

14 August 2023

Significant Project Expansion Defines New Copper-Gold Targets at Mabel Creek

Highlights

- Mabel Creek Project expands by 470 km² with the granting of the 'Dean Bore' (EL 6919) tenement, which is highly prospective for Iron-Oxide Copper-Gold (IOCG) mineralisation.
- Two large Exploration Licence Applications (ELA) registered, covering a total of 1,263km² over a newly identified prospective IOCG fertile zone.
- Evaluation of historical drill core from the BigNE Target confirms the presence of late iron rich alteration, which is consistent with the Olympic Province IOCG alteration.
- Gravity modelling of the BigNE target has defined two high-priority targets prospective for copper-gold.
- A precision ground gravity survey is planned for late August to assist with final modelling before drilling of at least three IOCG targets scheduled for early-mid October.

Petratherm Limited (ASX: PTR) (**PTR** or the **Company**) is pleased to announce a major expansion of its ground position at the Mabel Creek Project, located along the northern reaches of the Olympic Copper-Gold Province in South Australia. The Company has been granted the Dean Bore (EL 6919) tenement, which adds an additional 470km² at Mabel Creek, and also has registered two large ELA's covering 1,263km² over a newly identified prospective Iron-Oxide Copper-Gold (IOCG) fertile zone (Figure 1).

PTR's Chief Executive Officer, Peter Reid commented:

"The granting of the Dean Bore tenement further strengthens the Company's ground position in the world class Olympic Province. Importantly, recently completed gravity modelling over the BigNE target has produced two high-priority targets that we anticipate drilling later this year."

"The two high-priority targets will be followed up with a precision ground gravity survey to assist with modelling before drill testing of the three most prospective targets in October."

"I look forward to updating the market further with results from the precision ground gravity survey in the lead up to drilling over the coming months."

New Ground Acquisition and Recognition of IOCG Alteration

The Dean Bore tenement provides an additional 470km² along PTR's northern Mabel Creek tenement holding (Figure 1). Dean Bore contains the historic BigNE target, a regionally prominent, partly overlapping gravity and magnetic complex spanning a 7 kilometre by 4 kilometre area (Figure 2). The main gravity anomaly has an approximate 6 mGals amplitude, centred immediately east of the main magnetic high, which is a large amplitude (1,500nTs) linear anomaly.

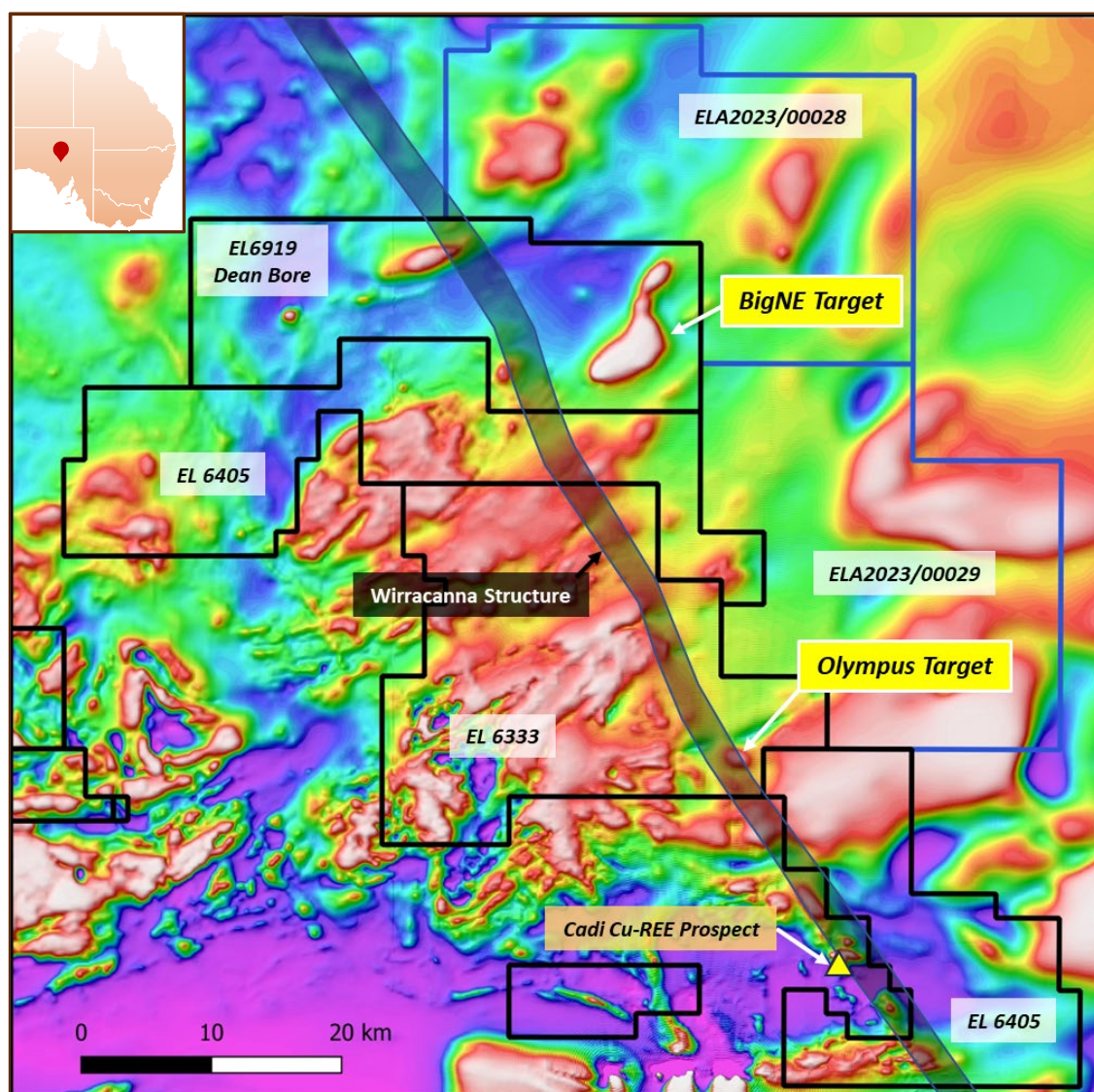


Figure 1 – Eastern Mabel Creek Project. Location of the BigNE and Olympus Targets on a magnetic image with respect to the Cadi Prospect and the Wirracanna Structure. Newly granted EL 6919 and tenement application areas EL2023/00028 & ELA2023/00029.

Limited historical drilling was completed across the BigNE target by Alliance Resources in the early 2000's (Figure 2). This indicated that the area has been subjected to a mineralising iron-oxide (hematite) alteration event¹. Drillholes ABNE 2 & BNE05/BNE05X intersected two intervals of relatively strong hematite development within altered meta-sediments (Figures 3 & 4). Anomalous copper assays were recorded up to 0.32% over short intervals within the iron rich alteration zones (see Table 1 of anomalous copper results and Figure 2 for map of hole locations).

¹ SA Government Open File Envelope ENV 9762 & ENV 11416

Re-evaluation of the ABNE 2 drill core by PTR staff and an independent IOCG specialist consultant confirmed the presence of iron-rich veins and pervasive iron-alteration, associated with brecciation and extension at a high crustal level. The hydrothermal alteration event is clearly younger than deformed host rocks. This is consistent with classic IOCG alteration in the Olympic Province.

A key additional finding is that the host sequences at BigNE comprise fine-grained laminated sedimentary rocks of probable Wallaroo Group equivalent strata that have not been previously recognised in the region. The Wallaroo Group is the host sequence to numerous IOCG mineralised occurrences in the Olympic Province such as at the Prominent Hill Mine, Emmie IOCG and Winjabbe Prospects. This observation and overprinting iron alteration demonstrates the eastern Mabel Creek Area has upper crustal levels present, which may be critical for the preservation of IOCG mineralisation in the area.

Geophysical interpretations undertaken by PTR suggest that east of the major Wirracanna Structure (Figure 1), more of these higher-level crustal rock sequences may be present. The Wirracanna Structure has been previously identified by PTR as having the potential to be a significant pathway for mineralising fluids. As a result PTR has registered two large exploration licence application areas (ELA 2023/00028 & ELA 2023/00029) over the newly identified prospective IOCG region (Figure 1). The total area of these new applications is 1,263 km². PTR will undertake tenement wide gravity surveying upon grant of these leases, expected later in the year.

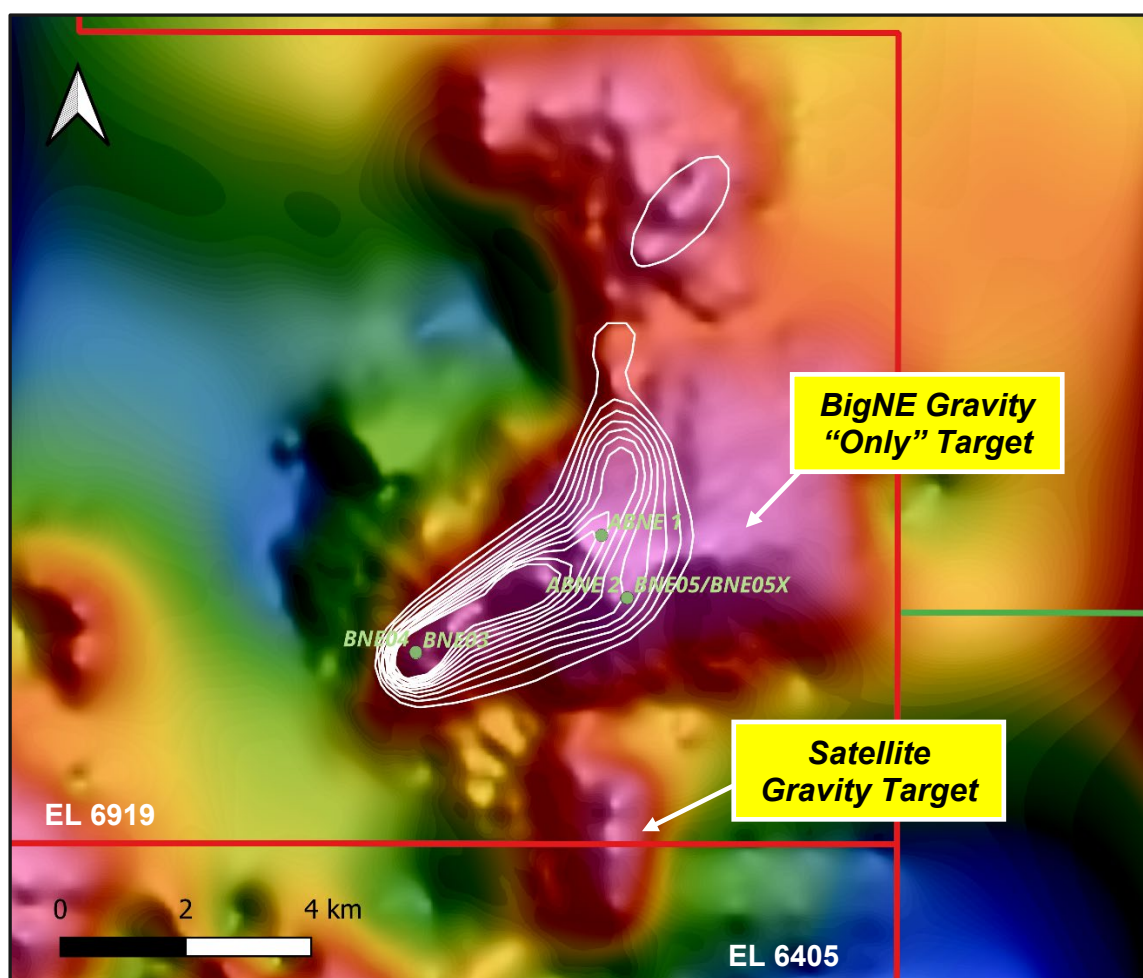


Figure 2 – BigNE and Southern Satellite Gravity Targets with high magnetic contours overlain. Note historical drilling has tested the combined magnetic and gravity responses on western half of the BigNE Target but not the gravity only target on the eastern side or satellite gravity body to the south.

Gravity Targeting

Compilation and re-gridding of historical gravity data has been completed to assess and model the BigNE gravity feature and immediate surrounds more closely (Figure 2). Survey coverage is highly variable ranging from poor (> 2 kilometre spacing) to good (200 metre spacing) over the majority of the BigNE Prospect. The new gravity mesh highlights the extent of the BigNE gravity anomaly and an additional prominent southern satellite gravity anomaly (Figure 2) straddling PTR's EL 6919 and EL 6405.

Historical drilling tested the combined magnetic and gravity targets on the western half of BigNE Prospect, with drillholes ABNE 2 and BNE05/BNE05X recording the strongest level of IOCG alteration. The main gravity target extends an approximate 2 kilometres further east where there is no significant magnetic response, and this area remains to be drill tested. Similarly, the southern satellite gravity anomaly is a gravity only feature and has not been drill tested.

IOCG style mineralisation, such as at Olympic Dam, Carrapateena, Prominent Hill and Oak Dam in the Olympic Domain of South Australia is hematite dominated with little to no magnetic response but produces a strong gravity anomaly response. These two untested "gravity only" anomalies at BigNE are therefore a high priority for future drill testing. Infill and regional gravity surveying is scheduled for late August to assist final modelling of the gravity anomalies and to undertake assessment of surrounding areas for new targets.



Figure 3 – Zone of strong hematite IOCG style alteration (rust red colouration) in hole ABNE 2 (interval 417.9m – 426 m down hole, not true width).



Figure 4 – Close up of ABNE 2 drill core at 422.7 metres down hole depth. Core has been replaced by massive hematite+magnetite+minor quartz alteration.

Future Drilling Operations

In May, PTR announced the Olympus Target² (Figure 5), a combined gravity and EM conductivity anomaly that extends over 2 kilometres and is located along the Wirracanna Structure, further to the southeast of the BigNE area gravity targets (Figure 1). Drill planning and contracting works are advanced, and PTR intends to mobilise a rig to test the Olympus Target and the two gravity only targets identified at BigNE starting from October. Further details will be provided once contracts and final approvals have been completed.

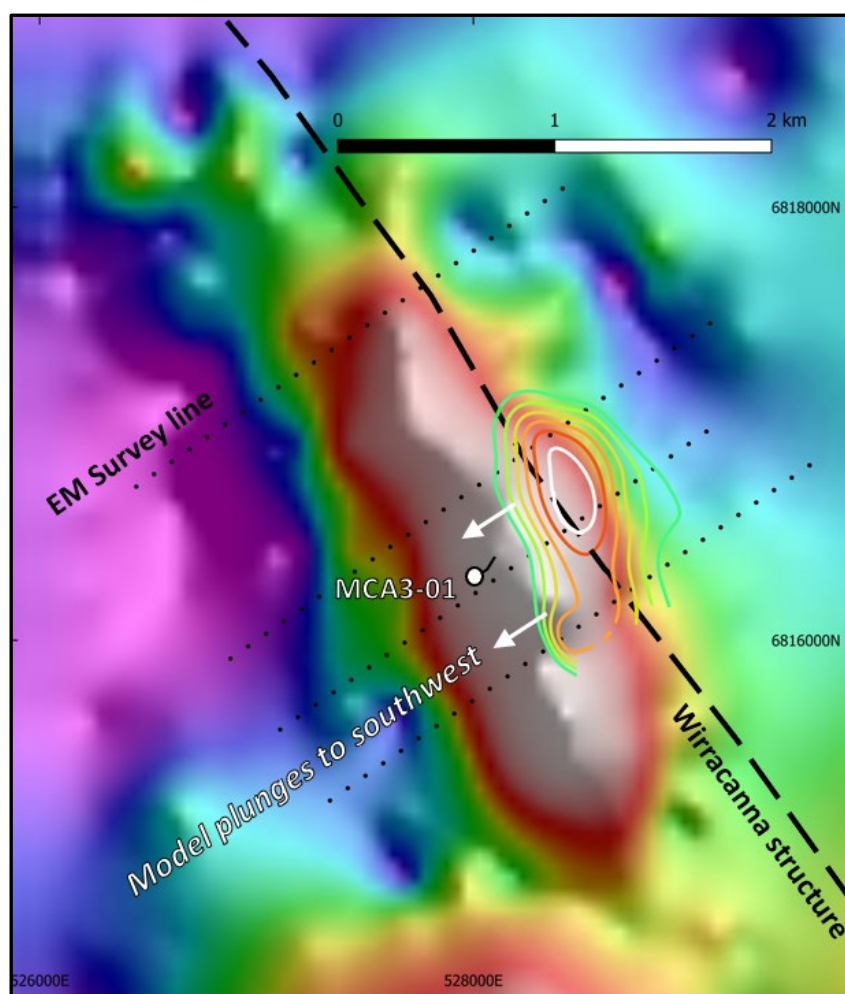


Figure 5 – Olympus geophysical response. Coloured image is gravity data (1VD Bouguer) overlain by late time EM contours (X channel 32) showing the position of the conductive plate on the eastern flank of the gravity body, which plunges steeply back to the southwest.

² PTR Announcement – 22 May 2023 – SQUID EM Survey – Significant Copper-Gold Target

Table 1 – BigNE Prospect historical drillholes and anomalous copper geochemistry (>0.05%)

Hole ID	Prospect	From (metres)	To (metres)	Interval (metres)	Ag (ppm)	Cu (%)
ABNE 2	BigNE	476.0	478.0	2.0	0.5	0.05
ABNE 2	BigNE	482.0	490.0	8.0	1.1	0.07
<i>inc</i>		484.0	486.0	2.0	2.6	0.18
ABNE 2	BigNE	506.0	509.1	3.1	0.8	0.08
<i>inc</i>		508.0	509.1	1.1	1.0	0.13
BNE05 / BNE05X	BigNE	382.7	383.4	0.7	1.3	0.05
BNE05 / BNE05X	BigNE	385.4	386.0	0.6	1.3	0.10
BNE05 / BNE05X	BigNE	388.0	389.3	1.3	0.5	0.05
BNE05 / BNE05X	BigNE	395.6	396.7	1.1	5.2	0.32
BNE05 / BNE05X	BigNE	490.0	490.5	0.5	2.1	0.24
BNE05 / BNE05X	BigNE	565.7	566.4	0.7	0.9	0.09
ABNE 1	BigNE	IOCG Alteration - no significant assays				
BNE03	BigNE	IOCG Alteration - no significant assays				
BNE04	BigNE	IOCG Alteration - no significant assays				

Table 2 – BigNE Historical Drill Collars (refer to Figure 2 for map of drill hole locations)

Hole ID	Prospect	Target	Easting (GDA 94 Z53)	Northing (GDA 94 Z53)	Collar Azimuth (Deg)	Collar Dip (Deg)	Elevation (AHD)	Hole Depth to Basement (metres)	Final Hole Depth (metres)
ABNE 1	BigNE	magnetic anomaly on periphery of broad gravity high	519880	6848773	0	90	130	417	477
ABNE 2	BigNE	magnetic anomaly on periphery of broad gravity high	520279	6847774	0	90	125	390	509
BNE03	BigNE	coincident magnetic and gravity anomaly	516923	6846897	0	90	145	342	375
BNE04	BigNE	coincident magnetic and gravity anomaly	516920	6846913	0	90	140	335	602
BNE05/BNE05X	BigNE	magnetic anomaly on periphery of broad gravity high	520290	6847775	0	90	125	364	1165

Notes for Tables 1 and 2

1. Down hole lengths reported, and the true width of intercepts is not known
3. Coordinates are in GDA 94 Z53

ENDS

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

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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 and PTR anticipates drill testing of targets will begin from late in 2023 calendar period.



PTR's Project Locations in South Australia

EL 6919 (Dean Bore)

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	<i>Nature and quality of sampling (eg 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.</i> <i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i> <i>Aspects of the determination of mineralisation that are Material to the Public Report.</i> <i>In cases where 'industry standard' work has been done this would be relatively simple (eg '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 (eg submarine nodules) may warrant disclosure of detailed information.</i>	- Previous exploration work includes 7 diamond drillholes which intersected basement. PD00WN0012 was drilled by Goldstream Mining in 2000. BNW01/(A) ABNE1, ABNE2, BNE03, BNE04 and BNE05/(X), Drilled by Alliance Resources between 2003-2013. - For Alliance drillholes. The core was marked for cutting at 1-4 metre intervals in the field based on geological intervals depending on visual examination. Markings prepared for ¼ cut core for assay results. - Geochemical assays were completed by InterTECK - Genalysis Laboratory in Adelaide - The results in this Report relating to the BigNE Prospect are historical and as such additional details are unknown.
Drilling techniques	<i>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg 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).</i>	- Previous exploration work on EL 6919 includes 7 rotary mud / diamond tail drillholes which intersected basement. PD00WN0012 was drilled by Goldstream Mining In 2000. BNW01/(A) ABNE1, ABNE2, BNE03, BNE04 and BNE05/(X), Drilled by Alliance Resources between 2003-2013. - Rotary mud pre-collars were drilled by Watson Drilling of Deniliquin at both Big North West and Big North East prospects - Upon completion, the pre-collars were cased with Class 18 PVC pipe (6"),

Criteria	JORC Code explanation	Commentary
		which was pressure cemented in at the bottom of each hole. - At each prospect, the pre-collar holes drilled through the Bulldog Shale, Cadnawowie Formation and an unidentified black claystone sequence (most likely Mt Toodnina Formation). - Diamond tails were drilled by Budd contract exploration and Underdale Drillers LTD, Using HQ and NQ rods for each hole. - The results in this Report are historical and as such additional details are unknown.
Drill sample recovery	- 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.	The results in this Report are historical and as such these details are unknown.
Logging	- 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.	- All Pre-collar chips and diamond core was logged by Goldstream and Alliance staff. - Logging comprised separate lithology, alteration, 1m magnetic susceptibility readings and assay sample logs. - The results in this Report are historical and as such these details are unknown.
Sub-sampling techniques and sample preparation	- 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. - 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.	- For Alliance drillholes. The core was marked for cutting at 1-4 metre intervals in the field based on geological intervals depending on visual examination. Markings prepared for ¼ cut core for initial assay results with further sampling dependent upon results. - Intervals were cut by diamond saw, at challenger geological services in Adelaide.

Criteria	JORC Code explanation	Commentary
		• Geochemical assays were completed by InterTECK - Genalysis Laboratory in Adelaide • The results in this Report relating to the BigNE Prospect are historical and as such these details are unknown.
Quality of assay data and laboratory tests	• 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 (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	• The sampling digest methods are considered appropriate and industry standard. • Sample preparation was by Method SSMG. A nominal 25g Aqua Regia digestion (B25) with ICPMS and AAS finish for the pre-collar assays and ICPMS and OES finish for the 1/4 core assays • The results in this Report are historical and as such these details are unknown.
Verification of sampling and assaying	• 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.	• The results in this Report are historical and as such these details are unknown.
Location of data points	• 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.	• Pre collars were located by handheld GPS. • Downhole surveys were conducted using a ranger surveying instrument. • The results in this Report are historical and as such these details are unknown.
Data spacing and distribution	• 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.	• The Drillholes that intersected basement aimed to test discrete exploration targets and did not attempt to establish continuity between areas. • The results in this Report are historical and as such these details are unknown.
Orientation of data in relation to geological structure	• 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.	• All Drillholes that intersected basement were drilled vertically. Therefore, it is impossible to determine the exact orientation of structures. • The results in this Report are historical and as such these details are unknown.

Criteria	JORC Code explanation	Commentary
Sample security	The measures taken to ensure sample security.	The results in this Report are historical and as such these details are unknown.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	- No review has been undertaken at this time. - The results in this Report are historical and as such these details 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	- 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.	- EL 6919 was granted to Petratherm (100%) on the 25/07/2023 for an initial licence terms of 6 years. - EL 6919 is located approximately 70km northeast of Coober Pedy overlapping Mount Barry and Nilpinna Pastoral Stations. Native Title Claims: SCD2012/002 Arabana & SCD2011/001 Antakirinja Matu-Yankunytjatjara. - The tenement is in good standing and no known impediments exist.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Previous exploration work includes; Airborne Geophysics: Magnetism and Radiometrics Ground Geophysics: Magnetism, Gravity, MT, and IP. Exploration Drilling: 7 Rotary Mud / Diamond tail holes.
Geology	Deposit type, geological setting and style of mineralisation.	Petratherm is primarily exploring for Fe-Oxide-Copper-Gold mineralisation (e.g. Olympic Dam-style) within the Peake & Denison Domain of the Gawler Craton, South Australia.
Drill hole Information	- 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: - easting and northing of the drill hole collar - elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar - dip and azimuth of the hole	- Summary table of historic drill hole details from the BigNE Prospect included in Tables 1 & 2 in the main body of the report. - True widths of intercepts reported is un-known.

Criteria	JORC Code explanation	Commentary
	○ down hole length and interception depth ○ hole length. • 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.	
Data aggregation methods	• In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated. • 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. • The assumptions used for any reporting of metal equivalent values should be clearly stated.	• Sample length weighted averaging was used to calculate the aggregate intervals reported. • Sample results reported represent composite intervals. • No mineralised grades of significance have been reported, only evidence of alteration. Intercepts reported used a 500 ppm Cu cut-off. • No metal equivalents have been used.
Relationship between mineralisation widths and intercept lengths	• These relationships are particularly important in the reporting of Exploration Results. • If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. • If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').	• Down hole length has been reported, as true width is not known, as insufficient work has been undertaken to understand the true width of intervals. • "Down hole length, true width not known" is stated in the notes to Table 1A.
Diagrams	• 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.	• Plan view of drill collar locations has been shown in the body of this report. • No section views have been provided as no significant mineralisation was intersected. • Insufficient drilling has been undertaken to be able to provide geological sections.
Balanced reporting	• 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.	• The reporting is considered balanced. Comprehensive reporting of all historical exploration results has occurred when appropriate.
Other substantive exploration data	• Other exploration data, if meaningful and material, should be reported including (but not limited to): 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.	• Re-processing and modelling of historical ground gravity surveying was conducted over EL 6919. This work defined several gravity anomalies which has formed the basis of initial follow up ground geophysics and

Criteria	JORC Code explanation	Commentary
		drill targeting.
<i>Further work</i>	<i>The nature and scale of planned further work (eg 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>	A range of exploration techniques are being considered to progress exploration including gravity and SQUID EM geophysical surveying to aid drill targeting and further drilling.