

# Building Australia's First PGM Operation **Exploring for its Next Ni-Sulphide Discovery**

**ASX | AIM: FME** 

**Investor Presentation** | February 2023

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The information in this announcement that relates to Exploration Results is based on, and fairly represents, information compiled by Ms Barbara Duggan, who is a Member of the Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists. Ms Duggan is the Company's Principal Geologist and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity she is undertaking to qualify as a competent person as defined in the 2012 Edition of the "Australasian Code for reporting of Exploration Results, Exploration Targets, Mineral Resources and Ore Reserves" (JORC Code). Ms Duggan consents to the inclusion in this announcement of the matters based upon her information in the form and context in which it appears.

The information in this document that relates to metallurgical test work managed by Independent Metallurgical Operations Pty Ltd (IMO) is based on, and fairly represents, information and supporting documentation reviewed by Mr Peter Adamini, BSc (Mineral Science and Chemistry), who is a Member of The Australasian Institute of Mining and Metallurgy (AusIMM). Mr Adamini is a full-time employee of IMO, who has been engaged by Future Metals Ltd to provide metallurgical consulting services. Mr Adamini has approved and consented to the inclusion in this document of the matters based on his information in the form and context in which it appears.

The information in this announcement that relates to Mineral Resources is based on, and fairly represents, information compiled by Mr Brian Wolfe, who is a Member of the Australian Institute of Geoscientists. Mr Wolfe an external consultant to the Company and is a full time employee of International Resource Solutions Pty Ltd, a specialist geoscience consultancy. Mr Wolfe has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity he is undertaking to qualify as a competent person as defined in the 2012 Edition of the "Australasian Code for reporting of Exploration Results, Exploration Targets, Mineral Resources and Ore Reserves" (JORC Code). Mr Wolfe consents to the inclusion in this announcement of the matters based upon his information in the form and context in which it appears.

References may have been made in this announcement to certain past ASX announcements, including references regarding exploration results. For full details, refer to the referenced ASX announcement on the said date. The Company confirms that it is not aware of any new information or data that materially affects the information included in these earlier market announcements.

## Metals for a Sustainable Future



Delivering sustainable, low-emission Platinum-Group-Metals (PGM) for the fuel cell, electrolyser and catalytic convertor industry from an eminent mining and investment jurisdiction.

### **Project Delivery De-Risked**

Extensive metallurgical test work completed on high grade component of resource (2.9Moz contained PGMs), demonstrating >78% PGM recovery to bulk PGM-Ni concentrate at >280gt.

#### **Development Optionality**

Low capital, high margin underground operation with significant expansion potential.

# **Top Tier Jurisdiction**

Significant opportunity for diversification of PGM supply away from Russia and South Africa.

### Ni-Cu-PGE Discovery Potential

Large sulphide system being uncovered around existing Resource in previously untested prospective zones.



# **Corporate Overview**

# FUTURE

#### **BOARD OF DIRECTORS**



#### **Justin Tremain** (Non-Executive Chairman)

- Experienced company director with extensive expertise across the mineral resources sector
- Current MD of West African gold explorer Turaco Gold (ASX:TCG), Non-Executive Director of Caspin Resources (ASX:CPN)



#### **Allan Mulligan** (Non-Executive Director )

- Experienced mining engineer and company director
- +35yrs experience in mining operations, mine start-up and construction of large-scale platinum (Lonmin plc) and gold mines
- Previously technical oversight role at Panton in early 2000's



#### **Elizabeth Henson** (Non-Executive Director)

- Experienced board representative with expertise in governance and finance
- PriceWaterhouseCoopers senior international private tax partner and director based in London



#### Robert Mosig (Non-Executive Director)

- Experienced geologist with +30yrs
- Experience in platinum group metals, gold and diamond exploration
- Involved in early exploration of Panton

#### **MANAGEMENT TEAM**



#### Jardee Kininmonth (Managing Director and CEO)

- Experienced corporate finance and mining professional
- Prior roles at mining private equity fund EMR Capital, and Galaxy Resources & Allkem
- Multi-commodity experience, with extensive experience in managing crossfunctional teams and working with projects across the mining life cycle.



#### **Andrew Shepherd** (GM - Project Development)

- Qualified mining professional with +25yrs experience
- Previously manager of technical services at St Barbara
- Planning, development and implementation of complex, global, multidiscipline mining projects



#### Barbara Duggan (Principal Geologist)

- Geologist with +20yrs experience in mineral exploration
- Extensive experience in Australia and Canada with a focus on nickel sulphide and magmatic hydrothermal mineral systems specialising in integrated mineral systems targeting at a district to deposit scale



#### Shane Hibbird (Exploration Manager)

- Geologist +30yrs exploration experience covering PGMs, gold, base metals, coal, oil and gas, mineral sands and other industrial minerals throughout Australia and Asia
- Senior geologist for Platinum Australia during resource drill-out of Panton



#### **Dr Jon Hronsky** (Senior Exploration Advisor)

- +35yrs experience in global mineral exploration with a focus on magmatic layered intrusives
- Targeting work led to discovery of West Musgrave nickel sulfide province
- Consultant to major mining companies for past 15 years previously head of generative exploration at BHP and global geoscience leader for WMC Resources

# Hydrogen Applications Expected to Fuel Future PGM Demand







- \* Source: Johnson Matthey PGM Market Report May 2022
- Industrial applications are expected to increase i.e., Pt use in Chinese glass production
- World Platinum Investment Council expects investment (bullion and coin) forecast to swing to a net demand position
   Other demand includes 333koz relating to pollution control

Demand for platinum from hydrogen based applications is expected to grow by 100% in 2023\* as government initiatives supporting the clean energy transition drive significant investment in the hydrogen and fuel cell industry:

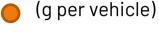
- US Inflation Reduction Act of 2022 ("IRA")
- EU Green Industrial Plan

#### **PGM Intensity**

ICE

**Hybrid** 

Fuel Cell











ICE and hybrid vehicles require 3-7g of PGM while Fuel Cell vehicles require up to 25g

Hydrogen (Fuel Cell) Economy







~25g of PGM/ vehicle

~30g of PGM/ vehicle

<sup>\*</sup> Source: "Strategy Update', Anglo American Platinum, 22 February 2021 & Future Metals analysis



**CEO says** "silent majority" question whether the automotive industry should limit itself to one option (EVs)



**Europe President and CEO says** "we need both technologies (battery and fuel cells...maybe its not going to be so easy to have the electricity grid that can support everyone having EVs. That's the advantage of hydrogen"

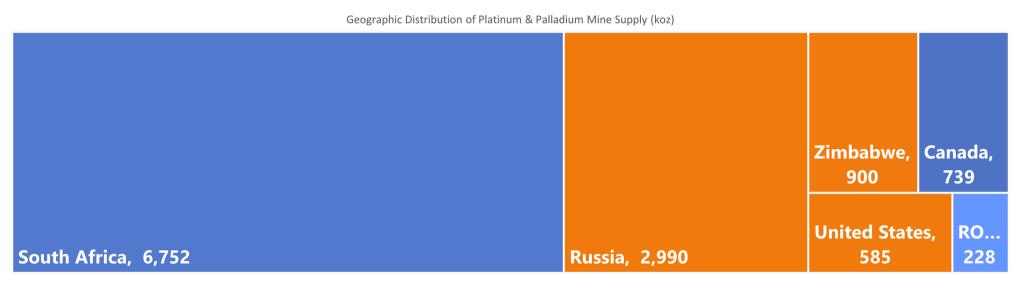


**CEO says** hybrid models should have a greater role in the transition to zeroemission vehicles. "Forcing a transition to electric vehicles, which are more expensive than fossil-fuel or hybrid equivalents, will make car ownership unaffordable for many"

# **Supply Concentrated in Russia and South Africa**

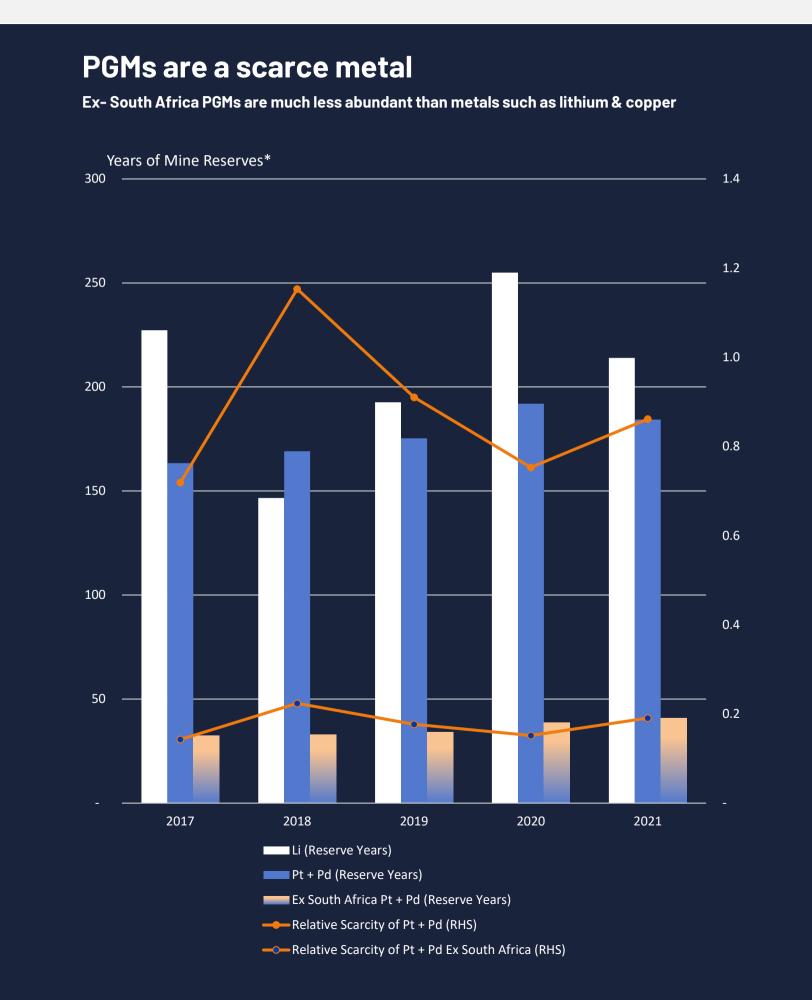


#### Supply is highly concentrated to Russia and South Africa



South Africa supply environment is challenged due to power availability, labour relations, deepening mines and aging infrastructure





## **Location and Infrastructure**

A Well Serviced and Active Mining Region





Port Facilities



Sealed Airstrip



Hydropower



Great Northern Highway



Multiple Mining Operations



## **Mineral Resource Estimate**

### FUTURE METALS

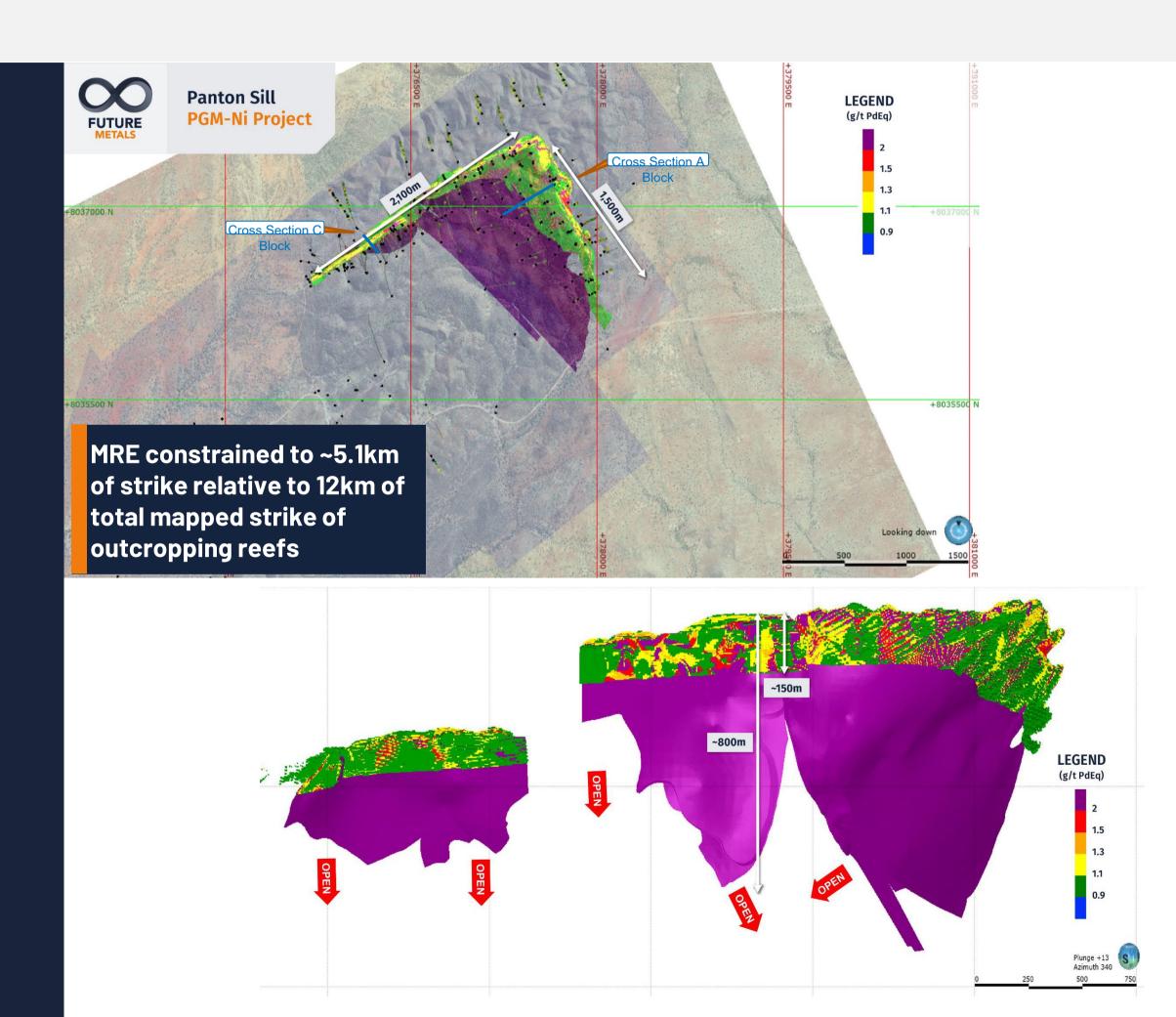
# MRE consists of high-grade reef and surrounding bulk mineralisation

- 129Mt @ 1.20g/t PGM<sub>3E</sub>, 0.19% Ni, and 154ppm Co (1.66g/t PdEq¹)
- Containing 5.0Moz PGM<sub>3E</sub>, 239kt Ni, and 20kt Co (6.9Moz PdEq¹)

### **High-grade reef portion**

- 25Mt @ 3.57g/t PGM<sub>3E</sub>, 0.24% Ni, and 192ppm Co (3.86g/t PdEq¹);
- Containing 2.9Moz PGM<sub>3E</sub>, 60kt Ni, and 5kt Co (3.2Moz PdEq<sup>1</sup>);
- MRE covers only 5.1km of 12km of mapped outcropping chromite reefs
- Bulk (open pit) mineralisation reported to a depth of ~150m, high-grade up to ~800m

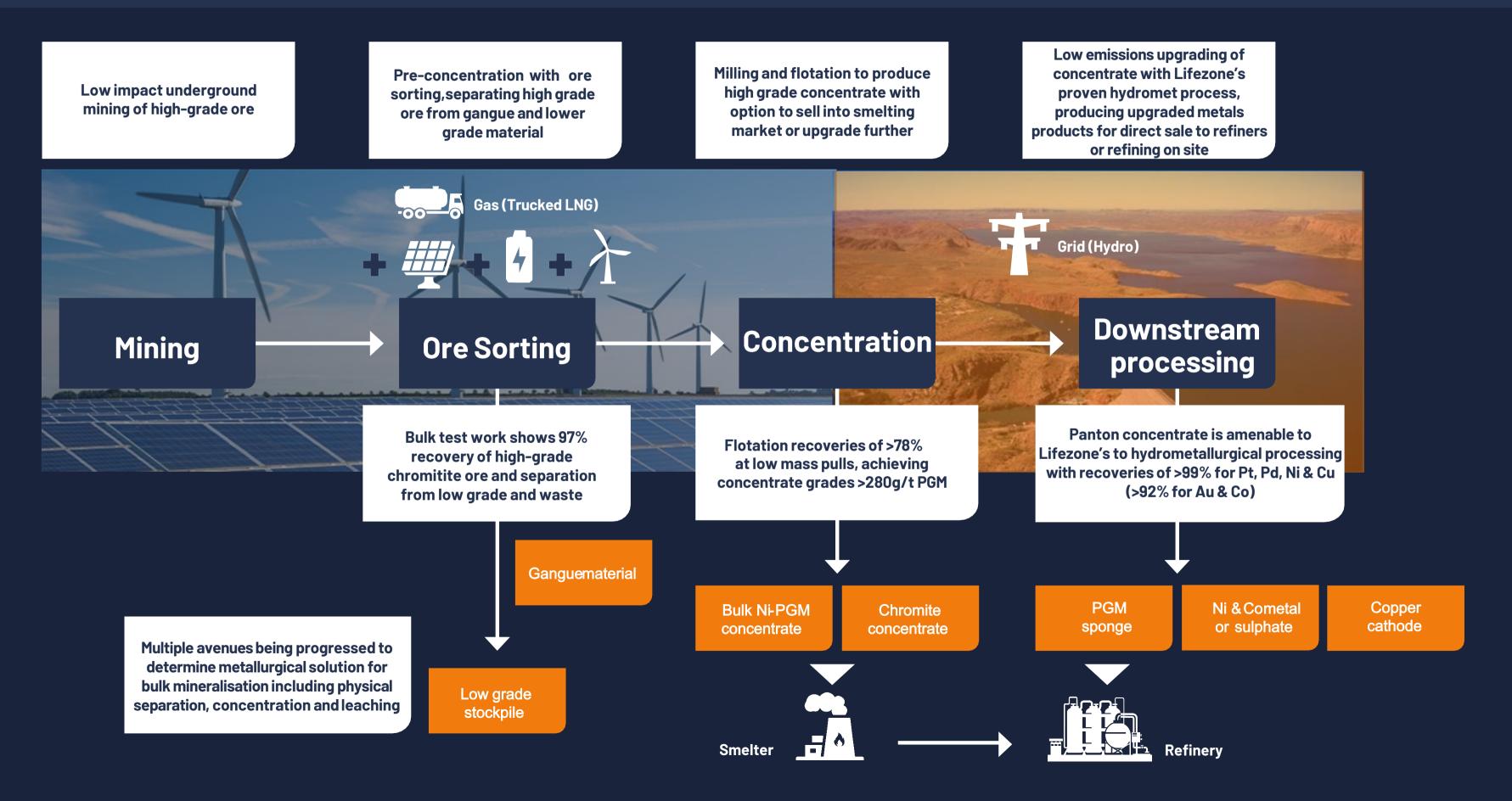
Significant growth potential along strike and at depth for higher grade and lower grade mineralisation



# **Project Delivery Strategy**



### Supplying sustainable Platinum-Group-Metals from a stable mining jurisdiction

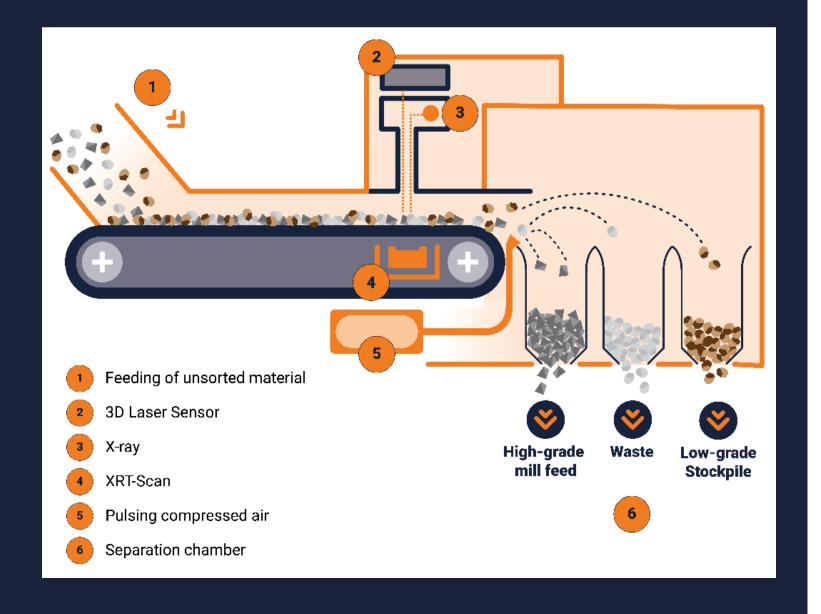


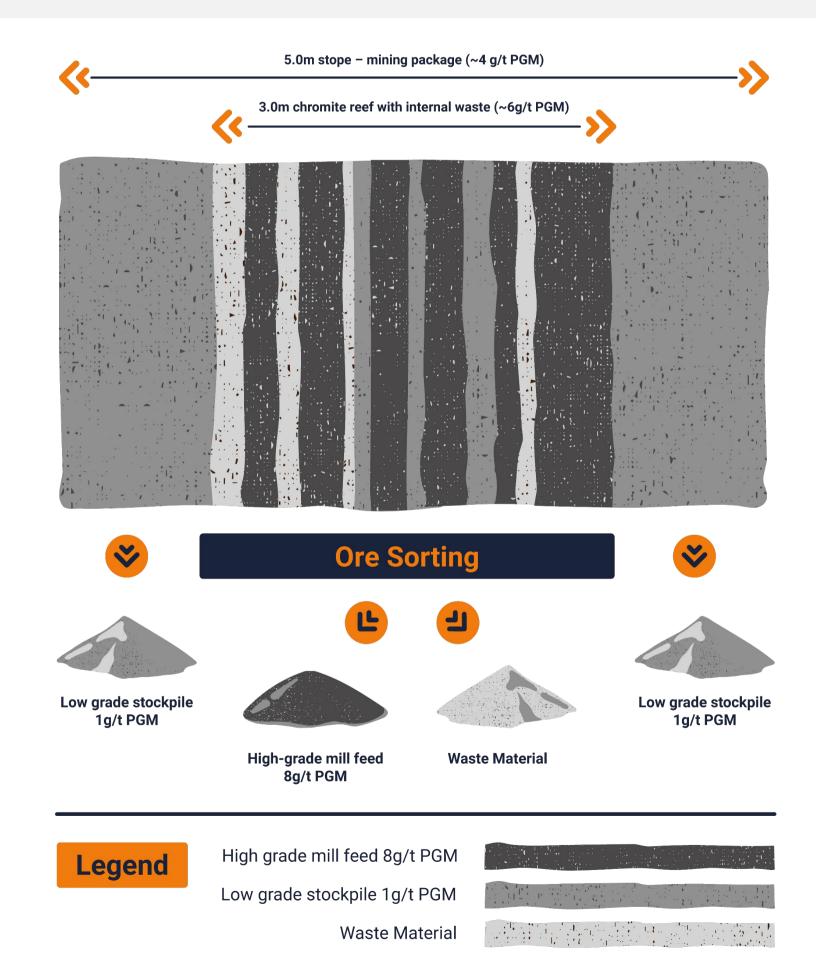
# **Ore Sorting to Unlock Panton**



# Ore sorting shows high efficiency in separating high-grade chromite reef ore from waste and low grade

- Mitigates impact of mining dilution
- Improves processed head grade, reducing capex & opex
- 'Cleans' ore ahead of flotation, removing significant gangue which inhibits flotation conditions





## **Low-Emission PGM Production**

- Scoping activities underway with **Lifezone**, developer of a robust hydrometallurgical process purpose built for processing PGM concentrates
- Test work of Lifezone's hydromet process on Panton concentrate **demonstrated** recoveries of over 99% for Pt, Pd, Ni and Cu and ~93% for Au and Co
- Vastly improves economics by increasing payabilities, decreasing logistics costs, while also enabling production of low CO<sub>2</sub> products
- Produces upgraded metals products which can be directly sold to refiners or refined on site, providing a key input for clean energy technologies such as fuel cells, electrolysers and catalytic convertors



Typically 95%+ for Pt, Pd, Rd, Au, Ni, Co



Capex 18%-33% of smelting Opex: 51%-66% of smelting



13%-46% of smelting



#### **Environmentally** friendly

Low CO<sub>2</sub> emissions, no SO<sub>2</sub> emissions, low water use



#### **Metallurgically robust**

Fewer constraints on concentrate quality than smelting



Concentrate to metals in one process, on one site, in less than 2 weeks



#### Scalable

Range in capacity from 50kozpa to 2,000kozpa



#### **Equipment and** unit operations

Well proven and commonly utilised metallurgical plants



#### **Specifications** of products

Selected to suit marketing and site location requirements

Source: Kell hydrometallurgical extraction of precious and base metals from flotation concentrates - Piloting, engineering and implementation advances. June 2019. K Liddell, M Adams, L Smith

# **Project Delivery De-Risked**



Future Metals has capitalised on the significant sunk cost and learnings of prior owners to progress development of Panton. Scoping study is drawing on:

- Metallurgical solution in place with multiple product options, underpinned by consistent results and bulk testing
- >45,000m of drilling and associated data to draw from
- Granted Mining Leases
- Prior flora, fauna & heritage surveys demonstrating no red flags
- Existing decline from prior underground mining trials and bulk metallurgy sample recovery in 2002 and 2007
- Prior detailed design work on non-process infrastructure and TSF

### Mining trial (2002)



Portal post mining trial (2002)





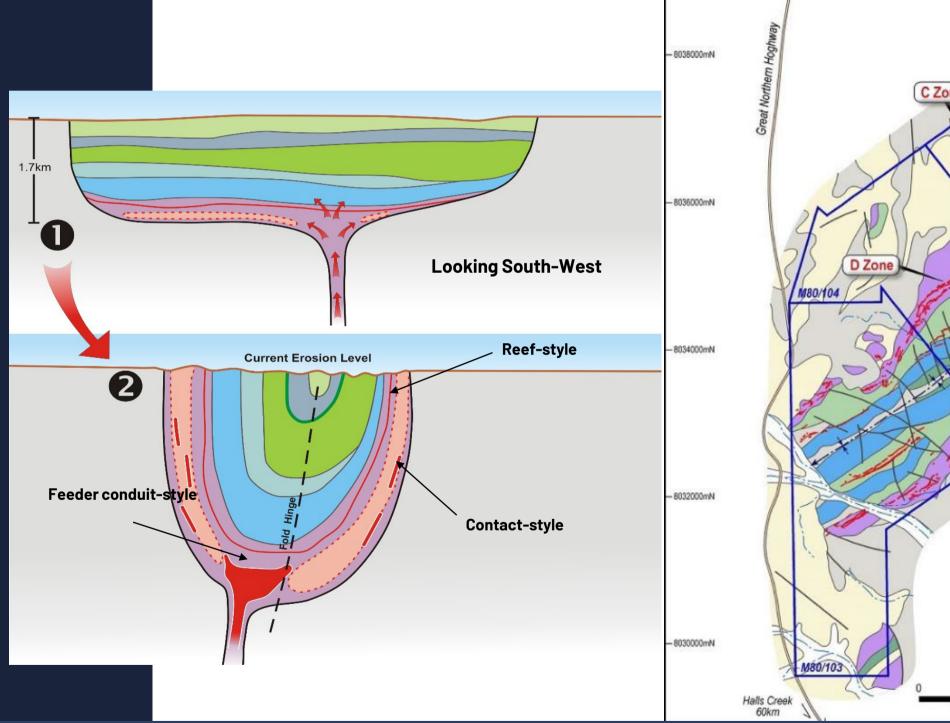
# **Panton Geology**

FUTURE

- 12km long, 2.5km wide and 1.7km thick layered mafic-ultramafic intrusion
- Folded into a south-westerly plunging synclinal structure with extensive cross faulting
- Two distinct mineralised layers in stratigraphy, the Main Zone and the Lower Zone
- Main Zone is predominantly Reef-style mineralisation and hosts current MRE
  - Analogous to Merensky and UG2 reefs of Bushveld system
- Lower Zone is lower part of stratigraphy, close to the basal contact and feeder conduit – considered more prospective for Ni-Cu-PGE sulphides
  - Contact style analogies include Platreef & Julimar. Conduit analogies include Nova-Bollinger, Voisey's Bay & Nebo-Babel

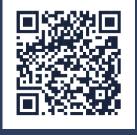
Three sub-parallel chromitite reefs & surrounding dunite bulk mineralisation included in MRE, with bulk mineralisation estimated to only 150m

- A Zone | 1,500m north-south strike, dipping 30-400 west
- B & C Zone | 2,100m south-west strike, subvertical dip
- D Zone | 1,500m north-east strike, dipping 600 north-west
- Combined strike length of 5.1km and 'open'



Kunnnanurra

For more information on Future Metals Exploration Model for Panton, please view the video with Dr. Jon Hronsky, Senior Exploration Advisor:



Mining Lease

HighwayFaults

Chromitite Recent sand cover

Gabbro, gabbronorite, norite

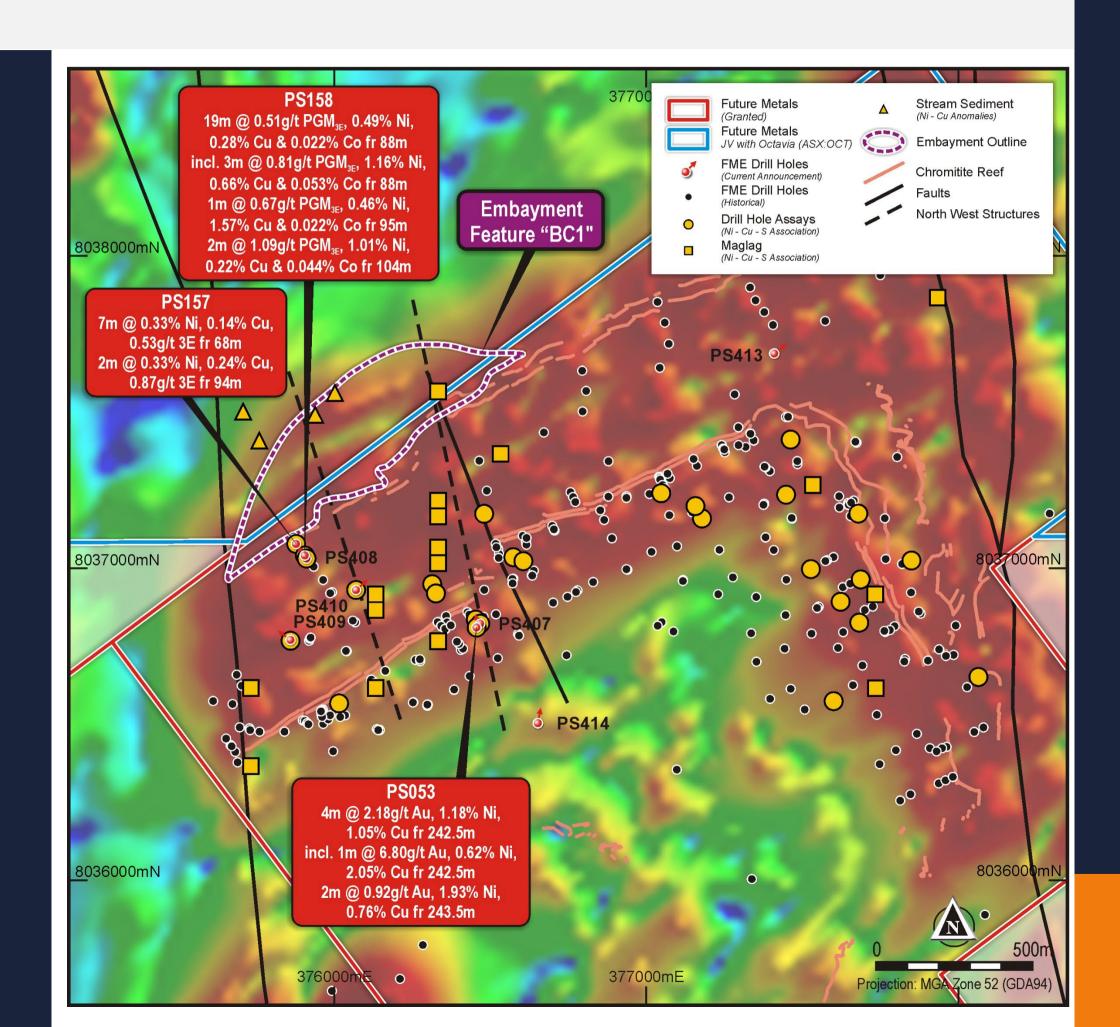
Ultramafic (dunite, wherlite,

Tickalara metamorphics

# Ni-Cu-(PGE) Sulphide Targets

FUTURE METALS

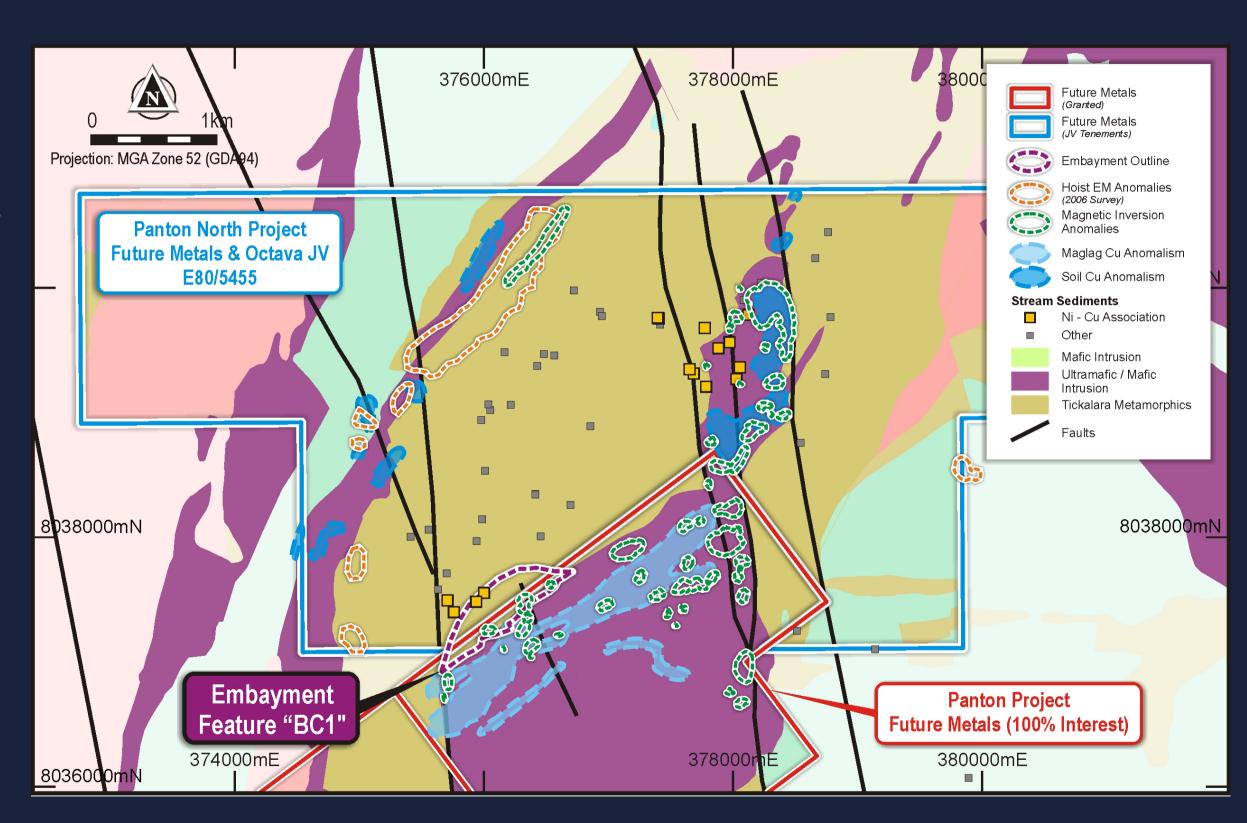
- Shallow embayment feature (BC1) identified under cover with coincident anomalies across magnetics, soils, stream sediments and drilling – nearby sulphide rich intercepts include:
  - 19m @ 0.49% Ni, 0.28% Cu, 0.51 g/t PGE<sub>3E</sub> from 88m, incl:
    - 3m @ 1.16% Ni, 0.66% Cu, 0.67 g/t PGE<sub>3E</sub>
       from 95m
  - 7m @ 0.33%, 0.24% Cu, 0.87 g/t PGE from
     95m
- Ni-Cu sulphide 'hot spot' defined awaiting
   DHEM and final deep drill hole results to define follow up work
- Evidence magmatic sulphide mineralisation distinctly different from the chromitite reef; PS053 contains heavily disseminated sulphide in core grading 4m @ 1.18% Ni, 1.05% Cu, 0.71 g/t Pd, 0.05 g/t Pt, 2.18 g/t Au



# East Kimberley JV (EKJV) - Panton North



- Panton West is an untested chonolith structure with coincident anomalies across HoistEM, magnetics, soil samples and rock chips
- Additional adjacent land position provides increased development flexibility for developing the Panton project



- Panton North prospect is an extension of the Panton sill with a large, exposed basal contact position
  - Coincident remnant magnetic inversion anomalies and anomalous copper in soils in untested NE position
  - Surficial drilling has returned broad zones of highly anomalous PGEs, Ni and Cu

# Delivering Value Through Sustainable Development



# Creating a positive case study for community engagement in the East Kimberley

- Partnership with the Traditional Owners; the Malarngowem people
- Ongoing reciprocal education to build trust and acceptance
- Commitment to provide economic opportunities in line with project maturity
- Hiring from local towns, now and into the future

### **Environmental stewardship**

- Minimise impact where possible; from exploration activities through to construction & operations
- Work with regulators and Traditional Owners so community expectations are managed and met
- Sustainability at the core of project development decisions; renewable power, carbon sequester, water usage & recycling, emissions minimisation, supplying customers focussed on the clean energy transition



Health,
Safety and
Wellbeing



People & Opportunity



Community & Social Investment



**Environmental Stewardship** 

# Becoming the First PGM Producer in Australia



Q1 2023	02 2023	Q3 2023	04 2023
	<b>***</b>		
		- Maria	
			Allen Mari
			3

### **Study & Metallurgical Activities**

JORC Resource modelling

Mine design & optimisation

Process design - upstream & downstream

Scoping study delivery

Flow sheet optimisation & variability testing

Scoping Study Partners







# I INVESTOR PRESENTATION FEBRUARY 2023

# **Corporate Overview**



**Market Cap** 

\$0.074c \$24.2M

**Share Price** (10 Feb 2023)

**Enterprise** Value

\$5.8M

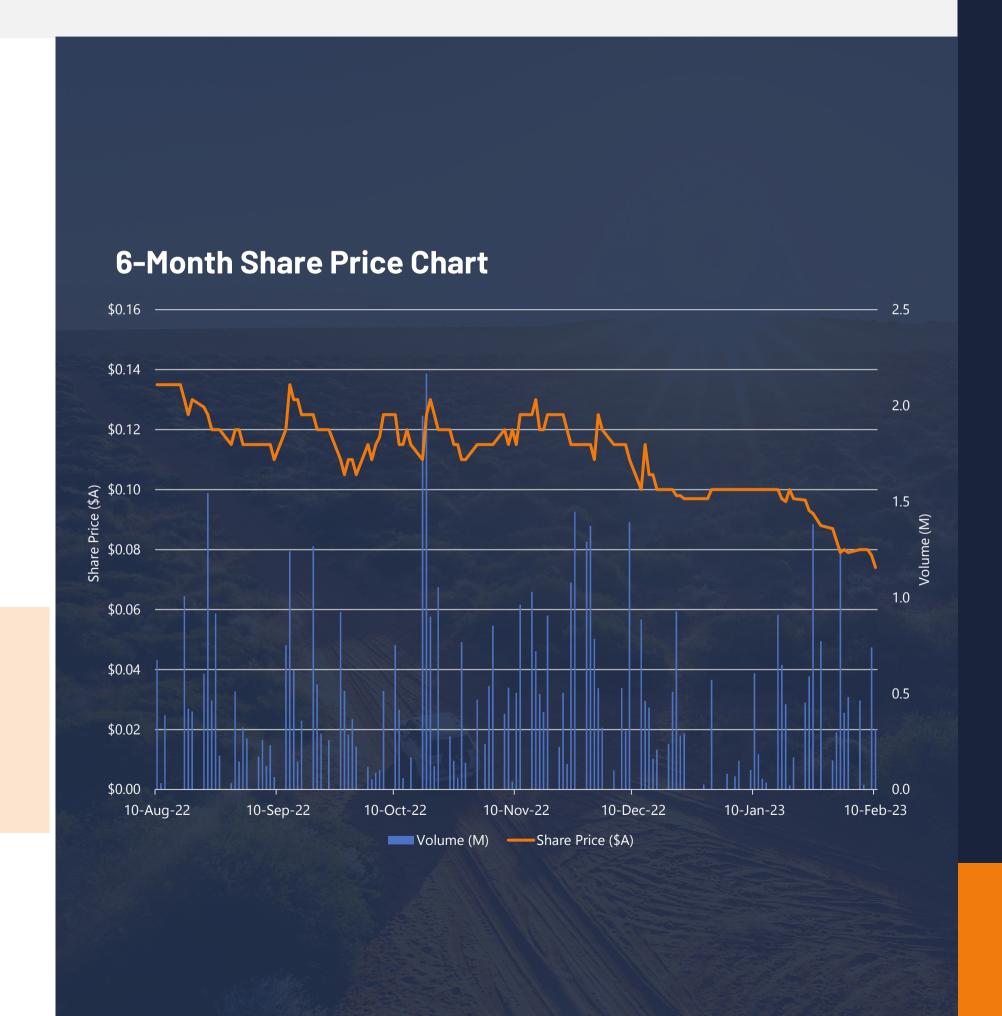
Cash (31 Dec 2022)

406M Shares on Issue (56M escrowed Jun 23, 3.5m escrowed Jan 24)

**22.9M** Board & Management Performance Rights<sup>1</sup>

#### **120.4M** Options

- 104.4M Listed 10c Options (40.1M escrowed Jun 23)
- 16M Unlisted various strike prices<sup>2</sup>



<sup>1.</sup> Various vesting conditions based on VWAP share prices and project milestones

<sup>2. 7</sup>M options @ \$0.18 expiry Nov 2024 & 9M performance options @ \$0.20 expiry Jun 2023 (three equal tranches vesting at VWAP price of >30c, >40c and >50c)



# Why Invest in Future Metals?

Panton hosts the perfect suite of metals to support the growing demand from manufacturers of catalytic convertors, hydrogen electrolysers and fuel cells, and batteries.



High grade, and large resource base



Project delivery derisked



Development optionality



Large Ni-Cu sulphide discovery potential



Top tier jurisdiction

# **In-Situ Value Per Tonne Contribution**

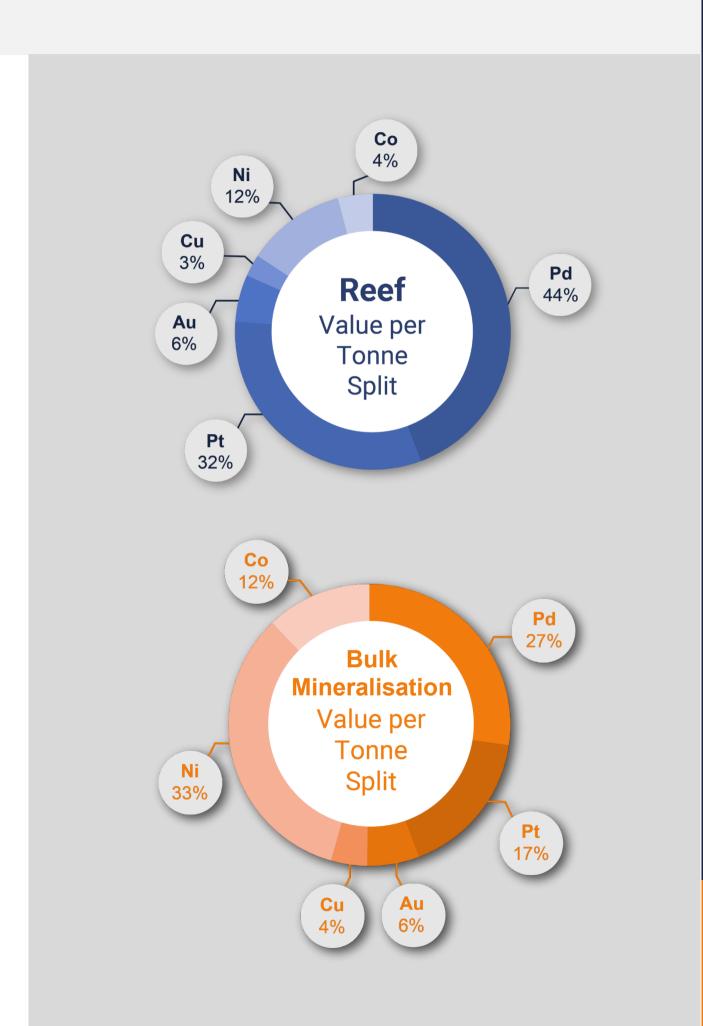
	Mass				Grade				
	(Mt)	Pd(g/t)	Pt(g/t)	Au(g/t)	PGM <sub>3E</sub> (g/t)	Ni (%)	Cu (%)	Co (ppm)	PdEq (g/t)
Reef	25.4	1.71	1.61	0.24	3.57	0.24	0.07	192	3.86
Dunite	103.4	0.31	0.25	0.07	0.62	0.17	0.03	145	1.12
Total	128.9	0.58	0.52	0.10	1.20	0.19	0.04	154	1.66

#### Metal recoveries used in the value per tonne calculations are shown below (same as PdEq inputs):

- Reef: Palladium 80%, Platinum 80%, Gold 70%, Nickel 45%, Copper 67.5% and Cobalt 60%
- Dunite: Palladium 70%, Platinum 70%, Gold 70%, Nickel 45%, Copper 67.5% and Cobalt 60%

#### Assumed metal prices used are also shown below:

 Palladium US\$1,700/oz, Platinum US\$1,300/oz, Gold US\$1,700/oz, Nickel US\$18,500/t, Copper US\$9,000/t and Cobalt US\$60,000/t



# Panton JORC Mineral Resource



Resource	Category	Mass	Grade									Contained Metal						
		(Mt)	Pd (g/t)	Pt (g/t)	Au (q/t)	PGM3E (g/t)	Ni (%)	Cu (%)	Co (ppm)	PdEq (g/t)	Pd (Koz)	Pt (Koz)	Au (Koz)	PGM3E (Koz)	Ni (kt)	Cu (Kt)	Co (Kt)	PdEq (Koz)
Reef	Indicated	7.9	1.99	1.87	0.31	4.16	0.24	0.07	190	4.39	508	476	78	1,062	19.1	5.2	1.5	1,120
	Inferred	17.6	1.59	1.49	0.22	3.30	0.23	0.07	193	3.63	895	842	123	1,859	41.1	13.1	3.4	2,046
	Subtotal	25.4	1.71	1.61	0.24	3.57	0.24	0.07	192	3.86	1,403	1,318	201	2,922	60.3	18.2	4.9	3,166
Dunite	Inferred	103.4	0.31	0.25	0.07	0.62	0.17	0.03	145	1.12	1,020	825	225	2,069	179.6	30.2	15.0	3,712
	Subtotal	103.4	0.31	0.25	0.07	0.62	0.17	0.03	145	1.12	1,020	825	225	2,069	179.6	30.2	15.0	3,712
All	Indicated	7.9	1.99	1.87	0.31	4.16	0.24	0.07	190	4.39	508	476	78	1,062	19.1	5.2	1.5	1,120
	Inferred	121	0.50	0.43	0.09	1.01	0.18	0.04	147	1.49	1,915	1,667	348	3,928	221	43	18	5,758
	Total	129	0.59	0.52	0.11	1.20	0.18	0.04	150	1.66	2,423	2,143	426	4,990	240	49	20	6,878

# **Palladium Equivalent Calculation**



#### **Palladium Metal Equivalents**

Based on metallurgical test work completed on Panton samples, all quoted elements included in the metal equivalent calculation (palladium, platinum, gold, nickel, copper and cobalt) have a reasonable potential of being ultimately recovered and sold.

Metal recoveries used in the palladium equivalent (PdEq) calculations are in the midpoint of the range of recoveries for each element based on metallurgical test work undertaken to date at Panton. It should be noted that palladium and platinum grades reported in this announcement are lower than the palladium and platinum grades of samples that were subject to metallurgical test work (grades of other elements are similar).

Metal recoveries used in the palladium equivalent (PdEq) calculations are shown below:

- Reef: Palladium 80%, Platinum 80%, Gold 70%, Nickel 45%, Copper 67.5% and Cobalt 60%
- Dunite: Palladium 70%, Platinum 70%, Gold 70%, Nickel 45%, Copper 67.5% and Cobalt 60%

Assumed metal prices used are also shown below:

■ Palladium US\$1,700/oz, Platinum US\$1,300/oz, Gold US\$1,700/oz, Nickel US\$18,500/t, Copper US\$9,000/t and Cobalt US\$60,000/t

Metal equivalents were calculated according to the follow formula:

- Reef: PdEq (Palladium Equivalent g/t) = Pd(g/t) + 0.76471 x Pt(g/t) + 0.875 x Au(g/t) + 1.90394 x Ni(%) + 1.38936 x Cu(%) + 8.23 x Co(%)
- Dunite: PdEq (Palladium Equivalent g/t) = Pd(g/t) + 0.76471 x Pt(g/t) + 0.933 x Au(g/t) + 2.03087 x Ni(%) + 1.481990 x Cu(%) + 8.80 x Co(%)