

# THE NEW NAME IN BATTERY & TECHNOLOGY MINERALS

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Investor Presentation

June 2022

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The information in this presentation that relates to the Eyre Peninsula Kaolin Project, the Santa Ines Project and the Musgrave Project has been prepared with information compiled by Mr Steven Cooper, FAusIMM. He is the Australian Exploration Manager and a full-time employee of the Company. Steven Cooper has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Steven Cooper consents to the inclusion in the announcement of the matters based on her information in the form and context in which it appears.

The information in this presentation on the Salta Project was prepared with information compiled by Marcela Casini, MAusIMM. Marcela Casini has sufficient experience relevant to the style of mineralisation and type of deposit under consideration to qualify as a Competent Person as defined in the 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Marcela Casini consents to the inclusion in the report of the matters based on her information in the form and context in which it appears.

The information contained herein that relates to progress of laboratory test work and study development related activities from the Salta Project have been directed by Marcelo Bravo. He is a Chemical Engineer and managing partner of Ad-Infinitum Spa. with over 25 years experience and he is a Member of the Chilean Mining Commission (register 0412) and has sufficient experience which is relevant to the activity which they are undertaking to qualify as a Competent Persons as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr. Bravo consents to the inclusion of his name in the matters based on the information in the form and context in which it appears.

# Company Overview



TICKER  
**ASX: PNN**

SHARES ON ISSUE  
**~61.52M**

OPTIONS  
**~11.8M**  
varying exercise prices  
& expiry dates

MARKET CAPITALISATION  
**~A\$27.68M**  
@ \$0.45

CASH  
**~A\$4.56M**  
@ 31 March 2022

**PNN: 12 MONTH SHARE PRICE** [SHARE PRICE RANGE: 0.98 – 0.23]



## Shareholding details (2021 Annual Report)

Number of shareholders	3,407
Top 20 Shareholders	~36%

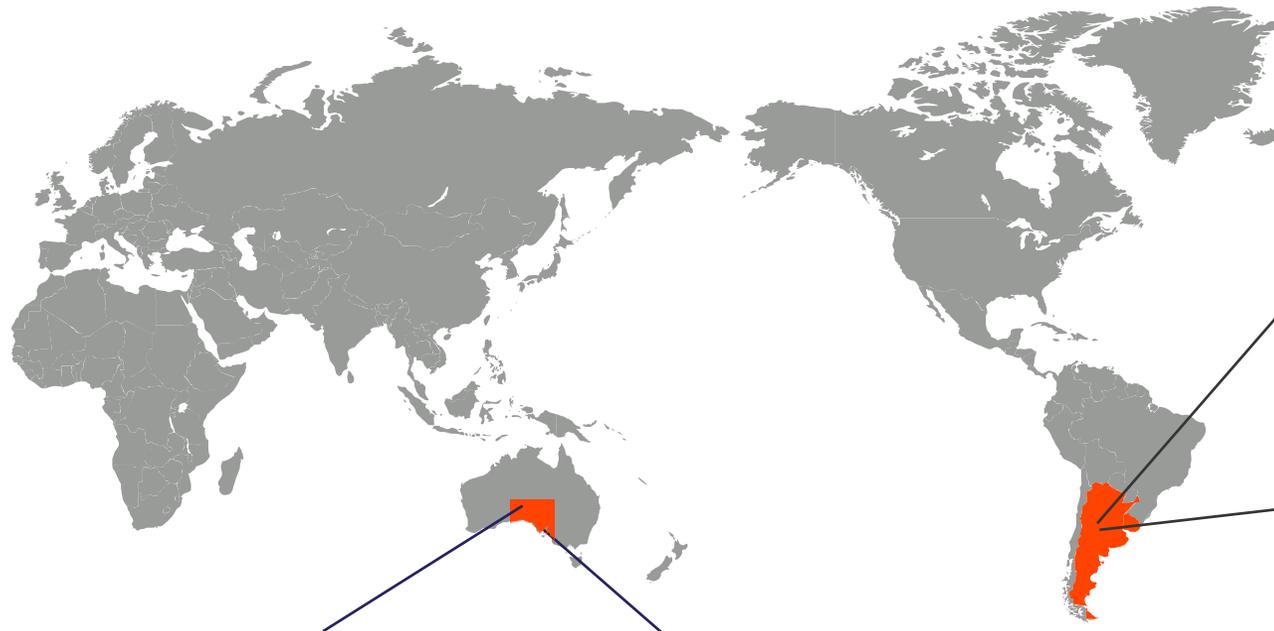
## Directors

Stephen Ross	Non Executive Chairman
Mena Habib	Executive Director
James Moses	Non-executive Director
David Turvey	Non-executive Director

# Power Minerals Project Locations



Diverse portfolio of quality projects in high-value commodities



## Salta Project Lithium-Brine

- Strategically located in the Salta Province, northwest Argentina.
- Situated within the 'Lithium Triangle' which holds 65% of the world's lithium
- Existing JORC Resource with expansion potential – **resource expansion drilling to commence**

## Santa Ines Project Copper-Gold

- Four mining leases covering 61.4km<sup>2</sup>, north-west Argentina
- Potential, large-scale, porphyry Cu-Au opportunity – **first phase of drilling complete**
- Strategically located in similar geological setting as BHP's world-class Escondida Copper-Gold Mine

## Musgrave Project Nickel-Copper-Cobalt

- Major large-scale Ni-Cu-Co sulphide exploration play
- Highly prospective tenure in under-explored region
- Active Farm-in JV with Rio Tinto

## Eyre Peninsula Project Kaolin-Halloysite

- Located in a globally significant kaolin-halloysite precinct
- Three Exploration Licences covering 1,413km<sup>2</sup>
- Hosts known kaolin mineralisation – **first phase of drilling complete**



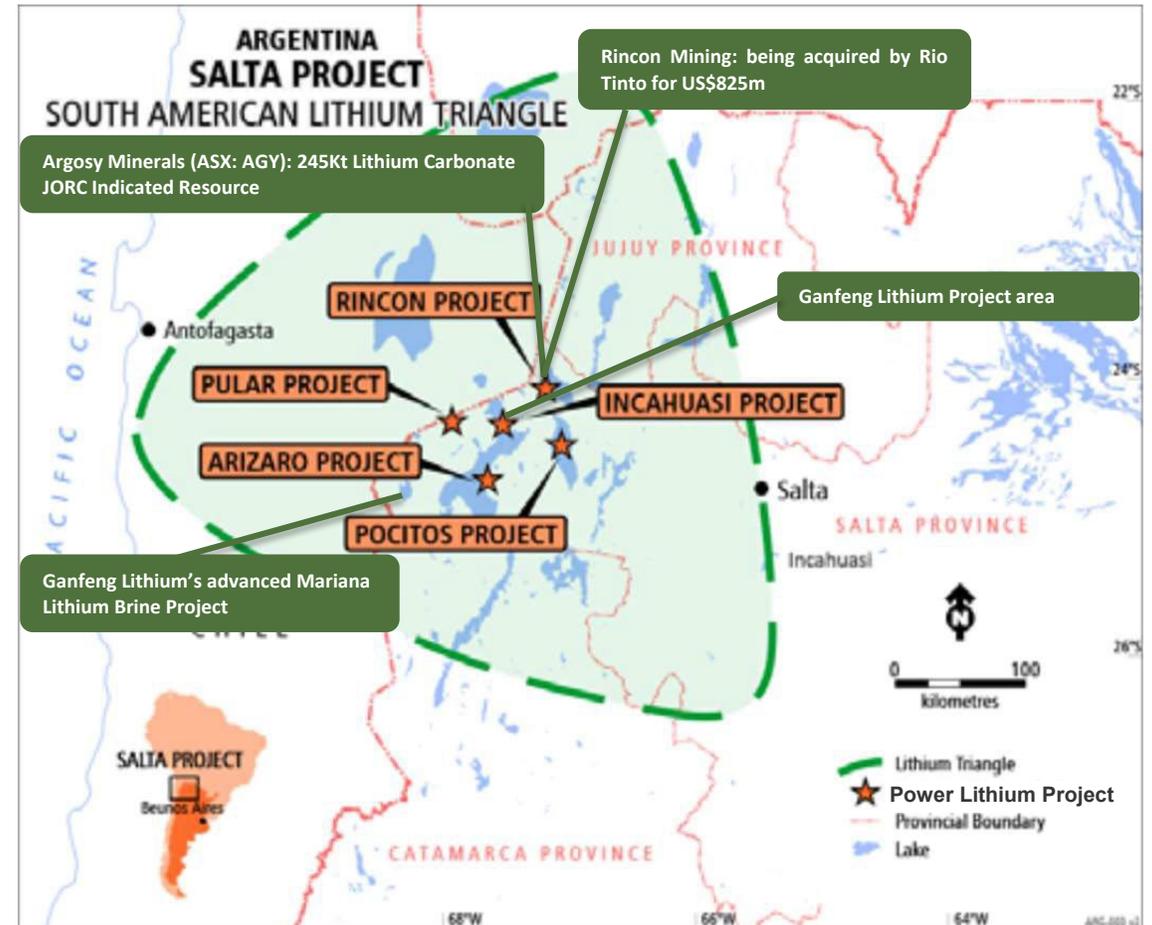
# SALTA LITHIUM-BRINE PROJECT, ARGENTINA

Strategic asset in South America's  
lithium triangle - hosts 65% of the  
world's lithium

# Salta Lithium-Brine Project: Project Overview

- > **100%-owned** via PNN's wholly-owned Argentine subsidiary
- > Comprises 7 mining leases (minas) situated within **5 dried salt lakes (salares)**, covering 147.07 km<sup>2</sup>
- > **Strategically located** in the high Puna region of the Andes Mountains, in Salta Province northwest Argentina.
- > **Situated within the 'Lithium Triangle'** of Argentina, Chile and Bolivia - **holds 65% of the world's lithium**
- > **3 key factors combine to concentrate and enrich lithium** as lithium salt in the region's salares;
  - High elevation and geothermally active
  - High evaporation rates; and
  - Low precipitation
- > **Existing JORC 2012 Resource<sup>1</sup>:**
  - Total of 239,000t Lithium Carbonate Equivalent (LCE) from 2 salares - 63% Measured, Indicated & Inferred, grades up to 313mg/l Lithium

<sup>1</sup> ASX announcements, 27 June 2018 and 23 January 2019

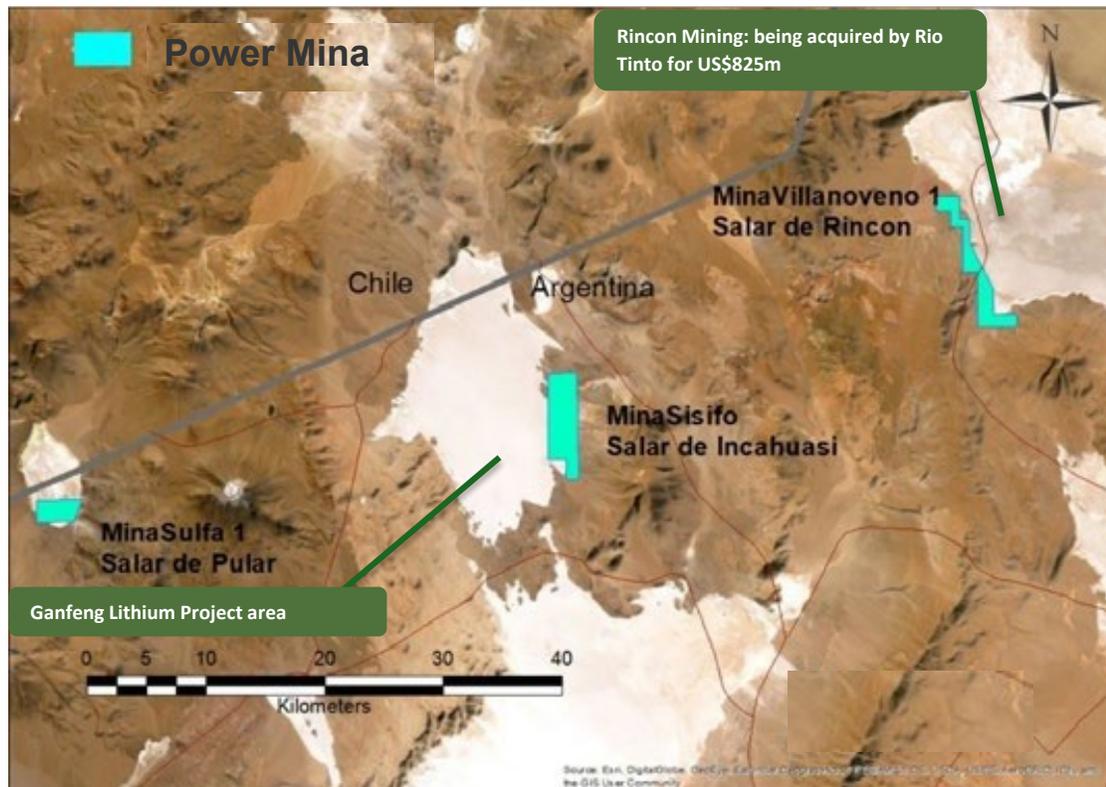


Salta Lithium-Brine Project location map – showing project's 5 salares

# Brine Blending Program: Potential 'Game-Changer' for Salta Project



Final results reported in May 2022 - will help determine potential development pathways and monetisation opportunities



Rincon and Incahuasi Salares location map

## Aim

- > Program **blended the different chemical properties of lithium brines** from the Incahuasi and Rincon salares at the Salta Project
- > Aim was to **deliver a higher lithium concentration with low deleterious elements and high lithium recoveries from the concentrated blended brine**, than the lithium concentration of the individual salares

## Methodology

- > Program **commenced May 2021 and progressively assessed the level of lithium concentration from the blended brines** as they evaporated over time
- > Brine was **collected from trenches at Incahuasi salar and from monitoring wells at Rincon salar**
- > **Total of 4,000 litres of brine** was then transported to **testing ponds in Chile**, in an environment similar to the Salta Project

# Brine Blending Program: High-Grade Li Concentrate & Major Reagent Cost Savings<sup>1</sup>



- > Final results provided **conclusive evidence that brines evaporate to a very high concentration of lithium**, of 5.32% Li
- > Evaporation tests of **blended Rincon and Incahuasi brines delivered a lithium concentrate with low levels of contaminants**; sulphate, calcium and magnesium.
- > The low level of sulphate and calcium contaminants **suggests a significant reduction in reagents costs** in potential production options; *Rincon brines are high in sulphate and Incahuasi brines are high in calcium, but the blended brines deliver a low contaminant Li concentrate, offering a potential significant cost saving in not having to use reagents to remove contaminants in commercial operations.*
- > The very low loss of lithium to contaminants in the blended brines is **indicative of high lithium recoveries**.
- > Rincon brines also delivered a high-grade lithium concentrate, but required additional use of reagents, **further highlighting the potential reagent cost saving and time saving to be achieved from the blended brines** in potential commercial operations.

Element & Parameter	Symbol	Unit	Value
Lithium	Li	%	5.32
Sodium	Na	%	0.094
Potassium	K	%	0.367
Magnesium	Mg	%	1.57
Calcium	Ca	%	0.215
Sulphate	SO <sub>4</sub>	%	0.019
Chloride	Cl	%	31.80
Boron	B	%	0.472
Density		g/cc*	1.282

**Table:** Laboratory Analysis: Blended Brine from Incahuasi and Rincon Salares, Final Brine Composition

\* grams per cubic centimetre

<sup>1</sup> announcement 11 May 2022

# Brine Blending: The Process



Brine collection at Incahuasi Salar



Brine collection at Rincon Salar



Relative density of brine measured



Brine containers sealed for transport



Concentrated brine harvested for mixing



Incahuasi Concentrated brine



Rincon concentrated brine



Evaporation underway



brine poured into prepared ponds with plastic liners

# MoU with Sunresin New Materials Co. Ltd: A Global Lithium Extraction Company



- > **MoU** with lithium extraction company Sunresin New Materials Co. Ltd. (Sunresin) **for the evaluation and development of the Salta Lithium Brine Project<sup>1</sup>**
- > First step in a **proposed long-term partnership** to utilise Sunresin's proprietary Direct Lithium Extraction (DLE) technology **to potentially produce battery-grade LIC at Salta**
- > Sunresin's DLE technology **extracts lithium from different brine grades**, delivering **high recoveries with low costs** and **expedited processing times** - with **no need for evaporation ponds**
- > Sunresin has **>10 years' experience in DLE – 8 commercial projects** in South America, North America, Europe and China, ranging from **3,000tpa to 25,000tpa capacity**
- > Its proprietary adsorption technology and Simulated Moving Bed (SMB) system aims to **deliver a low-carbon, environmentally friendly and highly efficient lithium brine extraction solutions**

Further information on Sunresin is available via its company website; <https://www.seplite.com/>



<sup>1</sup> announcement 7 April 2022

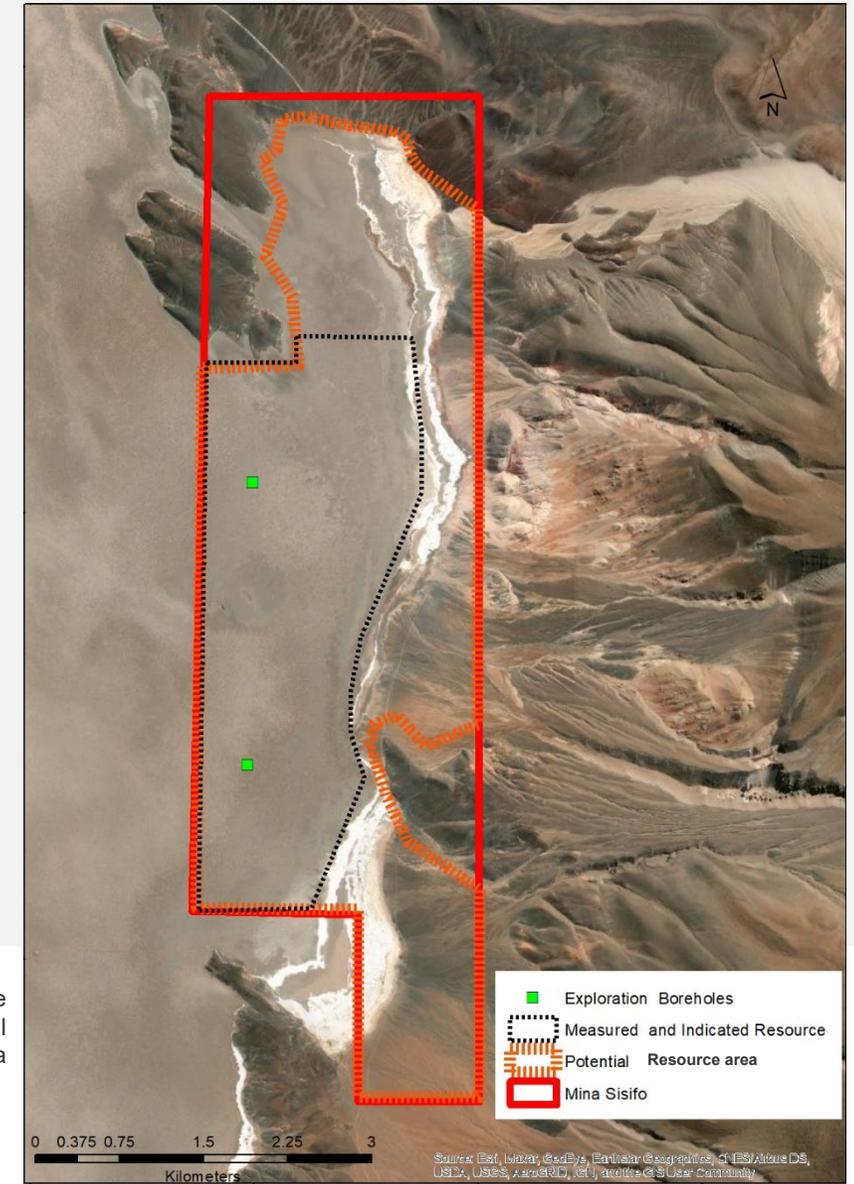
# Salta Lithium-Brine Project: Next Steps



- > Power is committed to **expanding the scale and scope of the Salta Project** - key component is to **increase the existing Resource base, to support future development plans**
- > 2 diamond hole - 1,000m **Resource definition drilling program to commence at Incahuasi salar** – designed to deliver maiden Resource at this target<sup>1</sup>
- > **All requisite permits for drilling granted**, and site access and set-up is underway - **drilling to commence on confirmation of rig availability**
- > Company then plans **systematically conduct resource definition drilling at remaining key salares within the Salta Project**
- > With the Brine Blending program complete and its MoU with Sunresin in place, Power is **assessing potential commercial development pathways at Salta**
- > This may include **DLE and/or a potential hybrid strategy utilising DLE on the blended brines** - DLE technology has potential to reduce the environmental impact of any future lithium producing operation at Salta
- > **Company is also seeking to engage with offtake, and funding and development partners for the Salta Project**

<sup>1</sup> announcement 27 June 2022

Incahuasi salar showing location of the two planned drillhole and potential Resource area

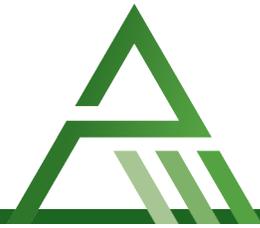


A wide-angle photograph of a dirt road in a rural, arid landscape. The road is light-colored and gravelly, curving from the foreground towards the right. The surrounding fields are dry and yellowish-brown, with some sparse green vegetation. In the distance, there are low mountains under a clear, bright blue sky.

# EYRE PENINSULA KAOLIN- HALLOYSITE PROJECT, SOUTH AUSTRALIA

First phase of drilling complete  
– results pending

# Eyre Peninsula Kaolin Halloysite Project: Project Overview



- > Project consists of **three Exploration Licences** (EL6677, EL6681 and EL6689) covering a **total area of 1,413km<sup>2</sup>**
- > **Strategically located adjacent to Andromeda Metals' (ASX: ADN) Kaolin-Halloysite Projects** on western side of the Eyre Peninsula
- > Project **hosts known kaolin mineralisation** and geophysical studies have highlighted **other target areas which appear prospective for kaolin**
- > **Work undertaken to date**
  - Field reconnaissance, and sampling/mapping programs
  - Satellite imagery analysis and review of historic exploration results
  - Land access agreements
  - Community engagement
  - **First phase of drilling complete**

Despite the kaolin prospectivity, the Project has yet to be systematically explored for kaolin. This combination of under explored tenure and prospectivity presents an excellent exploration opportunity which Power plans to maximise



Eyre Peninsula Kaolin-Halloysite Project location map

# Eyre Peninsula Kaolin Halloysite Project: First Phase of Drilling Complete – Results Pending



- > **128 hole - 4,217m aircore drilling program completed at priority targets at all 3 Exploration Licences** - average depth of 32.9m and a maximum depth of 75m<sup>1</sup>
- > **Drilling tested depth and areal extent** (plus mineralogy) of known and suspected kaolin occurrences - targets identified from historical exploration and geophysics
- > **Initial observations from drilling:**
  - **Significant kaolin zone >20m thickness at priority target area west of Kapinnie, within EL6689**
  - **Kaolin also present north of Kapinnie and within EL6681**
- > **Samples from drilling currently being analysed** by pXRF for a range of elements, including selective rare earth elements (REE).
- > **Composite samples of 2kg to 4kg will then be tested** for brightness and particle size distribution, microprobe imagery and laboratory XRF and XRD
- > **Assay results to be released when available** - subject to results, a 2nd phase of drilling will be planned to expand the kaolin footprint and test new targets.
- > **No safety or environmental issues encountered** - all drill sites have been rehabilitated



# Kaolin and Halloysite: Uses



## Kaolin

- > **Industrial clay**, referred to as 'China Clay', widely used in many everyday products; paper, rubber, paint, ceramics and fiberglass, plus cosmetics and pharmaceuticals
- > High-grade kaolin usage is expanding in the cosmetic industry and is a factor in the market growth - the absorbent properties of kaolin have led to widespread adoption in the cosmetics industry
- > Conversion of kaolin into high-purity alumina (HPA) is a potential emerging market – R&D is currently underway on a number of technological applications including lithium-ion batteries where it helps deliver improved safety and performance
- > **Kaolin price:** ~A\$300/tonne and kaolin/halloysite hybrid ~A\$500-A\$1,000/tonne
- > Demand forecast to grow with the **global kaolin market estimated to be worth A\$8.65b by 2027** – expected to grow at a compound annual growth rate (CAGR) of 3.5% from 2020 to 2027<sup>1</sup>

## Halloysite

- > **Kaolin type composed of tiny hollow nanotubes** - high surface area to weight ratio, high porosity & differential charge capabilities between inner and outer surfaces have potential to make it highly suitable in high-tech processes and end-uses
- > **Nano-technology and green-technology emerging uses include** - carbon capture and conversion, hydrogen storage, water remediation, batteries, supercapacitors, drug delivery, tissue engineering, cancer and stem cells isolation & bioimaging
- > **Halloysite price:** ~up to US\$5,000/tonne – is a scarcity of large, commercial halloysite deposits

<sup>1</sup> Grand View Research, Inc

# SANTA INES COPPER-GOLD PROJECT, ARGENTINA

Strategically-located, potential  
large-scale porphyry copper-gold  
opportunity



# Santa Ines Copper-Gold Project: Project Overview

- > **100%-owned** via PNN's wholly-owned Argentine subsidiary
- > Consists of **four mining leases covering 61.4km<sup>2</sup>** in north-west Argentina
- > Represents a **potential, large-scale, porphyry copper-gold opportunity**
- > **Strategically located;**
  - **same geological setting as BHP's world-class Escondida Copper-Gold Mine** 80km to the north-west in Chile; and
  - **40km south-west of First Quantum's Taca Tacca Cu-Au-Mo Project**
- > Previous sampling programs **confirmed the presence of high-grade copper and gold mineralisation**
  - High-grade surface samples from historic workings; **21.7% Copper, 0.91g/t Gold and 34.9g/t Silver**
  - Subsequent surface sampling; **3.25% Copper, 0.8g/t gold, 12.5g/t Silver and 91.1ppm Molybdenum**



Santa Ines Project location map

# Santa Ines Copper-Gold Project : First Phase of Drilling Complete – Results Pending



Drill core from Santa Ines Project being cut and logged

- > **651m – 5-hole diamond core program completed. Drilling targeted<sup>1</sup>;**
  - Structures at depth below elevated surface copper zones; and
  - A separate, un-explored shallow magnetic target.
- > **Drill core has been logged and 360 core samples have been sent for laboratory analysis** - Diamond core recovery was excellent with recoveries of up to 98%
- > **Oxidised copper - malachite and chrysocolla – is present in all drillholes**
- > **At the magnetic target, magnetite-haematite veins were recorded over much of the drillhole**
- > **As well as copper and gold, core samples will be subject to multi-element analysis, including molybdenum, arsenic and sulfur - known indicators of copper-gold porphyry mineralisation**
- > **Results are expected to be available in the following quarter**
- > **No safety or environmental issues encountered - all drill sites have been rehabilitated**

<sup>1</sup> announcements 13 April 2022, 31 May 2022 and 24 June 2022

# Santa Ines Copper-Gold Project : First Phase of Drilling Complete – Results Pending



Drill core from hole PNSI22-002 at 59.4m showing quartz-biotite-magnetite veins with Cu-Fe oxides



Drill core from hole PNSI22-001 at 89m showing quartz-malachite-azurite-chrysocolla veins

# MUSGRAVE NICKEL- COPPER-COBALT PROJECT, SOUTH AUSTRALIA

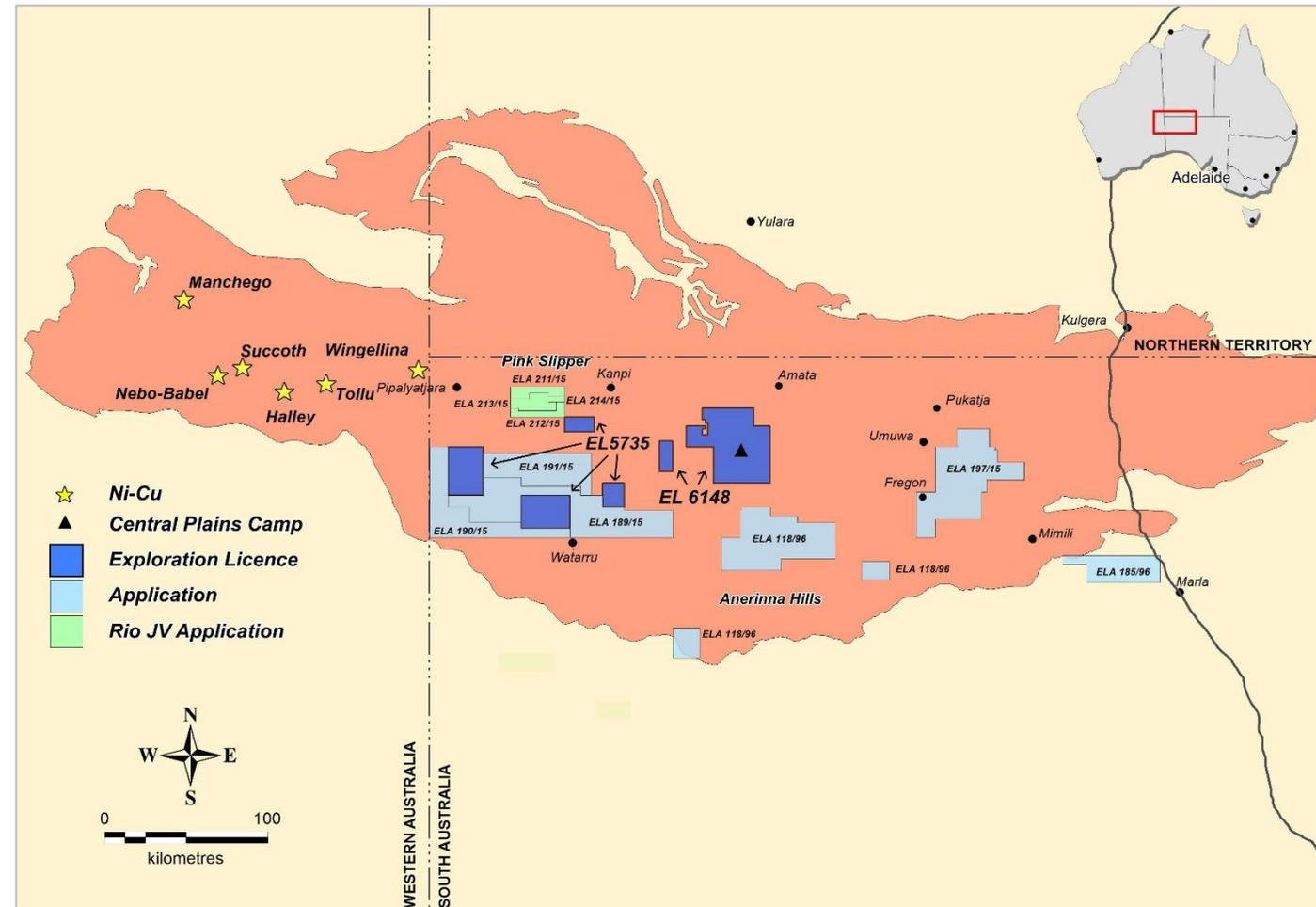
Large, strategic landholding in major  
under-explored minerals province



# Musgrave Nickel-Copper-Cobalt Project: Project Overview



- > **100% owned - targeting magmatic Ni-Cu-Co sulphide discoveries**
- > Highly prospective project area in under-explored region
- > Located in the Anangu Pitjantjatjara Yankunytjatjara (APY) Lands in **the Musgrave province of north-west South Australia**
- > **Project comprises;**
  - 2 granted ELs and 8 ELAs over 14,003km<sup>2</sup>
  - **Farm-in JV with Rio Tinto - 4 ELAs over 615km<sup>2</sup> covering the priority Pink Slipper target**
- > **Similar geological setting to Oz Minerals major Nebo Babel Ni-Cu Project** in the West Australian Musgrave
- > PNN has conducted **extensive drilling at the Project**
  - 24,474m - 83 cored holes, 12,252 samples analysed
  - 41,258m - 4,195 geochem non-core holes drilled
- > PNN-owned drilling equipment and camp



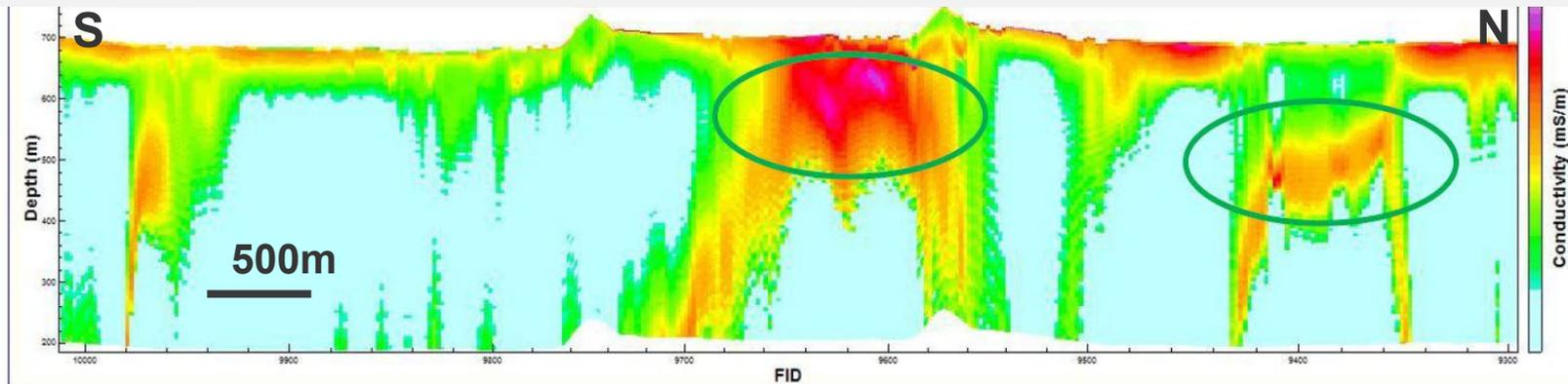
Musgrave Nickel-Copper-Cobalt Project location map, north-west South Australia

# Pink Slipper JV with Rio Tinto: Potential Tier-1 Exploration Target



The Pink Slipper target is a bedrock anomaly coincident with the base of a large ultramafic intrusion with the potential to host sulphide accumulation – equivalent interpreted model to Vale's Tier-1 Voisey's Bay Nickel Project in Canada and the Nova-Bollinger nickel discoveries in WA's Fraser Ranges

- > The **Pink Slipper** is the core target in the **Musgrave Project** area
- > Under the **Farm-in JV** with Rio Tinto, Power is earning up to a **51% interest** in the Project
- > Pink Slipper anomaly **first recorded** by airborne electromagnetic (AEM) survey flown by Rio Tinto in 1999-2000
- > Pink Slipper Anomaly **confirmed and redefined** by AEMs conducted by CSIRO and Rio Tinto in 2019
- > Power continues to **work with the APY traditional owners** to negotiate an **Exploration Deed** for the **Pink Slipper** and other targets within the Project
- > An **Exploration Deed** with the traditional owners is a **pre-requisite** for the granting of **Exploration Licences (ELs)**, and the **commencement of on-ground exploration**
- > Is a company **priority** to **drill test the Pink Slipper anomaly** as soon as access is agreed



Pink Slipper geophysical anomaly confirmed and refined by Spectrem AEM flown by CSIRO in 2019

# Power Minerals: Investment Highlights



- > Portfolio of quality, strategically-located projects in key, demand-driven commodities
- > Active, ongoing fieldwork across the project portfolio - projects leveraged to exploration success;
  - Brine blending program at Salta Lithium project delivers very high-grade lithium concentrate with potential for major reagent cost savings
  - Resource definition drilling to commence at Incahuasi salar at Salta Project
  - First phase of drilling complete at Eyre Peninsula Kaolin-Halloysite Project – results pending
  - First phase of drilling complete at Santa Ines Copper-Gold Project – results pending
- > Strong ongoing news-flow and share price catalysts
- > Strong balance sheet and tight capital structure
- > Refreshed and restructured board, and supportive shareholders
- > Assess M&A and other potential value accretive corporate opportunities

# Indicative Newsflow and Next Steps



## **Salta Lithium-Brine Project**

- > Resource definition drilling at Incahuasi salar
- > Resource definition at other salares
- > Preliminary Evaluation Assessment / Scoping Study
- > Offtake, and funding and development agreement(s)

## **Eyre Peninsula Kaolin-Halloysite Project**

- > First-phase drilling results
- > Expand land access agreement coverage
- > Second-phase of drilling (subject to results)

## **Santa Ines Copper-Gold Project**

- > First-phase drilling results
- > Second-phase of drilling (subject to results)

## **Musgrave Nickel-Copper-Cobalt Project**

- > Consultation with APY People for Exploration Deed for Pink Slipper and other targets (ongoing)
- > Exploration Deed for Pink Slipper
- > Grant of Exploration Licence and commencement of on-ground exploration

# Contact us

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