



ASX Announcement
12 November 2019

Norseman Processing Plant Options Review Outcomes

Pantoro Limited (**ASX:PNR**) (**Pantoro**) is pleased to advise that it has completed a Processing Plant Options Review and Scoping Estimate at the Norseman Gold Project.

Key Outcomes

- Study completed by mechanical and mineral process engineering experts Como Engineers.
- Nominal 800,000 tonne per annum capacity, dependent on comminution properties of blended ore feed.
- Major equipment including crusher and mills in existing circuit to be retained and refurbished.
- All concrete, structures, electrical and services components to be replaced with new materials.
- Crushing circuit (including structures) and ROM pad to be retained in its current location with the remainder of the plant relocated to the south of the existing plant.
- Existing site infrastructure and services outside of the processing plant are suitable for use and greatly reduce project capital requirements.
- Estimated cost of \$25.5 million \pm 30% to complete refurbishment and rebuild.
- Estimated 33 week construction program from commencement.
- Next step to complete design and cost estimation to \pm 10% accuracy.

Commenting on the study, Managing Director Paul Cmrlec said "The outcome of this study provides Pantoro with a clear way forward for reconstruction of the Norseman processing facility. The large amount of existing infrastructure at the site provides a major reduction in capital costs for the project, and the review confirms our pre-acquisition cost assumptions. We look forward to commencing the definitive plant design and cost calculation in the new year.

The project is advancing as expected as we progress towards re-commencement of production."

Option Review

The study completed by Como Engineers considered options for the processing plant including:

- Option A - Refurbishment of existing structures and equipment in the existing location. The existing plant configuration utilises primary crushing, and a high aspect SAG mill and ball mill in series;
- Option B - Reconstruction of the processing facility with the same configuration at a new location using a combination of refurbished existing major equipment and new structures, piping, electrical and services in a new location; and
- Option C - Construction of a completely new processing facility utilising primary and secondary crushing and a single 2.3MW ball mill.

Como Engineers completed multiple site visits as part of the assessment and undertook core sampling and testing of existing concrete structures.

The review concluded that the existing leaching circuit is extensively corroded and in addition to the large capital repair cost would have a high operating cost due to the historical air operated Pachuca tanks in place. As such, all options included a new leaching circuit using a modern mechanically agitated CIL circuit.

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The review found that Options A and B require similar expenditure, while the Option C capital requirement is approximately \$10 million higher. Option A was noted to be higher risk from both safety and financial perspectives. Option B was therefore chosen for detailed design and cost estimation prior to construction.

Scoping Study

The scoping study considered all capital construction requirements for the construction of the processing facility to the existing tailings discharge line. The new location for the processing plant is adjacent to the existing site and support infrastructure.



The scope of work and cost estimate considers all areas of the processing plant including:

- Refurbishment of the existing crushing circuit (existing location).
- Refurbishment of the existing pebble crushing circuit (new location).
- Refurbishment of the existing grinding circuit equipment and replacement of the structures (new location).
- Refurbishment of the existing gravity circuit equipment and replacement of the structures (new location).
- Refurbishment of the existing Gold room equipment and supply of new EW cell and rectifier (existing location).
- Refurbishment and automation of the existing Acacia leach reactor (existing location).
- Refurbishment of the existing services (existing/new locations).
- Refurbishment of the existing MCC (existing location).
- Refurbishment of the existing lime silo (new location).
- Supply and installation of a new modular 3T Pressure Zadra elution/stripping plant (new location).
- Supply and installation of a new carbon regeneration kiln (new location).
- Supply and installation of a new CIL circuit (new location).
- Refurbishment of the existing cyanide storage (new location).
- Installation of Raw/Process water dams (new location).

Cost Estimate

The cost estimate for the scope of work identified is \$25.55 million \pm 30%. The estimate includes \$11.26 million for refurbished and relocated items within the plant and \$11.96 million for new items including the CIL circuit, Elution, stripping and carbon regeneration and new site works.

Ten percent contingency of \$2.32 million has been allowed in the estimate.

Next Steps

The next step in the planning for reconstruction of the processing plant is to complete detailed design and cost estimation to an accuracy of \pm 10%. Planning for this work is underway.

Enquiries

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