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PNN

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PGE Project

## Power defines new exploration targets at Musgrave Ni-Cu-Co-PGE Project

- **Power has defined a substantial new stratigraphic exploration target at the Mt Caroline intrusion, at its Musgrave Ni-Cu-Co-PGE Project in South Australia\***
- **Target represents a priority drill target on granted EL6148 – drilling planned on completion of heritage surveys and other required approvals**
- **Target generated by a recently completed University of Adelaide study which has rapidly advanced Power’s geological understanding of the sulphide-hosting Mt Caroline intrusion**
- **Power has also continued the whole-rock analysis of samples from its historic drilling at the Musgrave Project - more than 3,100 pXRF chemical analyses completed in the past year**
- **Sampling has returned multiple anomalous chemical results and selected historical samples will be sent for laboratory analysis to help define targets for future exploration and drilling**

Power Minerals Limited (**Power or the Company**) is pleased to announce that it has defined new exploration targets at its Musgrave nickel-copper-cobalt-PGE Project in the Musgrave province of northern South Australia.

The Musgrave Project, via its wholly owned subsidiary NiCul Pty Ltd and in joint venture with Rio Tinto Exploration Pty Ltd, is a long-held core asset for Power. It covers a total area of 16,478km<sup>2</sup>, representing almost a quarter of the province’s total surface area within South Australia (Figure 1).

Power’s Musgrave project area positions it as the dominant landholder in what is one of the most prospective and under-explored mineralised belts in the world.

As previously reported, the Company commissioned a detailed study of the Mt Caroline Intrusion, one of the key targets within the Musgrave Project (ASX announcement, 28 February 2023). The study has now been completed and has delivered successful outcomes, defining a new stratigraphic exploration target.

\*Any references to exploration target(s) do not imply the definition under clause 17 of the JORC Mineral Code, 2012 Edition.

This represents a significant step forward in Power's geological understanding of the Project area and in unlocking its exploration potential.

The study determined that the Mt Caroline intrusive body consists of two distinctive domains: 1. northern (stratigraphically lower) mineralised, low magnetic, magnesian layered pyroxenite cumulate sequence, and 2. more iron-rich, magnetic gabbro sequence in the south of the area.

The base of the northern non-magnetic domain has been assessed as the preferred target sequence for drill testing, and a model for a proposed exploration program has been put together.

The study outcomes are highly significant, as most of the Mt Caroline intrusion is covered by a thin layer of sediments, which, to this point, has made it difficult to accurately define the stratigraphic and structural model.

The study has successfully defined a stratigraphic exploration target within the large, sulphide-hosting Mt Caroline intrusion.

This presents an exciting target model for future exploration programs and drilling by Power to test below the surface cover sequence. Under the signed Deed of Exploration for EL6148, heritage surveys will be required to ensure no sensitive areas are disturbed in the exploration and drill target areas, along with other requisite approvals. Power is committed to continue working with the APY communities to ensure all exploration is conducted in a respectful and cooperative manner.

### **Study Background and Rationale**

The Mt Caroline Giles Complex mafic/ultramafic intrusion sits within the 100% Power-owned granted EL6148 within the Musgrave Project.

The majority of the world's nickel, PGE and chrome deposits are hosted in similar mafic-ultramafic-mafic layered complexes as is present at the Mt Caroline intrusion. These metals tend to crystallise as magma pulses, which then allows them to concentrate metals in discrete layers, at potentially mineable grades.

The Mt Caroline study was commissioned by Power to help determine the highest priority target area for planned drilling in the area (ASX announcement, 28 February 2023).

The study was conducted by Adelaide University Professor John Foden, and utilised historical drill samples from Power's drilling at Mt Caroline in conjunction with advanced mineral chemistry (mainly pyroxene chemistry) to assess the potential copper, nickel and PGEs crystallisation history.

A total of 423 microprobe major element mineral analyses were completed plus laser-ablation ICP-MS of trace elements, and based on whole-rock nickel, copper, cobalt and sulphur relationships, the study determined that the Mt Caroline intrusive body comprised two distinctive domains.

This outcome has provided a breakthrough for Power's exploration targeting at the Mt Caroline intrusion.

### **Historic Drilling at Mt Caroline**

Power has previously conducted drilling at the Mt Caroline intrusion which is part of the Giles Complex, and intersected gabbro, troctolite and anorthosite-gabbro rocks. Drilling within the surrounding country rock intersected felsic and mafic gneisses of the Birksgate Complex and granite of the Pitjantjatjara Supergroup.

Primary disseminated sulphides were intersected in many of these previous drillholes, and drilling confirmed the continuity of sulphide across the Mt Caroline intrusion. Also, the presence of primary sulphide within the Mt Caroline intrusion indicated that the magma had reached sulphur saturation, which is a prerequisite for massive sulphide accumulation. Sulphide proportions ranged from trace amounts to 5-25% and were dominated by pyrrhotite (iron-bearing) with rare chalcopyrite (copper-bearing) and pentlandite (nickel-bearing).

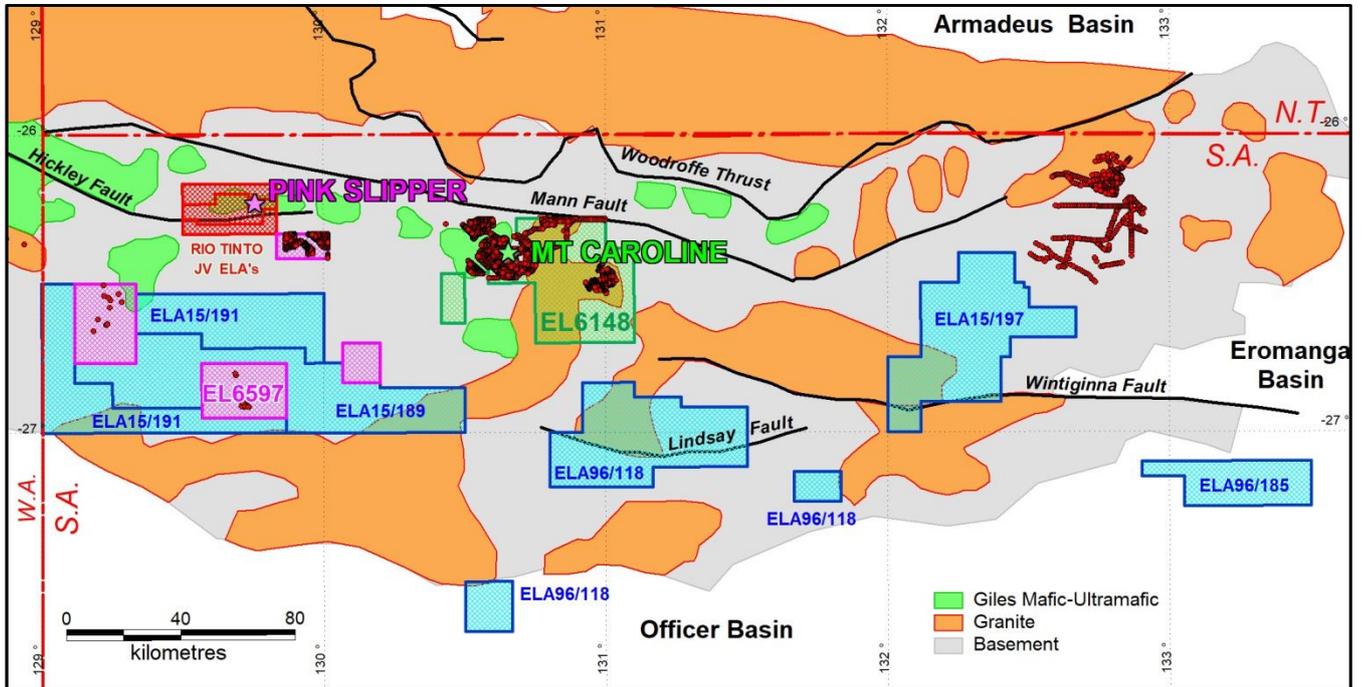
### **Background to Previous Exploration at Musgrave Project**

Power commenced active exploration at the Musgrave Project in 2005 and has completed a total of 3,657 drillholes, mainly vacuum (similar to aircore) and diamond core. Samples from the majority of these drillholes have been securely stored by Power in Adelaide. Samples from many drillholes were initially assayed only for a small, targeted range of elements.

The Company is committed to an ongoing sampling process of its Musgrave drillhole chip samples for a broad, multi-element assessment, and more than 3,100 pXRF whole-rock analyses have been completed over the past year, using a full three-beam pXRF multi-element matrix.

This is part of a program to measure and check all historical Musgrave samples as part of a concentrated targeting exercise, and to ensure the Mines Department are satisfied with work commitments over the two granted licences held by Power within the Anangu Pitjantjatjara Yankunytjatjara (APY) Lands.

A number of anomalous geochemical results have been returned by the pXRF analyses, and selected historical samples will be sent for detailed whole-rock ICP-MS laboratory analyses, with the aim of defining new drill targets within the granted licence areas.



**Figure 1:** Power's Musgrave Project Licences in South Australia, showing areas of previous PNN drilling (red circles).

**“We are excited by the ongoing progress achieved at the Musgrave Project. While we continue to focus on the exploration and development of our Argentinian lithium assets, we have also taken positive strides in confirming our geological understanding of the Musgrave Project area - and in unlocking its value. The recently completed study is evidence of this, and has resulted in the definition of a significant, new stratigraphic exploration target at the priority Mt Caroline intrusion, one of the most prospective intrusions in the Musgrave Province. We look forward to being in a position to commence on-ground exploration at this key target once heritage surveys and other required approvals have been secured.”**

**Power Minerals Managing Director - Mena Habib**

Authorised for release by the Board of Power Minerals Limited.

**-ENDS-**

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**About Power Minerals Limited (ASX:PNN)**

Power Minerals Limited is an ASX-listed lithium-focused exploration and development company, committed to the systematic exploration and development of its core asset, the Salta Lithium Brine Project in the prolific lithium triangle in the Salta Province in Argentina. It is currently undertaking a major JORC Mineral Resource expansion drilling campaign at Salta, and is focused on expediting development of the Project in to a potential, future lithium producing operation. Power also has a portfolio of other assets in key, demand-driven commodities including; kaolin-halloysite, REE, nickel-copper-cobalt and PGEs plus copper-gold.