

12 June 2018

Owendale pilot plant program completed successfully

Key Highlights

- **Achieved goals set for program:**
 - **Metallurgical performance of flowsheet to produce refined Sc₂O₃ and a Ni/Co pre-concentrate confirmed over 11 days continuous operation;**
 - **Process design data required for Definitive Feasibility Study (“DFS”) derived;**
 - **Scandium recovery direct from clarified leach solution by Platina’s chosen solvent extraction technology confirmed;**
 - **Tailings filter cake produced appears suitable for in-pit placement and is undergoing further testwork to confirm this;**
- **Production of commercial samples of scandium oxide for testing by potential customers being completed from intermediates produced;**
- **Drilling commenced on project sites as part of Environmental Impact Assessment and mining option studies.**

Platina Resources Limited (ASX: PGM, “Platina” or the “Company”) is pleased to announce the completion of the pilot plant testing of ore from the Company’s 100% owned Owendale scandium, cobalt and nickel project in central New South Wales.

Platina Executive Director, Chris Hartley, commented:

“The continuous pilot plant program went to plan under the guidance of Platina working with the SGS team and our other technology suppliers, Element 21 and Outotec. The pilot plant ran uninterrupted for 11 days to generate the data and samples that we had targeted. We were able to validate the flowsheet that we have designed on the bulk ore sample to produce scandium concentrate for final refining to high purity scandium oxide product that is now underway.

The results of the test show that the Owendale resource is amenable to treatment using the leach and solvent extraction processes that we have selected. We will now take the data generated in the pilot program to provide a solid basis for our feasibility study. It also supports our strategy to build and operate the process plant remote from the mine by demonstrating that a tailings material can be produced that appears to be suitable for return to the mine site for continuous rehabilitation.

This keeps us on schedule to complete the DFS by the end of this year.”

Overview

Platina conducted a continuous run of a high pressure acid leach (HPAL) circuit to recover scandium oxide and other valuable materials from ore from its 100% owned Owendale project in New South Wales at SGS Minerals’ facility in Malaga, Western Australia from 16th to 27th April 2018. The main HPAL reactor is shown in Figure 1. The SGS autoclave operator and the team from Platina that were present are in Figure 2.



Figure 1 SGS HPAL Pilot Autoclave



Figure 2 Platina team and SGS autoclave operator during pilot trial



Figure 3 Pilot scandium solvent extraction test rig

Approximately 6 tonnes of material from the Owendale project, blended from existing drill core, was ground to the appropriate particle size to feed the pilot plant. The pilot plant feed samples have been prepared to represent the first 5 years production from the mine plan. SGS managed the feed preparation to provide a uniform feed for the program.

The sole variable tested during the pilot trial was the acid to ore ratio (“A:O”) to determine its relationship with Sc extraction. Recoveries established in the metallurgical testwork program include up to 94% leach scandium extraction and 98% scandium extraction from leach liquor in the solvent extraction process.

Table 1: Continuous Pilot Plant Key Operating Data

Key parameters	Units	Value
Operating Time	Days	10.5
Total Ore Processed	kg (dry)	3227
Average Ore Feed Rate	kg / hour (dry)	13.2
Average Scandium Feed Grade	Ppm	585
Leach Autoclave Temperature	°C	255
Average Leach Autoclave Pressure	kPag	4618
Leach Autoclave Overpressure	kPa	400
Autoclave Residence Time (average)	Min	90
Feed Density	% solids	31
Acid to Ore Ratio	kg / dry tonne	320 - 420
Scandium Concentration in Leach Discharge (avge)	mg/L	250
Free Acid Concentration in Leach Discharge (avge)	g/L	40
Scandium Solvent Extraction – Extraction Stages	#	4
Scandium Solvent Extraction – Scrub Stages	#	1
Scandium Solvent Extraction – Strip Stages	#	3
Scandium Concentration in Spent Solution (avge)	mg/L	6.9
Final Neutralisation Terminal pH (avge)	pH	8.0
Tailings Filter Cake Moisture Content (avge)	%	35

Process overview

A flow sheet of the operating process is shown in Figure 4.

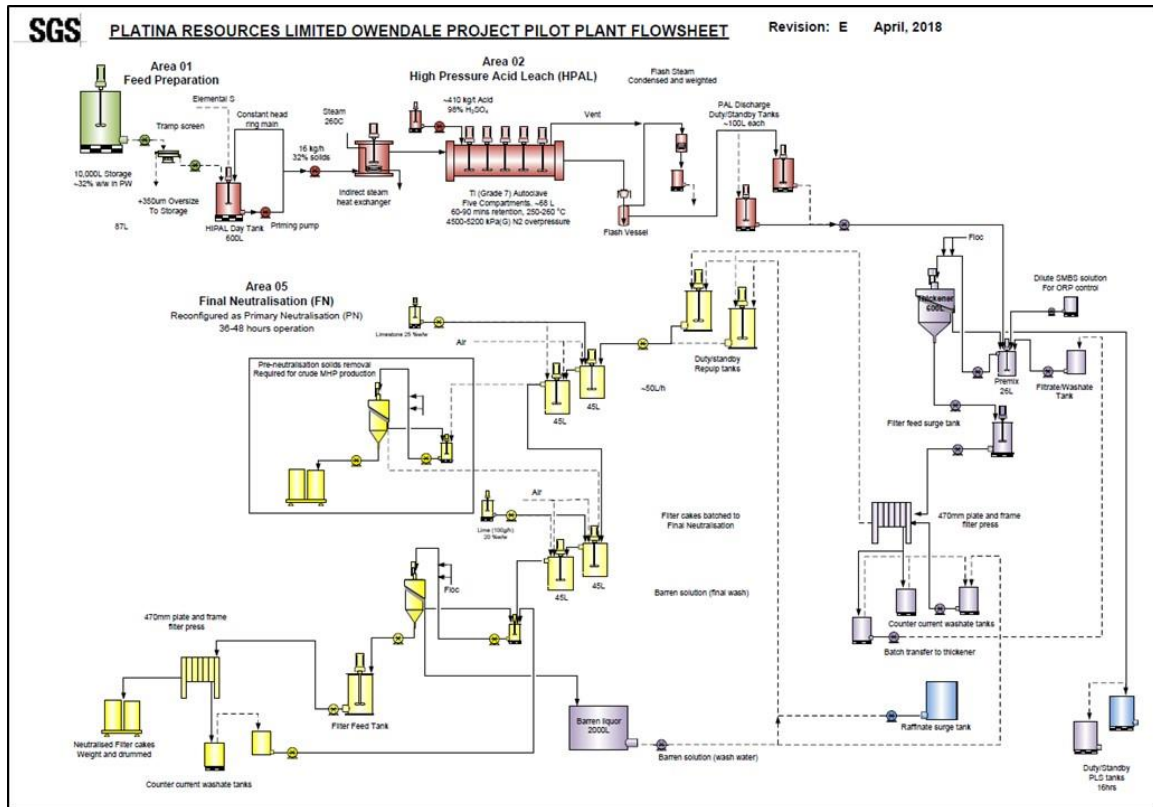


Figure 4 SGS Pilot Plant flow sheet

The final stage of the testwork is being undertaken in a Brisbane laboratory to produce the refined scandium oxide for quality assessment and tests by potential customers. The concentrate produced in the pilot plant program containing roughly 2kg of Sc₂O₃ has been received in Brisbane and is currently being refined by our technology supplier.

Program deliverables

The process model for the extraction and refining of Sc₂O₃, as well as for Ni and Co from the Owendale ore has been completed. This provides a complete metallurgical balance to identify the losses of products in the process. An energy balance has also been developed to determine the requirements for heating and cooling inputs, along with a model for water use in the process. The model also provides projections for reagent consumptions and losses of solvent extraction reagents. This will form the core information for developing the design and engineering of process plant equipment in the DFS.

Material selection for construction of process equipment will be aided by data obtained from corrosion testing of coupons of 11 alloys from 2 suppliers, including some innovative materials that could reduce the cost of critical components substantially.

The samples of tailings and other residues have been delivered to geotechnical and other specialists as part of the permitting processes that are underway. The results from these studies will be integrated into the DFS that will be completed by the end of the year. The tailings produced were visually dry and friable and the material appears suitable for the planned in-pit disposal and rehabilitation strategy. Further testwork will determine its transport characteristics and final stability. A typical sample of the filter cake obtained from the pilot plant is shown in Figure 5.



Figure 5 Tailings filter cake produced during pilot plant trial

The samples of refined Sc_2O_3 are expected to be ready for shipment to potential customers later this month. This will be followed up by visits to these potential customers to develop commercial arrangements for supply of refined Sc_2O_3 .

Future Work

The losses of products identified in the process are being studied to identify opportunities to reduce or eliminate these. An ongoing testwork program will confirm the optimum leach process conditions for dissolution of scandium and the optimum solvent extraction process conditions for scandium recovery from leach solution and production of high purity scandium oxide. Simultaneous testwork programs will investigate indirect heating of leach feed slurry, which has the potential to significantly lower leach circuit capital and operating costs and evaluate alternative solvent extraction and ion exchange technologies for scandium recovery from leach solution.

Drilling program at Owendale and Condobolin

A drilling program at Owendale to develop further options for the location of the initial mining operation has commenced. The program is planned to develop options for the location of the starter pit. A total of 38 holes will be drilled for geological information, 2 holes will be drilled for groundwater monitoring as part of the environmental impact study and 3 water bores will be drilled to determine the quality of available groundwater for use in mining operations. A planned 10-hole drilling program at Condobolin to monitor groundwater will provide data for the environmental impact study.

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Previously Reported Information

This report includes information that relates to Mineral Resources, Pre-Feasibility Study results and Ore Reserves which were prepared and first disclosed under the JORC Code 2012. The information was extracted from the Company's previous ASX: PGM announcements as follows

1. Prefeasibility study announced 10 July 2017
2. Resource estimate update announced 9 August 2017
3. Maiden Reserve announced 13 September 2017
4. Modular development approach reduces Owendale upfront capital expenditure by 59% announced 18 December 2017

The Company confirms that it is not aware of any new information or data that materially affects the information included in those earlier market announcements. All material assumptions and technical parameters underpinning the Mineral Resources and Ore Reserves estimates in the relevant market announcements continue to apply and have not materially changed.