

29 April 2021



## ASX Announcement

### Paterson Central – Exploration Programme Update

#### Highlights

- **Advanced planning is now underway to test all high priority exploration targets at Paterson Central - Apollo, Atlas, Juno, Voyager and Enterprise.**
- **Juno and Voyager targets located approximately 9km N of Apollo and have now been prioritised and appear related to a NE-SW striking magnetic feature that transects the nearby Budgiedown magnetic anomaly held by Rio Tinto.**
- **All these targets are interpreted to sit within the same geological and structural corridor as the Havieron gold-copper discovery that is now under development.**
- **Apollo and Atlas are to be drilled first and continue to be the highest priority targets coincident with structural, geophysical and geochemical anomalies located ~3km to the NW and N of Havieron and are adjacent to and straddle a major N-S fault that transects Havieron.**
- **No further drilling planned at Nimitz because assays now received did not return significant gold values to warrant further drilling at this stage.**
- **Exploration Incentive Scheme (EIS) grant of \$150,000 for co-funded diamond drilling has just been awarded to Artemis from the Government of Western Australia for the drilling of the Enterprise targets.**
- **Several key regional exploration projects are located in the immediate vicinity and adjacent to the Artemis Paterson Central tenement, and the Company notes that the 2021 drilling season is now underway;**
  - **Greatland Gold recently announced the commencement of a drilling campaign under Juri JV with Newcrest.**
  - **Rio Tinto's Budgiedown and Dekka targets are situated within 7km of the Juno and Voyager targets.**
  - **Newcrest / Greatland Havieron JV drill programmes to grow existing resources and explore for additional orebodies within the confines of the Havieron Mining Licence, surrounded on three sides by Artemis.**

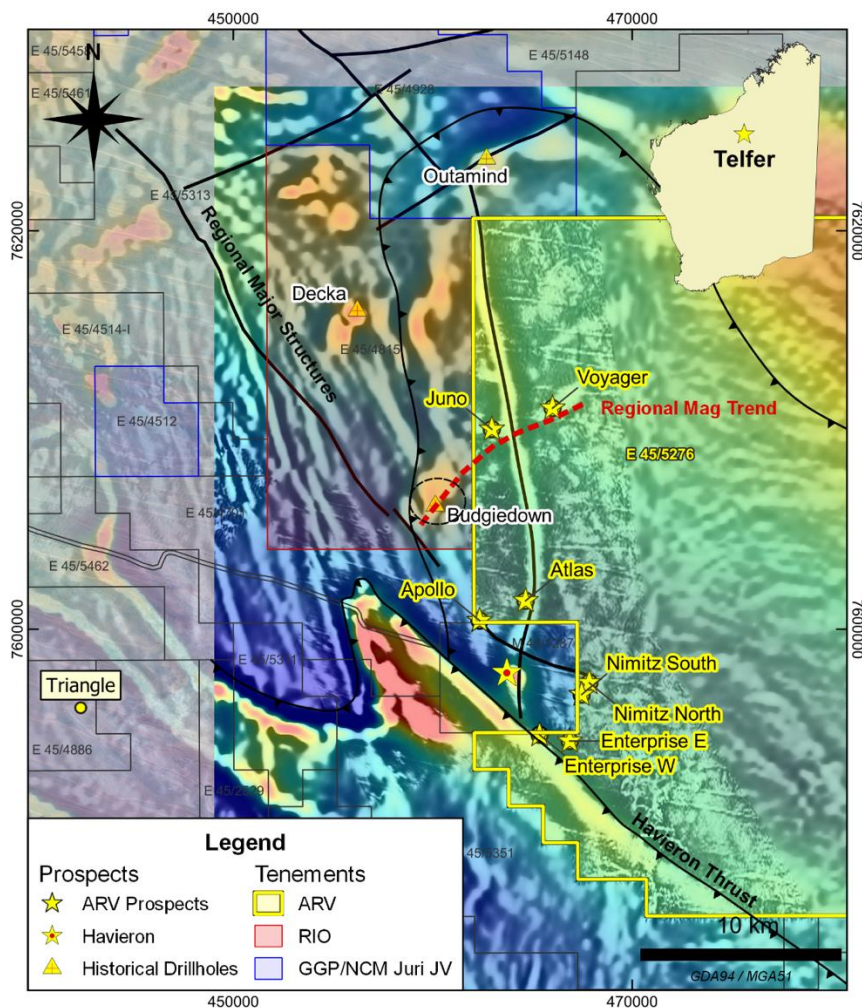
**Artemis Resources Limited** (“Artemis” or “the Company”) (ASX:ARV, Frankfurt: ATY, US OTCQB: ARTTF) is pleased to provide an update on its proposed exploration drill programmes at its 100%-owned Paterson Project in the east Pilbara region of Western Australia.

**Alastair Clayton, Executive Director commented:**

“We are pleased to report significant progress has been made on the planning and permitting process for our highly anticipated 2021 Paterson Central project exploration programme. We have completed final rankings of our targets, and notably Juno and Voyager have been upgraded to a higher priority category. This winter season campaign will be our busiest so far with our extensive programme complimented by exploration activity to the north, west and south of our targets by a number of other major mining groups. It is our view that the more the area around our targets are explored, the better we can understand the geology and potential of our ground.

Assay results have now been received from the Nimitz core analysis carried out in Q1 this year and show that despite zones of moderate to strong hydrothermal mineralisation, the assayed intervals did not demonstrate significant levels of gold and copper mineralisation. This is in-line with previous guidance that we believe we drilled close, but not quite close enough to a potentially mineralised system in the Nimitz area.

Final applications for heritage clearances for access track and drill pad earthworks for the priority targets is well underway for mobilisation to site and commencement of drill testing this field season. A further update will be provided to the market on commencement of drilling activities.”



**Figure 1.** Artemis exploration targets, location of Havieron surrounded by Artemis licences on three sides, and other surrounding tenement holdings shown over a magnetic anomaly image (1<sup>st</sup> vertical derivative filtered) with regional structural trends highlighted. Map inset shows the Budgiedown magnetic anomaly in an adjacent exploration licence held by Rio Tinto. The Budgiedown magnetic anomaly sits on a NE-SW trending magnetic structure that also hosts the Juno and Voyager magnetic and gravity anomalies in Artemis’ licence to the east.

## Paterson Central Project – Exploration Targets

Following its maiden deep drilling program at the Nimitz Prospect in late 2020, Artemis is now focussing on testing its 6 higher priority drill targets at the 100% owned Paterson Central project, which surrounds the Havieron gold-copper deposit currently being explored and developed by Newcrest Mining and Greatland Gold (**Figure 1**, see also *ARV ASX announcement dated 10 August 2020*). Artemis have now signed a heritage Land Access and Mineral Exploration Agreement with the Western Desert Lands Aboriginal Corporation and will soon carry out heritage surveying to gain approvals for clearing tracks and drill sites for accessing these target areas. Artemis then intends to carry out about 7,500m of diamond drilling to test these targets during the 2021 field season.

Artemis notes increased exploration activity to the west of the northern part of the Paterson Central project tenement, where Greatland Gold have a JV with Newcrest to explore their Juri project area, and at the Budgiedown prospect now held by Rio Tinto, which was a magnetic target drilled by Newcrest in 1991 (**Figure 1**) using 1 diamond hole that was terminated at 216m in Permian cover sediments and never reached the Proterozoic basement target depth to explain the source of the magnetic anomaly due to a blockage (hole BUC9101), and there has been no follow-up drilling since. Artemis' Juno and Voyager magnetic and gravity anomaly targets sit to the east of the Rio Tinto Budgiedown magnetic target, along the same NE-SE trend (**Figure 1**), the result of this new interpretation and information has been to increase the priority of Juno and Voyager.

The Apollo, Atlas and Enterprise East and West targets also form high priority target areas, based on their proximity to known mineralised systems, their geological and structural locations, and local anomalies in magnetic, gravity and ionic leach soil geochemical data sets.

Artemis applied for an EIS grant of up to \$150,000 to offset the cost of deep diamond drilling on the Enterprise East and West targets. The EIS is managed by the Geological Survey and Resource Strategy Division within the Department of Mines, Industry Regulation and Safety (DMIRS) department of Western Australia. The Round 23 EIS government co-funded drilling application was applied for in February and Artemis was notified on 21 April that this application was successful. These funds become available from the 1<sup>st</sup> of June this year and need to be used up within 1 year.

## Nimitz Diamond Drilling Results

During Q1 this year, a total of 496x 1m intervals of half or quarter HQ3 and NQ2 core were sampled from the 3 diamond holes drilled at Nimitz in late 2020 (see *ARV announcement to the ASX dated 17 December 2020*). These core samples were assayed by ALS Laboratory in Perth, with standard samples and duplicate samples added for a total of 546x samples submitted for assaying.

Assay results were recently received, and some anomalous zones of low-level Au (10ppb) were reported over narrow to broad intervals, with only 5x 1m core samples returning Au concentrations above 50ppb or 0.05g/t (**Table 1**). Of these 5 samples, 1 was in a dolerite host rock (sample ID 89223) and the rest were in hydrothermally altered quartz sandstone, with all of these anomalous samples containing thin quartz-carbonate-chlorite veins and weak hematite staining.

These low-level Au assay results indicate that the Proterozoic Lamil Group meta-sediments and mafic rocks at Nimitz are only very weakly mineralised, and this drilled part of the prospect area likely represents a weakly altered distant halo to the Havieron gold deposit, located 3km to the west.

**Table 1.** All assay results from Nimitz 1m drill core samples reporting >0.05g/t Au, with selected pathfinder elements.

HOLE ID	FROM m	TO m	SAMPLE ID	Au g/t	Ag ppm	Bi ppm	Cu ppm	S %
GDRCD001	802	803	89471	0.05	0	6	179	0.36
GDRCD001	803	804	89472	0.07	0.5	3	89	0.30
GDRCD001	839	840	89512	0.13	0	0	12	0.09
GDRCD002	735	736	89356	0.15	0	0	36	0.36
GDRCD003	947	948	89223	0.10	0	0	78	0.46

## 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 currently being developed by Newcrest Mining. 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 (**Figure 1**). 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.

## 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.

For further information contact:

Alastair Clayton  
Executive Director  
[alastair.clayton@artemisresources.com.au](mailto:alastair.clayton@artemisresources.com.au)

Boyd Timler  
Executive Director  
[boyd.timler@artemisresources.com.au](mailto:boyd.timler@artemisresources.com.au)



**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>Representative intervals of HQ and NQ diameter core from the Proterozoic bedrock, which was marked up for 1m intervals, were cut using a rock saw into half core samples which were broken up and placed into pre-numbered calico sample bags. Broken core intervals were manually cut and samples to generate representative samples of half core. 1m half core sample intervals weighed between 2 to 3kg, depending on core diameter and core recovery.</li> <li>For every 18x 1m interval core samples, a duplicate sample was made by quartering half core samples over the 1m interval, and duplicate samples were also placed into pre-numbered calico sample bags.</li> <li>For every 18 1m interval core samples, a standard pack was inserted into a pre-numbered calico sample bag.</li> </ul>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>Deep diamond drilling of HQ and NQ diameter core using drilling contractor DDH1.</li> </ul>
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li>Sample recovery was generally above 90% in unbroken ground, but in broken ground the recovery was estimated to be about 60-80%, and there were some narrow intervals of no recovery that were noted.</li> </ul>
<b>Logging</b>	<ul style="list-style-type: none"> <li>Initial logging has been carried out visually to produce lithological drill logs on marked up core.</li> </ul>
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <li>No sub-sampling was carried out during routine sampling of 1m core intervals.</li> <li>The sample size of 1 to 3 kg is sufficient for estimating mineralisation in the type of samples collected for the mineralisation style being tested.</li> </ul>
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <li>For every 20 samples submitted for systematic geochemical assay analysis, one sample was a duplicate of quarter core cut down the middle of the core, or disaggregated core samples were broken and manually split, so that duplicate samples were analysed for repeatability.</li> <li>Certified standard sample packs of representative Au-Cu mineralized rock was submitted with every 19 half and quarter core samples for additional QA/QC.</li> <li>The ratio of duplicates and standards to unique 1m core sample intervals was 1:18 each.</li> <li>Samples were sent to ALS laboratory in Wangara WA, where the sample bags were sorted, logged into the system, and prepped for analysis.</li> <li>Samples were weighed, crushed, riffle split and pulverised to 75 microns.</li> <li>Au was analysed using 50g fire assay and AA finish (method Au-AA26).</li> <li>Multi-elemental analysis was by 4 acid digest and ICP-AES for 33 elements (method ME-ICP61): Ag, Al, As, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, S, Sb, Sc, Sr, Th, Ti, Tl, U, V, W and Zn.</li> </ul>
<b>Verification of sampling and assaying</b>	<ul style="list-style-type: none"> <li>Laboratory standards and blank samples were inserted at regular intervals and duplicate samples were taken for QC checks as listed above.</li> <li>For systematic core sample assaying, certified standard packs were inserted at a ratio of 1:18 core samples, along with duplicate sampling at the same frequency.</li> </ul>
<b>Location of data points</b>	<ul style="list-style-type: none"> <li>Coordinate and height information were collected with a differential GPS (DGPS) using the GDA94 datum and MGA Zone 51 projection accurate to within 1m.</li> <li>Where DGPS survey information was not available, locations were measured using a handheld GPS accurate to within 5m and the SRTM digital elevation model or Landgate 2010 digital elevation model was used as a height datum.</li> <li>Downhole hole position surveys of diamond holes were collected at 30m intervals using a north seeking gyroscopic downhole survey tool operated by DDH1.</li> </ul>

Criteria	Commentary
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li>Core was visually logged for lithology and zones showing signs of hydrothermal alteration by silica, hematite and carbonate, and veining by quartz-carbonate-chlorite veins and sulphide mineral veinlets. Then 1m intervals of marked up core were designated for sampling over these altered zones, including non-altered rocks bounding these zones.</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li>Drillholes were oriented to target gravity and magnetic anomaly trends in the Proterozoic bedrock sitting below Permian sedimentary cover deposits, and hole collar positions, azimuths and dips were designed to intersect bedrock at predicted depths below Permian cover of between 500-600m vertical depth.</li> </ul>
<b>Sample security</b>	<ul style="list-style-type: none"> <li>Core samples were placed in pre-numbered calico bags, and then placed into labelled polyweave bags and sealed with plastic pull-ties. The sample bags were then placed into 500kg bulk bags which were sealed and labelled. These bags were transported by road and were not opened until they arrived at ALS laboratory in Wangara, WA.</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>No external audits have been carried out on sampling to date, other than internal company QA/QC checks and internal audits by the assay laboratory ALS.</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>Drilling was entirely carried out within the Company's exploration licence E45/5276, which is 100% owned by Artemis Resources Limited and forms the Central Paterson Project.</li> <li>This tenement was granted on 14 February 2019 and remains in good standing.</li> </ul>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>All previous exploration activity in area was for oil and gas in the sedimentary basin rocks of the Canning Basin, which sit on top of the older Proterozoic basement rocks which is the current target host rock for the Company's Au-Cu exploration activities.</li> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li>The project occurs in the Neoproterozoic Yaneena Basin of WA (852-820Ma), which is comprised of sandstone, carbonate, marl, siltstone, shale and ironstone beds intruded by mafic sills forming the Throssell and overlying Lamil groups, and which both overlie the Rudall Metamorphic Complex basement (ca 1,800Ma). The Crofton Granite Suite was intruded into the region during the Miles Orogeny (650-600Ma), when large gold-copper deposits like Telfer were deposited. The Yaneena Basin underwent several phases of deformation, with last major event being the Paterson Orogen at ca 550Ma. Much of the host rocks to the gold and copper deposits are covered by Permian glacial deposits of the Paterson Formation / Grant Group of the Canning Basin, and Cainozoic sediments, sand dunes and regolith soil cover blanket much of the region. The style of mineralisation within the Company's project area is currently unknown, but inferred to be related to intrusive related gold, mesothermal-orogenic 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>Drilling core was logged in the field as a first pass, and more detailed core measurements, logging and sampling were then carried out at the Company's Radio Hill Mine core farm. Core has been stored in plastic trays, stacked on pallets and archived at the Radio Hill mine core farm.</li> </ul>
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li>Data aggregation has not yet been carried out, only assay results from primary 1m sample intervals have been reported.</li> </ul>
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <li>The sample width of 1m exceeded vein widths, which averaged less than 10cm wide, and therefore any anomalous metal concentration in these narrow veins was averaged out over the 1m sample interval, which is a more representative minimum interval for detecting significant mineralisation concentration for evaluation and reporting.</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 initial results have been reported.</li> </ul>

Criteria	Commentary
<b><i>Other substantive exploration data</i></b>	<ul style="list-style-type: none"> <li>• Exploration data is contained in previous Company reports.</li> </ul>
<b><i>Further work</i></b>	<ul style="list-style-type: none"> <li>• Heritage surveying on targets that require new track and site clearing for drilling and field camp sites.</li> <li>• Deep diamond drilling on untested target areas</li> <li>• Extending ionic leach soil sampling to other parts of the project area.</li> </ul>