

Flagship Minerals Ltd: Pantanillo Gold Project - Positive Metallurgical Review

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Sydney, Australia - [Flagship Minerals Ltd.](#) (ASX:FLG) has completed a review of metallurgical testwork conducted by previous explorers on the Pantanillo deposit within its Pantanillo Gold Project hosting 47.4Mt @ 0.69g/t Au for 1.05Moz Au foreign estimate (QFE, NI 43-101), located in the Maricunga Gold Belt in northern Chile.

KEY POINTS

- Flagship completes review of previous metallurgical testwork on the Pantanillo deposit.
- Column leach testwork shows high and rapid gold recovery for oxide mineralisation, with gold recoveries for oxides of >80% after 30 days.
- Results highly encouraging, peer group oxide Au recoveries typically 50% - 75%.
- The column leach testwork results derisk next phase of leaching testwork.
- Next phase of testwork will focus on coarser crush and dump leach particle size, which will guide pilot testwork.
- Nearby Fenix deposit currently under construction, with ore reserve grade of 0.48g/t Au, expects 75% recovery from dump leaching.
- Successful dump leach testwork on Pantanillo mineralisation can position Flagship for significant Capex/Opex savings.
- Review completes another step in fast-tracking conversion of current 1.05Moz Au QFE to a Mineral Resource Estimate in accordance with the JORC Code 2012.

Flagship Minerals' Managing Director, Paul Lock, commented:

"Flagship's review of column leach testwork results prove highly positive, confirming high gold recoveries are achievable through cyanidation of crushed material, including ~80% gold recoveries from bottle roll testwork of oxide material and +80% recoveries from column leach testwork on an oxide composite after 30 days of leaching.

"These results materially derisk the next phase of leaching testwork. Flagship will now move on to confirmatory heap leach testwork for input into future financial modelling. This will also guide ongoing optimisation in the lead up to pilot testwork.

"Flagship's strategy is to define sufficient Mineral Resources that will support considerations for project development consisting of open pit mining and heap leach processing with an aim to produce 100,000oz of gold per year for more than 10 years.

"The leaching testwork results further confirm Pantanillo's credentials as a large, scalable heap leach opportunity with substantial strike and down dip extension potential.

"This review completes another step in fast-tracking conversion of current 1.05Moz Au QFE to a Mineral Resource Estimate in accordance with the JORC Code 2012."

Commentary and Results

Metallurgical test work is a core component of the Company's work plan to advance the Pantanillo project towards production. In preparation for additional testwork programs Flagship is reviewing metallurgical testwork conducted by previous explorers.

A review of this work confirms that high gold recoveries were achieved through cyanidation of crushed

material. This includes gold recovery of 79.8% from bottle roll testwork of oxide material at particle size of 80% -1.7mm, and 82.7% from column leach testwork at particle size 80% -25mm on oxide composite after 75 days of leaching. Column leach gold recoveries from mixed and sulphide mineralisation were 53.3% and 26.7% respectively. Gold recoveries from the bottle roll tests for mixed and sulphide mineralisation are 57.8% and 52.8% respectively after 120 hours. This demonstrates that finer particle sizes will likely yield higher gold recoveries for the mixed and sulphide material.

Appendix 1* provides more detail on the results of this testwork. These data are sourced from NI 43-101 reports lodged by previous operators as well as unpublished information contained in the recently acquired Anglo American dataset for the project, see Appendix 1* for relevant References, Appendix 3 JORC Code Table 1, and Flagship's ASX release dated 27 August, 2025, and titled "Pantanillo Gold Project - Anglo Exploration Dataset Secured".

The metallurgical samples were derived from drillhole PNN-11-50DDH (see Figure 1*). The hole is diamond core with a diameter of 61.1mm (HQ3) and was drilled by Orosur Mining in May 2011. A total of 46 samples were collected from this hole and delivered to McLellan Laboratories. The total amount of sample is estimated to be 600kg, which was split into 3 x ~200kg composite samples labelled oxide, mixed and sulphide. The testwork samples were sourced from these composite samples.

The metallurgical testwork indicates that gold is cyanide soluble, particularly in the oxide zone, and is assumed to be recoverable under heap leach conditions. For the bottle roll testwork at a particle size of 80% <1.7mm, gold recoveries of 79.8% were achieved. In column leach testwork at a particle size of 100% <38mm, gold recoveries of >80% were achieved. The column leach testwork results derisk and facilitate Flagship's next phase of leaching testwork. The testwork results for Pantanillo are very encouraging when considered in the context of the results achieved by Rio2 for its Fenix project ~40km to the north.

Flagship will conduct confirmatory heap leach testwork for input into future financial modelling and to guide ongoing optimisation testwork. The program will partly focus on particle size v Au recovery v time and will assess the potential of 'dump leaching'. In a heap leach operation dump leaching refers to the leaching of blasted Run of Mine 'ore' delivered to the leach pad. As this is delivered directly from the mine there is no need for crushing, screening, stockpiling, conveying, agglomeration and rehandling for heap stacking, and hence pre-production capital expenditure (Capex), sustaining capital expenditure and operating costs (Opex) will be materially reduced. However, dump leaching is likely to recover less gold compared to crushing and leaching the same material, hence the focus on particle size v Au recovery v time.

The test work will provide Flagship the necessary information to conduct trade off studies, where the present value of higher gold recoveries through crush and leach are compared to the present value of capital and operating cost savings gained through dump leach. Aside from decreasing Capex and Opex, dump leach also simplifies the operations, which reduces operational risk.

Heap leaching inclusive of dump leaching is a global practice, with 46% of gold production derived from heap leaching. In the Maricunga Gold Belt (MGB), Rio2 (CVE:RIO) is currently constructing the Fenix dump leach gold project located about 40km NW of Pantanillo. Fenix is slated to produce approximately 82,000oz Au pa for 17 years, averaging ~91.5koz in years 1-12. The ROM grade over the mine life is a planned average 0.48g/t Au and AISC are stated to be \$1237/oz.

Rio2 and previous owners conducted numerous heap leach focused testwork campaigns on the Fenix deposit.

Like Pantanillo, the tests showed rapid and relatively high gold recoveries at fine to moderate particle sizes.

However, Rio2 is adopting the dump leach process that does not include crushing, instead leaching blasted ROM 'ore' at a particle size of 100% -150mm, delivered to the heap directly from the mine. Rio2 expects gold recovery to be 75% over the life of mine at a head grade of 0.48g/t Au. The recovery curves from the Fenix testwork at a - 19mm crush, Pantanillo-25mm crush and Fenix dump leach material is shown in Figure 2*. This demonstrates slower gold recoveries of the Fenix dump leach material but with ultimate gold recoveries of 75% against approximately 82% average gold recovery at -19mm crush size, a difference of 7%.

As a result of the metallurgical review, Flagship is of the opinion that the data for the Fenix and Pantanillo leach testwork conducted on crushed material show similar leach kinetics i.e. recovery v time. This similarity may also translate to the potential for dump leaching of the Pantanillo oxide mineralisation and may open up a pathway for an even lower Capex and Opex start-up.

Strategy and Work Plan

Flagship's strategy for the Pantanillo project is to define sufficient Mineral Resources that will support

considerations for project development consisting of open pit mining and heap leach processing with an aim to produce 100,000oz of gold per year for more than 10 years.

Nearby projects, such as the Fenix Gold Project owned by Rio2 where construction is around 40% complete, provide useful benchmarks. Fenix is an oxide gold project slated to produce 1.32 Million ounces of gold over a 17 year mine life, it has a 0.48g/t head grade and an average life of mine AISC of US\$1,237/oz Au.

Flagship's work plan for the Pantanillo Gold Project will focus on the following:

- Conducting the necessary work to convert and increase the existing qualifying foreign estimate to Mineral Resources reported in accordance with the JORC Code (2012). This will include validation of the existing drillhole data, confirmatory, infill and extensional drilling as required, as well as other supportive work.
- Additional metallurgical testwork and other project studies for input into techno-economic evaluation.

The Pantanillo deposit has significant additional exploration potential for both oxide and higher-grade sulphide mineralisation. Oxide potential exists along strike and in areas proximal to the existing deposit.

Further potential for additional mineralisation also exists below post mineralisation cover to the southeast of Pantanillo. Outside of the Pantanillo deposit, exploration potential remains in the Pantanillo Central, Quebrada Pantanillo and Oro 52 prospects. Although the alunite alteration is typically associated with advanced argillic alteration caps that commonly overly gold-bearing porphyry-type deposits like Pantanillo and other gold deposits in the region, limited drilling has been conducted at some of these targets.

Exploration potential throughout the broader project area of over 110km² will also be assessed. The occurrence of magnetite and pyrite in the fresh mineralisation provides a good co-incident geophysical target utilising magnetics and Induced Polarisation.

*To view tables and figures, please visit:
<https://abnnewswire.net/lnk/1Z9A98V2>

About Flagship Minerals Ltd:

Flagship Minerals Ltd's (ASX:FLG) strategy is to secure and develop projects which it believes will position the Company as a low-cost producer of Copper and Lithium, metals that matter. Specifically, Flagship Minerals seeks to secure low capital intensity projects in low-cost jurisdictions and infrastructure rich settings, projects which are positioned for high margin outcomes, and projects which are proximal to industry, chemical processing, and manufacturing.

Source:
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