

# MANDILLA ACHIEVES ONE MILLION OUNCES RESOURCE MILESTONE

A 32% increase in contained ounces at Mandilla following the fourth Mineral Resource Estimate, with resource growth in excess of 100% since the MRE reported in May 2021. Astral's total gold Mineral Resource now stands at 1.15Moz with additional growth drilling both underway and planned.

#### **HIGHLIGHTS**

Updated JORC 2012 Mineral Resource Estimate (MRE) of 30Mt at 1.1g/t for 1.03Moz of contained gold for the Mandilla Gold Project (Mandilla), located 70km south of Kalgoorlie in WA. The MRE encompasses the cornerstone Theia deposit, the Iris and Eos deposits, and an inaugural contribution from the recently discovered Hestia deposit:

Mineral Resource Estimate for the Mandilla Gold Project (Cut-Off Grade >0.39g/t Au)						
Classification Tonnes (Mt) Grade Ounces (koz)						
Indicated	12	1.1	410			
Inferred	18	1.1	624			
Total	Total 30 1.1 1034					

The preceding statement of Mineral Resources conforms to the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code) 2012 Edition. All tonnages reported are dry metric tonnes. Minor discrepancies may occur due to rounding to appropriate significant figures.

- The updated MRE represents a 32% metal increase on the previous MRE of 24Mt at 1.0g/t Au for 784koz announced in January 2022<sup>1</sup>, only ten months ago, demonstrating the significant growth potential remaining at Mandilla, noting that the 250,000 incremental ounces were added at an average discovery cost of only \$16 per ounce.
- Further extensional growth is targeted on the western and eastern flanks of Theia, as well as at depth, at depth and to the south-east at Eos, and along strike and down dip at the Hestia deposit.
- The inaugural MRE at the recently discovered Hestia deposit is based on relatively broad-spaced drilling along a strike length of approximately 1km. Occurring in a completely different geological setting from the aforementioned deposits, significant scope exists to identify additional mineralisation as the basis for an increased MRE.

Refer to ASX Announcement dated 18 January 2022 – Mandilla Resource Grows Further to 784,000 ounces.



- Including the MRE at the Feysville Gold Project (Feysville), also located near Kalgoorlie, of 3Mt at 1.3g/t Au for 116koz of contained gold<sup>2</sup>, Astral's total gold Mineral Resource now stands at 33Mt at 1.1g/t Au for 1.15Moz of contained gold.
- Given Mandilla's outstanding metallurgical characteristics<sup>3</sup>, Astral's total Mineral Resources are fast approaching the critical mass required to support advanced mining studies. With diamond drilling (DD) currently underway at Feysville and Reverse Circulation (RC) drilling scheduled to re-commence at Mandilla in the New Year, Astral's Mineral Resources are expected to further increase, supporting a potential future production facility at Mandilla.

**Astral Resources' Managing Director Marc Ducler said**: "The Mandilla Gold Project continues to demonstrate its bona fides as a significant gold system in the heart of the Kalgoorlie gold fields, with this latest resource update cementing Astral's position as one of the largest independently owned resource inventories in this Tier-1 district.

"In the 18 months since the 2020 maiden Mineral Resource Estimate, Mandilla has increased by an impressive 107% whilst the consolidated Company Mineral Resource has increased from 116koz at the start of 2021 to over 1.15Moz today. This is a standout performance by our exploration team and places Astral in a strong position to generate value for shareholders.

"Encouragingly, the majority of the increase in Mineral Resources in this update resulted from drilling the western side of Theia, which has widened the orebody on the flank and has allowed the pit optimisation to convert previously unclassified mineralisation at depth into Inferred Mineral Resources, by driving the pit to a more uniform depth along strike.

"With a number of targets on both flanks and at depth of the Theia deposit yet to be tested and having regard to the low discovery cost of the recent drilling programs of only \$16 per ounce, potential remains for significant growth in the MRE at Mandilla.

"With the first diamond drilling at Feysville in over three years currently underway and an RC program scheduled to start at Mandilla in the New Year, we expect to get 2023 off to a flying start."

**Astral Resources NL (ASX: AAR)** (**Astral** or the **Company**) is pleased to report an updated JORC compliant (2012 Edition) Mineral Resource Estimate (**MRE**) for its flagship 100%-owned Mandilla Gold Project (**Mandilla** or the **Project**), located 70km south of Kalgoorlie, Western Australia.

The MRE, which was prepared by independent consultants Cube Consulting in accordance with the JORC Code (2012 Edition), incorporates the Theia, Iris, Eos and Hestia deposits and totals **30 million tonnes at 1.1g/t Au for 1.03 million ounces of contained gold** (see Tables 1, 2 and 3 below).

This is the fourth MRE for Mandilla within 18 months and continues to validate Astral's strategy to grow its Resource inventory to achieve the necessary critical mass to develop a sustainable and profitable gold business in the Kalgoorlie region based on Mandilla and Feysville (see Figure 1).

<sup>&</sup>lt;sup>2</sup> Refer to ASX Announcement dated 8 April 2019 – Maiden Mineral Resource at Feysville & Met Testwork Results. Feysville JORC 2012 Mineral Resource Estimate; 0.6Mt at 1.1g/t Au for 20.2koz Indicated and 2.3Mt at 1.3g/t Au for 95.6koz Inferred.

<sup>&</sup>lt;sup>3</sup> Refer to ASX Announcement dated 6 June 2022 – Outstanding Metallurgical Test-work further de-risks Mandilla.





Figure 1 – Mandilla Project location map.

Ongoing infill and extensional drilling at Mandilla continues to demonstrate exceptional growth in the Mandilla MRE as illustrated in Chart 1 below.

The December 2022 MRE update added 250koz to the previous MRE at an exploration cost of approximately \$16 per new ounce discovered. This is a low cost in industry terms and a reflection of the increasing efficiency of exploration drilling as the geology team continues to improve its understanding of the controls to mineralisation particularly at the cornerstone Theia deposit.

The chart below demonstrates the rapid growth in the Mandilla MRE.

The Company is highly confident that significant growth can be delivered in future updates.



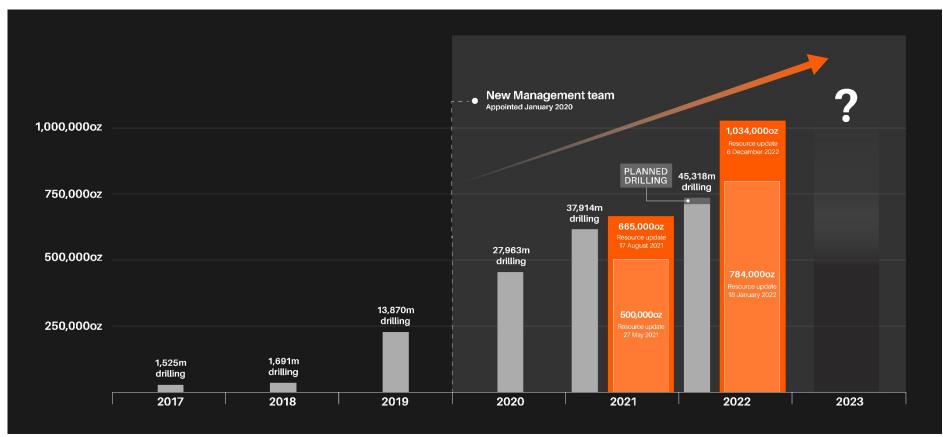


Chart 1 – Mandilla MRE growth and metres drilled



The MRE was estimated using a 0.39 g/t Au lower cut-off and is constrained within pit shells derived using a gold price of AUD\$2,500 per ounce (consistent with the maiden MRE).

The MRE is summarised in Table 1 below, a detailed breakdown by deposit is provided in Table 2 and a grade and tonnage sensitivity by cut-off grade is provided in Table 3.

Table 1 – Mandilla Mineral Resource Estimate (December 2022)

Mineral Resource Estimate for the Mandilla Gold Project (Cut-Off Grade >0.39g/t Au)						
Classification	Tonnes (Mt) Grade Ounces (koz)					
Indicated	12	1.1	410			
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Table 2 – MRE (December 2022) grade and tonnage by source

Deposit	Classification	Tonnes (Mt)	Grade (g/t)	Ounces (koz)
	Indicated	11	1.1	374
Theia	Inferred	13	1.2	504
	Total	24	1.1	878
	Indicated	0.4	0.8	11
Iris	Inferred	3.9	0.8	100
	Total	4.3	0.8	111
	Indicated	0.5	1.6	25
Eos	Inferred	0.1	1.6	7
	Total	0.6	1.6	32
	Indicated	-	=	-
Hestia	Inferred	0.5	0.8	12
	Total	0.5	0.8	12
Total		30	1.1	1034

All tonnages reported are dry metric tonnes. Minor discrepancies may occur due to rounding to appropriate significant figures.

Table 3 – MRE (December 2022) grade and tonnage by cut-off grade

Cut-off grade (g/t Au)	Tonnes (Mt)	Grade (g/t)	Ounces (koz)
0.3	35	1	1093
0.35	32	1	1065
0.39	30	1.1	1034
0.4	30	1.1	1030
0.45	27	1.2	993
0.5	24	1.2	954

All tonnages reported are dry metric tonnes. Minor discrepancies may occur due to rounding to appropriate significant figures.

The locations of the optimised pit shells based on a gold price of AUD\$2,500 per ounce are set out in plan view in Figure 2 below.

The sections referenced in this announcement are also annotated on this plan.



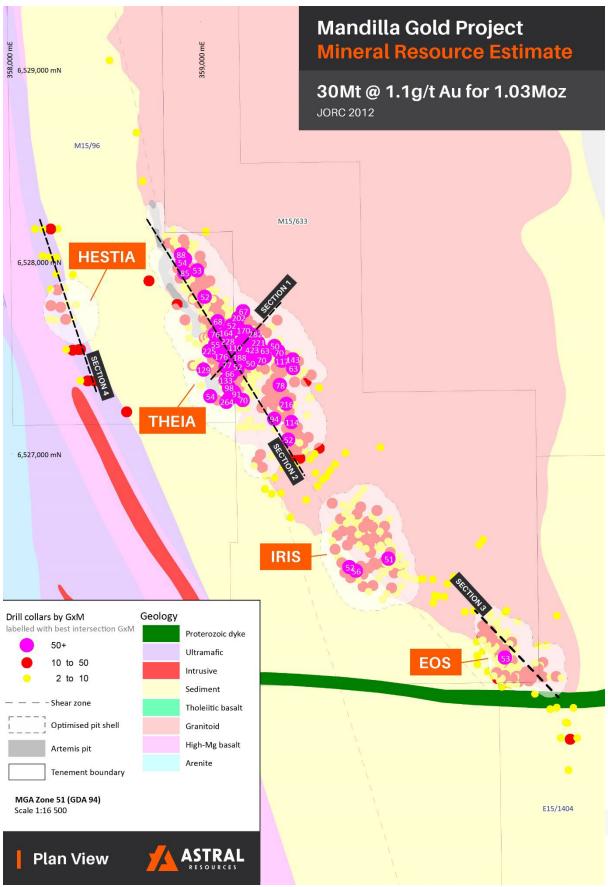


Figure 2 – December 2022 MRE optimised pit shell and section locations on local area geology.



#### **THEIA**

Theia is Mandilla's cornerstone deposit, representing approximately 85% of the reported MRE. The total MRE at Theia is **24Mt at 1.1g/t Au for 878koz of contained gold**.

In the 11 months since the January 2022 MRE update, the Theia Resource has increased 33% on a contained gold based on assay results from an aggregate 6,447 metres of DD and RC drilling. This has been achieved on a discovery cost of approximately \$16 per new ounce added. This ongoing low discovery cost positions Astral strongly for future MRE updates.

Drilling at Theia since the January 2022 MRE has focussed on locations within the January 2022 optimised pit shell, including two previously identified high-grade gold trends, one south trending (- $18^{\circ}\rightarrow 130^{\circ}$ ) and the other north trending (- $25^{\circ}\rightarrow 310^{\circ}$ ), as well as extensional drilling on the western flank.

Notably, cumulative gram x metres have averaged 97 gram-metres over the 18-hole/5,294 metres of DD completed since the last MRE update. This demonstrates the exceptional nature of the Theia deposit and bodes well for continued Resource growth moving forward.

It is noted that the updated MRE does not include recently identified mineralisation at Theia the subject of Astral's 30 November 2022 announcement which includes in MDRCD652:

5.08m at 5.92g/t Au from 182.85m, including 0.3m at 19.94g/t Au from 182.85m and 0.3m at 76.87g/t Au from 186.97m.

Section 1, as illustrated in Figure 3 below, shows the Mineral Resource within the \$2,500 AUD optimised pit shell on a section previously reported on 13 October 2022. The growth in Mineral Resources on this section is best illustrated by the change in the optimised pit outline from January 2022 to December 2022.



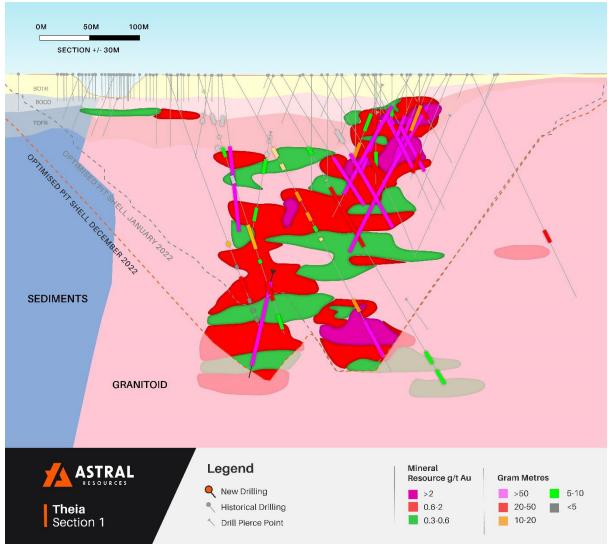


Figure 3 – Theia cross-section view (refer Figure 2 for section location).

Note that the cross-section illustrates the presence of mineralisation at depth that is not currently included in the optimised pit shell.

Section 2, as illustrated in Figure 4 below, shows a long-projection of Theia as previously reported on 3 November 2022. The additional Mineral Resources added on this section are best highlighted by the increasing depth of the December 2022 pit optimisation as compared to that of January 2022.



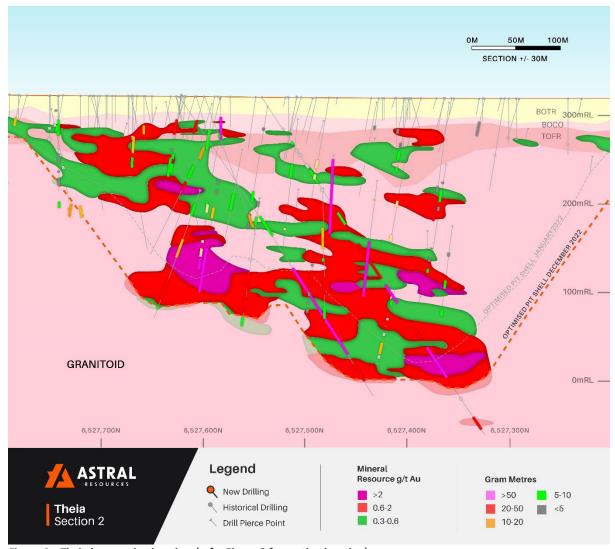


Figure 4 – Theia long-projection view (refer Figure 2 for section location).

Further resource growth at Theia is expected with additional drilling on both flanks and within the new optimised pit shell footprint to the south.

Additionally, with the conversion of previously unclassified mineralisation below the January 2022 pit opimisation into Mineral Resource due to successful extensions to mineralisation on the western flank, the potential to further increase the MRE at depth has increased, bearing in mind that several recent diamond holes have ended in strong mineralisation.

Theia remains open at depth and with further extensions on the flanks has the potential to form the basis for a larger open pit.



#### **IRIS**

The MRE at Iris is largely unchanged from that reported previously at **4.3Mt at 0.8g/t Au for 111koz** of contained gold.

The drilling completed at Iris included a 10-hole/1,708 metre RC program to test for mineralisation on the sediment/intrusive contact and to confirm the stratigraphy immediately to the north-west of the deposit, and a 5-hole/778 metre DD program which was completed and reported in May 2022 for geotechnical purposes.

#### **EOS**

At Eos, two air core (**AC**) drill programs have been completed since the January 2022 MRE totalling 163-holes for an aggregate 9,788 metres. As a result, the MRE at EOS has increased by a significant 191% to **0.6Mt at 1.6g/t Au for 32koz of contained gold**. With drilling density increased, this has resulted in 78% of the MRE being declared in the higher confidence 'Indicated' category.

As alluded to in previous reports, the grade has been positively impacted – increasing by 33% – as a result of closer spaced drilling and improved modelling of the palaeochannel mineralisation.

Section 3, as illustrated in Figure 5 below, shows the same long projection as previously reported on 23 August 2022.

The long projection illustrates the flat-lying geometry of the mineralisation, as expected in a palaeochannel deposit.



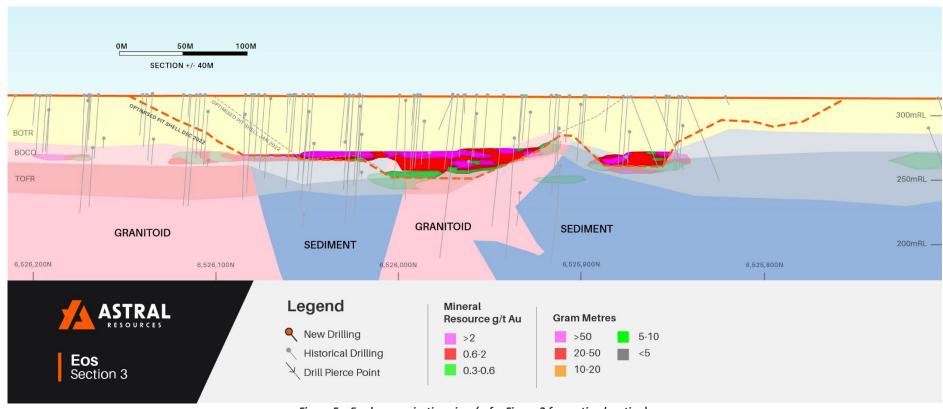


Figure 5 – Eos long-projection view (refer Figure 2 for section location).



Further opportunities to add to the MRE at Eos include:

- Infill AC drilling in the northern and north-eastern portions of Eos to define the palaeochannel extents.
- Exploration drilling to the south of the current AC lines to determine the southerly extent of the mineralisation.
- Infill lines in the south to allow potential resource classification.

Moreover, previous drilling (both RC and AC) at Eos has intersected mineralisation in the bedrock below the palaeochannel.

This could potentially mean that a primary source of mineralisation is present in this area, just as the Theia deposit approximately two kilometres to the north abuts a paleochannel deposit that was mined by Astral in 2006/2007.

This target will be the subject of further evaluation in a forthcoming drilling program.

#### **HESTIA**

The Hestia discovery was first tested by Astral with a single traverse of RC-holes reported on 6 October 2021. The initial program intersected a low tenor result of **8m at 0.8g/t Au** from 99m. It was designed to follow up historical drill results from previous tenement owners.

This was followed up with a successful second traverse of RC-holes reported on 15 December 2021, with best results of **12m at 3.00g/t Au** from 112m and **1m at 8.72g/t** from 10m.

A 38-hole/6,422 metre RC program was subsequently undertaken by Astral to better delineate this mineralisation, with first results announced on 13 July 2022.

Occurring over a strike length of at least one kilometre, mineralisation is associated with a shear zone adjacent to a mafic/sediment contact interpreted to be part of the major north-south trending group of thrust faults known as the Spargoville shear corridor.

This program was successful with best results including:

- 4m at 1.19g/t Au from 60m, 4m at 1.43 g/t Au from 75m and 6m at 7.07g/t Au from 107m;
- 1m at 26.15g/t Au from 13m and 12m at 1.07g/t Au from 52m;
- **11m at 2.00g/t Au** from 90m;
- 2m at 5.69g/t Au from 128m and 8m at 1.37g/t Au from 140m;
- 7m at 1.64g/t Au from 131m and 5m at 2.76g/t Au from 163m;
- 7m at 2.25g/t Au from 126m;
- 22m at 0.96g/t Au from 60m and 7m at 1.00g/t Au from 102m;
- 2m at 3.03g/t Au from 138m; and
- 3m at 1.93g/t Au from 61m.

Consequently, Astral is pleased to report a maiden Mineral Resource of **0.5Mt at 0.8g/t Au for 12koz of contained gold** within the central portion of Hestia.

It is noted that the updated MRE does not include recent results to the south of the declared MRE at Hestia the subject of Astral's 30 November 2022 announcement which includes:

- 20.70m at 1.13g/t Au from 80.3m, including 0.7m at 21.91g/t Au from 81.7m and, further downhole, 13.2m at 0.81g/t Au from 111.0m in MDRCD653; and
- 12.85m at 1.24g/t Au from 87.0m, including 0.3m at 28.8g/t Au from 90.3m and 0.3m at 10.93g/t Au from 99.55m and, further down-hole, 11.35m at 1.42g/t Au from 118.90m in MDRCD654.

The long projection in Figure 5 illustrates drilling completed, the centrally located Resource model and the optimised pit outline.



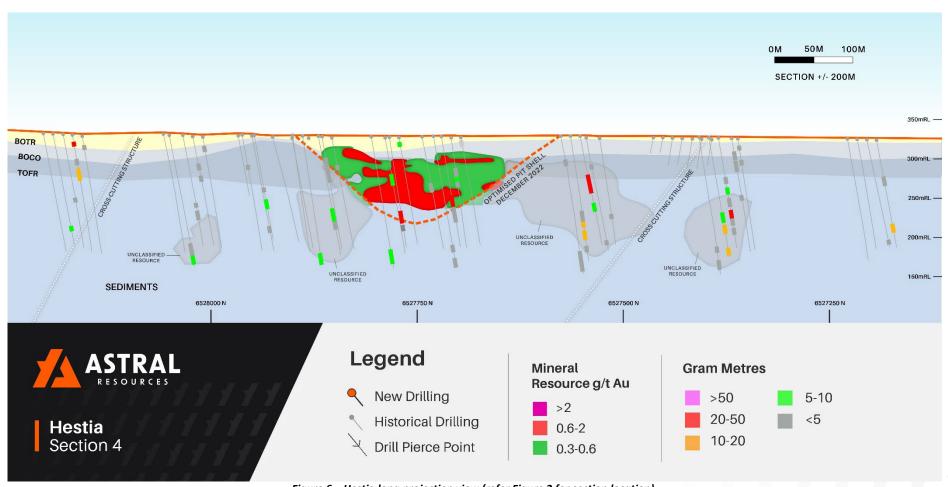


Figure 6 – Hestia long projection view (refer Figure 2 for section location).



Whilst the MRE at Hestia is currently modest, it should be noted that holes drilled to date have been located on section at typically 40 metres spacing with lines for the most part spaced at 160 metres, save for five lines spaced at 80 metres for the central portion. Mineralisation identified with line spacing of greater than 80 metres has not been classified in the MRE.

The MRE at Hestia is located over the central portion of the deposit where drill spacing is at 80 metres; however, the intersections in this area are lower grade compared to those recorded to the south.

As a result, there is significant potential to increase the scale and potentially the grade of the Hestia MRF

Further drilling is planned over the southern portion in early 2023.

#### **FUTURE WORK PROGRAM**

As announced on 28 November 2022, diamond drilling has commenced at Feysville, with the program expected to progress up until Christmas.

A follow up RC program at Feysville is expected to commence in the New Year.

Once complete, the RC rig will be relocated to Mandilla to commence a program of in-fill drilling at Hestia and Theia as well as bedrock testing at Eos.



Image 1 – Diamond drilling underway at Feysville's Think Big deposit



#### SUMMARY OF MRE PARAMETERS

A summary of information material to the understanding of the MRE is provided below in compliance with the requirements of ASX Listing Rule 5.8.1.

### **LOCATION, GEOLOGY AND PROJECT HISTORY**

Mandilla is located approximately 70km south of Kalgoorlie, and approximately 25km south-west of Kambalda, Western Australia (Figure 1). The deposits are located on granted Mining Leases M15/633 (AAR gold rights), M15/96 (AAR gold rights) and Exploration Licence E15/1404 (wholly-owned by AAR).

#### **Regional Geology**

The Project is located within the south-west of the Lefroy Map Sheet 3235. It is situated in the Coolgardie Domain, on the western margin of the Kalgoorlie Terrain within the Wiluna-Norseman Greenstone Belt, Archaean Yilgarn Block (Figure 6).

Mandilla is located between the western Kunanalling Shear, and the eastern Zuleika Shear. Mineralisation is related to north-south trending major D2 thrust faults known as the "Spargoville Trend". The Spargoville Trend contains four linear belts of mafic to ultramafic lithologies (the Coolgardie Group) with intervening felsic rocks (the Black Flag Group) forming a D1 anticline modified and repeated by intense D2 faulting and shearing. Flanking the Spargoville Trend to the east, a D2 Shear (possibly the Karramindie Shear) appears to host the Mandilla mineralisation along the western flank of the Emu Rocks Granite, which has intruded the felsic volcanoclastic sedimentary rocks of the Black Flag Group. This shear can be traced across the region, with a number of deflections present. At these locations, granite stockworks have formed significant heterogeneity in the system and provide structural targets for mineralisation. The Mandilla mineralisation is interpreted to be such a target.

#### **Local Geology and Mineralisation**

The Project is located along the SE margin of M15/96 extending into the western edge of M15/633. It comprises an east and west zone, both of which are dominated by supergene mineralisation between 20 and 50 m depth below surface. Only the east zone shows any significant evidence of primary mineralisation, generally within coarse granular felsic rocks likely to be part of the granite outcropping to the east. Minor primary mineralisation occurs in sediments.

The nature of gold mineralisation at Mandilla is complex, occurring along the western margin of a porphyritic granitoid that has intruded volcanoclastic sedimentary rocks. Gold mineralisation appears as a series of narrow, high grade quartz veins with relatively common visible gold, with grades over the width of the vein of up to several hundreds of grams per tonne. Surrounding these veins are lower grade alteration haloes. These haloes can, in places, coalesce to form quite thick zones of lower grade mineralisation. The mineralisation manifests itself as large zones of lower grade from  $^{\circ}0.5-1.5$ g/t Au with occasional higher grades of +5g/t Au over widths of one to two metres.

In addition to the granite-hosted mineralisation, a paleochannel is situated above the granite/sediment contact that contains significant gold mineralisation. An 800 m section of the paleochannel was mined by AAR in 2006 and 2007, with production totalling 20,573 ounces.

AAR uses Datashed as its geological database.



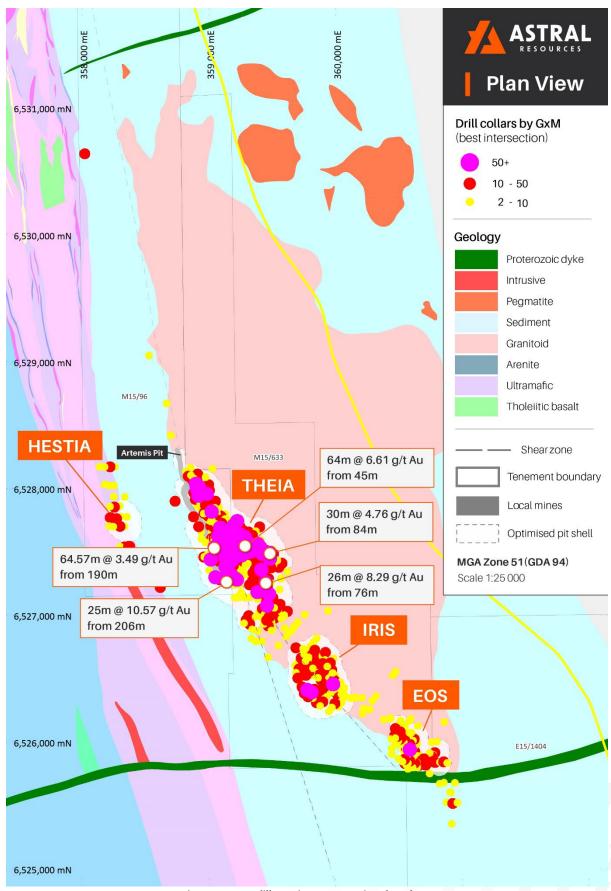


Figure 7 – Mandilla Project area, regional geology.



#### **Geological Interpretation**

Air core, RC and diamond drill hole data, obtained by both AAR and the previous operator, Western Mining Corporation (WMC), formed the basis for interpreting the mineralisation.

A geological matrix analysis was conducted to determine what geological characteristics are important to assist in understanding the nature of gold mineralisation. At Mandilla, this study was inconclusive, as significant gold mineralisation is present in many rock types/veining/alteration type; however, these geological characteristics are also associated with unmineralised material.

Deterministic grade-based wireframes and running an estimate using linear methods (such as ordinary kriging (OK) or inverse distance (ID)) was found not to be representative of the mineralisation. In particular, trying to tie together mineralised trends in such a structurally complex deposit made these estimation methods less likely to represent the mineralisation.

The overall mineralisation trend strikes to the north-west at about 330°, with a sub-vertical dip. However, extensive structural logging from diamond core drilling of the quartz veins within the mineralised zones shows that the majority dip gently (20° to 30°) towards SSE to S (130° to 160°).

The economic compositing function in Leapfrog software was used for the interpretation of the mineralised zone - at a cut-off of 0.05 g/t Au, the minimum mineralised composite length was set to 4 m, with maximum included and consecutive internal waste parameters set to 2.5 m.

An intrusive geological model was constructed in Leapfrog. In the transitional and fresh rock zone, a global trend of 20° towards south (130°) was set, which is concordant with the overall trend of the structurally logged quartz veins. For Eos, a horizontal trend was set for the geological model, and for Hestia, the trend used was -75° towards the WSW (250°)

In the northern paleochannel zone (at and just below the base of the existing pits), the economic compositing function in in Leapfrog software was used for the interpretation of the mineralised zone - at a cut-off of 0.1 ppm Au, the minimum mineralised composite length was set to 3 m, with maximum included and consecutive internal waste parameters set to 2 m. A horizontal global trend towards 330° was set and used for interpolation of an intrusive geological model.

The geological models were designed to essentially exclude waste material and were to be used to constrain a non-linear estimation method.

#### **Drilling Techniques**

All drilling data used in the MRE has been collected from Air Core (AC), Reverse Circulation (RC), RC with a diamond core tail (RCDDT) and Diamond (DDH) drilling completed by both AAR and WMC.

The final data set contained 1602 AC, 837 RC, 16 RCDDT and 58 DDH drill holes.

#### Classification

Classification of Mineral Resources uses two main criteria as follows:

- 1. Confidence in the gold estimate; and
- 2. Reasonable prospects for eventual economic extraction.

Assessment of confidence in the estimate of gold included guidelines as outlined in JORC (2012):

- Drill data quality and quantity;
- Geological domaining (for mineralised domain);
- The spatial continuity of gold mineralisation; and
- Geostatistical measures of gold estimate quality.

In summary, the more quantitative criteria relating to these guidelines include data density and the kriging search pass used, as follows:



- The Indicated Mineral Resource has a nominal drill spacing of 30 mN x 20 mE or closer (10 mE x 10 mN in grade control drilled areas in the paleochannel), and not more than 20m laterally beyond drilling; and
- The Inferred Mineral Resource is material within the mineralised domains and constraining pit shell, but not meeting the criteria for Indicated i.e. broader drill spacing up to 60 mN x 40 mE at depth.

The classified MRE is reported within a constraining optimised pit shell. The optimisations were run at a gold price of AUD \$2,500 per ounce, with mining costs varying with depth, but averaging \$6.50/BCM ore and \$4.40/BCM for waste (down to 100 mRL).

Overall processing recovery was assumed to be 94% (which is supported by metallurgical test work), with a processing cost of \$18 per tonne.

Wall angles used are based on detailed geotechnical analysis of the wall rocks at Mandilla and vary based on the wall orientation, rock type and weathering state. Inter-ramp angles vary from 34° in oxide up to 54° to 58° in fresh.

A plan view of the Mineral Resource classification is shown in Figure 8 below.

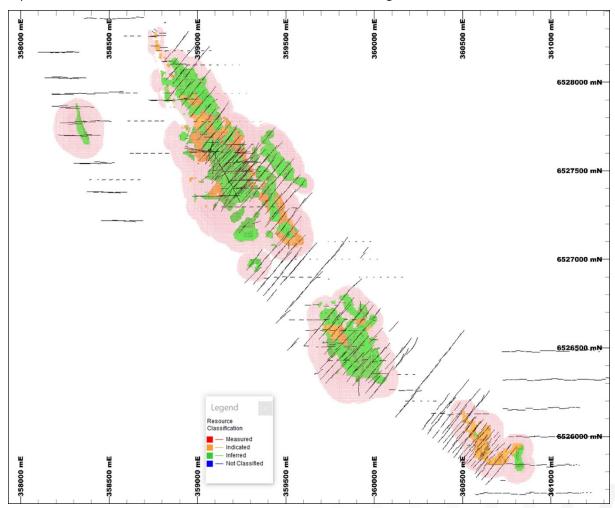


Figure 8 – Resource Classification, plan view (drilling in black).

The following observations on 'Reasonable prospects for eventual economic extraction', can be made:

- The Mineral Resource is within an optimised pit shell, with input parameters described above;
- Metallurgical testing from the recent diamond drilling program is complete and indicates recoveries in excess of 95% are likely. Grind sensitivity work has shown recovery of 95% is achievable at a grind size of 212μm;



- The project is located on granted Mining Leases;
- There is extensive mining history in the region, and there are no unforeseen environmental considerations that would preclude conventional open cut mining and waste dump construction; and
- Grades and geometry are amenable to medium-scale open cut mining.

Therefore, there is no apparent reason the Mandilla Gold Project could not be mined economically. This classification considers the confidence of the MRE and the quality of the data and reflects the view of the Competent Person.

#### **Sample Analysis Method**

The Photon Assay technique as provided by MinAnalytical Laboratory Services has been used at Mandilla on samples analysed by AAR.

Samples submitted for analysis via Photon assay technique were dried, crushed to nominal 85% passing 2mm, linear split and a nominal 500g sub sample taken (method code PAP3512R).

The 500g sample is assayed for gold by PhotonAssay (method code PAAU2) along with quality control samples including certified reference materials, blanks and sample duplicates.

The MinAnalytical PhotonAssay Analysis Technique, developed by CSIRO and the Chrysos Corporation, represents a fast and chemical free alternative to the traditional fire assay process and utilises high energy x-rays. The process is non-destructive and utilises a significantly larger sample than the conventional 50g fire assay. MinAnalytical has thoroughly tested and validated the PhotonAssay process with results benchmarked against conventional fire assay.

The National Association of Testing Authorities (NATA), Australia's national accreditation body for laboratories, has issued Min Analytical with accreditation for the technique in compliance with TSO/TEC 17025:2018-Testing.

Certified Reference Material from Geostats Pty Ltd were submitted at intervals of approximately 75 metres. Blanks and duplicates were also submitted at 75m intervals resulting in a 1:25 sample ratio.

#### **Estimation Methodology**

Estimation of the MRE was by the non-linear method Localised Uniform Conditioning (LUC) using Isatis software.

The LUC estimation process was as follows:

- Drill hole data selected within mineralised domains and composited to 2 m downhole intervals
  in Datamine software the majority of the raw sample lengths were 1 m (91% of samples
  within the mineralised domains), but the variability of the data was reduced significantly by
  using 2 m composites.
- The composited data was imported into Isatis software for statistical and geostatistical analysis. The statistical and domain contact analysis showed slightly different grade population statistics for the transported, oxidised, transitional and fresh rock parts of the main mineralised domain, but the contact analysis showed the grade changes were gradational at the oxidation state boundaries (with the exception of the surficial transported cover). Note that at Eos, mineralisation is on the oxidised/transitional boundary (i.e. no fresh rock). Therefore the fresh, transitional and oxidised zones were combined for variography and estimation, with a hard boundary for the northern paleochannel and the transported cover. As each of the deposits are spatially and statistically separate, then hard domain boundaries were used between them
- Variography was performed on data transformed to normal scores, and the variogram models
  were back-transformed to original units. The Gaussian anamorphosis used for the normal
  scores transform was also subsequently used for the discrete Gaussian change of support



model required for Uniform Conditioning. Variography was performed for the separate deposits (the northern paleochannel is considered a separate deposit).

The variogram models had high nugget effects at Theia, Iris and Hestia ( $^{\sim}70$  to 80% of total sill), with a range of 60 to 100m. At Eos, the nugget effect is moderate (50% of total sill), with ranges of 120 m horizontally and 10 m vertically. For the northern paleochannel, the nugget is moderate (50%), but with ranges of 20 m horizontally and 4 m vertically. The grade was estimated into a non-rotated block model in MGA94 grid via Ordinary Kriging (a necessary precursor to uniform conditioning), with a panel block size of 20 mE x 25 mN x 5 mRL – this is about the average drill spacing in the main well-drilled part of the deposit. Localisation of the grades into Selective Mining Units (SMU) block of 10 mE x 12.5 mN x 2.5 mRL (8 SMUs per panel) was carried out.

The panel estimates used the 'distance limited threshold' technique, where uncapped samples are used for a very local estimate, and capping (threshold) is used beyond this local distance. The thresholds used were 40 ppm for Theia, 9 ppm for Iris and Eos, 6 ppm for Hestia and 40 ppm for the northern paleochannel. These thresholds were based on inflections and discontinuities in the histograms and log-probability plots, and on metal quantities above thresholds. A minimum of 8 and maximum of 16 (2 m composite) samples per panel estimate was used, with a search ellipse radius of 100 m x 100 m x 40 m (oriented in the same directions as the variogram models) for Theia and Iris, with a shorter radius of 20 m in the minor direction for Eos and Hestia. The use of a maximum number of composites of 16 effectively limits the search ellipse radius to 20 m in the well-drilled (~Indicated) part of the Project The UC process applies a change of support correction (discrete Gaussian model) based on the composite sample distribution and variogram model, conditioned to the Panel grade estimate, to predict the likely grade tonnage distribution at the SMU selectivity.

The Localising step was then run, and the resulting SMU models for the fresh, transitional/oxidised, transported and paleochannel material were exported from Isatis to Datamine.

Estimates of gold grades were validated against the composited drill hole data by extensive visual checking in cross-section, plan and on screen in 3D, by global (per shoot) comparisons of input data and model, and by semi-local statistical methods (swath plots). All check methods showed satisfactory results.

#### **Density estimation**

Bulk density data was gathered from recent diamond core using the water immersion technique. A total of 26 density determinations have been made from both the granitoid and sediments, in transitional and fresh rock zones. The results are very similar for the granitoid and sediments.

Average bulk density values were assigned per modelled weathering domain (2.2t/m³ for transported, 2.3t/m³ for oxidised, 2.5t/m³ for transitional and 2.64t/m³ for fresh rock).

#### **Reporting Cut-off Grade**

A grade-tonnage curve for the combined Indicated and Inferred Resource is shown in Figure 9.



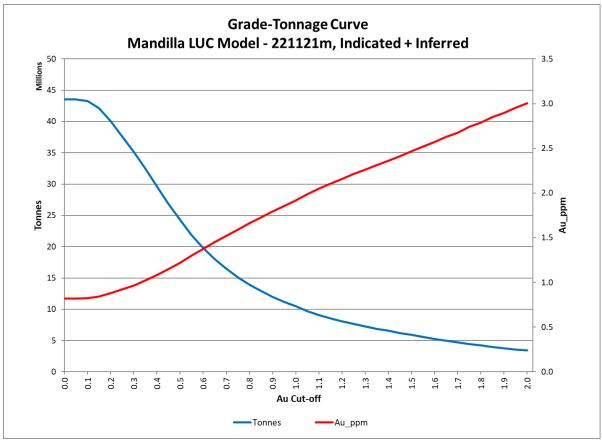


Figure 9 - Mandilla Gold Project (December 2022) - grade and tonnage curve

The cut-off grade of 0.39 g/t Au was established from pit optimisation work on the current Mineral Resource Estimate model. Refer to Mining and Metallurgical Methods and Parameters below.

#### **Mining and Metallurgical Methods and Parameters**

It is proposed that Mandilla would be mined by open pit extraction. Recent pit optimisation incorporated a gold price of AUD \$2,500/oz, with mining costs varying with depth, but averaging \$6.50/BCM ore and \$4.40/BCM for waste.

Wall angles used are based on detailed geotechnical analysis of the wall rocks at Mandilla and vary based on the wall orientation, rock type and weathering state. Inter-ramp angles vary from 34° in oxide up to 54° to 58° in fresh.

Overall processing recovery was assumed to be 94%, with a processing cost of \$18 per tonne.

Metallurgical testing from the recent diamond drilling program is complete and indicates recoveries in excess of 95% are likely. Grind sensitivity work has shown recovery of 95% is achievable at a grind size of  $212\mu m$ .

#### **Environmental Factors or Assumptions**

The northern paleochannel zone at Mandilla has previously been mined by AAR in 2006/07 by way of small-scale open pit methods resulting in existing waste dumps and open cut pits.

In addition to the flora, fauna, cultural heritage and waste material characterisation studies completed in 2006/2007, AAR also completed further flora and fauna studies during 2020/21.

Considering the extensive existing studies, substantial overlap in both the deposit footprint and scope as well as the additional information collected in recent studies, it is considered that there are no environmental factors that would preclude the economic extraction or add significant additional cost to the extraction of the material included in the Mineral Resource.



## **CONSOLIDATED MINERAL RESOURCE ESTIMATE**

The Group's consolidated JORC 2012 Mineral Resource Estimate as at the date of this announcement is detailed in the table below.

		Indicated			Inferred			Total	
Project	Tonnes (Mt)	Grade (Au g/t)	Metal (koz Au)	Tonnes (Mt)	Grade (Au g/t)	Metal (koz Au)	Tonnes (Mt)	Grade (Au g/t)	Metal (koz Au)
Mandilla	12.0	1.1	410	18.0	1.1	624	30.0	1.1	1,034
Feysville <sup>4</sup>	0.6	1.1	20	2.3	1.3	96	2.9	1.3	116
Total	12.6	1.1	430	20.3	1.1	20	32.9	1.1	1,150

#### Cut-off grades

The Mineral Resources for Mandilla are reported at a cut-off grade of 0.39 g/t and Feysville is reported at a cut-off grade of 0.50 g/t Au.

This announcement has been approved for release by the Managing Director.

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<sup>&</sup>lt;sup>4</sup> - Refer to ASX Announcement dated 8 April 2019 - Maiden Mineral Resource at Feysville & Met Testwork Results.



#### **Compliance Statement**

The information in this announcement that relates to Estimation and Reporting of Mineral Resources for the Mandilla Gold Project is based on information compiled by Mr Michael Job, who is a Fellow of the Australasian Institute of Mining and Metallurgy (FAusIMM). Mr Job is an independent consultant employed by Cube Consulting. Mr Job has sufficient experience that 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. Mr Job consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.

The information in this announcement that relates to Estimation and Reporting of Mineral Resources for the Feysville Gold Project is based on information compiled by Mr Richard Maddocks, who is a Fellow of the Australasian Institute of Mining and Metallurgy (FAusIMM). Mr Maddocks is an independent consultant to the Company. Mr Maddocks has sufficient experience that 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. Mr Maddocks consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.

The information in this announcement that relates to exploration targets and exploration results is based on information compiled by Ms Julie Reid, who is a full-time employee of Astral Resources NL. Ms Reid is a Competent Person and a Member of The Australasian Institute of Mining and Metallurgy. Ms Reid has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Ms Reid consents to the inclusion in this announcement of the material based on this information, in the form and context in which it appears.

The information in this announcement that relates to metallurgical test work for the Mandilla Gold Project is based on, and fairly represents, information and supporting documentation compiled by Mr Marc Ducler, who is a full-time employee of Astral Resources NL. Mr Ducler is a Competent Person and a Member of The Australasian Institute of Mining and Metallurgy. The information that relates to processing and metallurgy is based on work conducted by ALS Metallurgy Pty Ltd (ALS Metallurgy) on diamond drilling samples collected under the direction of Mr Ducler and fairly represents the information compiled by him from the completed ALS Metallurgy testwork. Mr Ducler has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Ducler consents to the inclusion in this announcement of the material based on this information, in the form and context in which it appears.

#### **Previously Reported Results**

There is information in this announcement relating to exploration results which were previously announced on 19 June 2020, 11 August 2020, 15 September 2020, 17 February 2021, 26 March 2021, 20 April 2021, 20 May 2021, 29 July 2021, 26 August 2021, 27 September 2021, 6 October 2021, 3 November 2021, 15 December 2021, 22 February 2022, 3 May 2022, 6 June 2022, 5 July 2022, 13 July 2022, 10 August 2022, 23 August 2022, 21 September 2022, 13 October 2022 and 3 November 2022. Other than as disclosed in those announcements, the Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements.



# Appendix 1 – JORC 2012 Table 5

	Section 1 – Sampling Techniques and Data – Mandilla			
Criteria	JORC Code Explanation	Commentary		
Sampling techniques	<ul> <li>Nature and quality of sampling (e.g. 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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. '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 (e.g. submarine nodules) may warrant disclosure of detailed information.</li> </ul>	The project has been sampled using industry standard drilling techniques including diamond drilling (DD), and reverse circulation (RC) drilling, and air-core (AC) drilling.  The sampling described in this release has been carried out on the 2019, 2020, 2021 and 2022 DD, RC and AC drilling.  All DD holes were drilled and sampled. The DD core is orientated, logged geologically and marked up for assay at a maximum sample interval of 1.2 metre constrained by geological or alteration boundaries. Drill core is cut in half by a diamond saw and half HQ or NQ2 core samples submitted for assay analysis.  DD core was marked up by AAR geologists.  The core was cut on site with AAR's CoreWise saw.  All samples were assayed by MinAnalytical/ALS with company standards blanks and duplicates inserted at 25 metre intervals.  All RC holes were drilled and sampled. The samples are collected at 1m intervals via a cyclone and splitter system and logged geologically. A four-and-a-half-inch RC hammer bit was used ensuring plus 20kg of sample collected per metre.  All RC samples were collected in bulka bags in the AAR compound and trucked weekly to MinAnalytical in Kalgoorlie via Hannans Transport. All samples transported were submitted for analysis. Transported material of varying thickness throughout project was generally selectively sampled only where a paleochannel was evident.  All samples were assayed by MinAnalytical with company standards blanks and duplicates inserted at 25 metre intervals.  AC- 1m samples were collected from individual 1m sample piles. Sample weights were between 2 and 3 kg  Historical - The historic data has been gathered by a number of owners since the 1980s. There is a lack of detailed information available pertaining to the equipment used, sample techniques, sample sizes, sample preparation and assaying methods used to generate these data sets. Down hole surveying of the drilling where documented has been undertaken using Eastman single shot cameras (in some of the historic drilling) and magnetic multi-sh		
Drilling techniques	Drill type (e.g. core, reverse circulation, openhole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, facesampling bit or other type, whether core is oriented and if so, by what method, etc).	Diamond drilling was cored using HQ and NQ2 diamond bits  All RC holes were drilled using face sampling hammer reverse circulation technique with a four-and-a-half inch bit  All AC holes were drilled to blade refusal.		
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> </ul>	DD: Diamond drilling collects uncontaminated fresh core samples which are cleaned at the drill site to remove drilling fluids and cuttings to present clean core for logging and sampling.		



	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.	RC: Definitive studies on RC recovery at Mandilla have not been undertaken systematically, however the combined weight of the sample reject and the sample collected indicated recoveries in the high nineties percentage range. Poor recoveries are recorded in the relevant sample sheet.  No assessment has been made of the relationship between recovery and grade. Except for the top of the hole, while collaring there is no evidence of excessive loss of material and at this stage no information is available regarding possible bias due to sample loss.  RC: RC face-sample bits and dust suppression were used to minimise sample loss. Drilling airlifted the water column above the bottom of the hole to ensure dry sampling. RC samples are collected through a cyclone and cone splitter, the rejects deposited on the ground, and the samples for the lab collected to a total mass optimised for photon assay (2.5 to 4 kg).  AC: Poor recoveries are recorded in the relevant sample sheet.  AC samples are collected through a cyclone, the rejects deposited on the ground, and the samples for the lab collected.
Logging	<ul> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	All chips and drill core were geologically logged by company geologists, using their current company logging scheme. The majority of holes (80%+) within the mineralised intervals have lithology information which has provided sufficient detail to enable reliable interpretation of wireframe.  The logging is qualitative in nature, describing oxidation state, grain size, an assignment of lithology code and stratigraphy code by geological interval.  DDH: Logging of diamond drill core records lithology, mineralogy, mineralisation, weathering, colour and other features of the samples, and structural information from oriented drill core. All recent core was photographed in the core trays, with individual photographs taken of each tray both dry, and wet, and photos uploaded to the AAR Server.  RC: Logging of RC chips records lithology, mineralogy, mineralisation, weathering, colour and other features of the samples. All samples are wet-sieved and stored in a chip tray.  AC samples were logged for colour, weathering, grain size, lithology, alteration veining and mineralisation where possible
Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all subsampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is</li> </ul>	HQ and NQ2 diamond core was halved and the right side sampled.  RC holes were drilled and sampled. The samples are collected at 1m intervals via a cyclone and splitter system and logged geologically. A fourand-a-half inch RC hammer bit was used ensuring plus 20kg of sample collected per metre.  Historical - The RC drill samples were laid out in one metre intervals. Spear samples were taken and composited for analysis as described above. Representative samples from each 1m interval were collected and retained as described above. No documentation of the sampling of RC chips is available for the Historical Exploration drilling  Recent RC drilling collects 1 metre RC drill samples that are channelled through a rotary cone-splitter, installed directly below a rig mounted cyclone, and an average 2-3 kg sample is collected in pre-numbered calico bags, and positioned on top of the rejects cone. Wet samples are noted on logs and sample sheets.  Standard Western Australian sampling techniques applied. There has been no statistical work carried out at this stage.  MinAnalytical/ALS assay standards, blanks and checks were inserted at regular intervals. Standards, company blanks and duplicates were inserted at 25 metre intervals.  RC: 1 metre RC samples are split on the rig using a cone-splitter, mounted
	representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.	directly under the cyclone. Samples are collected to 2.5 to 4kg which is optimised for photon assay.



	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes are appropriate to the grain size of the material being sampled.  Unable to comment on the appropriateness of sample sizes to grain size on historical data as no petrographic studies have been undertaken. Sample sizes are considered appropriate to give an indication of mineralisation given the particle size and the preference to keep the sample weight below a targeted 4kg mass which is the optimal weight to ensure representivity for photon assay. There has been no statistical work carried out at this stage.
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>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.</li> <li>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.</li> </ul>	Photon Assay technique at MinAnalytical Laboratory Services, Kalgoorlie. Samples submitted for analysis via Photon assay technique were dried, crushed to nominal 85% passing 2mm, linear split and a nominal 500g sub sample taken (method code PAP3512R)  The 500g sample is assayed for gold by PhotonAssay (method code PAAU2) along with quality control samples including certified reference materials, blanks and sample duplicates.  The MinAnalytical PhotonAssay Analysis Technique: - Developed by CSIRO and the Chrysos Corporation, This Photon Assay technique is a fast and chemical free alternative to the traditional fire assay process and utilizes high energy x-rays. The process is non-destructive on and utilises a significantly larger sample than the conventional 50g fire assay. MinAnalytical has thoroughly tested and validated the PhotonAssay process with results benchmarked against conventional fire assay.  The National Association of Testing Authorities (NATA), Australia's national accreditation body for laboratories, has issued Min Analytical with accreditation for the technique in compliance with TSO/TEC 17025:2018-Testing.
		Certified Reference Material from Geostats Pty Ltd submitted at 75 metre intervals approximately. Blanks and duplicates also submitted at 75m intervals giving a 1:25 sample ratio.  Referee sampling has not yet been carried out.
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	Geology Manager or Senior Geologist verified hole position on site.  Standard data entry used on site, backed up in South Perth WA.  No adjustments have been carried out. However, work is ongoing as samples can be assayed to extinction via the PhotonAssay Analysis Technique
Location of data points	<ul> <li>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.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	DD and RC drill holes have been picked up by Leica RTK GPS. Minecomp were contracted to pick up all latest drilling collars.  AC Hole collar locations were recorded with a handheld GPS in MGA Zone 51S. RL was initially estimated then holes, once drilled were translated onto the surveyed topography wire frame using mining software. These updated RL's were then loaded into the database.  Grid: GDA94 Datum UTM Zone 51
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	Diamond drilling at Theia is at 40 - 40m to 40-80m spacing.  RC Drill hole spacing at Theia is a maximum of 40 x 40m. And approaching 20 x 20m within the central areas.  AC Drill hole spacing is 10 to 50m on section, with 40m sectional spacing (approximate).  The spacing is appropriate for the stage of exploration
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures</li> </ul>	All drill holes have been drilled normal to the interpreted strike. Most of the current holes at Theia are drilled on a 040 azimuth with minor variations applied where drill-hole spacing is limited. Other holes not drilled at 040 azimuth have been completed. Some holes have been drilled at other azimuths to test cross cutting structures and to hit western targets, avoiding surface infrastructure



	is considered to have introduced a sampling bias, this should be assessed and reported if material.	
Sample security	The measures taken to ensure sample security.	All samples taken daily to AAR yard in Kambalda West, then transported to the Laboratory in batches of up to 10 submissions
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits have been carried out at this stage.

Section 2 – Reporting of Exploration Results - Mandilla

Cuitouio	Section 2 – Reporting of Exploration	- ivianailla	Commenter			
Criteria Mineral tenement and	JORC Code Explanation	Commentary   Tenement   Status   Location   Interest Held (%)				
land tenure status	Type, reference name/number, location and ownership including agreements or material	E 15/1404	Granted	Western Australia	100	
	issues with third parties such as joint ventures, partnerships, overriding royalties,	M 15/96	Granted	Western Australia	Gold Rights 100	
	native title interests, historical sites,	M 15/633	Granted	Western Australia	Gold Rights 100	
	wilderness or national park and				5	
	environmental settings.			good standing with ustry Regulation and S	the Western Australian	
	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.	No royalties	other than the	e WA government 2.5	% gold royalty.	
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	completed i (WMC). In a tested late diamond dri within a sh undertaken 1990-91- 20 magnetic s undertaken 1994-95 – e trending CS contact and mineralisatic During 1995 drilled 500r granite felsi 1996-97 - A but proved t returned 5m	n the area bet early 1988 a si 1988 early 1988 early 1981 early 1981 early 1981 early 1982 early 1982 early 1983 early 1984 early 1984 early 20 RC holes a curvey and so early 20 Act of the control of t	ween 1988-1999 by V gnificant soil anomaly 89 with a series of 4 ineralisation was intering shear zone. 19 il mapping and 3 diam and 26 AC were drill oil anomaly. 1991-9 rogramme to investigate ament appears to consediments, Shallow ped, which coincides w C traverses 400m apage Mandilla soil anomatact. Togram to the east of the due to thin regolith common tact.	and air core drilling were Vestern Mining Corporation was delineated, which was percussion traverses and sected in thin quartz veins 89-90- limited exploration and holes completed.  ed to follow up a ground 4 - no gold exploration to gold dispersion. A WNW affset the Mandilla granite atchy supergene (20-25m) with the gold soil anomaly art and 920m in length were ally targeting the sheared the anomaly was completed gover in the area. WID3215	
		1997-1998- 17 RC infill holes to test mineralisation intersected in previous drilling was completed. A number of bedrock intersections were returned including WID3278 with 4m @ 6.9g/t Au from 46m.				
Geology	Deposit type, geological setting and style of mineralisation.	The Mandill of Kalgoorl Australia. The gold rights) (wholly-own Regional G	a Gold Projectie, and abouthe deposit is lower than the deposit in the deposit is lower than the deposit in the	t (Mandilla) is located t 25km south-west ocated on granted Mir R gold rights) and Ex	approximately 70km south of Kambalda in Western hing Leases M15/633 (AAR optionation Lease E15/1404	
		is situated Kalgoorlie T Yilgarn Bloo	in the Coolg errain within the k.	ardie Domain, on th ne Wiluna-Norseman	Lefroy Map Sheet 3235. It western margin of the Greenstone Belt, Archaean	
	7	eastern Zul trending ma Spargoville (the Coolga forming a D shearing. Fl the Karrami	eika Shear. I ajor D2 <sup>5</sup> thrus Trend contains rdie Group) wi 1 <sup>6</sup> anticline m anking the Sp ndie Shear) a	Project mineralisation t faults known as the s four linear belts of m th intervening felsic ro odified and repeated argoville Trend to the ppears to host the Ma	nanalling Shear, and the is related to north-south e "Spargoville Trend". The afic to ultramafic lithologies ocks (the Black Flag Group) by intense D2 faulting and east, a D2 Shear (possibly andilla mineralisation along hich has intruded the felsic	
					Flag Group. This shear can	

<sup>&</sup>lt;sup>5</sup> D2 – Propagation of major crustal NNW thrust faults.

<sup>&</sup>lt;sup>6</sup> D1 – Crustal shortening.



		be traced across the region, with a number of deflections present. At these locations, granite stockworks have formed significant heterogeneity in the system and provide structural targets for mineralisation. The Mandilla mineralisation is interpreted to be such a target.  Local Geology and Mineralisation  Mandilla is located along the SE margin of M15/96 extending into the western edge of M15/633. It comprises an east and west zone, both of which are dominated by supergene mineralisation between 20 and 50 m depth below surface. Only the east zone shows any significant evidence of primary mineralisation, generally within coarse granular felsic rocks likely to be part of the granite outcropping to the east. Minor primary mineralisation occurs in sediments.  The nature of gold mineralisation at Mandilla is complex, occurring along the western margin of a porphyritic granitoid that has intruded volcanoclastic sedimentary rocks. Gold mineralisation appears as a series of narrow, high grade quartz veins with relatively common visible gold, with grades over the width of the vein of up to several hundreds of grams per tonne. Surrounding these veins are lower grade alteration haloes. These haloes can, in places, coalesce to form quite thick zones of lower grade mineralisation. The mineralisation manifests itself as large zones of lower grade from ~0.5 – 1.5g/t Au with occasional higher grades of +5g/t Au over 1 or 2 metres.  Further to the west of Theia close to the mafic/sediment contact a D2 shear sub parallels the Mandilla shear. Quartz veining and sulphides have been identified within the sediments close to the contact with high mag basalt within sheared siltstones and shales.  In addition to the granite-hosted mineralisation, a paleochannel is situated above the granite/sediment contact that contains significant gold mineralisation. An 800 m section of the paleochannel was mined by AAR in 2006 and 2007, with production totalling 20,573 ounces.
Drill hole Information	<ul> <li>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: <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>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.</li> </ul>	No new drill hole information is reported in this announcement.
Data aggregation methods	<ul> <li>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.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	No data aggregation methods have been used.  A 100ppb Au lower cut off has been used to calculate grades for AC drilling A 0.3g/t Au lower cut off has been used to calculate grades for RC drilling, with maximum internal dilution of 5m.  A cutoff grade of >0.5g*m has been applied for reporting purposes in the tables of results.  This has not been applied.



Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</li> </ul>	The overall mineralisation trend strikes to the north-west at about 325°, with a sub-vertical dip. However, extensive structural logging from diamond core drilling of the quartz veins within the mineralised zones shows that the majority dip gently (10° to 30°) towards SSE to S (160° to 180°). The majority of drilling is conducted at an 040 azimuth and 60° dip to intersect the mineralisation at an optimum angle.
Diagrams	<ul> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	Applied
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.	Balanced reporting has been applied.
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.	No other substantive exploration data.
Further work	<ul> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	Follow up Aircore, Reverse Circulation & Diamond Drilling is planned.  No reporting of commercially sensitive information at this stage.

Section 3 – Estimation and Reporting of Mineral Resources

Criteria	JORC Code Explanation	Commentary
Database integrity	<ul> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	Data was geologically logged electronically; collar and downhole surveys
Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	Julie Reid, the Competent Person for Sections 1 and 2 of Table 1 is AAR's Geology Manager and conducts regular site visits.  Michael Job, the Competent Person for Section 3 of Table 1 has not visited site but plans to do so in early 2023.



# Geological interpretation

- Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.
- Nature of the data used and of any assumptions made.
- The effect, if any, of alternative interpretations on Mineral Resource estimation.
- The use of geology in guiding and controlling Mineral Resource estimation.
- The factors affecting continuity both of grade and geology.

All AAR and the previous operator (WMC) air core, RC and diamond drill hole data was used to guide the interpretation of the mineralisation.

The gold mineralisation at Mandilla is complex and is on the western margin of a porphyritic granite that has intruded volcanoclastic sedimentary rocks. In the main part of the Project (termed the 'Theia' and 'Iris' deposits), gold mineralization appears as a series of narrow, high grade quartz veins with relatively common visible gold and grades over the width of the vein of up to several hundreds of grams per tonne. Surrounding these veins are lower grade alteration haloes. These haloes can, in places, coalesce to form quite thick zones of lower grades. The mineralisation manifests itself as large zones of lower grade mineralisation from ~0.5 – 1.5 ppm Au with occasional high grades of +5 ppm Au over 1 or 2 metres.

In addition to the granite-hosted mineralisation, there is a paleochannel situated above the granite/sediment contact in the northern part of the Project that contains significant gold mineralisation. The channel is about 2 km in length, up to 50 m wide, about 20 m below the topographic surface but only a few metres thick. Gold is contained within quartz sands and gravels, although is not consistently distributed throughout the paleochannel. An 800 m stretch of the paleochannel was mined by AAR in 2006 and 2007, with production totalling 4,005 ounces Au, at a grade of almost 15 ppm Au.

There is also paleochannel mineralisation to the south of the main part of the Project (termed the 'Eos' deposit). This differs from the northern paleochannel in that it is more extensive laterally (E-W) and about 50 m below the topographic surface, and with an average grade of almost 2 ppm Au.

There is also shear-hosted Au mineralisation on the western contact of the granite (termed the 'Hestia' deposit). The mineralisation here is in a series of stacked lodes from 2 m to 10 m thick that dip steeply to the west at 75°. Deterministic grade-based wireframes and running an estimate using linear methods (such as ordinary kriging (OK) or inverse distance (ID)) is difficult and not representative of the mineralisation. In particular, trying to tie together mineralised trends in such a structurally complex deposit is challenging.

The overall mineralisation at Theia and Iris trend strikes to the north-west at about 330°, with a sub-vertical dip. However, extensive structural logging from diamond core drilling of the quartz veins within the mineralised zones shows that majority dip gently (20° to 30°) towards SE to SSE (130° to 160°).

The economic compositing function in Leapfrog software was used for the interpretation of the mineralised zone - at a cut-off of 0.05 ppm Au, the minimum mineralised composite length was set to 4 m, with maximum included and consecutive internal waste parameters set to 2.5 m. An intrusive geological model was constructed in Leapfrog. In the transitional and fresh rock zone, a global trend of 20° towards the SE (130°) was set, which is concordant with the overall trend of the structurally logged quartz veins for Theis and Iris.

For Eos, a horizontal trend was set for the geological model, and for Hestia, the trend used was -75° towards the WSW (250°) In the northern paleochannel zone (at and just below the base of the existing pits), the economic compositing function in in Leapfrog software was used for the interpretation of the mineralised zone - at a cut-off of 0.1 ppm Au, the minimum mineralised composite length was set to 3 m, with maximum included and consecutive internal waste parameters set to 2 m. A horizontal global trend towards 330° was set and used for interpolation of an intrusive geological model.

These mineralised domain models were designed to essentially exclude waste material and were to be used to constrain a non-linear estimation method.

#### Dimensions

The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.

The main deposit of the Mandilla Project (Theia) extends over a strike length of 1600 mN, is about 150 to 250 mE wide and extends to 350 m below the surface. At Mandilla South (Iris), the mineralisation extends over a strike length of 600 mN, is about 200 mE wide and extends to 200 m below the surface.



Estimation and modelling techniques

At the very south of the Project (Eos), paleochannel mineralisation extends over a strike length of 300 m, is about 75m wide and up to 20 m thick and is 40 – 50 m below surface.

On the western edge of the Project (Hestia) the mineralisation extends over

On the western edge of the Project (Hestia) the mineralisation extends over a strike length of 800 m and up to 200 m below surface. The stacked lodes are between 2 m and 10 m thick.

The northern paleochannel extends over a strike length of 800 m, is up to 40 m wide and averages 4 to 5 m horizontal thickness.

- The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen, include a description of computer software and parameters used.
- The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimates takes appropriate account of such data.
- The assumptions made regarding recovery of by-products.
- Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).
- In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.
- Any assumptions behind modelling of selective mining units.
- Any assumptions about correlation between variables.
- Description of how the geological interpretation was used to control the resource estimates.
- Discussion of basis for using or not using grade cutting or capping.
- The process of validation, the checking process used, the comparison of model data to drill hole data, and the use of reconciliation data if available.

Estimation of the mineral resource was by the non-linear method Localised Uniform Conditioning (LUC) using Isatis software. The LUC estimation process was as follows:

Drill hole data selected within mineralised domains and composited to 2 m downhole intervals in Datamine software – the majority of the raw sample lengths were 1 m (91% of samples within the mineralised domains), but the variability of the data was reduced significantly by using 2 m composites. The composited data was imported into Isatis software for statistical and geostatistical analysis. The statistical and domain contact analysis showed

slightly different grade population statistics for the transported, oxidised, transitional and fresh rock parts of the main mineralised domain, but the contact analysis showed the grade changes were gradational at the oxidation state boundaries (with the exception of the surficial transported cover). Note that at Eos, mineralisation is on the oxidised/transitional boundary (i.e. no fresh rock).

Therefore the fresh, transitional and oxidised zones were combined for variography and estimation, with a hard boundary for the northern paleochannel and the transported cover. As each of the deposits are spatially and statistically separate, then hard domain boundaries were used between them.

Variography was performed on data transformed to normal scores, and the variogram models were back-transformed to original units. The Gaussian anamorphosis used for the normal scores transform was also subsequently used for the discrete Gaussian change of support model required for Uniform Conditioning. Variography was performed for the separate deposits (the northern paleochannel is considered a separate deposit).

The variogram models had high nugget effects at Theia, Iris and Hestia (~70 to 80% of total sill), with a ranges of 60 to 100m. At Eos, the nugget effect is moderate (50% of total sill), with ranges of 120 m horizontally and 10 m vertically. For the northern paleochannel, the nugget is moderate (50%), but with ranges of 20 m horizontally and 4 m vertically.

Estimation (via Ordinary Kriging – a necessary precursor step for UC) was into block model that was a non-rotated model in MGA94 grid, with a panel block size of 20 mE x 25 mN x 5 mRL – this is about the average drill spacing in the main well-drilled part of the Project. Localisation of the grades was into Selective Mining Units (SMU) block of 10 mE x 12.5 mN x 2.5 mRL (8 SMUs per panel).

A minimum of 8 and maximum of 16 (2 m composite) samples per panel estimate was used, with a search ellipse radius of 100 m x 100 m x 40 m (oriented in the same directions as the variogram models) for Theia and Iris, with a shorter radius of 20 m in the minor direction for Eos and Hestia. The use of a maximum number of composites of 16 effectively limits the search ellipse radius to 20 m in the well-drilled (~Indicated) part of the Project.

The panel estimates used the 'distance limited threshold' technique, where uncapped samples are used for a very local estimate, and capping (threshold) is used beyond this local distance. The thresholds used were 40 ppm for Theia, 9 ppm for Iris and Eos, 6 ppm for Hestia and 40 ppm for the northern paleochannel. These thresholds were based on inflections and discontinuities in the histograms and log-probability plots, and on metal quantities above thresholds.

The UC process applies a Change of Support correction (discrete Gaussian model) based on the composite sample distribution and variogram model, conditioned to the Panel grade estimate, to predict the likely grade tonnage distribution at the SMU selectivity.

The Localising step was then run, and the resulting SMU models for each deposit were exported from Isatis to Datamine.

Estimates of Au grades were validated against the composited drill hole data by extensive visual checking in cross-section, plan and on screen in



		3D, by global (per shoot) comparisons of input data and model, and by semi-local statistical methods (swath plots). All methods showed satisfactory results.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Tonnages are estimated on a dry basis.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	The cut-off grade of 0.39 ppm Au was established from pit optimisation work of the current MRE model. See Mining factors and assumptions below.
Mining factors or assumptions	Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	The Mandilla Project would be mined by open pit extraction. Recent pit optimisation work used a gold price of AUD \$2,500/oz., with mining costs varying with depth, but averaging \$6.50/BCM ore and \$4.40/BCM for waste. Pit slope angles are appropriate for the transported, transitional and fresh rock. Inter-ramp angles vary from 34° in oxide up to 54° or 58° in fresh, depending upon oxidation state and area.  Overall processing recovery was assumed to be 94%, with a processing plus G&A cost of \$18 per tonne.
Metallurgical factors or assumptions	The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	Metallurgical testing has been completed on diamond drill core. Results of test work indicate recoveries in excess of 95% are likely. Grind sensitivity work has shown recovery of 95% is achievable at a grind size of 212µm. There are numerous gold processing facilities nearby, including at St Ives.
Environmental factors or assumptions	Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process or determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the assumptions made.	The palaeochannel zone of the Mandilla deposit has previously been mined by small-scale open pit methods by AAR in 2006/2007, and there are existing waste dumps and open cut pits. In addition to the flora, fauna, cultural heritage and waste material characterisation studies completed in 2006/7, Astral Resources have completed further flora and fauna studies during 2020. Considering the extensive existing studies, substantial overlap in both the deposit footprint and scope as well as the additional information collected in 2020 studies it is considered that there are no environmental factors that would preclude the economic extraction or indeed add significant additional cost to the extraction of the material included in the resource.
Bulk density	<ul> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</li> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc),</li> </ul>	Bulk density data was gathered from some recent diamond core using the water immersion technique. A total of 26 density determinations have been made from both the granitoid and sediments, in transitional and fresh rock zones. The results are very similar for the granitoid and sediments. Average bulk density values were assigned per modelled weathering domain (2.2 t/m3 for transported, 2.3 for oxidised, 2.5 t/m3 for transitional and 2.64 t/m3 for fresh rock).
	moisture and differences between rock and alteration zones with the deposit.  • Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	
Classification	<ul> <li>The basis for the classification of Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all relevant factors (ie relative confidence in</li> </ul>	The classified mineral resource estimate is within a constraining optimised pit shell as discussed in the Mining factors and assumptions section above.



Audits or reviews	tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).  • Whether the result appropriately reflects the Competent Person's view of the deposit.  • The results of any audits or reviews of Mineral Resource estimates.	The Indicated Mineral Resource has a nominal drill spacing of 30mN x 20mE or closer (10mE x 10mN in grade control drilled areas), is not more than 20m laterally beyond drilling.  The Inferred Mineral Resource is material within the mineralised domain and constraining pit shell, but not meeting the criteria for Indicated i.e. broader drill spacing than 60mN x 40mE.  This classification considers the confidence of the resource estimate and the quality of the data and reflects the view of the Competent Person.  No external audits of the Mineral Resource have conducted, although the independent consultants used for the Resource estimate (Cube Consulting)
Discussion of relative		conduct internal peer review.  This is addressed in the relevant paragraph on Classification above.
accuracy/ confidence	accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within state confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.	The Mineral Resource relates to global tonnage and grade estimates. Mining has only taken place in the northern paaleochannel area, which only represents a very small fraction of the mineralisation at Mandilla. Therefore, there is no reconciliation data for the majority granite-hosted mineralisation
	<ul> <li>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation.         Documentation should include assumptions made and the procedures used.     </li> <li>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	