

# ASX Announcement



Paterson Central Phase One Drilling – 7 Deep Drill Holes to Test the First 7 Highest-Priority Targets.

**10 August 2020**

## Highlights

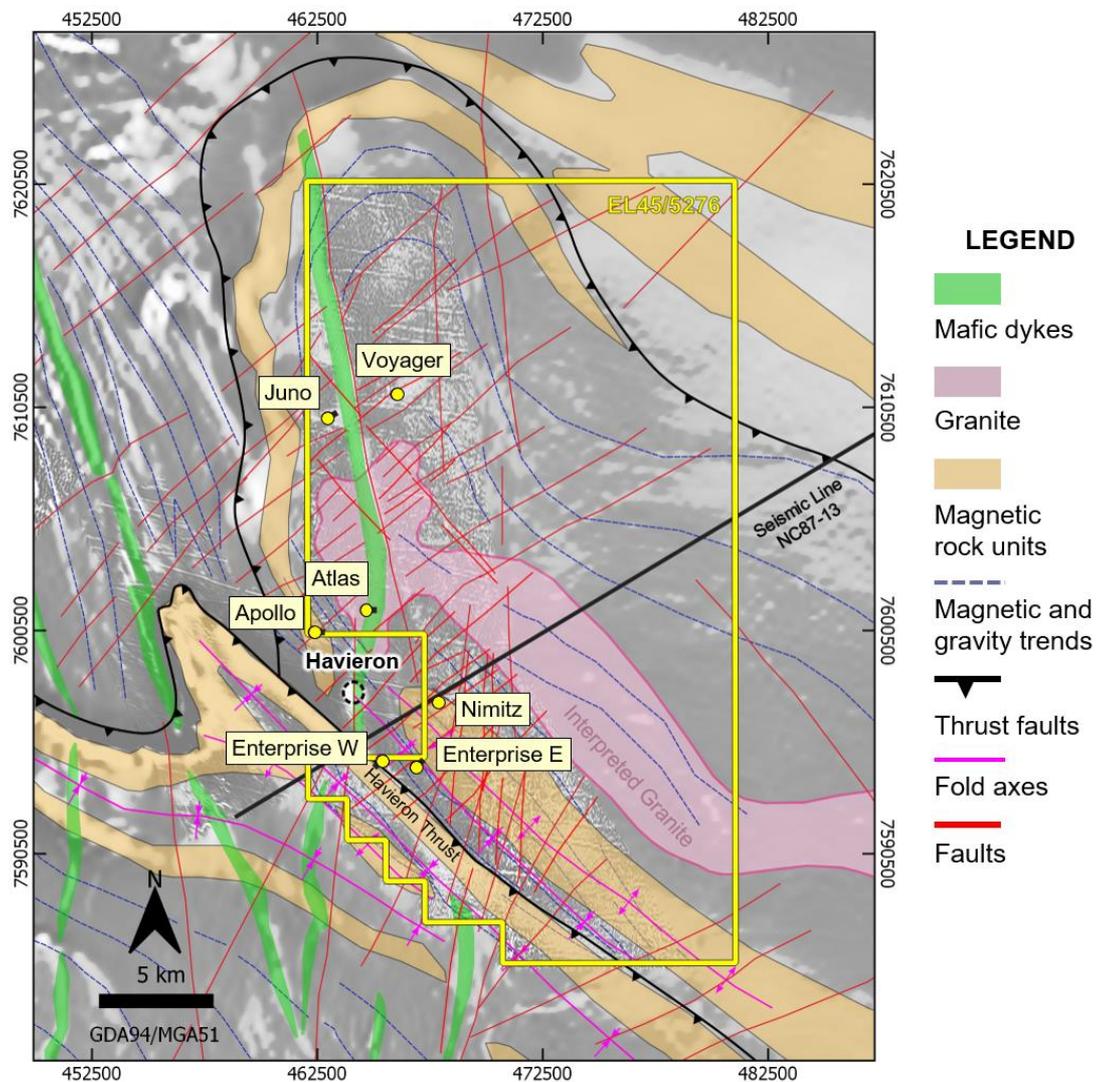
- Advanced interpretation of geophysical signatures from high resolution magnetic and gravity survey data, re-processing and interpretation of 2D seismic reflection data, and ionic leach geochemical and structural targeting, have been used to plan deep diamond drill holes at Paterson Central.
- POW lodged with Department of Mines for 20 holes at Paterson Central with a Phase One Drill Programme planned to test 7 of the highest priority targets with one deep hole on each target.
- Five Southern drill targets sit within the same geological and structural domain as the Havieron gold discovery, are within 4km of Havieron, and are sited within the same favourable structural corridor.
- Two Northern Targets are geophysical and structural targets adjacent to a favourable N-S trending structural corridor extending North from Havieron.
- Interpretation of an extensive deep-seated granite intrusion, combined with a very large inferred N-S structural corridor traversing the western Paterson Central tenure (as well as Havieron), underpin a new and potentially very significant regional geological model for ore deposit formation locally.
- This new model combined with geochemistry and geophysics has led to Artemis upsizing its planned maiden drill programme to address the substantial overall prospectivity now believed to exist at Paterson Central.
- Heritage surveying and applications for clearing drill pads is underway, drilling contract signed, and drill programme over the 7 key targets is anticipated to commence as soon as late August subject to final heritage and access completion.

**Artemis Resources Limited** (“Artemis” or “the Company”) (ASX:ARV, Frankfurt: ATY, US OTCQB: ARTTF) is pleased to provide an update on planned mineral exploration activities at its 100%-owned Paterson Central Project in the East Pilbara region of Western Australia.

**Mark Potter, Chairman of Artemis commented:** “The extensive review and data reprocessing undertaken by our external consultants, Resource Potentials, has significantly changed our understanding of the modelled geology and structural characteristics of the Paterson Central area. This work has profoundly increased our belief that a gold discovery is possible within our project area and as we own 100% of our acreage we believe a discovery could be transformational for Artemis and the wider Paterson Central Area. The completion of this work is a major milestone for Artemis, and now we move toward the first drilling phase as and when all preparatory work has been completed. We will provide the market with further updates upon drilling commencement and progress thereafter.”

## Summary of New Targeting at Paterson Central

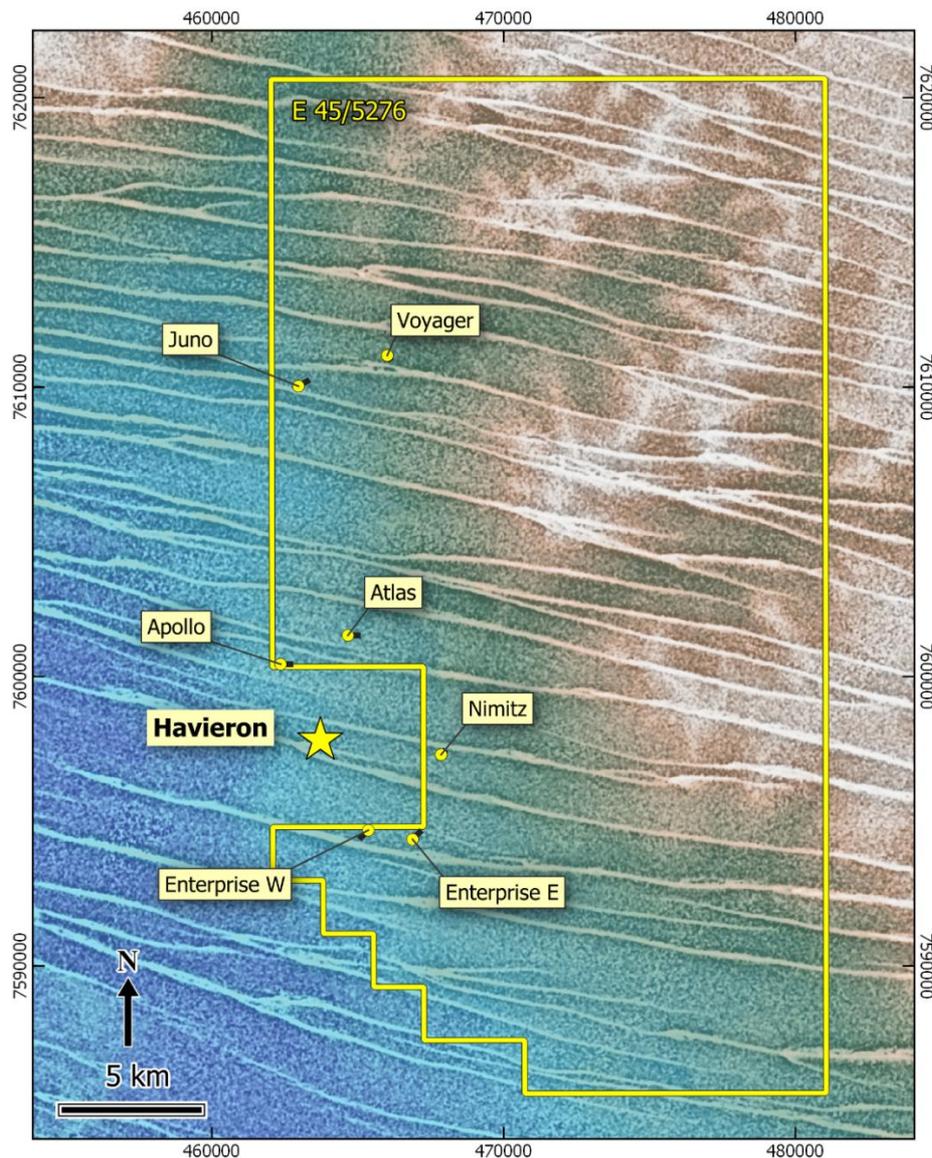
A detailed review of all Artemis data by Perth based Resource Potentials, led by Dr Jayson Meyers, has led to a revision of initial targets and identification of new targets, to come up with 7 key target zones to each be tested by a single deep drillhole: **Juno**, **Voyager**, **Enterprise East**, **Enterprise West**, **Nimitz**, **Atlas** and **Apollo** (Figures 1 to 3).



**Figure 1:** Paterson Central Tenement E45/5276 (yellow outline), with 7 target areas for proposed drilling (yellow dots), interpreted bedrock geology units and structures, on top of a merged magnetic anomaly image, and location of 2D seismic reflection survey line shown in Figure 4.

## Phase One Drill Programme

The Company's Phase One Drill Programme is targeting the completion of 7 holes of about 800m depth each for circa 5,600 total metres. Given the wildcat nature of the drilling, the Company may choose to further extend the scope of the drill programme pending initial results. Drilling is expected to commence in late August to early September, subject to final heritage and access works. Given the predominance of E-W parallel sand dunes in the region (Figure 2), access to the northern targets of Juno and Voyager may require extra time and attention. As such, drilling is likely to commence around the more southerly targets located only several kilometres from the Havieron discovery. The Company will update the market of both commencement and progress of the drilling program, as well as any changes to the drill targeting should they occur.

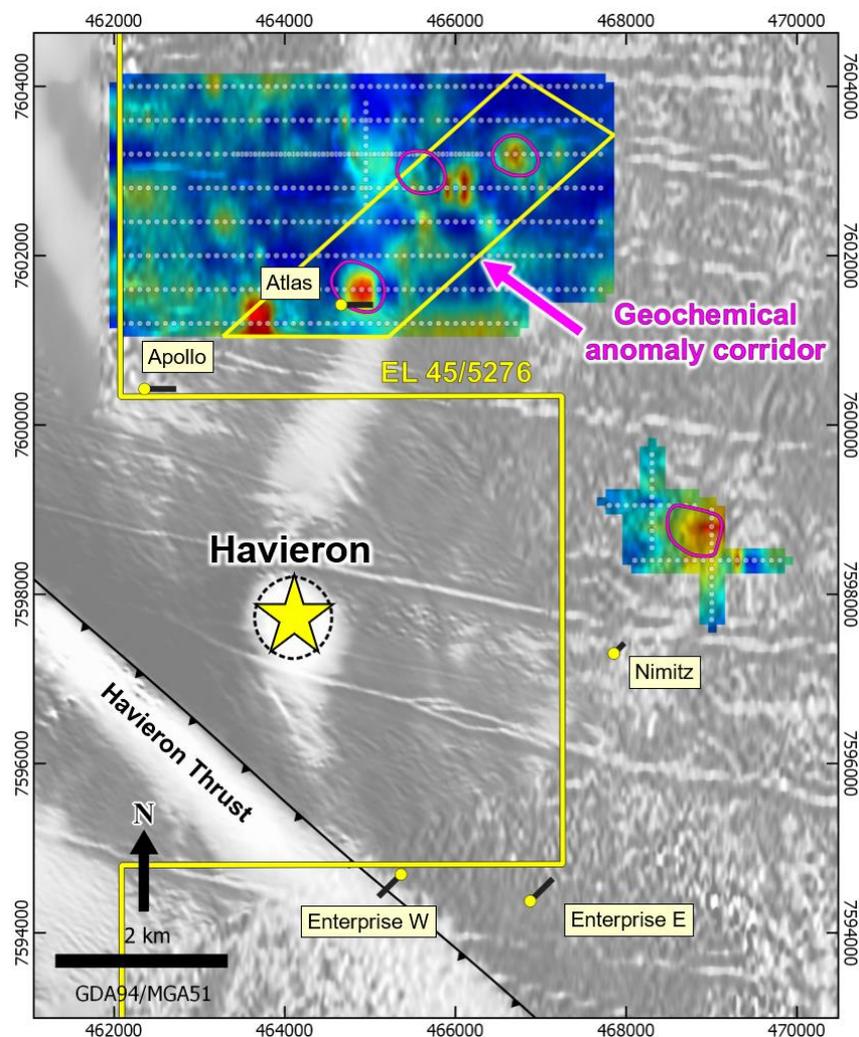


**Figure 2:** Digital terrain model of the Paterson Central tenement (yellow outline) and proposed 7 high priority targets with drillhole locations (yellow dots). An extensive array of linear sand dunes appear as lines trending roughly East-West, with elevation highlighted by hotter colour attributes. The linear sand dunes range in height from between 5 to 15 metres above the relatively flat landscape.

The maiden Paterson Central programme aims to make discoveries of both gold and copper, as well as demonstrate that the mineralising structures and events that led to the formation of the outstanding Havieron discovery are active across the Company's tenement, which surrounds Havieron on three sides (Figures 1 and 2).

### Basis of Targeting – Geochemical Anomaly Corridor

A geochemical target trend has been defined to occur just to the north of Havieron by an extensive ionic leach sampling program, which was completed following initial trial surveys and specialised data analysis by Artemis geologist Allan Younger, who compared duplicate results between ionic leach and mobile metal ion (MMI) methods. The ionic leach method was then chosen for assaying 456 samples collected in a grid pattern to the north of Havieron, and results from this survey have also been used to target drilling on the Atlas target zone, which also sits over the same North-South trending mafic dyke that extends north from Havieron (Figure 3).



**Figure 3:** Ionic leach geochemical survey area north of Havieron, consisting of 456 samples collected in a 100x400 metre grid pattern, with a multi-element (Ag, As, Au and Cu) geochemical anomaly trend highlighted (yellow outline) and multi-element anomaly highs (purple outlines), on a colour image of elevated gold, all overlain on a magnetic anomaly image. Locations of planned Artemis drillholes are shown as yellow dots, with their downhole traces projected to surface as black lines.

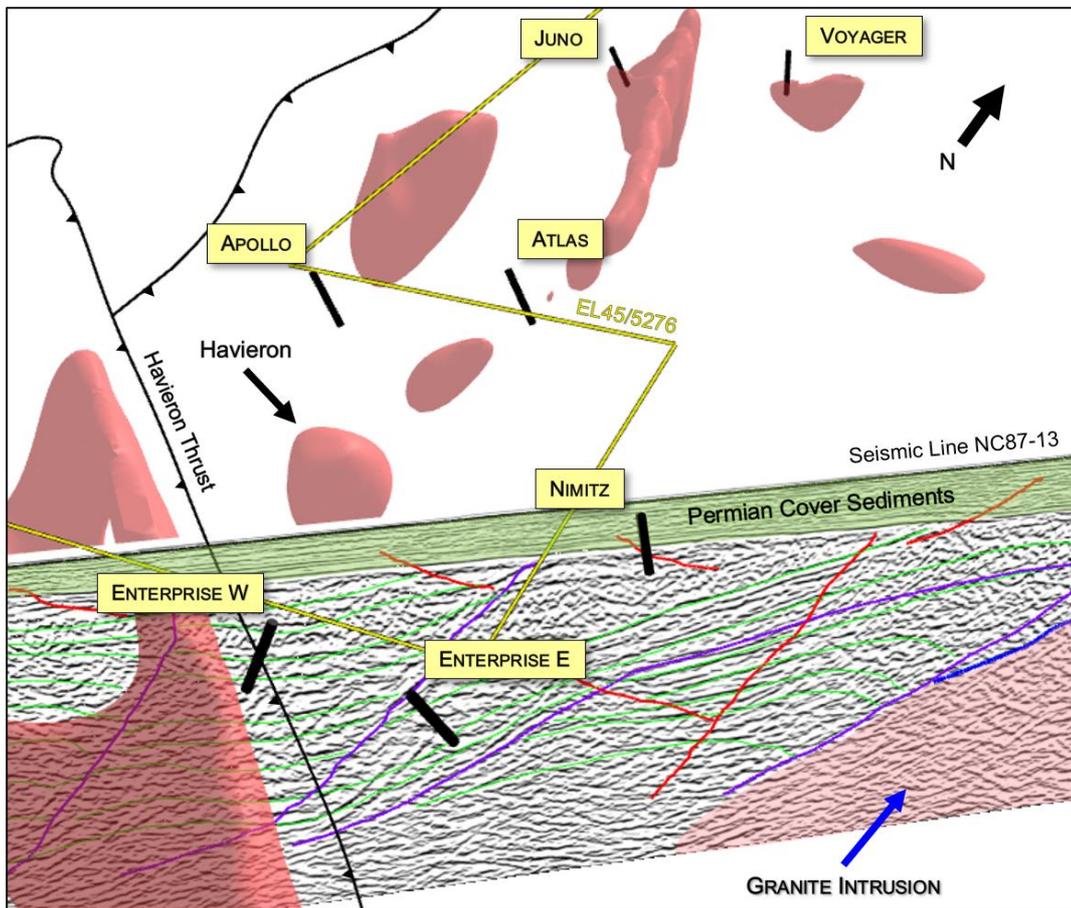
As reported previously, Artemis sought to undertake a more comprehensive geochemical sampling programme on a grid pattern, however this was curtailed by a significant rain event, with only 456 of the planned ~1,500 samples retrieved before activities ceased. The Ionic leach process appears to be successful for generating geochemical anomalies that are coincident with structures and geophysical anomalies which are already of interest. The Company will now undertake to complete the unfinished portion of the planned geochemical sampling programme and likely extend its footprint as a future targeting tool over other prospective geological trends at Paterson Central.

### **Basis of Targeting – Structural, Geophysical and Seismic Data**

The majority of the basis for targeting and drill planning has been to follow structural trends in Neoproterozoic bedrock, sitting below thick Permian cover sediments, interpreted from geophysical data sets, including a deep penetrating 2D seismic reflection survey line acquired for oil and gas exploration in the 1980s, and subtle gravity and magnetic highs from features occurring below the sedimentary cover; including a deep sourced ionic leach multi-element geochemical anomaly trend as mentioned above.

Figures 1 and 4 show how the interpretation of geological structures occurring in bedrock below Canning Basin Permian siltstone cover has likely identified a non-magnetic and low density granitic intrusive body, which would have likely been intruded during the regional Crofton Granite event (650-600 Ma). The location of this interpreted granite also shows up as a non-reflective seismic transparent zone (Figure 4). This interpreted NW-SE trending granitic intrusion is in close proximity to Havieron (Figure 1), and could be the main source of heat for driving hydrothermal alteration and local skarn-like metamorphism associated with gold and copper mineralisation found at Havieron. Low angle, West-dipping thrust faults and late brittle cross faults have also been interpreted in the 2D seismic reflection data (Figure 4), as well as in both gravity and magnetic data sets to offset folded Neoproterozoic (850-820 Ma) metasediments of the Lamil Group, which host the Telfer Gold deposit located about 45 km to east, and which are also the likely host rocks to Havieron.

Two target zones in the northern part of the project area, Juno and Voyager, have primarily been identified as strong magnetic anomaly targets located 12 km to the north of Havieron. They sit on the northern edge of the interpreted granite intrusion, and form along a Northeast trending structural corridor that crosses the Northwest to North-South trending bedrock units, and the North-South trending fault and dyke trend that cross through Havieron to the south (Figure 1).



**Figure 4:** 3D view looking to the northwest from the South-eastern part of Paterson Central Tenement E45/5276 which surrounds the Havieron magnetic body on three sides, with other magnetic source bodies within E45/5276 identified by constrained modelling of geological sources from below sedimentary cover. A depth converted 2D seismic reflection profile (location in Figure 1) is shown with interpreted layer reflectors (green lines), thrust faults (blue lines), and late brittle faults (red lines), with a seismic transparent zone highlighted in pink, which corresponds to a magnetic and gravity low anomaly zone, and this zone is interpreted to be caused by a granitic intrusion. Note how the Havieron Thrust fault, interpreted from magnetic and gravity anomaly patterns, has also been interpreted in the seismic reflection profile, with the Enterprise East drillhole planned to run parallel to the footwall of this thrust fault in order to test the southern extension of an interpreted structure extending from Havieron. The 4 other planned drillholes surrounding Havieron are designed to test a major Northwest-Southeast trending fold and thrust system along strike from Havieron, late brittle structures, and the mafic dyke extending from Havieron, as well as subtle gravity and magnetic high zones, and an ionic leach geochemical anomaly.

Post mineralisation mafic dykes, such as the North-South trending dyke crossing through Havieron (Figure 1), appear to have intruded along the interpreted late brittle faults, and these faults may have also formed local host structures for gold mineralisation. The gold mineralised zone at Havieron is interpreted to follow a broad anticlinal fold structure, containing smaller parasitic folds, that extends to the Southeast into the Artemis tenement, and is bounded to the west by the Havieron Fault and to the east by the interpreted granite batholith (Figures 1 and 4). These coinciding major geological features are considered to have large scale control on gold mineralisation, and interpretation of these major features, and minor mineralisation related structures, has been used to generate targets and design of initial drillholes to test each of the 7 target zones within the Artemis tenure.

## Deep Drilling Program

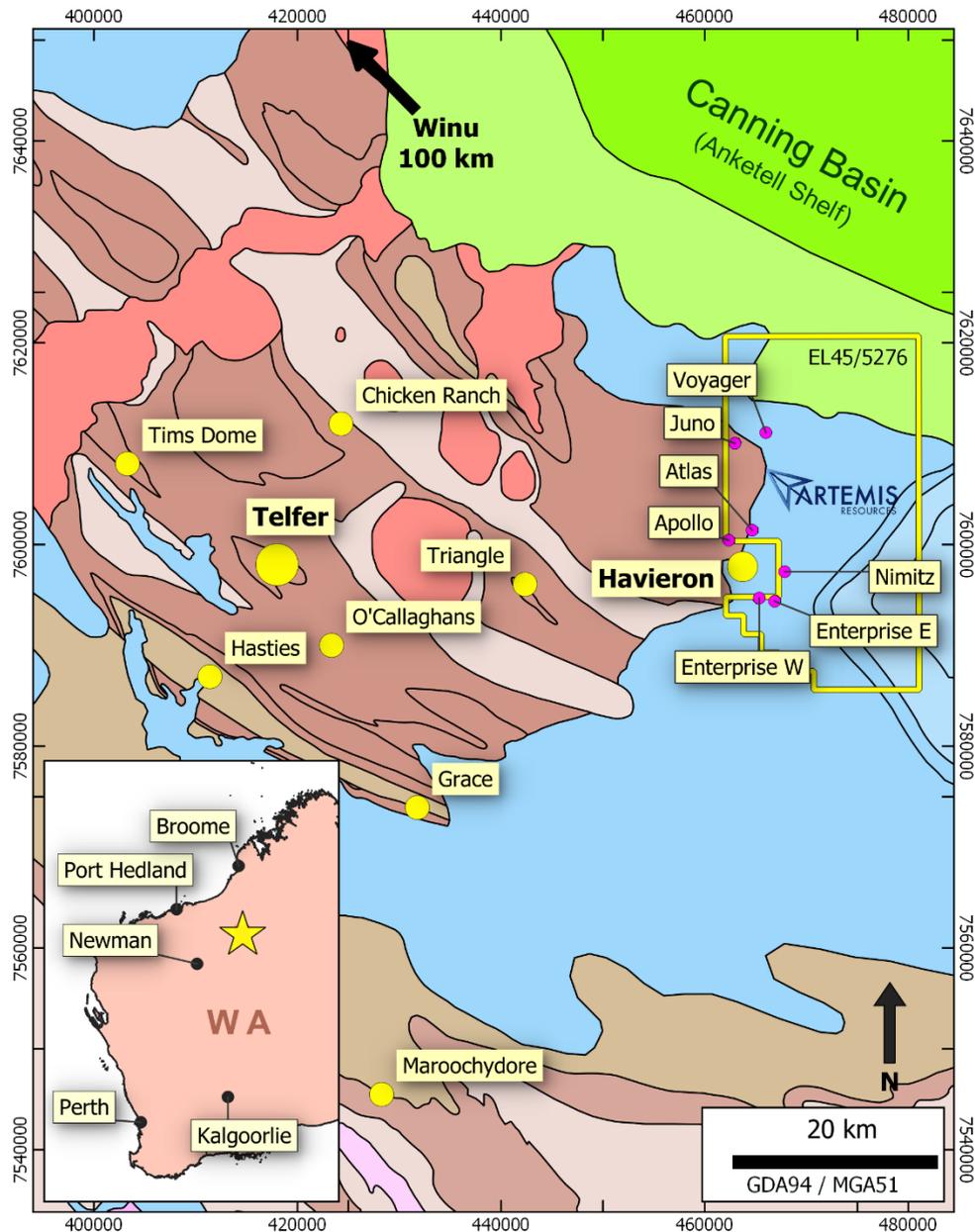
Heritage surveying is scheduled to be carried out in August, and a proposal for access track and drill pad clearing has been submitted. A drilling contract has been signed, and similar deep drilling methods as carried out at Havieron will be applied by Artemis, which involves rotary mud drilling through the recent to Permian cover sediments, using sacrificial steel casing to keep the hole open, and then diamond coring into the Neoproterozoic basement rocks, with the potential for daughter holes to be wedged off of parent holes where geological and geochemical anomalism is intersected. A minimum depth of 800m has been planned for each of the 7 holes, with dip angles ranging between 65-80 degrees, and with different azimuth orientations designed to optimally test each target. Drill core will be marked up and logged at site, and then transported to the Company's new purposed built core farm at the Radio Hill processing plant for cutting, sampling and storage.

It is anticipated that drilling will commence as soon as late August subject to access, heritage and logistical completion. Subject to local access and climatic conditions the Company is planning to complete all 7 deep holes and has allocated existing funds in treasury accordingly. Artemis hopes to complete this drilling as soon as practicable and ideally well before the start of the wet season, which typically arrives in late November – Early December.

## Background to the Paterson Central Project

The Paterson Central Project is located in the Yaneena Basin of the Paterson Province, which hosts large scale mineral deposits, such as the World class Telfer Gold-Copper Mine, recently discovered Winu copper-gold deposit, Nifty Copper Mine, and the rapidly growing Havieron gold and copper deposit. The Company's Paterson Central project forms a 100% owned exploration tenement E45/5276, which surrounds the Havieron gold deposit on three sides, and covers the same continuous geological domain (Figures 1 and 5).

The geology of the project area consists of Canning Basin sediments, primarily Permian siltstones in this part of the basin, which overlie Proterozoic meta-sedimentary basement rocks which form the main host rocks to large mineral deposits in the region. The sedimentary cover is 300m thick in the western part of the project area and is interpreted to deepen to over 800m in the far east. The Havieron gold and copper deposit is associated with a strong magnetic anomaly and sits under about 450m of sedimentary cover. Mineralisation at Havieron extends over deep intervals to at least 600m below the base of sedimentary cover, where the mineralisation starts, and it continues to remain open at depth. The Company is exploring the Paterson Central Project for both Havieron and Telfer styles of gold and copper mineralisation.



**Figure 5:** Paterson Central Tenement E45/5276 (yellow outline) with 7 new target areas proposed for drilling, overlying main geological units, and showing locations of major gold and base metal deposits.

## COMPETENT PERSONS STATEMENT:

The information in this announcement that relates to Exploration Results complies with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code) and has been compiled and assessed under the supervision of Dr Jayson Meyers, a consultant to Artemis Resources Limited and a Director of Resource Potentials Pty Ltd. Dr Meyers is a Fellow of the Australasian Institute of Geoscientists. He 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 JORC Code. Dr Meyers consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears. Dr Meyers does not hold securities in the Company.

## About Artemis Resources

Artemis Resources (ASX: ARV; FRA: ATY; US: ARTTF) is a Perth-based exploration and development company, led by an experienced team that has a singular focus on delivering shareholder value from its Pilbara gold projects – the Greater Carlow Gold Project in the West Pilbara and the Paterson Central exploration project in the East Pilbara.

For more information, please visit [www.artemisresources.com.au](http://www.artemisresources.com.au)

This announcement was approved for release by the Board.

**SECTION 1 SAMPLING TECHNIQUES AND DATA**

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

Criteria	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li>• Ground gravity surveying - Helicopter supported given poor access, using 400 m spaced readings along E-W survey lines spaced at 400 m apart, with data collected for positioning using DGPS, and standard gravity reduction methods.</li> <li>• The gravity survey detects density contrasts/more dense rock types potentially related to alteration or a mineralised system. Sampling will be required to confirm the presence of alteration/mineralisation. None of the targets identified in the survey have been sampled.</li> <li>• Aeromagnetic data were flown along E-W survey line at 100m spacing, and magnetic and radiometric data were corrected and processed using standard methods by the airborne contractor.</li> <li>• Differences in the magnetic anomaly response reflected changes in rocks magnetisation at depth.</li> <li>• Seismic surveying was carried out using vibroseis trucks and standard data acquisition, with processing carried out by geophysical survey contractors.</li> <li>• Seismic surveying detects contrasts in rock types via speed of frequency movement through the ground and timing of reflection.</li> <li>• Ionic leach geochemical samples were acquired using ALS sampling protocols using 100 m sample spacing along E-W survey lines spaced 400 m apart, with sample collected in geochemical sampling bags and positioned using hand-held GPS. Laboratory standards and blank samples were inserted at regular intervals for quality control.</li> </ul>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>• No drilling is being reported.</li> </ul>
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li>• No drilling is being reported.</li> </ul>
<b>Logging</b>	<ul style="list-style-type: none"> <li>• No drilling is being reported.</li> </ul>
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <li>• No drilling is being reported.</li> </ul>
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <li>• Gravity measurements were acquired with a</li> <li>• Scintrex CG-5</li> <li>• Daily duplicate checks undertaken on completed surveying; acceptable levels of accuracy and precision established</li> <li>• Seismic data was acquired by Nomeco-Command NL and Acquisition Parameters NORPAC International 1987</li> <li>• Source: Vibroseis Pad To Pad</li> <li>• Number of Sweeps: 3 Sweep Freq 10-85hz</li> <li>• Sweep Length: 12sec Linear Upsweeps</li> <li>• Recordic07 Geophone Type: Lrs 10hz 12 Phones Iline Over 2.73m Spread: Nominal Split Spread Instrument Dfsv/Ft-1</li> <li>• Ionic leach samples were analysed by ALS in Perth, and the lab ran extensive internal QC protocols and checks, and the Company inserted laboratory standard and blank samples at regular intervals to carry out internal QC checks.</li> </ul>

Criteria	Commentary
<b>Verification of sampling and assaying</b>	<ul style="list-style-type: none"> <li>Electronic data capture, storage and transfer as .csv. Routine QC checks performed by contractor and independent geophysical consultant. Data were found to be of high quality and in accordance with contract specifications</li> <li>The gravity data were reprocessed by an independent geophysical consultant using in-house gravity reduction software, utilising the GDA94/MGA51 datum/projection, AAGD07 gravity datum and GDA94 ellipsoidal elevation datum. Bouguer anomaly data were calculated using a correction density of 2.0 g/cm<sup>3</sup>.</li> <li>Seismic data as purchased and verification</li> <li>Labrortory standards and blank samples were inserted at regular intervals and some duplicate samples were taken for QC checks.</li> </ul>
<b>Location of data points</b>	<ul style="list-style-type: none"> <li>Coordinate information was collected with a differential GPS using MGA Zone 51 (GDA94)</li> <li>MGA Zone 51 (GDA 94).</li> <li>Height information was collected with a differential GPS using MGA Zone 51 (GDA 94).</li> </ul>
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li>1709 gravity stations were recorded on a nominal 400m x 400m grid, with an area of interest measuring approximately 8 km x 35 km</li> <li>Aeromagnetic survey data were flown along 100 m spaced E-W flight lines, and at 40m terrain clearance.</li> <li>Seismic 2ms Sample Interval Record Length:4sec</li> <li>120 Channels SP Interval 30m Group Interval 30m</li> <li>Ionic leach geochemical samples were collected on a 100m x 400m spaced grid pattern.</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li>Gravity surveying was completed on grid pattern 400m x 400m so is unbiased</li> <li>Aeromagnetic surveying was flown on E-W oriented survey lines, crossing the main geological trends.</li> <li>Magnetic surveys were flown north-south and deemed to not be biased</li> <li>Seismic survey line was northeast-south west and is thought to be perpendicular to the main orientation of structures and geology.</li> <li>Geochemical survey lines were oriented E-W across the N-S trending bedrock trends.</li> </ul>
<b>Sample security</b>	<ul style="list-style-type: none"> <li>All data transmitted in digital format</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>Data reviewed and checked for Quality Control by independent geophysical consultant</li> </ul>

## SECTION 2 REPORTING OF EXPLORATION RESULTS

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

Criteria	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <li>Survey is within E45-5276, 100% owned by Artemis Resources Limited and forms the area of the Armada Prospect in the Paterson Province.</li> <li>This tenement was granted on 14 February 2019.</li> </ul>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>Previous exploration in area was for petroleum.</li> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li>Style of mineralisation is currently unknown, but inferred to be related to mesothermal lode gold or skarn styles of gold mineralisation, with elevated copper</li> </ul>
<b>Drill hole Information</b>	<ul style="list-style-type: none"> <li>No drilling is being reported.</li> </ul>

Criteria	Commentary
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li>No drilling is being reported.</li> </ul>
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <li>No drilling is being reported.</li> </ul>
<b>Diagrams</b>	<ul style="list-style-type: none"> <li>Appropriate plans are shown in the text.</li> </ul>
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li>All results reported.</li> </ul>
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li>Exploration data is contained in previous AM reports.</li> </ul>
<b>Further work</b>	<ul style="list-style-type: none"> <li>Further geophysical surveys.</li> <li>Potential geochemical surveys</li> <li>Potential deep drilling to provide subsurface information on the targets.</li> </ul>