Update on ConRoast

Jubilee is pleased to provide an update regarding progress of the planned development of its first fully commercial ConRoast DC arc furnace. The Company is also pleased to provide interim results of pilot scale refining trials using the Chemical Vapour Metal Refining Inc. (“CVMR®”) (carbonylation) process for the recovery of platinum group metals (“PGM”) and base metals (nickel, iron and cobalt) from ConRoast iron-rich alloy.

Highlights

- Engineering and design study fast-tracked for the installation of the Company's first commercial ConRoast DC arc furnace utilising existing infrastructure and equipment at the newly acquired Middleburg processing facility;
- Four-phase feasibility study (“FS”) commissioned for the refining of metals in ConRoast PGM alloy using the CVMR® process;
- Phase 1 – pilot scale CVMR® process trials achieved exceptional results in the extraction of base metals: 99.5% of nickel and 95.6% of iron from ConRoast alloy as separate potentially premium grade nickel and iron products and a high grade PGM residue; and
- Phase 2 commenced comprising additional refining testwork and preparation of feasibility study documents.

Colin Bird CEO of Jubilee Platinum commented, “We are pleased to report positive progress with the ConRoast furnace installation programme and the exceptional interim pilot refining results from testwork on ConRoast alloy. The interim results have demonstrated the applicability of a relatively simple but proven and potentially low energy route for refining of ConRoast alloy to produce separate high value PGM and potentially premium priced nickel and iron products. We look forward to increasing the momentum for the development of ConRoast and Jubilee’s total capability.”

Conversion AC to First DC Arc Furnace

The company has commissioned Environmental & Process Solutions (Pty) Ltd, to undertake an engineering and design study (“EDS”), in order to fast track the commissioning of the new 5MVA ConRoast DC ARC furnace. The EDS will maximise the use of existing infrastructure at the newly acquired Middleburg site.

The EDS will require 4 weeks to complete. A further estimated 6 weeks is planned for concluding a procurement and management contract to install the furnace and associated equipment, the completion and commissioning of which is expected in early 2011.

The company has secured all required funding for this first fully commercial ConRoast DC arc furnace.
Refining Testwork

The company commissioned CVMR® of Toronto, Canada earlier this year to undertake a four-phase FS for the extraction and refining of metals in ConRoast alloy utilising the CVMR® process, which in essence extracts nickel, iron, and cobalt as gaseous metal carbonyls (carbonylation) using carbon monoxide gas (see below for description of process).

Phase 1, comprising 3 pilot-scale campaigns has been completed on samples of ConRoast alloy, which was produced during ConRoast R&D trials at Mintek in 2007.

Excellent results have been obtained with extraction yields (carbonylation) of 99.5% for nickel and 95.6% for iron. After extraction, followed by condensation and fractional distillation, at low pressure, of the nickel–iron carbonyls, the separate distillates were decomposed to produce high purity nickel and iron powders. A PGM-rich copper residue, unaffected by carbonylation, remained after the extraction stage of the base metals. Preliminary calculations indicate that nickel powder with levels of iron below 50ppm and iron powders with nickel levels below 100ppm are achievable and could command potentially premium metal prices. The interim report noted that the low-pressure distillation system should have positive implications for both capital and operating costs of the process.

These results warranted progress to phase 2, which has now commenced. This comprises additional testwork to address cobalt recovery and residual iron sulphide contamination in the PGM residue product, and the preparation of feasibility study documentation.

CVMR® Process

The CVMR® process, based on the Mond (carbonyl) process, makes use of the fact that carbon monoxide gas reacts readily (carbonylation) with nickel, iron and cobalt under mild conditions to give gaseous metal carbonyls. The carbonyl gases are then condensed, the condensates separated by fractional distillation and the distillates decomposed to produce separate high purity metals and carbon monoxide gas for reuse. PGMs and copper are unaffected by the carbonylation. Thus this process is eminently applicable to the refining of the ConRoast iron-rich nickel-copper-PGM-bearing alloy.