



# Western Australia's new nickel-copper- PGE frontier

2023 Macquarie Western Australia Forum

30 NOVEMBER 2023

ASX:CHN



# Chalice is a **leading ASX200 explorer-developer with a dual focus** – the world-class Gonneville Project and the new West Yilgarn Province

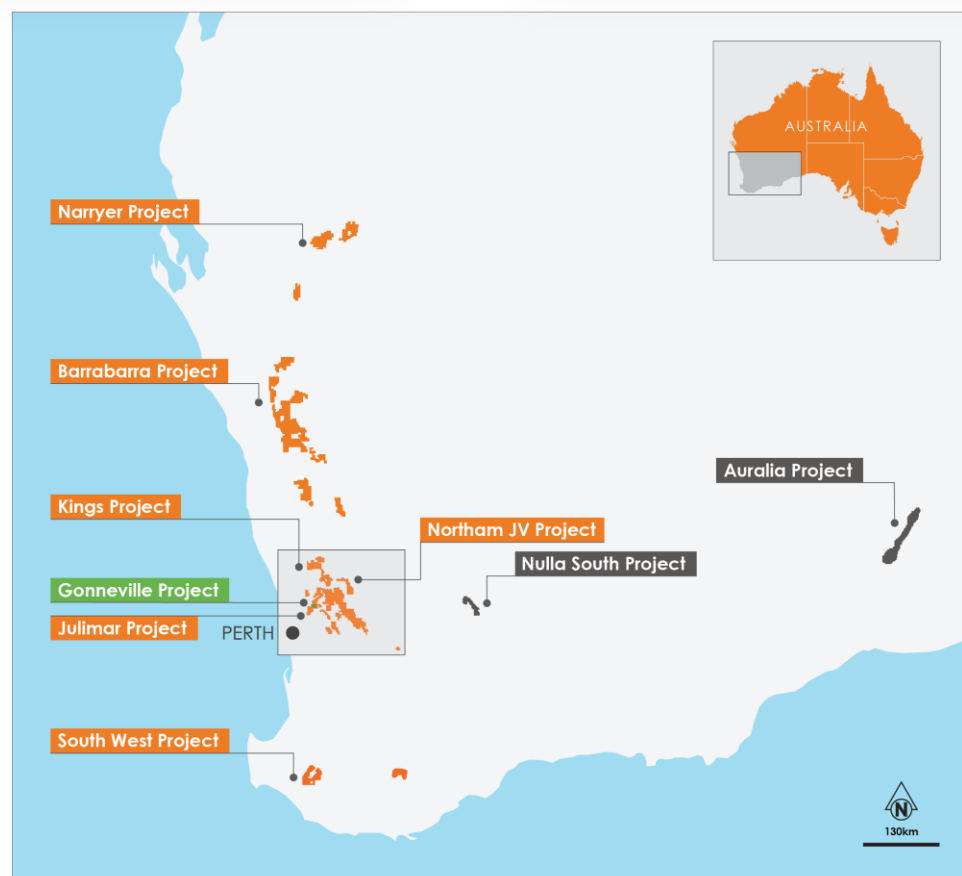
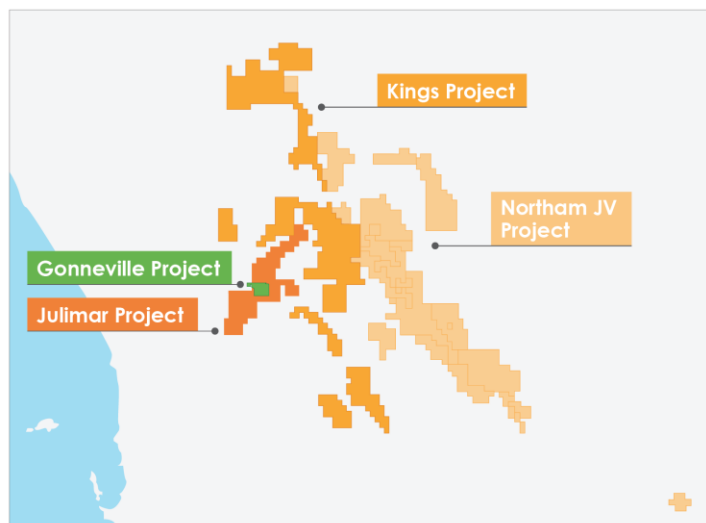


**Our purpose** – to find the metals needed to decarbonise the world (the *green metals*)

**Our aspiration** – to create a world class, multi-district *green metals* province in the West Yilgarn



- Development Project
- Operated Exploration Project
- Non-Operated Exploration Project



**Gonneville Ni-Cu-PGE Project**  
Chalice is advancing a new world class *green metals* project in Western Australia towards development

**West Yilgarn Ni-Cu-PGE Province**  
Chalice is the first mover in one of the most exciting new nickel sulphide provinces worldwide

Market Capitalisation<sup>1</sup>

**~A\$600m**

Cash balance<sup>2</sup>

**~A\$127m**

1. As of 29 November 2023; 2. as of 30 September 2023

# Our approach to sustainability



## Our Sustainability Vision and Pillars

Deliver sustained shared value through **responsible sustainability practices**



### Strong Environmental Stewardship



The Gonneville Project is located on 100%-owned Chalice farmland

**Gonneville Biodiversity Strategy** to ensure a science-based no net loss of species or habitat diversity as a result of our operations

Comprehensive baseline **environmental surveys** across 6,000ha; covering flora, fauna, dieback

Successfully implemented **industry leading low-impact exploration drilling techniques** in vegetated areas – no mechanised clearing



### Manage Climate Change Risk



Progressing **Taskforce on Climate-related Financial Disclosures (TCFD)** Roadmap and implementation plan

Development of a **Climate Change Policy** in FY2023

**Responsibly discovering and developing** new mineral deposits that provide the key metals which are **critical to decarbonisation**



### Create Value for Stakeholders



Chalice and providers have contributed **~\$8.2 million** to communities surrounding Gonneville (FY21-23)

**Established Chalice Mining Community Fund** – agreement with Shire of Toodyay to deliver significant long-term benefits to the local community

**Local Voices Community Survey**, a series of independent surveys to understand the priorities of the community

Active engagement with Whadjuk and Yued Traditional Owners – worked with **>70 Traditional Owners** since 2021



### Healthy and Safe Workforce



**Zero** lost time injuries, fatalities or high potential safety events

**Gender diversity well above industry standards** – women make up **45%** of our overall workforce

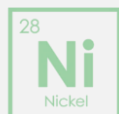
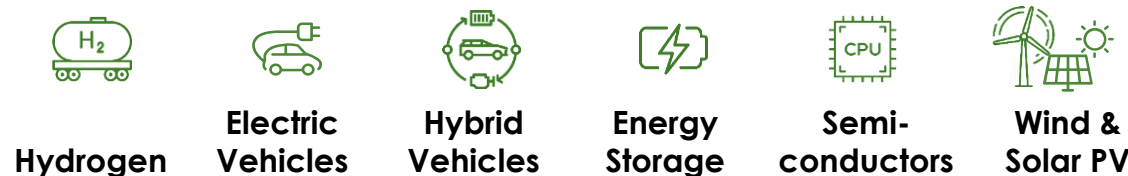
BSS Employee Assistance Program to support **wellbeing** and **mental health** of our employees





# Market Outlook

# The need to **decarbonise the global economy** will underpin long-term demand for *green metals* like nickel, copper, cobalt and PGEs



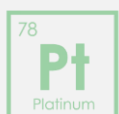
## Nickel and Cobalt

- Key industrial and electrification metals with unique chemical properties
- ~3Mt p.a. Ni market, supply dominated by carbon intensive, high environmental impact laterite sources, significant deficit forecast<sup>1</sup>
- ~0.2Mt p.a. Co market, supply dominated by Democratic Republic of Congo with humanitarian challenges<sup>1</sup>



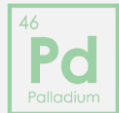
## Copper

- Key industrial and electrification metal with high conductivity
- ~26Mt p.a. market, with severe lack of recent large-scale discoveries resulting in a significant deficit forecast<sup>1,2</sup>



## Platinum and Palladium

- Extremely rare (precious) metals with highly versatile catalytic properties, used in emissions reduction technologies such as catalytic converters and in hydrogen electrolyzers and fuel cells
- ~10Moz p.a. Pd market in prolonged deficit, supply dominated by Russia<sup>3</sup>
- ~7Moz p.a. Pt market, supply dominated by South Africa<sup>3</sup>



Source: 1. IEA "The Role of Critical World Energy Outlook Special Report Minerals in Clean Energy Transitions" March 2022;

2. S&P Global, CBS Reports, Jan 2023;

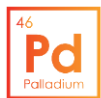
3. Johnson Matthey, 'PGM market report', May 2023

# The case for hybrid electric vehicles is growing – the ‘best of both worlds’ solution will **drive strong demand for battery metals and PGEs**

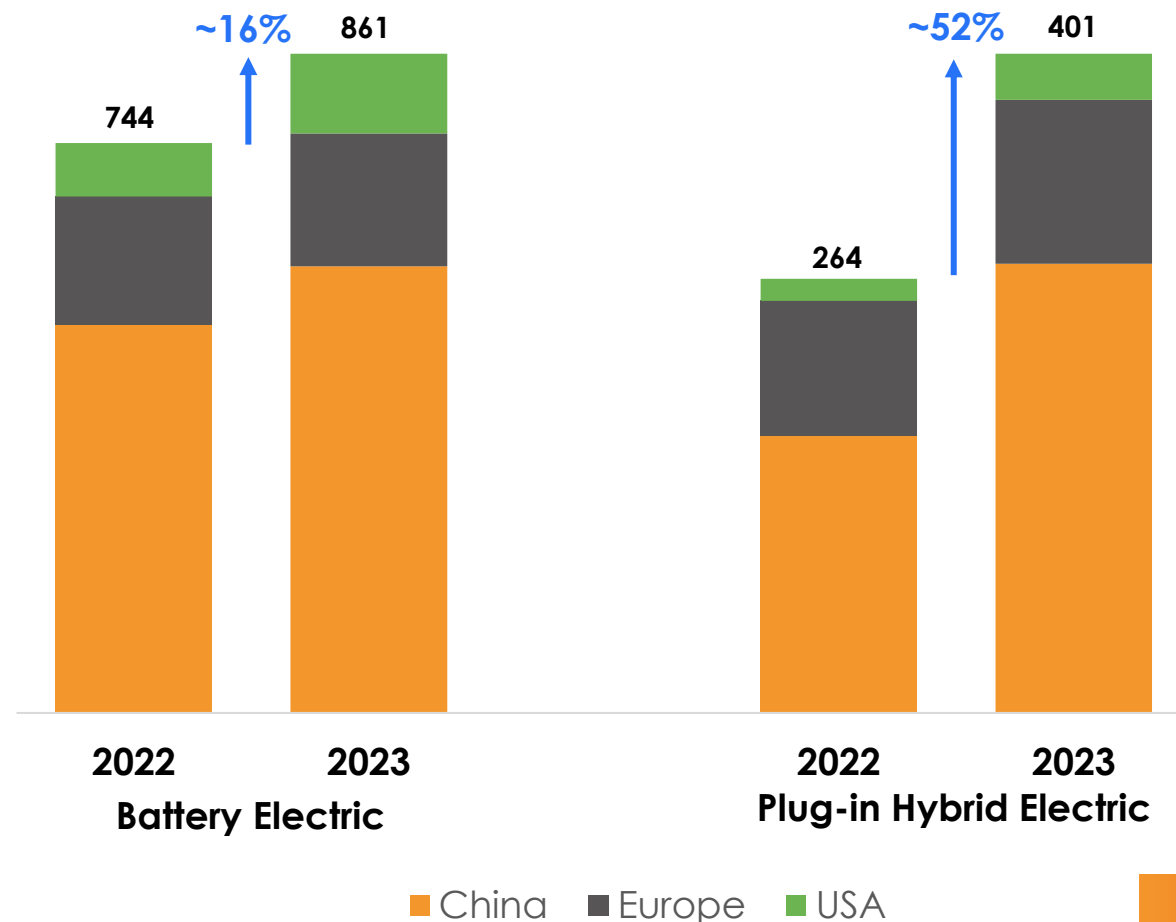
- Sales of battery electric vehicles (BEVs) are growing at 16% p.a., whilst **sales of plug-in hybrid electric vehicles (PHEV) are growing at three times the rate (52% p.a.)**
- Consumers are favouring PHEVs over BEVs due to their **lower cost, longer range and the lack of charging infrastructure**
- Major car manufacturers, such as **Toyota, Ford and Hyundai**, are scaling up PHEV production to meet growing demand



- PHEVs typically have a **palladium based catalytic converter and a nickel-cobalt chemistry battery (NCA or NCM)**



Electric vehicle sales, September 2022-2023 ('000s)

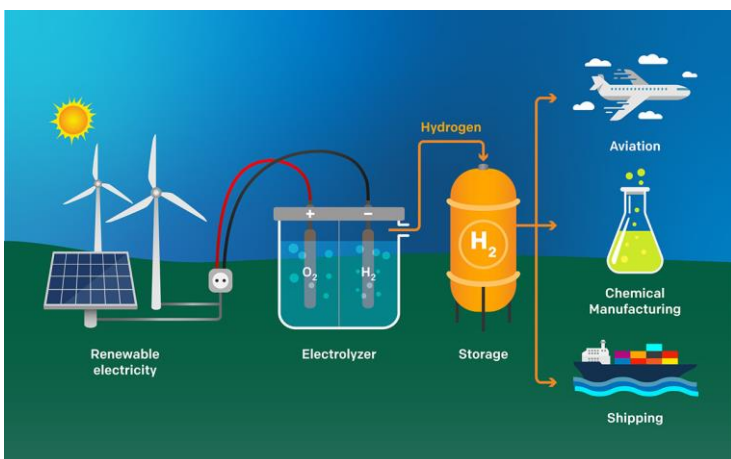


# Platinum and Palladium are essential in every stage of the hydrogen value chain, a critical solution to **achieving net-zero carbon economy**



## Production

**Green hydrogen** produced by electrolysis of water using renewable energy (wind, solar, hydro)



**Platinum typically used as catalyst in Proton Exchange Membrane electrolyzers**

## Transport and Storage

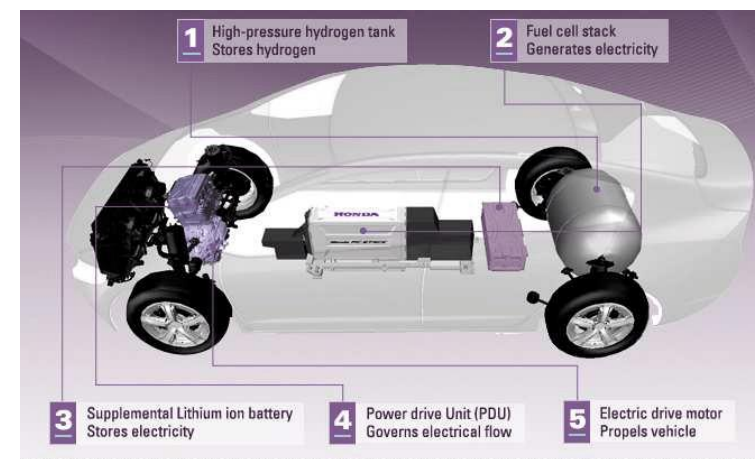
Long-term **storage and transport of green hydrogen** likely to be achieved using liquified ammonia (NH<sub>3</sub>) as carrier



**Palladium typically used as catalyst in hydrogen-ammonia conversion**

## Utilisation

Green hydrogen ideal for use in green steel and Fuel Cell Electric Vehicles (FCEVs), likely to be the dominant technology for **heavy transport such as trucks, trains and ships**



**Platinum and palladium typically used as catalysts in hydrogen purification and fuel cells**





# Gonneville Project

Project update and priorities



# Gonneville Ni-Cu-PGE Project Overview

A new long-life, low-cost, low-carbon *green metals* project in Western Australia

## A globally significant magmatic sulphide Resource ~70km from Perth:

- **560Mt @ ~0.54% NiEq or 1.7g/t PdEq** for ~3.0Mt NiEq or 30Moz PdEq<sup>1</sup> contained – deposit remains **open at depth**
- **Strategic and rare large-scale green metals<sup>2</sup> project in a western jurisdiction** – strong potential for a *western and green premium (IRA-compliant products)*

## Scoping Study (Aug 2023) completed on bulk open-pit development options:

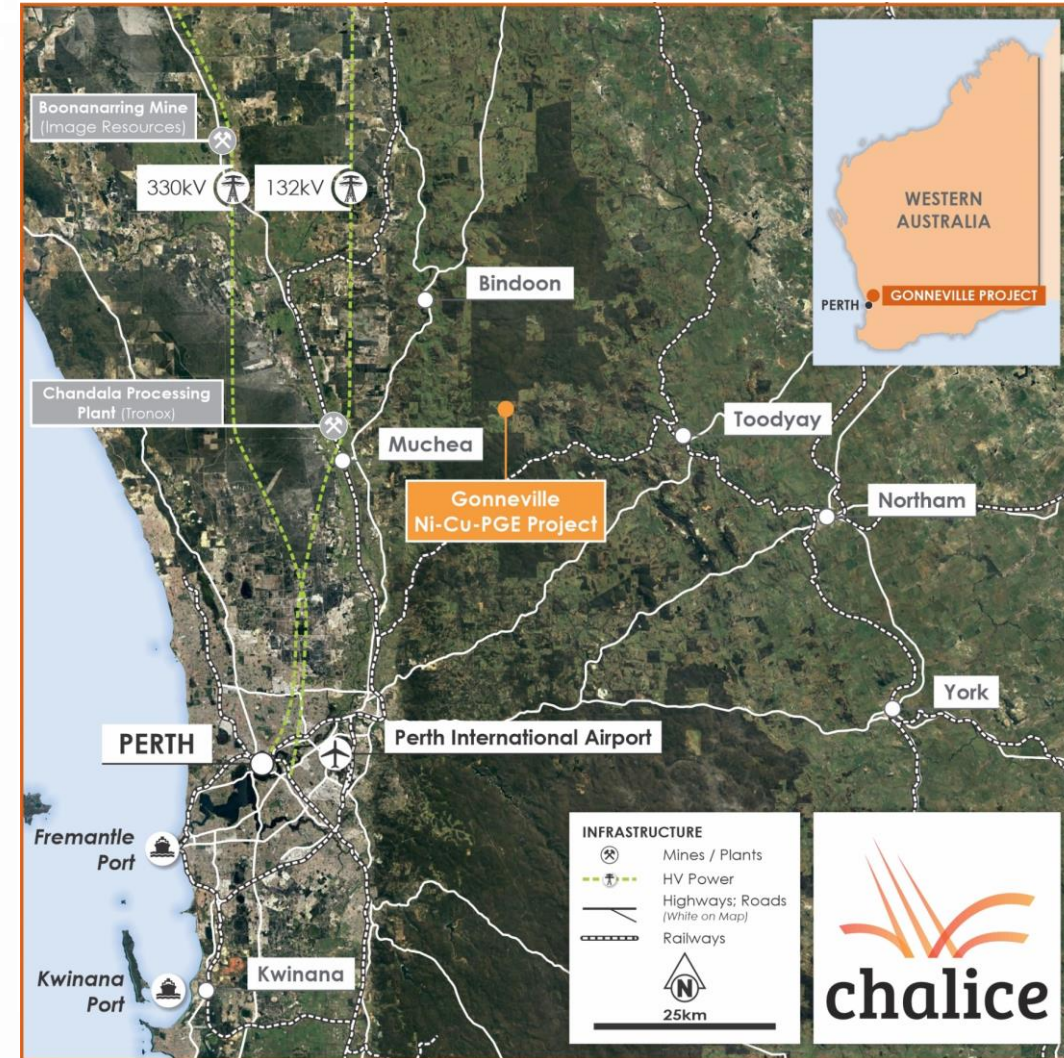
- **Predicted to be lowest cost PGE producer in the western world** – ~US\$160-230/oz 3E cash costs (after Ni-Cu-Co by-product credits) – 2<sup>nd</sup> quartile on the PGE industry cost curve
- Investigating **high-grade, staged starter cases** in the initial phase of the Pre-Feasibility Study (in progress)
- World class sustainability metrics – **low carbon intensity products, an ~A\$18 billion contribution to WA economy and substantial regional benefits**
- Regulatory approvals process to commence in H1 2024 – **FID targeted for late 2026**

## Strong upside potential on study metrics currently being investigated:

- **No underground mining options included as yet** – high-grade sulphide mineralisation extends well beyond the limit of Scoping Study pit designs
- Resource, optimal flowsheet and pathways to market continuing to be defined

## Strategic partnering process ongoing:

- **Expressions of interest recently received** from counterparties
- Discussions are progressing in a second phase



1. For tonnes and grades by confidence category and metal equivalent assumptions, refer to the Mineral Resources Statement in Appendix. 2. Nickel, copper, cobalt, palladium and platinum are considered green metals, as they are required to produce decarbonisation technologies such as lithium-ion batteries, electric vehicles, large-scale energy storage solutions, wind power, solar power and green hydrogen.

# Gonneville is positioned to become a **strategic asset** for Australia and the western world, given its rare palladium-nickel-cobalt content

Gonneville is the **first major PGE discovery in Australia** and one of the few recent large-scale magmatic Ni-Cu-PGE discoveries in the western world

**Pd, Pt, Ni and Co** are classified as **'critical minerals'** by most western governments; case is also growing for Cu

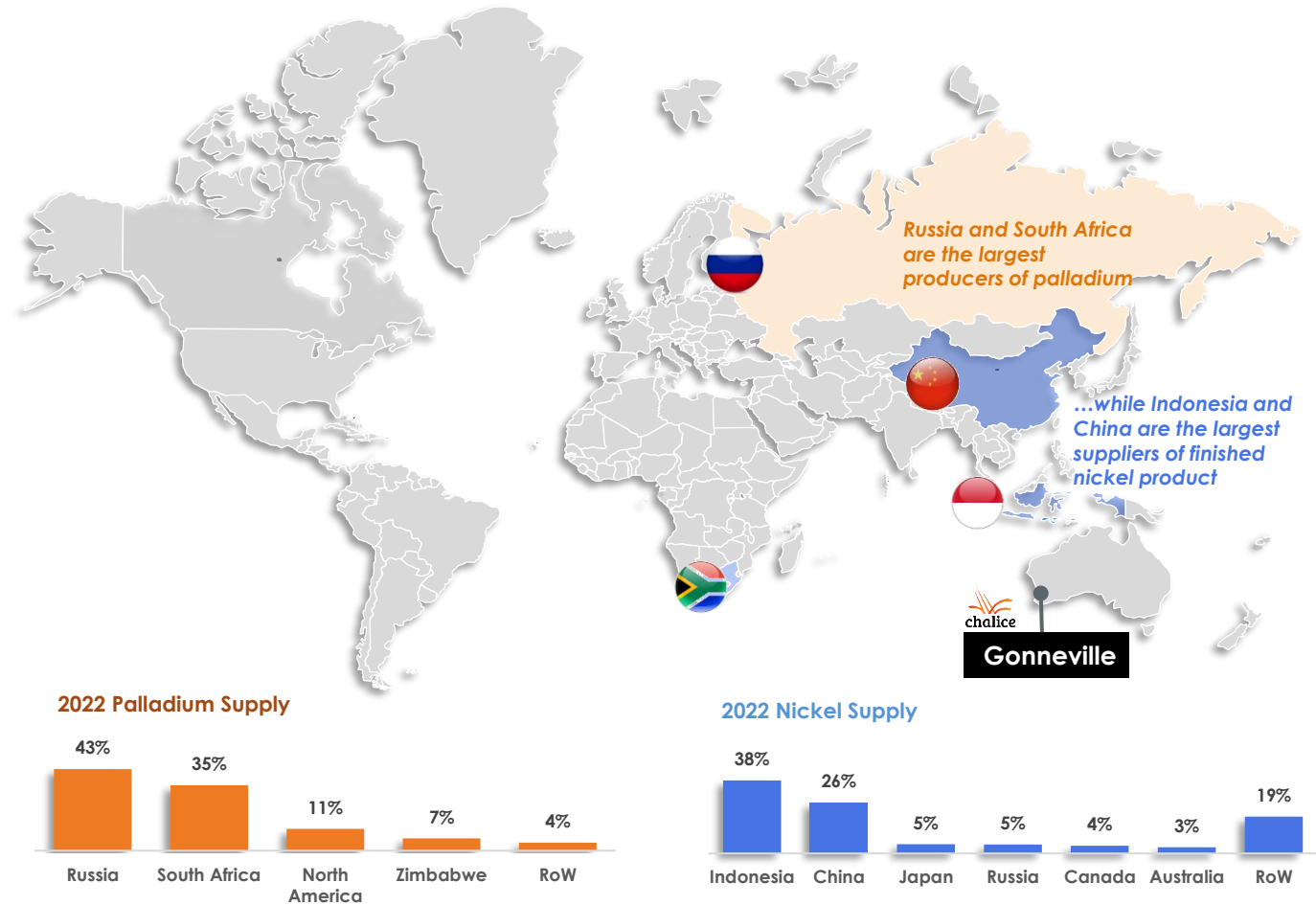
The western world is **extremely reliant on Russian Palladium supply** (~43% of global supply)

Gonneville is located in one of the **world's most stable and friendly mining jurisdictions** with a commitment to sustainable development

The Australian Government has committed \$6 billion<sup>1</sup> to **accelerate strategically significant projects** and **strengthen** internal critical mineral **security and supply chains**

The **US Inflation Reduction Act (IRA)** includes a **US\$370 billion stimulus package** to accelerate critical minerals production in western countries

Global **Palladium** and **Nickel** Primary Supply Market Share (2022)<sup>3</sup>



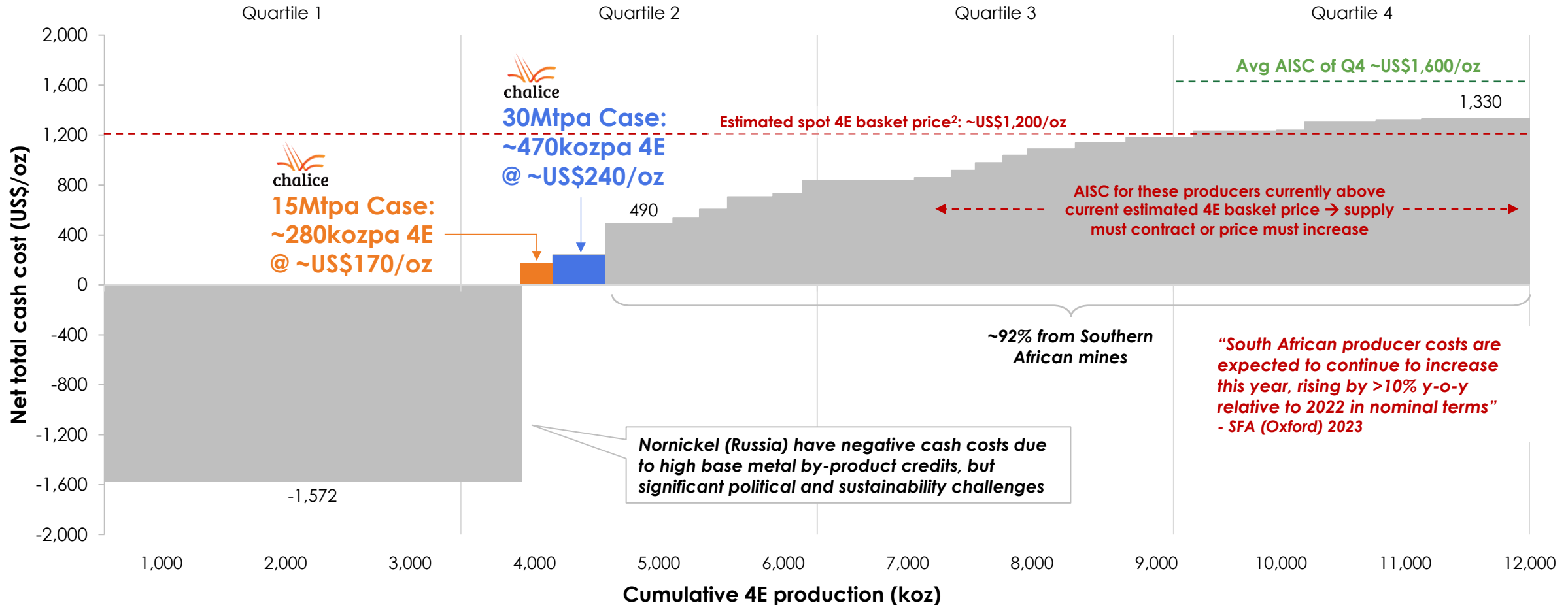
Source: 1. '2023-2030 Critical Minerals Strategy' Department of Industry, Science, Energy and Resources, Australian Government, June 2023, '\$2 billion critical minerals boost crucial to energy transition', Australian Government, October 2023. 2. Discussions with potential partners are preliminary in nature, a formal partnering process is underway. 3. AME as at 10 May 2023, Market research.



# Gonneville scoped to be **2<sup>nd</sup> quartile on the PGE industry cost curve** – PGE basket price needs to be >US\$1,600/oz to sustain current market



**PGE Industry Cost Curve – Net total cash costs per 4E oz (after by-product credits), CY2022, US\$/oz<sup>2</sup>**



Source: 2022 SFA (Oxford) Ltd collated costs and revenues used for 4E cost curve data. Note: 1. 4E cost curve positioning assumes average 2022 by-product commodity prices of: Copper US\$10,105/t, Nickel US\$25,000/t, Iridium US\$4,400/oz, Ruthenium US\$550/oz, Chrome 42% CIF US\$300/t. AME forecast Cobalt price of US\$46,407/t has been assumed given not disclosed in SFA data. Above cash costs will differ to that presented elsewhere given the difference in commodity prices assumed for by-products calculation. 2. Estimated weighted average 4E basket price calculated using spot prices as at 21 November 2023.

# Unlocking the full value of **Gonneville** through upside opportunities in mining, processing and commercial areas is underway



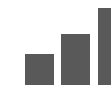
[Orange] = Near term priorities

Assessed upside potential



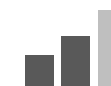
## Mining

- **Early high-grade underground mining in parallel to open-pit phase and block/sub-level caving options**
- **Selectivity, equipment sizing, cut-off grade, dilution, pit phasing, stockpiling and blending mining optimisations**
- Real-time mining/cut-off strategies to adapt to prevailing macro environment
- Ore-sorting and other beneficiation techniques to be investigated (as yet unmodelled)
- Automation and electrification of mining and haulage



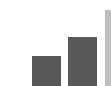
## Processing

- **Geo-met domaining of the deposit**
- **Bulk flotation testwork and trade-off studies (vs sequential Cu/Ni flotation)**
- Grind size, staged grinding, Leaching and flotation processing / recovery optimisations
- Further downstream processing as resource base grows and operation matures
- Phasing of flowsheet configuration (concentrates to midstream to downstream) to de-risk execution and ramp-up
- New processing and tailings storage technologies
- Advanced analytics and machine learning / artificial intelligence in process optimisation



## Commercial

- **Strategic partnering to bring technical, financial and/or marketing capabilities**
- **Government grants, debt, tax incentives or targeted project support (including infrastructure, permitting etc)**
- Higher long-term prices due to scarcity, lack of new discoveries or geo-political events (lower cut-off grades)
- Potential for *green/western premiums* on products
- Recovery and payability of additional metals (i.e. Rh, Ir, Os, Ag, Te)
- Strategic power purchase agreement or improvements in SWIS grid
- Local offtake to potential new downstream processing hub



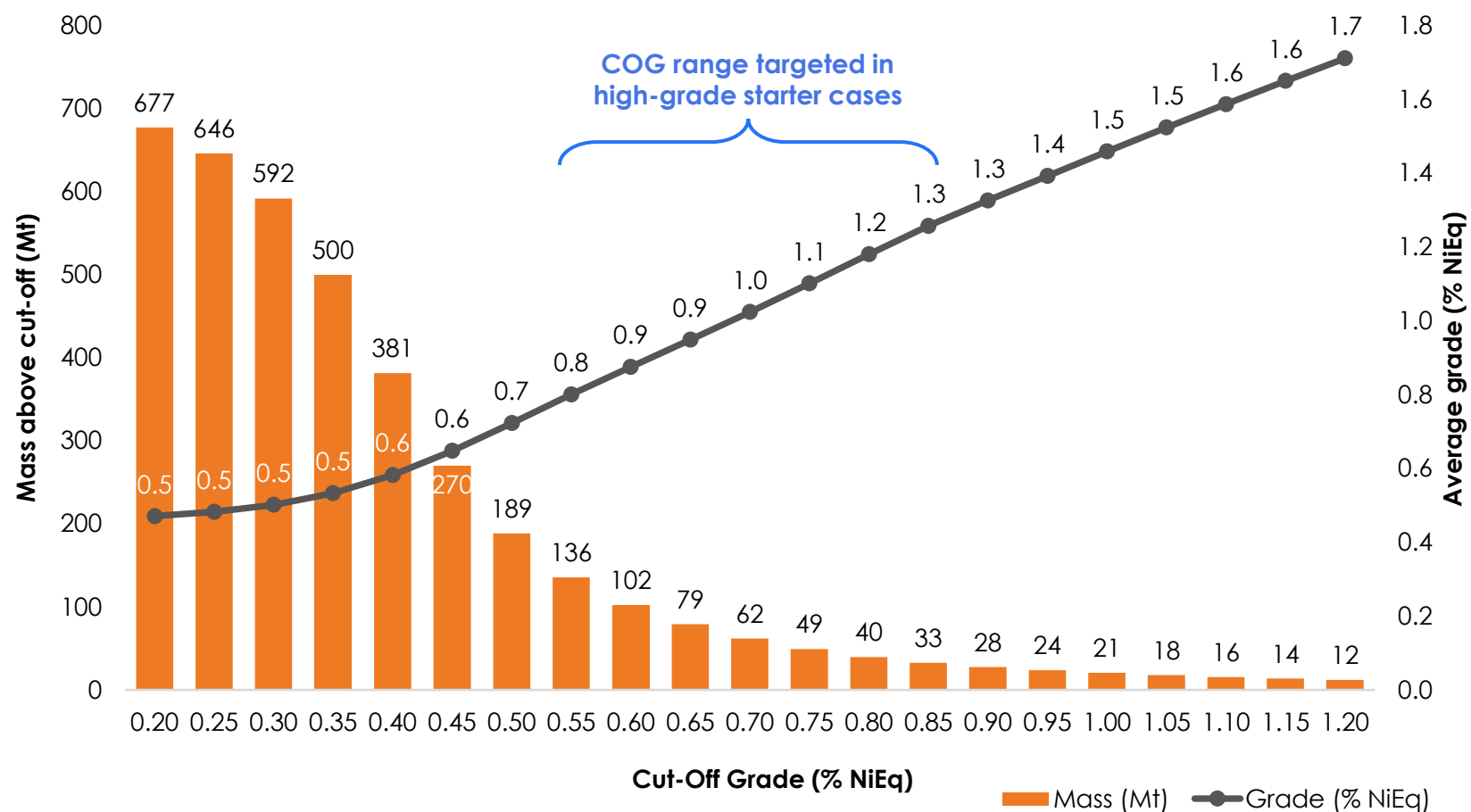


# The **rare, tier-1 scale** Gonneville Resource has **high-grade optionality** and **compelling growth potential**

## Mineral Resource Estimate<sup>1</sup>:

- **560Mt @ 0.88g/t 3E (Pd+Pt+Au), 0.16% Ni, 0.09% Cu, 0.015% Co (~0.54% NiEq or ~1.7g/t PdEq)**
- **16Moz 3E, 860kt Ni, 520kt Cu and 83kt Co (~3.0Mt NiEq or ~30Moz PdEq)** contained
- Resource located on **Chalice-owned farmland**
- Resource is defined to depth of ~800m, remains **open at depth**
- Resource modelled assuming a bulk open-pit mining approach – **remodelling now underway to refine selective approaches at higher cut-off grades**

**Gonneville Nickel Equivalent Grade-Tonnage Curve in-pit (on NiEq cut-off grade basis)**



1. For tonnes and grade by confidence category and metal equivalent assumptions, refer to the Mineral Resource Statement in Appendix

# High-grade base metal rich mineralisation near surface is targeted with the **starter cases currently being modelled**

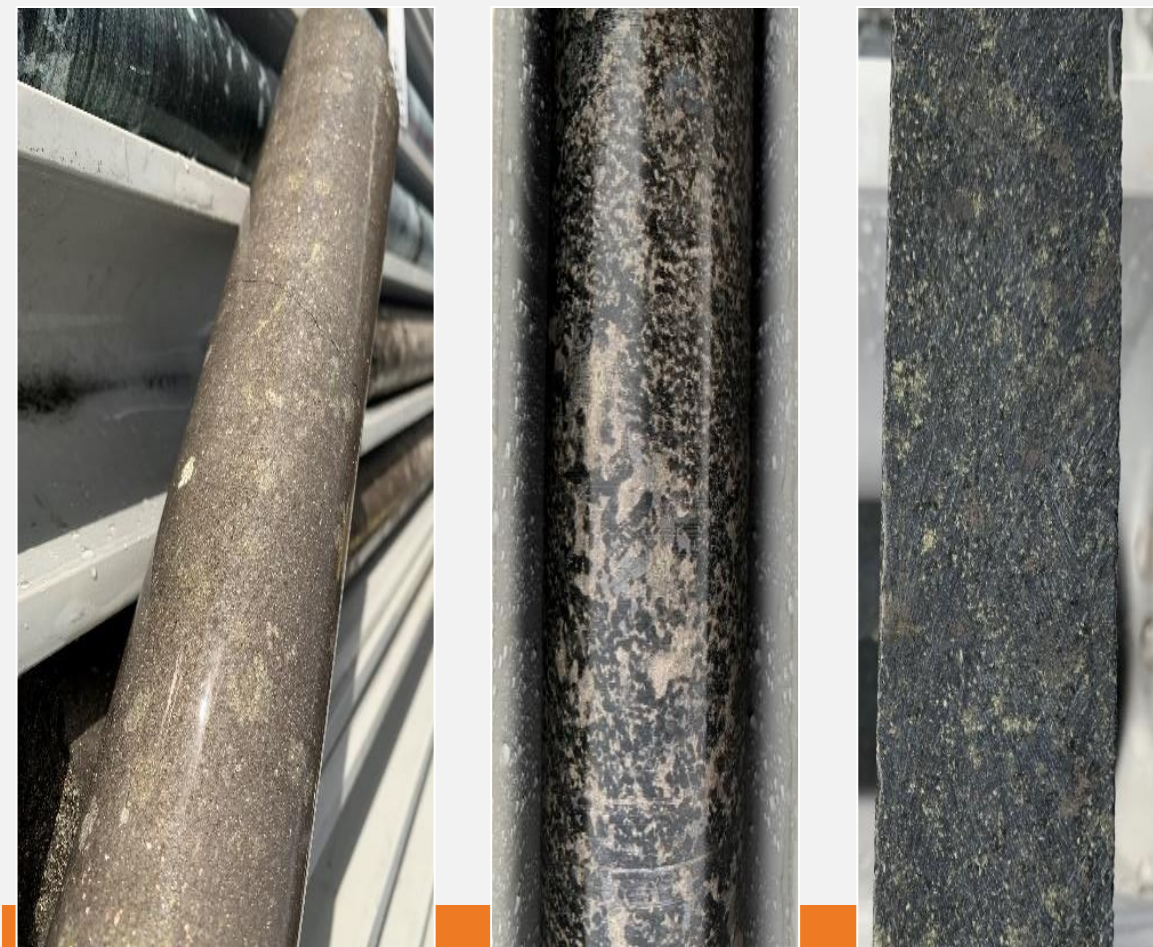


## Gonneville hosts a range of sulphide mineralisation styles, starting near surface:

- High-Sulphide / base metal-rich mineralisation (>**1.0% NiEq**, 20-100 vol% sulphide)
- Low-Sulphide PGE-rich mineralisation (**0.6-1.0% NiEq**, ~3-10 vol% sulphide)
- Low-Sulphide disseminated mineralisation (**0.2-0.6% NiEq**, ~1-3 vol% sulphide)

## The high-grade starter cases will target the shallow base metal rich zones at the southern end of the Resource; zones such as (>0.6% NiEq cut-off):

- **7.9m** @ 10.69g/t 3E, 0.56% Ni, 4.74% Cu, 0.05% Co (**7.9% NiEq**) from **90.5m** (JD402)
- **25m** @ 9.53g/t 3E, 2.02% Ni, 0.88% Cu, 0.11% Co (**6.05% NiEq**) from **46m** (JRC001)
- **14.4m** @ 9.48g/t 3E, 1.17% Ni, 0.59% Cu, 0.07% Co (**4.72% NiEq**) from **36.7m** (JD016)
- **23m** @ 4.44g/t 3E, 0.74% Ni, 0.43% Cu, 0.04% Co (**2.59% NiEq**) from **40m** (JRC006D)
- **25m** @ 3.52g/t 3E, 0.18% Ni, 1.08% Cu, 0.02% Co (**2.25% NiEq**) from **67m** (JD203)
- **15m** @ 10.9g/t 3E, 0.13% Ni, 0.14% Cu, 0.01% Co (**3.68% NiEq**) from **78m** (JRC121)
- **15.3m** @ 7.16g/t 3E, 0.69% Ni, 0.37% Cu, 0.05% Co (**3.3% NiEq**) from **80.7m** (JD010)
- **20.4m** @ 3.78g/t 3E, 0.66% Ni, 0.43% Cu, 0.04% Co (**2.27% NiEq**) from **60.6m** (JD015)
- **13.7m** @ 5.27g/t 3E, 0.68% Ni, 0.68% Cu, 0.05% Co (**2.98% NiEq**) from **29.3m** (JD006)
- **15m** @ 5.12g/t 3E, 0.47% Ni, 0.72% Cu, 0.03% Co (**2.7% NiEq**) from **84m** (JRC228)
- **10m** @ 9.11g/t 3E, 0.74% Ni, 0.33% Cu, 0.05% Co (**3.93% NiEq**) from **48m** (JD087)
- **7m** @ 14.57g/t 3E, 0.22% Ni, 0.23% Cu, 0.02% Co (**5.13% NiEq**) from **83m** (JRC064)
- **9.8m** @ 5.86g/t 3E, 1.15% Ni, 0.58% Cu, 0.07% Co (**3.63% NiEq**) from **28m** (JD014)
- **10.7m** @ 5.75g/t 3E, 0.86% Ni, 0.52% Cu, 0.04% Co (**3.18% NiEq**) from **50m** (JD026)



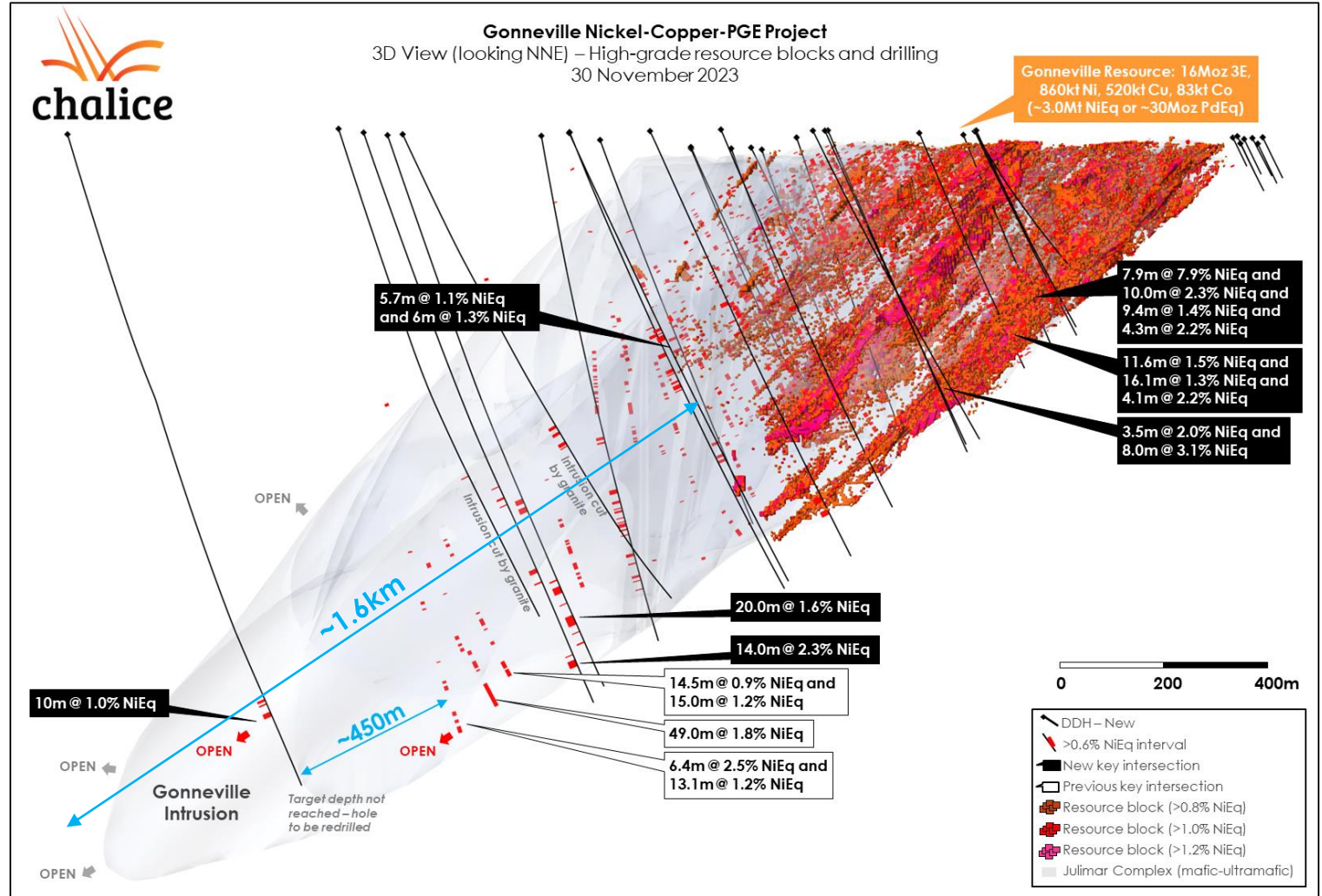
Shallow base metal rich core specimens (G1, G2 and G4 zones)



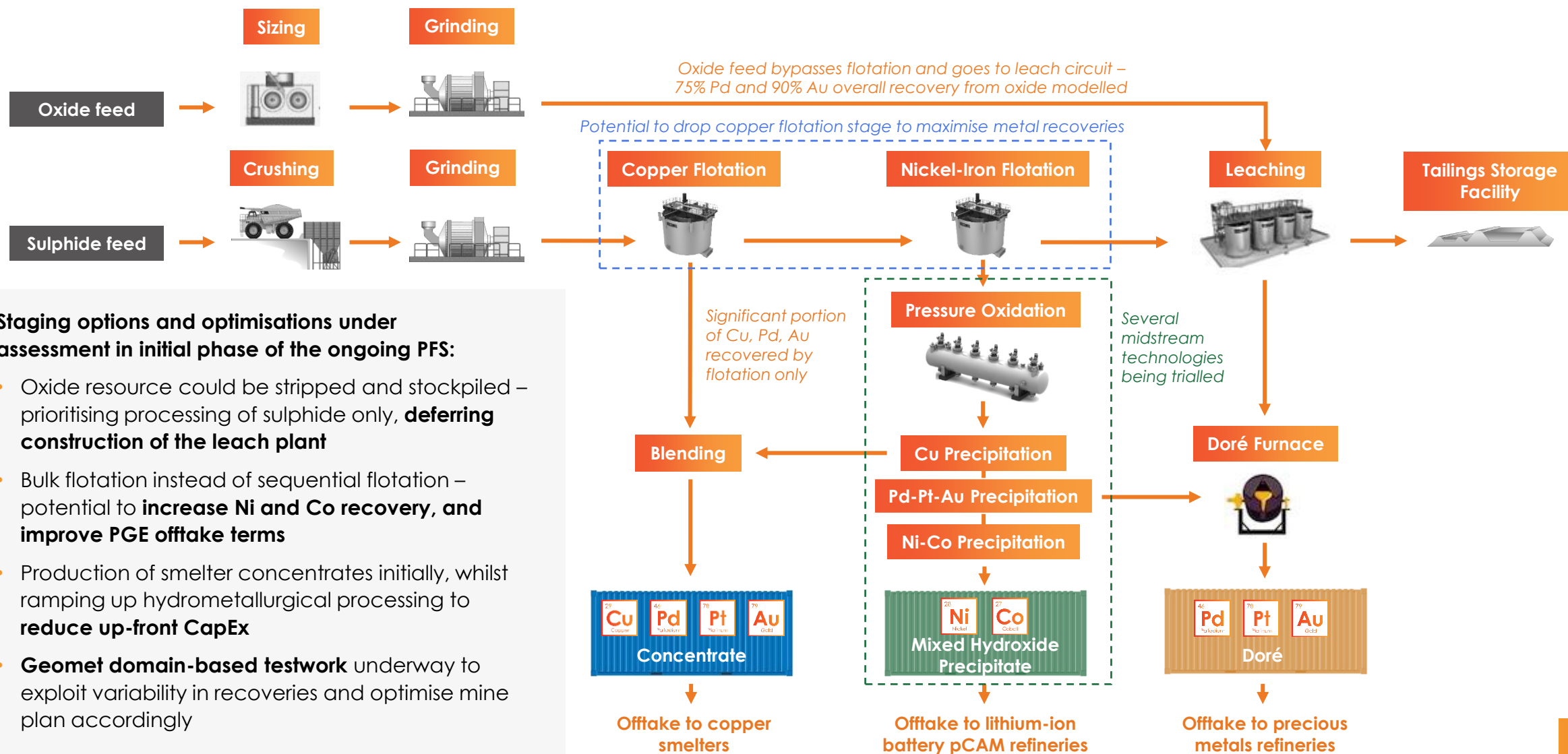
# The Resource remains open down-dip, with ongoing drilling demonstrating potential for **material growth of the deposit**

- The **500-600m thick** Gonnevile Intrusion is interpreted to extend a further **~1.6km down-dip** to the WNW beyond the Resource
- Recent step-out drilling has demonstrated high-grade Cu-PGE zones at depth:
  - **34m @ 7.02g/t 3E**, 0.16% Ni, **0.63% Cu**, 0.02% Co (**2.89% NiEq**) from 432m
  - **49m @ 3.87g/t 3E**, 0.22% Ni, 0.43% Cu, 0.02% Co (**1.81% NiEq**) from 1135m
  - **29m @ 4.06g/t 3E**, 0.22% Ni, 0.32% Cu, 0.02% Co (**1.76% NiEq**) from 507m
  - **8.0m @ 5.83g/t 3E**, 0.15% Ni, **1.12% Cu**, 0.01% Co (**3.05% NiEq**) from 543m
  - **20m @ 3.2g/t 3E**, 0.14% Ni, **0.55% Cu**, 0.02% Co (**1.62% NiEq**) from 994m
  - **14m @ 5.72g/t 3E**, 0.19% Ni, 0.36% Cu, 0.02% Co (**2.30% NiEq**) from 1096m
  - **6.4m @ 3.59g/t 3E**, 0.36% Ni, **1.18% Cu**, 0.02% Co (**2.51% NiEq**) from 1188.6m
- Early underground mining options** being investigated – **provides a material opportunity to improve project economics**
- Testwork also shows that **flotation recoveries are significantly higher on high-grade vs average modelled feed grades**

3D view (looking NNE) of the Gonnevile Intrusion, >0.8% NiEq Resource blocks and drilling



# Phasing of the process flowsheet configuration is being evaluated in the initial phase of the PFS







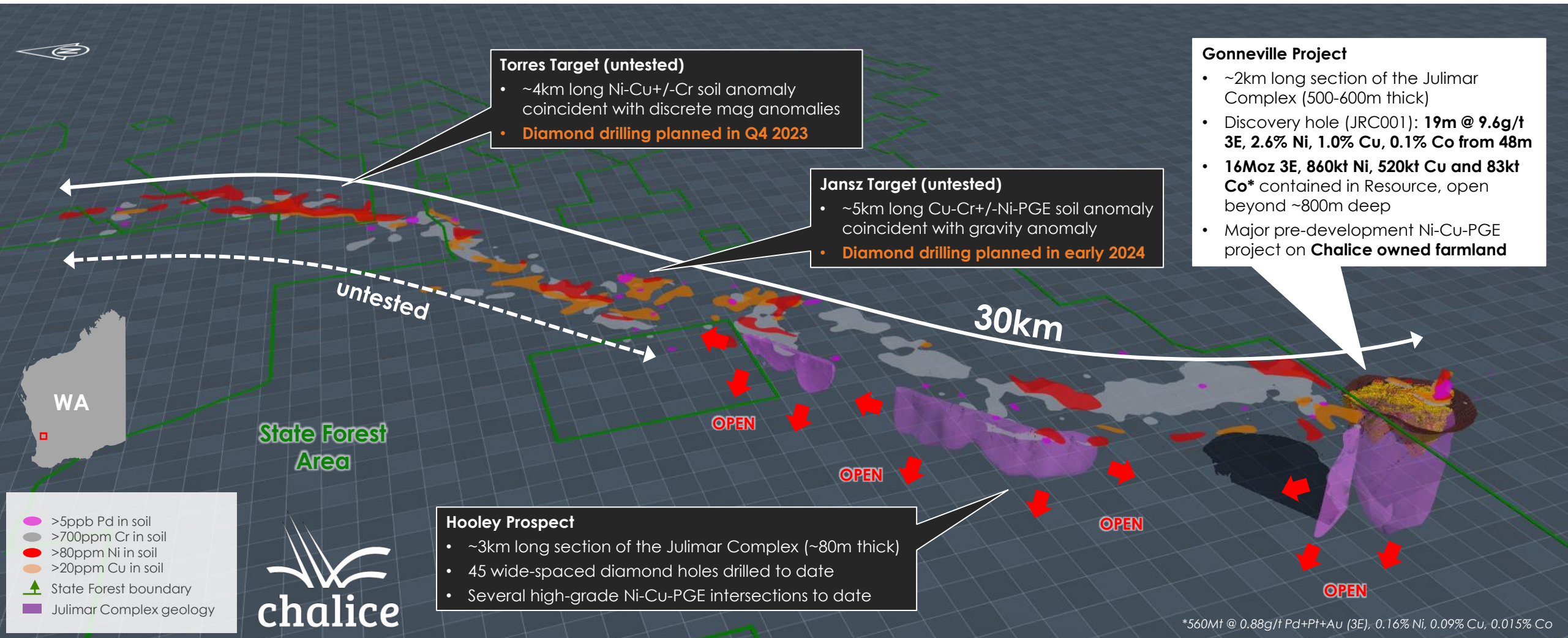
# Regional Exploration



# Gonneville Resource occupies just ~2km of the >30km long belt – regional drilling expected to recommence in the coming weeks



## 3D view (looking ESE) of the Julimar Complex, Gonneville Resource and soil geochemistry



# Ramping up an expansive regional exploration program in late 2024 – **>10 new high-priority greenfield targets** to be drilled across the province



## Barrabarra Project

**Barrabarra Nickel-Copper-PGE Exploration Project, WA (100% owned + Koojan earn-in to 80%)**

- 69,000 line-km high resolution airborne magnetic survey underway.
- 6,900 line-km airborne gravity gradiometry survey complete.
- RC drilling 10 priority greenfield targets in Q4 2023 - Q1 2024.

## Kings Project

**Kings Nickel-Copper-PGE Exploration Project, WA (100% owned + Bolgart earn-in to 75%)**

- 7 new early-stage targets identified with AEM/MLM and geochemistry.
- AC drilling 3 priority greenfield targets in Q1 2024.

## Northam JV Project

**Northam Nickel-Copper-PGE Exploration Joint Venture Project (Earn-in to 70%)**

- Recent earn-in over ~1,600km<sup>2</sup> licence holding contiguous with Chalice's existing tenure
- 34,000 line-km high resolution airborne magnetic survey underway
- 28 early-stage Ni-Cu-PGE target areas identified
- MLM planned for 9 areas with drill testing of priority greenfield targets in Q1 2024

~1,200km long western margin of the Yilgarn craton is highly prospective for orthomagmatic Ni-Cu+/-PGE deposits but is **almost entirely unexplored**

## Narryer Project

## Julimar Project

**Julimar Ni-Cu-PGE Exploration Project (100% owned)**

- Several high-grade zones intersected over ~10km strike length to date, confirming the Julimar Complex hosts a large-scale mineral system with potential for multiple discrete Ni-Cu-PGE deposits
- Exploration drilling expected to recommence in the coming weeks (reconnaissance diamond and broad spaced AC)

## Gonneville Project

## South West Project

- Development Project
- Operated Exploration Project

WESTERN AUSTRALIA

PERTH



200km

# Gonneville high-grade starter cases, regional exploration drilling and the ongoing strategic partnering process represent **potential catalysts**



## Milestones achieved to date



**Gonneville discovery** and birth of the new West Yilgarn Ni-Cu-PGE Province



Mar-2020



**Significant expansion** of tenure (>8,000km<sup>2</sup>) and exploration activities



**Maiden Mineral Resource Estimate at Gonneville**



Nov-2021



**Completion of Gonneville Scoping Study**



Aug-2023



## Forward Plan<sup>1</sup>



1. Project study, approvals and development timeline is indicative. There is no assurance that the strategic partnering process will result in a transaction



# Summary



Chalice owns 100% of a new long-life, low-cost, low-carbon green metals project in WA



Chalice's team has a track record of discovery and value creation



There is significant exploration upside across the exciting new West Yilgarn Ni-Cu-PGE Province

## Key value drivers and priorities

01

**Gonneville Project optimisation** – investigating upside to Scoping Study metrics

02

**Strategic partnering** – aim to attract a potential partner who adds technical, financial and/or marketing capabilities

03

**Growth through exploration** – demonstrate upside potential of the West Yilgarn Province





# Appendix





# Company Overview

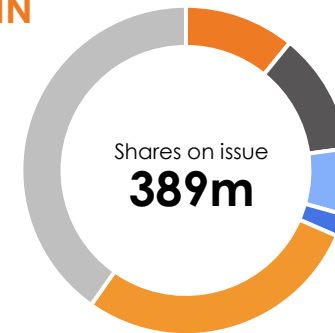
## Our Achievements

- World class Gonneville Ni-Cu-PGE discovery recognised with PDAC **Thayer Lindsley Award** (2023) and AMEC **Prospector of the Year Award** (2022)
- RIU **Craig Oliver Award** (2021), MNN **Explorer of the Year** (2021) and D&D **Emerging Company of the Year** (2021)

## Corporate snapshot – ASX:CHN

Market Capitalisation<sup>1</sup>  
~A\$600m

Cash balance<sup>2</sup>  
~A\$127m



## Top Shareholders<sup>3</sup>

Tim Goyder (Founder)	10%
Goldman Sachs	10%
BlackRock	6%
Directors & Mgmt.	2%
Other Institutions	32%
Retail & Other HNW	40%

## Research coverage



## Board of Directors

<b>Derek La Ferla</b>	Non-Executive Chair
<b>Alex Dorsch</b>	Managing Director & Chief Executive Officer
<b>Morgan Ball</b>	Non-Executive Director
<b>Garret Dixon</b>	Non-Executive Director
<b>Stephen McIntosh</b>	Non-Executive Director
<b>Linda Kenyon</b>	Non-Executive Director
<b>Jo Gaines</b>	Non-Executive Director

## Management

<b>Alex Dorsch</b>	Managing Director & Chief Executive Officer
<b>Richard Hacker</b>	General Manager – Strategy & Commercial
<b>Dr Kevin Frost</b>	General Manager – Discovery & Growth
<b>Bruce Kendall</b>	General Manager – Exploration
<b>Dr Soolim Carney</b>	General Manager – Environment & Community
<b>Mike Nelson</b>	General Manager – Project Development
<b>Chris MacKinnon</b>	Chief Financial Officer

1. As of 29 November 2023; 2. As of 30 Sept 2023; 3. As of 31 October 2023. Substantial shareholder information is as disclosed in the last substantial shareholder notice provided to the Company.  
Note: Arctis Global disclosed a long equity derivative position of 46,728,282 shares on 10 Nov 2022.



# Chalice is actively growing its organisational capability



## Board of Directors



### **Derek La Ferla, Non-Exec Chair**

- Highly regarded ASX200 chair and company director with 30+ years experience as a corporate lawyer
- Former Chair of Poseidon Nickel and Sandfire Resources



### **Alex Dorsch, Managing Director and Chief Executive Officer**

- Diverse experience in consulting, engineering and corporate advisory in the energy and resources sectors
- Previously a Specialist consultant with McKinsey & Company



### **Morgan Ball, Non-Exec Director**

- Chartered Accountant with 25+ years experience in the resources, logistics and finance industries
- CFO of Genesis Minerals and formerly CFO of Northern Star Resources and Saracen Mineral Holdings



### **Garret Dixon, Non-Exec Director**

- 30+ years experience in resources and mining contracting sectors
- Formerly Executive VP Alcoa & President Bauxite



### **Stephen McIntosh, Non-Exec Director**

- Highly regarded mining executive with 30+ years experience in exploration, major project studies and execution
- Formerly Group Executive and Head of Exploration & Development Projects at Rio Tinto



### **Linda Kenyon, Non-Exec Director**

- Corporate lawyer and senior executive with 30+ years experience
- Formerly Company Secretary and member of Executive Leadership Team at Wesfarmers



### **Jo Gaines, Non-Exec Director**

- Extensive experience in intergovernmental negotiations and stakeholder engagement
- Chair of the Government Employees Superannuation Board (GESB) and a Director of Development WA and Technology Metals Australia Limited

## Management



### **Richard Hacker, GM Strategy and Commercial**

- Chartered Accountant with 20+ years experience in resource company financing, corporate and commercial management
- Previously Company CFO since 2006



### **Dr Kevin Frost, GM Discovery and Growth**

- Co-recipient of PDAC 2023 Thayer Lindsley Award and AMEC's 2022 Prospector of the Year Award for the Gonneville discovery, and previously in 2009 for the discovery of the Spotted Quoll nickel sulphide deposit in WA (Western Areas)



### **Bruce Kendall, GM Exploration**

- Co-recipient of AMEC's Prospector of the Year Award in 2012 for the discovery of the world-class Tropicana gold deposit in WA (AngloGold Ashanti)



### **Dr Soolim Carney, GM Environment and Community**

- Environment, health and safety, indigenous affairs, govt relations and community specialist with 20+ years experience
- Former Regional Environment Manager for Alcoa Australia



### **Mike Nelson, GM Project Development**

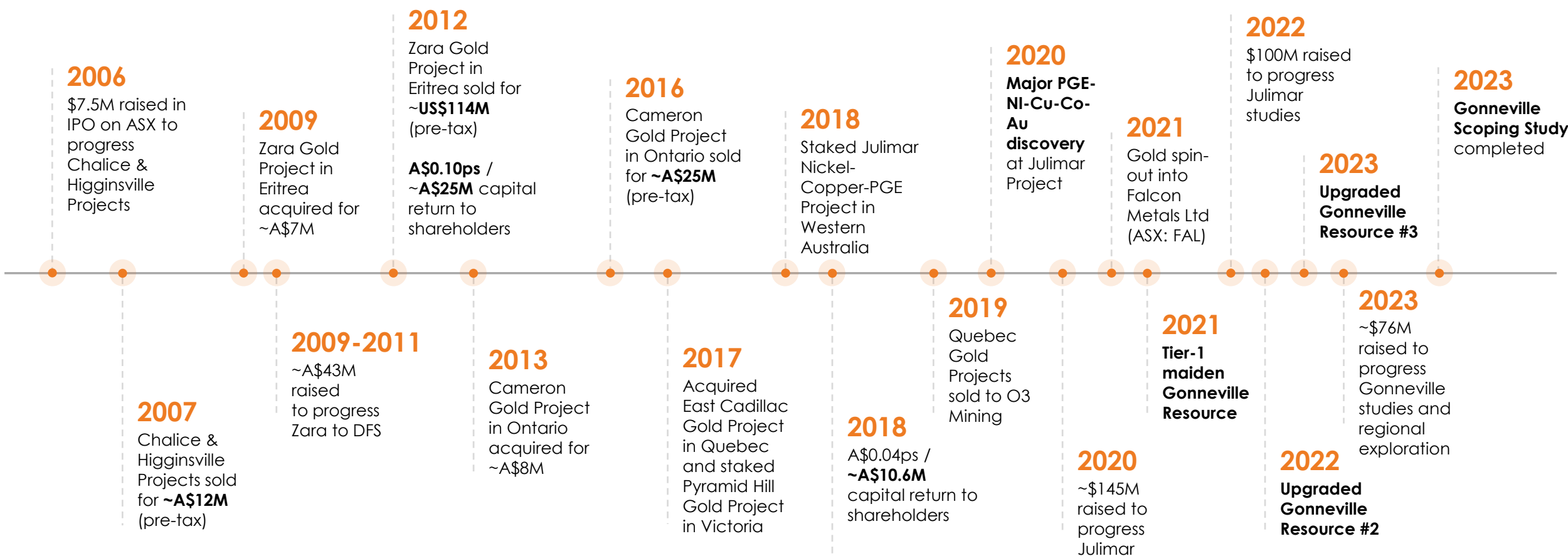
- 30+ years experience in operational and technical leadership roles
- Instrumental in leading several mega-projects for mining internationals including Barrick Gold and Teck Resources



### **Chris MacKinnon, CFO**

- Qualified accountant and lawyer with 15+ years experience of professional and corporate experience in the energy and resources industry

# Since our 2006 IPO, we have acquired quality assets, advanced projects quickly and generated exceptional returns



# Gonneville Mineral Resource Estimate (JORC Code 2012), 28 March 2023



Domain	Cut-off Grade	Category	Mass	Grade						Contained Metal									
				(Mt)	Pd (g/t)	Pt (g/t)	Au (g/t)	Ni (%)	Cu (%)	Co (%)	NiEq (%)	PdEq (g/t)	Pd (Moz)	Pt (Moz)	Au (Moz)	Ni (kt)	Cu (kt)	Co (kt)	NiEq (kt)
Oxide	0.9g/t Pd	Measured	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Indicated	7.3	1.9	-	0.06	-	-	-	-	2.0	0.45	-	0.01	-	-	-	-	0.47
		Inferred	0.2	1.9	-	0.07	-	-	-	-	2.0	0.01	-	0.00	-	-	-	-	0.02
		<b>Subtotal</b>	<b>7.5</b>	<b>1.9</b>	<b>-</b>	<b>0.06</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2.0</b>	<b>0.47</b>	<b>-</b>	<b>0.01</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>0.49</b>
Sulphide (Transitional)	0.35% NiEq	Measured	0.38	0.82	0.17	0.03	0.19	0.17	0.020	0.70	2.2	0.01	-	-	0.72	0.63	0.07	2.7	0.03
		Indicated	14	0.66	0.15	0.03	0.16	0.10	0.018	0.54	1.7	0.30	0.07	0.01	22	14	2.5	77	0.77
		Inferred	0.27	0.60	0.16	0.03	0.15	0.12	0.015	0.54	1.7	0.01	-	-	0.42	0.32	0.04	1.5	0.01
		<b>Subtotal</b>	<b>15</b>	<b>0.66</b>	<b>0.15</b>	<b>0.03</b>	<b>0.16</b>	<b>0.10</b>	<b>0.018</b>	<b>0.55</b>	<b>1.7</b>	<b>0.31</b>	<b>0.07</b>	<b>0.01</b>	<b>23</b>	<b>15</b>	<b>2.6</b>	<b>81</b>	<b>0.81</b>
Sulphide (Fresh)	0.35% NiEq	Measured	2.3	1.1	0.26	0.03	0.24	0.18	0.019	0.87	2.7	0.08	0.02	-	5.4	4.2	0.43	20	0.20
		Indicated	280	0.67	0.15	0.03	0.16	0.09	0.015	0.53	1.7	6.0	1.3	0.23	440	260	43	1500	15
		Inferred	200	0.67	0.15	0.03	0.15	0.09	0.015	0.53	1.6	4.4	0.96	0.16	310	180	29	1100	11
		<b>Subtotal</b>	<b>480</b>	<b>0.67</b>	<b>0.15</b>	<b>0.03</b>	<b>0.16</b>	<b>0.09</b>	<b>0.015</b>	<b>0.53</b>	<b>1.7</b>	<b>10</b>	<b>2.3</b>	<b>0.39</b>	<b>750</b>	<b>440</b>	<b>72</b>	<b>2600</b>	<b>26</b>
Underground	0.40% NiEq	Measured	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Indicated	1.7	0.75	0.21	0.06	0.14	0.08	0.013	0.55	1.7	0.04	0.01	-	2.4	1.4	0.23	9.5	0.10
		Inferred	52	0.78	0.17	0.03	0.16	0.11	0.015	0.59	1.8	1.3	0.28	0.05	83	56	7.7	310	3.1
		<b>Subtotal</b>	<b>54</b>	<b>0.78</b>	<b>0.17</b>	<b>0.03</b>	<b>0.16</b>	<b>0.11</b>	<b>0.015</b>	<b>0.59</b>	<b>1.8</b>	<b>1.3</b>	<b>0.29</b>	<b>0.06</b>	<b>86</b>	<b>57</b>	<b>7.9</b>	<b>320</b>	<b>3.2</b>
All		Measured	2.7	1.1	0.24	0.03	0.23	0.18	0.019	0.85	2.6	0.09	0.02	-	6.2	4.9	0.51	23	0.23
		Indicated	300	0.70	0.15	0.03	0.16	0.09	0.015	0.54	1.7	6.8	1.4	0.26	460	280	45	1600	16
		Inferred	250	0.70	0.15	0.03	0.15	0.09	0.015	0.54	1.7	5.7	1.2	0.22	390	230	37	1400	14
		<b>Total</b>	<b>560</b>	<b>0.70</b>	<b>0.15</b>	<b>0.03</b>	<b>0.16</b>	<b>0.09</b>	<b>0.015</b>	<b>0.54</b>	<b>1.7</b>	<b>13</b>	<b>2.7</b>	<b>0.48</b>	<b>860</b>	<b>520</b>	<b>83</b>	<b>3000</b>	<b>30</b>

Note some numerical differences may occur due to rounding to 2 significant figures.

PdEq oxide (Palladium Equivalent g/t) = Pd (g/t) + 1.27x Au (g/t)

NiEq sulphide (Nickel Equivalent %) = Ni (%) + 0.32x Pd(g/t) + 0.21x Pt(g/t) + 0.38x Au(g/t) + 0.83x Cu(%) + 3.00x Co(%)

PdEq sulphide (Palladium Equivalent g/t) = Pd (g/t) + 0.67x Pt(g/t) + 1.17 x Au(g/t) + 3.11x Ni(%) + 2.57x Cu(%) + 9.33x Co(%)

Underground resources are outside the pit above a 0.40% NiEq cut off grade based on sub-level caving mining method

Includes drill holes drilled up to and including 11 December 2022.



# Higher-grade sulphide component of Gonneville Resource (in pit and underground), 28 March 2023



Domain	Cut-off Grade	Category	Mass	Grade							Contained Metal								
				Pd (g/t)	Pt (g/t)	Au (g/t)	Ni (%)	Cu (%)	Co (%)	NiEq (%)	PdEq (g/t)	Pd (Moz)	Pt (Moz)	Au (Moz)	Ni (kt)	Cu (kt)	Co (kt)	NiEq (kt)	PdEq (Moz)
High-grade Sulphide (Transitional)	0.6% NiEq	Measured	0.17	1.2	0.24	0.05	0.24	0.25	0.023	0.97	3.0	0.01	-	-	0.41	0.43	0.04	1.7	0.02
		Indicated	3.4	1.1	0.21	0.04	0.20	0.16	0.020	0.79	2.5	0.12	0.02	-	6.6	5.3	0.69	27	0.27
		Inferred	0.07	0.84	0.18	0.03	0.22	0.26	0.019	0.81	2.5	-	-	-	0.16	0.18	0.01	0.57	0.01
		<b>Subtotal</b>	<b>3.6</b>	<b>1.1</b>	<b>0.21</b>	<b>0.04</b>	<b>0.20</b>	<b>0.16</b>	<b>0.021</b>	<b>0.80</b>	<b>2.5</b>	<b>0.12</b>	<b>0.02</b>	<b>-</b>	<b>7.2</b>	<b>5.9</b>	<b>0.74</b>	<b>29</b>	<b>0.29</b>
High-grade Sulphide (Fresh)	0.6% NiEq	Measured	0.88	2.2	0.47	0.05	0.39	0.35	0.027	1.6	4.9	0.06	0.01	-	3.4	3.1	0.24	14	0.14
		Indicated	58	1.2	0.26	0.06	0.20	0.18	0.018	0.87	2.7	2.3	0.48	0.11	120	100	10	500	5.1
		Inferred	40	1.3	0.26	0.06	0.19	0.18	0.017	0.87	2.7	1.6	0.33	0.08	75	73	6.6	340	3.5
		<b>Subtotal</b>	<b>98</b>	<b>1.2</b>	<b>0.26</b>	<b>0.06</b>	<b>0.20</b>	<b>0.18</b>	<b>0.017</b>	<b>0.88</b>	<b>2.7</b>	<b>3.9</b>	<b>0.82</b>	<b>0.19</b>	<b>200</b>	<b>180</b>	<b>17</b>	<b>860</b>	<b>8.7</b>
Underground	>0.6% NiEq	Measured	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Indicated	0.4	1.2	0.36	0.12	0.14	0.11	0.014	0.78	2.5	0.02	-	-	0.61	0.46	0.06	3.3	0.03
		Inferred	13	1.4	0.27	0.06	0.20	0.20	0.017	0.93	2.9	0.58	0.12	0.03	26	26	2.2	120	1.2
		<b>Subtotal</b>	<b>14</b>	<b>1.4</b>	<b>0.28</b>	<b>0.06</b>	<b>0.20</b>	<b>0.19</b>	<b>0.017</b>	<b>0.93</b>	<b>2.9</b>	<b>0.60</b>	<b>0.12</b>	<b>0.03</b>	<b>27</b>	<b>26</b>	<b>2.3</b>	<b>130</b>	<b>1.3</b>
All		Measured	1.1	2.0	0.43	0.05	0.37	0.33	0.026	1.5	4.6	0.07	0.01	-	3.8	3.5	0.28	15	0.15
		Indicated	62	1.2	0.25	0.06	0.20	0.18	0.018	0.87	2.7	2.4	0.50	0.11	130	110	11	530	5.4
		Inferred	53	1.3	0.26	0.06	0.19	0.19	0.017	0.89	2.8	2.2	0.45	0.11	100	99	8.8	470	4.7
		<b>Total</b>	<b>120</b>	<b>1.3</b>	<b>0.26</b>	<b>0.06</b>	<b>0.20</b>	<b>0.18</b>	<b>0.017</b>	<b>0.88</b>	<b>2.7</b>	<b>4.7</b>	<b>0.97</b>	<b>0.22</b>	<b>230</b>	<b>210</b>	<b>20</b>	<b>1000</b>	<b>10</b>

Note some numerical differences may occur due to rounding to 2 significant figures.

This higher-grade component is contained within the reported global Mineral Resource.

PdEq oxide (Palladium Equivalent g/t) = Pd (g/t) + 1.27x Au (g/t)

NiEq sulphide (Nickel Equivalent %) = Ni (%) + 0.32x Pd(g/t) + 0.21x Pt(g/t) + 0.38x Au(g/t) + 0.83x Cu(%) + 3.00x Co(%)

PdEq sulphide (Palladium Equivalent g/t) = Pd (g/t) + 0.67x Pt(g/t) + 1.17 x Au(g/t) + 3.11x Ni(%) + 2.57x Cu(%) + 9.33x Co(%)

Underground resources are outside the pit above a 0.40% NiEq cut off grade based on sub-level caving mining method

Includes drill holes drilled up to and including 11 December 2022.

# Metal equivalent assumptions of Gonneville Resource, 28 March 2023



Based on metallurgical testwork completed to date for the sulphide domain, it is the Company's opinion that all the quoted elements included in metal equivalent calculations (palladium, platinum, gold, nickel, copper and cobalt) have a reasonable potential of being recovered and sold.

Only limited samples have been collected from the transitional zone due to its relatively small volume. Therefore, the metallurgical recovery of all metals in this domain are unknown. However, given the relatively small proportion of the transition zone in the Mineral Resource, the impact on the metal equivalent calculation is not considered to be material.

Metal equivalents for the transitional and sulphide domains are calculated according to the formula below:

- $NiEq\% = Ni (\%) + 0.32x Pd(g/t) + 0.21x Pt(g/t) + 0.38x Au(g/t) + 0.83x Cu(\%) + 3.00x Co(\%)$ ;
- $PdEq(g/t) = Pd (g/t) + 0.67x Pt(g/t) + 1.17x Au(g/t) + 3.11x Ni(\%) + 2.57x Cu(\%) + 9.33x Co(\%)$

Metal recoveries used in the metal equivalent calculations are based on rounded average Resource grades for the sulphide domain (>0.35% NiEq cut-off):

- Pd – 60%, Pt – 60%, Au – 70%, Ni – 45%, Cu – 85%, Co – 45%.

Metal prices used are consistent with those used in the Whittle pit optimisation (based on long term consensus analyst estimates):

- US\$1,800/oz Pd, US\$1,200/oz Pt, US\$1,800/oz Au, US\$24,000/t Ni, US\$10,500/t Cu and US\$72,000/t Co.

Initial metallurgical testwork indicates that only palladium and gold are likely to be recovered in the oxide domain, therefore no NiEq grade has been quoted for the oxide. The PdEq grade for the oxide has been calculated using the formula:

$PdEq\ oxide\ (g/t) = Pd\ (g/t) + 1.27 \times Au\ (g/t)$ .

- Metal recoveries based on limited metallurgical test work completed to date:
  - Pd – 75%, Au – 90%.
- Metal prices used are consistent with those used in the pit optimisation:
  - US\$1,800/oz Pd, US\$1,800/oz Au

For additional information on the assumptions used in the calculation of metal equivalents, refer to the ASX announcement titled "Gonneville Resource increases by approx. 50% to 3Mt NiEq", dated 28 March 2023.

# Cautionary statements and competent person(s) disclosure



## Authorisation

This Presentation has been authorised for release by the Disclosure Committee.

## Disclaimer

This Presentation does not provide investment or financial product advice and does not include all available Information on Chalice Mining Limited ("Chalice" or "the Company") and should not be used in isolation as a guide to investing in the Company. This Presentation is not a prospectus, disclosure document or other offering document under Australian law or under any other law. It is provided for information purposes and is not an invitation nor offer of shares or recommendation for subscription, purchase or sale in any jurisdiction. This Presentation does not purport to contain all the information that a prospective investor may require in connection with any potential investment in the Company. Any potential investor should also refer to Chalice Mining Limited's Annual Reports, ASX releases, and take independent professional advice before considering investing in the Company. For further information about Chalice Mining Limited, visit our website at [chalicemining.com](http://chalicemining.com)

Whilst care has been exercised in preparing and presenting this Presentation, to the maximum extent permitted by law, the Company and its representatives:

- Make no representation, warranty or undertaking, express or implied, as to the adequacy, accuracy, completeness or reasonableness of this Presentation;
- Accept no responsibility or liability as to the adequacy, accuracy, completeness or reasonableness of this Presentation or obligation to update the information in this Presentation; and
- Accept no responsibility for any errors or omissions from this Presentation.

## Cautionary statement

This Presentation includes information extracted from the Company's ASX announcement dated 29 August 2023, titled "Gonneville Nickel-Copper-PGE Project Scoping Study".

For the production targets and forecast financial information for the 15Mt/pa Case scenario (modelled LOM - 19 years), Inferred Resources comprise 14% of the production schedule over the modelled Life of Mine (LOM). For the 30Mt/pa Case scenario (modelled LOM - 18 years), Inferred Resources comprise 37% of the production schedule over the modelled Life of Mine (LOM). Significantly, in both the 15Mt/pa Case and 30Mt/pa Case scenarios, the Inferred Mineral Resources do not play a prominent role in the initial mine plan. Throughout the first 15 years of production, the Inferred Mineral Resources constitute less than ~20% in both production schedules. Accordingly, Chalice has concluded that it is satisfied that the financial viability of both development cases modelled in the Scoping Study is not dependent on the inclusion of Inferred Resources early in the production schedule given an estimated payback period (from commencement of production) of ~2 years for the 15Mt/pa Case and the 30Mt/pa Case.

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 targets themselves will be realised

## Forward-Looking Statement

This Presentation may contain forward-looking statements and forward information, (collectively, forward-looking statements). These forward-looking statements are made as of the date of this Annual Report and Chalice Mining Limited (the Company) does not intend, and does not assume any obligation, to update these forward-looking statements.

Forward-looking statements relate to future events or future performance and reflect Company management's expectations or beliefs regarding future events and include, but are not limited to: the impact of the discovery on the Gonneville Project's capital payback; the Company's planned strategy and corporate objectives; the realisation of Mineral Resource Estimates; anticipated production; sustainability initiatives; climate change scenarios; the likelihood of further exploration success; the timing of planned exploration and study activities on the Company's projects; mineral processing strategy; access to sites for planned drilling activities; planned production and operating costs profiles; planned capital requirements; the success of future potential mining operations and the timing of the receipt of exploration results.

In certain cases, forward-looking statements can be identified by the use of words such as, "aiming", "anticipate", "considered", "continue", "could", "estimate", "expected", "for", "forecast", "future", "intend", "indicates", "is", "likely", "may", "objectives", "optionality", "outlook", "open", "plan" or "planned", "potential", "strategy", "target", "will" or variations of such words and phrases or statements that certain actions, events or results may, could, would, might or will be taken, occur or be achieved or the negative of these terms or comparable terminology. By their very nature forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of the Company to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements.

Such factors may include, among others, risks related to actual results of current or planned exploration activities; whether geophysical and geochemical anomalies are related to economic mineralisation or some other feature; whether visually identified mineralisation is confirmed by laboratory assays; obtaining appropriate approvals to undertake exploration activities; metal grades being realised; metallurgical recovery rates being realised; results of planned metallurgical test work including results from other zones not tested yet, scaling up to commercial operations; changes in project parameters as plans continue to be refined; changes in exploration programs and budgets based upon the results of exploration; successful completion of the strategic partnering process; changes in commodity prices and economic conditions; political and social risks, accidents, labour disputes and other risks of the mining industry; delays or difficulty in obtaining governmental approvals, necessary licences, permits or financing to undertake future mining development activities; changes to the regulatory framework within which Chalice operates or may in the future; movements in the share price of investments and the timing and proceeds realised on future disposals of investments as well as those factors detailed from time to time in the Company's interim and annual financial statements, all of which are filed and available for review on the ASX at [asx.com.au](http://asx.com.au).

Although the Company has attempted to identify important factors that could cause actual actions, events or results to differ materially from those described in forward-looking statements, there may be other factors that cause actions, events or results not to be as anticipated, estimated or intended. There can be no assurance that forward-looking statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking statements.



# Cautionary statements and competent person(s) disclosure (cont'd.)



## Reliance on Third Party Information

The views expressed in this Presentation contain information that has been derived from third party sources that have not been independently verified. No representation or warranty is made as to the accuracy, completeness or reliability of the information.

## Mineral Resources Reporting Requirements

As an Australian Company with securities quoted on the Australian Securities Exchange (ASX), Chalice is subject to Australian disclosure requirements and standards, including the requirements of the Corporations Act 2001 and the ASX. Investors should note that it is a requirement of the ASX listing rules that the reporting of mineral resources in Australia is in accordance with the JORC Code and that Chalice's mineral resource estimates comply with the JORC Code. The requirements of JORC Code differ in certain material respects from the disclosure requirements of other countries. The terms used in this announcement are as defined in the JORC Code. The definitions of these terms may differ from the definitions of such terms for purposes of the disclosure requirements in other countries.

## Competent Person(s) Statement

The information in this Presentation that relates to previously reported exploration results is extracted from the following ASX announcements:

- "High-grade nickel-copper-palladium sulphide intersected at Julimar Project in WA", 23 March 2020.
- "Significant Nickel-Palladium Discovery Confirmed at Julimar", 15 April 2020.
- "Significant Extension of High-Grade Zones at Julimar", 17 August 2020.
- "Significant High-Grade PGE-Cu-Au Extensions at Julimar", 18 November 2020.
- "Julimar Continues to Grow with Four New High-grade Zones", "27 January 2021.
- "Continuous high-grade zones confirmed at Julimar", 2 July 2021.
- "Twelfth High-Grade Zone Defined at Julimar", 2 August 2021.
- "New Results Highlight Underground Potential at Julimar", 2 March 2022.
- "Major northern extension of Gonneville Intrusion confirmed", 19 October 2022.
- "Outstanding wide high-grade intersections north of Gonneville", 23 November 2022.
- "Promising new sulphide mineralisation at the Hooley Prospect", 8 December 2022.
- "Gonneville Resource increases by approx. 50% to 3Mt NiEq", 28 March 2023.
- "Further early-stage exploration success north of Gonneville", 3 May 2023.
- "New wide high-grade zones in ~900m step-out drill hole", 31 July 2023.
- "Gonneville Nickel-Copper-PGE Project Scoping Study", 29 August 2023.
- "High-grade copper-PGE zones extended at Gonneville", 30 November 2023.

The information in this Presentation that relates to Mineral Resources has been extracted from the ASX announcement titled:

- "Gonneville Resource increases by approx. 50% to 3Mt NiEq", 28 March 2023

The above announcements are available to view on the Company's website at [chalicemining.com](http://chalicemining.com)

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and, in the case of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the original release continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the relevant original market announcements. Refer to the attached Appendices for further information on the Mineral Resource Estimate and metal equivalents.

## Production Targets and Forecast Financial Information

The production targets and forecast financial information disclosed in this Presentation is extracted from the Company's ASX announcement "Gonneville Nickel-Copper-PGE Project Scoping Study", dated 29 August 2023.

All material assumptions underpinning the production targets and forecast financial information derived from the production targets in the previous announcement continue to apply and have not materially changed.



Visit our website and sign up to receive our latest news



[chalice-mining](#)



[@ChaliceMining](#)



[www.chalicemining.com](#)

Level 3, 46 Colin Street West Perth WA 6005, Australia

+61 8 9322 3960

[info@chalicemining.com](mailto:info@chalicemining.com)

ABN 47 1 16 648 956