15 February 2021 **ASX Release**

# WIDESPREAD COPPER, GOLD & NICKEL MINERALISATION IN AIRCORE DRILLING AT YUINMERY

## HIGHLIGHTS

- Encouraging copper (Cu), gold (Au) and nickel (Ni) mineralisation encountered in reconnaissance AC drilling at the Yuinmery base metals project.
- Follow up RC drilling completed in January intersected prospective, sulphide-bearing geology across multiple prospects.
- Anomalous AC results include:
  - **2m @ 1,148ppm Cu** from 36m (EOH) in YAC20-10;
  - **6m @ 2,182ppm Cu** from 20m (EOH) in YAC20-40;
  - **4m @ 2,776ppm Cu and 679ppb Au** from 12m in YAC20-45;
  - **16m @ 580ppm Cu and 2,215ppm Ni** from surface (EOH) in YAC20-68;
  - **15m @ 1,703ppm Cu and 797ppm Ni** from 4m (EOH) in YAC20-70;
    - including **8m @ 1,732ppm Cu and 1,061ppm Ni** from 8m;
    - and **3m @ 2,478ppm Cu and 672ppm Ni** from 16m (EOH); and,
  - **12m @ 2,349ppm Ni** from 8m (EOH) in YAC20-73.
- Assays are pending for all RC drilling.
- Further RC and diamond drilling is planned.

**Empire Managing Director, Sean Richardson commented:**

*"These strongly anomalous results from reconnaissance aircore drilling are extremely encouraging and reinforces our hypothesis that the Yuinmery Project represents a significant opportunity for further multi-element mineral discoveries.*

*"Empire has not been sitting on its hands and has already completed follow up RC drilling at a number of the newly identified prospects. Follow up RC and diamond drilling is planned to further improve the geological confidence in the Yuinmery prospects.*

*"The pipeline of prospects at Yuinmery is extensive. Of the 44 identified prospects, 11 remain untested by any drilling and a further 13 have had no drilling below 75m, offering excellent opportunities for further discovery.*

*"Empire remains well funded. With its significant investment portfolio nearing maturity, 2021 will be an extremely active one on all exploration fronts."*

## SUMMARY

Empire Resources (ASX: ERL, Empire) is pleased to report that recent aircore (AC) drilling has intersected encouraging zones of Cu, Au and Ni mineralisation at its Yuinmery base metals project in Western Australia.

The drilling completed in late 2020 consisted of 76 scout AC holes testing previously undrilled targets prospective for volcanogenic massive sulphide (VMS) base metal and platinum group metal (PGM) mineralisation.

The AC drilling has been successful in intersecting anomalous Cu-Au mineralisation within the oxide zone at prospects YT01, YT02 and YT05; and Cu-Au-Ni anomalism at YT12. Empire subsequently completed a program of first pass reverse circulation (RC) drilling at YT01 and YT05 late January.

Step out RC drilling was also completed at YT01 and Smith Well to follow up previous mineralised intercepts.

Results are pending for all RC drilling completed in January.

## BACKGROUND

Empire Resources' Yuinmery Project is located 470km north-east of Perth in WA and comprises five contiguous granted mineral tenements covering approximately 83.7km$^2$ within the Archaean Youanmi Greenstone Belt ("YGB").

The Yuinmery Project is bounded by the Youanmi shear zone to the west and the Yuinmery shear zone to the west (Figure 1). Known Cu-Au mineralisation at Yuinmery is of VMS style. Empire's Just Desserts deposit has a previously reported JORC Resource of 2.5Mt @ 1.31% Cu and 0.49g/t Au[2].

Empire recently identified the potential for PGM mineralisation at Yuinmery where RC drilling in June 2020 discovered elevated platinum (Pt) and palladium (Pd) values associated with broad Cu-Ni mineralisation at YT01. YRC20-28 returned 12m @ 0.34g/t Pd, 0.11g/t Pt, 0.38% Cu, 0.11% Ni and 0.02% Co from 151m. Values of up to 0.53g/t Pd and 0.24g/t Pt were returned over 1m samples[3].

The Constantine prospect (Figure 2), has historically returned significant widths of low-grade PGMs, with up to 80m @ 0.49g/t Pd+Pd and 0.22% Ni in YRC10-15[1]. These results have lacked any systematic follow up since 2010.

Constantine is interpreted to be hosted by a large mafic-ultramafic intrusion, with PGM mineralisation associated with pyrite, pyrrhotite and magnetite. The PGM related magnetite alteration defines a significant magnetic anomaly that appears to be coincident with the host layered mafic intrusion. The Constantine mafic intrusion extends up to 13km in strike. Surface geochemistry has defined an elevated Pt+Pd and Ni anomaly over four kilometres.

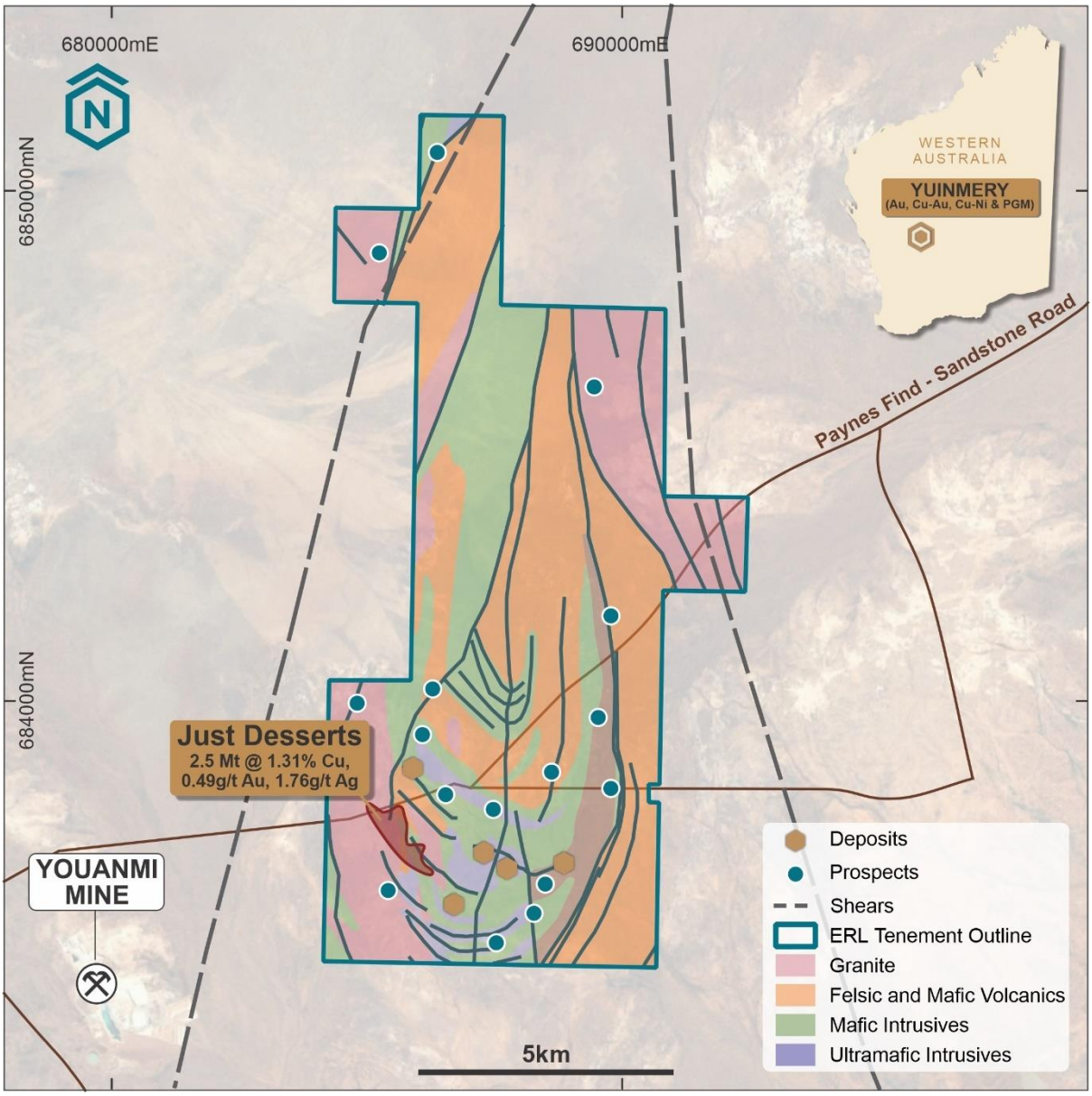


**Figure 1 – Yuinmery Project Location Map**

Empire has now identified a sound pipeline of Cu, Au, Ni, and PGM targets within its southern Yuinmery tenement area. Multiple drill-ready targets from greenfields-style conceptual targets through to more advanced prospects will be tested during future field programs.

## DRILLING

Reconnaissance AC drilling during the December 2020 quarter targeted several high priority geochemical and geophysical anomalies prospective for VMS-type Cu-Au and Cu-Ni-PGM mineralisation at the YT01, YT02, YT05, and YT12 prospects (Figure 2, Table 1).

76 AC holes for 2,786m were drilled (Table 2). Results and observations from the AC program are discussed below. Follow up RC drilling was swiftly executed at YT01 and YT05 during January 2021. One RC hole was also completed at the Smith Well prospect and an RC pre-collar, in preparation for a diamond tail, was drilled at the YT01 prospect. In total 7 RC holes for 901m were completed.

All results of the follow up RC drilling are pending.

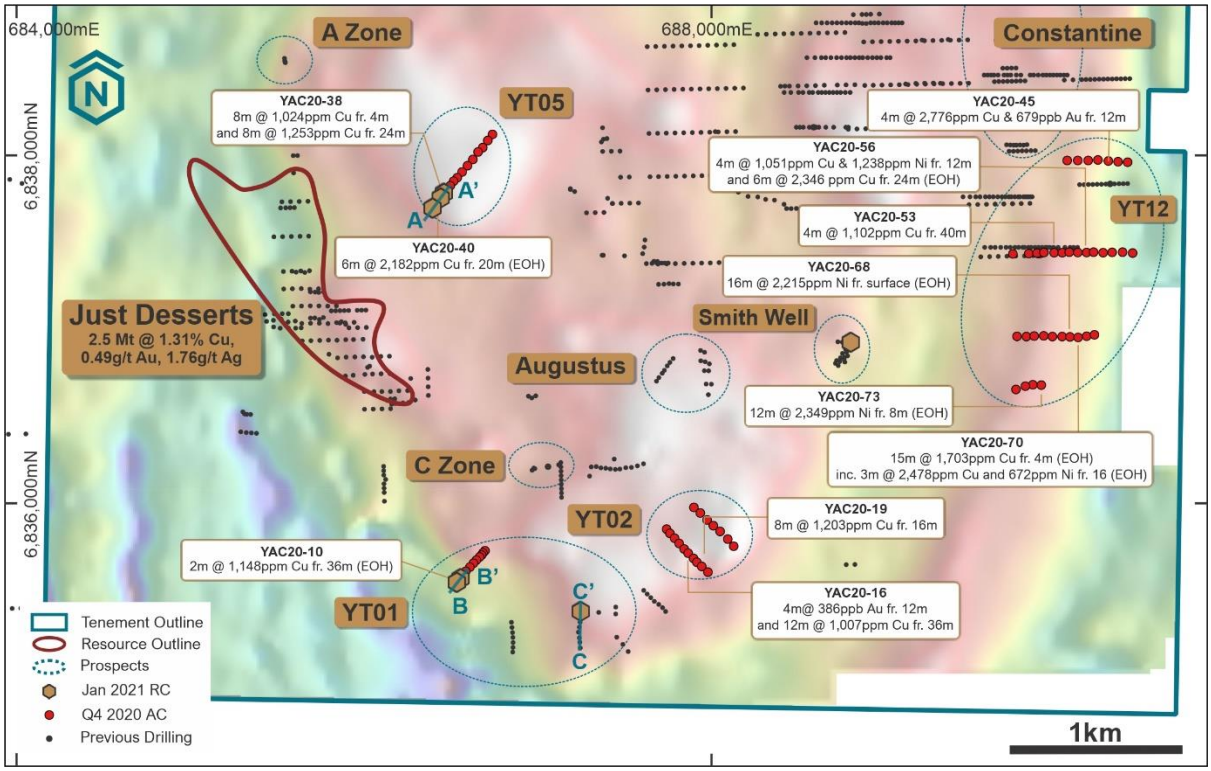


**Figure 2 – Yuinmery Deposits, Prospects and Drill Collar Locations.**
**Base Image VTEM ch25_1641us_NEshade.**

### YT05 Prospect

The YT05 prospect was initially defined by a subtle multi-element (Cu-Au-Zn-Ni) geochemical anomaly. The target was interpreted to correspond with stratigraphy known to be favourable for VMS mineralisation at Yuinmery.

Interpretation of ASTER data indicates an increase in chlorite and talc, two alteration minerals associated with large VMS mineral systems and with the high-grade Cu-Au mineralisation observed in the existing Just Desserts and A Zone deposits.

YT05 is also associated with a distinct electromagnetic (EM) conductor. EM has been successfully used at Yuinmery to identify sulphide mineralisation and/or conductive shale horizons. The shale horizons are typically located in the hanging wall and are a distinctive and

mappable VMS marker horizon at Yuinmery. VMS-style mineralisation at Yuinmery is also known to occur in stratigraphic horizons not necessarily accompanied by hanging wall sediment.

13 AC holes for 555m were drilled across a single ~500m traverse at the YT05 prospect. The AC drilling represented the first bedrock test of YT05 with anomalous results including:

- **8m @ 1,024ppm Cu** from 4m, and **8m @ 1,253ppm Cu** from 24m (YAC20-38); and,
- **6m @ 2,182ppm Cu** from 20m (EOH) (YAC20-40).

Three RC holes for 312m were drilled in January to test the anomalies identified in the AC drilling. Observed geology consists of hanging-wall felsic to intermediate volcanics, which were notably sheared, and increasingly chlorite-carbonate-talc altered toward the contact with a medium to fine grained mafic volcanic.

Zones of interpreted interbedded or chloritic shales, graphitic shales and siliceous chert were observed proximal to the main geological contact. These hanging-wall sediments were generally associated with semi-massive, disseminated and stringer vein sulphides, including pyrite, pyrrhotite, and chalcopyrite.

Results are pending for the January RC drilling at YT05.

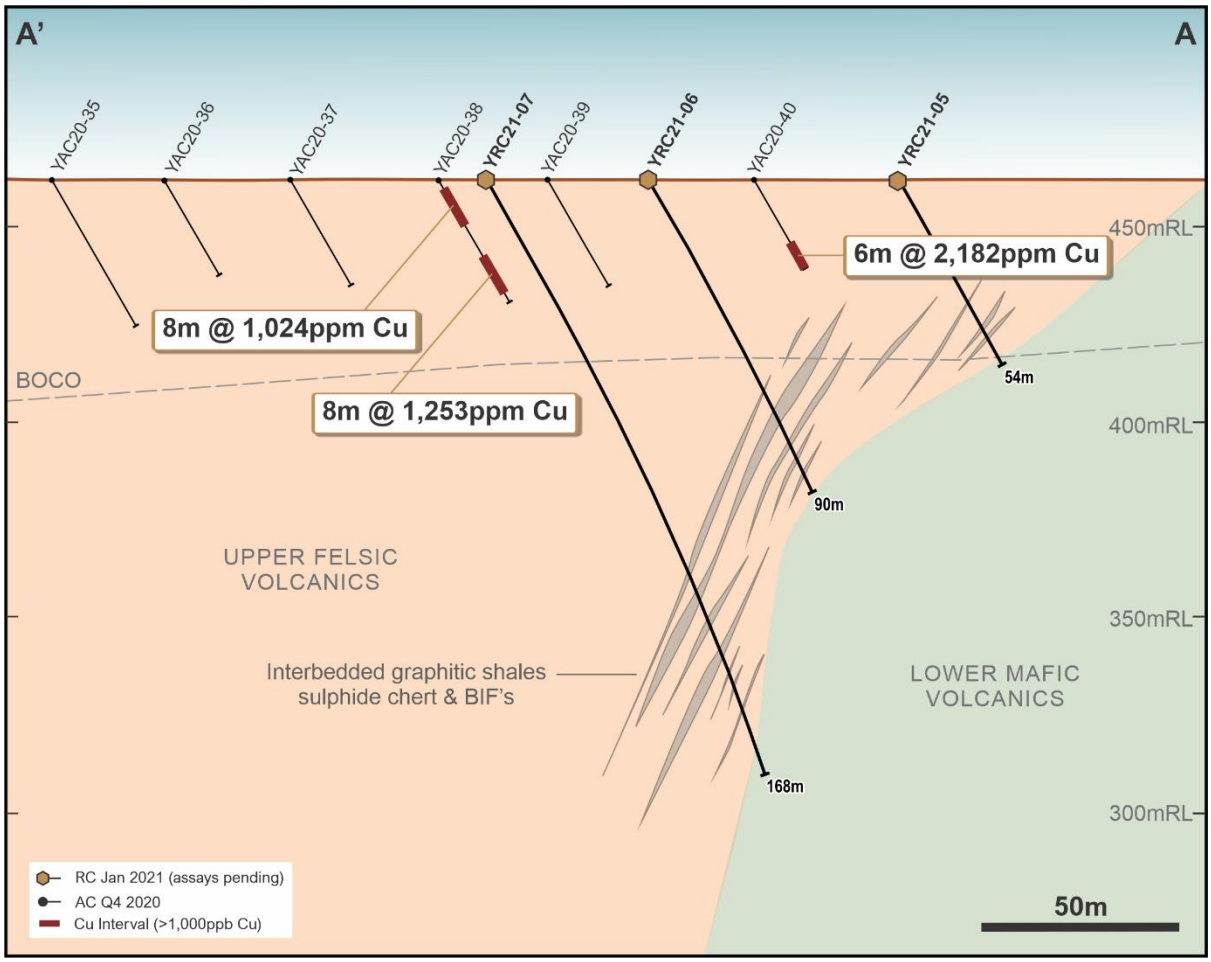


**Figure 3 – YT05 Prospect Oblique Cross Section A-A'.**

## YT01-NW Prospect

YT01-NW is interpreted as a potential offset of the Just Desserts and C Zone deposits, due to one, or a combination of, local folding, north-north-east strike slip faulting, layer parallel thrust faulting and repetition of the pre-existing stratigraphic units.

Mineralisation at the Just Desserts and C Zone deposits is located close to the contact between basaltic and andesitic rocks on the western limb of the Yuinmery Syncline. The basalt-andesite contact can be traced along strike from Just Desserts to C Zone and around the heel of the Yuinmery Syncline towards and across the eastern limb. The contact is evident in geophysical datasets and has been confirmed by historical drilling and now in RC drilling at YT01-NW.

10 AC holes for 303m were drilled at YT01-NW (Figure 4, Table 2) with anomalous results including **2m @ 1,148ppm Cu** from 36m (YAC20-10).

Two RC holes for 204m were drilled at YT01-NW in January. The geology observed in the drilling is consistent with the known Cu-PGM mineralisation at YT01. Minor disseminated and stringer sulphides were observed proximal to the contact between a dolerite and fine-grained basaltic rocks in the footwall. Siliceous chert was also noted in the hanging wall, which provides an encouraging indicator for VMS-style mineralisation.

Results are pending for the January RC drilling at YT01-NW.

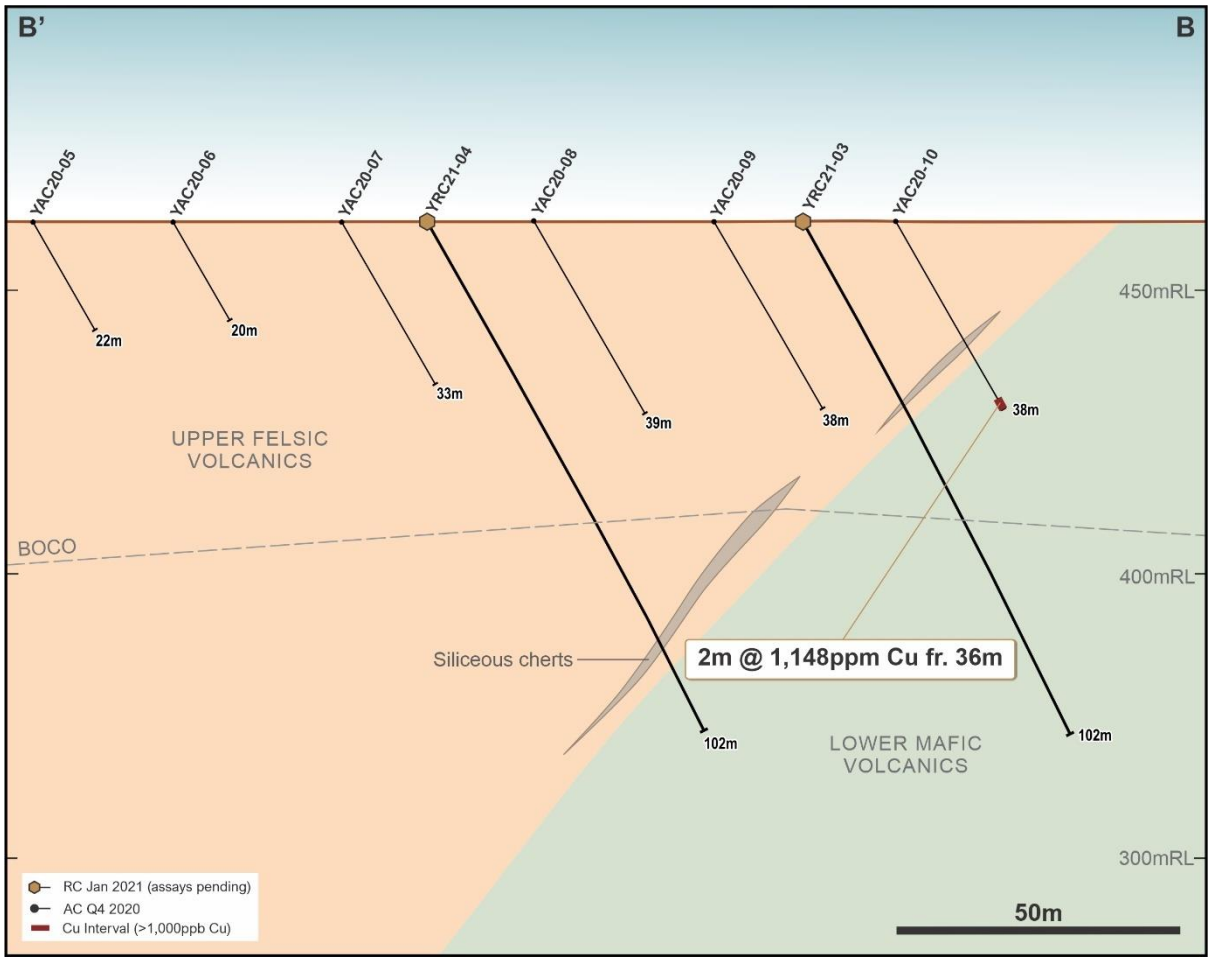


**Figure 4 – YT01-NW Prospect Oblique Cross Section B-B'.**

## YT01 Prospect

The YT01 prospect was identified by the Company in late 2019 and is associated with a strong east-west trending, multi-element (Au-Cu-Zn-Ni) geochemical signature that extends over 3.5km in strike length.

An RC pre-collar was completed in January in preparation for a diamond tail targeting the interpreted mineralised zone (Figure 5). This diamond hole is planned to provide structural and stratigraphic data to assess the nature and occurrence of sulphide mineralisation. The diamond hole will also offer an opportunity to undertake down hole geophysical surveys.

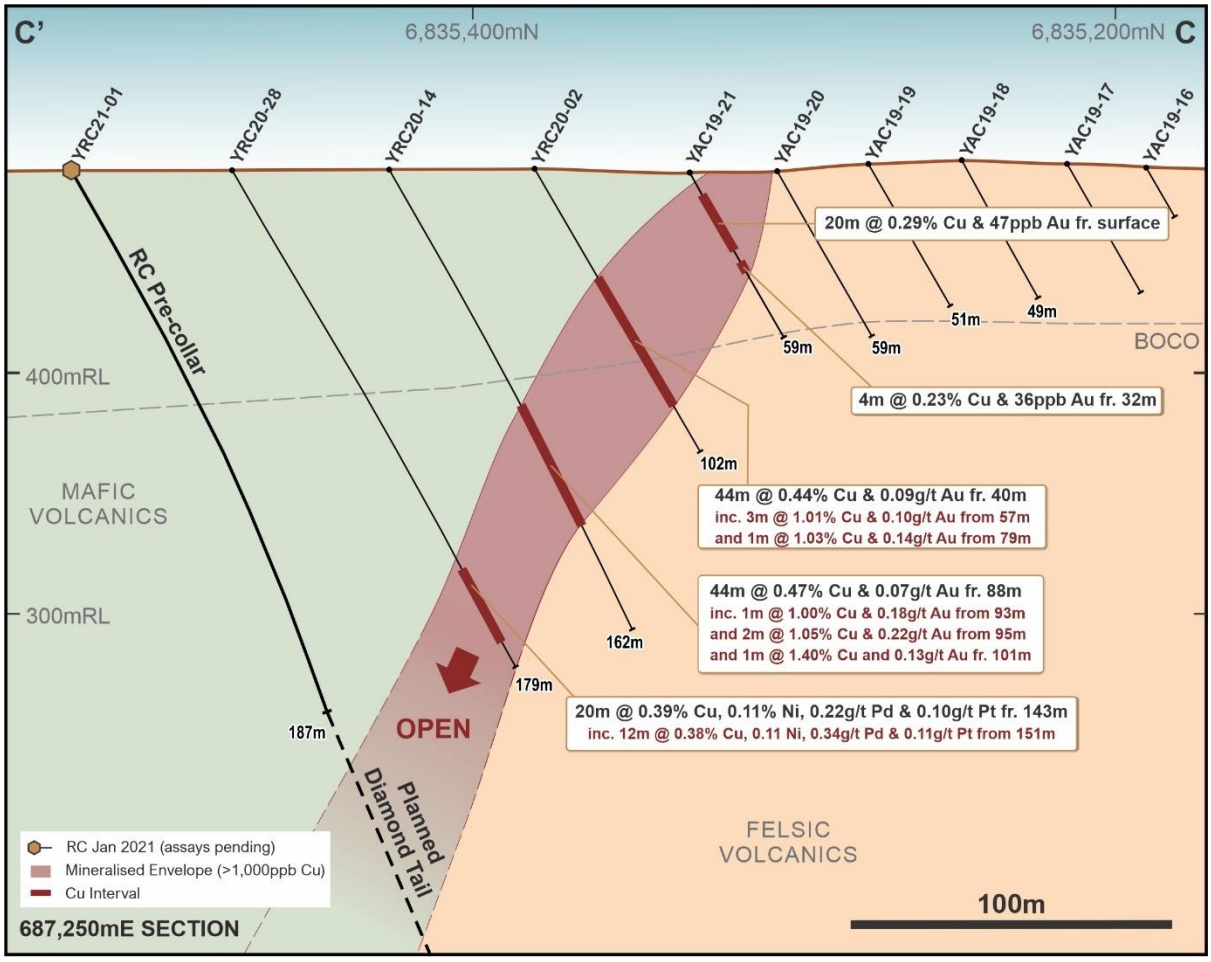


**Figure 5 – YT01 Prospect 687,250mE Cross Section C-C'.**

## YT12 Prospect

YT12 is characterised by a 1km long Cu-Au-Zn-Ni soil anomaly located across differentiated mafic and ultramafic volcanic rocks. The southern-most line intersected siliceous chert and mafic lithologies that are coincident with a major magnetic gradient. Cu-Ni anomalism has prompted further interest in this target.

36 AC holes for 929m were drilled at the YT12 prospect. Anomalous AC results include:

- **4m @ 2,776ppm Cu and 272ppm Ni** from 12m (YAC20-45);
- **4m @ 1,051ppm Cu and 1,238ppm Ni** from 12m (YAC20-56);
- **6m @ 2,346ppm Cu and 450ppm Ni** from 24m (EOH) (YAC20-56);
- **16m @ 580ppm Cu and 2,215ppm Ni** from surface (EOH) (YAC20-68);
- **15m @ 1,703ppm Cu and 797ppm Ni** from 4m (EOH) (YAC20-70);
    - including **3m @ 2,478ppm Cu and 672ppm Ni** from 16 (EOH); and,
- **12m @ 387ppm Cu and 2,349ppm Ni** from 8m (EOH) (YAC20-73).

Follow up drilling is planned to target the strongly anomalous Cu-Ni occurrences identified in the AC drilling.

## Smith Well Prospect

The Smith Well Cu-Au-Ni prospect contains two steeply west dipping, north-west plunging parallel broad mineralised zones.

Smith Well has been defined over a strike of 100m and to a depth of 200 vertical metres. Intercepts greater than 1% Cu in the upper horizon are associated with elevated nickel values greater than 0.2% and low-level Au and Co concentrations. The footwall horizon is associated with elevated Cu and Au greater than 1% Cu and 100ppb Au.

A broad stratigraphic horizon extends from Smith Well in the east around to the Just Desserts deposit to the west. This stratigraphic horizon includes multiple prospects such as C-Zone and Claudius, where encouraging historical Cu-Au mineralisation has been identified.

One RC hole at Smiths Well was recently completed to the north (YRC21-02, Figure 2), which intersected approximately 6m of sulphide mineralisation in the interpreted upper horizon position.

Empire plans to conduct further DHEM surveys at Smith Well to aid in targeting off-hole sulphide mineralisation and the hanging-wall shale marker horizon.

Results are pending for the January RC drilling at Smiths Well.

## DISCUSSION & FORWARD PLAN

Empire's improved understanding of the geology, alteration characteristics and structure at Yuinmery, paired with discovery of new Cu-Au, Cu-Ni and PGM occurrences have now expanded the Company's opportunities to target previously untested areas. Of significance is the evolution of Empire's conceptual models of VMS deposits, layered PGM occurrences and orogenic gold mineralisation used to target exploration.

Empire plans to leverage from a continuous exploration approach to enhance and complement its existing knowledge base. A detailed structural interpretation of the Yuinmery project alongside geophysical techniques, such as ground gravity and DHEM surveys are planned. These techniques are proven to be successful in identifying VMS deposits and characterising the structural setting and timing of mineralisation.

Ongoing geochemical and geophysical analysis will to be used in the identification of geochemical discontinuities and/or stratigraphic horizons that may have coincided with periods of hydrothermal activity and the formation of VMS mineralisation.

A systematic exploration approach is employed to test Empire's pipeline of targets, with first pass AC, infill AC and RC programs planned at multiple regional targets and where pending RC results indicate. Diamond and RC drilling is also planned to test deeper conductive bodies and to test favourable stratigraphic and structural targets for VMS mineralisation.

Empire is now able to confidently drill target high grade repetitions and potential extensions adjacent to, and within known deposits. There is a considerable lack of drilling at depth across Empire's tenement package and thus an opportunity to explore for favourable host rocks.

This announcement is authorised for release by:

**Sean Richardson**
**Managing Director**

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**About Empire**

Empire Resources Limited (ASX:ERL) is a gold and copper focussed exploration and development company. Empire owns 100% of two highly prospective projects (Figure 6). The Yuinmery Copper-Gold Project 470km North East of Perth in the base metal rich Youanmi Greenstone Belt and the Penny's Gold Project 45km North East of Kalgoorlie in the prolific Eastern Goldfields Region of Western Australia. Empire's projects have numerous exploration targets with excellent potential.

Empire has an experienced team of exploration, development and financial professionals who are committed to developing a sustainable and profitable mineral business. Empire seeks to extract value from direct exploration in its existing projects as well as identifying value accretive investment opportunities that complement the Company's development objectives.

**Competent Person Statements**

The information in this report that relates to Exploration Results is based on information compiled and/or reviewed by Melanie Sutterby, who is a Member of the Australian Institute of Geoscientists. Miss Sutterby is an employee of Empire Resources and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity she is undertaking 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". Miss Sutterby consents to the inclusion in the report of the matters based on this information in the form and context in which they appear.

The information is this release concerning the Mineral Resources for the Just Desserts deposit has been estimated by Mr Peter Ball B.Sc who is a director of DataGeo Geological Consultants and is a member of the Australasian Institute of Mining and Metallurgy (AusIMM). Mr Ball has sufficient experience which is relevant to the style of mineralization and type of deposit under consideration and qualifies 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 Ball consents to the inclusion in this public release of the matters based on his information in the form and context in which it appears.

**Additional JORC Information**

Further details relating to the information in this release can be found in the following ASX announcements:

1. ASX:ERL "*New Dual Campaign on Yuinmery*" 2 March 2011
2. ASX:ERL "*Updated Copper-Gold Resource Yuinmery Project*" 17 May 2016
3. ASX:ERL "*Encouraging Cu-Ni-PGM Mineralisation in Drilling at Yuinmery*" 23 July 2020

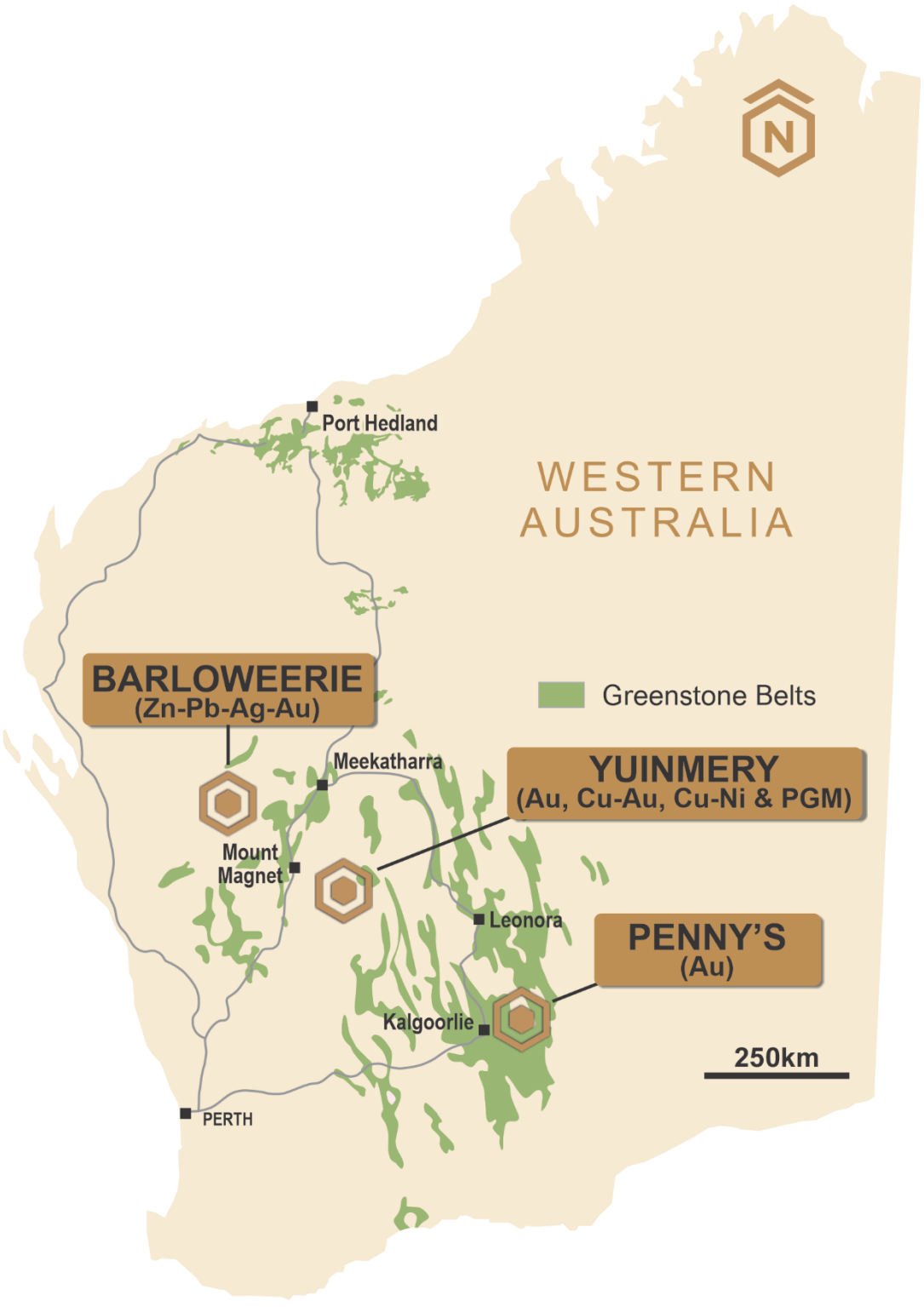


**Figure 6 – Empire Resources Project Locations**

| Prospect | Hole ID | Fr. (m) | To (m) | Int. (m) | Cu (ppm) | Au (ppb) | Ni (ppm) | Co (ppm) | Fe (%) |
|---|---|---|---|---|---|---|---|---|---|
| **YT01** | PAC20-10 | 36 | 38 (EOH) | 2 | 1,148 | 93 | 37 | 82 | 12.4 |
| **YT02** | PAC20-16 | 12 | 20 | 8 | 23 | 243 | 345 | 103 | 6.2 |
| | **inc** | **12** | **16** | **4** | **37** | **386** | **429** | **174** | **6.2** |
| | and | 36 | 48 | 12 | 1,007 | 32 | 415 | 35 | 8.6 |
| | PAC20-19 | 16 | 24 | 8 | 1,203 | 2 | 162 | 1,098 | 9.9 |
| **YT05** | PAC20-28 | 12 | 16 | 4 | 83 | 105 | 182 | 88 | 10.5 |
| | PAC20-34 | 16 | 24 | 8 | 203 | 133 | 32 | 8 | 8.0 |
| | PAC20-38 | 4 | 12 | 8 | 1,024 | - | 142 | 23 | 21.9 |
| | and | 24 | 32 | 8 | 1,253 | 10 | 316 | 61 | 7.7 |
| | PAC20-40 | 20 | 26 (EOH) | 6 | 2,182 | 20 | 934 | 234 | 9.5 |
| **YT12** | PAC20-45 | 8 | 16 | 8 | 1,886 | 278 | 301 | 119 | 10.2 |
| | **inc** | **12** | **16** | **4** | **2,776** | **679** | **272** | **87** | **10.6** |
| | PAC20-46 | 4 | 8 | 4 | 701 | 7 | 1,250 | 129 | 10.1 |
| | PAC20-53 | 40 | 44 | 4 | 1,102 | 12 | 387 | 147 | 12.0 |
| | PAC20-56 | 12 | 16 | 4 | 1,051 | 34 | 1,238 | 223 | 13.4 |
| | and | 24 | 30 (EOH) | 6 | 2,346 | 126 | 450 | 82 | 9.5 |
| | PAC20-58 | 0 | 4 | 4 | 1,000 | 17 | 427 | 68 | 14.1 |
| | PAC20-65 | 16 | 20 | 4 | 538 | 184 | 451 | 303 | 8.3 |
| | PAC20-68 | 0 | 16 (EOH) | 16 | 580 | 10 | 2,215 | 151 | 11.0 |
| | PAC20-69 | 0 | 12 | 12 | 606 | 9 | 1,341 | 293 | 16.9 |
| | PAC20-70 | 4 | 19 (EOH) | 15 | 1,703 | 18 | 797 | 124 | 12.3 |
| | **inc** | **8** | **16** | **8** | **1,732** | **22** | **1,061** | **152** | **11.0** |
| | **and** | **16** | **19 (EOH)** | **3** | **2,478** | **23** | **672** | **94** | **8.7** |
| | PAC20-73 | 8 | 20 (EOH) | 12 | 387 | 5 | 2,349 | 139 | 19.7 |

**Table 1 – Anomalous AC Drilling Results**

Note. Downhole intervals using a nominal cut off >2,000ppm Cu, 100ppb Au and/or >1,000ppm Ni

| Prospect | Hole ID | East | North | RL | Depth | Az | Dip |
|---|---|---|---|---|---|---|---|
| YT01 | YAC20-01 | 686,697 | 6,835,716 | 462 | 27 | 220 | -60 |
| | YAC20-02 | 686,685 | 6,835,703 | 462 | 23 | 220 | -60 |
| | YAC20-03 | 686,677 | 6,835,691 | 462 | 27 | 220 | -60 |
| | YAC20-04 | 686,666 | 6,835,680 | 462 | 36 | 220 | -60 |
| | YAC20-05 | 686,647 | 6,835,662 | 462 | 22 | 220 | -60 |
| | YAC20-06 | 686,630 | 6,835,644 | 462 | 20 | 220 | -60 |
| | YAC20-07 | 686,610 | 6,835,622 | 462 | 33 | 220 | -60 |
| | YAC20-08 | 686,586 | 6,835,598 | 462 | 39 | 220 | -60 |
| | YAC20-09 | 686,564 | 6,835,575 | 462 | 38 | 220 | -60 |
| | YAC20-10 | 686,542 | 6,835,552 | 462 | 38 | 220 | -60 |
| YT02 | YAC20-11 | 687,743 | 6,835,840 | 462 | 26 | 137 | -60 |
| | YAC20-12 | 687,762 | 6,835,816 | 462 | 26 | 138 | -60 |
| | YAC20-13 | 687,789 | 6,835,788 | 462 | 21 | 135 | -60 |
| | YAC20-14 | 687,815 | 6,835,758 | 462 | 19 | 135 | -60 |
| | YAC20-15 | 687,844 | 6,835,726 | 462 | 49 | 135 | -60 |
| | YAC20-16 | 687,867 | 6,835,702 | 462 | 64 | 136 | -60 |
| | YAC20-17 | 687,898 | 6,835,672 | 462 | 12 | 135 | -60 |
| | YAC20-18 | 687,917 | 6,835,650 | 462 | 54 | 135 | -60 |
| | YAC20-19 | 687,945 | 6,835,626 | 462 | 73 | 132 | -60 |
| | YAC20-20 | 687,981 | 6,835,593 | 462 | 48 | 138 | -60 |
| | YAC20-21 | 687,900 | 6,835,965 | 462 | 84 | 130 | -60 |
| | YAC20-22 | 687,937 | 6,835,933 | 462 | 90 | 132 | -60 |
| | YAC20-23 | 687,976 | 6,835,893 | 462 | 86 | 134 | -60 |
| | YAC20-24 | 688,012 | 6,835,860 | 462 | 90 | 134 | -60 |
| | YAC20-25 | 688,051 | 6,835,827 | 462 | 93 | 132 | -60 |
| | YAC20-26 | 688,095 | 6,835,783 | 462 | 87 | 135 | -60 |
| | YAC20-27 | 688,129 | 6,835,742 | 462 | 77 | 135 | -60 |
| YT05 | YAC20-28 | 686,740 | 6,838,109 | 462 | 28 | 222 | -60 |
| | YAC20-29 | 686,713 | 6,838,074 | 462 | 28 | 220 | -60 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | YAC20-30 | 686,684 | 6,838,033 | 462 | 64 | 220 | -60 |
| | YAC20-31 | 686,657 | 6,838,008 | 462 | 69 | 220 | -60 |
| | YAC20-32 | 686,627 | 6,837,965 | 462 | 51 | 220 | -60 |
| | YAC20-33 | 686,596 | 6,837,929 | 462 | 71 | 220 | -60 |
| | YAC20-34 | 686,565 | 6,837,893 | 462 | 50 | 224 | -60 |
| | YAC20-35 | 686,537 | 6,837,860 | 462 | 43 | 220 | -60 |
| | YAC20-36 | 686,516 | 6,837,840 | 462 | 28 | 220 | -60 |
| | YAC20-37 | 686,497 | 6,837,814 | 462 | 31 | 221 | -60 |
| | YAC20-38 | 686,469 | 6,837,788 | 462 | 35 | 220 | -60 |
| | YAC20-39 | 686,452 | 6,837,766 | 462 | 31 | 220 | -60 |
| | YAC20-40 | 686,420 | 6,837,724 | 462 | 26 | 221 | -60 |
| | YAC20-41 | 690,050 | 6,837,959 | 462 | 20 | 90 | -60 |
| | YAC20-42 | 690,111 | 6,837,959 | 462 | 7 | 90 | -60 |
| | YAC20-43 | 690,171 | 6,837,959 | 462 | 43 | 90 | -60 |
| | YAC20-44 | 690,227 | 6,837,962 | 462 | 49 | 90 | -60 |
| | YAC20-45 | 690,287 | 6,837,956 | 462 | 40 | 90 | -60 |
| | YAC20-46 | 690,343 | 6,837,952 | 462 | 60 | 92 | -60 |
| | YAC20-47 | 690,398 | 6,837,949 | 462 | 21 | 89 | -60 |
| | YAC20-48 | 689,737 | 6,837,422 | 462 | 20 | 90 | -60 |
| | YAC20-49 | 689,887 | 6,837,423 | 462 | 13 | 90 | -60 |
| **YT12** | YAC20-50 | 689,829 | 6,837,424 | 462 | 35 | 90 | -60 |
| | YAC20-51 | 689,876 | 6,837,427 | 462 | 13 | 90 | -60 |
| | YAC20-52 | 689,916 | 6,837,430 | 462 | 19 | 90 | -60 |
| | YAC20-53 | 689,975 | 6,837,429 | 462 | 47 | 90 | -60 |
| | YAC20-54 | 690,022 | 6,837,429 | 462 | 40 | 90 | -60 |
| | YAC20-55 | 690,062 | 6,837,432 | 462 | 35 | 90 | -60 |
| | YAC20-56 | 690,111 | 6,837,430 | 462 | 30 | 90 | -60 |
| | YAC20-57 | 690,162 | 6,837,430 | 462 | 30 | 90 | -60 |
| | YAC20-58 | 690,202 | 6,837,432 | 462 | 28 | 90 | -60 |
| | YAC20-59 | 690,257 | 6,837,429 | 462 | 13 | 90 | -60 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | YAC20-60 | 690,309 | 6,837,431 | 462 | 22 | 90 | -60 |
| | YAC20-61 | 690,369 | 6,837,432 | 462 | 22 | 90 | -60 |
| | YAC20-62 | 690,427 | 6,837,427 | 462 | 13 | 90 | -60 |
| | YAC20-63 | 689,761 | 6,836,948 | 462 | 36 | 87 | -60 |
| | YAC20-64 | 689,815 | 6,836,947 | 462 | 27 | 91 | -60 |
| | YAC20-65 | 689,860 | 6,836,950 | 462 | 33 | 87 | -60 |
| | YAC20-66 | 689,915 | 6,836,951 | 462 | 13 | 90 | -60 |
| | YAC20-67 | 689,965 | 6,836,947 | 462 | 18 | 90 | -60 |
| | YAC20-68 | 690,021 | 6,836,947 | 462 | 16 | 90 | -60 |
| | YAC20-69 | 690,066 | 6,836,945 | 462 | 19 | 90 | -60 |
| | YAC20-70 | 690,113 | 6,836,942 | 462 | 19 | 90 | -60 |
| | YAC20-71 | 690,162 | 6,836,949 | 462 | 16 | 91 | -60 |
| | YAC20-72 | 690,207 | 6,836,957 | 462 | 16 | 88 | -60 |
| | YAC20-73 | 689,901 | 6,836,668 | 462 | 20 | 87 | -60 |
| | YAC20-74 | 689,852 | 6,836,670 | 462 | 20 | 90 | -60 |
| | YAC20-75 | 689,809 | 6,836,662 | 462 | 32 | 88 | -60 |
| | YAC20-76 | 689,755 | 6,836,643 | 462 | 24 | 80 | -60 |

**Table 2 – AC Drillhole Summary**

| Prospect | Hole ID | East | North | RL | Depth | Az | Dip |
|---|---|---|---|---|---|---|---|
| **YT01** | YRC21-01 | 687,250 | 6,835,525 | 463 | 187 | 185 | -60 |
| **Smith Well** | YRC21-02 | 688,829 | 6,837,100 | 454 | 198 | 135 | -60 |
| **YT02** | YRC21-03 | 686,555 | 6,835,562 | 462 | 102 | 225 | -60 |
| | YRC21-04 | 686,600 | 6,835,611 | 462 | 102 | 225 | -60 |
| **YT05** | YRC21-05 | 686,397 | 6,837,695 | 462 | 54 | 220 | -60 |
| | YRC21-06 | 686,437 | 6,837,745 | 462 | 90 | 220 | -60 |
| | YRC21-07 | 686,462 | 6,837,778 | 462 | 168 | 220 | -60 |

**Table 3 – RC Drillhole Summary**

## JORC TABLE 1 FOR THE YUINMERY PROJECT

### Section 1 Sampling Techniques and Data

| Criteria | JORC Code Explanation | Commentary |
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| ***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.*<br>• *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*<br>• *Aspects of the determination of mineralisation that are Material to the Public Report.*<br>• *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 gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information* | • Aircore drilling was used to collect one metre samples. Drilling consisted predominantly using a blade bit with a hammer bit used to drill through harder zones.<br>• Reverse Circulation (RC) drilling using a high pressure air and cone splitter was used to collect one metre samples, where reported..<br>• As a first pass sampling program for selected RC samples, four metre composite samples were collected from the one metre green bags placed on the ground by the drill crew. The RC composites were collected using a PVC spear. Selected one metre samples were sent to the laboratory.<br>• The reject from the cone was collected in green bags and laid out in order of drilled metres.<br>• Four metre composite samples were collected from one metre AC sample piles placed on the ground by the drill crew. The composites were collected using a scoop.<br>• Composite samples from AC and RC generally were collected as 2kg made up from 0.5kg sub samples from each pile.<br>• All samples were sent to Intertek laboratory in Perth.<br>• Duplicate and standards were included and sent for analysis with the samples.<br>• All samples were pulverised to better than 95% passing 75µm with a 10g aliquot taken for assay.<br>• Multielement analysis was completed using an aqua regia digest and ICP-MS finish. |
| ***Drilling Techniques*** | • *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).* | • Aircore (AC) drill rig was used predominantly with a blade bit, but a hammer was used where the ground was too hard for the blade.<br>• Sample recovery as estimated based on the size and consistency of each individual sample pile based on an expected size.<br>• Drilling was carried out by Australian Aircore Drilling drilling using an AAC Custom 150 mounted on a 6WD Truck. |

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| | | • RC drill rig was used where a face sampling hammer and collected through a cone splitter. The reject sample was collected at the cone using green bags<br>• Sample recovery as estimated based on the size and consistency of each individual sample bag based on an expected size.<br>• Drilling was carried out by Redrock drilling using a Hydco 40 mounted on a MAN 8x8 truck<br>• Seventy-six (76) AC holes for 2,786m were drilled<br>• Seven (7) RC holes for 901m were drilled. |
| **Drill sample recovery** | • *Method of recording and assessing core and chip sample recoveries and results assessed.*<br>• *Measures taken to maximise sample recovery and ensure representative nature of the samples.*<br>• *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.* | • AC drilling was used as the most effective drill method in reducing contamination in reconnaissance drilling.<br>• 4m drill soil/chip AC samples, weighing approximately 2kg were collected throughout the drill programme in sequentially numbered bags<br>• AC samples were collected in a bucket from a cyclone attached to the rig. The contents of the bucket were placed in piles on the ground in sequential order.<br>• The cyclone was regularly checked and cleaned.<br>• 1m composite drill soil/chip samples, weighing approximately 2kg were collected throughout the drill programme in sequentially numbered bags for the RC drilling.<br>• 4m composite drill soil/chip samples, weighing approximately 2kg were collected throughout the drill programme in sequentially numbered bags for the RC drilling<br>• RC samples were collected in calico bags placed on a cone splitter that was attached to a cyclone attached to the rig. The reject contents of the cyclone were placed in green plastic bags on the ground in sequential order.<br>• The RC cyclone was regularly checked and cleaned. |
| **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.*<br>• *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* | • All AC and RC drilling was logged for geology in the field by a qualified geologist. Lithological and mineralogical data was recorded for all drill holes using a coding system developed specifically for the Project. Primary and secondary lithologies are recorded in addition to colour, grain size, alteration type and intensity, estimates of mineral quantities. |

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| | • *The total length and percentage of the relevant intersections logged.* | • Geological logging is qualitative in nature. |
| **Sub-sample techniques and sample preparation** | • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.*<br>• *For all sample types, the nature, quality and appropriateness of the sample preparation technique.*<br>• *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.*<br>• *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.*<br>• *Whether sample sizes are appropriate to the grain size of the material being sampled.* | • 4m composite samples were collected using a spear for RC and a scoop for AC<br>• 1m samples RC were collected from the cone splitter.<br>• Where RC samples were wet, the 1m calicos were collected.<br>• All samples were marked with a unique sequential sample numbered calico bag.<br>• Sample bags were collected and placed in large polyweave bags, then in bulka bags for delivery to the laboratory in Perth.<br>• Standards were inserted at a rate of 1 in every 20 while field duplicates were inserted 1 in every 25.<br>• Samples collected generally weighed between 2 to 2.5kg.<br>• All samples were pulverised to better than 95% passing 75µm<br>• Sample procedures and sample preparation are deemed to represent a good industry standard. |
| **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.*<br>• *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.*<br>• *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.* | • The assaying and laboratory procedures used are appropriate for the material tested.<br>• Sampling was guided by Empire's QAQC procedures.<br>• Standards were inserted at a rate of 1 in every 20 while field duplicates were inserted 1 in every 25.<br>• The laboratory also carried out its own internal QAQC checks including duplicates taken from the submitted sample. |
| **Verification of sampling and assaying** | • *The verification of significant intersections by either independent or alternative company personnel.*<br>• *The use of twinned holes.*<br>• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*<br>• *Discuss any adjustment to assay data.* | • The drill program was completed under guidance of the listed CP who is an employee of Empire.<br>• No twin holes were drilled as this is a reconnaissance drill program.<br>• Geological logs and sampling data were recorded into excel spreadsheet templates on a laptop. These files were compiled and loaded via Surpac into an Access database.<br>• No adjustment to assay data was carried out unless noted. |

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| **Location of Data points** | • *Accuracy and quality of surveys used to locate drillholes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.*<br>• *Specification of the grid system used.*<br>• *Quality and adequacy of topographic control.* | • Collars were surveyed using a hand-held GPS.<br>• RC collars will be picked up as soon as possible with a DGPS<br>• GDA94_50<br>• Surface elevation will be adjusted using points surveyed by a DGPS and reported when appropriate. |
| **Data spacing and distribution** | • *Data spacing for reporting of Exploration Results.*<br>• *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.*<br>• *Whether sample compositing has been applied.* | • Drill holes were generally spaced at 40m across lines spaced between 75m and 50m.<br>• The hole spaced provided good coverage along the drill line.<br>• This drilling is reconnaissance in nature and will not be used for any Mineral Resource estimations. |
| **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.*<br>• *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.* | • VMS mineralisation is considered to trend in the direction of foliation / bedding and as such may have multiple orientations due to the large syncline feature. Holes were drilled perpendicular to observed or interpreted foliation.<br>• Holes were drilled perpendicular to observed or interpreted geology strike direction.<br>• The direction of sampling is not considered to bias results |
| **Sample Security** | • *The measures taken to ensure sample security.* | • Samples were collected daily from the site and brough back to the Youanmi minesite and placed in bulka bags.<br>• Samples were then transported to Perth by road. |
| **Audits or reviews** | • *The results of any audits or reviews of sampling techniques and data.* | • The program was completed, and data processed by the CP who is an employee of Empire. |

## Section 2 Reporting of Exploration Results

| Criteria | JORC Code explanation | Commentary |
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| 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.*<br>• *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.* | • The project consists of five granted tenements (two mining and three exploration), for a total area of 84.5 $km^2$<br>• Mining tenements; M57/265 and M57/636 and exploration tenement; E57/1037 are 100% owned by Empire<br>• Exploration tenements are; E57/681 and E57/1027 are subject to a Net Smelter Royalty (NSR) of 1.25% |

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| Exploration done by other parties | • *Acknowledgment and appraisal of exploration by other parties.* | • Western Mining Corporation Ltd commenced base metal exploration in the area in 1969 and continued until 1981. Soil sampling, ground magnetics, IP and EM were exploration methods used to target their vacuum, percussion and diamond drilling programs.<br>• Esso Australia Ltd explored the area between 1979 and 1984 using EM, RAB and diamond drilling in the search for Golden Grove - Scuddles type base metal deposits.<br>• Black Hill Minerals Ltd explored part of the area for base metals between 1986 and 1991. This involved rock chip sampling and limited percussion drilling.<br>• Meekal Pty Ltd commenced an exploration program in 1985 by remapping parts of the syncline and rock chip sampling. In 1986 Meekal introduced Arboyne NL into the project who carried out gold exploration by drilling reverse circulation holes under old gold workings.<br>• Between 1989 and 1991 RGC Exploration Pty Ltd explored the area concentrating on the potential for gold mineralization. This exploration consisted of geological mapping, rock chip sampling and some RAB drilling.<br>• In 1992 Meekal Pty Ltd joint ventured the project to Giralia Resources NL, who brought in CRAE as a partner in1993. CRAE completed a ground EM survey and drilled three diamond holes in its search for base metals.<br>• Gindalbie Gold NL then explored the area for gold between 1995 and 2000. This work entailed a wide spaced soil sampling program but although several anomalous zones were identified no drilling was undertaken.<br>• Mineral Resources Australia / La Mancha explored the northern end of the project area between 2002 and 2010 completing; extensive soil sampling (Auger), reconnaissance (RAB / Aircore) drilling and geophysical surveys (VTEM and aeromagnetic surveys).<br>• Empire Resources Ltd commenced exploration in the area during 2006. To date a number of RAB, RC and diamond drilling programmes have been completed as well as aerial, surface and downhole electromagnetic (EM) surveys. |

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| Geology | • *Deposit type, geological setting and style of mineralisation.* | • The Yuinmery project area covers the eastern portion of the Archaean Youanmi greenstone belt with rock types consisting largely of altered mafic and ultramafic volcanic and intrusive rocks with chloritic felsic and intermediate volcanic units. The volcanic units contain a number of intercalated strongly sulphidic cherty sediments which are host to VMS copper-gold mineralization. In the project area these rocks lie on the eastern side of the regional Youanmi Fault and form the southern closure of a northerly plunging syncline. The volcanic rocks have been intruded by dolerites, gabbros, pyroxenites and other ultramafic rocks which probably form part of the layered Youanmi Gabbro Complex. Several zones of copper - gold mineralization have been identified within the project area by previous surface sampling and drilling. The volcanogenic massive sulphide style mineralization is associated with cherts, felsic volcanic breccias and tuffs.<br>• Gold mineralisation is interpreted to be associated with lower order shears subsidiary to either the Youanmi or Yuinmery Shear zones. Gold sits in sub-vertical shears, and forms narrow, steep plunging high grade shoots at minor flexures in the shears as quartz-sulphide lodes. |
| 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 drillholes:*<br>  • *easting and northing of the drillhole collar*<br>  • *elevation or RL (elevation above sea level in metres) of the drillhole collar*<br>  • *dip and azimuth of the hole*<br>  • *down hole length and interception depth*<br>  • *hole length.* | • Hole locations are tabulated along with accompanying collar location diagrams within this report |
| Data aggregation methods | • *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* | • Data was compiled using excel spreadsheets and loaded into an Access database.<br>• The data was audited using QGIS and Surpac data auditing features.<br>• A nominal cut-off grade of 2,000ppm Cu and 100ppb Au have been applied to the assay results, unless noted. |

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| Relationship between mineralisation widths and intercept lengths | • *If the geometry of the mineralisation with respect to the drillhole angle is known, its nature should be reported.*<br>• *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect.* | • Broad anomalous copper envelopes have been interpreted from the drilling completed. Exact widths and geometry are still to be determined, so all intercepts are reported as downhole intervals. |
| 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 drillhole collar locations and appropriate sectional views.* | • Diagrams are included within the report |
| 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.* | • All data from the program is provided in the report |
| 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.* | • NA. |
| Further work | • *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).* | • Reconnaissance drilling programs planned to test high priority target areas.<br>• Soil and rock sampling programs<br>• Prospect scale mapping<br>• Reinterpretation of geophysical data, including EM and aeromagnetic / radiometric data<br>• RC and diamond drilling<br>• Geophysical surveys |