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ASX Announcement
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Hayes Creek test work identifies new process to materially increase gold/silver recoveries

- **Innovative leaching test work on Iron Blow float tailings stream indicates potential for the recovery of approximately 13koz of gold and 1Moz of silver that would otherwise be lost to tails**
- **This test work will be advanced as part of the DFS and has the potential to increase the already robust economics of the Hayes Creek project as demonstrated by the 2017 PFS**
- **Drilling at Iron Blow complete with thick zones of massive sulphide mineralisation intersected within the eastern and western lodes - assays due from late April**
- **Studies underway to inform the Hayes Creek DFS including those required for Government and environmental approvals**

PNX Metals Limited **(ASX: PNX)** ("PNX", "the Company") is pleased to advise that it has identified a new pathway to materially increase recoveries of gold and silver from the Iron Blow volcanogenic massive sulphide (VMS) deposit.

Iron Blow, along with the Mt Bonnie VMS deposit and the Fountain Head gold prospect, collectively comprise the Hayes Creek zinc-gold-silver project ("Project") in the Pine Creek region of the Northern Territory.

The recently completed optimisation test work will feed into the definitive feasibility study (DFS) as a new unit process designed to capture additional gold and silver from the Iron Blow float tails that would otherwise remain locked in the mineral lattice and therefore remain unrecoverable.

A newly trialled reagent to specifically target residual gold and silver in the rougher tails has achieved a first pass result of improved recoveries to a scavenger concentrate by 26.6% gold and 19.9% silver.

This scavenger concentrate stream was then subjected to three well known hydrometallurgical processes - intense cyanidation, ferric oxidation (at elevated temperatures), and pressure oxidation (POx) for extraction of gold and silver (see Table 1).

Intense cyanidation, the preferred treatment route at this stage, achieves additional recoveries of precious metals to solution and then to doré of at least 10.7% gold and 17.0% silver, which equates to approximately 13koz Au and 1Moz silver over life of mine at Iron Blow potentially creating a new revenue stream for the Project.

Managing Director Comment

PNX Managing Director James Fox said: "We are very pleased with the outcome of this test work as it is something we have been working on in the background for a while. To have identified a potential new revenue stream from material that would otherwise end up in tailings is excellent. Overall gold/silver recoveries have been improved by 10.7% and 17.0% respectively to a new final product being a doré bar, in addition to the zinc and precious metals

concentrates as proposed in the PFS. This incremental optimisation is continuing to demonstrate that the Hayes Creek Project is a technically, environmentally and financially viable project."

Hydrometallurgical Process	Au Extraction	Au to doré	Ag Extraction	Ag to doré	Iron Dissolution	Sulphide Destruction	Zinc Dissolution
	%	%	%	%	%	%	%
Option 1 - Intense Cyanidation	40.75	10.7	76.4	17.0	0	0	3.1
Option 2 - ATM FeSO4	53.50	13.9	100	26.0	54	ND	75
Option 3 - POx	84.55	22.0	100	26.0	26	66	99

Table 1 (ND = Not Detected)

Discussion

Of the three options tested, intense cyanidation has the lowest capital and operating costs. Whilst these costs have to be finalised for inclusion into the DFS, they typically only relate to minimal power and reagent usage (sodium cyanide and sodium hydroxide).

The Intense cyanidation process involves applying high cyanide concentrations to continuously leach the sulphides for an extended period of time (tested up to 72 hours) to drive the gold/silver extraction from the solids into a liquor stream which is then electrowon to produce a gold/silver doré.

The highest gold liquor assay was observed after 32 hours of leaching suggesting some back precipitation of the gold, and with further optimisation intense cyanidation recoveries may be increased closer to 50% (from 40.75%, see Table 1), resulting in a potential for 13.3% gold recovery to doré vs the current 10.7%.

Intense cyanidation also has the advantage of no sulphide destruction and low zinc dissolution, meaning no zinc loss to evaluate in the concentrates as the leach tail can be recirculated back into the main float circuit.

Although POx demonstrates the highest gold/silver extraction it is at this stage likely to be uneconomic.

Iron Blow Drilling

Drilling at Iron Blow comprising two diamond holes for a total of 500m has been completed, with thick intervals of massive sulphide mineralisation intersected in the eastern and western lodes as predicted by the geological model. Geological logging and core processing is being finalised and the first assays are due from late April.

Hayes Creek DFS update

The DFS on the Hayes Creek Project has re-commenced, following the successful completion of a Pre-Feasibility Study (PFS) in July 2017 which confirmed the Hayes Creek Project to be a promising future low-cost, high margin zinc and precious metal mine that could create significant value for the Company's shareholders[1]

The DFS is expected to provide increased confidence in all aspects of the Hayes Creek Project as well as investigate opportunities to improve mine life and overall project economics, thereby increasing the prospect of favourable development finance terms and structure.

The Hayes Creek Project is comprised of the Iron Blow and Mt Bonnie zinc-gold-silver deposits, and the Fountain Head gold prospect, located less than 3km apart on wholly owned Mineral Leases within the Pine Creek region of the Northern Territory, 170km south of Darwin (Figure 1).

In July 2018, the agreement with Newmarket to acquire four mineral leases at Fountain Head was completed, thereby securing the preferred site for the Project's proposed processing plant and tailings facility[2].

[1] Refer ASX announcement 12 July 2017 for full details. The material assumptions underpinning the production targets, and the forecast financial information derived from the production targets, continue to apply and have not materially changed.

[2] Refer ASX announcement 31 January 2018 for further detail

During the 2018 field season there was a renewed focus on regional exploration and as such the DFS progression was limited to studies relating to the Notice of Intent, Environmental Impact Statement (EIS) and ongoing metallurgical flotation test work. With increased investor interest in the project, in particular from new sophisticated investors, the DFS has re-commenced. The longest lead-time items relate to environmental and regulatory approvals with the submission of the EIS proposed for mid-2019. These approvals and finalisation of the DFS are expected to take until at least the first quarter of 2020, subject to no unforeseen delays.

The Hayes Creek Project is located in a favourable mining jurisdiction where the development scenario considers and utilises existing infrastructure that includes rail, road, high voltage power lines and water, further enhancing project fundamentals and lowering development risks.

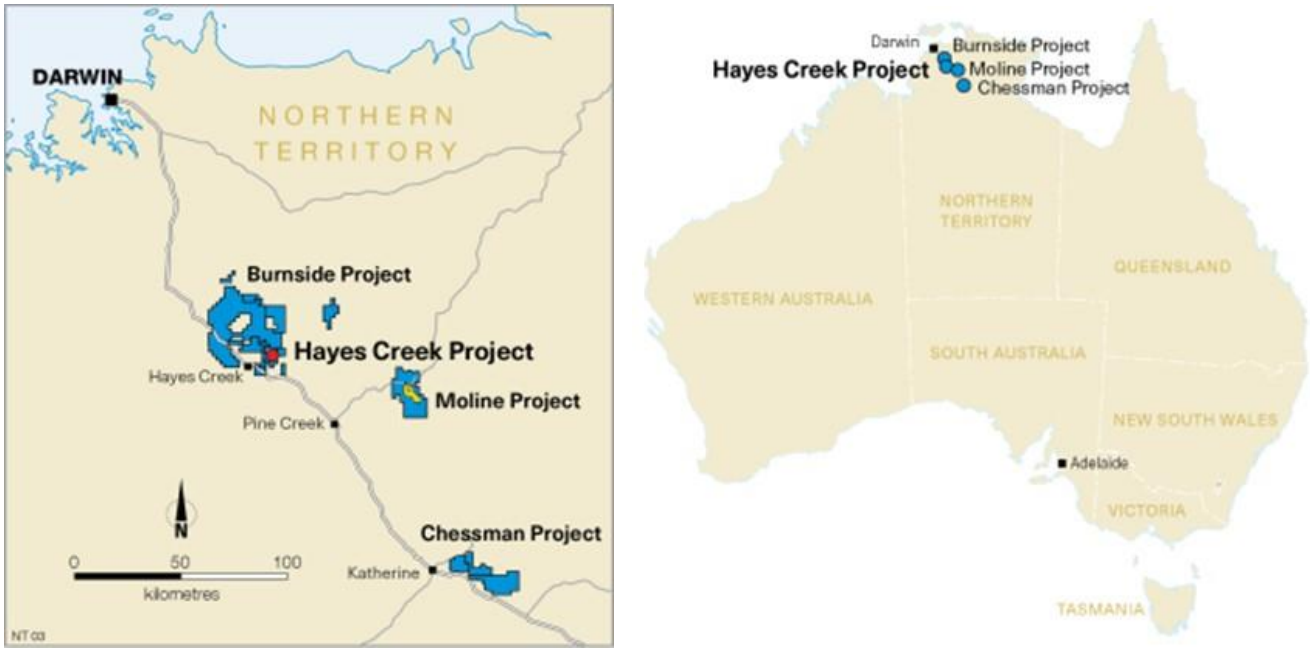

Figure 1: NT Project locations

For further information please visit the Company's website www.pnxmetals.com.au or contact us:

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