PEAK RESOURCES LIMITED

ASX Announcement

19th May 2016

Final BFS Pilot Plant Commences

Highlights

- The final Pilot Plant for the three stage process developed by Peak for Ngualla's high grade bastnaesite mineralisation has been successfully commissioned at ANSTO's dedicated piloting facility.
- The Leach Recovery Pilot Plant will treat two tonnes of concentrate with a grade of >40% rare earth oxide (REO) produced from the successful Beneficiation Pilot Plant completed at the end of 2015.
- The pilot plant will demonstrate Peak's selective leach recovery process that minimises the dissolution of impurities and low value cerium and also provide detailed engineering data for the Bankable Feasibility Study (BFS).
- The selective leach process is a key factor in Ngualla's low operating and capital costs and in aligning the final products to the high demand magnet metal rare earth market.

Peak Resources Limited (**"Peak"** or the **"Company"**) (ASX Code: **PEK)** is pleased to announce the successful commissioning of the Leach Recovery Pilot Plant at ANSTO Minerals (ANSTO) on the high grade concentrate produced during the Beneficiation Pilot Plant operation from Ngualla's mineralisation.

The operation of this final pilot plant (Figure 1) will complete the demonstration of the three stage process flowsheet that takes Ngualla's unique bastnasite mineralisation through to high purity separated rare earth products. The operation will provide vital operating and design parameters for incorporating into the Bankable Feasibility Study.

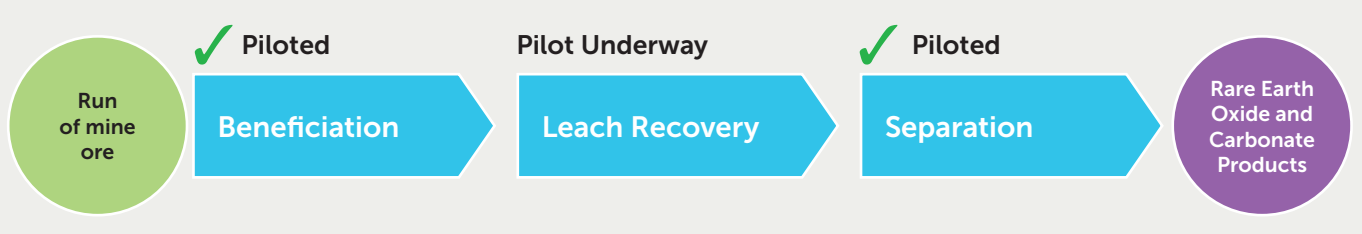


Figure 1: Three stage process developed by Peak for Ngualla's rare earth mineralisation and pilot plant status.

Technical Report

Further to Peak's ASX announcement titled "New Recovery Flowsheet Developed to Reduce Operating and Capital Costs" of 15th February 2016, Peak is pleased to announce the successful commissioning of the Leach Recovery Pilot Plant (Figure 2) at ANSTO's Lucas Heights piloting facility near Sydney.

A total of two dry tonnes of concentrate, produced by the successful Beneficiation Pilot Plant (see ASX announcement "Concentrate Grades Exceed Expectation in Pilot Plant Testwork" of 30th December 2015) has been transported to ANSTO. This concentrate grades >40% REO and was produced from typical weathered bastnaesite mineralisation representing the first six years of mine production from Ngualla.

The pilot plant will demonstrate the new selective leach flowsheet developed by Peak, a flowsheet that is a significant improvement on the previous Preliminary Feasibility Study (PFS) process.

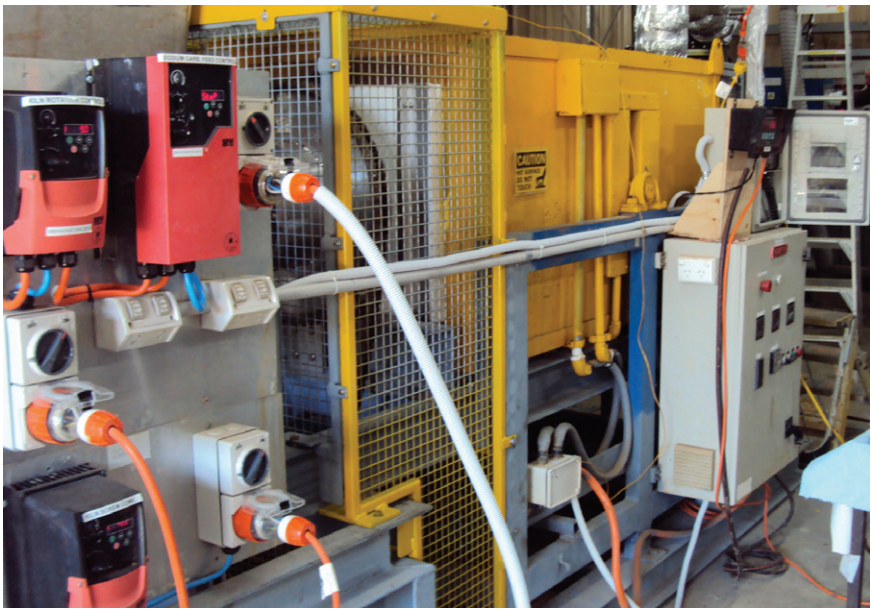


Figure 2: Rotary kiln section of Leach Recovery Pilot Plant at ANSTO's test facility.

Advantages of the new leach recovery flowsheet compared to PFS:

- Significant reduction in processing stages
- Reduced plant capital cost through a smaller plant of modular designed polymer plastic tanks for leach and purification
- A single acid is used in a low strength, selective leach
- Lower operating costs due to reduced reagent consumption
- Early rejection of the majority of low value cerium and deleterious iron without consuming additional acid
- Cerium rejection reduces the size and operating cost of the downstream separation plant
- Focus on the extraction and recovery of the high value magnetic metals neodymium and praseodymium
- Minimises the extraction of deleterious elements thereby simplifying the purification stage

After roasting and a water wash, 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 and impurities such as iron (Figure 3). The full scale operation is small and low tonnage with only 5 tonnes per hour of feed to the circuit.

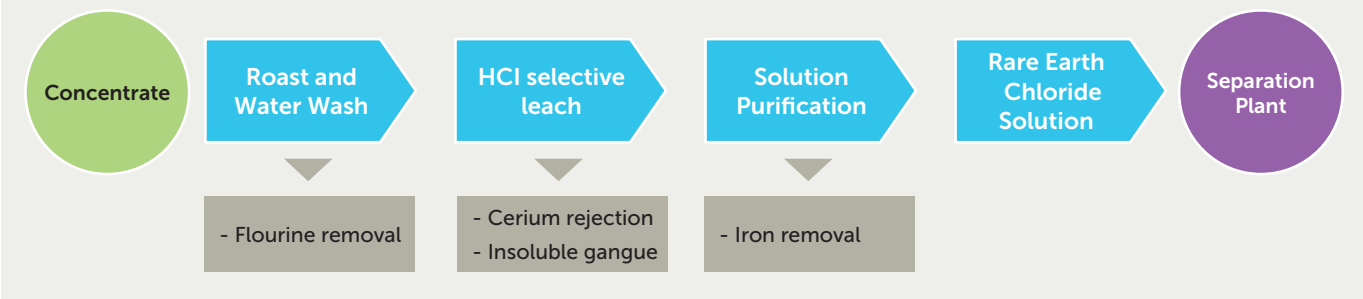


Figure 3: Simplified overview of Peak's Leach Recovery flowsheet being piloted at ANSTO.

The leach recovery pilot plant incorporates the following stages:

Alkali Roasting

The bastnaesite concentrate is mixed with a common alkali and roasted in a standard tube furnace at temperatures in excess of 700°C. 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 bastnasite, which would be problematic to downstream purification and separation processes is converted to a soluble form during the alkali roast process and is easily removed using a simple water wash. The filtered solid is then suitable for selective leaching.

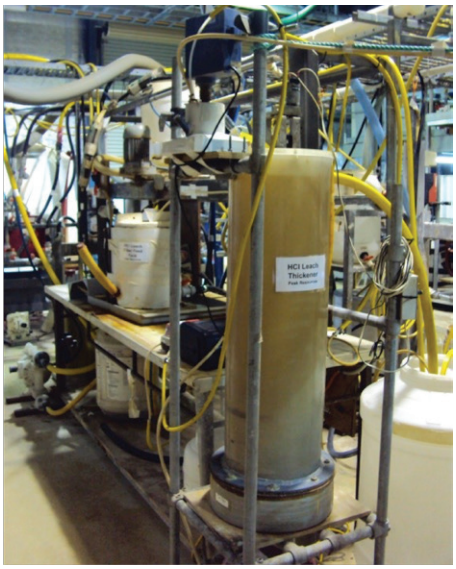
Selective Leaching

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

Solution Purification

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

The resulting filtrate is depleted in cerium but high in neodymium and praseodymium and is suitable for feeding to the final stage solvent extraction separation circuit.



Figures 4 and 5: Leach and Purification sections of the Pilot Plant at ANSTO

In addition to demonstrating the robustness of the developed flowsheet at pilot scale on a continuous basis, valuable design data will be obtained for engineering and supply of vendor packages for the BFS.

Darren Townsend
Managing Director

T: +61 8 9200 5360
E: darren@peakresources.com.au