

29 February 2024

Farm-in Agreement Executed – Muckanippie Project Expansion Over an Intrusion enriched in Fe-Ti-P-V

Highlights

- Petratherm Limited (PTR) and G4 Metals Pty Ltd (G4M) have executed a Letter of Agreement allowing PTR the right to earn-in to EL 6873 adjacent to PTR's Muckanippie Project holding.
- The new tenement adjoins PTR's EL 6815 and the joint tenure covers a large, highly magnetic intrusion, where a single historic drill hole into the eastern edge of the body returned high concentrations of Magnetite, Titanium and Phosphate (Fe-Ti-P).
- The M1 anomaly is a highly magnetic body approximately **1.6km long by 700m wide**.
- Drill hole TCP01 intercepted **34 m @ 8.5% TiO₂ & 22.1% Fe, from 55 metres to end of hole**. Petrological studies describe **7-10% apatite (rock phosphate)** in rock mass. Elevated **Vanadium averaging 416 ppm** recorded across the same interval.
- The intrusion forms part of the Muckanippie Anorthosite complex which has fertility for Fe-Ti-P ores and additionally vanadium (V) and rare earth elements (REE).
- Ground rock-chip sampling and geophysical scoping work will start next week.

Petratherm Limited (ASX: PTR) (“PTR” or “the Company”) is pleased to announce that it has executed a Letter of Agreement under which G4 Metals Pty Ltd (G4M) agrees to grant PTR the right to earn-in to EL 6873. PTR can earn up to a 70% interest via a 2 Stage Farm-in with further provisions, dependent on G4M's elections, to earn up to a 100% equity in the project. Key farm-in terms are presented at the end of this announcement.

EL 6873 shares a common tenement boundary with PTR's Muckanippie Project (Figure 1) comprising two 100% owned tenements (ELs 6815 & EL 6855) covering 258km². The Muckanippie area has a multi-commodity focus for the Company with numerous mineral occurrences previously reported, associated with a large anorthosite complex (Figure 1)^{1,2}.

Globally, anorthosite complexes form in specific geological environments and are uncommon. They have broad metal associations, hosting major titanium, iron (as magnetite usually), vanadium and phosphate occurrences (i.e. Lac Tio (Ti-Fe) Canada, Tellnes (Ti) Norway, Damiao (Fe-Ti-V-P) China, & Lac a Paul (Ti-P), Canada.)³. The Fe-Ti-P-V ores are easily defined using magnetic data as the iron mineralisation associated with the ores is mostly in the form of magnetite.

¹ PTR ASX Release 14/11/2022 – Muckanippie Project - Tenement Granted

² PTR ASX Release 05/02/2024 – Significant Uranium and Gold Targets at Muckanippie

³ Characteristics of Deposits sources: **Lac Tio & Tellnes** - Charlier, B, Namur, O, Bolle, O, Latypov, R & Duchesne, J-C 2015, 'Fe-Ti-V-P ore deposits associated with Proterozoic massif-type anorthosites and related rocks', *Earth-Science Reviews*, vol. 141, pp. 56–81.

PTR Chief Executive Officer, Peter Reid Commented:

“The M1 Anomaly is a magnetic body of significant dimensions, starting from near surface and shows fertility for titanium-iron-phosphate-vanadium mineralisation. The Company is extremely excited with the execution of the farm-in agreement with G4 Metals, which enables the Company to secure the great majority of the prospective area.

“In recent times there has been strong investment interest in “green steel” projects through the processing of magnetite rich ores. The addition of other ores such as Titanium, Phosphate and Vanadium increase its prospectivity. Whilst this is a very early-stage project there is good upside potential here which can be tested quickly with shallow percussion drilling. The project area is ideally situated, on pastoral lease country, just over forty kilometres west of the Adelaide to Darwin railway allowing potential low-cost access to smelters and markets.”

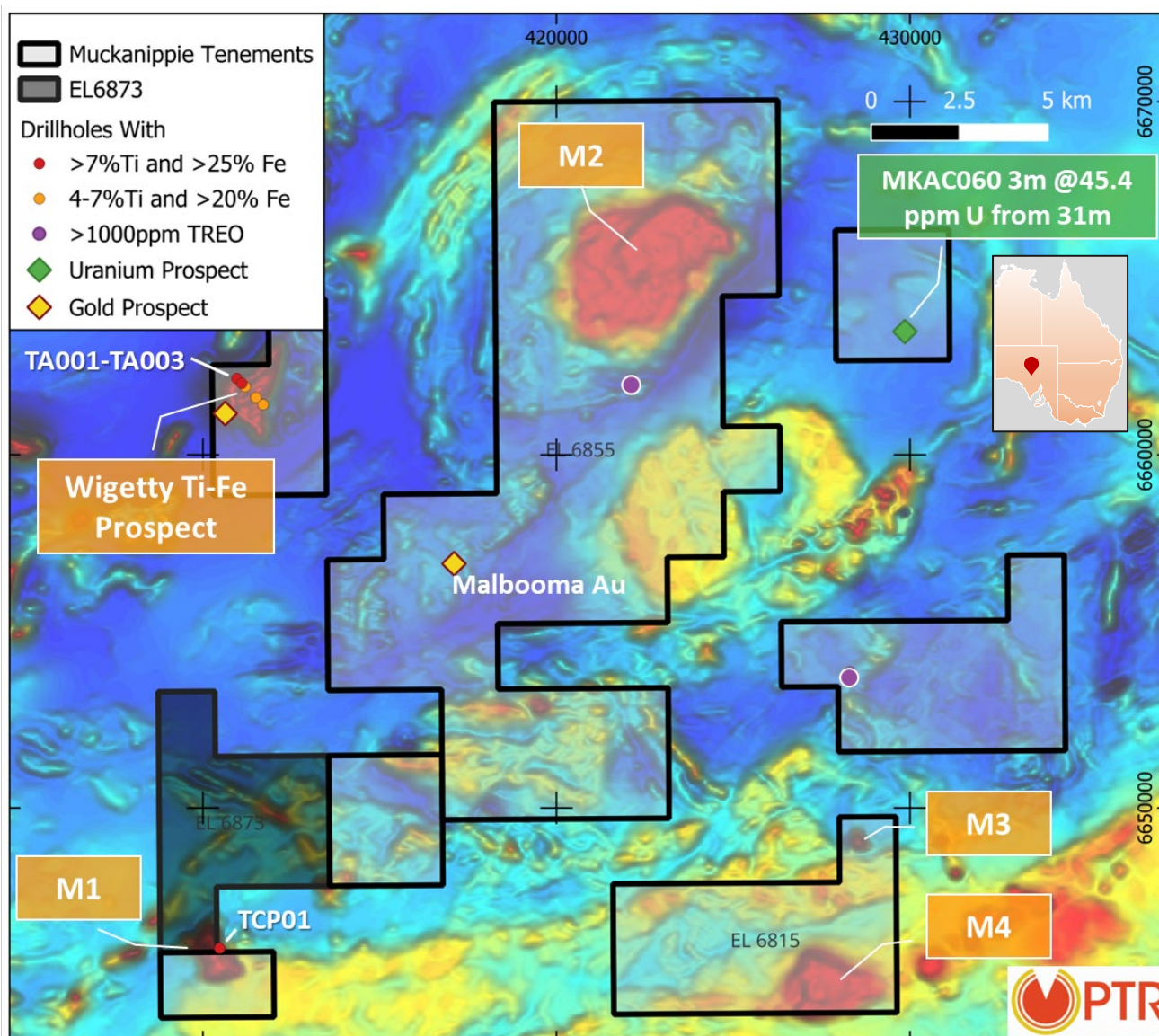


Figure 1 – Magnetic Image of the Muckanippie Project area highlighting magnetic anomalies prospective for Fe-Ti-P, location of EL 6873 Farm-in area, and other Mineral Prospects.

Damiao - Chen, WT, Zhou, M-F & Zhao, T-P 2013, 'Differentiation of nelsonitic magmas in the formation of the ~1.74 Ga Damiao Fe-Ti-P ore deposit, North China', *Contributions to Mineralogy and Petrology*, vol. 165, no. 6, pp. 1341-1362. Lac á Paul - proven and probable reserve; 2013 – Arianne Phosphate Inc., NI 43-101 Technical Report - Feasibility Study to Produce 3Mtpy of High Purity Apatite Concentrate at the Lac a Paul Project, Québec, Canada., <https://www.arianne-inc.com/wp-content/uploads/2022/06/43-101.pdf>

Magnetite Iron and Titanium Mineralisation

The Muckanippie Anorthosite Complex includes several mafic intrusions and zoned horizons which are highly magnetic (Figure 2). These bodies have only been lightly explored for Ti-Fe-P-V mineralisation with large areas remaining un-tested by drilling.

In addition to M1 magnetic anomaly, which straddles the new farm-in area, PTR previously reported significant historic Ti-Fe drill intercepts from the nearby Wigetty Prospect (see Table 1 and Figure 1)⁴. At Wigetty Ti-Fe grades increase towards the western side of the magnetic complex with the far western side of the body remaining to be drill tested. These bodies are likely zoned, and potential exists for higher grades in this area.

The M1 anomaly is a highly magnetic body (Figure 2) approximately 1.6 kilometres long by 700 metres wide. A single RC drill hole, TCP01, located just 75 metres east of the tenement boundary and angled back on a south-westerly trajectory (see Figure 2) drilled a portion of the eastern side of the body. The hole records **34m @ 8.5% TiO₂, 22.1% Fe & 416 ppm V from 55 metres to end of hole (89m)**. Although no historical phosphate assays were undertaken, later petrological analysis of the core records **apatite concentrations averaging 7 to 10% of the total rock mass**. The body is described as a pyroxenite with abundant magnetite-ilmenite-apatite aggregates⁵.

Titanium and Vanadium are considered critical minerals by the Australian and US governments, as well as by the European Union. Titanium has uses in pigment manufacture as well as in the defence and aerospace industries and Vanadium is used as an important alloying agent for iron and steel.

Table 1 - Muckanippie Project - Significant Titanium - Iron Drill Intercepts

Drill Hole	From (m)	To (m)	Interval (m)	Fe (%)	TiO ₂ (%)
TA001	56	150	94	24.8	6.4
<i>inc</i>	100	112	12	28.2	7.1
TA002	0	150	150	21.9	5.2
<i>inc</i>	92	150	58	24.4	5.9
TA003	8	112	104	20.5	5.2
TCP01	55	89	34	22.1	8.5
<i>inc</i>	70	75	5	22.0	10.2

Next Steps

The M1 intrusion may be zoned and future work will determine mineral concentrations across the intrusion. Initial work, starting next week, will involve field reconnaissance sampling with follow up ground magnetic profiling, with drill testing to commence later in the year.

⁴ South Australia. Department of Primary Industries and Resources. Open file Envelope, 09624

⁵ South Australia. Department of Primary Industries and Resources. Open file Envelope, 08686

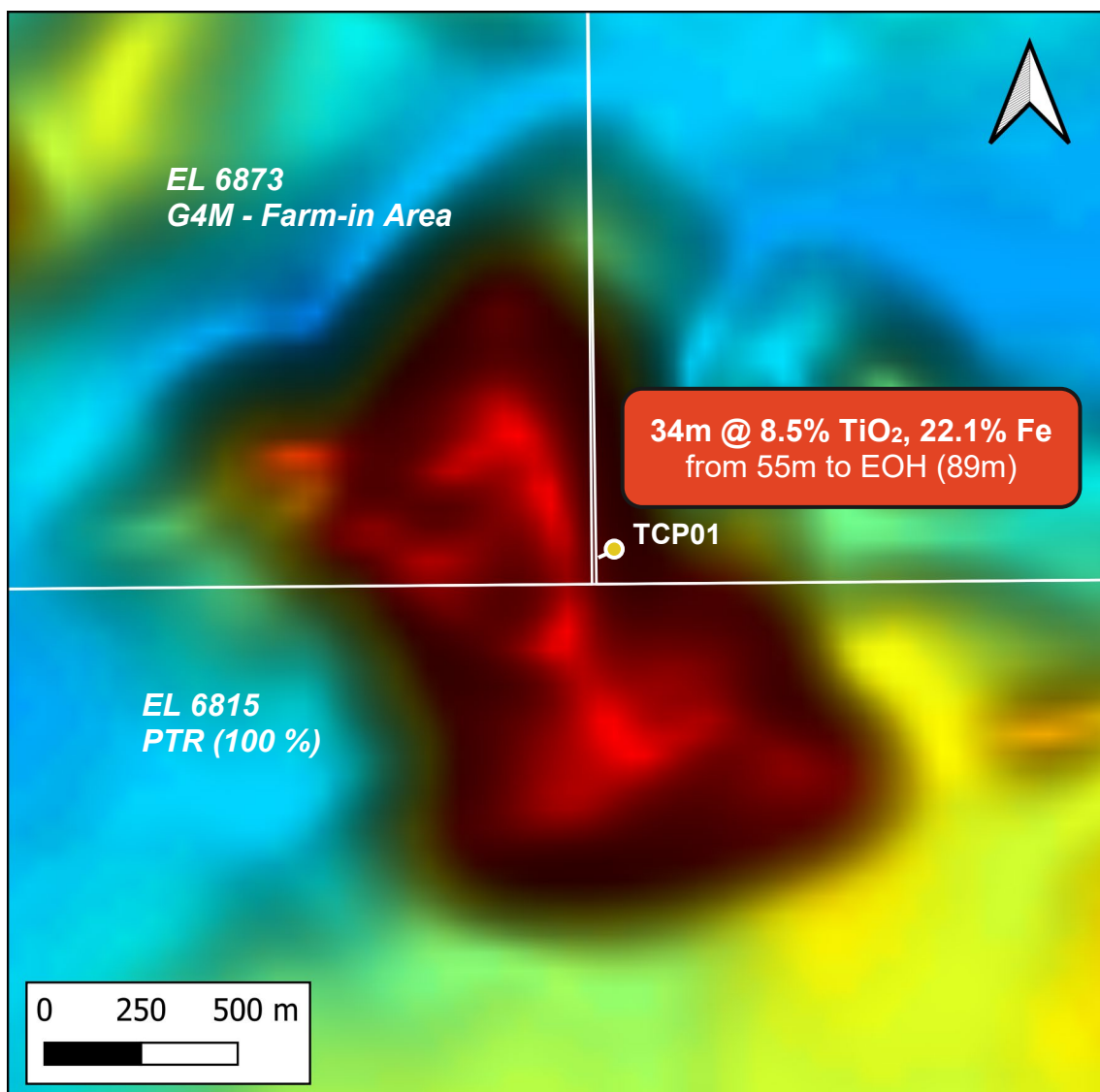


Figure 2 – Magnetic Image showing the M1 Magnetic Anomaly (red) and location of TCP01 drill collar on eastern edge of the magnetic body. No other RC drilling has been undertaken across the magnetic feature to assess extent and grade of Ti-Fe-P mineralisation.

Key Terms of the G4 Metals Pty Ltd and Petratherm Ltd Farm-in Agreement EL 6873

- Stage 1 - PTR to spend \$200,000 within the period of 3 years, to earn a 51% interest in the Tenement.
 - At least 50% of the total expenditure must be direct drilling costs
- Stage 2 - PTR may elect to earn a further 19% interest in the Tenement by spending \$300,000 in an additional 2 years, i.e. PTR may earn up to a 70% interest.
 - At least 67 % of Stage 2 expenditure must be in direct drilling costs.
- On completion of Stage 2 – the Parties may either contribute to expenditure on a pro-rata basis or dilute their interest following application of standard industry formula.
- G4M may elect to offer PTR an additional 10% interest in the Tenement by PTR sole funding to Decision To Mine (DTM) at which time G4M may elect to;
 - contribute to development of a mining operation based on its equity interest in the JV or, dilute to a 1.5% NSR.

ENDS

This announcement has been authorised for release on the ASX by the Company's Board of Directors.

Table 2 – Muckanippie Project Drill Hole Details

Hole ID	Easting GDA2020 Z53	Northing GDA2020 Z53	RL metres	Dip Deg.	Azimuth Deg.	EOH Depth metres
TA001	410962	6662159	NA	-60	315	150
TA002	411098	6662025	NA	-60	315	150
TA003	411196	6661927	NA	-60	315	150
TCP01	410474	6646030	191	-60	253	89

For further information:

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Competent Persons Statement:

The information in this report that relates to Exploration Targets and Exploration Results is based on information compiled by Mr Peter Reid, who is a Competent Person, and a Member of the Australian Institute of Geoscientists. Mr Reid is not aware of any new information or data that materially affects the historical exploration results included in this report. Mr Reid is an employee of Petratherm Limited. Mr Reid has sufficient experience that is 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'. Mr Reid consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

About Petratherm Limited

Petratherm Limited (ASX: PTR) is a critical minerals explorer focused on the discovery of world-class copper-gold and rare earth deposits. The Company has several advanced drill ready projects in the Olympic Copper-Gold Domain of South Australia. PTR recently announced the discovery of significant concentrations of rare earths hosted in clays in the Northern Gawler Craton of South Australia which are undergoing further drill testing.

Exploration drilling at the Comet Project Area has delineated two major REE occurrences. The Meteor and Artemis REE prospects both occur at very shallow depths, include high-grade blankets of mineralisation showing good lateral extent and ore thickness. Less than 10% of the project area has been explored for REE's and a systematic program of advancement of current prospects, testing of new areas and metallurgical recovery test work is ongoing.

PTR has several exciting copper-gold targets at its Mabel Creek and Woomera Projects located within the Olympic Copper-Gold Trend. Targeting work has defined several compelling Tier 1 Copper-Gold targets which are near drill ready.



PTR's Project Locations in South Australia

EL6815, EL6855 & EL6873 (Muckanippie Project) JORC Table 1

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse Au that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information. 	<ul style="list-style-type: none"> No sampling undertaken. Historic drill hole information has been sourced from open file public records managed by the South Australian Department of Primary Industries and Resources. Additional details from historic drilling are unknown. No drilling has been undertaken by Petratherm, although limited historical drilling and sampling exists. Mineralised intersections were encountered but have not been reported as true widths due to insufficient data spacing and orientation relationship knowledge.
Drilling techniques	<ul style="list-style-type: none"> Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.). 	<ul style="list-style-type: none"> Historic exploration drilling reported includes RC. Additional details from historic drilling are unknown.
Drill sample recovery	<ul style="list-style-type: none"> Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material. 	<ul style="list-style-type: none"> No drilling has been undertaken by Petratherm although limited historical drilling exists. Additional details from historic drilling are unknown.
Logging	<ul style="list-style-type: none"> Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography. The total length and percentage of the relevant intersections logged. 	<ul style="list-style-type: none"> No drilling has been undertaken by Petratherm although limited historical drilling exists. Additional details from historic drilling are unknown.
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. 	<ul style="list-style-type: none"> Not applicable Details of sampling techniques from historic public data is unknown.

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling. Whether sample sizes are appropriate to the grain size of the material being sampled. 	
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established. 	<ul style="list-style-type: none"> No drilling has been undertaken by Petratherm although limited historical drilling exists. Additional details from historic drilling are unknown.
Verification of sampling and assaying	<ul style="list-style-type: none"> The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. Discuss any adjustment to assay data. 	<ul style="list-style-type: none"> No drilling has been undertaken by Petratherm although limited historical drilling exists. Additional details from historic drilling are unknown.
Location of data points	<ul style="list-style-type: none"> Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. Specification of the grid system used. Quality and adequacy of topographic control. 	<ul style="list-style-type: none"> All maps and locations are in UTM grid (GDA2020 Z53). Drill hole positions have been reproduced from SA Government open file databases and the accuracy of this data is unknown.
Data spacing and distribution	<ul style="list-style-type: none"> Data spacing for reporting of Exploration Results. Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. Whether sample compositing has been applied. 	<ul style="list-style-type: none"> No drilling or sampling has been undertaken by Petratherm although historical drilling exists. Data spacing is insufficient to establish the degree of geological and grade continuity required for a Mineral Resource estimation.
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material. 	<ul style="list-style-type: none"> No drilling has been undertaken by Petratherm although limited historical drilling exists. The relationship between the drilling orientation and the orientation of key mineralised structures has not been confirmed.

Criteria	JORC Code explanation	Commentary
Sample security	<ul style="list-style-type: none"> The measures taken to ensure sample security. 	<ul style="list-style-type: none"> No sampling has been undertaken by Petratherm although limited historic sampling exists. Additional details from historic drilling are unknown.
Audits or reviews	<ul style="list-style-type: none"> The results of any audits or reviews of sampling techniques and data. 	<ul style="list-style-type: none"> No sampling has been undertaken by Petratherm although limited historic sampling exists. Additional details from historic drilling are unknown.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area. 	<ul style="list-style-type: none"> EL6815 was granted on 12/08/2022 for a period of 6 years. EL 6855 was granted on 18/10/22 for a period of 6 years. EL6873 was granted on 18/11/2022 for a period of 6 years. The tenements are located approximately 120 km south south-west of Coober Pedy overlapping Bulgunnia and Mulgathing Pastoral Stations. The tenements are located within the Woomera Prohibited Area (Green Zone). Native Title Claims: SCD2011/001 Antakirinja Matu-Yankunytjatjara. The tenements are in good standing and no known impediments exist.
Exploration done by other parties	<ul style="list-style-type: none"> Acknowledgment and appraisal of exploration by other parties. 	<ul style="list-style-type: none"> Previous exploration work includes; Surface Geochemical Sampling: Calcrete Airborne Geophysics: Magnetics & Radiometrics. Ground Geophysics: Magnetics and Gravity. Exploration Drilling: Open file records indicate 215 RAB / Air core reconnaissance and prospect scale holes drilled & 9 RC.

Criteria	JORC Code explanation	Commentary
Geology	<ul style="list-style-type: none"> • <i>Deposit type, geological setting and style of mineralisation.</i> 	<ul style="list-style-type: none"> • Petratherm is exploring for Ti-Fe-P, rare earths, gold and uranium associated with the Muckanippie Anorthosite Complex. Targets include primary basement mineralisation and secondary enrichments in paleochannels and in the weathering zone.
Drill hole Information	<ul style="list-style-type: none"> • <i>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:</i> <ul style="list-style-type: none"> ○ <i>easting and northing of the drill hole collar</i> ○ <i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i> ○ <i>dip and azimuth of the hole</i> ○ <i>down hole length and interception depth</i> ○ <i>hole length.</i> • <i>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</i> 	<ul style="list-style-type: none"> • No drilling has been undertaken by Petratherm although limited historical drilling exists. • Details from historic drilling are presented in Table 1 & Table 2. The TA001-TA003 series of holes have no recorded RL data. • Data sourced from SA Government open file databases and the accuracy of this data is unknown.
Data aggregation methods	<ul style="list-style-type: none"> • <i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</i> • <i>Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i> • <i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i> 	<ul style="list-style-type: none"> • No drilling has been undertaken by Petratherm. • No assumptions of metal equivalent values were made or used.
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> • <i>These relationships are particularly important in the reporting of Exploration Results.</i> • <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i> • <i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</i> 	<ul style="list-style-type: none"> • No drilling has been undertaken by Petratherm.
Diagrams	<ul style="list-style-type: none"> • <i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i> 	<ul style="list-style-type: none"> • See Figures in main body of release attached.
Balanced reporting	<ul style="list-style-type: none"> • <i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i> 	<ul style="list-style-type: none"> • No drilling has been undertaken by Petratherm.
Other substantive	<ul style="list-style-type: none"> • <i>Other exploration data, if meaningful and material, should be reported including (but not limited to):</i> 	<ul style="list-style-type: none"> • No other substantive exploration data has been

Criteria	JORC Code explanation	Commentary
<i>exploration data</i>	<i>geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i>	collected by Petratherm.
<i>Further work</i>	<ul style="list-style-type: none"> <i>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</i> <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i> 	<ul style="list-style-type: none"> A range of exploration techniques are being considered to progress exploration including rock chip and soil sampling, geophysical surveying, and drilling.