

SUCCESSFUL METALLURGICAL TEST WORK – HAYES CREEK PROJECT, NT

Highlights:

- Iron Blow ore produces readily saleable zinc concentrate, and high-grade precious metals, copper and lead bulk concentrate
- Ongoing test work continues to optimise metallurgical recoveries of zinc, gold and silver
- Flowsheet established for Scoping Study process engineering
- Metallurgical results, in conjunction with an initial resource estimate for Mt Bonnie, to be incorporated into the Hayes Creek Scoping Study due for completion in March 2016

PNX Metals Limited (**ASX:PNX**) is pleased to report the results from successful metallurgical test work on Iron Blow massive sulphides. Metallurgical investigations have identified a practical and economic flow sheet to maximise recoveries of the most valuable economic minerals in the resource, being zinc, gold and silver.

These metallurgical results, along with historical analyses, will provide key processing input parameters for the Hayes Creek scoping study to be completed in March 2016.

The Iron Blow and Mt Bonnie zinc-gold-silver deposits are located on granted Mineral Leases within the Hayes Creek Project in the Pine Creek region of the Northern Territory and are 100% owned by PNX Metals.

Test work methodology

Various samples were taken from Iron Blow gold and massive sulphide zones in an effort to represent the ore deposit as a whole. These samples were then subjected to a number of tests including grind variability, reagent optimisation, regrind and cleaning.

Ten reagent optimisation tests were completed at a relatively coarse grind size of -75µm with various collectors and depressants trialled to find the best combination of reagents to maximise recoveries. Regrind and subsequent re-cleaning flotation tests were performed on the bulk rougher/scavenger lead/copper and zinc concentrates to determine grades and recoveries of the various minerals. See Table 1 for results of optimum reagent conditions in T10.

Table 1 – Reagent optimisation results

Bulk Rougher		ASSAYS (g/t, %)					RECOVERY (%)				
T10 p80: 75µm	Mass (%)	Au	Ag	Cu	Pb	Zn	Au	Ag	Cu	Pb	Zn
Pb/Cu Con	23.0	7.3	661	1.6	3.4	8.0	64.0	82.7	71.4	70.5	20.0
Zn Con	21.9	2.2	85.6	0.5	0.7	28.7	18.8	10.2	20.5	13.7	76.7
Tails	55.1	0.8	23.9	0.1	0.3	0.5	17.3	7.2	8.0	15.8	3.4
Feed	100.0	2.6	184	0.5	1.1	8.2	100.0	100.0	100.0	100.0	100.0

High zinc recoveries

Results of regrinding the zinc rougher at a p80 of -38 µm and subsequent re-cleaner open-cycle tests show the zinc cleaners performing very well with zinc upgrading from 28.7% zinc (in rougher concentrate) to 43.8% zinc at an overall 70.3% recovery. Iron and arsenic rejection was also successful.

By recirculating zinc recleaner tails (as would occur in a standard flowsheet) further improvements in zinc recovery (82.24%), and grade (46.84%), and rejection of iron and arsenic is likely (see mass balance calculations in Table 2). These regrind and cleaning tests demonstrate successful flotation of zinc to a potentially saleable concentrate.

Table 2 – Zinc rougher and cleaner flotation results

	ASSAYS						RECOVERY (%)				
	Mass	Au	Ag	Cu	Pb	Zn	Au	Ag	Cu	Pb	Zn
	%	ppm	ppm	%	%	%	%	%	%	%	%
Zn Rougher Con	21.9	2.2	85.6	0.5	0.7	28.7	18.8	10.2	20.5	13.7	76.7
Zn Cleaner Con (recirc)	12.7	2.1	112.8	0.7	0.8	46.8	12.1	8.8	17.4	9.8	82.2

Precious metals bulk concentrate

The copper/lead regrinding and cleaning circuit tests were performed at a p80 of -28 µm and provided an upgrade ratio of approximately 9 times for precious and base metals into the cleaner concentrate. Regrinding also assisted in liberating and rejecting zinc from the lead/copper concentrate for circulation to the head of the zinc regrind circuit, and rejection of iron and arsenic to tails. Likewise with the zinc cleaner tails recirculated to the head of the lead/copper regrind circuit to recover further gold/silver.

The metal distributions with re-circulating cleaner tails (Table 3) are calculated from the above analysis. Complete locked-cycle laboratory tests will need to be conducted to fully understand overall recoveries when recycling streams; these will be part of the ongoing optimisation program.

Table 3 – Precious metals concentrate results

	ASSAYS						RECOVERY (%)				
	Mass	Au	Ag	Cu	Pb	Zn	Au	Ag	Cu	Pb	Zn
	%	ppm	ppm	%	%	%	%	%	%	%	%
Pb/Cu Cleaner Con	6.8	18.2	1960	4.6	9.8	5.2	47.2	72.5	60.2	60.5	4.3

Gold recoveries

Optical and QEMSCAN analysis on the leach residues to determine the gold and silver associations will further assist with increasing recoveries of the precious metals. Historical test-work on Hayes Creek sulphide ore suggests an overall gold recovery of 92.5% can be achieved in the sulphide zones¹.

Full concentrate specifications have been produced and are being used to generate indicative pricing structures from smelters for inclusion into the Scoping Study.

Managing Director of PNX Metals, James Fox said, “The results generated from recent flotation test work are very positive. The high recovery and grades of zinc to a marketable and saleable concentrate product is a great first step in extracting the valuable contained metals from the Hayes Creek ores. Optimising the lead/copper stream to maximise gold and silver credits will be the focus of ongoing test work, and we look forward to using these results to develop a robust economic flow sheet. An initial resource estimate for Mt Bonnie is due shortly, and this, in addition to significant high-grade zinc-gold-silver resources that already exist at Iron Blow, will underpin a Scoping Study to be completed in March 2016”.

¹ ‘Metallurgical test work on Mt Bonnie Ore’ for Zapopan NL by IML Pty Ltd, June 1991

About the Hayes Creek Project

The Iron Blow and Mt Bonnie deposits form part of PNX's Hayes Creek Project within the Pine Creek region of the Northern Territory, 180km south of Darwin (Figure 1). The deposits are situated on granted Mineral Leases and are located close to infrastructure, including rail, road, high voltage powerlines and water.

The Iron Blow deposit was upgraded to a JORC (2012) compliant inferred mineral resource estimate by PNX in late 2014 (Table 4), and contains approximately 200,000oz of gold, 10.7Moz of silver and 125,000t of zinc at potentially mineable grades (see ASX release 3 November 2014).

An initial resource at Mt Bonnie is currently being estimated and is due for completion shortly.

Table 4: Iron Blow Inferred Mineral Resource Estimate as at 8th October 2014*

Depth	AuEq cut-off (g/t)	Tonnes	AuEq (g/t)	Au (g/t)	Ag (g/t)	Cu (%)	Pb (%)	Zn (%)	ZnEq %
> -90 mRL	0.7	2.2Mt	6.7	2.4	140	0.3	1.0	4.9	11.8
< -90 mRL	3.0	0.4Mt	5.6	2.7	71	0.4	0.4	4.1	10.0
Total Inferred Mineral Resource		2.6Mt	6.5	2.4	130	0.3	0.9	4.8	11.5
Total Contained Metal			543,000 oz	203,000 oz	10,700,000 oz	7,000 t	23,000 t	125,000 t	300,000 t

* See ASX release 3 November 2014 for details, 'High Grade Mineral Resource Estimate for Iron Blow Deposit', where further details are provided. All material assumptions and technical parameters underpinning the resource estimate announced on 3 November 2014 continue to apply and have not materially changed. Results of drilling by PNX since October 2014 have not been included in the estimate but if they were, they would not likely have a material change on the October 2014 resource estimate.



Figure 1: Hayes Creek Project and the Burnside, Moline and Chessman Exploration Projects

Competent Person's Statement

The information in this report that relates to Exploration Results is based on information compiled by Mr Andrew Bennett, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy (AusIMM). Mr Bennett has sufficient experience relevant to the style of mineralisation and the type of deposits under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Bennett consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

James Fox
Managing Director & CEO
 Telephone: +61 (0)8 8364 3188
 Email: info@pnxmetals.com.au
 Website: www.pnxmetals.com.au

Peter Taylor
Investor Relations
 Telephone: +61 (0) 412 036 231
 Email: peter@nwrcommunications.com.au