PEAK RESOURCES LIMITED

ASX Announcement

15th February 2016

DEVELOPING A LOW COST RARE EARTH PROJECT

New Recovery Flowsheet developed to reduce Operating and Capital Costs

Peak Resources Limited (Peak; ASX Code: PEK) is pleased to announce the completion of technical development programs that have resulted in a simplified leach recovery flowsheet.

The new flowsheet has been successfully trialled on the high grade concentrate produced by the beneficiation pilot plant and is a significant improvement over the flowsheet developed during the Preliminary Feasibility Study (**PFS**).

Summary

Peak has completed extensive test work on the high grade mineral concentrate and a new flowsheet has been developed that achieves the following outcomes:

- **Reduced plant capital cost through a smaller plant of modular design**
- **Lower operating costs due to reduced reagent consumption**
- **Focus on the extraction and recovery of the high value magnetic metals praseodymium and neodymium**
- **Significant reduction in the extraction of low value cerium, further reducing reagent costs in the leach recovery circuit and also the size of the downstream separation plant**
- **Minimises the extraction of deleterious elements thereby simplifying the purification process**

This process has been developed in house by Peak's metallurgical team and optimised at Nagrom in Western Australia and ANSTO Minerals (ANSTO) in NSW. ANSTO has been selected for piloting the new flowsheet and construction of the pilot plant is nearing completion.

Peak's Managing Director Darren Townsend commented *"The development and implementation of the improved leach recovery flowsheet builds on the strengths of the beneficiation process recently piloted by Peak. We look forward to updating the market on the operating cost and capital costs of the Ngualla Project in the first half of 2016."*

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Technical Report

The previous PFS leach recovery flowsheet was based on treating a medium grade (~17% REO) concentrate with a high content of acid soluble iron. A "Double Sulphate" route was employed to reject the dissolved iron whilst increasing the rare earth concentration in the feed to the solvent extraction (**SX**) separation feed solution.

Improvements in the beneficiation process as proven by the recently completed pilot plant has increased the concentrate grade almost three fold over the PFS case as well as rejecting significant quantities of acid soluble iron. As a result, alternative flowsheet routes were evaluated, with the "Alkali Roast" flowsheet being selected for the Bankable Feasibility Study (BFS) based on the following advantages:

- Significant reduction in processing stages
- Requirement for only a single acid to be used in a low strength, selective leach
- Early rejection of the majority of low value cerium and deleterious iron without consuming acid
- Repeatable process
- All leach and purification processes can be undertaken in low cost, modular designed polymer plastic tanks.

A comparison of the two processes is shown in Figure 1.

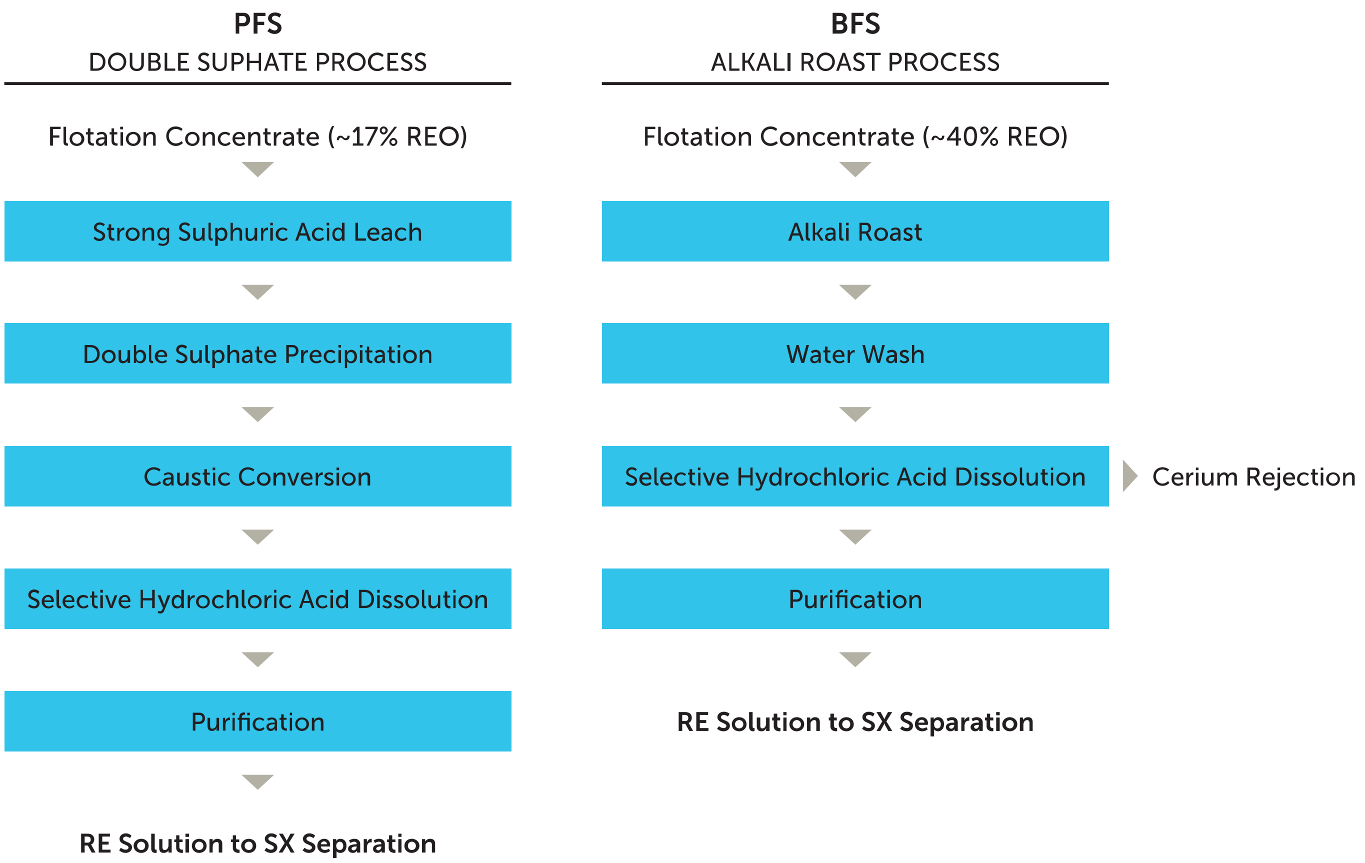

Figure 1: Comparison of original PFS and the new improved BFS Leach Recovery Flowsheets

A description of the stages for the Alkali Roast flowsheet is given below:

Alkali Roasting

The bastnaesite concentrate is mixed with a common alkali and roasted in a standard tube furnace at approximately 700°C for one hour. This is a dry, free flowing process in contrast to the "sticky" acid baking process employed for monazite or xenotime hosted rare earth concentrates.

Water Wash

The fluorine present in the bastnaesite, which would be problematic to downstream purification and separation processes, has been converted to a soluble form during the alkali roast process and is removed using a simple water wash. The filtered solid is then suitable for selective leaching.

Selective Leaching

A low strength (<1%) hydrochloric acid leach selectively targets the desired high value rare earths (neodymium and praseodymium) whilst rejecting large amounts of the low value rare earth cerium along with gangue elements such as iron. The low leach temperature of 80°C and mild acidity means that low cost polymer tanks can be used both in the pilot plant and on a commercial scale.

Purification

Residual leach impurities are removed by precipitation using lime slurry. The waste precipitate is removed from the solution using simple filtration.

The filtrate is depleted in cerium but high in neodymium and praseodymium and is suitable for direct feeding to the SX Separation circuit.

The Alkali Roast Process has been developed and optimised for Ngualla's high grade concentrate at both Nagrom and ANSTO test facilities and has been demonstrated at bench scale as a viable and robust flowsheet. ANSTO has been selected for the piloting of approximately two tonnes of high grade (>40% REO) concentrate produced from the beneficiation pilot plant (ASX Announcement "Concentrate grades exceed expectations in pilot testwork" of 30 December 2015). The pilot plant setup at ANSTO is nearing completion (Figures 2 and 3).

Figure 2: Deon van Tonder (left, Process Consultant, AMEC FW) and Gavin Beer (right, GM of Metallurgy, Peak) standing next to the ANSTO pilot plant Purification Circuit.

Figure 3: Roy Gordon (left, Metallurgist, Peak) and Rocky Smith (right, Chief Operating Officer, Peak) by the ANSTO pilot plant Rotary Kiln.

For and on behalf of Peak Resources Limited.

Darren Townsend
Managing Director

The information in this report that relates to Metallurgical Test Work Results based on information compiled and / or reviewed by Gavin Beer who is a Member of The Australasian Institute of Mining and Metallurgy and a Chartered Professional. Gavin Beer is the General Manager Metallurgy of the Company and has sufficient experience relevant to the activity which he is undertaking to be recognized as competent to compile and report such information. Gavin Beer consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.