



# Welcome Annual General Meeting

22 November 2017

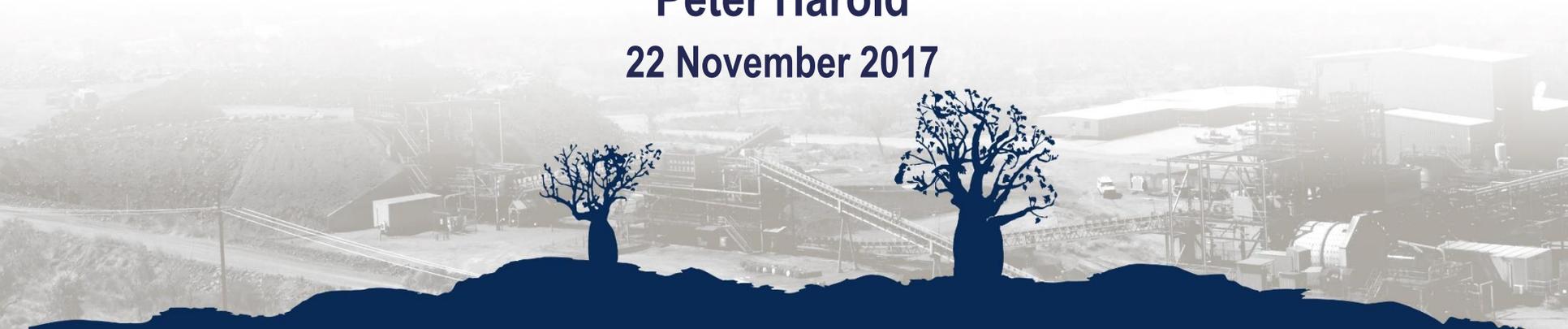




# 2017 Annual General Meeting

Managing Director's Presentation  
Peter Harold

22 November 2017



# Disclaimer

## No New Information or Data

This presentation contains references to exploration results, and Mineral Resource and Ore Reserve estimates, all of which have been cross referenced to previous market announcements made by the Company. The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcements and, in the case of estimates of Mineral Resources and Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed.

## Forward Looking Statements

This presentation may contain certain “forward-looking statements” which may not have been based solely on historical facts, but rather may be based on the Company’s current expectations about future events and results. Where the Company expresses or implies an expectation or belief as to future events or results, such expectation or belief is expressed in good faith and believed to have a reasonable basis. However, forward looking statements are subject to risks, uncertainties, assumptions and other factors, which could cause actual results to differ materially from future results expressed, projected or implied by such forward-looking statements. Such risks include, but are not limited to metals price volatility, currency fluctuations, increased production costs and variances in ore grade or recovery rates from those assumed in mining plans, as well as political and operational risks in the Countries and States in which we operate or sell product to, and governmental regulation and judicial outcomes. For a more detailed discussion of such risks and other factors, see the Company’s Annual Reports, as well as the Company’s other filings. The Company does not undertake any obligation to release publicly any revisions to any “forward-looking statement” to reflect events or circumstances after the date of this announcement, or to reflect the occurrence of unanticipated events, except as may be required under applicable securities laws.

# Agenda

**Company Overview**

**Nickel**

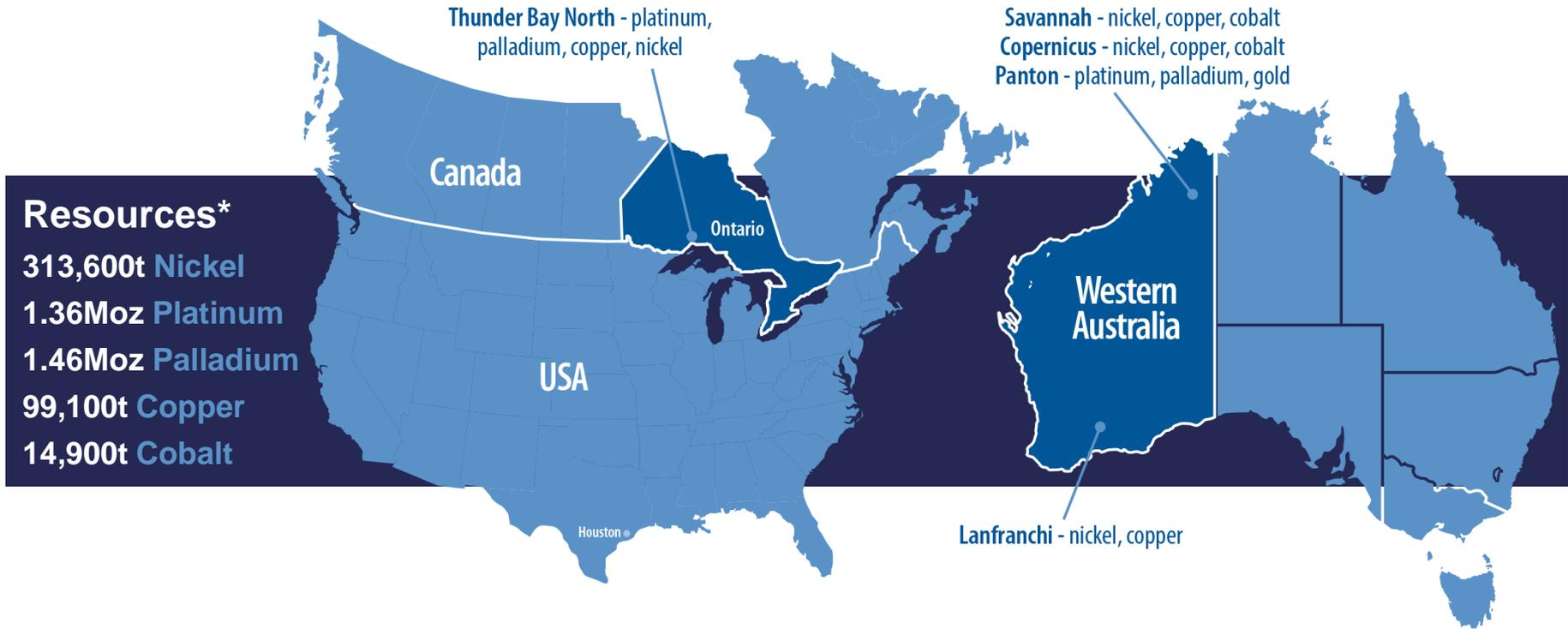
**Gold & PGMs**

**Metal Price Outlook**

**FY2018 Goals**



# Significant Resources



\*Refer Appendices "Resources and Reserves – 30 June 2017"

# Corporate Overview

## Capital Structure and Enterprise Value

ASX Ticker	ASX: PAN
Shares on issue	430.1M
Share Price	\$0.46 (21 November 2017)
Market Cap	~\$200M
Cash	~\$7.5M (30 September 2017)
Listed Investments	~\$13M
Bank debt	Nil
Enterprise Value	~\$180M

## Significant Shareholder (at 30 September 2017)

Zeta Resources Limited	27.0%
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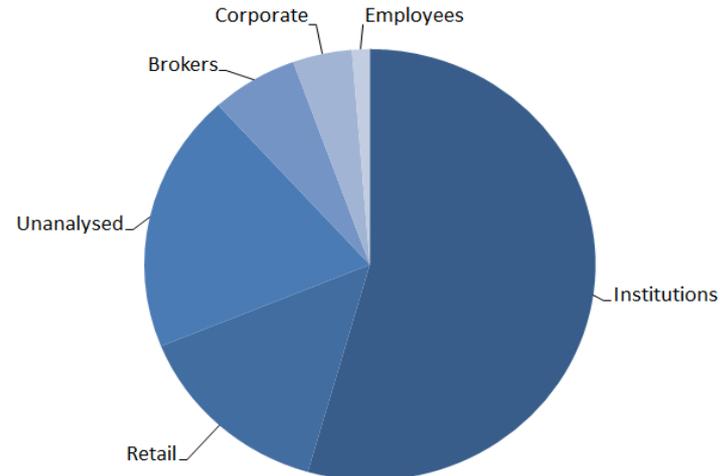
## Volume

30-day average daily volume	1,721,000
90-day average daily volume	1,177,000

## Board

Brian Phillips	Non Executive Chairman
Peter Harold	Managing Director
John Rowe	Non Executive Director
Peter Sullivan	Non-Executive Director
Trevor Eton	CFO/Company Secretary

## Shareholder spread +50% institutional



# FY2017 in Review

## Savannah

- Project placed on care and maintenance in May 2016 due to low nickel price
- Major Resource upgrade at Savannah North in August 2016 to **10.27Mt at 1.70% Ni for 175,100t contained Ni, 74,400t Cu, 12,700t Co**
- Positive Feasibility Study and declaration of initial **Ore Reserve at Savannah North of 6.65Mt at 1.42% Ni for 94,500t contained Ni, 40,900t Cu, 6,700t Co**
- Updated Feasibility Study indicates **+8 year mine life with C1 cash costs of US\$2.40/lb payable Ni and pre-production and ramp-up capex of \$36M**

## Lanfranchi

- Camp leased out to Tawana Resources NL

## Horizon Gold Limited (ASX:HRN)

- Successful IPO of HRN in December 2016

## Platinum-Palladium Projects

- Thunder Bay North – Rio Tinto continue to earn-in
- Panton – development options being assessed



# Continuous Exploration Success

**342,700 tonnes Nickel**  
**125,000 tonnes Copper**  
**18,700 tonnes Cobalt**

## Kimberley

- Savannah North: 175,100t Ni, 74,400t Cu, 12,700t Co
- Savannah Lower Zone: 50,120t Ni, 28,200t Cu, 2,400t Co
- Savannah Sub 900 Fault: 14,900t Ni, 6,900t Cu, 900t Co
- Copernicus: 10,600t Ni, 6,900t Cu, 400t Co

## Lanfranchi

- Deacon: 71,800t Ni, 6,300t Cu, 1,900t Co
- Jury-Metcalf: 6,400t Ni, 1,300t Cu, 100t Co
- Lower Schmitz: 6,700t Ni, 500t Cu, 100t Co

**630,000 ounces Gold**

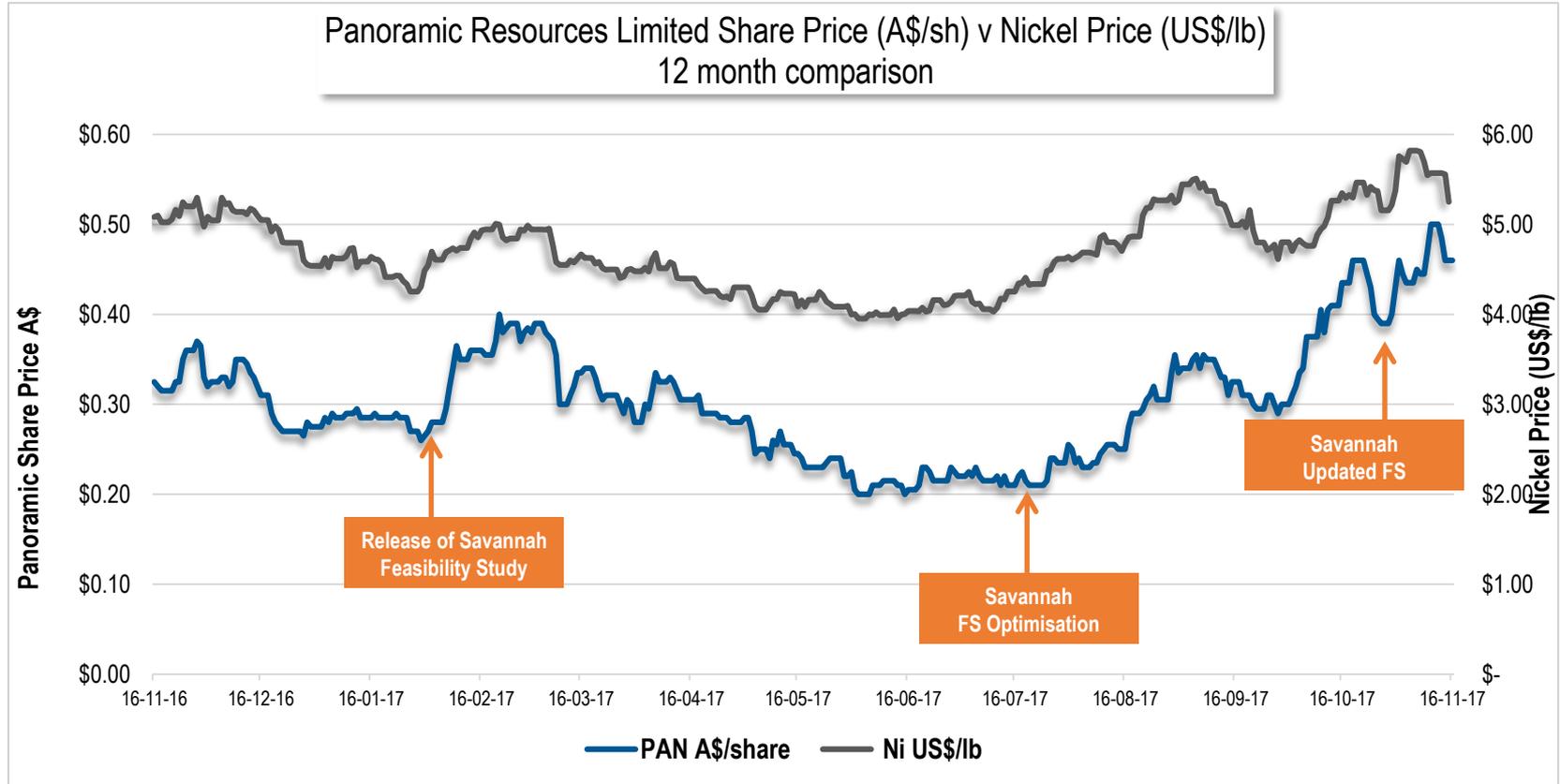
## **Gum Creek (now owned by Horizon Gold Limited)**

- Combined Howards, Heron South, Swan, Swift and Wilsons

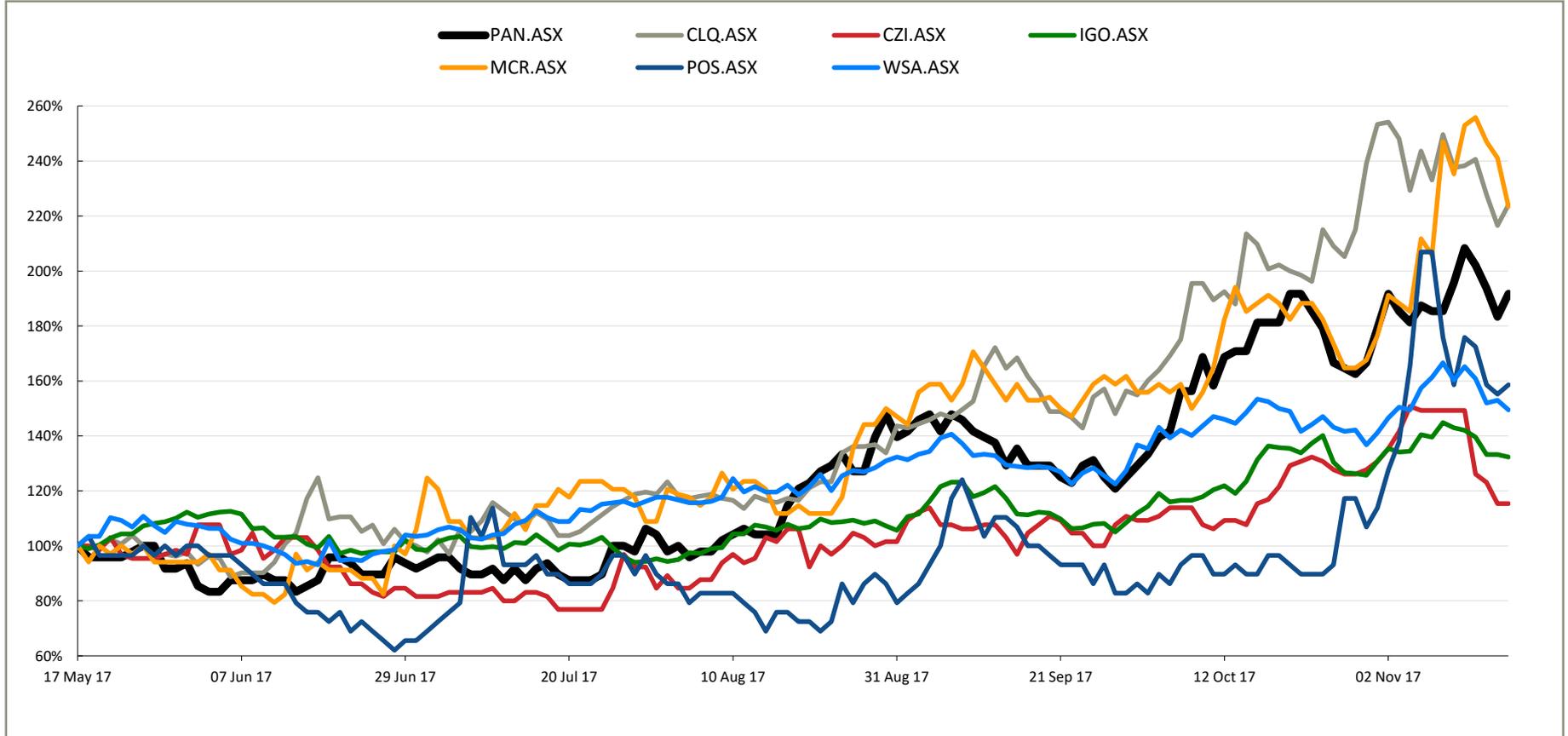


**John Hicks, General Manager Exploration**

# Highly leveraged to nickel price



# Performance against our peers in last six months



# Nickel, Copper, Cobalt – production ready assets



# SAVANNAH



# Savannah - Summary

## Mining and Processing

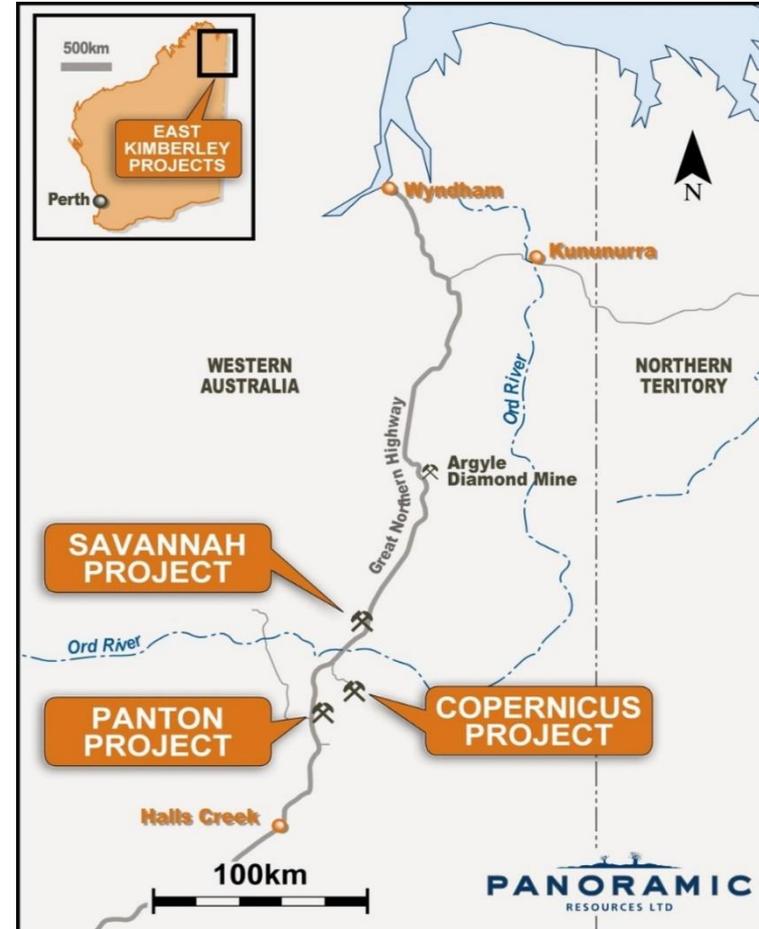
- Fully developed underground mine
- 1Mtpa processing plant (SAG mill and conventional flotation)
- Full mining fleet, 200 person village & associated infrastructure
- Mined continuously for 12 years (2004-2016)
- **8.5Mt ore milled for 95kt Ni, 53kt Cu, 5kt Co in concentrate**
- Care and maintenance since May 2016
- Updated Feasibility Study for re-start delivered October 2017
- Offtake with Sino/Jinchuan to March 2020

## Resources

- **Total Resources of 218,300t Ni, 99,100t Cu, 14,900t Co**

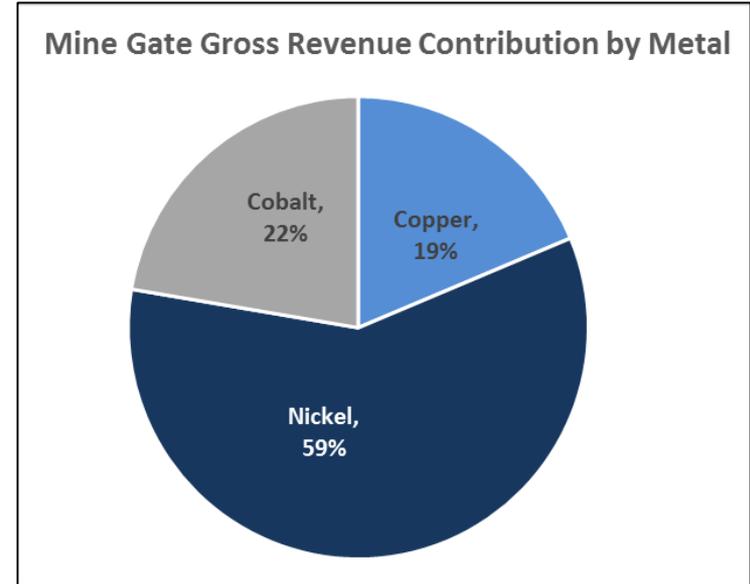
## Exploration upside

- Only half of interpreted extent of Savannah North Upper Zone tested by drilling
- Other mafic/ultramafic intrusives with little or no drilling



# Savannah Updated Feasibility Study<sup>1</sup>

- **Payable Operating Cash Costs** - US\$2.40/lb payable Ni
- **Sustaining Cash Costs** - US\$3.50/lb payable Ni
- **Pre-production and ramp-up capital** - A\$36M
- **Mine life** - 8.3 years
- **Average annual production forecast<sup>2</sup>**
  - 10,800t Ni
  - 6,100t Cu
  - 800t Co
- **Short lead time to production**
- **NPV** - \$380M (at US\$6.75/lb Ni and A\$=US\$0.75)
- **IRR** - 200% (at US\$6.75/lb Ni and A\$=US\$0.75)



1. Refer Company ASX release 27 October 2017 titled "Updated Savannah Feasibility Study. Enhances fundamentals for a decision to restart"

## 2. Cautionary Statement

Approximately 1.1% of nickel in the Production Target is from material classified as Inferred Resource. There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised.



# Key Resource and Production Statistics

Operating Metric	Details
Mineral Resources	13.2Mt @ 1.65%Ni, 0.75% Cu, 0.11% Co containing 218,300t Ni 99,100t Cu 14,900t Co
Mine Production	7.65Mt @ 1.42% Ni, 0.68% Cu, 0.10% Co containing 108,700t Ni 51,700t Cu 7,300t Co
Mine Life	8.3 years
LOM production <i>(metal in concentrate)</i>	90,200t Ni 50,700t Cu 6,700t Co
Annual production <i>(metal in concentrate)</i>	10,800t Ni 6,100t Cu 800t Co

- Long mine life ~8.3 years
  - (excluding future Resource to Reserve conversion and exploration upside potential)
- Significant nickel production
  - averaging 10,800t nickel in concentrate over LOM
- Significant by-product credits
  - 41% of gross mine-gate revenue from copper and cobalt

The Mineral Resources and Ore Reserves underpinning the above production target have been prepared by a competent person or persons in accordance with the requirements of the JORC Code – refer to PAN's ASX announcements of 24 August 2016, 30 September 2016 and 2 February 2017.

# Savannah Updated Feasibility Study – Financial Results

Viable at spot, highly leveraged to commodity price

Financial Metric	Units	Base Case	Long Term
Revenue	A\$M	1,470	1,720
Initial Capital	A\$M	36	32
LOM Capital (incl. initial capital)	A\$M	240	230
Operating costs plus royalties	A\$M	900	920
Pre-tax cashflow	<b>A\$M</b>	<b>330</b>	<b>570</b>
Pre-tax NPV (8% discount rate)	<b>A\$M</b>	<b>210</b>	<b>380</b>
IRR	%	100	200
C1 cash cost (Ni in concentrate basis)	A\$/lb Ni	1.90	2.10
	US\$/lb	1.50	1.60
Operating cash costs (payable Ni basis)	A\$/lb Ni	3.10	3.40
	<b>US\$/lb</b>	<b>2.40</b>	<b>2.60</b>
Sustaining cash costs (payable Ni basis)	A\$/lb Ni	4.50	4.80
	<b>US\$/lb</b>	<b>3.50</b>	<b>3.60</b>

- Commodity and FX assumptions used in the Base Case model are reflective of current prices:

Commodity	Base Case	Long Term*
Nickel	US\$5.50/lb	US\$6.75/lb
Copper	US\$3.10/lb	US\$2.72/lb
Cobalt	US\$28.00/lb	US\$26.00/lb
US\$:A\$	0.78	0.76

- Revenue assumptions based on recent indicative sales terms received from potential offtake partners
- Discount rate 8%
- Modelling is pre-tax

\***Long Term Prices** - The Long Term (LT) Real (2017\$) US\$ nickel and copper prices and the US\$:A\$ FX rate are consensus forecasts sourced from UBS Global I/O Miner Price Review, dated 5 October 2017. The LT Real (2017\$) US\$ cobalt price is sourced from Macquarie Bank Limited Research Report titled "Price Forecast Changes", dated 9 October 2017.

# Leveraged to commodity prices and currency

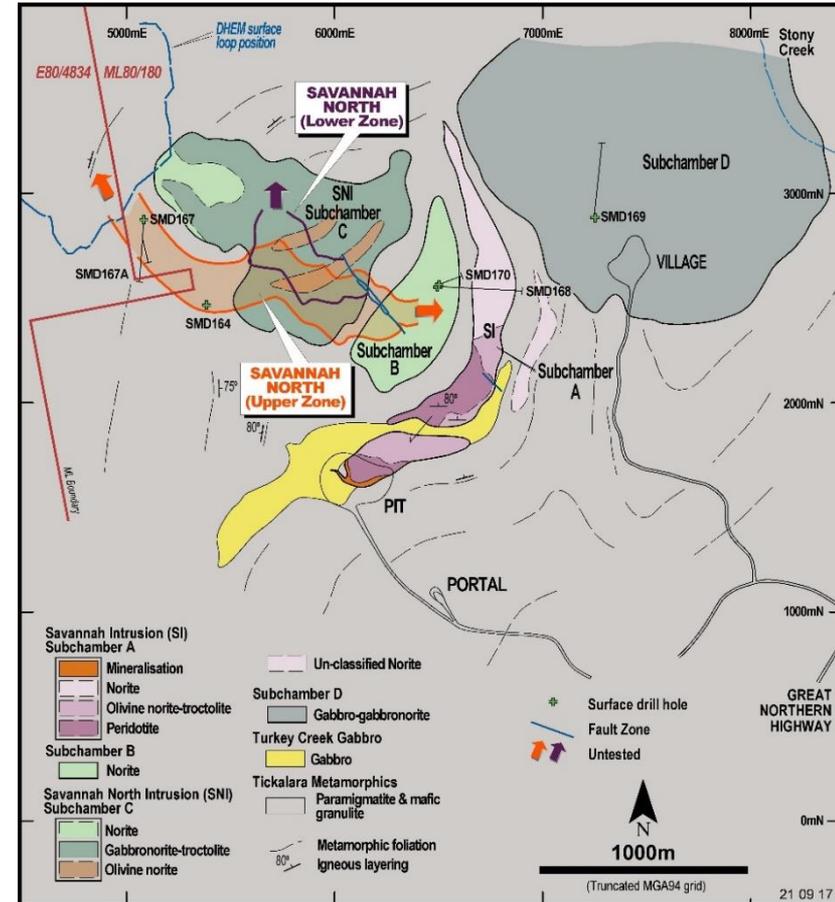
## Strongly leveraged to nickel price and US\$:A\$

- US\$1.00/lb increase in nickel price adds **~A\$160M** to pre-tax NPV
- US\$0.05 cent decrease in the US\$:A\$ exchange rate adds **~A\$50M** to pre-tax NPV

Pre-tax NPV <sub>8</sub> (\$'M)		Nickel Price US\$/lb)					
		5.00	6.00	7.00	8.00	9.00	10.00
US\$:A\$ FX Rate	0.65	270	453	635	790	946	1,102
	0.70	207	377	546	690	835	979
	0.75	153	312	469	604	739	874
	0.80	105	254	401	528	654	781
	0.85	63	203	342	461	580	699

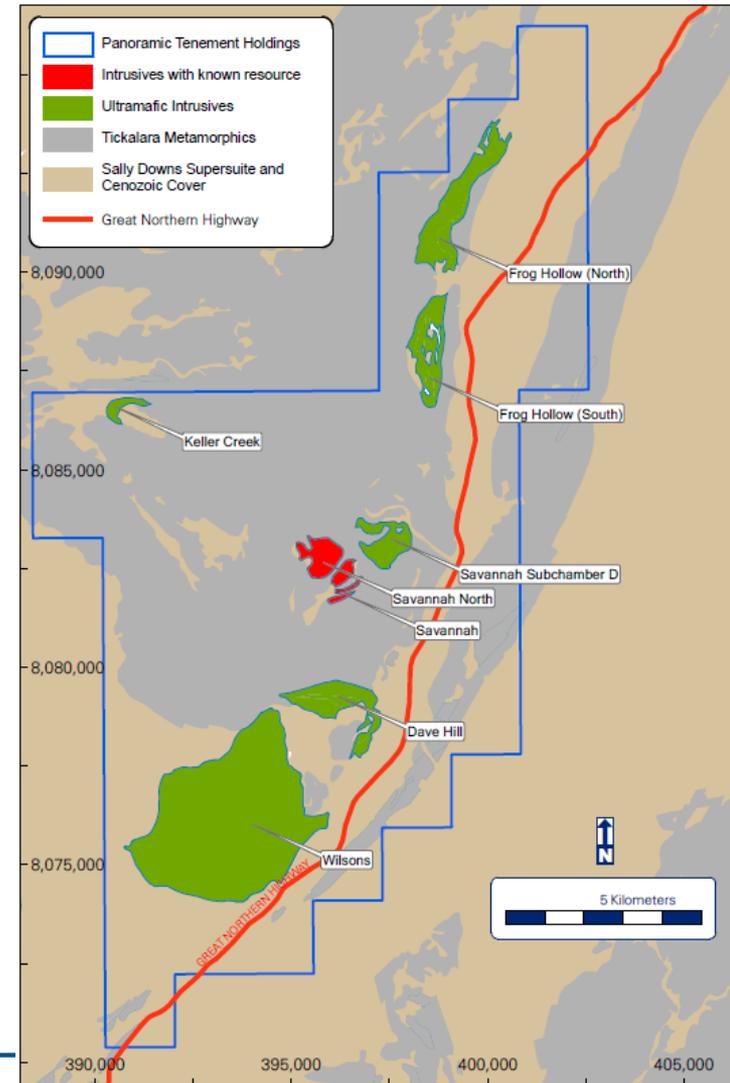
# Upside – potential 2km strike at Savannah North

- **Resource open** - Savannah North Resource drilling programs have not closed off the mineralisation
- **Potential strike length of the Upper Zone is ~2km** based on the large, highly conductive on-hole EM responses identified in surface drill holes:
  - SMD164, Section 5400mE
  - SMD167 & SMD167A, Section 5100mE
- **Only half of the potential Upper Zone mineralisation has been tested by resource drilling**
- **The Lower Zone Resource remains open down dip to the northwest**



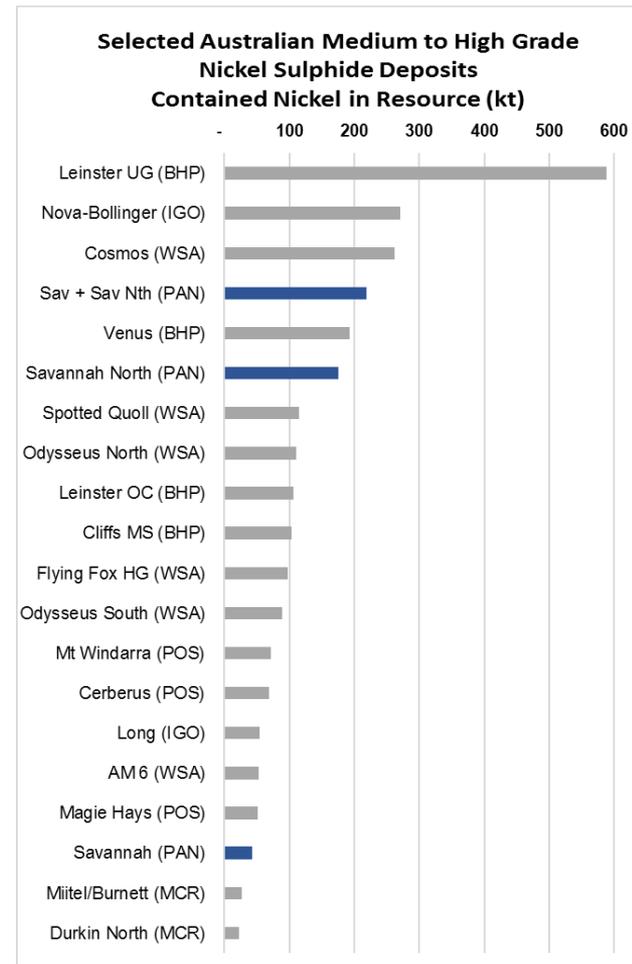
# Upside – Other Intrusives

- A number of other mafic/ultramafic intrusive bodies occur at the Savannah Project (Wilsons, Dave Hill, Subchamber D and Frog Hollow)
- CSIRO age dating indicate these are part of the same magmatic event as the Savannah / Savannah North mineralised bodies
- Dave Hill & Wilsons bodies are known to contain magmatic sulphides
- Past drilling has been minimal, and has not tested the most prospective basal parts of these intrusives:
  - Dave Hill - one 700m deep and five shallow core holes
  - Wilsons - one core and seven shallow RC holes
  - Subchamber D - one core hole
  - Frog Hollow - never been drilled



# Summary

- ✓ Savannah is a significant Australian base metal project containing\*
  - 218,300t contained nickel
  - 99,100t contained copper
  - 14,900t contained cobalt
- ✓ **Updated Feasibility Study confirms**
  - Financially robust project at current commodity prices & US\$:A\$ FX
  - +8 year mine life
  - Globally competitive cash costs of US\$2.40/lb payable Ni
  - Low re-start capex
  - Short timeframe to production leveraging off existing Savannah infrastructure
  - Significant leverage to nickel, copper and cobalt prices
- ✓ Excellent potential for further exploration success and mine life extension



\*Refer to Appendices

# Savannah – Next Steps

**Ahead of a formal Board decision to restart operations, the Company intends to:**

- Advance negotiations with potential product offtake customers and project financiers
- Engage key personnel
- Commence the formal tendering process for key contracts
- Undertake refurbishment of major plant and equipment, including processing plant, mining fleet and Wyndham concentrate storage shed
- Order long lead items
- Complete the 3m lift of the Savannah tailings facility
- Commence the Savannah North primary ventilation project, including contractor selection, site preparation, drill pilot hole, mobilise and commence raise bore drilling
- Commence lateral access development from Savannah to Savannah North

# LANFRANCHI



# Lanfranchi - Summary

## Mining

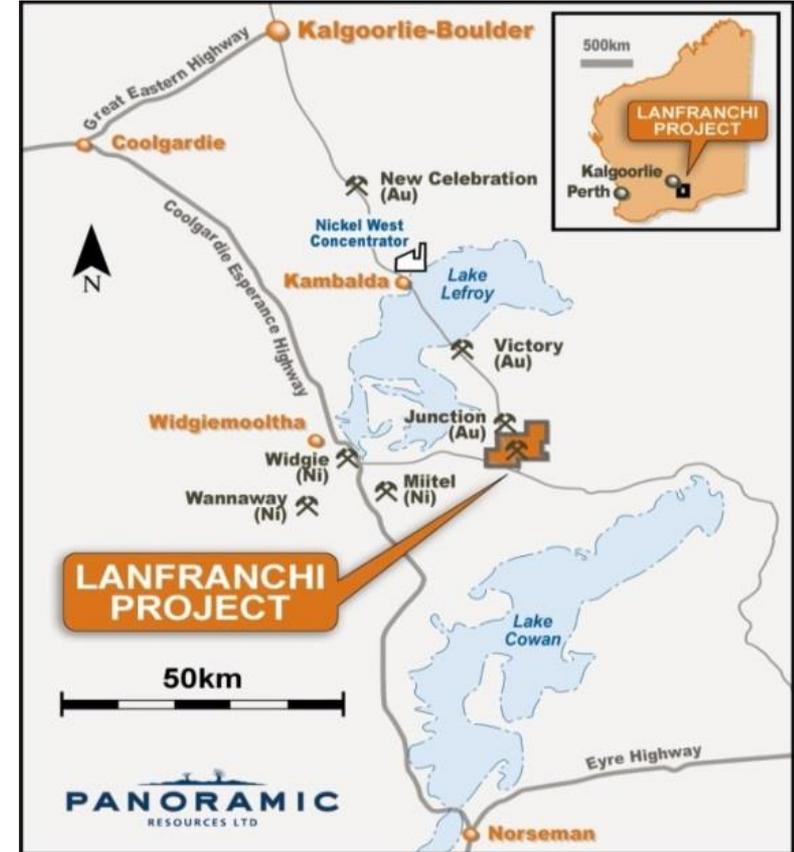
- Fully developed underground mine
- Large mining fleet, village & associated infrastructure
- Mined continuously by PAN for 10 years (2005-2015)
- **3.85Mt ore mined containing 94kt Ni (PAN)**
- Care and Maintenance from November 2015
- Quick re-start to mine Jury-Metcalf, Deacon
- Offtake with BHP Nickel West to February 2019

## Resources

- **Resources plus past production: 280kt contained Ni**
- **Total Resources of 95,500t contained Ni including**
  - Lower Schmitz high-grade of 6,700t contained Ni at 5.1% Ni

## Exploration upside

- Multiple exploration targets identified



# Lanfranchi – Exploration Potential

## Schmitz Channel – Lower Zone

- 700m below surface
- 9,000t Ni per 100m vertical\*
- Historic production of ~58,000t Ni

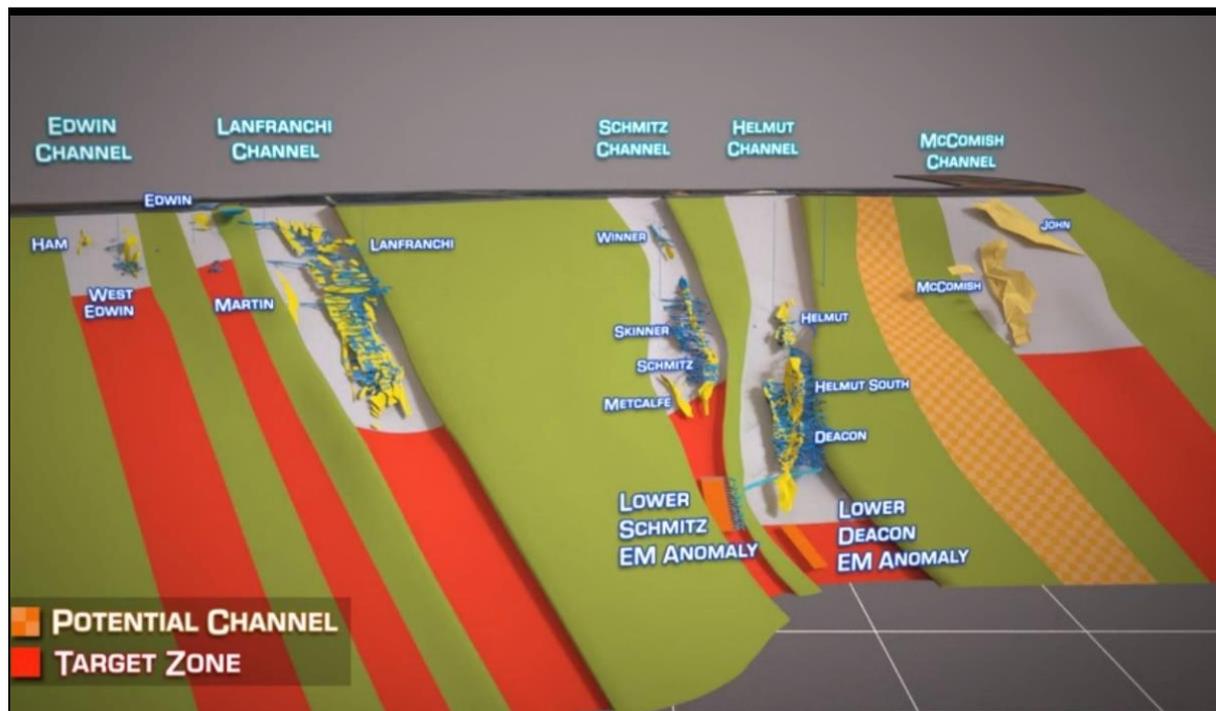
## Lanfranchi Channel

- 500m below surface
- 6,000t Ni per 100m vertical\*
- Historic production of ~39,000t Ni

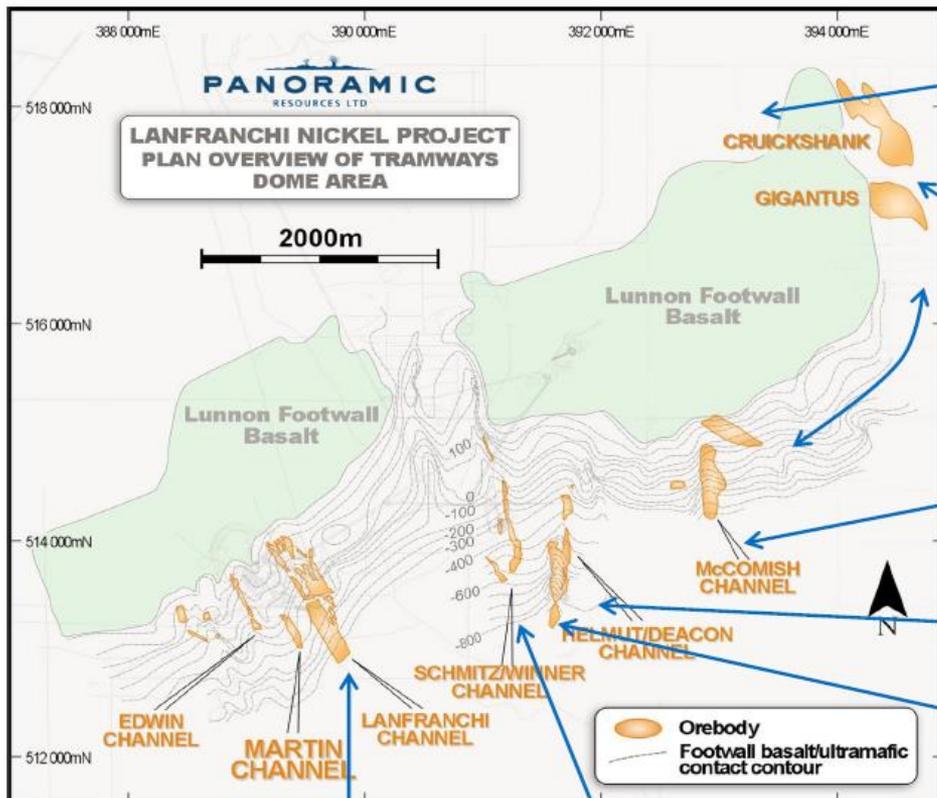
## Helmut/Deacon Channel

- 900m below surface
- 20,000t Ni per 100m vertical\*
- Historic production of ~92,000t Ni

## New Channels?



# Lanfranchi – Exploration Targets



Northern Dome East channel with prospective geochemistry magnetic anomalies.

Cruickshank – depth extension around fold hinge

Gigantus to McCormish – ~2km minimal exploration

McCormish – known channel underexplored

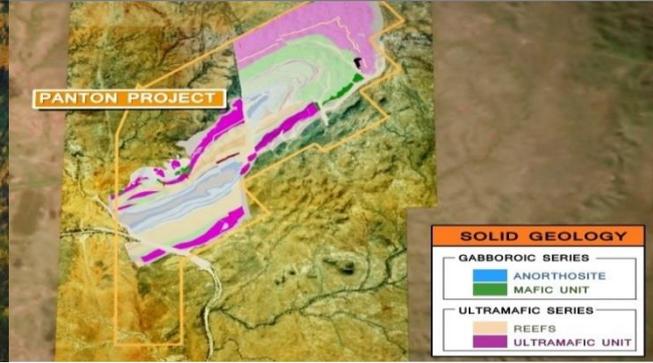
East Deacon – EM anomaly with spinifex sulphides intersected

Lower Deacon channel structure with EM anomaly

Lanfranchi – channel open at depth

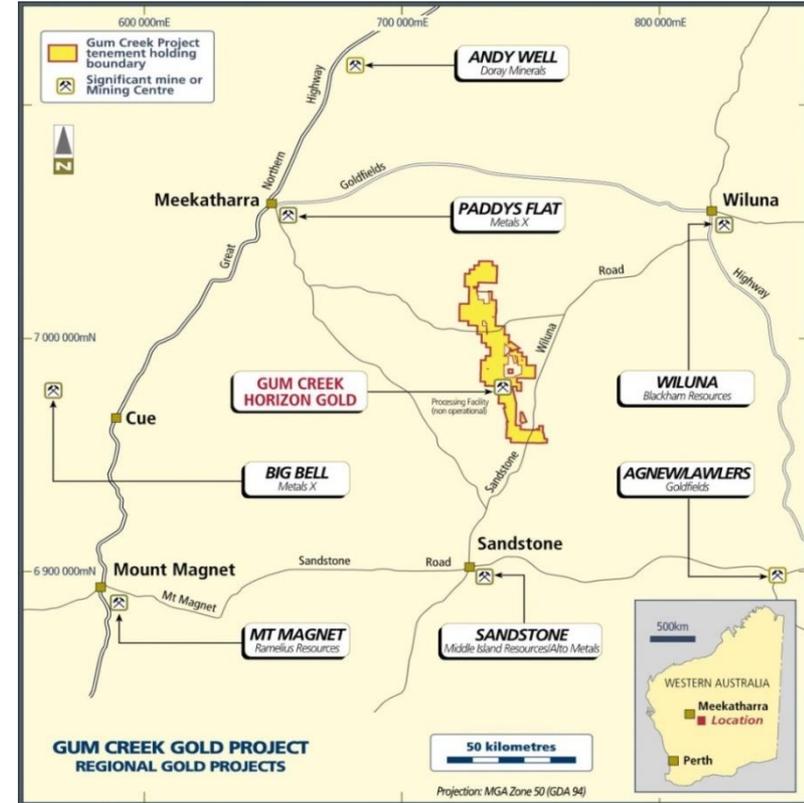
Lower Schmitz – depth extensions [PRIORITY]

# Gold and PGM options



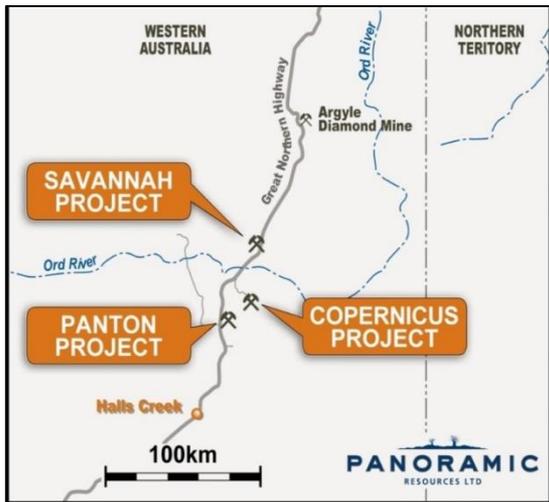
# Horizon Gold (ASX:HRN) - Gum Creek Gold Project

- **IPO of Horizon, spun out from Panoramic**
  - Shares on issue 76.5M
  - Market capitalisation ~\$19M (at \$0.25/sh)
  - Cash (30 Sept 2017) ~\$10M
  - Enterprise value ~\$9M
  - Panoramic interest 51%
- **Location** – 640km NE of Perth, Western Australia
- **Large tenement package** - covering large portion of the Gum Creek Greenstone belt
- **Historic production** - >1Moz gold
- **Significant Resources<sup>1</sup>** - 17.3Mt at an average grade of 2.25g/t Au for 1.25Moz
- **Drilling targets** – twenty prospect areas identified for follow-up RC and aircore drill testing
- **Recent results<sup>2</sup>** – drilling at Psi prospect returned 7m @ 4.94g/t Au from 55m in GWRC462. Follow-up drilling planned



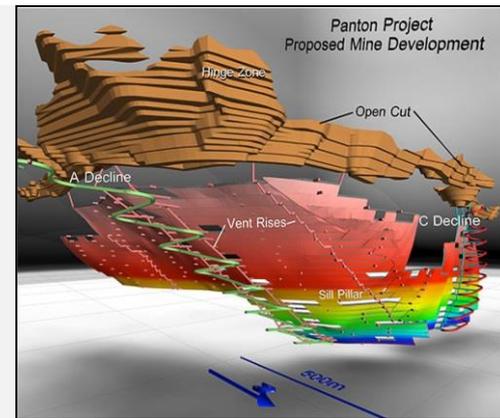
1. Refer HRN ASX release dated 29 September 2017 titled "Mineral Resources as at 30 June 2017"
2. Refer HRN Quarterly Activities Report for the period ended 30 September 2017

# Platinum Group Metals



## Panton Project

- Located 60km from Savannah
- Resources<sup>1</sup> containing 2.1Moz of Pt+Pd
- Feasibility Study by previous owner:<sup>2</sup>
  - Open pit plus underground mining
  - 600,000tpa throughput rate
  - 83,000oz Pt+Pd+Au per year
- Recent positive test work by Panoramic:
  - Improved recovery and concentrate grade
  - Ore sorting



## Thunder Bay North Project

- Located in Ontario, Canada
- Resources<sup>1</sup> containing 0.7Moz of Pt+Pd
- Rio Tinto earn in and JV option
  - Consolidates PAN's Thunder Bay North Project and Rio's Escape Lake Project
  - Earn in Option - Rio spending up to C\$20M over 5½ years to earn 70% interest, expenditure to-date ~C\$6M

1. Refer Company ASX release dated 29 September 2017 titled "Mineral Resources and Ore Reserves as at 30 June 2017"

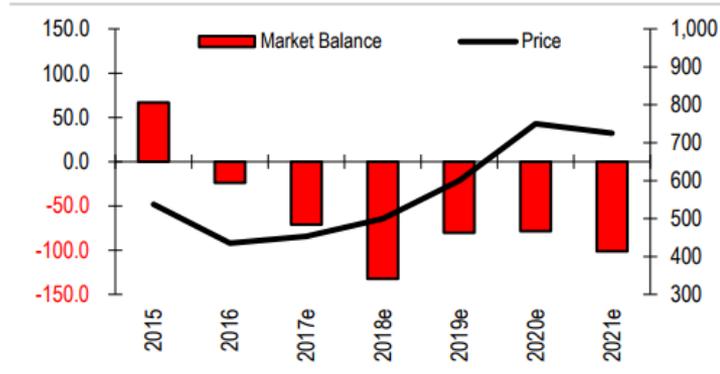
2. Refer Platinum Australia Limited (ASX: PLA) release dated 20 March 2012 titled "Panton Review Study Results"



# METAL PRICE OUTLOOK

# Nickel

Figure 76: Price & supply/demand balance (Mt & US\$/lb)



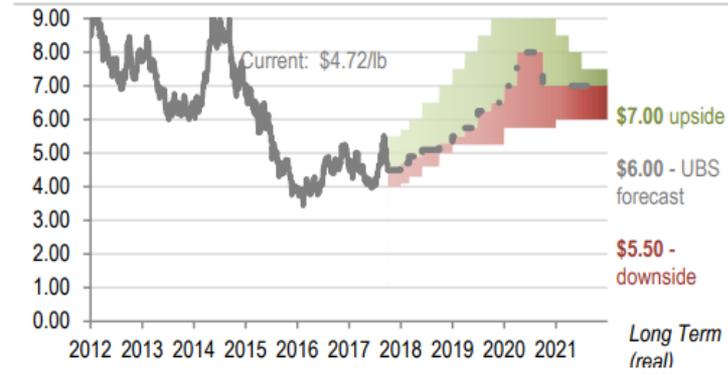
Source: UBS Research.

## UBS Nickel Price Forecasts

- 2018 - \$5.00/lb
- 2019 - \$6.00/lb
- 2020 - \$7.50/lb
- 2021 - \$7.00/lb

Source: UBS - 5 October 2017

Figure 77: Price forecasts & Upside/Downside (US\$/lb)



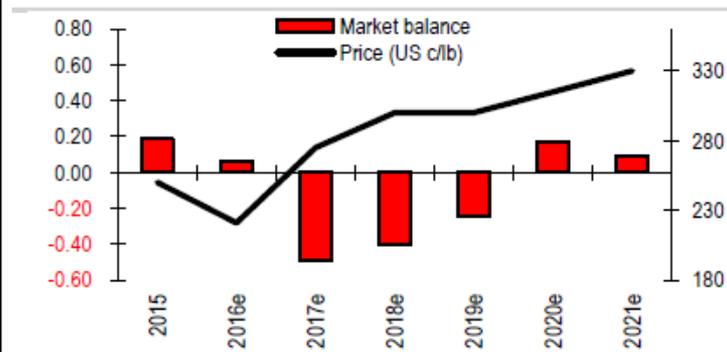
Source: UBS & Bloomberg.

## Nickel price to surge in 2019-20e from Electric Vehicles:

“We see substantial price upside from the current spot of ~US\$4.60/lb to US\$7.50/lb in 2020e. Here electric vehicle penetration & a cathode chemistry shift to greater nickel use will drive a substantial uplift in demand.” (UBS 5/10/17)

# Copper

Figure 52: Price & supply/demand balance (Mt & USc/lb)



Source: UBS Research.

Figure 53: Upside/Downside



Source: UBS & Bloomberg.

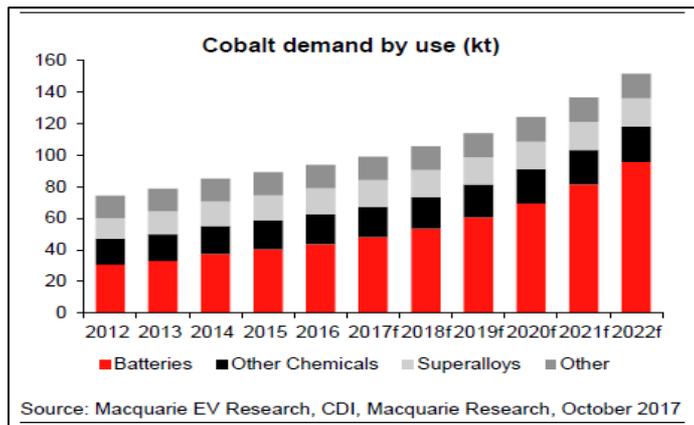
## UBS Copper Price Forecasts

- 2018 - \$3.00/lb
- 2019 - \$3.00/lb
- 2020 - \$3.30/lb
- 2021 - \$3.30/lb

“Beyond the near term, we think EV’s & the promise of accelerating demand underpin the case for an incentive price of ~US\$3/lb (real)”. (UBS 5/10/17)

Source: UBS - 5 October 2017

# Cobalt



## Macquarie Cobalt Price Forecasts

- 2018 - \$27.00/lb
- 2019 - \$20.00/lb
- 2020 - \$22.00/lb
- 2021 - \$32.00/lb
- 2022 - \$41.00/lb

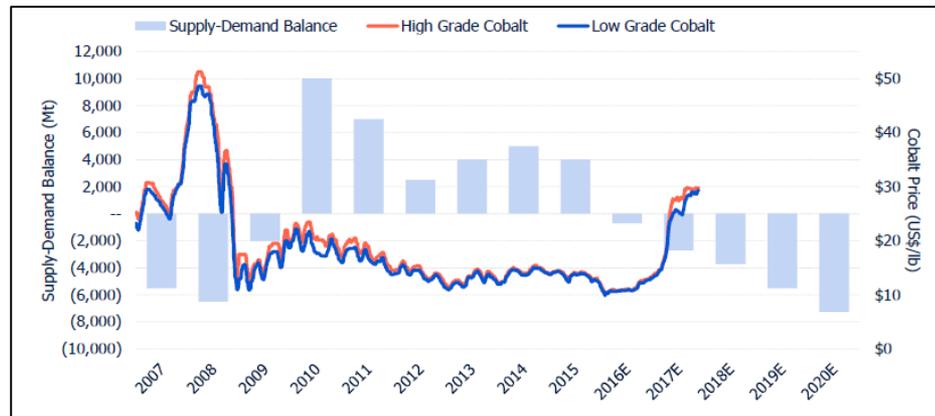
Sources:

Macquarie Research – *Commodities Compendium*, 10 October 2017

Cobalt 27 Capital Corp - corporate presentation, 20 September 2017

## Cobalt 27 Capital Corp comments

- Cobalt demand in lithium-ion batteries forecast to grow at 11.7% CAGR to 2022
- Supply currently concentrated in the DRC (65% of 2016 mine output)
  - Relatively politically unstable country
  - Lack of infrastructure
  - ~15% of DRC output from unregulated artisanal mining



# 2018 Goals

**Restart Savannah**



**Grow Resources  
through exploration  
and acquisition**

**Study Value-Add  
options for Savannah**



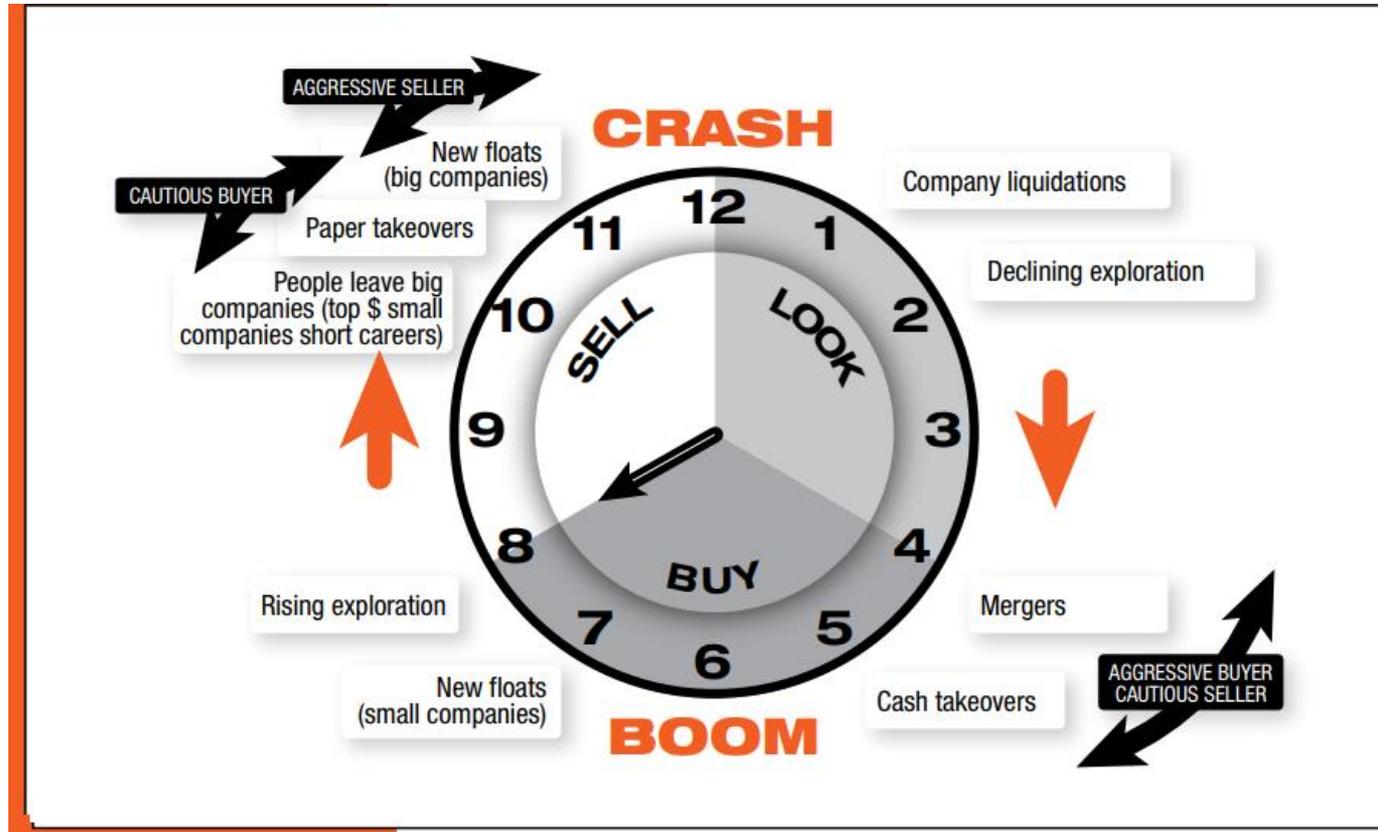
**PGMs  
Advance both projects**

**Add High-Grade  
Resources at  
Lanfranchi**

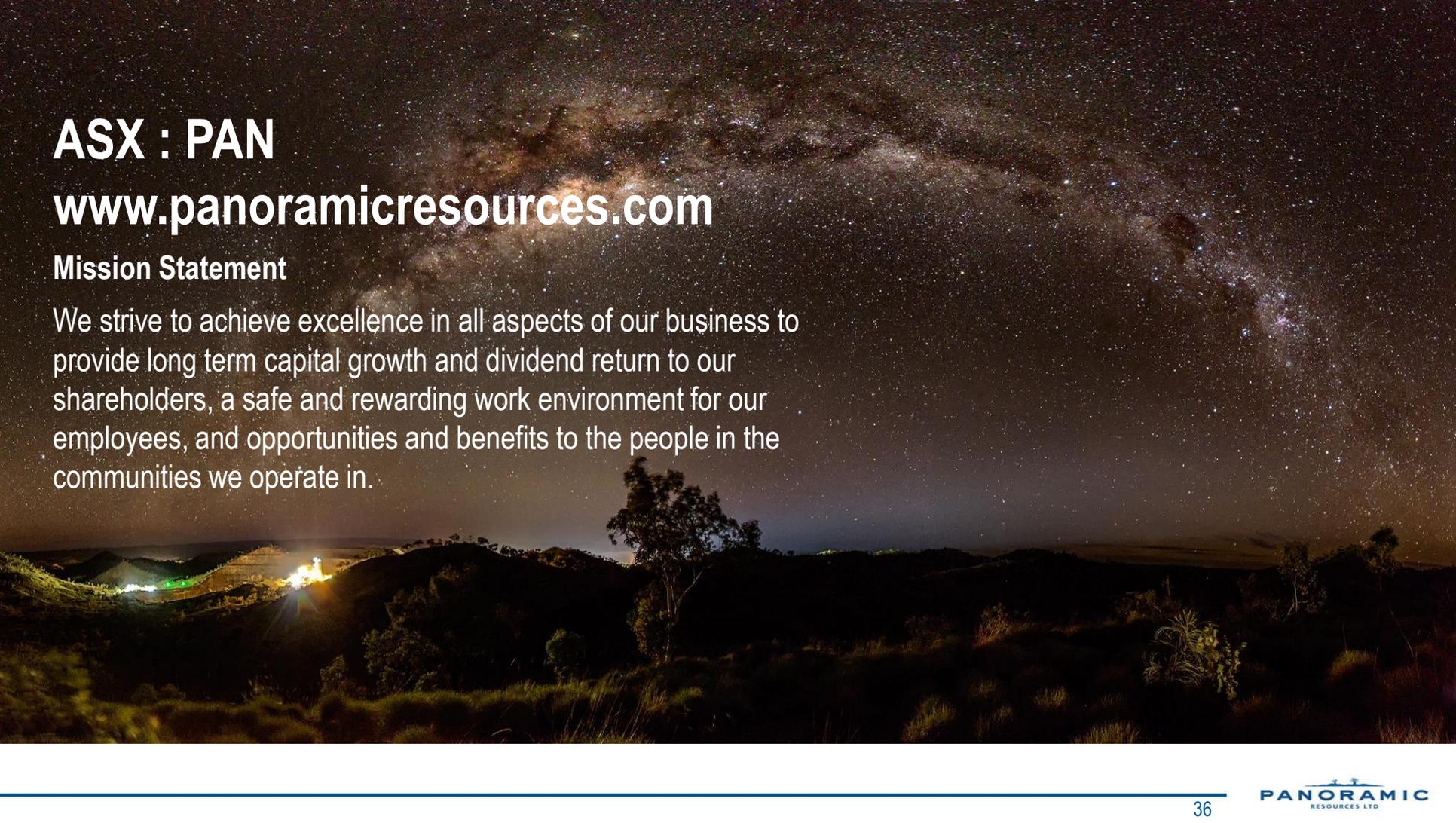


**Look for Acquisition  
opportunities in  
Nickel, Copper, Cobalt**

# Resources sector back on investors radar



Source: Lion Selection Group October 2017, Edition 14



**ASX : PAN**

**[www.panoramicresources.com](http://www.panoramicresources.com)**

### **Mission Statement**

We strive to achieve excellence in all aspects of our business to provide long term capital growth and dividend return to our shareholders, a safe and rewarding work environment for our employees, and opportunities and benefits to the people in the communities we operate in.

# Appendices





# RESOURCES & RESERVES

## **No New Information or Data**

The Mineral Resource and Ore Reserve estimates tabled below have been previously reported, and the relevant market announcements cross referenced. The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcements and, in the case of estimates of Mineral Resources and Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed.

# Nickel, Copper, Cobalt – Resources at 30 June 2017

Resource	Equity	Metal	JORC Compliance	Measured		Indicated		Inferred		Total		Metal Tonnes
				Tonnes	(%)	Tonnes	(%)	Tonnes	(%)	Tonnes	(%)	
<b>Savannah Project</b>												
Savannah (above 900)	100%	Nickel	2012	1,275,000	1.51	759,000	1.20	-	-	2,034,000	1.39	28,300
		Copper			0.87		0.90		-		0.88	17,900
		Cobalt			0.07		0.07		-		0.07	1,400
Savannah (below 900)	100%	Nickel	2012	780,000	1.64	125,000	1.72	-	-	905,000	1.65	14,900
		Copper			0.76		0.75		-		0.76	6,900
		Cobalt			0.10		0.09		-		0.10	900
Savannah North (Upper)	100%	Nickel	2012	-	-	4,229,000	1.64	1,759,000	1.25	5,987,000	1.53	91,300
		Copper			-		0.65		0.49		0.60	36,100
		Cobalt			-		0.12		0.10		0.11	6,800
Savannah North (Lower)	100%	Nickel	2012	-	-	2,697,000	1.96	853,000	2.02	3,549,000	1.97	70,100
		Copper			-		0.98		0.93		0.97	34,400
		Cobalt			-		0.14		0.13		0.14	4,900
Savannah North (Other)	100%	Nickel	2012	-	-	242,000	2.22	493,000	1.67	735,000	1.85	13,600
		Copper			-		0.50		0.53		0.52	3,800
		Cobalt			-		0.14		0.11		0.12	900
<b>Lanfranchi Project</b>												
Cruikshank	100%	Nickel	2004	-	-	2,018,000	1.42	611,000	0.79	2,629,000	1.28	33,600
Deacon	100%	Nickel	2012	89,000	2.99	-	-	134,000	1.70	224,000	2.22	5,000
Gigantus	100%	Nickel	2004	-	-	-	-	652,000	1.63	652,000	1.63	10,600
Helmut South Ext	100%	Nickel	2012	21,000	4.54	29,000	2.87	-	-	50,000	3.59	1,800
John	100%	Nickel	2004	-	-	-	-	291,000	1.42	291,000	1.42	4,100
Lanfranchi	100%	Nickel	2012	40,000	4.12	55,000	4.40	63,000	3.49	158,000	3.97	6,300
Martin	100%	Nickel	2012	-	-	47,000	3.58	7,000	4.16	54,000	3.66	2,000
McComish	100%	Nickel	2004	-	-	-	-	992,000	1.49	992,000	1.49	14,800
Metcalfe	100%	Nickel	2012	-	-	280,000	1.99	111,000	1.35	391,000	1.81	7,100
Schmitz	100%	Nickel	2012	30,000	4.92	23,000	3.93	16,000	2.95	69,000	4.14	2,900
Lower Schmitz	100%	Nickel	2012	-	-	51,000	5.60	79,000	4.80	131,000	5.11	6,700
Winner	100%	Nickel	2004	-	-	14,000	4.40	-	-	14,000	4.40	600
<b>Total (Equity)</b>		Nickel										313,600
		Copper										99,100
		Cobalt										14,900

# Nickel, Copper, Cobalt – Resources at 30 June 2017

## Qualifying Statement and Notes

### Notes:

- *Figures have been rounded and therefore may not add up exactly to the reported totals*
- *All resources are inclusive of reserves*
- *Savannah Project Resource cutoff grade is 0.50% Ni*
- *Lanfranchi Project Resource cutoff grade is 1.00% Ni*

### Cross references to previous market announcements:

- *Savannah (above 900) - refer ASX announcement dated 30 September 2016 titled "Mineral Resources and Ore Reserves at 30 June 2016"*
- *Savannah (below 900) - refer ASX announcement dated 30 September 2015 titled "Mineral Resources and Ore Reserves at 30 June 2015"*
- *Savannah North – refer ASX announcement dated 24 August 2016 titled "Major Resource Upgrade for Savannah North"*
- *Cruickshank - refer ASX announcement dated 28 April 2011 titled "Cruickshank Resource Upgraded 26% to 33,560t Ni"*
- *Deacon, Helmut South Ext, Lanfranchi, Metcalfe - refer ASX announcement dated 30 September 2016 titled "Mineral Resources and Ore Reserves at 30 June 2016"*
- *Gigantus, John, McComish, Winner - refer ASX announcement dated 12 October 2011 titled "Business Review 2011"*
- *Martin - refer ASX announcement dated 13 September 2013 titled "Resources and Reserves at 30 June 2013 and Exploration Update"*
- *Schmitz - refer ASX announcement dated 30 September 2015 titled "Mineral Resources and Ore Reserves at 30 June 2015"*
- *Lower Schmitz - refer ASX announcement dated 28 April 2016 titled "Quarterly Report for the period ending 31 March 2016"*

# Nickel, Copper, Cobalt – Reserves at 30 June 2017

Reserve	Equity	Metal	JORC Compliance	Proven		Probable		Total		Metal Tonnes
				Tonnes	(%)	Tonnes	(%)	Tonnes	(%)	
<b>Savannah Project</b>										
Above 900 Fault	100%	Nickel	2012	1,365,000	1.15	194,000	1.24	1,558,000	1.16	18,100
		Copper			0.66		1.28		0.74	11,500
		Cobalt			0.06		0.07		0.06	900
Savannah North	100%	Nickel	2012	-	-	6,650,000	1.42	6,650,000	1.42	94,500
		Copper			-		0.61		0.61	40,900
		Cobalt			-		0.10		0.10	6,700
<b>Lanfranchi Project</b>										
Deacon	100%	Nickel	2012			42,000	2.67	42,000	2.67	1,100
Metcalfe	100%	Nickel	2012			113,000	1.57	113,000	1.57	1,800
Lanfranchi	100%	Nickel	2012			11,000	2.56	11,000	2.56	300
Schmitz	100%	Nickel	2012			15,000	2.96	15,000	2.96	500
Helmut Sth Ext	100%	Nickel	2012			27,000	2.19	27,000	2.19	600
<b>Total (Equity)</b>		<b>Nickel</b>								<b>116,800</b>
		<b>Copper</b>								<b>52,400</b>
		<b>Cobalt</b>								<b>7,600</b>

## Notes:

- Figures have been rounded and therefore may not add up exactly to the reported totals
- Savannah Project Reserve cutoff grade is 0.80% Ni
- Lanfranchi Project Reserve cutoff grade is 1.00% Ni except for airleg mining which is 2.00% Ni

## Cross references to previous market announcements:

- refer to ASX announcement dated 30 September 2016 titled "Mineral Resources and Ore Reserves at 30 June 2016"
- refer to ASX announcement dated 2 February 2017 titled "Savannah Feasibility Study. Ten year life with minimal restart capital requirements"

# Platinum Group Metals – Resources at 30 June 2017

Resource	Equity	JORC Compliance	Tonnage	Grade									Contained Metal		
				Pt (g/t)	Pd (g/t)	Rh (g/t)	Au (g/t)	Ag (g/t)	Cu (%)	Ni (%)	Co %	Pt-Eq (g/t)	Pt (oz ,000)	Pd (oz ,000)	
<b>Thunder Bay North</b>															
<b>Open Pit</b>	<b>100%</b>	<b>2004</b>													
Indicated			8,460,000	1.04	0.98	0.04	0.07	1.50	0.25	0.18	0.014	2.13	283	267	
Inferred			53,000	0.96	0.89	0.04	0.07	1.60	0.22	0.18	0.014	2.00	2	2	
<b>Underground</b>	<b>100%</b>	<b>2004</b>													
Indicated			1,369,000	1.65	1.54	0.08	0.11	2.60	0.43	0.24	0.016	3.67	73	68	
Inferred			472,000	1.32	1.25	0.06	0.09	2.10	0.36	0.19	0.011	2.97	20	19	
<b>Sub-total – Thunder Bay North (Equity)</b>			<b>10,354,000</b>	<b>1.13</b>	<b>1.07</b>								<b>377</b>	<b>355</b>	
<b>Panton</b>															
<b>Top Reef</b>	<b>100%</b>	<b>2012</b>													
Measured			4,400,000	2.46	2.83	-	0.42	-	0.08	0.28	-	-	348	400	
Indicated			4,130,000	2.73	3.21	-	0.38	-	0.09	0.31	-	-	363	426	
Inferred			1,560,000	2.10	2.35	-	0.38	-	0.13	0.36	-	-	105	118	
<b>Middle Reef</b>	<b>100%</b>	<b>2012</b>													
Measured			2,130,000	1.36	1.09	-	0.10	-	0.03	0.18	-	-	93	75	
Indicated			1,500,000	1.56	1.28	-	0.10	-	0.04	0.19	-	-	75	62	
Inferred			600,000	1.22	1.07	-	0.10	-	0.05	0.19	-	-	24	21	
<b>Sub-total – Panton (Equity)</b>			<b>14,320,000</b>	<b>2.19</b>	<b>2.39</b>								<b>1,008</b>	<b>1,102</b>	
<b>Total - PGM (Equity)</b>															
													<b>1,385</b>	<b>1,456</b>	

# Platinum Group Metals – Resources at 30 June 2017

## Qualifying Statements and Notes

### Notes

*Thunder Bay North Open Pit Resource: The open pit Mineral Resource is reported at a cut-off grade of 0.59 g/t Pt-Eq within a Lerchs-Grossman resource pit shell optimized on Pt-Eq. The strip ratio (waste:ore) of this pit is 9.5:1. The platinum-equivalency formula is based on assumed metal prices and overall recoveries. The Pt-Eq formula is:  $Pt-Eq\ g/t = Pt\ g/t + Pd\ g/t \times 0.3204 + Au\ g/t \times 0.6379 + Ag\ g/t \times 0.0062 + Cu\ g/t \times 0.00011 + Total\ Ni\ g/t \times 0.000195 + Total\ Co\ g/t \times 0.000124 + Rh\ g/t \times 2.1816$ . The conversion factor shown in the formula for each metal represents the conversion from each metal to platinum on a recovered value basis. The assumed metal prices used in the Pt-Eq formula are: Pt US\$1,595/oz, Pd US\$512/oz, Au US\$1,015/oz, Ag US\$15.74/oz, Cu US\$2.20/lb, Ni US\$7.71/lb, Co US\$7.71/lb and Rh US\$3,479/oz. The assumed combined flotation and PlatsolTM process recoveries used in the Pt-Eq formula are: Pt 76%, Pd 75%, Au 76%, Ag 55%, Cu 86%, Ni 44%, Co 28% and Rh 76%. The assumed refinery payables are: Pt 98%, Pd 98%, Au 97%, Ag 85%, Cu 100%, Ni 100%, Co 100% and Rh 98%.*

*Thunder Bay North Underground Resource: The underground mineral resource is reported at a cut-off grade of 1.94g/t Pt-Eq. The Pt-Eq formula is:  $Pt-Eq\ g/t = Pt\ g/t + Pd\ g/t \times 0.2721 + Au\ g/t \times 0.3968 + Ag\ g/t \times 0.0084 + Cu\ g/t \times 0.000118 + Sulphide\ Ni\ g/t \times 0.000433 + Sulphide\ Co\ g/t \times 0.000428 + Rh\ g/t \times 2.7211$ . The assumed metal prices used in the Pt-Eq formula are: Pt US\$1,470/oz, Pd US\$400/oz, Rh US\$4,000/oz, Au US\$875/oz, Ag US\$14.30/oz, Cu US\$2.10/lb, Ni US\$7.30/lb and Co US\$13.00/lb. The assumed process recoveries used in the Pt-Eq formula are: Pt 75%, Pd 75%, Rh 75%, Au 50%, Ag 50%, Cu 90%, and Ni and Co in sulphide 90%. The assumed smelter recoveries used in the Pt-Eq formula are Pt 85%, Pd 85%, Rh 85%, Au 85%, Ag 85%, Cu 85%, Ni 90% and Co 50%. Ni and Co in sulphide were estimated by linear regression of MgO to total Ni and total Co respectively. The regression formula for Ni in sulphide (NiSx) is:  $NiSx = Ni - (MgO\% \times 60.35 - 551.43)$ . The regression formula for Co in sulphide (CoSx) is:  $CoSx = Co - (MgO\% \times 4.45 - 9.25)$ .*

### Cross references to previous market announcements:

- *Thunder Bay North Open Pit Resources – refer Magma Metals Limited (ASX:MMW) announcement dated 7 February 2011 titled “Positive Scoping Study for Thunder Bay North Project”*
- *Thunder Bay North Underground Resources – refer Magma Metals Limited (ASX:MMW) announcement dated 23 February 2012 titled “Magma Metals Increases Mineral Resources at TBN to 790,000 Platinum-Equivalent Ounces”*
- *Panton - refer ASX announcement dated 30 September 2015 titled “Mineral Resources and Ore Reserves at 30 June 2015”*