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**9 January 2020**

**Company Announcements Office**
**ASX Securities Limited,**
**20, Bridge Street, Sydney,**
**N.S.W. 2000**

## BONYA - HIGH GRADE TUNGSTEN & COPPER ASSAYS

Thor Mining Plc ("Thor") (AIM, ASX: THR) and Arafura Resources Limited ("Arafura") (ASX: ARU) are pleased to advise that the final follow up laboratory assay results from the recent Bonya RC drill program confirm the previously reported interim portable XRF results (11 and 26 November 2019).

The project is held in joint venture between Arafura (60%) and Thor (40%) with Thor acting as manager, and each party contributing to the cost according to their equity.

A total of eleven holes were drilled at White Violet, and a further eight holes at Samarkand to complete the program with 1,386 metres drilled in total.

**Highlights from White Violet include;**

- **23m @ 0.58% $WO_3$ from surface, including 6m at 1.7% $WO_3$ from surface**; hole 19RC035
- 8m @ 0.74% $WO_3$ from 65m, **including 2m at 2.48% $WO_3$ from 69m**; hole 19RC037
- 1m @ 0.70% $WO_3$ from 42m; and **1m at 2.32% $WO_3$** from 50m; hole 19RC042
- **3m @ 1.02% $WO_3$ from 22m, including 1m at 2.64% $WO_3$ from 22m**; hole 19RC039

**Highlights from Samarkand include;**

- 1m @ 0.79% $WO_3$ from 12m; hole 19RC044
- 7m @ 0.28% $WO_3$ from 43m, and **9m @ 1.1% Cu** from 45m, plus **2m @ 2.17% $WO_3$ and 0.78% Cu** from 78m; hole 19RC046
- **1m @ 2.07% $WO_3$** from 18m; hole 19RC048

An independent resource geologist has been engaged with the objective of preparing mineral resource estimates for both deposits.

***Mick Billing, Executive Chairman of Thor Mining, commented:***

*"The Bonya tungsten deposits are delivering robust results which, we believe can add significantly to the economic life and commercial outcomes of the nearby proposed Molyhil project."*

*"The Bonya project hosts additional tungsten and copper deposits, and these will be tested in due course, however our initial focus is likely to remain with the White Violet tungsten deposit, the Samarkand tungsten/copper deposit, and the Bonya copper deposit. It is hoped that these can extend the Molyhil project life of mine towards 10 years."*

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***Gavin Lockyer, Managing Director of Arafura Resources, commented:***

*"Assays from this latest drilling campaign confirms the potential at both White Violet and Samarkand to host tungsten mineral resources. We look forward to delivering the outcome of the resource estimation work in due course."*

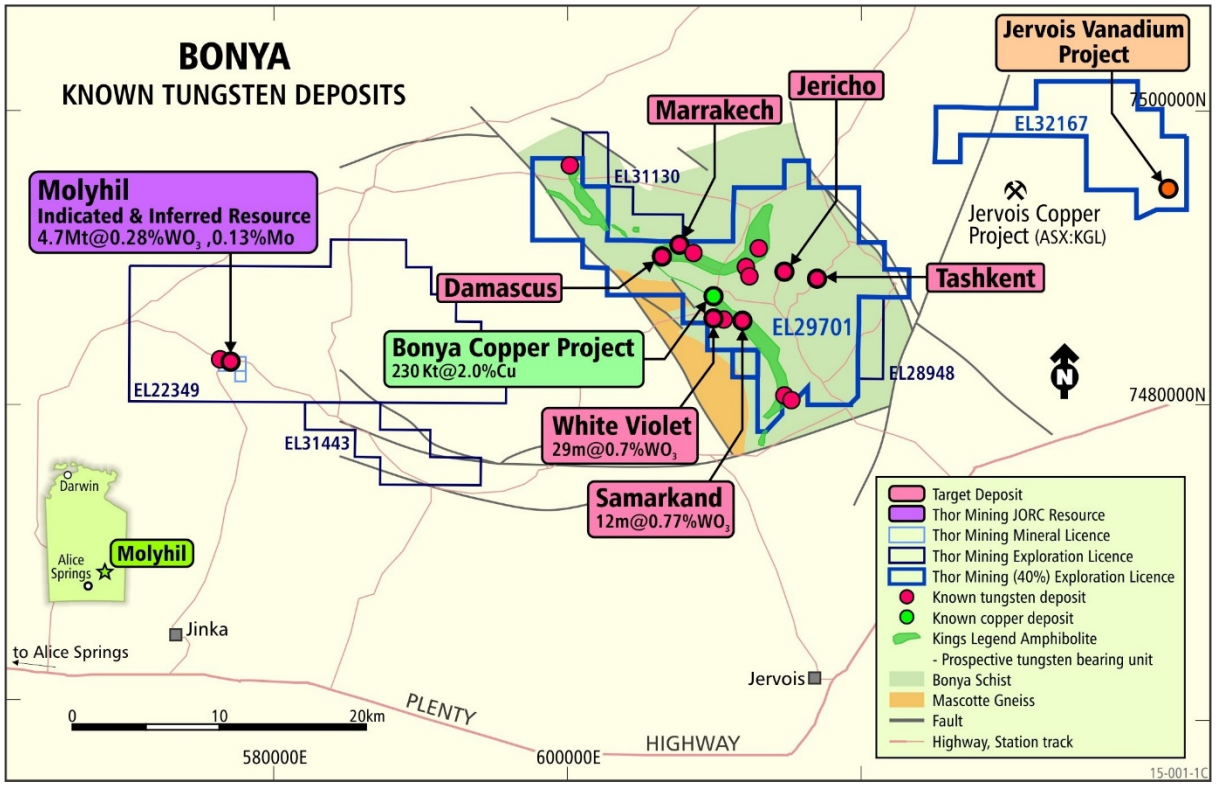


*Figure 1: Map showing location of Bonya relative to the Molyhil mine project*

The 19-hole program comprised 1,386 metres of drilling by Reverse Circulation (RC) method on the White Violet and Samarkand deposits. A complete list of significant drill intercepts is tabulated below along with estimated true widths of mineralisation.

Table A: Summary of Results

| Hole ID | Prospect | East GDA94 Zone53 | North GDA94 Zone53 | Elev ASL (m) | Azi | Dip | Depth (m) | Assay Intercept summary | Est true width (m) |
|---|---|---|---|---|---|---|---|---|---|
| 19RC033 | White Violet | 609,683 | 7,486,032 | 412 | 192 | -70 | 178.2 | 3m @ 0.23%WO3 from 135m and<br>3m @ 0.17%WO3 from 143m | 2m<br>2m |
| 19RC034 | White Violet | 609,692 | 7,486,073 | 408 | 192 | -45 | 51 | 13m @ 0.38%WO3 from 1m including<br>6m @0.32%Cu from 5m.<br>4m @ 0.43%WO3 from 17m | 10m<br>4.5m<br>3m |
| 19RC035 | White Violet | 609,663 | 7,486,047 | 409 | 192 | -50 | 81 | 23m @ 0.58%WO3 from 0m including<br>**6m @ 1.7%WO3 from 0m** and<br>10m @ 0.21% Cu from 18m, and<br>10m @0.22%WO3 from 26m | 19m<br>4.5m<br>7m |
| 19RC036 | White Violet | 609,671 | 7,486,061 | 409 | 192 | -65 | 138 | 5m @ 0.41%WO3 from 51m and<br>1m @ 0.59%WO3 from 104m and<br>10m @ 0.25%WO3 from 115m and<br>3m @ 0.63%WO3 from 128m | 3m<br>0.5m<br>7m<br>2m |
| 19RC037 | White Violet | 609,639 | 7,486,067 | 405 | 192 | -65 | 96 | 8m @ 0.64%Cu from 62m<br>8m @ 0.74%WO3 from 65m including<br>**2m @ 2.48% WO3 from 69m** and<br>3m @ 0.25%WO3 from 76m including<br>2m @ 0.43%Cu from 77m | 6m<br>6m<br>1.5m<br>2m<br>1.5m |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 19RC042 | White Violet | 609,710 | 7,486,049 | 411 | 192 | -50 | 60 | 1m @ 0.7%WO3 from 42m and<br>**1m @ 2.32%WO3 from 50m** and<br>2m @ 0.43%WO3 from 57m | 0.5m<br>0.5m<br>1.5m |
| 19RC038 | White Violet | 609,730 | 7,486,027 | 413 | 192 | -60 | 93 | 3m @ 0.41%WO3 from 11m and<br>5m @ 0.18%WO3 from 17m | 2m<br>4m |
| 19RC039 | White Violet | 609,756 | 7,486,027 | 411 | 192 | -55 | 42 | **3m @ 1.02%WO3 from 22m** including<br>**1m @ 2.64%WO3 from 22m** | 2m<br>0.5m |
| 19RC040 | White Violet | 609,780 | 7,486,013 | 407 | 192 | -55 | 48 | no significant intercept | |
| 19RC041 | White Violet | 609,708 | 7,486,036 | 412 | 192 | -55 | 30 | 17m @ 0.35%WO3 from 19m | 14m |
| 19RC043 | White Violet | 609,638 | 7,486,067 | 405 | 192 | -45 | 52 | no significant intercept | |
| 19RC044 | Samarkand | 612,110 | 7,485,390 | 427 | 045 | -50 | 78 | 1m @ 0.79%WO3 from 12m | 0.5m |
| 19RC045 | Samarkand | 612,091 | 7,485,405 | 424 | 045 | -55 | 51 | no significant intercept | |
| 19RC046 | Samarkand | 612,087 | 7,485,401 | 424 | 045 | -75 | 99 | 7m @ 0.28%WO3 from 43m and<br>9m @ 1.1%Cu from45m<br>**2m @ 2.17%WO3 and 0.78% Cu from 78m** | 5m<br>7m<br>1.5m |
| 19RC047 | Samarkand | 612,069 | 7,485,414 | 422 | 045 | -75 | 30 | hole abandoned | |
| 19RC048 | Samarkand | 612,070 | 7,485,415 | 422 | 045 | -55 | 63 | **1m @ 2.07%WO3 from 18m** | 0.5m |
| 19RC049 | Samarkand | 612,067 | 7,485,418 | 422 | 045 | -75 | 90 | no significant intercept | |
| 19RC050 | Samarkand | 612,069 | 7,485,450 | 422 | 045 | -50 | 55 | 1m @ 0.85%WO3 from 5m | 0.5m |
| 19RC051 | Samarkand | 612,139 | 7,485,346 | 415 | 045 | -55 | 51 | 3m @ 0.20%WO3 from 3m | 2m |

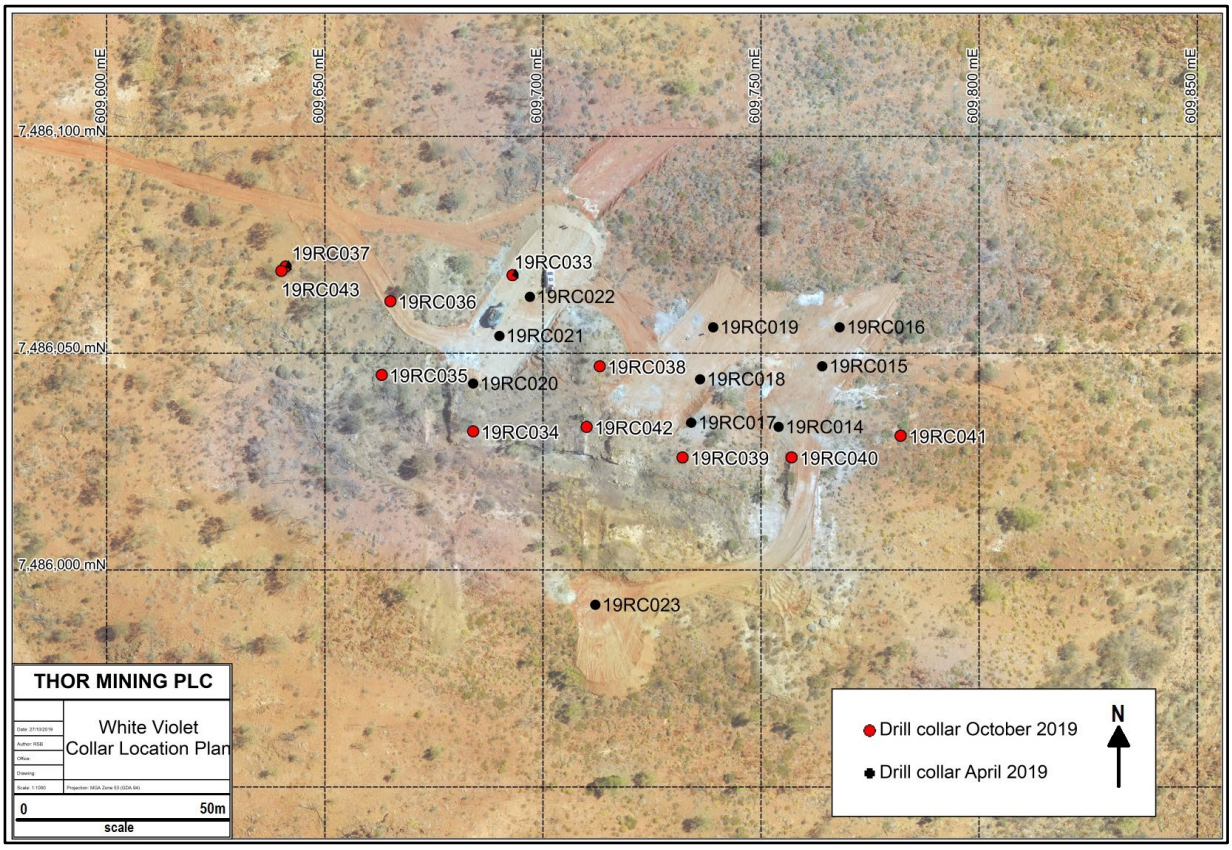


*Figure 2: White Violet drill collar location plan*

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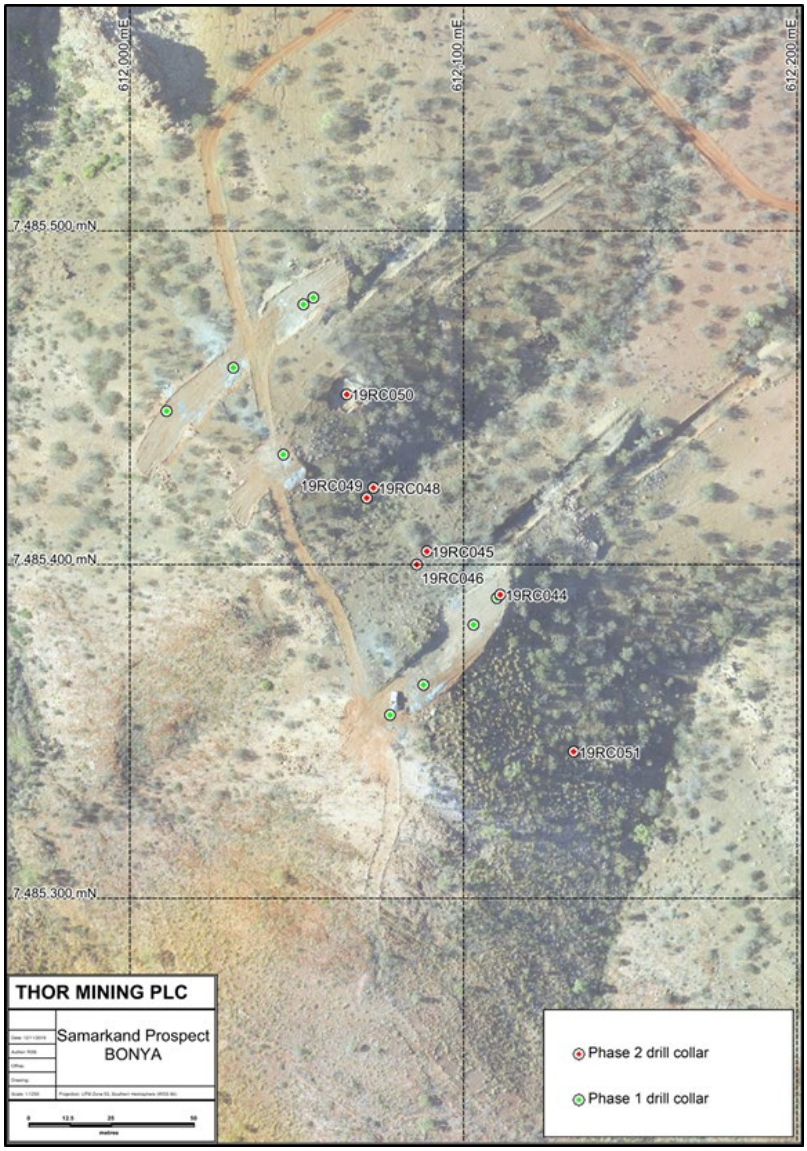


*Figure 3: Samarkand drill collar location plan*

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**Competent Persons Statement**

*The information in this report that relates to exploration results is based on information compiled by Richard Bradey, who holds a BSc in applied geology and an MSc in natural resource management and who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Bradey is an employee of Thor Mining PLC. He has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he 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'. Richard Bradey consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*

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# JORC Code, 2012 Edition – Table 1 Report

## Section 1 Sampling Techniques and Data

| 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.*<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.* | Reverse Circulation drilling with face sampling hammer was used to obtain one metre interval samples.<br><br>Subsamples of approximately 2-3kg were taken from each interval using riffle splitter for geochemical analysis. XRF subsamples and chip tray samples were collected, logged and photographed.<br><br>Industry standard QAQC protocol was adopted with reference material inserted every fifth sample. |
| ***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).* | Reverse circulation drilling with 3.5 inch face sampling hammer. |
| ***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.* | Samples were weighed from a selection of holes to gauge sample recovery. Samples were consistently within the range of 15 to 20kg and consistent across different rock units. |
| ***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.*<br>• *The total length and percentage of the relevant intersections logged.* | Hole cuttings were logged geologically and photographed for the entire length of each hole.<br>Mineralised and unmineralised zones were easily determined from geological observations and XRF determination. |
| ***Sub-sampling techniques and sample preparation*** | • *If core, whether cut or sawn and whether quarter, half or all core taken.*<br>• *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* | Subsamples for independent laboratory analyses were taken by riffle splitter.<br>The majority of samples were dry. Wet samples were noted in the logs.<br>Sample size of 2-3kg is appropriate for RC samples with a maximum particle size of 6mm.<br><br>For preliminary XRF determination **<u>not</u>** to be used for resource estimation – a further subsample of 30g was taken which is not considered truly |

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| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *the material being sampled.* | representative. |
| ***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 (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.* | Laboratory geochemical assay results have now been completed.<br>Industry standard sample preparation finishing with sample pulverisation to 80% passing 75µm. with assay by peroxide fusion and ICP-MS.<br>The technique is considered appropriate for the analyte suite.<br>Industry standard QA/QC protocol is implemented in the assay process. |
| ***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.* | Significant intersections reported correspond with visual indications in samples. No further independent verification has been undertaken. |
| ***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.*<br>• *Specification of the grid system used.*<br>• *Quality and adequacy of topographic control.* | All hole collar locations were surveyed by licenced survey contractor for mineral resource estimation.<br>North seeking gyro will be used for downhole survey.<br>Grid system used is GDA94, zone 53. |
| ***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 are spaced at 40 metre centres on 25 metre spaced drill sections. This spacing is considered appropriate for resource estimation in this style of mineralisation.<br>Sample compositing was undertaken in areas that were not mineralised . |
| ***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.* | Hole orientations are appropriate for the orientation of target mineralised zones. Estimated true widths are stated in the report intercept summary table. |
| ***Sample security*** | • *The measures taken to ensure sample security.* | The project is located in a remote region. No unauthorised company personnel visited the site during operations. Assay samples were collected from each hole immediately after drilling. Samples were transported for safe storage at a base camp before being securely packaged for transport to the laboratory. All submitted assay samples were receipted by the laboratory. |
| ***Audits or reviews*** | • *The results of any audits or reviews of sampling techniques and data.* | None |

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## Section 2 Reporting of Exploration Results

| 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.*<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 Bonya deposits are located on EL29701 jointly held by Arafura Resource Limited (60%) and Thor Mining PLC(40%) with Thor acting as manager<br><br>EL29701 is a mature exploration licence subject to ongoing biennial renewal. |
| ***Exploration done by other parties*** | • *Acknowledgment and appraisal of exploration by other parties.* | Previous drilling was undertaken by Central Pacific Minerals NL in 1971 using open hole percussion with limited success. There are no complete records of the historic drilling. |
| ***Geology***<br><br>***Drill hole Information*** | • *Deposit type, geological setting and style of mineralisation.*<br>• *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:*<br>▪ *easting and northing of the drill hole collar*<br>▪ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*<br>▪ *dip and azimuth of the hole*<br>▪ *down hole length and interception depth*<br>▪ *hole length.*<br>• *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.* | Contact metamorphic skarn hosted scheelite.<br>This information is tabulated in detail within the announcement. |
| ***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.*<br>• *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.*<br>• *The assumptions used for any reporting of metal equivalent values should be clearly stated.* | Where sample intervals vary, reported average grades are length weighted. No grades were cut<br><br>A 3-metre maximum waste width and cut-off grade of 0.08% $WO_3$ was used in determining aggregated mineralisation intervals.<br><br>High-grade intervals were highlighted where $WO_3$ exceeded 1%.<br><br>No metal equivalents were reported. |

| | | |
|---|---|---|
| ***Relationship between mineralisation widths and*** | • *These relationships are particularly important in the reporting of Exploration Results.*<br>• *If the geometry of the mineralisation with respect to the drill hole angle is known, its* | Estimated true widths are provided for each reported interval. Mineralisation intercept angles are in the order of 60 degrees. Correction to true widths is in the order of 60 to 75% of drill widths. |

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