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ASX ANNOUNCEMENT **22/05/2023**

SQUID EM SURVEY GENERATES SIGNIFICANT COPPER-GOLD TARGET AT MABEL CREEK

Highlights

- **High Powered SQUID EM survey has identified a conductive plate of significant dimensions on the eastern flank of a major gravity target (Olympus Target).**
- **Modelling of the conductive plate indicates it starts at approximately 600 metres vertical depth, is about 2 kilometres long and extends to at least 2 kilometres depth back towards the centre of the gravity target.**
- **The Mabel Creek Project occurs along the Olympic Copper-Gold trend on the eastern margin of the Gawler Craton which hosts several world class-copper gold deposits.**
- **Drill planning and contracting works are underway with a view of testing the Olympus Target during the second half of 2023 calendar year.**

Petratherm Limited (ASX: **PTR**) (PTR or the Company) is pleased to announce that the recently completed SQUID EM surveys on its extensive Mabel Creek tenement package have generated an exciting new copper-gold target called the Olympus Target.

PTR Chief Executive Officer, Peter Reid commented:

"The Olympus Target is an exceptional combined gravity and conductivity anomaly which extends over 2 kilometres in a province highly endowed with world-class copper deposits. Globally, there is a strong and growing mandate for new copper discoveries to be made however there is a lack of advanced copper exploration targets of potential world class size to test.

"The Olympus Target, combined with the Companies' other exceptional copper-gold targets at its Woomera Project near BHP's recent giant Oak Dam Copper-Gold Discovery, in the heartland of the Olympic Copper Province, places the Company in an enviable position as a junior explorer." [1]

[1] Woomera Tenement Granted – IOCG Drill Targets Defined – PTR ASX Release 04/04/2022

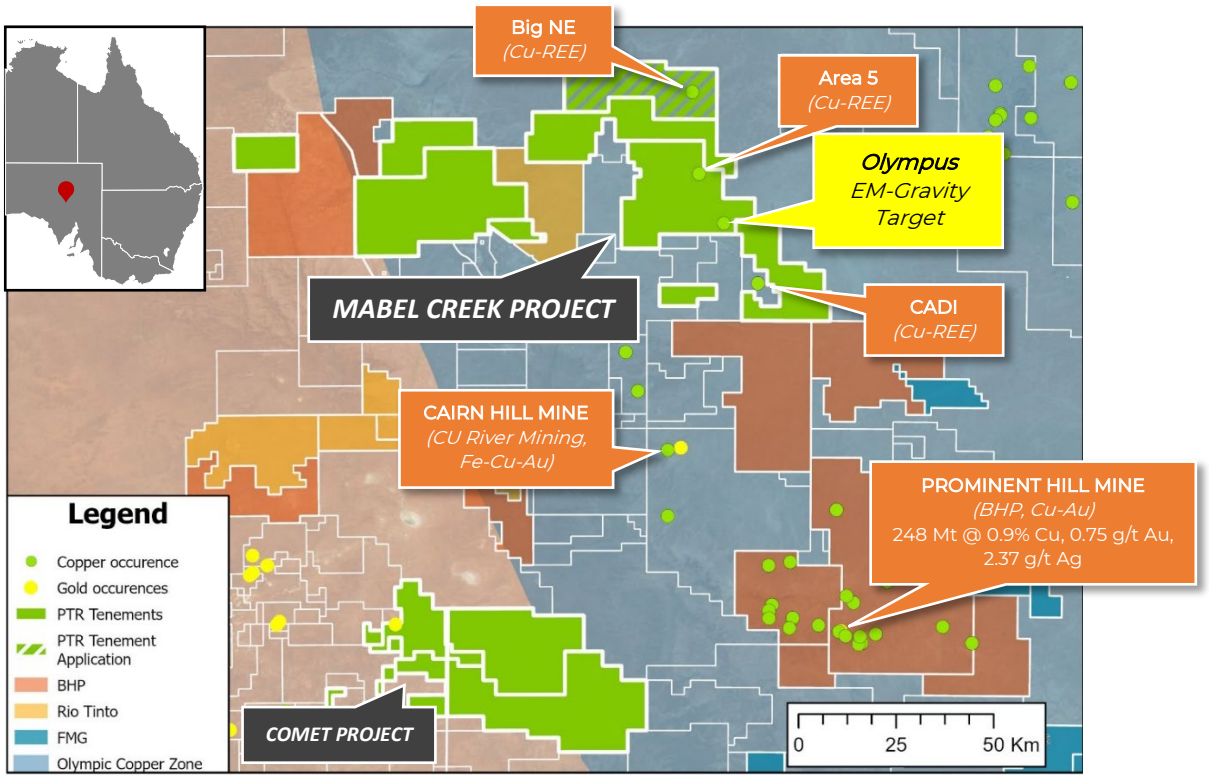

Figure 1: *PTR's Mabel Creek Project, Major Company Tenement Holdings, Copper, and Gold Occurrences*[2]

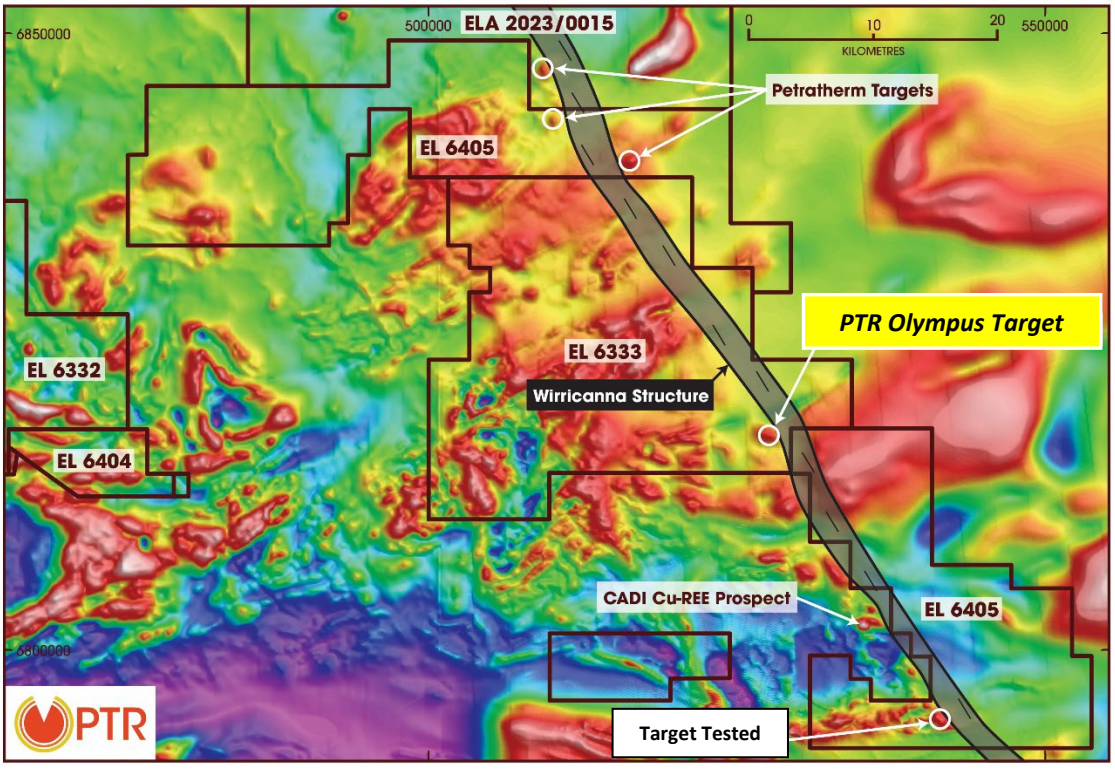

Figure 2: *Location of Olympus Gravity/EM Target (and other PTR targets) on a magnetic image with respect to the Cadi Prospect and the Wirracanna Structure.*

[2] See Endnote - OZ Minerals Prominent Hill Mineral Resource and Ore Reserve Statement - ASX Release 21/12/2022.

The Mabel Creek Project is located on the northern extent of the Olympic Copper-Gold Trend (Figure 1), but the region also has geological similarities to the Mt Isa Inlier in Queensland and is considered by PTR to be highly prospective for Tier 1 Copper-Gold deposits. The Mabel Creek Project has a significant land holding of 3,322 km^2, which is 100% owned by the Company (Figure 1).

Following a region-wide structural and geological review of the Mabel Creek Project, PTR identified multiple key structures having the potential to be significant pathways for mineralising fluids. One of these, the Wirracanna Structure, is adjacent to the Cadi Copper-Rare Earth Prospect currently being investigated by Rifle Resources (Figure 2). Limited historical drilling at Cadi has intersected broad zones of highly anomalous copper and light rare earths (i.e. drill hole 99WS003 16m @ 0.57% Cu, 0.16% Ce+La from 184m[3]) highlighting the fertility of this structure for iron-oxide copper-gold (IOCG).

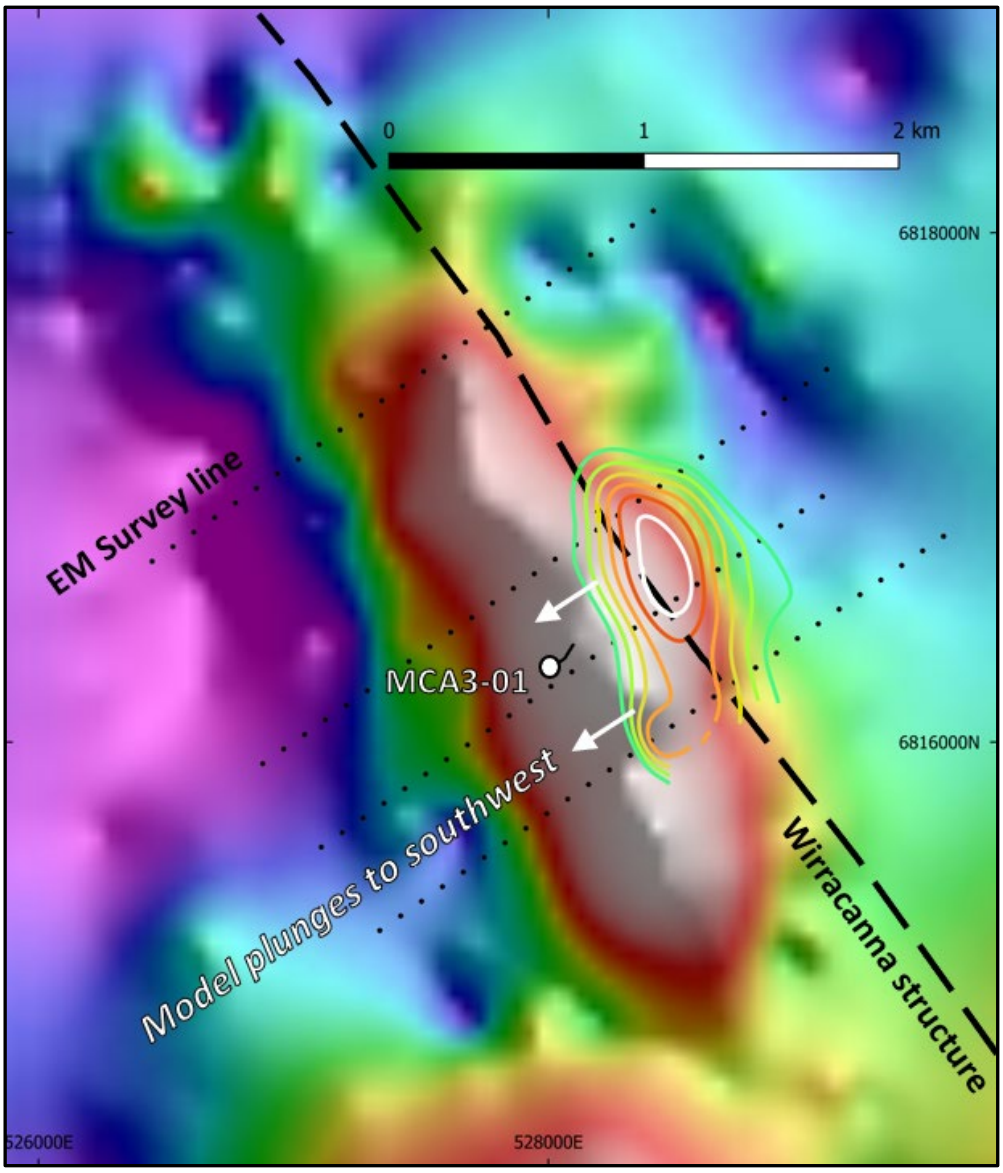

Figure 3: *Olympus geophysical response. Coloured image is gravity data (1VD Bouguer) overlain by late time EM contours (X channel 32) showing the position of the conductive plate on the eastern flank of the gravity body which plunges steeply back to the southwest.*

[3] Goldstream Mining, 2001, SA Govt. Record ENV09248

PTR generated multiple priority targets adjacent to the Wirracanna structure, and two of those were selected for SQUID EM surveying in this round (Figure 2). One target has returned a positive conductivity response.

The Olympus target was selected as a discrete semi-coincident gravity and magnetic feature of >2-kilometre strike length on the edge of the Wirracanna structure (Figure 3). Olympus (formerly termed the Area 3 Target) is a significant discrete gravity feature of approximately 3 milligals and is comparable in extent and magnitude to the Prominent Hill copper-gold deposit gravity response[4]. SQUID EM surveys at Olympus identified a moderate conductive feature over three consecutive lines spaced 400m apart along the eastern flank of the gravity anomaly.

Modelling of the conductive response generates an approximate 2-kilometre-long conductive plate starting at approximately 600 metres below ground surface. The modelled feature dips back to the southwest and at depth is coincident with the gravity feature.

A single drill hole collared on the western slope of the Olympus gravity feature (Figure 3) was drilled by PTR in 2020 (MCA3-01) intersecting 247 metres (vertical thickness) of cover and then penetrated 40 metres into weakly hematite altered granite and gneiss, intruded by mafic and felsic dykes[5]. Subsequent geophysical modelling using petrophysical readings from the drill core confirm that the drill hole did not penetrate deep enough to explain the gravity target. Modelling of the new SQUID EM data indicates the hole was positioned several hundred metres west of the new conductive target, with this hole finishing at least 1 kilometre away from the conductive body.

Next Steps

Drill planning and contracting works are underway with a view of testing the Olympus Target during the second half of 2023 calendar year. The Company will provide an update once contracts have been finalised. The northern Gawler Craton is extremely prospective for world class copper-gold deposits and Mabel Creek is one of PTR's key assets in a growing portfolio of exciting copper projects.

This ASX announcement has been authorised for release by the Board of Petratherm Ltd.

For further information contact :

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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 Ltd. 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.

Endnote

OZ Minerals - Prominent Hill Mineral Resource and Ore Reserve Statement ASX Release 21/12/2022. BHP Group Limited is a producing entity. The purpose of Figure 1 is to illustrate the geographical proximity of the Mabel Creek Project to Major Company Tenement Holdings, Copper, and Gold Occurrences.

Project	Company	Total Resources & Reserves	Total Resource	Measured Resource	Indicated Resource	Inferred Resource	Total Reserve	Proved Reserve	Probable Reserve
Prominent Hill	Oz Minerals (now BHP)	248 Mt @ 0.9% Cu, 0.75 g/t Au, 2.37 g/t Ag	180Mt @ 0.9% Cu, 0.8 g/t Au, 2.4 g/t Ag	49Mt @ 1.2% Cu, 0.6 g/t Au, 3.0 g/t Ag	60Mt @ 0.7% Cu, 0.8 g/t Au, 2.2 g/t Ag	66Mt @ 0.8% Cu, 0.9 g/t Au, 2.3 g/t Ag	68Mt @ 0.9% Cu, 0.6 g/t Au, 2.3 g/t Ag	29Mt @ 1.2% Cu, 0.6 g/t Au, 2.9 g/t Ag	39Mt @ 0.7% Cu, 0.7 g/t Au, 1.9 g/t Ag

[4] Gravity Survey Identifies High Tenor Olympic Dam Style Targets - PTR ASX release 14/08/2019
[5] Mabel Creek Drilling Results – PTR ASX Release 12/05/2020

JORC Table 1 - EL's 6332, 6333, 6404,6405 & ELA 2023/00015 (Mabel Creek Project)

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *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.* • *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 (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.*	• Not applicable - refer PTR ASX release 12/05/20 for previous JORC Table 1 drilling details.
Drilling techniques	• *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.).*	• Not applicable - refer PTR ASX release 12/05/20 for previous JORC Table 1 drilling details.
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.*	• Not applicable - refer PTR ASX release 12/05/20 for previous JORC Table 1 drilling details.
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.*	• Not applicable - refer PTR ASX release 12/05/20 for previous JORC Table 1 drilling details.
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-*	• Not applicable - refer PTR ASX release 12/05/20 for previous JORC Table 1 drilling details.

Criteria	JORC Code explanation	Commentary
	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	• *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.*	• Not applicable - refer PTR ASX release 12/05/20 for previous JORC Table 1 drilling details.
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.*	• Not applicable - refer PTR ASX release 12/05/20 for previous JORC Table 1 drilling details.
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.*	• All maps and locations are in UTM grid (GDA94 Z53) and have been measured by hand-held GPS with a lateral accuracy of ±4 metres and a vertical accuracy ±5m.
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.*	• Moving Loop TEM (MLTEM) stations were collected with 50m or 100m spacing along selected traverses. • No mineralisation was encountered in the historic drilling and therefore this information is not considered Material.
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.*	• Not applicable, no drilling or sampling was undertaken
Sample security	• *The measures taken to ensure sample security.*	• Not applicable

Criteria	JORC Code explanation	Commentary
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• 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	• *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.*	• ELs 6332 and 6333 was granted to Petratherm (100%) on 29/03/2019. EL's 6404 and 6405 were granted to Petratherm (100%) on 12/09/2019. ELA 2023/00015 was registered to Petratherm (100%) on 23/03/2023. • ELs 6332, 6333, 6404, 6405 & ELA 2023/00015 are located approximately 50km north and east of Coober Pedy overlapping portions of the Mt Willoughby, Mabel Creek, Mt Clarence, Mount Barry, Nilpinna and Anna Creek Pastoral Stations. • The southern half of the tenement group overlaps the Woomera Prohibited Area (Green Zone). • **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:** Magnetics, Radiometrics and MCR. **Ground Geophysics:** Magnetics and Gravity. **Exploration Drilling:** 2 Rotary, 2 Rotary Percussion, 5 Reverse Circulation.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• Petratherm is primarily exploring for Fe-Oxide-Copper-Gold mineralisation (e.g. Olympic Dam-style)

Criteria	JORC Code explanation	Commentary
		along the eastern 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* ○ *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.*	• No drilling has been undertaken by Petratherm for this survey although limited historical drilling exists. • Additional details from historic drilling are unknown.
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.*	• No drilling has been undertaken by Petratherm.
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').*	• No drilling has been undertaken by Petratherm.
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.*	• No drilling has been undertaken by Petratherm.
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.*	• No drilling has been undertaken by Petratherm.
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.*	Moving Loop Electromagnetic (MLEM) surveying was conducted with the following specifications:. • Sensor – Jessy Deeps high-temperature SQUID, 3-component B-field

Criteria	JORC Code explanation	Commentary
		• Receiver – SMARTem-24 • Transmitter – GEM-HO 100A • Configuration – Inloop • Loop size – 200 x 200m with one test line using 400x400m loop • Current – 80A • Base Frequency – 0.5 Hz • Station spacing – 50m/100m • Line spacing – 400m and selected traverses. • Navigation – Hand-held GPS Data from the MLEM survey was compiled and modelled by an independent contractor before being provided to Petratherm
Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• A range of exploration techniques are being considered to progress exploration including drilling.