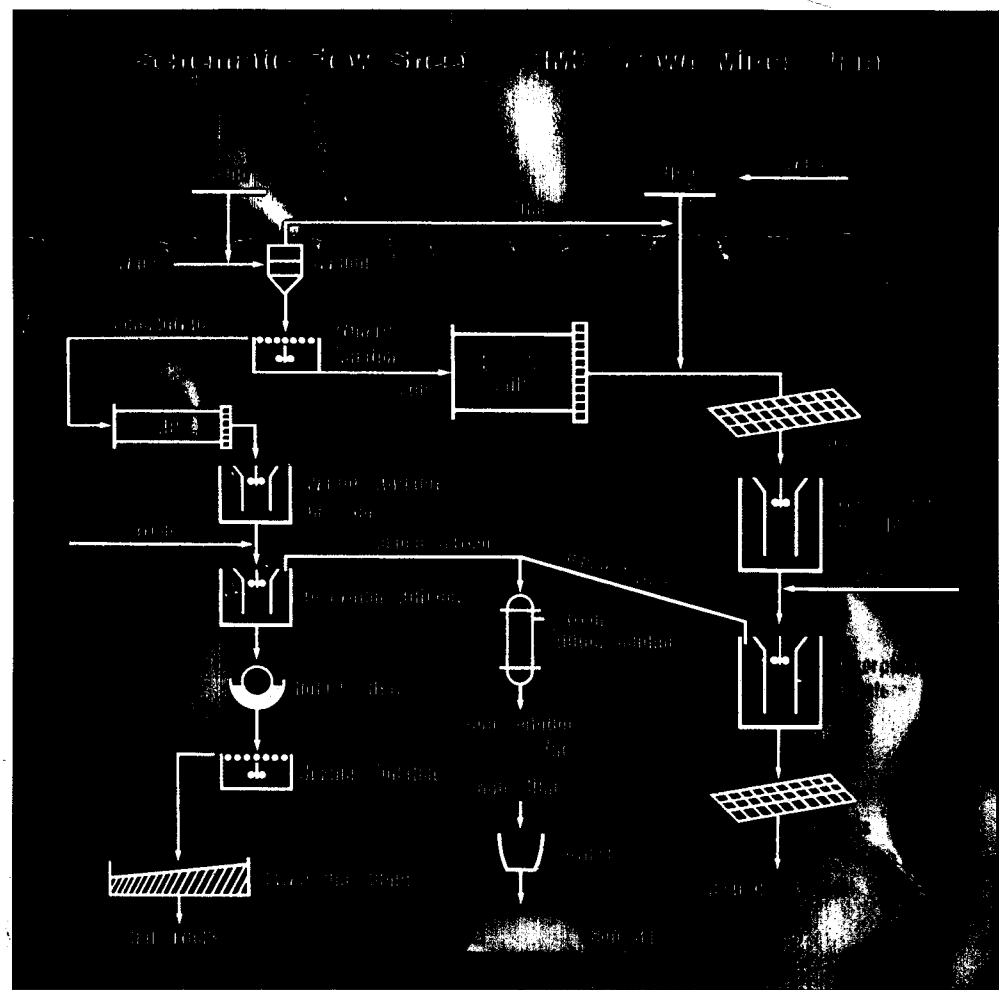
Iron pyrites is recovered by froth flotation and the concentrate milled and cyanide leached for gold and silver recovery. The iron pyrites is then sold.

The sandy flotation tailing is milled, cyanide leached and gold and silver recovered by adsorption of the precious metals onto activated carbon using the carbon-in-pulp technique.

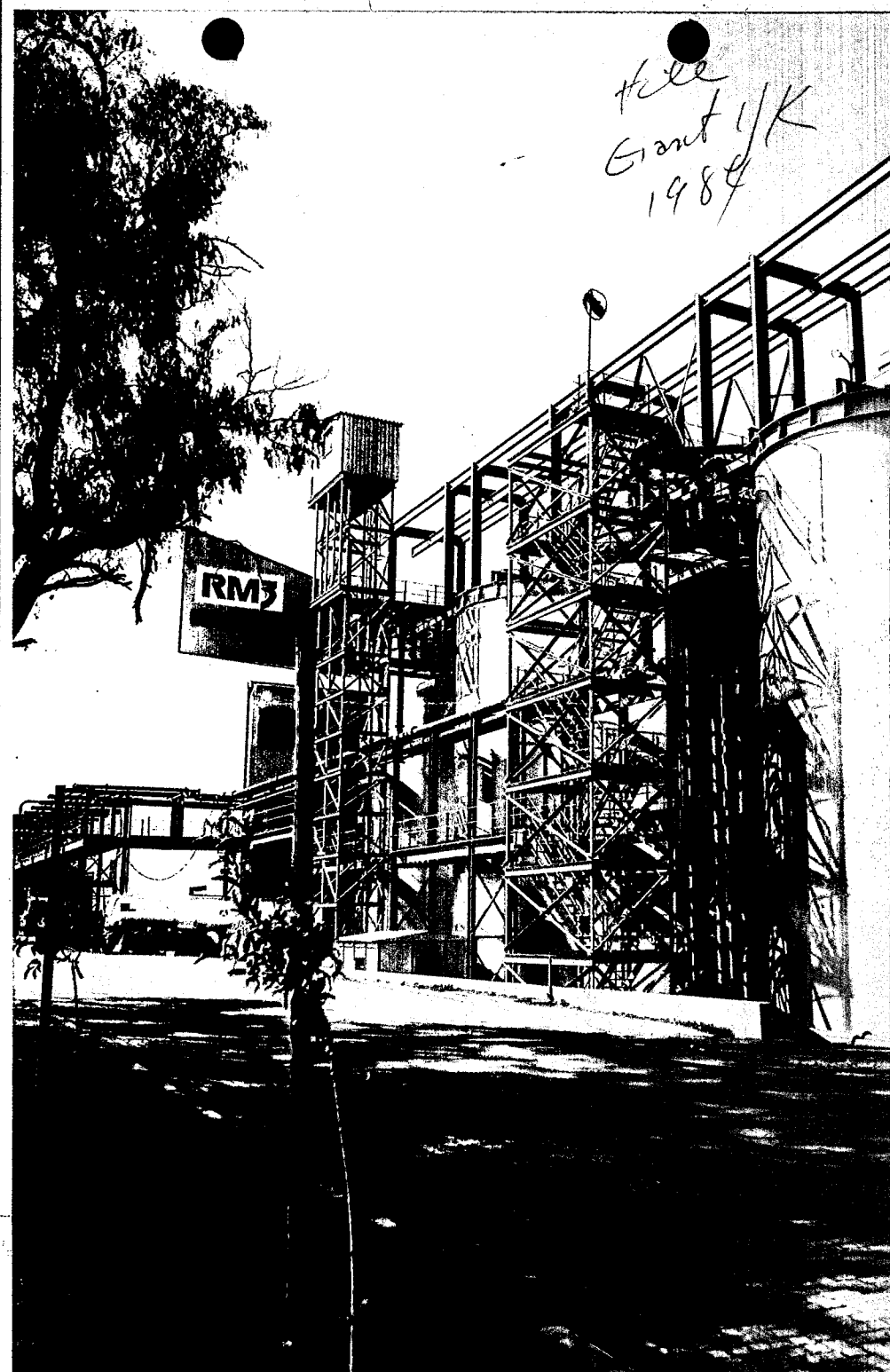
The gold-laden carbon is removed from the circuit and the precious metals recovered by hot elution using strong caustic cyanide solution. The gold and silver are precipitated by zinc, calcined, and smelted into bars using an electric arc furnace.

The tailings are deposited on to existing slimes dams on the western boundary of Crown Mines property.

The plant will treat over 70 million tons of material during its 16 year lifespan.



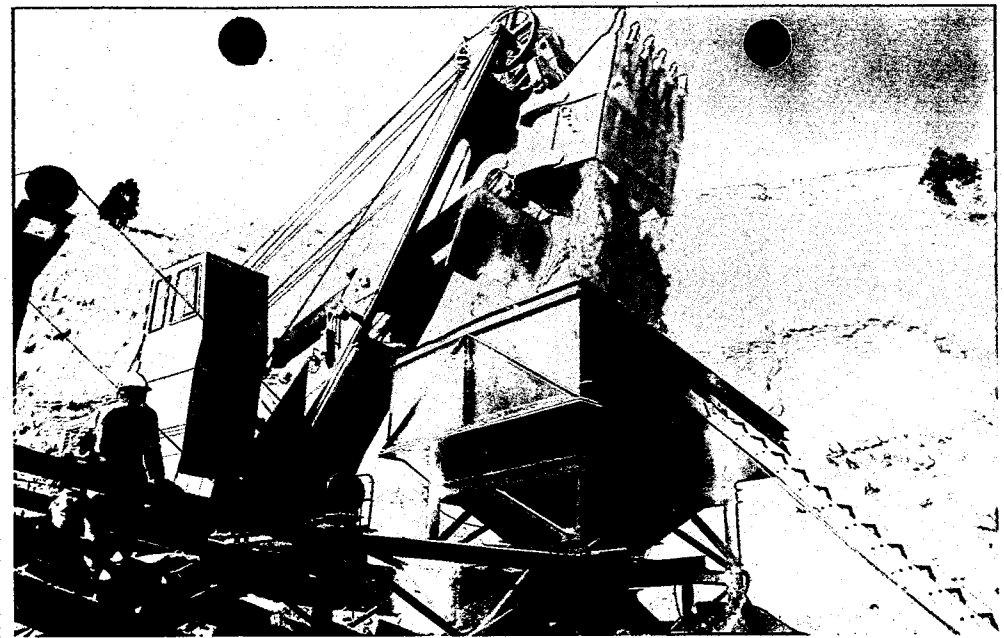
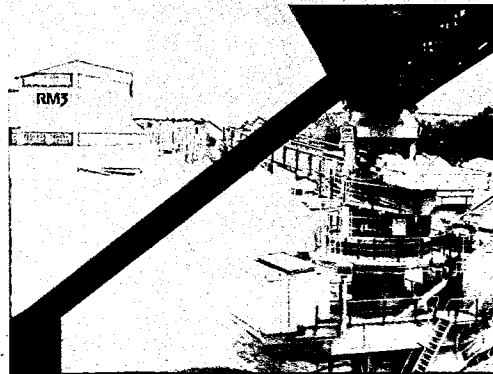
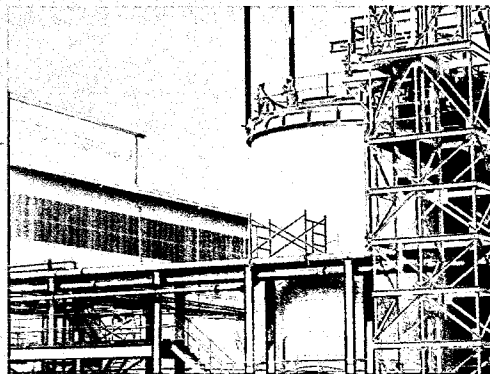
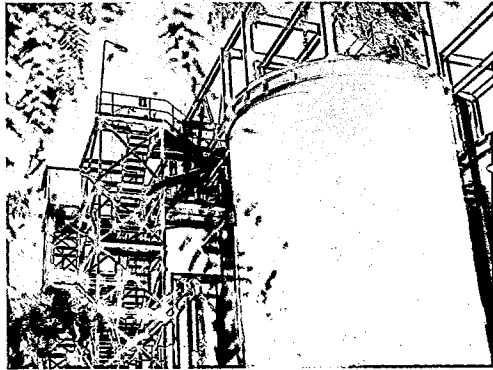
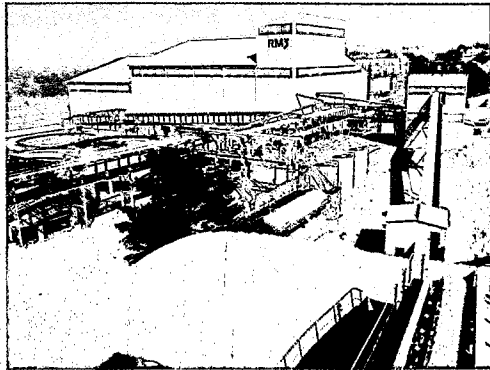
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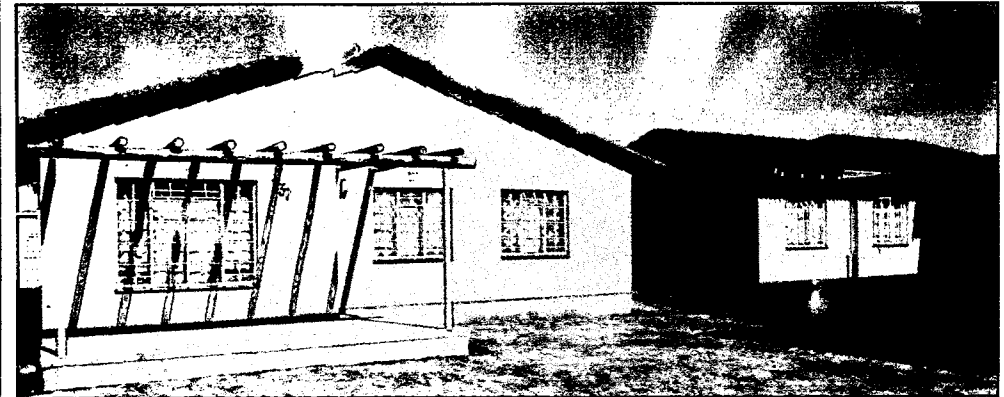
The Rand Mines group investigated for some years the feasibility of treating sand dumps in and around Johannesburg in order to recover their gold content.

The technology for extracting the gold which is known to be in these dumps had existed for some time, but it was only after the problem of developing an efficient low cost process was solved that a decision was taken in April 1980 to form Rand Mines Milling and Mining Company — RM3 — and embark on a sand retreatment programme.

Rand Mines Milling and Mining is a wholly owned subsidiary of Rand Mines Properties — RMP — which owns the land on which the sand dumps lie.



*Loading sand at a dump "face".*



*Black workers at RM3 are housed in modern, new homes in Soweto (above) and in a spacious hostel in a garden setting on the Crown Mines property (below).*

