

# New Solvent Extraction Plant Opened

## PLATINUM REFINERY EXPANDED AND MODERNISED

A new refinery for the platinum metals was opened at Royston, Hertfordshire last month by Lord Robens, chairman of the Johnson Matthey Group. The plant is to be operated by Matthey Rustenburg Refiners (U.K.) Limited, a company owned equally by Rustenburg Platinum Mines (Pty) Limited of South Africa, the world's largest platinum producer, and Johnson Matthey. This multimillion pound investment demonstrates a major long term commitment by the two organisations to the platinum users of the world. The construction of the plant has been managed by Davy McKee (Minerals and Metals) Limited, who also developed the detailed engineering design in association with a project team from Matthey Rustenburg Refiners.

In contrast to the conventional processes that selectively precipitate metals from a solution containing the mixed platinum metals, the new plant employs solvent extraction to achieve a number of technical, economic and safety advantages. In the Solvex pre-production plant the platinum metals, either individually or in groups, are transferred from an aqueous solution into one of a

series of immiscible organic liquids, each of which contains a component that selects the metal or metals required. The separate metal streams are then processed through the existing refinery to yield the saleable products.

The advantages of the solvent extraction route include reduced overall processing time, improved primary yield and operating efficiencies. In addition platinum metals may be separated from concentrates containing high levels of base metals, an important feature when treating either primary feedstocks from the Merensky Reef or secondary materials such as recycled scrap from industrial processes, including catalysts. The process is both flexible and versatile, and as it involves liquids which are mechanically mixed and pumped from one closed container to another considerable automation is possible—the plant includes 1,600 control valves, 300 electric motors, 220 vessels and 15 miles of piping—thus operational safety and overall efficiency are improved.

As commissioning of the new refinery proceeds a major article on this topic will be published in this journal.

