

PROTO



RESOURCES & INVESTMENTS LTD

STOCK EXCHANGE ANNOUNCEMENT

September 19, 2011

Barrier Bay Technology Update

ASX Release Stock Code: PRW

Progress is being made on the Barnes Hill ore leach and Barrier Bay technology pilot program. This work is central to the definitive feasibility studies currently underway on the Barnes Hill project. Results from the Barrier Bay technology program currently support the adoption of a total sulphate recovery and regeneration target of >90% for the ongoing program.

Executive Summary

- The leaching of 10 tonnes of Barnes Hill ore is progressing well with testing comparing vat loading methods, and assessing leach characteristics and metal recoverability. Testing has shown that the Barrier Bay process results in a more benign solution than conventional laterite processing, thereby reducing significantly the potential environmental impact of the process flow sheet.
- Proto will be taking two new saprolite samples from Barnes Hill in September, for further bulk leach trials by Metals Finance Limited. These further Barnes Hill ore samples will be processed in successive leach trials commencing later in the year. The solution from these leach trials will then be used to conduct formal pilot trials of the Barrier Bay process.

Pilot Plant and Leach Progress

The Board and Management of Proto Resources & Investments Ltd ("Proto", "the Company") are pleased to give the following update on the Barnes Hill ore leach and Barrier Bay technology pilot program. This work is central to the definitive feasibility studies currently underway on the Barnes Hill project. The Barrier Bay technology is being developed by Australian BioRefining ("ABR") on behalf of Barrier Bay Pty Ltd, which is majority owned by Proto, at ABR's northern NSW development facility. Barrier Bay Pty Ltd holds an option to purchase worldwide rights to the technology in mining related applications.

The leaching of 10 tonnes of Barnes Hill ore is progressing well with testing comparing vat loading methods, as well as subsequent leach characteristics and metal recoverability. Proto's joint venture partner Metals Finance Limited ("Metals Finance", ASX: MFC) has also conducted specific nickel recoverability tests in the form of bottle-roll trials. This information is being used in the final design of the ore leach circuit that is currently scheduled to be implemented at Barnes Hill in the second half of 2012.

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The proposed flow chart for utilization of the 5-step Barrier Bay acid recovery technology comprises four proprietary stages and an Ion Exchange (“IX”) step for selective recovery of nickel between stages 1 and 2. Stage 1 aims to achieve ferric reduction of the pregnant liquor solution (“PLS”), and is followed by IX to effectively separate nickel from iron. The nickel solution is then sent for conventional electrowinning. Following this, Stage 2 of the technology is aimed at concurrent acid recovery and removal of the major iron content together with minor contained metals including copper, aluminium, and chromium. Stage 3 of the process is aimed at removing a mixed product containing iron, manganese and magnesium. Stage 4 of the process targets the majority of the remaining sulphate together with a higher magnesium content hydroxide.

Testing has shown that this leaves an inert and benign end solution, which can be more cheaply and safely stored. Importantly, the target total sulphate recovery and regeneration is >90%.

Early testing has taken place without the IX stage, in order to provide data on the sequential recovery across all constituent metals. Sequential metals removal across proprietary stages 2-4 are shown in Figure 1 below. These results were from a prototype cell and run through to magnesium removal (~66%).

Metals Distribution in solids

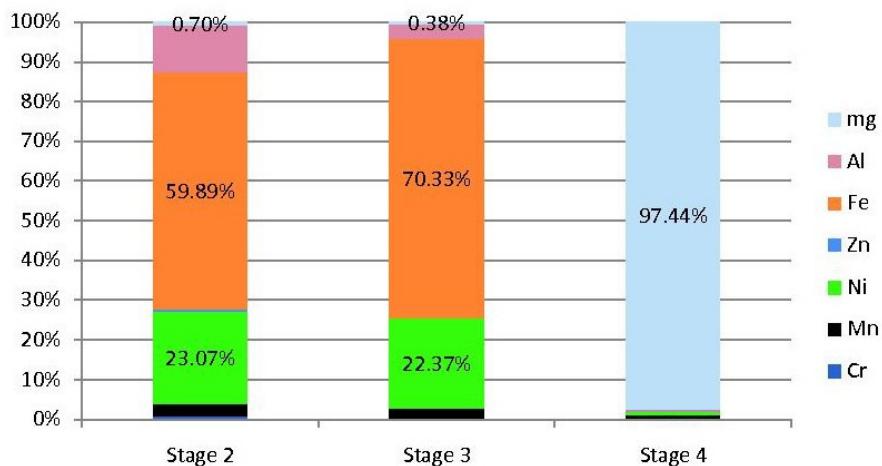


Figure 1 – Sequential Metal Recovery in an Early Barrier Bay Trial

Bench scale testing has already provided the confidence to establish the target acid recycling and metal recoveries that optimisation will work towards. Iron deposition from solution occurs in agreement with the order of hydroxide precipitation, allowing controlled recovery of the metals. Based on the earlier bench scale testing and the current pilot plant results, target metal removal is aimed at recovering approximately 99.9% of the iron, >90% of manganese, >80% of the magnesium, and 99% of minor contained metals. Product produced from the pilot plant is shown in figure 2 below. The material shown is primarily an iron product, which consists of a mixture of oxide or hydroxide species and is strongly magnetic.

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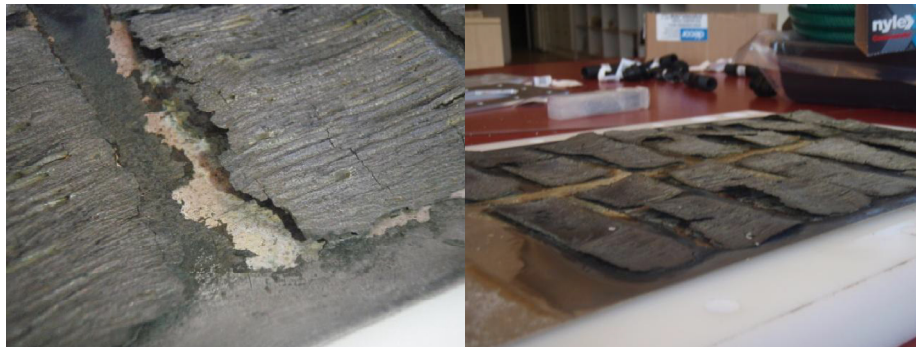


Figure 2 – Product from an early harvest of the Barrier Bay Technology

An independent expert's report on the Barrier Bay technology is currently underway. This follows a preliminary independent report that has already been received that provided an encouraging review of the technology thus far.

Further Bulk Sample Collection Planned

In order to allow further trials that will optimise process voltages and pH levels, and in order to produce product examples for presentation to potential off-takers, Proto will be taking two new saprolite samples from Barnes Hill in September. These further Barnes Hill ore samples will be processed in successive leach trials commencing later in the year. The saprolite zone is the higher nickel content horizon that Proto and MFC will be specifically targeting in developing the Barnes Hill project. There is also additional nickel hosted in the higher limonite horizon at Barnes Hill which, using the Barrier Bay process, could be considered as part of the Barnes Hill project's future. This would see Proto gaining revenue from surface, through the beneficiation of the ironstone cap, first limonite layer as well as the primary nickel bearing saprolite layer.

ABR and Barrier Bay Pty Ltd are currently testing and selecting membranes for the full 5-step processing of the mixed metal sulphate PLS that will be generated from the leaching of these new saprolite samples. This processing will also include the nickel IX step. The choice of membranes is important to achieving minimal power consumption. The wear of membranes is also important as membrane replacement contributes to variable costs. Proto is pleased with the progress so far, and believes that operation using the optimal membranes will create a step-improvement in the cost of processing lateritic nickel ore. Recommencement of the pilot trial will occur when the new preferred membranes are received and installed.

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