

ASX: CHN | OTCQB: CGMLF

# Julimar – the start of a new Ni-Cu-PGE province in Western Australia

Resources Rising Stars Gold Coast Conference 7-8 June 2022





## Forward looking statements and competent person(s) disclosure



This presentation does not include all available Information on Chalice Mining Limited and should not be used in isolation as a guide to investing in the Company. Any potential investor should also refer to Chalice Mining Limited's Annual Reports, ASX/OTCQB releases, filings on sedar.com and take independent professional advice before considering investing in the Company. For further information about Chalice Mining Limited, visit our website at chalicemining.com

#### Forward-Looking Statement

This presentation may contain forward-looking information, including forward looking information within the meaning of Canadian securities leaislation and forward-looking statements within the meaning of the United States Private Securities Litigation Reform Act of 1995 (collectively, forward-looking statements). These forwardlooking statements are made as of the date of this 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 Company's strategy and objectives: the timing and estimation of mineral resources, and the realisation of mineral resource estimates; the likelihood of exploration success: the timing of planned exploration and study activities on the Company's projects: access to sites for planned drilling activities; the success of future potential mining operations; the impact of the discovery on the Julimar Project's capital payback and hydrogen establishing a role in long-term energy strategies. In certain cases, forward-looking statements can be identified by the use of words such as, "affords", "believe", "continue", "could", "estimate", "expected", "future", "interpreted", "likely", "may", "open", "plan" or "planned", "potential", "targets", "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; obtaining appropriate approvals to undertake exploration activities; the results from testing EM anomalies; results of planned metalluraical 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, changes in commodity prices and levels of global demand; economic conditions; grade or recovery rates; 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, the impact of the COVID 19 pandemic 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 SEDAR at sedar.com, ASX at asx.com.au and OTC Markets at otcmarkets.com. The Company also refers to the "Key Risks" section of its institutional capital raise presentation released to the ASX on 24 May 2022. 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 forwardlooking statements.

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This presentation has been authorised for release by the Disclosure Committee

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#### **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 United States securities laws. The terms used in this announcement are as defined in the JORC Code. The definitions of these terms differ from the definitions of such terms for purposes of the disclosure requirements in the United States. As a designated reporting issuer in the province of Ontario, Chalice is also subject to certain Canadian disclosure requirements and standards, including the requirements of NI 43-101. The Julimar Project is a material mineral project for the purposes of NI43-101. The confidence categories assigned under the JORC Code were reconciled to the confidence categories in the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards – for Mineral Resources and Mineral Reserves May 2014. As the confidence category definitions are the same, no modifications to the confidence categories were required.

#### **Competent Person and Qualifying Persons Statement**

The Information in this presentation that relates to exploration results for the Julimar Project is extracted from the following ASX announcements:

- "High-grade nickel-copper-palladium sulphide intersected at Julimar Project in WA", 23 March 2020
- 'More positive results from ongoing metallurgical testwork at Julimar", 16 February 2021
- "Extensive Ni-Cu Soil Anomalism at Julimar" 9 June 2021
- "Gonneville High-Grade Zones Extended at Depth", 28 September 2021
- "New Mineralised Intrusion Discovered at Julimar", 2 December 2021
- "New results highlight underground potential at Julimar", 2 March 2022
- "Exceptional high-grade extensional results at Julimar", 2 May 2022

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

• "Tier-1 Scale Maiden Mineral Resource at Julimar" dated 9 November 2021.

The above announcements are available to view on the Company's website at 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 and Qualified Person's findings are presented have not been materially modified from the relevant original market announcements.





Chalice – a globally recognised name in mineral exploration



A team with an exceptional track record of finding and defining <u>mines</u> and rewarding shareholders

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High-performance, results driven culture (discovery DNA)



We work to create sustained value for shareholders and stakeholders

## Julimar

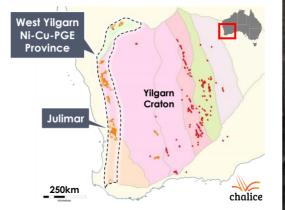


A major new polymetallic critical minerals discovery in WA

- One of the **largest** greenfield PGE-Ni-Cu-Co sulphide discoveries in recent history
- Metals essential for **green** technologies like catalytic converters, batteries, electric vehicles and hydrogen
- One of the few, large-scale Pd-rich deposits outside of Russia (~40% of global supply)
- **100% owned** by Chalice, no 3<sup>rd</sup> party interests full control and maximum leverage
- **Sulphide metallurgy** able to produce Cu-PGE and Ni-Co-PGE concentrates for a range of global customers

### Immense exploration upside

- Only ~2km of >30km long Julimar Complex drilled to date
- ~8,000km<sup>2</sup> total landholding in new, totally unexplored West Yilgarn Ni-Cu-PGE Province



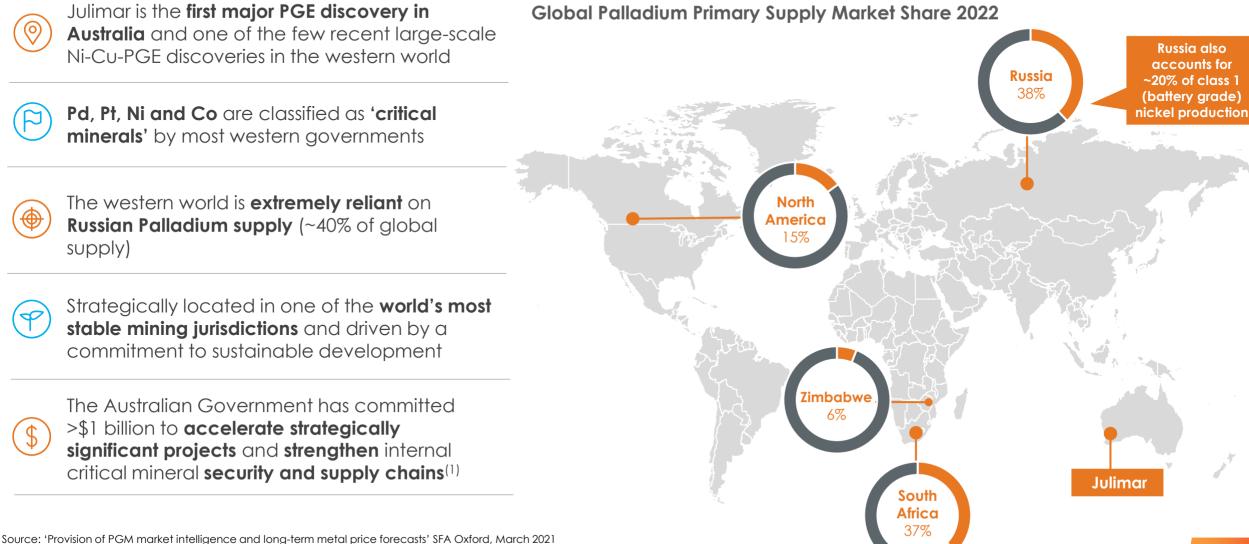
# A tier-1 scale, pit-constrained PGE-Ni-Cu-Co sulphide resource (9 Nov 2021):

### 330Mt @ ~0.58% NiEq or ~1.6g/t PdEq<sup>1</sup> for



Julimar is capturing attention as a **strategic asset** for Australia and the western world, given its rare palladium-nickel-cobalt content





(1) '2022 Critical Minerals Strategy' Department of Industry, Science, Energy and Resources, Australian Government, March 2022

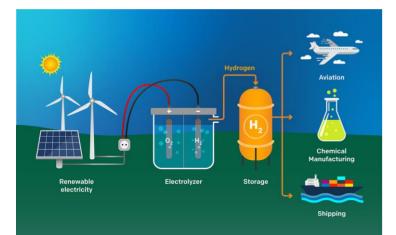
Platinum and Palladium are essential in every stage of the hydrogen value chain, a critical solution to **achieving net-zero carbon emissions** 



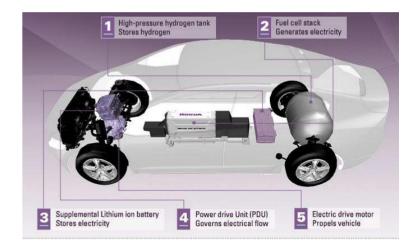


Green hydrogen produced by electrolysis of water using renewable energy (wind, solar, hydro) Long-term storage and transport of green hydrogen likely to be achieved using liquified ammonia (NH<sub>3</sub>) as carrier

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







### PGEs are essential catalysts in the Proton Exchange Membrane (PEM) Electrolyser

Pd is an essential catalyst in hydrogen-ammonia conversion and purification

PGEs are essential catalysts in most hydrogen fuel cell designs

# The rapidly growing and increasingly adopted hydrogen economy has the potential to **underpin long term PGE demand**





Current **primary supply of Pt and Pd is ~16Moz p.a.** Pd is in prolonged deficit while Pt in surplus

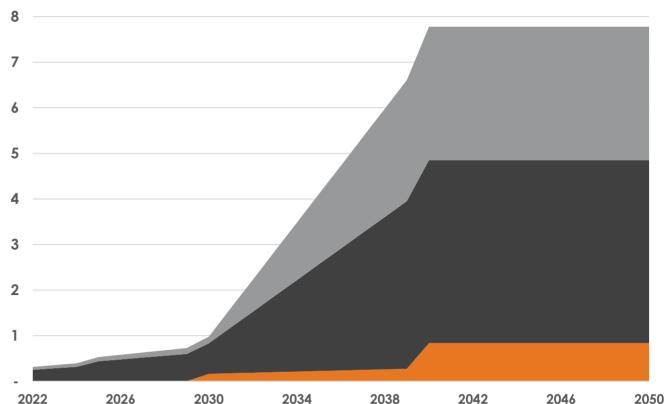


Our view is that with **conservative hydrogen adoption**, demand for Pt and Pd from hydrogen could be as high as ~**8Moz p.a.**<sup>(1)</sup>

A modest hydrogen adoption scenario includes ~10% share of light vehicle market, ~40% share of heavy vehicle market, and 50-70GW of electrolyser capacity by 2040



Projections do not include PGE usage from hydrogen applications in **shipping**, **aviation**, **industrial or steel manufacturing**  Estimated Annual Pt and Pd Demand from Hydrogen (Moz)



(1) Cautionary statement: The forward-looking statements have been estimated by Chalice using assumptions that have been informed by third party research. These statements are based on an assessment of economic and operating conditions and on various assumptions regarding future events and actions that, as at the date of this presentation, are considered reasonable by Chalice. Refer to "Long Term PGE Demand Forecast" slide in Appendix for additional information regarding the underlying assumptions and calculation methodology, and Slide 2 for a statement regarding the risks involved in forward-looking statements of this nature. Without limiting these risks, such forward-looking statements are predictive in character, may be affected by incorrect assumptions or by known or unknown risks and uncertainties, and may differ materially in due course. Investors are therefore cautioned against attributing undue certainty to forward-looking statements, including those outlined above.

■ Electrolysers ■ Light FCEVs ■ Heavy FCEVs

Battery manufacturers are becoming increasingly reliant on high carbon intensity nickel – a unique opportunity for Julimar





Battery-grade nickel consumers forecast to become heavily reliant on supply sources that **do not meet sustainability standards**, i.e. NPI

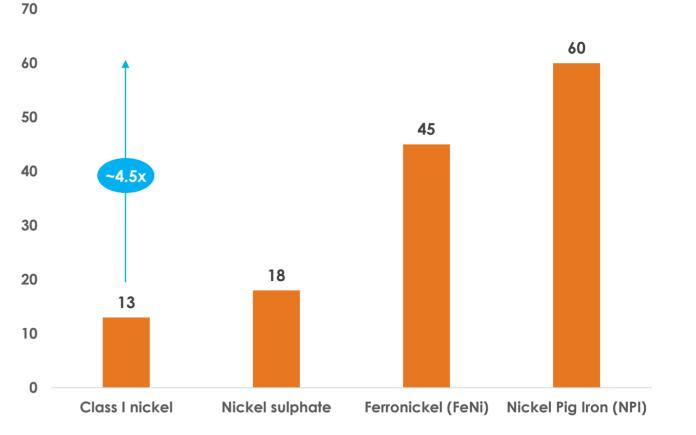
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Julimar has the potential to become a globally significant source of class 1 nickel, which has a much lower carbon footprint than other sources

Julimar's proximity to WA's **world class power grid and infrastructure** make it uniquely positioned to deliver low carbon intensity metals



Class 1 nickel sources are likely to **demand a premium**, driven by the need to comply with emissions targets and to satisfy increasing sensitivity to sustainability standards Estimated avg carbon intensity of nickel sources (kgCO<sub>2</sub> eq. per kg Ni)



Julimar is a province-defining new greenfield discovery in the world's premier mining jurisdiction



Greenfield project staked in early 2018 (100% owned)



First drill hole discovery in March 2020: 25m @ 8.5g/t Pd, 0.9g/t Pt, 0.1g/t Au, 2.0% Ni. 0.9% Cu. 0.11% Co from 46m



Discovery made ~70km NE of Perth in Western Australia – named Gonneville



Maiden resource for Gonneville based on ~520 holes (~139,000m), resource and exploration drilling continuing with ~6 rigs

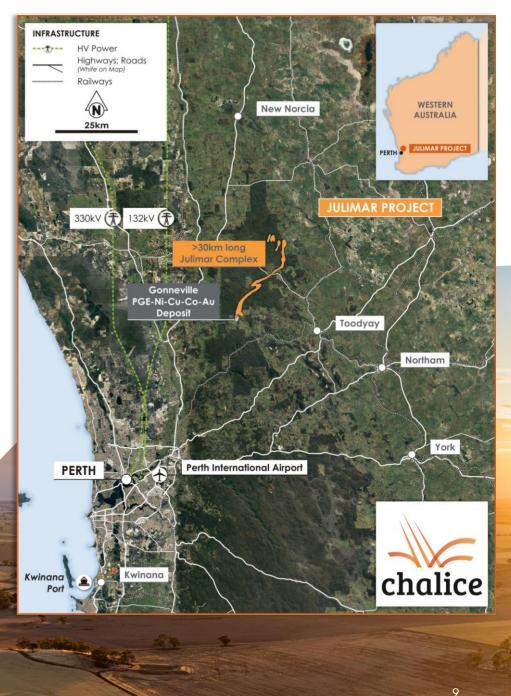


strike length on Chalice owned farmland, a further ~10km of untested Julimar Complex strike length currently being drilled

Gonneville covers ~2km of



Studies being advanced for an initial **mining** development at Gonneville while the full extent of the mineral system is defined



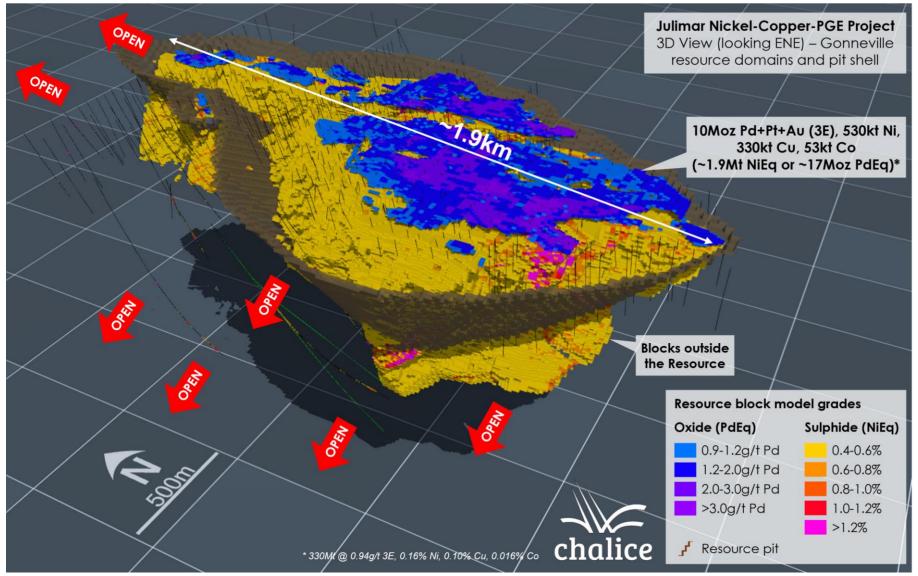


Project has direct access to major highway, rail, power, port infrastructure as well as a large local workforce

## Gonneville is a **tier-1 scale**, **pit-constrained**, **strategic green metals Resource** with high-grade optionality and compelling growth potential



### 3D view (looking ENE) of Gonneville Resource domains and pit shell



### Maiden Indicated and Inferred Mineral Resource Estimate<sup>1</sup>:

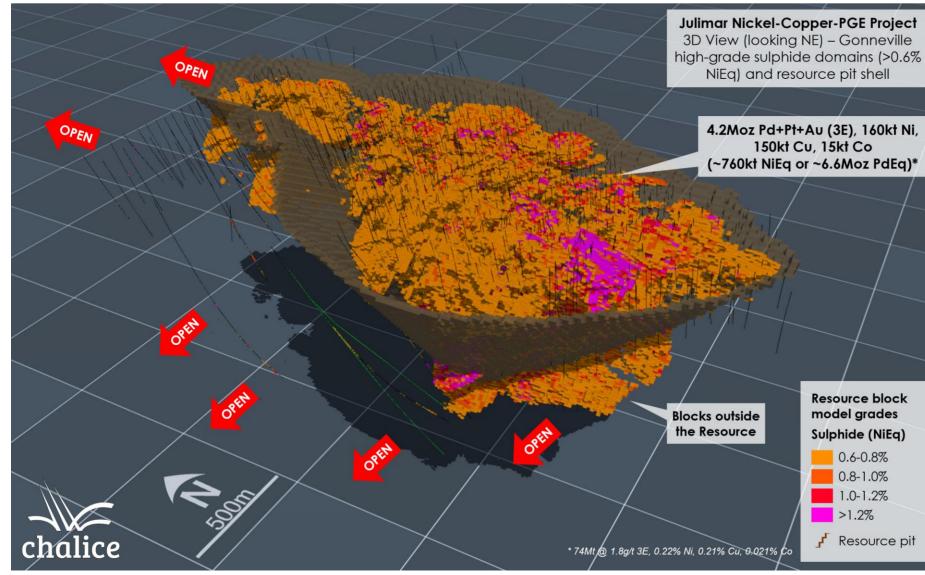
- **330Mt** @ 0.94g/t Pd+Pt+Au (3E), 0.16% Ni, 0.10% Cu, 0.016% Co (~**0.58% NiEq** or ~**1.6g/t PdEq**)
- 10Moz 3E, 530kt Ni, 330kt Cu and 53kt Co contained
- Equivalent to ~1.9Mt NiEq or ~17Moz PdEq contained
- 150Mt (~45%) of the resource is within the Indicated category
- Resource is constrained within a resource pit shell and reported above a 0.4% NiEq cut-off grade (sulphide) and a 0.9g/t Pd cut-off grade (oxide)

<sup>1</sup> Refer to full Mineral Resource Statement in Appendix

# The Resource includes a significant **high-grade sulphide** component in-pit, starting from a depth of ~30m



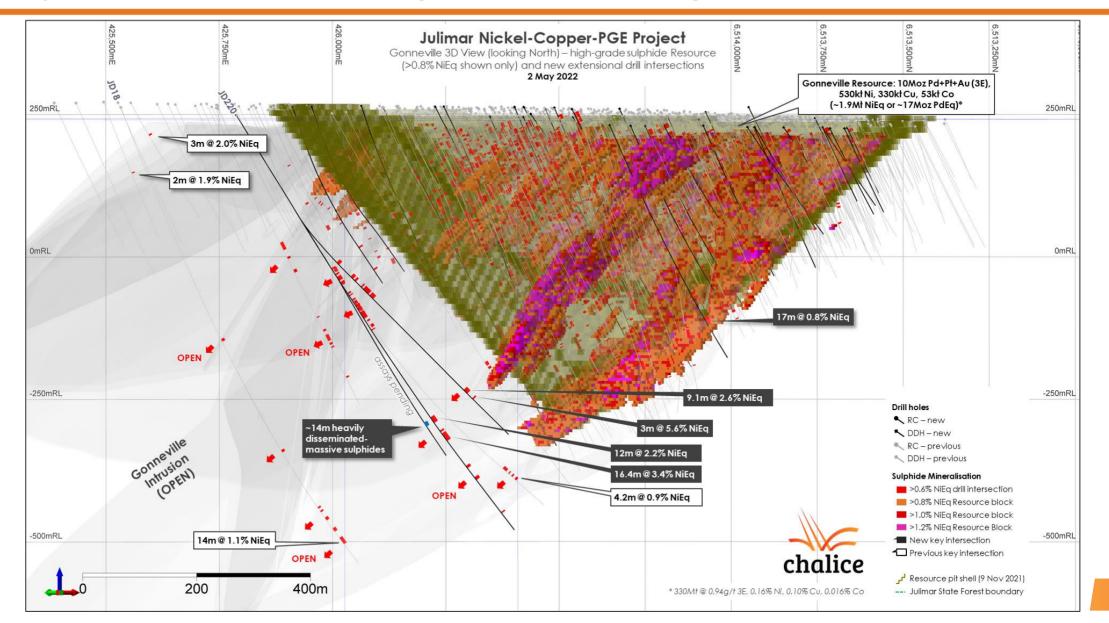
### 3D view (looking NE) of Gonneville high-grade sulphide Resource domains (>0.6% NiEq) and pit shell



**High-grade sulphide component** of Resource<sup>1</sup>, reported above a 0.60% NiEq cut-off grade:

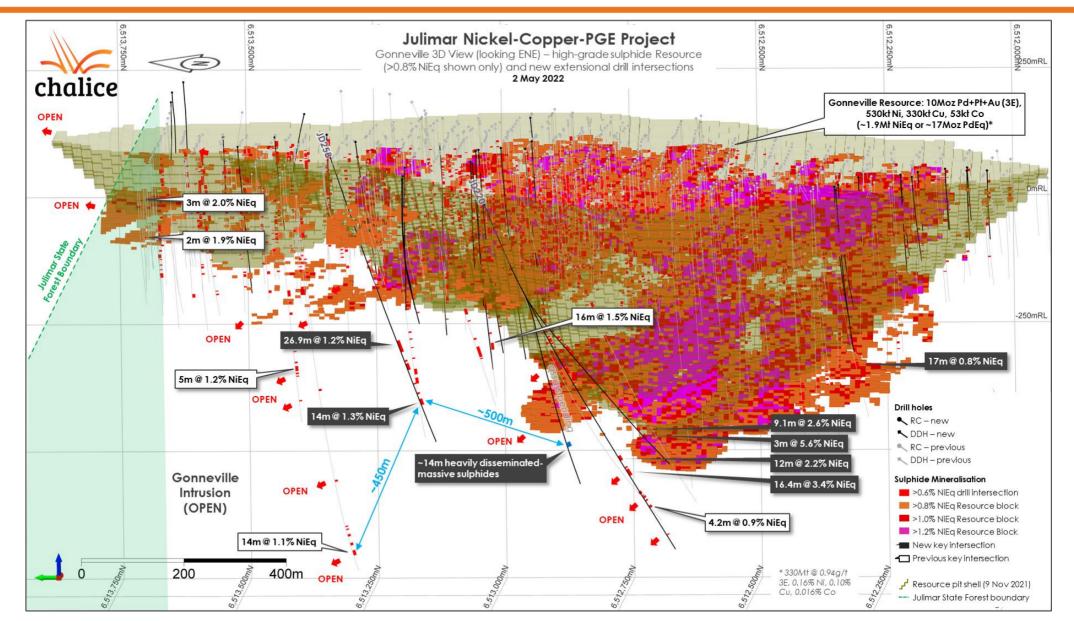
- 74Mt @ 1.8g/t 3E, 0.22% Ni, 0.21% Cu, 0.021% Co (~1.0% NiEq or ~2.8g/t PdEq);
- 4.2Moz 3E, 160kt Ni, 150kt Cu, 15kt Co (~760kt NiEq or ~6.6Moz PdEq) contained
- This higher-grade component affords the project **significant optionality in development** and could potentially **materially enhance project economics** in the initial years of operations

<sup>1</sup> Refer to full Mineral Resource Statement in Appendix The host Gonneville Intrusion is ~600m thick and high-grade mineralisation is already demonstrated **~400m beyond the Resource pit shell** 



The Deposit remains open down-dip and along strike to the north, with ongoing drilling demonstrating **potential for material growth** 



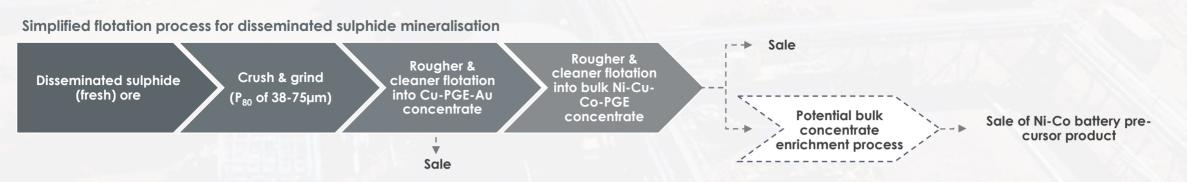


# Preliminary met testwork shows **high Pd-Pt-Ni-Cu-Co recoveries** into two commercially attractive concentrates using conventional flotation





- Testwork to date demonstrates potential to produce two commercially attractive concentrates for sale
- Low levels of potentially deleterious elements (As, Cd, Se, Te, Hg, Pb, F, Cl) in concentrates produced to date
- Variability testwork continues and additional metallurgical sampling underway

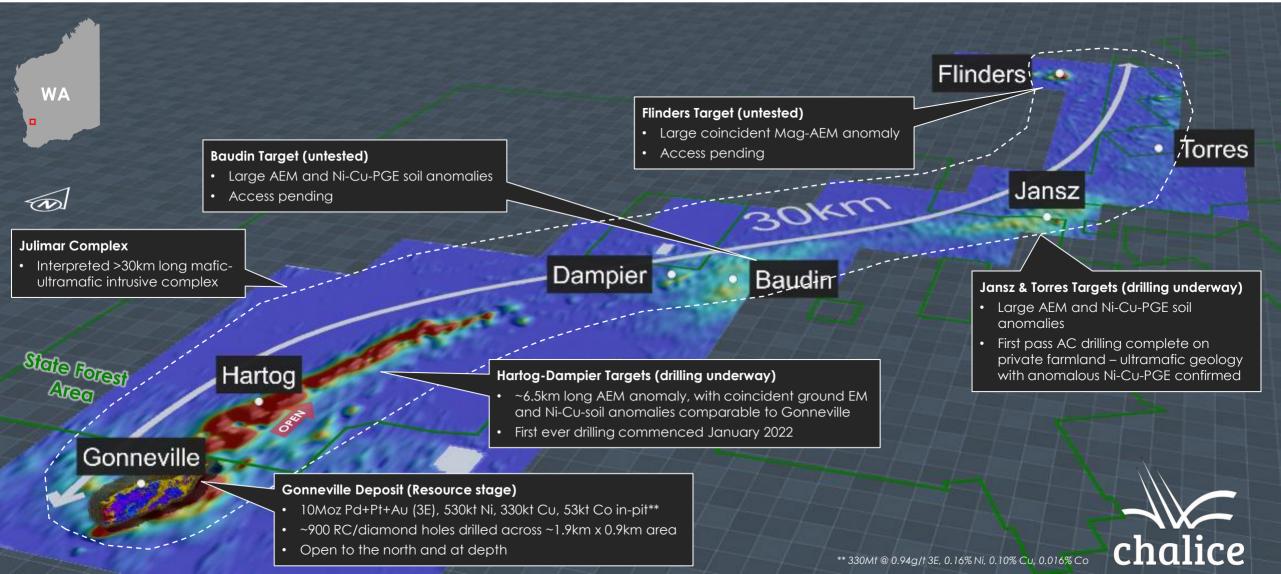


- Initial testwork indicates the potential to produce two commercially attractive concentrates for sale
- Several processing alternatives to enrich bulk Ni-Cu-Co-PGE concentrate being investigated in order to maximise recovery and payability
- \$2.9M CRC-P grant from Commonwealth Govt to evaluate downstream processing options in 2021-2023
- Testwork and flowsheet development work continues ahead of the Gonneville Scoping Study, targeted for completion in Q3 2022

# Gonneville covers just **2km of the >30km long Julimar Complex** – the upside to the north has the potential transform the project

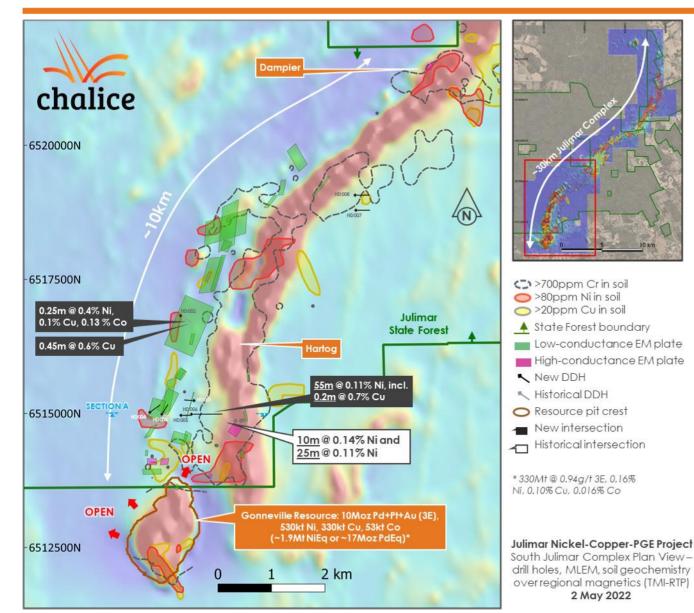


### 3D view (looking NW) of the Julimar Complex (airborne EM) and the Gonneville Deposit



Approvals in place for drilling of the Hartog-Dampier targets – initial results indicate a mineralised mafic-ultramafic system

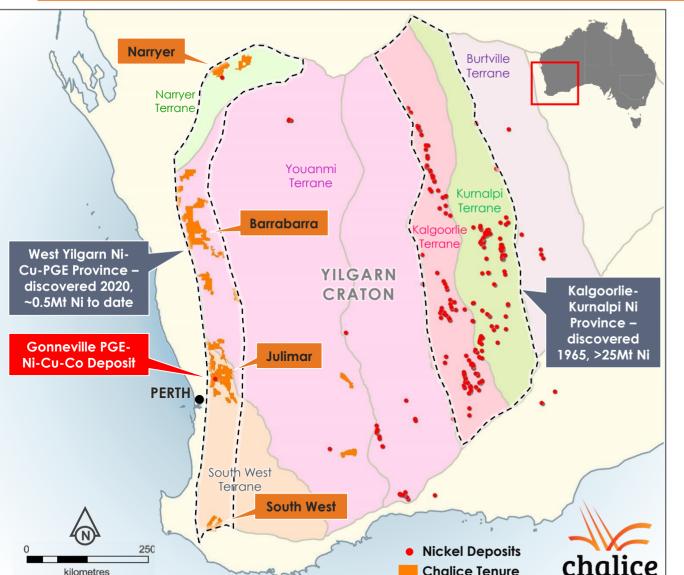




- 8 of ~70 sites drilled to date at lower priority targets (due to previous access constraints) within the Hartog area
- Several narrow intervals of **ortho-magmatic nickel-copper sulphides intersected in maficultramafic rocks**
- Results indicate the potential for mineralisation
   many kilometres from the Gonneville Deposit
- Initial interpretation suggests mafic-ultramatic intrusives are part of a different, but still prospective, magmatic event to Gonneville
- Final permit approvals now received for higher priority targets, allowing a total of 70 drill sites to be drilled over the ~10km of Julimar Complex strike length
  - All high-priority EM conductors yet to be drilled

The Julimar discovery has kick-started the new West Yilgarn Ni-Cu-PGE Province, which could deliver **more major discoveries** 





- Many of the 'giant' ortho-magmatic nickel-copper-PGE sulphide deposits such as Norilsk, Jinchuan, Thompson and Voisey's Bay are located proximal to the margin of cratons
- The Kalgoorlie-Kurnalpi terranes in the eastern Yilgarn (Archean craton) hosts several world-class komatiitic nickel sulphide deposits such as Leinster, Mt Keith and Kambalda, with over **25Mt of Ni** discovered since 1965
- The ~1,200km long western margin of the Yilgarn craton is almost entirely unexplored for these types of mineral systems
- Chalice made the first major ortho-magmatic Ni-Cu-PGE discovery (Julimar) and then staked a >8,000km<sup>2</sup> licence area in the new West Yilgarn Province
- This 'first mover' advantage places Chalice in the driver's seat in this exciting new province, which has the potential to deliver several major Ni-Cu-PGE discoveries in the years ahead
- Hundreds of potential host intrusions already identified within
   our licence area using limited regional-scale geophysics
- Rapid, low-cost exploration approach being used, similar to that used to discover Gonneville EM, soil/auger sampling and shallow reconnaissance drilling
- Potential for **highly variable** mineralisation styles (Ni : Cu : PGE metal ratios) across the province

## Drilling at Hartog as well as the Gonneville resource update and Scoping Study represent **significant upcoming milestones**



	Q2 CY22	Q3 CY22	Q4 CY22	Q1 CY23
Julimar Complex exploration				
Access approvals Hartog-Dampier targets	All approvals	secured for Hartog-Dampier drilling		
Initial diamond drilling at Hartog-Dampier targets		70+ holes		
Initial AC drilling at Jansz-Torres targets	200+ holes			
Access approvals Baudin-Flinders targets				
Gonneville exploration & studies				
Resource definition / extensional drilling	~1100 holes			
Resource modelling / update	MRE #2			
Scoping study				
Pre-feasibility study				
West Yilgarn exploration				
Julimar Regional	MLEM & Soils			
Barrabarra	RC drilling			
South West	Diamond drilling			
Narryer	Recon & Soils			
		,		

Timing and activity is indicative and subject to change, dependent on factors such as regulatory approvals, contractor availability and exploration / evaluation results.



## Highlights



New world class, strategic, 'green metals' Resource in Western Australia



Significant exploration upside at Julimar and in the new West Yilgarn Ni-Cu-PGE Province



High performance, well funded team with an excellent track record

Julimar Nickel-Copper-PGE Project

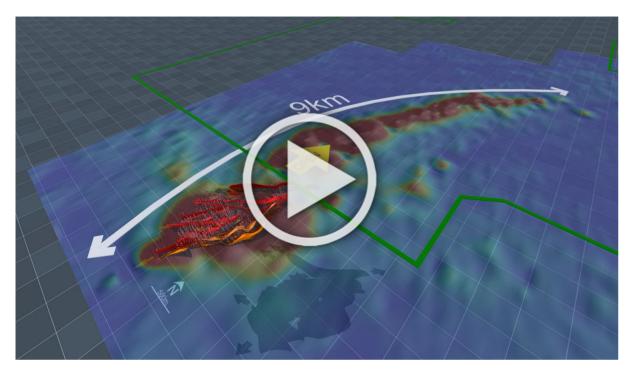
Appendix

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Interactive 3D Model & Video: Take a tour of our globally significant Julimar Ni-Cu-PGE Project in Western Australia



### Click here to explore Julimar in 3D: https://inventum3d.com/c/chalicemining



# Click here to watch the Julimar Project Video: <u>https://youtu.be/20q3Y4Dfu4g</u>



The Julimar Project has the potential to deliver **significant economic benefits** and Chalice is committed to **strong environmental stewardship** 





Exploring in the Julimar State Forest under a Conservation Management Plan using small-footprint diamond drill rigs to navigate around trees - **no mechanised clearing of trees or vegetation required** 

Numerous case studies of successful mining projects in or around State Forest areas

### Strong environmental stewardship:

- Comprehensive program of baseline environmental surveys ongoing since 2020; covering flora, fauna, dieback, cultural heritage
- Development of **Biodiversity Strategy** underway to ensure potential mining in future co-exists with conservation values
- Baseline surface and groundwater studies underway; water studies are a priority focus for Chalice to ensure that water is responsibly managed as a shared resource

Community





Proximity to major communities provides a unique opportunity to build a workforce of local permanent residents (**drive in, drive out**)



Community Info Sheets and Newsletters developed to deliver information on project activities and environmental practices



**~\$0.5M local procurement spend by Chalice, plus ~\$1.5M spend by direct contractors** in the local shires surrounding the Julimar Project in FY21



~29% of current workforce are locally based (Mar-22) and local opportunities growing

Active, open and transparent engagement continues with key stakeholders – trust is key to maintain our social licence



Domain	Cut-off Grade	Category	Mass		Grade								C	Containe	d Metal				
			(Mt)	Pd (g/t)	Pt (g/t)	Au (g/t)	Ni (%)	C∪ (%)	Co (%)	NiEq (%)	PdEq (g/t)	Pd (Moz)	Pt (Moz)	Au (Moz)	Ni (kt)	Cu (kt)	Co (kt)	NiEq (kt)	PdEq (Moz)
		Indicated																	
Oxide	0.9g/t Pd	Inferred	8.8	1.8		0.06					1.9	0.51		0.02					0.52
		Subtotal	8.8	1.8		0.06					1.9	0.51		0.02					0.52
		Indicated	7.7	0.68	0.16	0.03	0.18	0.11	0.019	0.60	1.6	0.17	0.04	0.01	14	8.1	1.5	46	0.40
Sulphide (Transitional)	0.4% NiEq	Inferred	8.0	0.97	0.25	0.03	0.17	0.14	0.029	0.79	2.1	0.25	0.06	0.01	14	11	2.3	63	0.55
		Subtotal	16	0.83	0.20	0.03	0.18	0.12	0.024	0.70	1.9	0.42	0.10	0.02	27	19	3.8	110	0.95
		Indicated	150	0.74	0.18	0.03	0.16	0.10	0.016	0.61	1.6	3.5	0.82	0.14	240	150	23	890	7.7
Sulphide (Fresh)	0.4% NiEq	Inferred	160	0.69	0.16	0.02	0.16	0.10	0.016	0.58	1.6	3.6	0.82	0.12	270	160	26	940	8.2
		Subtotal	310	0.72	0.17	0.03	0.16	0.10	0.016	0.59	1.6	7.1	1.6	0.26	510	310	49	1,800	16
		Indicated	150	0.74	0.17	0.03	0.17	0.10	0.016	0.61	1.6	3.7	0.86	0.15	250	160	25	930	8.1
All		Inferred	180	0.76	0.15	0.03	0.16	0.09	0.016	0.56	1.6	4.4	0.89	0.15	280	170	28	1,000	9.3
		Total	330	0.75	0.16	0.03	0.16	0.10	0.016	0.58	1.6	8.1	1.7	0.30	530	330	53	1,900	17

Note some numerical differences may occur due to rounding to 2 significant figures. NiEq (%) = Ni (%) +  $0.37 \times Pd$  (g/t) +  $0.24 \times Pt$  (g/t) +  $0.25 \times Au$  (g/t) +  $0.65 \times Cu$  (%) +  $3.24 \times Co$  (%). PdEq (g/t) = Pd (g/t) +  $0.66 \times Pt$  (g/t) +  $0.67 \times Au$  (g/t) +  $2.71 \times Ni$  (%) +  $1.76 \times Cu$  (%) +  $8.78 \times Co$  (%). Includes drill holes drilled up to and including 31 July 2021.



# Higher-grade sulphide component of Gonneville Resource, 9 Nov 2021

Domain	Cut-off Grade	Category	Mass		Grade								C	ontaine	d Metal				
			(Mt)	Pd (g/t)	Pt (g/t)	Au (g/t)	Ni (%)	C∪ (%)	Co (%)	NiEq (%)	PdEq (g/t)	Pd (Moz)	Pt (Moz)	Au (Moz)	Ni (kt)	Cu (kt)	Co (kt)	NiEq (kt)	PdE q (Moz)
		Indicated	1.8	1.2	0.28	0.05	0.27	0.19	0.030	1.0	2.8	0.07	0.02	0	4.9	3.4	0.55	18	0.16
High-grade Sulphide (Transitional)	0.60% NiEq	Inferred	3.8	1.5	0.39	0.05	0.21	0.19	0.044	1.1	3.0	0.18	0.05	0.01	7.9	7.2	1.7	42	0.37
(Transitional)	Subtotal	5.6	1.4	0.35	0.05	0.23	0.19	0.040	1.1	3.0	0.25	0.06	0.01	13	11	2.2	61	0.53	
		Indicated	36	1.4	0.35	0.07	0.21	0.21	0.019	1.0	2.8	1.6	0.40	0.08	76	76	6.9	370	3.2
High-grade Sulphide (Fresh)	0.60% NiEq	Inferred	32	1.3	0.30	0.06	0.22	0.21	0.019	1.0	2.7	1.4	0.32	0.06	73	67	6.3	320	2.8
		Subtotal	68	1.4	0.33	0.06	0.22	0.21	0.019	1.0	2.8	3.0	0.72	0.14	150	140	13	700	6.0
All 0.60% NiEq		Indicated	38	1.4	0.35	0.07	0.22	0.21	0.020	1.0	2.8	1.7	0.42	0.08	81	80	7.4	390	3.4
	Inferred	36	1.4	0.31	0.06	0.22	0.21	0.022	1.0	2.8	1.6	0.36	0.06	80	74	8.0	370	3.2	
		Total	74	1.4	0.33	0.06	0.22	0.21	0.021	1.0	2.8	3.3	0.78	0.15	160	150	15	760	6.6

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. NiEq (%) = Ni (%) + 0.37 x Pd (g/t) + 0.24 x Pt (g/t) + 0.25 x Au (g/t) + 0.65 x Cu (%) + 3.24 x Co (%). PdEq (g/t) = Pd (g/t) + 0.66 x Pt (g/t) + 0.67 x Au (g/t) + 2.71 x Ni (%) + 1.76 x Cu (%) + 8.78 x Co (%). Includes drill holes drilled up to and including 31 July 2021.



## Metal Equivalent Assumptions of Gonneville Resource, 9 Nov 2021

Sulphide domain intercepts and resource figures are quoted using a nickel equivalent (NiEq) and palladium equivalent (PdEq) cut-off grades. No metal equivalent is used for the oxide domain.

Based on limited 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.

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

- « NiEq (%) = Ni (%) + 0.37 x Pd (g/t) + 0.24 x Pt (g/t) + 0.25 x Au (g/t) + 0.65 x Cu (%) + 3.24 x Co (%);
- "
  PdEq  $(g/t) = Pd (g/t) + 0.66 \times Pt (g/t) + 0.67 \times Au (g/t) + 2.71 \times Ni (\%) + 1.76 \times Cu (\%) + 8.78 \times Co (\%).$

Metal recoveries used in the metal equivalent calculations are at the lower end of the range for all metals in the sulphide domain based on limited metallurgical testwork (refer to ASX Announcement on 28 September 2021). Metal recoveries used in the metal equivalent calculations are listed below:

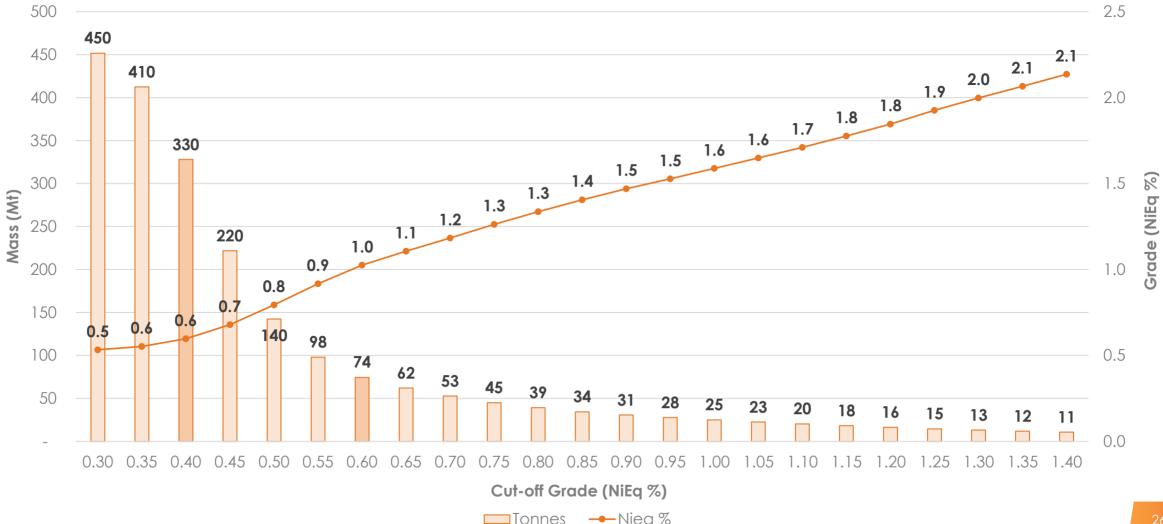
« Pd – 75%, Pt – 65%, Au – 50%, Ni – 60%, Cu – 80%, Co – 60%.

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

« US\$1,700/oz Pd, US\$1,300/oz Pt, US\$1,700/oz Au, US\$18,500/t Ni, US\$9,000/t Cu and US\$60,000/t Co.

For additional information on the assumptions used in the calculation of metal equivalents, refer to the ASX announcement titled "Tier-1 Scale Maiden Mineral Resource at Julimar" dated 9 November 2021.

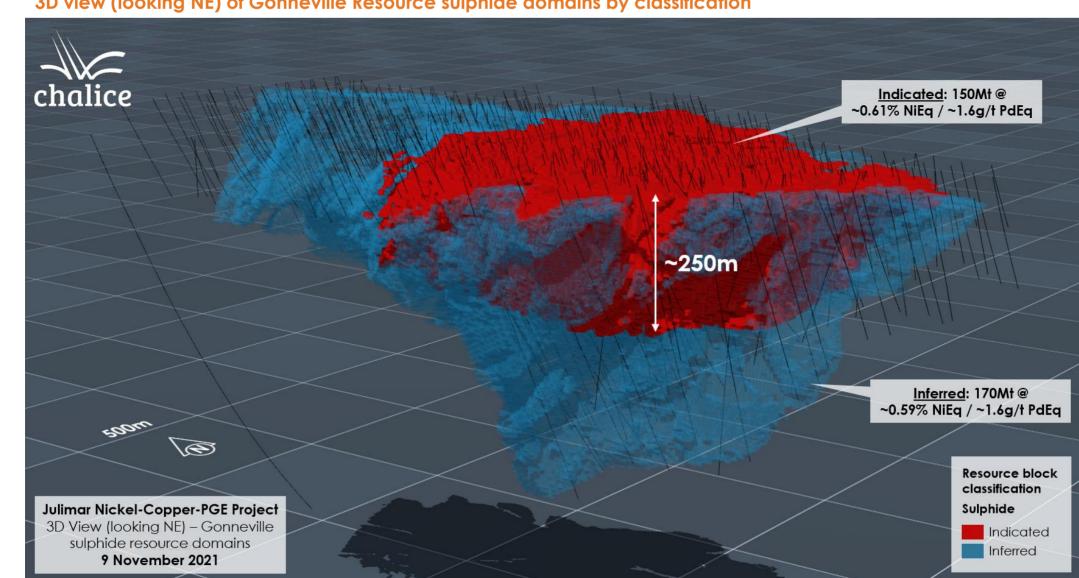
Flat grade-tonnage curve highlights the significant high-grade component - providing the project with development optionality



### Nickel Equivalent Grade-Tonnage Curve (on NiEq cut-off grade basis)



### Gonneville Resource classification



3D view (looking NE) of Gonneville Resource sulphide domains by classification



# Long Term PGE Demand Forecast: Supporting Assumptions & Calculations

The long term PGE demand impact from the Hydrogen economy have been generated by Company analysis using assumptions and forecasts that have been informed by recent third party research. The assumptions used below relate to the year 2040. Note: There is the potential risk that these projections will not be achieved should the adoption of a hydrogen economy be less than expected or if major technological developments reduce the PGE loadings required for electrolysers and fuel cells.

### Key Model Inputs (2040)

Technology	Input	Unit	Assumption	PGE Demand Calculation				
	Capacity	GW	70					
PEM electrolyser	Market share	%	75	70 x 75% x 0.5 / 31.1 <sup>(1)</sup> = ~ 0.8Moz				
	PGE loading	g/kW	0.5					
Light Vehicles	Light vehicle market	million per annum	100					
	Light FCEV market share	%	12	$100 \times 12\% \times 80 \times 0.13 / 31.1^{(1)} = ~4.0 \text{ Moz}$				
	Light vehicle rating	kW	80	100 x 12% x 00 x 0.15 / 51.107 = 24.0 MOZ				
	PGE loading	g/kW	0.13					
	Heavy vehicle market	million per annum	7					
Heavy Vehicles	Heavy FCEV market share	%	40	── 7 x 40% x 250 x 0.13 / 31.1 <sup>(1)</sup> = ~2.9 Moz				
	Heavy vehicle rating	kW	250	/ X 40/0 X 200 X 0.13 / 31.1 <sup>(1)</sup> – ~2.7 MOZ				
	PGE loading	g/kW	0.13					

Source: 'Provision of PGM market intelligence and long-term metal price forecasts', SFA Oxford, April 2020 & 2021

'Strategy Update', AngloAmerican Platinum, 22 February 2021

'Australian and Global Hydrogen Demand Growth Scenario Analysis', Deloitte & COAG Energy Council, November 2019

'Fuelling the Future of Mobility' Deloitte & Ballard, 2020

'Committed to producing green metals', Green Metals & Hydrogen Conference, Sibanye Stillwater, 26 Nov 2021

(1) Calculations use a grams to ounce conversion ratio of 31.1.



# The Chalice Story

Appendix

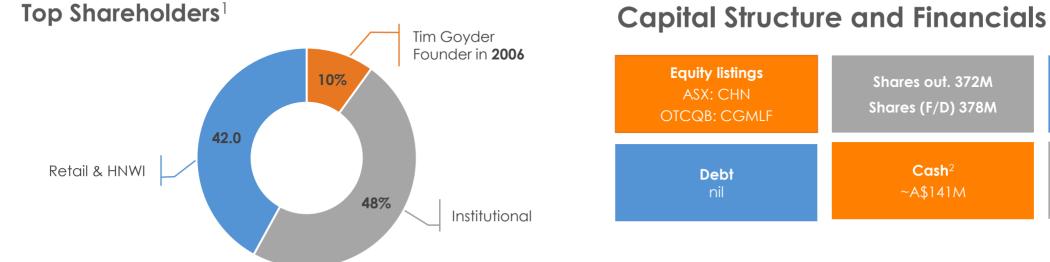
# **Corporate Snapshot**



Market capitalisation

~A\$2.36Bn (@ A\$6.36 ps)<sup>3</sup>

Cash & Investments<sup>2</sup>



Board of Directors	Management
Derek La Ferla (Chairman)	Richard Hacker (CFO)
Alex Dorsch (MD & CEO)	Kevin Frost (GM Discovery & Growth)
Morgan Ball (NED)	Bruce Kendall (GM Exploration)
Garret Dixon (NED)	Soo Carney (GM Env and Comm)
Stephen McIntosh (NED)	Michael Elias (Study Mgr – Julimar)
Linda Kenyon (NED)	Chris MacKinnon (BD and Legal Mgr)
	Jamie Armes (Co Sec)

Key Investments	Position
Caspin Resources (ASX: CPN)	6.9M shares (9.24%)
Research Analyst Coverage	
Bell Potter	David Coates
J.P. Morgan	Al Harvey
Jefferies	Mitch Ryan
Macquarie Bank	Hayden Bairstow

### <sup>1</sup> As of 30 April 2022 (estimate based on top 20 extract of the share register and 27 May 2022 Placement)

### **Board of Directors**



#### Derek La Ferla, Chairman

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

### Management



#### Richard Hacker, CFO

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



#### Dr Kevin Frost, GM Discovery & Growth

 Co-recipient of AMEC's Prospector of the Year Award 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

### Mie .

#### Michael Elias, Study Manager – Julimar

- Study Director with 30+ years experience in mining sector
- Specialist in study management, project development and management consulting



#### Chris MacKinnon, Business Development and Legal Manager

 15 years experience as a corporate lawyer and finance advisor in the resources industry



#### Jamie Armes, Company Secretary

Chartered Accountant with 20+ years experience within the accounting profession and administration of public listed companies in the mining and exploration industry



## Chalice is building a world-class **'green metals'** portfolio in **Australia**



### **Platinum and Palladium**

Rare metals used in catalytic converters – a pollution control device which is in every petrol, diesel or hybrid vehicle. Palladium reduces greenhouse gas emissions from exhaust streams, including nitrogen oxides which are 300x more potent than  $CO_2$  as a greenhouse gas. These metals also have a future role to play in green hydrogen technologies.

Palladium market in deficit with supply dominated by Russia. Platinum supply dominated by South Africa.



### **Nickel and Cobalt**

Both nickel and cobalt are key materials required in batteries for electric vehicles (EV).

EV-driven nickel demand is forecast to increase 19x by 2040, and a lack of new nickel-sulphide discoveries worldwide in recent years has created a significant forecast supply shortage.

### Copper

Used extensively in the green energy industry including solar, hydro, nuclear, and geothermal energy, as well as EV and battery technologies.

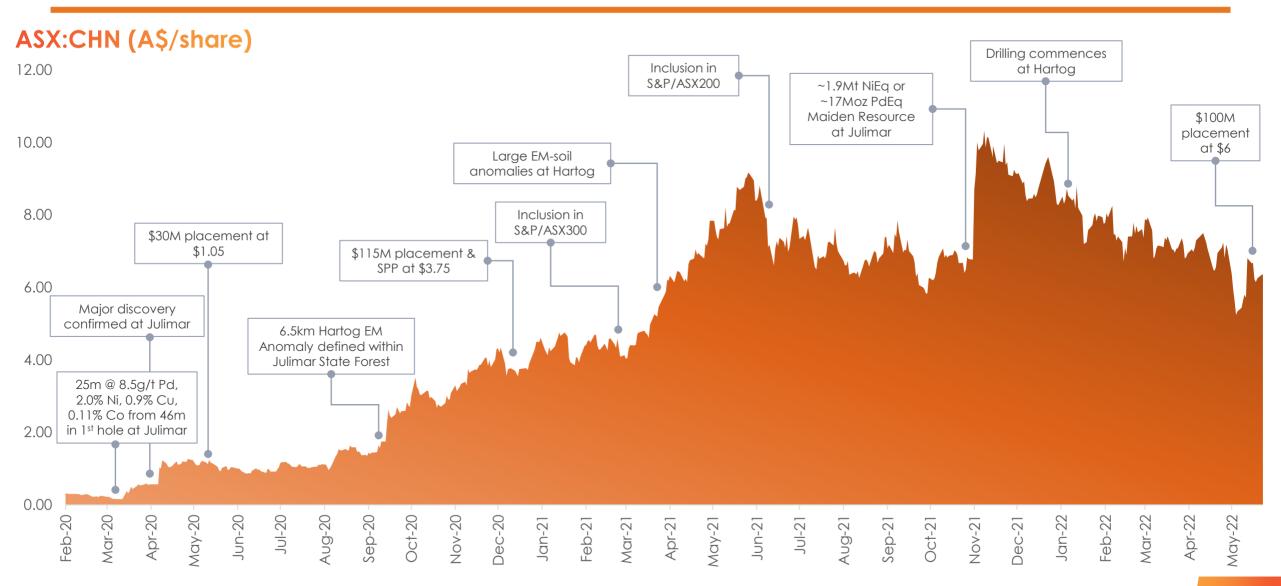
The copper market is forecast to remain in deficit until 2026, again with a lack of new large-scale discoveries worldwide.

Source: Johnson Matthey PGM Market Report 2021; IEA "The Role of Critical World Energy Outlook Special Report Minerals in Clean Energy Transitions" March 2022; S&P Global Commodity Quarterly: Copper Q4 2021



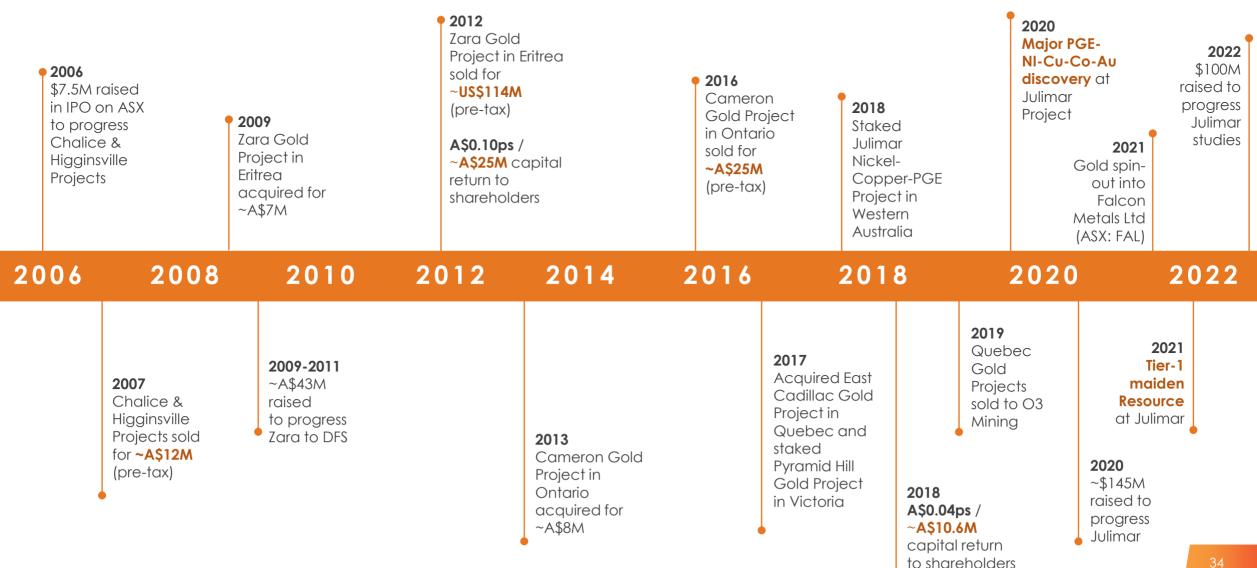
These metals are needed to decarbonise the global economy and address climate change Chalice has been one of the **standout performers** in the sector, with a ~4,000% TSR since the Julimar discovery in March 2020





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







ABN 47 1 16 648 956

Level 3, 46 Colin Street West Perth WA 6005, Australia +61 8 9322 3960 info@chalicemining.com

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@ChaliceMining ¥

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www.chalicemining.com