

## ASX ANNOUNCEMENT

15 June 2020

Nusantara Resources Limited

ABN 69 150 791 290

### Registered Office:

20 Kings Park Road  
West Perth  
Western Australia 6005  
Ph: +61 (8) 9460 8600

### Issued Capital

202,525,903 shares  
18,034,307 listed options  
22,289,159 unlisted options  
6,747,318 unlisted employee options

### Substantial Holders

Lion Selection Group	22%
PT Indika Energy TBK	23%
Australian Super	14%

Nusantara Resources Limited is listed on the Australian Securities Exchange – ticker symbol NUS

Dollar values in this report are United States Dollars unless otherwise stated.

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# AWAK MAS ORE RESERVES INCREASE BY 34% TO 1.53M OUNCES

## Highlights

- **Ore Reserve 1.53Moz;** **+34%**
- **Average Grade first 4 years 1.71g/t;** **+23%**
- **Average Gold Produced first 4 years 127,700 ounces pa;** **+20%**
- **Mine life 16 years; (or plant expansion optionality)** **+45%**

## Updated Ore Reserve Estimate

The Nusantara Board is pleased to announce a significant increase in Awak Mas Gold Project (Awak Mas) Ore Reserves following targeted exploration success, updated Mineral Resources estimation, updated open-pit mine planning, and a sustained increase in the gold price. The Awak Mas JORC compliant Ore Reserve Estimate updated to **35.6 million tonnes at 1.33 g/t gold for 1.53 million ounces** (100% in the Probable category) compares with the September 2018 estimate of 26.9 million tonnes at 1.32g/t gold for 1.14 million ounces. This is an 0.39 million ounce (34%) increase.

## Production Target - Mine Scheduling

- Mine scheduling has established a mining inventory of 38.7 million tonnes at 1.32 g/t for 1.68 million ounces contained gold, which includes 2.9 million tonnes of inferred mineral resource recovered from within the open pit designs.
- Prioritisation of higher grade in the first 4 years improves gold production and cashflow profile.
- Maximising gold grade and reducing strip ratio brings forward the Salu Bulu satellite pit in the production profile.
- Improved mine scheduling delivers average of 1.71 g/t mined ore to the process plant in commissioning and the first 4 years, and stockpiles 0.4 – 0.5 g/t ore for potential processing at end of the Project.
- Plant throughput of 2.5 Mtpa produces 110,000 – 140,000 ounces/ year for the first full years.
- Life of Mine (LOM) increases from 11 years to 16 years at 2.5 Mtpa ore processing rate with low cost options being studied to “future proof” expansion to 3.9 Mtpa.
- Updated economics to be released in June 2020.

*Managing Director Neil Whitaker noted, “This Ore Reserve represents a step change for the Awak Mas Gold Project. The improved production profile and extended mine life provide an outstanding base to enhance value as we progress current development funding work.”*

## About Nusantara Resources

Nusantara is an ASX Listed gold development company with its flagship project comprising of the 1.53 million-ounce Ore Reserve and 2.35 million-ounce Mineral Resource Awak Mas Gold Project located in South Sulawesi, Indonesia.

The Ore Reserve Estimate uses a cut-off grade of 0.5g/t and a gold price of US\$1,400 per ounce (circa US\$300/oz lower than current spot price). Ore Reserves are based on information derived from the updated April 2020 Mineral Resource Estimate (MRE), October 2018 Definitive Feasibility Study (DFS), updated 2019 metallurgical test work showing improved estimated gold recovery and the improved gold price to determine the revised mine plan and current estimate.

The technical work supporting the Ore Reserve Estimate is complete demonstrating a sound technical project with positive economics. An Addendum to the DFS is being compiled and a summary will be released shortly.

Nusantara expects to continue to grow Awak Mas Mineral Resources and Ore Reserves with significant exploration potential still to be tested. Priority is being given to testing extensions of the Salu Bulu deposit, noting it is higher grade, and currently presents as a co-starter pit with Awak Mas (Main) deposit in the mine schedule.

With updated Ore Reserves and ongoing exploration success, the Company has commenced 'future-proofing' studies to add low cost growth options for later stage Project expansion up to 3.9Mtpa, with completion of a scoping study due in Q4 2020.

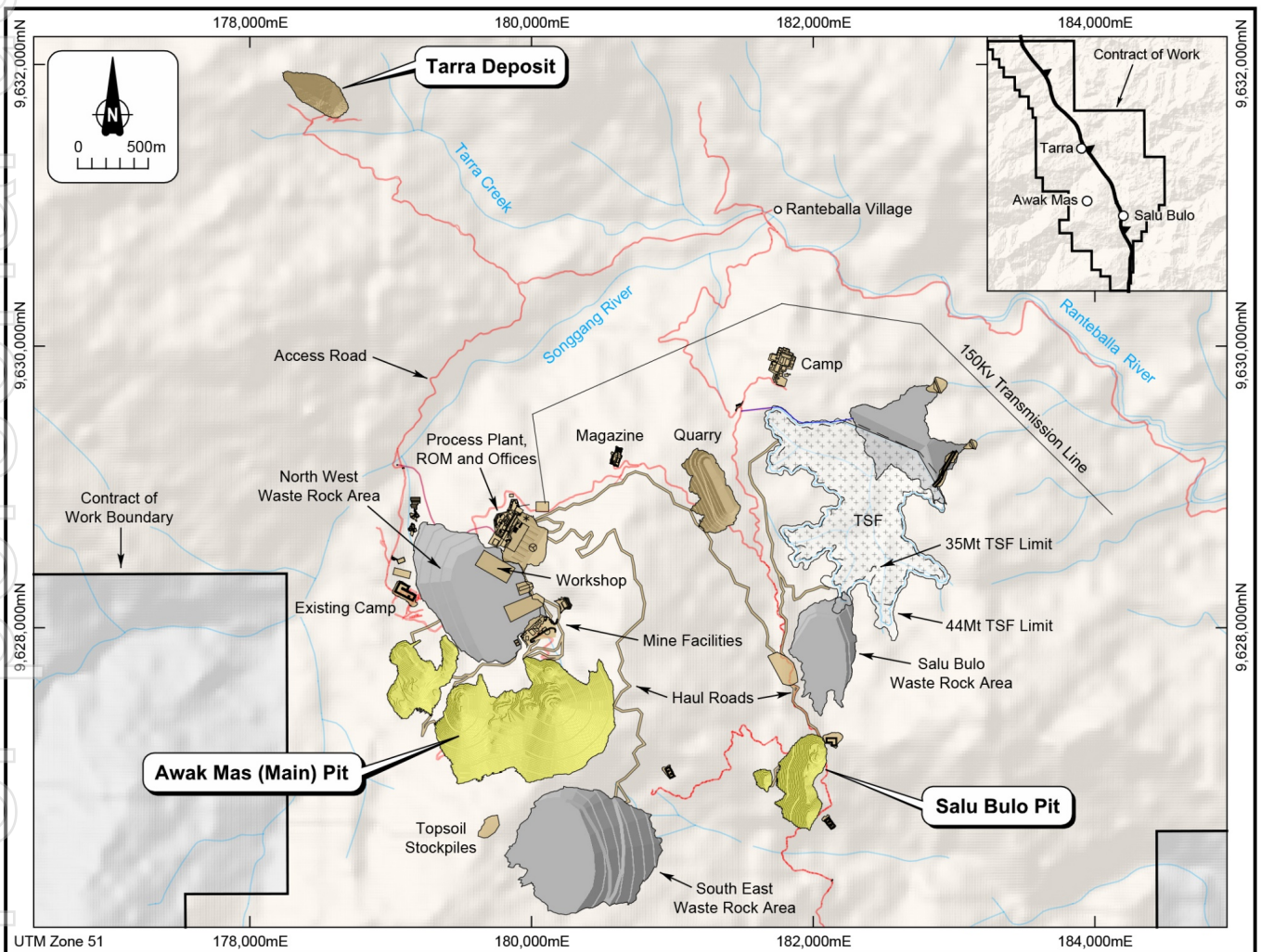


Figure 1: Awak Mas Gold Project site layout showing Awak Mas Main pit and Salu Bulu Pit

## AWAK MAS GOLD PROJECT ORE RESERVE

The Awak Mas Gold Project Probable Ore Reserve at 0.5 g/t Au cut-off using a US\$1,400/oz gold price is 35.6 Mt at 1.33 g/t Au for 1.53M contained ounces. The Ore Reserve Estimate (Table 1) is based on the Mineral Resource Estimate reported for the Awak Mas (Main) and Salu Bulu deposits in April 2020. The upgraded Ore Reserve represents an 34% increase in contained gold from the previous Ore Reserve and incorporates all drilling and mine planning completed since the 4 October 2018 DFS.

**Table 1: Awak Mas Gold Project JORC open pit Ore Reserve Statement**

	Classification	Tonnes (Mt)	Au Grade (g/t)	Contained Gold (Moz)
<b>Awak Mas (Main)</b>	Proved	-	-	-
	Probable	32.7	1.30	1.37
	<b>Sub-total</b>	<b>32.7</b>	<b>1.30</b>	<b>1.37</b>
<b>Salu Bulu</b>	Proved	-	-	-
	Probable	2.9	1.66	0.16
	<b>Sub-total</b>	<b>2.9</b>	<b>1.66</b>	<b>0.16</b>
<b>Total</b>	Proved	-	-	-
	Probable	35.6	1.33	1.53
	<b>Total</b>	<b>35.6</b>	<b>1.33</b>	<b>1.53</b>

**Notes:**

1. All Mineral Resources and Ore Reserves are completed in accordance with the 2012 JORC Code.
2. The Ore Reserve is reported at a cut-off grade of 0.5g/t Au and US\$1,400 per ounce gold price.
3. All figures are rounded to reflect appropriate levels of confidence. Apparent differences may occur due to rounding.
4. Mineral Resources are reported inclusive of Ore Reserve.

## LIFE OF MINE PROFILES

The estimated production profile of recovered metal and plant feed head grade from the mining inventory and mine plan is per Figure 2 below.

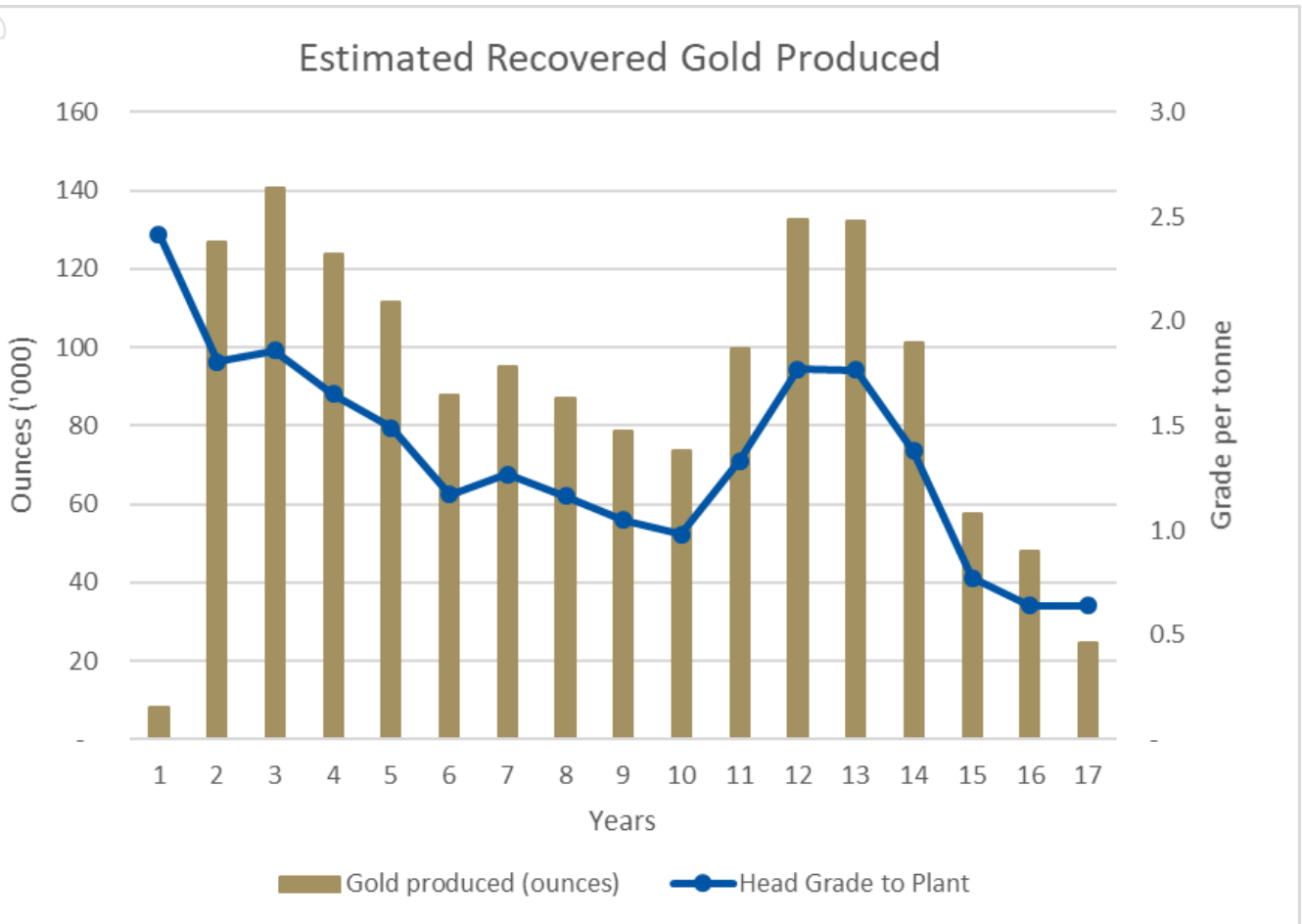


Figure 2: Annual Gold Produced Estimated from Mining Inventory, Mine Planning and Metallurgical Test work

Mine scheduling has established a mining inventory of 38.7 million tonnes at 1.32 g/t for 1.68 million ounces contained gold before metallurgical recoveries. This includes 2.9 million tonnes of Inferred mineral resource recovered from within the open pit designs. The production targets referred to in this announcement are based on 92% Probable Ore Reserves and 8% Inferred Mineral Resources. There is a low level of geological confidence associated with Inferred Mineral resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral resource or that the production targets themselves will be realised.

## 2018 ORE RESERVE TO 2020 ORE RESERVE

The increase on the Ore Reserve is driven by the post DFS drilling, 2019 testwork higher metallurgical recoveries and the higher gold price. The combination of these factors has contributed to a larger Mineral Resources (see 28 April 2020 ASX release) and pit shell expansion to access ounces previously outside the original Ore Reserve. In accessing the economic extension to the Awak Mass (Main) deposit at depth, this introduces a higher LOM waste stripping. At the higher gold price, the mine schedule has targeted near surface ore tonnes at higher grade from Salu Bulu and has increased gold production in the first four full years (between 110,000-140,000 ounces /annum) as compared to the 2018 DFS (95,000 – 105,000

ounces per annum). The significantly positive economic impact of a larger Ore Reserve and bigger mine open pits has resulted in a revised design with increased quantity of mining fleet and increased early investment in pioneering works. In later stages of development (from years 5 to 11) a larger scale fleet is anticipated to efficiently mine waste to cut back the Awak Mas (Main) deposit ridge and open ore at depth.

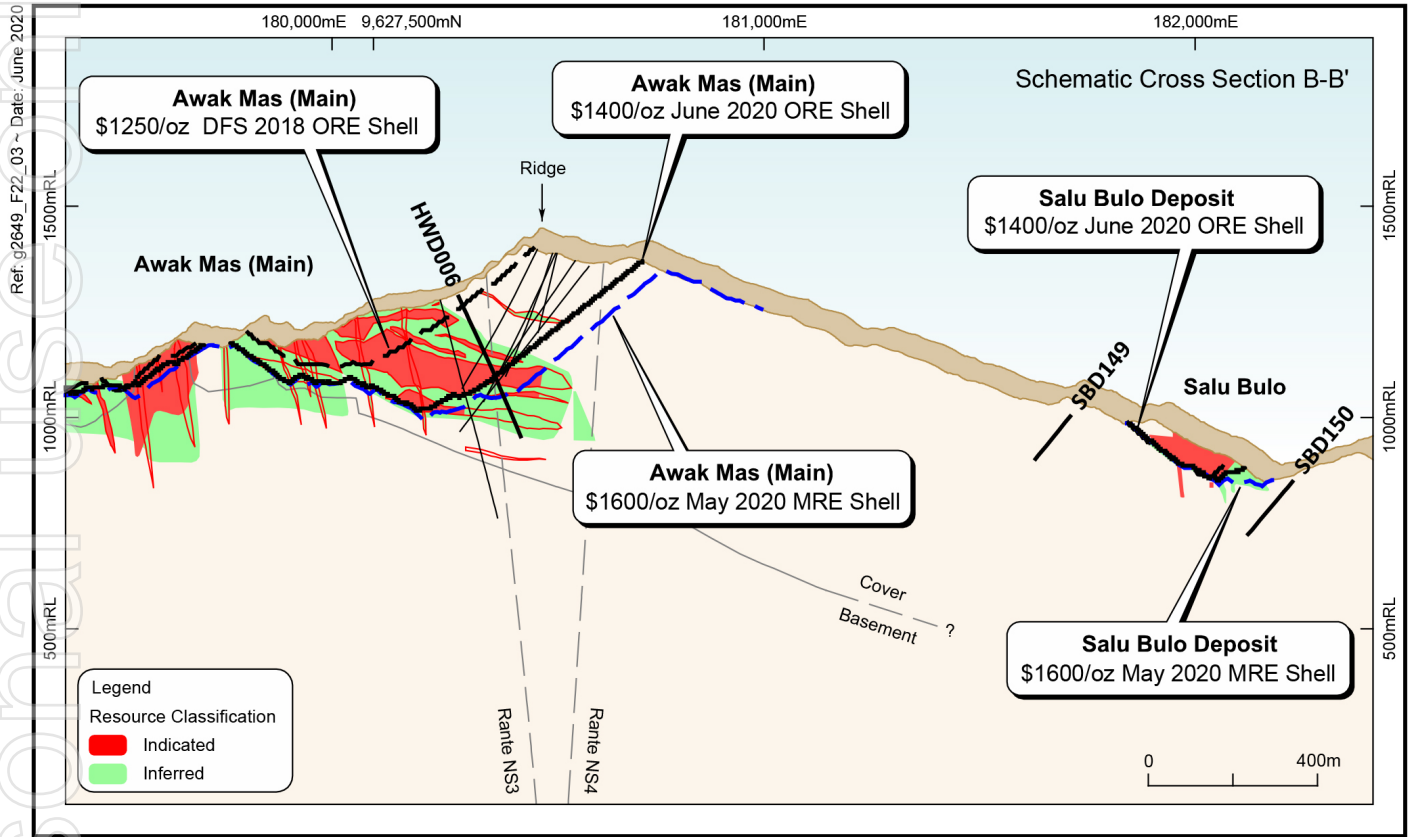


Figure 3: Awak Mas (Main) and Salu Bulo Long Section Ore Reserve Estimate and MRE

## PIT STAGING

The updated estimate is premised on four key mining stages:

- Stage 1 – Initial co-starter pits of Awak Mas (Main) and Salu Bulo targeting higher grade, stockpiling and lower strip ratio to LOM.
- Stage 2 – Awak Mas (Main) central and south ridge cutback and Salu Bulo final pit at year 5 at a higher strip ratio to LOM, with processing supplemented by ore stockpiles.
- Stage 3 – Awak Mas (Main) eastern pit introduced in mine development.
- Stage 4 – Awak Mas (Main) pit developed to full depth by year 16.

In this update, the Salu Bulo higher grade deposit has been brought forward and accelerated to complement the Awak Mas (Main) deposit for Ore Reserves de-risking the mining starter pit operations. The staged open pit designs are shown in Figures 4 and 5 for Awak Mas (Main) and Salu Bulo respectively.

At Awak Mas (Main) deposit the mine optimisation further identified a potential target for an additional 4M tonnes of ore (or 71,000 ounces gold production) between the selected Ore Reserve pit shell and an alternate larger pit shell that still added economic value, albeit at increasing cost, and high strip ratio of 5.5:1 (waste:ore). This ore has not been included in the mine design but shall be further evaluated in the expandability study (Q4 2020) that could enhance the project value by mining in an additional stage.

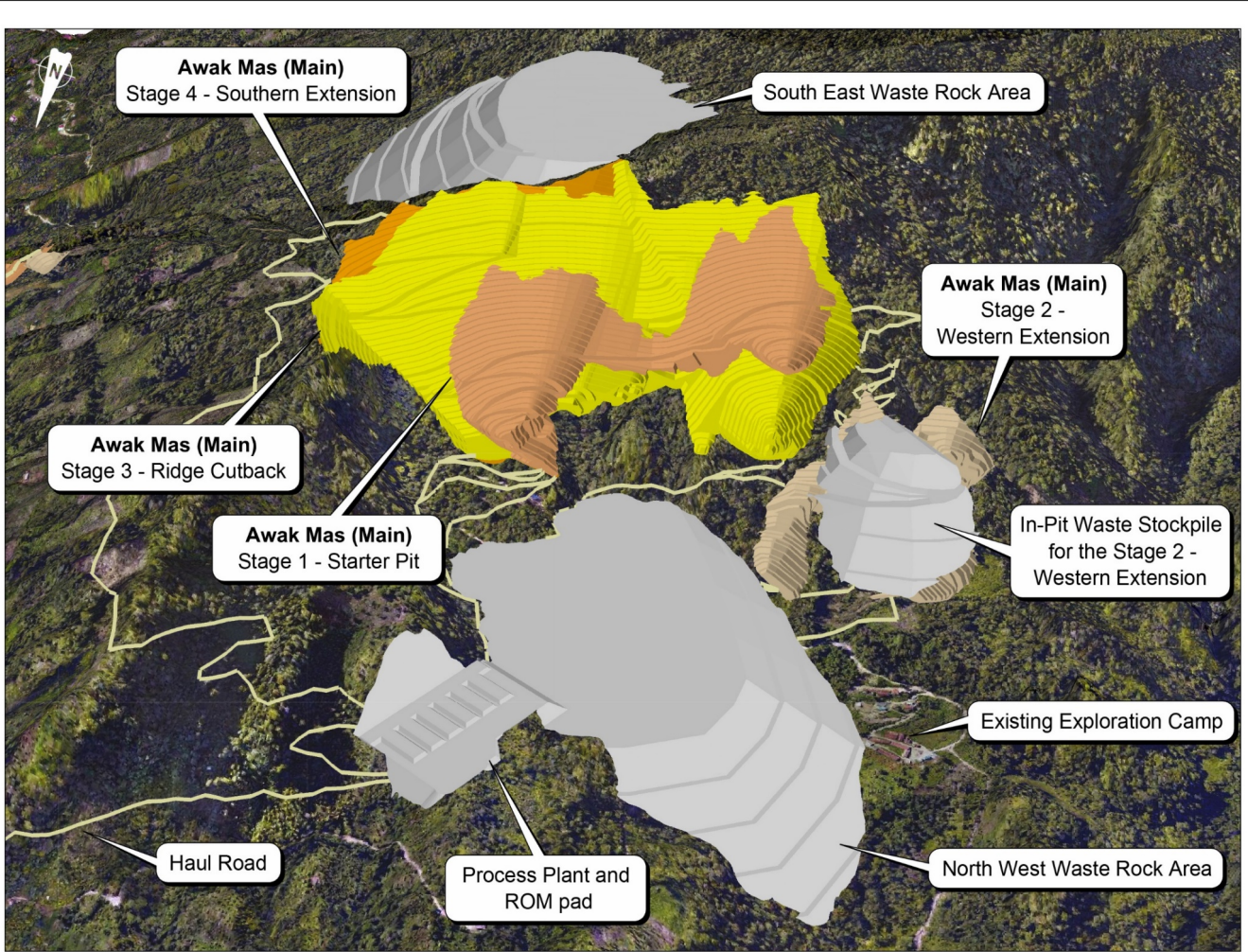


Figure 4: Awak Mas (Main) staged pit designs, waste rock landforms, ROM Pad/Plant and Haul Roads

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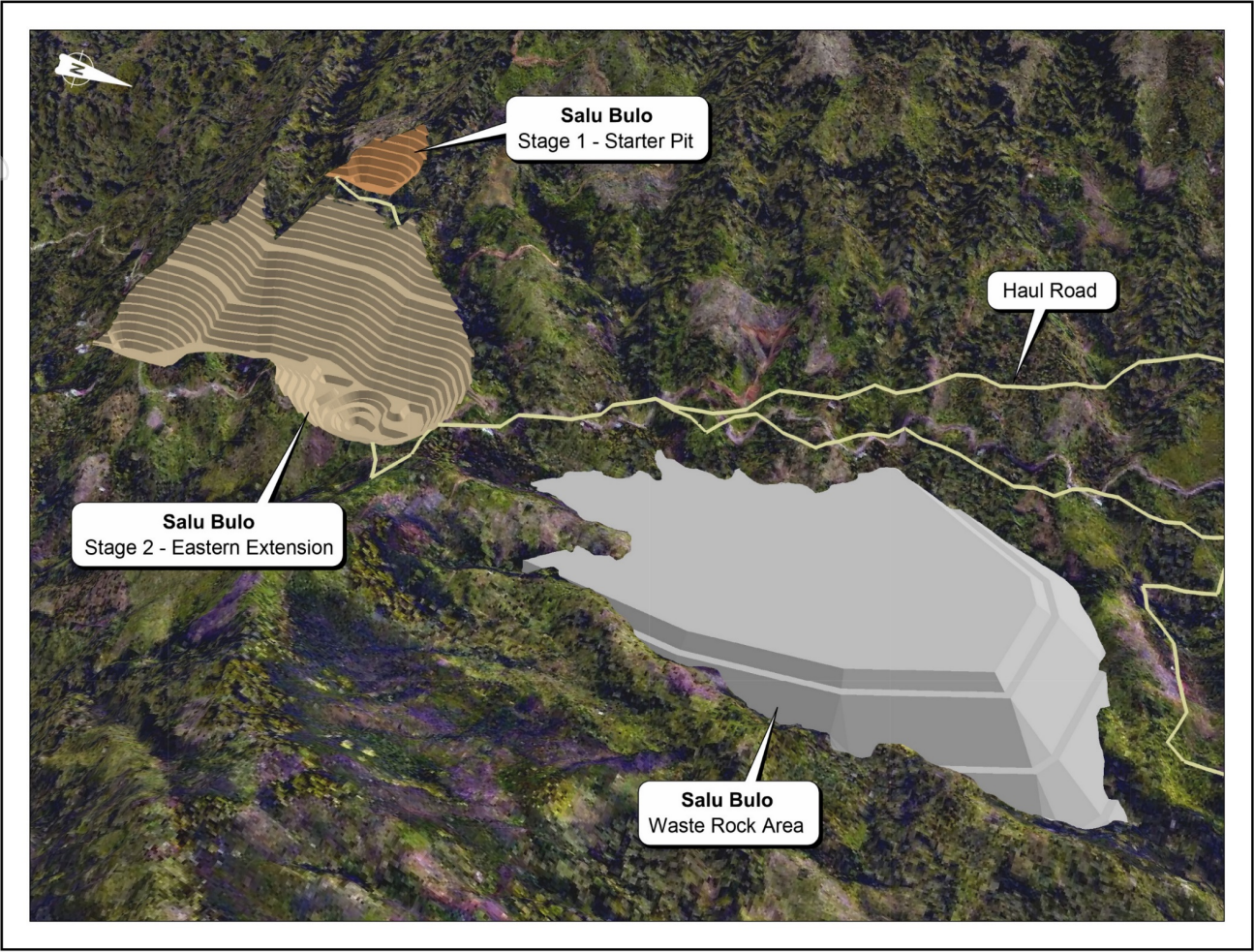


Figure 5: Salu Bulo staged pit designs, waste rock landforms and haul road

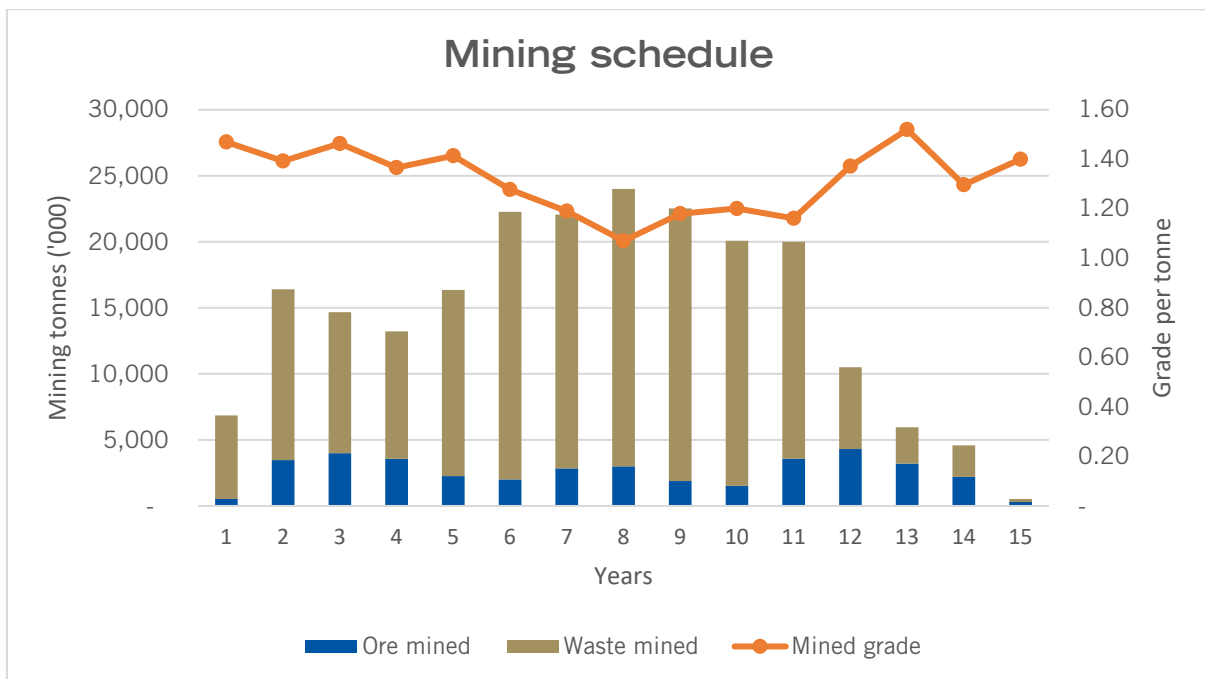


Figure 6: Mining Inventory and Waste Mining Schedule

A strip ratio for pre-production and the first four years (years 1 to 5 in graph) of 3.9 (LOM 4.7) compares favorably to the previous DFS strip ratio of 5.1 for the first four years of the DFS (LOM 3.5).

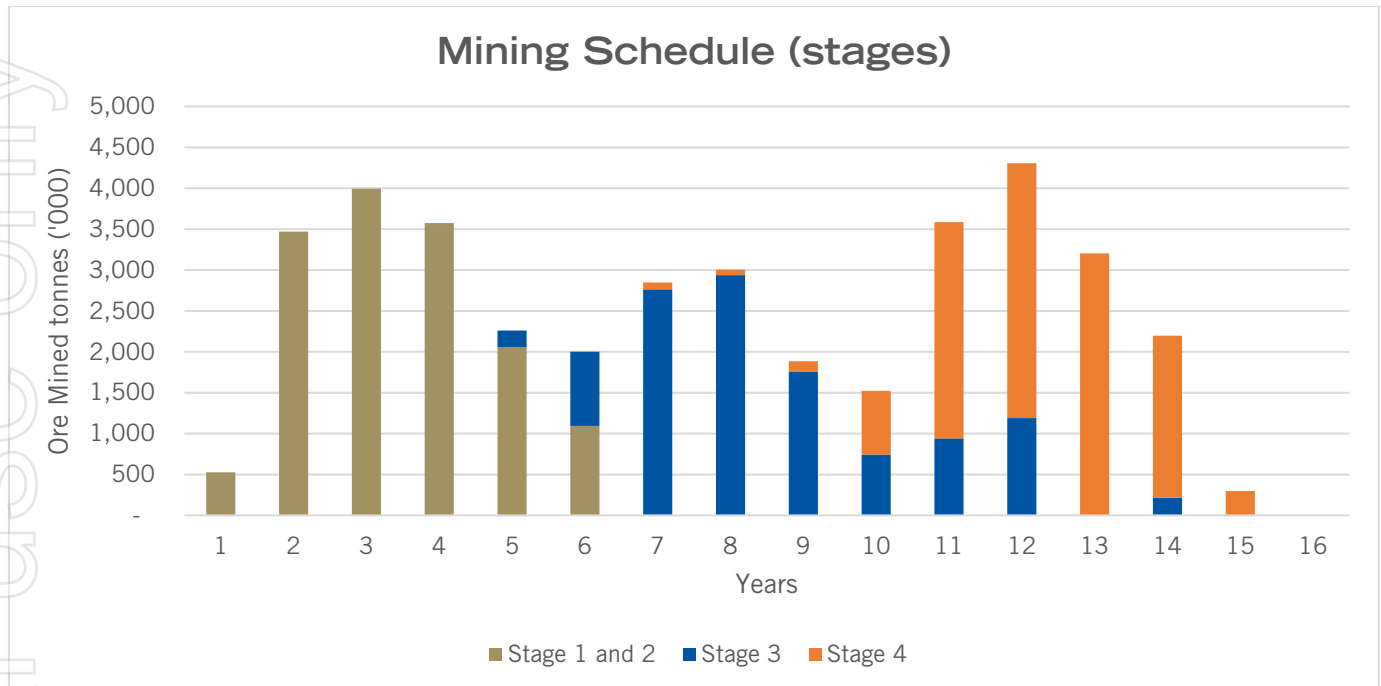


Figure 7: LOM plant feed Tonnage Schedule

Table 2: Awak Mas Gold Project, Detailed Staged Open Pit Ore Profiles

Pit Stage	Plant feed Tonnes (Mt)	Au Grade (g/t)	Contained Gold (Koz)	Stripping Ratio
Stage 1	8.8	1.38	390.6	1.90
Stage 2	5.9	1.47	278.5	3.54
Stage 3	11.7	1.18	441.2	5.53
Stage 4	12.3	1.34	528.3	6.43
<b>Total</b>	<b>38.7</b>	<b>1.32</b>	<b>1,638.6**</b>	<b>4.69</b>

\* The production targets referred to in this announcement are based on 92% Probable Ore Reserves and 8% Inferred Mineral Resources. There is a low level of geological confidence associated with Inferred Mineral resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral resource or that the production targets themselves will be realised.

\*\* Prior to metallurgical process recoveries.



The combined processing plant schedule developed from the mining inventory and current mine plan is per Figure 8 below.

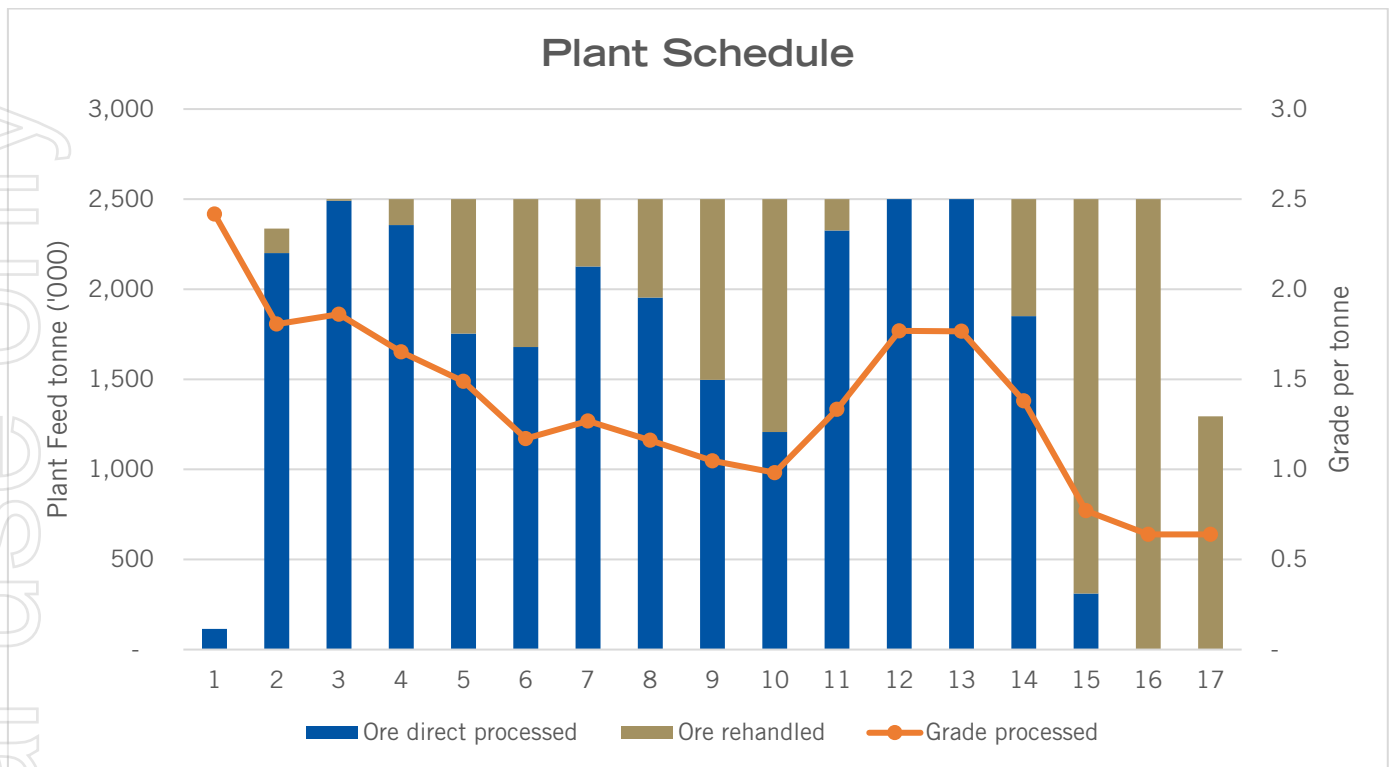


Figure 8: Combine Plant Processing Schedule

The average process plant feed grade of 1.71 g/t in the first four years is proceeded by the Awak Mas (Main) ridge cutback and period of haulage from stockpiles. The Company is pursuing prospective resource extensions at Salu Bulo in H2 2020 in efforts to maintain the higher-grade ore and defer the ridge cutback for an extended period.

## UPDATED ECONOMIC ASSESSMENT

As announced 24 March 2020, US\$ 11.45M Engineering Contract Awarded, the Company has advanced the Awak Mas Gold Project towards a planned development decision in early 2021. The focus of financing work is on the development established in the October 2018 DFS which targeted a 2.5Mtpa operation.

As noted in the Company's December 2019 Quarterly Activities Report announced to ASX 31 January 2020, the Indonesian Government has been reviewing its income tax rates and earlier this year accelerated reforms to stabilize the negative impact of the potential economic slowdown due to the COVID-19 Pandemic. Notably the income tax for corporations, will be reduced from 25% to 22% for the fiscal year of 2020-2021 and be reduced again to 20% commencing from 2022 forward.

An Addendum to the October 2018 DFS is underway based on the updated Mineral Resource Estimate and the updated open pit designs. The Addendum will include post DFS metallurgical test work which showed an increased estimated gold recovery and an increase in reagent use, changes in government royalties and income tax rates, and will recognise the higher gold price. The Project NPV and Internal rate of return as reported in the 2018 DFS have been enhanced by this update. It is anticipated that this updated economic assessment will be completed and announced in June 2020.

## **EXPANSION STUDY AND OPTIONALITY**

The Ore Reserve Estimate establishes a significantly longer mine life and presents increased optionality for future operations. Given the extended mine life of the Ore Reserve Estimate, the Company has commenced 'future-proofing' studies for the current 2.5Mtpa plant size to allow a low-cost staged expansion with options to 3.9Mtpa ore throughput. Underpinned by anticipated further exploration success in H2 2020, a scoping study assessment for future project expansion is underway and is expected to be completed in Q4 2020.

The Appendix 1 provides a technical summary of the Project. The JORC Code, 2012 edition, Table 1, is also attached.

## **2020 EXPLORATION PROGRAM AND ORE RESERVE UPDATES**

The continued 2020 exploration program is targeting a closer spaced drilling program to further reduce risk in future ore resource and reserve estimation. It is also targeting near mine potential including the possible extension of the Salu Bulu deposit and other incomplete studies on the mining lease.

Planning is underway for a program of further closer-spaced drilling to lift the resource category to 'Measured' status and subsequently reserve category to 'Proven' status in the initial mining areas. This closer spaced drilling has the potential for an uplift in grade through the intersection of additional higher-grade vertical zones that are pervasive through the Awak Mas (Main) and Salu Bulu deposits. In addition, the Company believes there is potential to further extend the proposed Awak Mas (Main) and Salu Bulu pits. There is also potential to include the Tarra deposit and other areas of known mineralisation in the Contract of Work into a future mine plan. This represents a near term opportunity to extend the mine life or to support a staged expansion. The Company aims to provide a further Ore Reserve update incorporating the closer spaced drilling and other exploration work in Q4 2020.

# APPENDIX 1: Awak Mas Gold Project Ore Reserves Update — Technical Summary

Note: This technical summary should be read in conjunction with the JORC Code, 2012 edition, Table 1 attached to this ASX Announcement.

## BACKGROUND

The Awak Mas Gold Project, located in South Sulawesi, Indonesia covers an area of 14,390 ha, and is owned through a 7<sup>th</sup> generation Contact of Work (CoW) with the Government of Indonesia (GoI). Exploration has led to the definition of Mineral Resources at the Awak Mas (Main), Salu Bulu and Tarra deposits; collectively, the Awak Mas Gold Project (Project). The Project has been granted all environmental and construction approvals for continued development<sup>1</sup>.

In 2018 the CoW was amended by mutual agreement to better align with the current Indonesian law<sup>2</sup>. Nusantara's subsidiary, PT Masmindo Dwi Area (Masmindo), has sole rights to explore and exploit any mineral deposits within the Project area until 2050. In the 10<sup>th</sup> year after commercial production, Masmindo is required to offer at least 51% of its share capital to willing Indonesian participants at fair market value according to International valuation practice.

As announced in February 2020, strategic partner PT Indika Energy Tbk group agreed to acquire up to 40% interest in Masmindo for US\$40M. This arrangement should largely satisfy the divestment requirements noted above<sup>3</sup>.

Nusantara completed a Definitive Feasibility Study<sup>4</sup> (DFS) in October 2018 and has undertaken further mineral resource definition drilling, metallurgical evaluation<sup>5</sup>, and mining studies to support this Ore Reserve Estimate update. An Addendum to the October 2018 DFS (2020 Addendum) is nearing completion for release in the coming weeks.

## BASIS OF THE ORE RESERVE UPDATE

Resource drilling by Nusantara completed during 2018 and 2019, resulted in an update of the Project's Mineral Resource Estimate (MRE) in April 2020 through the inclusion of 15 diamond drill holes (or 2,221.1m) at Awak Mas (Main) and Salu Bulu for a total 54.0 Mt at 1.35 g/t Au for 2.35 million contained ounces<sup>6</sup>. This MRE is used as the basis for the completion of the Ore Reserve Estimate. The Tarra deposit, which is included in the MRE, requires further resource drilling to establish the confidence of an Indicated Mineral Resource and for this reason it was not included in either the DFS or in this Ore Reserve Estimate.

## LOCATION

The Project's location (Figure 1) near the east coast of South Sulawesi provides very good access to the established infrastructure and logistics networks, offering greater support and fewer constraints than many comparative projects in the Asia-Pacific region. The access point from the east coast of South Sulawesi to the Project is Belopa, the capital of the Luwu Regency (the Regency's population is ~ 350,000), located only 45 km by road from the Project.

<sup>1</sup> ASX Announcement - Annual Report to Shareholders, released 21 April 2020

<sup>2</sup> ASX Announcement – Awak Mas Long Term Tenure and Ownership Secured, released 15 March 2018

<sup>3</sup> ASX Announcement – USD40M Gold Project Equity Deal – released 26 February 2020

<sup>4</sup> ASX Announcement – Definitive Feasibility Study Completed – released 4 October 2018

<sup>5</sup> ASX Announcement – Quarterly Activities Report – released 30 July 2019

<sup>6</sup> ASX Announcement – Mineral Resource Increases 18% to 2.35Moz – released 28 April 2020

Belopa has access to the other provincial centres including Makassar and Palopo City, via highway, coastal shipping and scheduled air services. Belopa is connected to Sulawesi's power supply grid and is the proposed connection point for the Project's power supply, via a 150kW transmission line and communication network. A Memorandum of Understanding (MOU) has been signed with the Indonesian power provider, Perusahaan Listrik Negara (PLN), for the construction of the power line from Belopa to site.



Figure 1: Awak Mas Gold Project Location, Sulawesi, Indonesia

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## MINING AND ORE RESERVES

AMC Consultants (AMC) has completed pit optimisation, mine design cost modelling and scheduling for the Awak Mas (Main) and Salu Bulu deposits. This, together with other studies, has allowed the design of the site layout including site haul roads, pit access roads, detailed staged pit development designs, waste dumps, topsoil stockpiles, mine workshops and run of mine (RoM) ore pads (Figure 2).

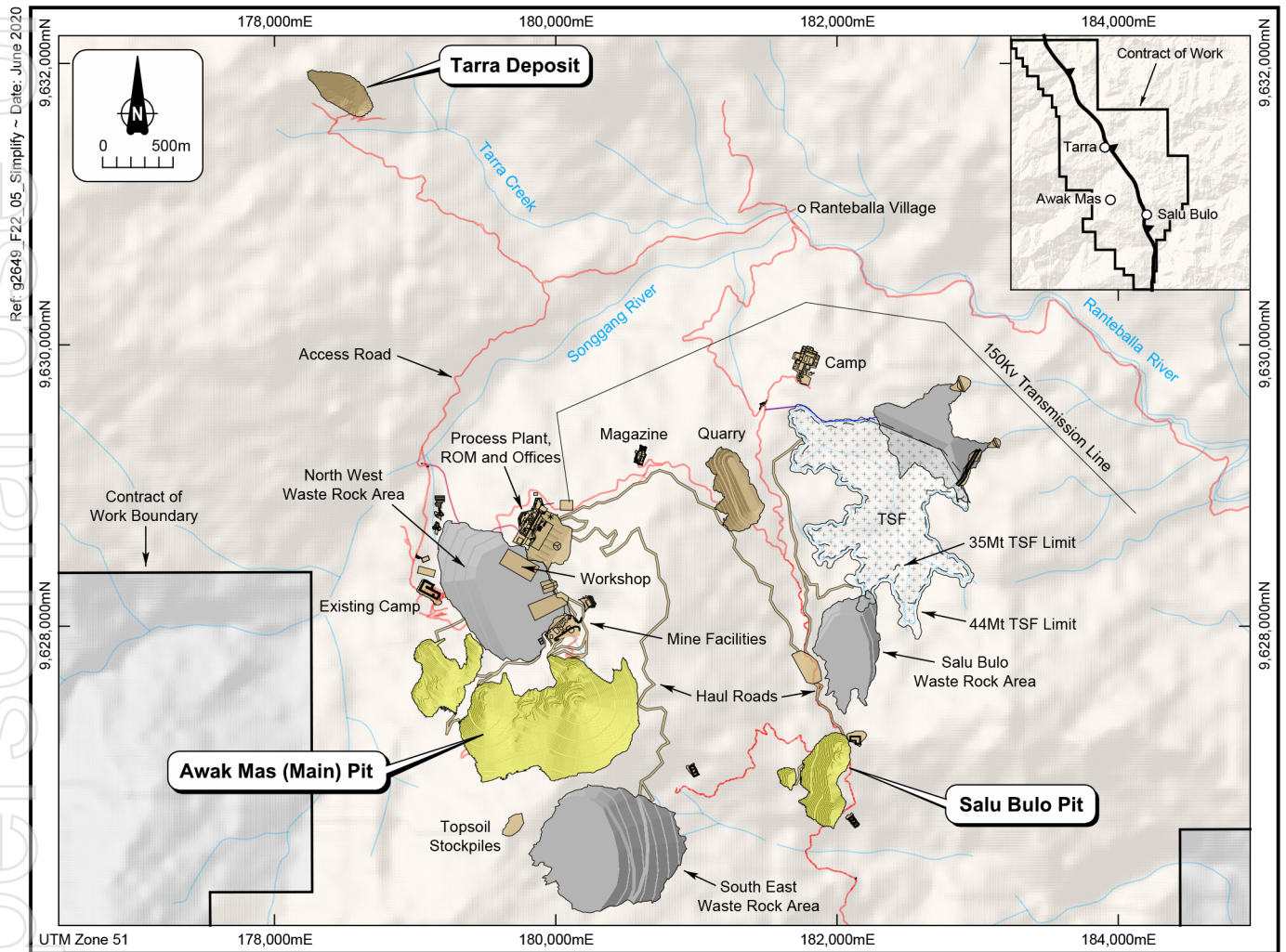


Figure 2: Awak Mas Site Layout

AMC completed a geotechnical and hydrogeological study for the DFS for the Project. The Project has been extensively studied since 1996 and several ownership changes have occurred since then. Prior to the DFS the most recent geotechnical study at a feasibility level was conducted by Golder Associates in 2011 to 2012. The geotechnical and hydrogeological assessment is currently being updated post DFS. The geotechnical parameters determined for the DFS were assessed as applicable for the pit design work supporting the 2020 Addendum.

The following slope design parameters are recommended:

- Batters 10 m high, 45° BFA, with 5 m wide berms in the weathered rock mass, which will achieve a 33.7° inter-ramp slope angle.

- Batters 10 m high, 60° BFA with 5 m wide berms in the fresh rock mass, which will achieve a 43° inter-ramp slope angle.
- A geotechnical berm 15 m wide to be included at 100 m vertical intervals. These berms will be planned at around 1400 mRL, 1300 mRL and 1200 mRL.

These slope parameters will be applicable to all areas at Awak Mas and Salu Bulu pit developments.

The batter, inter-ramp and overall pit slopes are sensitive to groundwater pressure and wall depressurization will be a requirement to achieve target slope stability levels. With the presence of a shallow and a deep aquifer, batter scale and overall scale depressurization will be required, including:

- Closely spaced shallow horizontal drain holes (HDH) to manage the influence of the shallow aquifer. HDH 30 m long, 25 m centres at 30 m vertical intervals (every 3rd berm) in all areas;
- Deep HDH to depressurize the deep aquifer and place the phreatic surface back a certain distance behind the pit wall to increase the FOS to an acceptable level. HDH 150 m to 200 m long are to be installed from 1300 mRL and 1200 mRL geotechnical berms, and possibly below these as well, depending upon the performance and effectiveness of the drains. The HDH are to be laterally spaced 50 m;
- In addition to the above, 200 m long HDH are proposed on a fan, from the base of the Stage-AM1 starter pit (approximately 1120 mRL after year 3), targeting the Rante and Lematik pit sectors; and
- Installation of dewatering bores to be considered with additional testing during construction, and performance monitoring of the HDH.

AMC has designed 13 holes for the installation of Vibrating Wire Piezometers (VWP's) and installation of these VWP's has commenced. The data captured from the VWP's will confirm design parameters and may provide an opportunity to steepen wall angles.

To estimate ore loss and dilution, the resource models for Awak Mas and Salu Bulu were regularized by combining all sub-blocks to a larger block size that is considered to be the minimum practical size that would be delineated during ore and waste selection. This minimum block size is referred to as the selective mining unit (SMU). The original resource models as provided to AMC for Awak Mas and Salu Bulu comprised regular cell sizes of 5 mE x 5 mN x 2.5 mRL.

These were re-blocked to a 5m by x 5m by x 5m SMU to reflect mining selectivity deemed practical and consistent for the type of mineralisation and scale of the operation. The diluted Awak Mas model shows a 6% increase in tonnes and a 7% reduction in gold grade for a resultant 99% of contained gold (cut-off grade of 0.4 g/t) equivalent to a dilution of 7%. AMC used this model for mine design and Ore Reserve estimation. The reporting of the impact of dilution and ore loss above utilised a 0.4 g/t cut-off grade and was limited by the US\$1600 optimisation shell provided by Cube.

The Salu Bulu resource model was re-blocked to a 5m by x 5m by x 5m SMU and the diluted model presented no change in mineralized tonnes and a 1% reduction in gold grade for a resultant 99% of contained gold (cut-off grade of 0.4 g/t). AMC used this model for mine design and Ore Reserve estimation. The reporting of the impact of dilution and ore loss above utilised a 0.4 g/t cut-off grade and was limited by the US\$1600 optimisation shell.

AMC updated the key input parameters for pit optimisation to reflect current market conditions, post-DFS metallurgical testwork and agreed these with Nusantara (Table 1). The gold price used was increased to US\$1,400/oz and a Government

royalty of 4.00% of total gold revenue was applied. Dore transport costs / refining charges (US\$2.93/ oz) and gold payable at refinery (99.75%) remained the same.

AMC applied mining costs based on the DFS results but modelled the updated mining volumes and mine layout to determine costs for each deposit, by bench.

The average mining cost, inclusive of contractor and owner's costs, estimated by AMC for pit optimisation was US\$2.60/ t of rock for Awak Mas (Main) and US\$2.44/t for Salu Bulu as based on the DFS cost estimates. These costs are equivalent to US\$2.90/t of ore for the Awak Mas (Main) Pit and US\$3.81/t ore for Salu Bulu because of the longer haulage to the process plant.

**Table 1: Pit optimisation inputs.**

Parameter/ Cost	Unit	Value
Gold Price	US\$/oz	1,400
State Royalty	%	4.00
Gold transport and refining	US\$/oz	2.93
Gold Payable	%	99.75
Net Gold Revenue	US\$/oz	1,338
Net Gold revenue	US\$/g	43.01
Mining Cost (averaged)	(US\$/t mined)	2.60
Processing cost	US\$/t ore t processed	9.99
General and Administration, crusher feed/re-handle, grade control and ore transport	US\$/t ore t mined	5.17
Sustaining TSF Costs	US\$/t ore mined	0.81
Metallurgical recovery	% Rante, Tanjung, Lematik	93.2
	% Mapacing, Ongan	92.2
	% Salu Bulu	94.8

Pit optimisations were developed based on the diluted mining models and only attributed value to the Indicated Mineral Resource for Awak Mas and Salu Bulu. Inferred mineralisation was treated as waste in the process.

A series of pit shells are generated by the pit optimisation based on increasing metal price and therefore increase in size. After reviewing initial results it was agreed to set a plant feed cut-off grade of 0.5g/t due to the small return from material between the economic cut-off grade of approximately 0.4 g/t and 0.5g/t. Shells were selected with Nusantara based on aligning the outcome with the company strategy. At Awak Mas (Main) shell 21 was selected as the basis for design; this shell is smaller than the optimum shell and is based on a revenue factor of 0.8. It was noted that for shells above 21, there is a declining incremental value due to increasing stripping ratio with the larger pits. Salu Bulu is a smaller project and the shell corresponding to the revenue factor 1.0 was selected as the basis for design.

Table 2 outlines the basis and results of the mine design for the Awak Mas (Main) and Salu Bulu pits. The Awak Mas Gold Project will be developed in four stages to provide early access to ore supply and to manage waste and total material movements. The Ore Reserve Estimate (Table 3) demonstrates that the open pits (Figures 3 and 4) will support an ore processing rate of 2.5 Mtpa with a strip ratio of 4.7 over an sixteen-year period<sup>7</sup> (Figure 5). The mining operation assumes a mining contractor operation using 90 tonne excavators and 60 tonne articulated dump trucks. The mine plan and schedule allow for the project's steep terrain and tropical setting. Later in the mine life, waste is also dumped in mined out pits, associated with the Awak Mas (Main) Western Extension.

**Table 2: Mine Design Criteria**

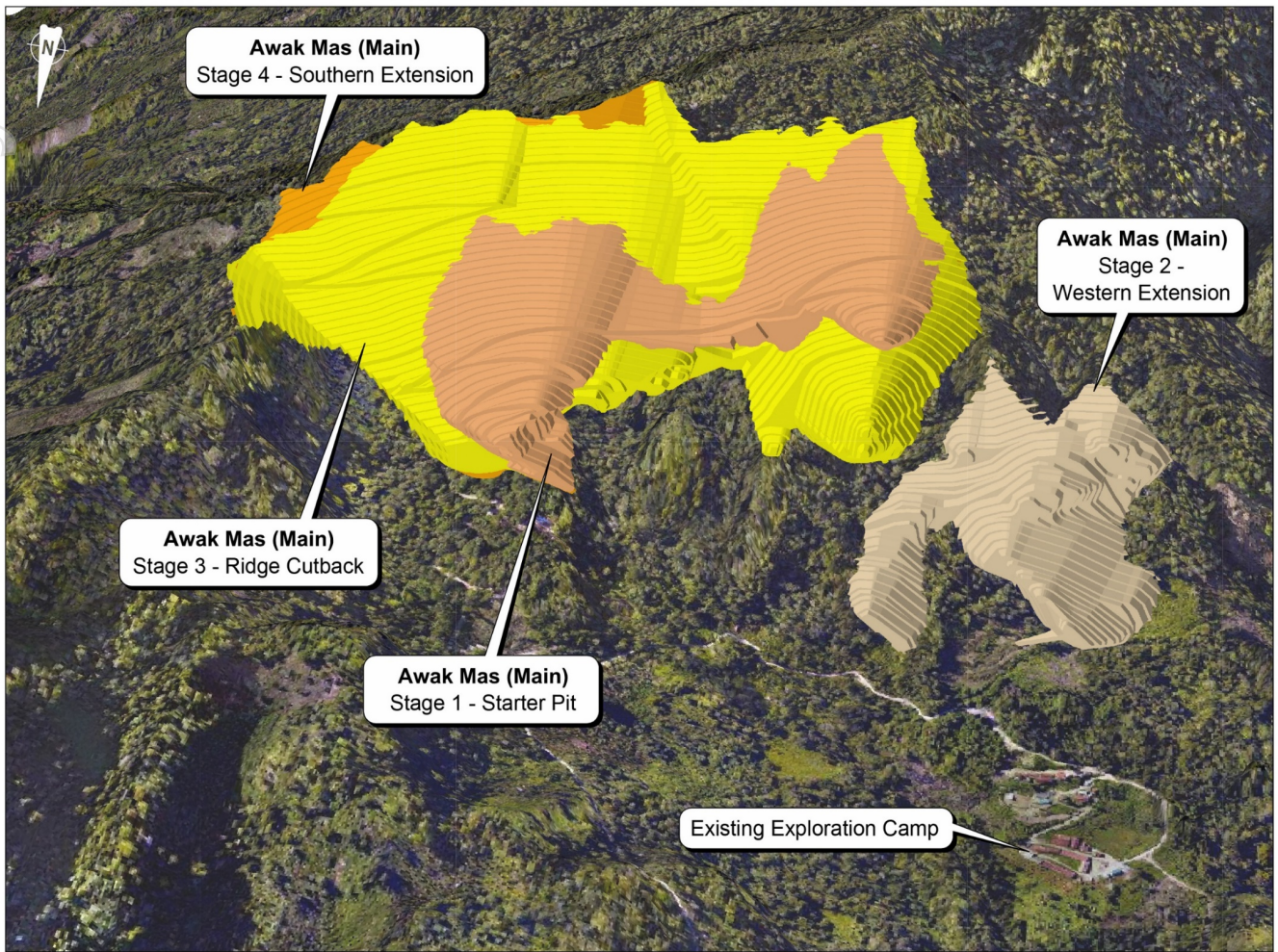
Criteria	Units	Base Case	Source
Ore Throughput	Mtpa	2.5	Client
Mining method		Conventional truck and excavator	Assumed/typical
Drill and blast		5.0m benches with 102mm and 115mm holes.	Assumed/typical
Major equipment		5 main loading excavators 49 dump trucks 5blast hole drill rigs 3 front end loaders 6 dozers 4 graders Supporting equipment RC grade control drills	Site specific estimate
<b>Physical Characteristics</b>			
Ore Mined	Mt	38.7	Estimated Mining Inventory <sup>1</sup>
Waste mined and marginal material	Mt	181.3	Estimated
Total material mined	Mt	220.0	Estimated
Strip ratio	t:t	4.7	Estimated
Maximum mining rate	Mtpa	24.0	Estimated
Mine life	years	16 including ramp up	Estimated
<b>Operating costs</b>			
Mine operating cost	\$/t	2.67	Estimated

1- Mining Inventory is a production target: The production targets referred to in this announcement are based on 92% Probable Ore Reserves and 8% Inferred Mineral Resources. There is a low level of geological confidence associated with Inferred Mineral resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral resource or that the production targets themselves will be realised.

<sup>7</sup> The final processing schedule developed for the Project included 2.9Mt of Inferred mineral resource recovered contained within the open pit designs.



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*Figure 3: Awak Mas (Main) pit*

The Ore Reserve Estimate is that part of the Measured and Indicated Mineral Resource model located within the detailed pit designs for Awak Mas (Main) (Figure 3) and Salu Bulu (Figure 4).

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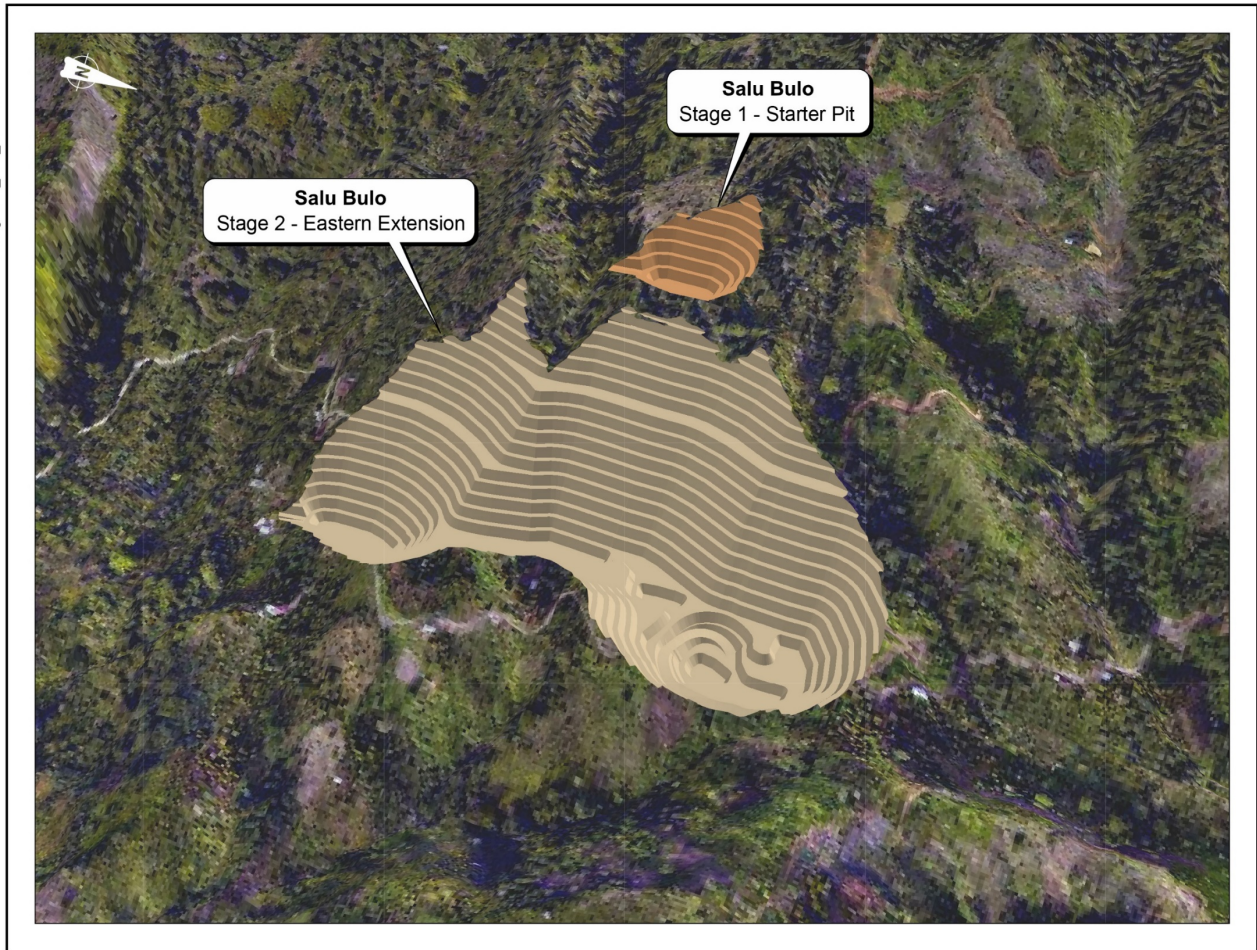


Figure 4: Salu Bulo pit

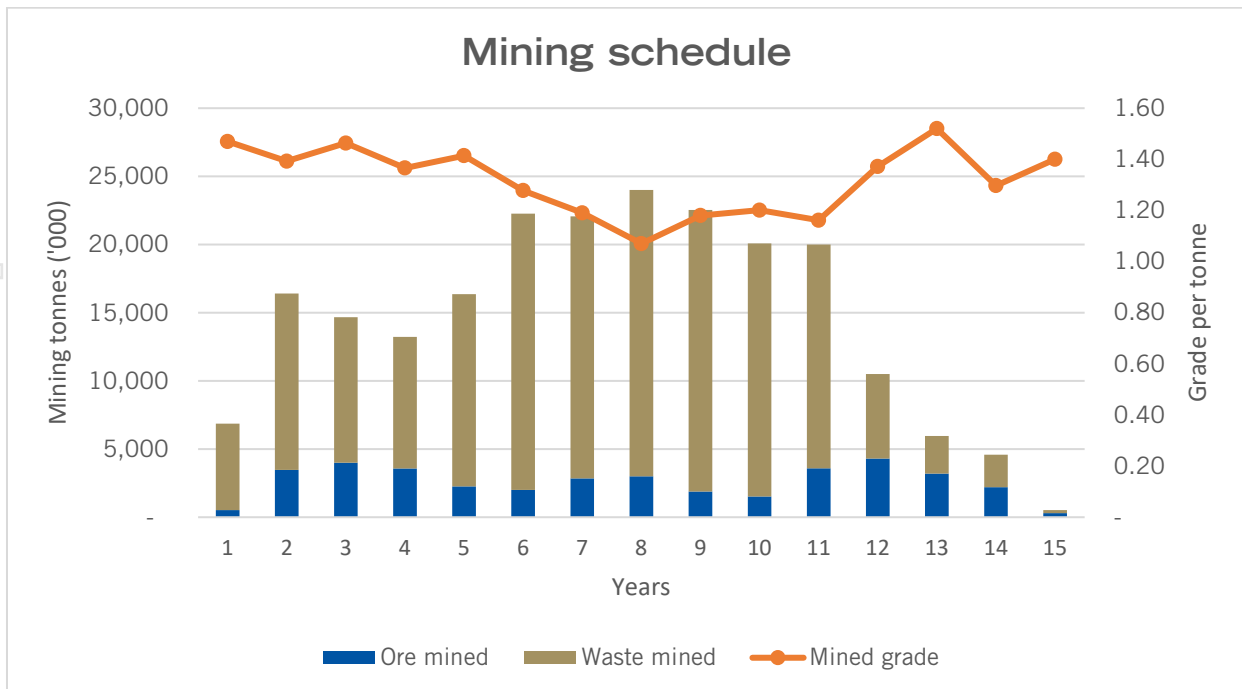


Figure 5: Project material movement schedule

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The Probable Ore Reserves (Table 3) for the Project are 35.6 Mt at 1.33 g/t Au for 1.53M contained ounces. These Ore Reserves calculated at 0.5 g/t Au cut-off using a US\$1,400/oz gold price and are for Awak Mas (Main) and Salu Bulu deposits:

- Awak Mas (Main) deposit — 32.7 Mt at 1.32 g/t Au for 1.30 Moz, Strip Ratio of 4.7
- Salu Bulu deposit — 2.9 Mt at 1.66 g/t Au for 0.16 Moz, Strip Ratio of 4.8

The 0.5 g/t Au cut-off grade reflects the low operating cost environment (low strip ratio, access to grid power, moderate bond index and good access to established infrastructure).

**Table 3: Project Ore Reserves Estimate (June 2020 by deposit)**

Deposit	Classification	Tonnes (Mt)	Au Grade (g/t)	Contained Gold (Moz)
Awak Mas (Main)	Proved	-	-	-
	Probable	32.7	1.30	1.37
	<b>Sub-total</b>	<b>32.7</b>	<b>1.30</b>	<b>1.37</b>
Salu Bulu	Proved	-	-	-
	Probable	2.9	1.66	0.16
	<b>Sub-total</b>	<b>2.9</b>	<b>1.66</b>	<b>0.16</b>
Total	Proved	-	-	-
	Probable	35.6	1.33	1.53
	<b>Total</b>	<b>35.6</b>	<b>1.33</b>	<b>1.53</b>

Reported at a 0.5 g/t cut-off grade

## METALLURGY AND MINERAL PROCESSING

A flowsheet comprising gravity and leach extraction, Whole of Ore Leach (WOL), was selected as the basis for the DFS (Figure 6). This followed a review of extensive historical comminution testwork, historical gravity and leach testwork and the DFS Phase 1 test work program<sup>8</sup>. In 2019 further testwork (Phase 2 test work program) was completed. This estimated a weighted average recovery of 93%<sup>9</sup> and also estimated an increase in reagent costs from the 2018 DFS estimate of US\$1.01 per tonne of processing feed.

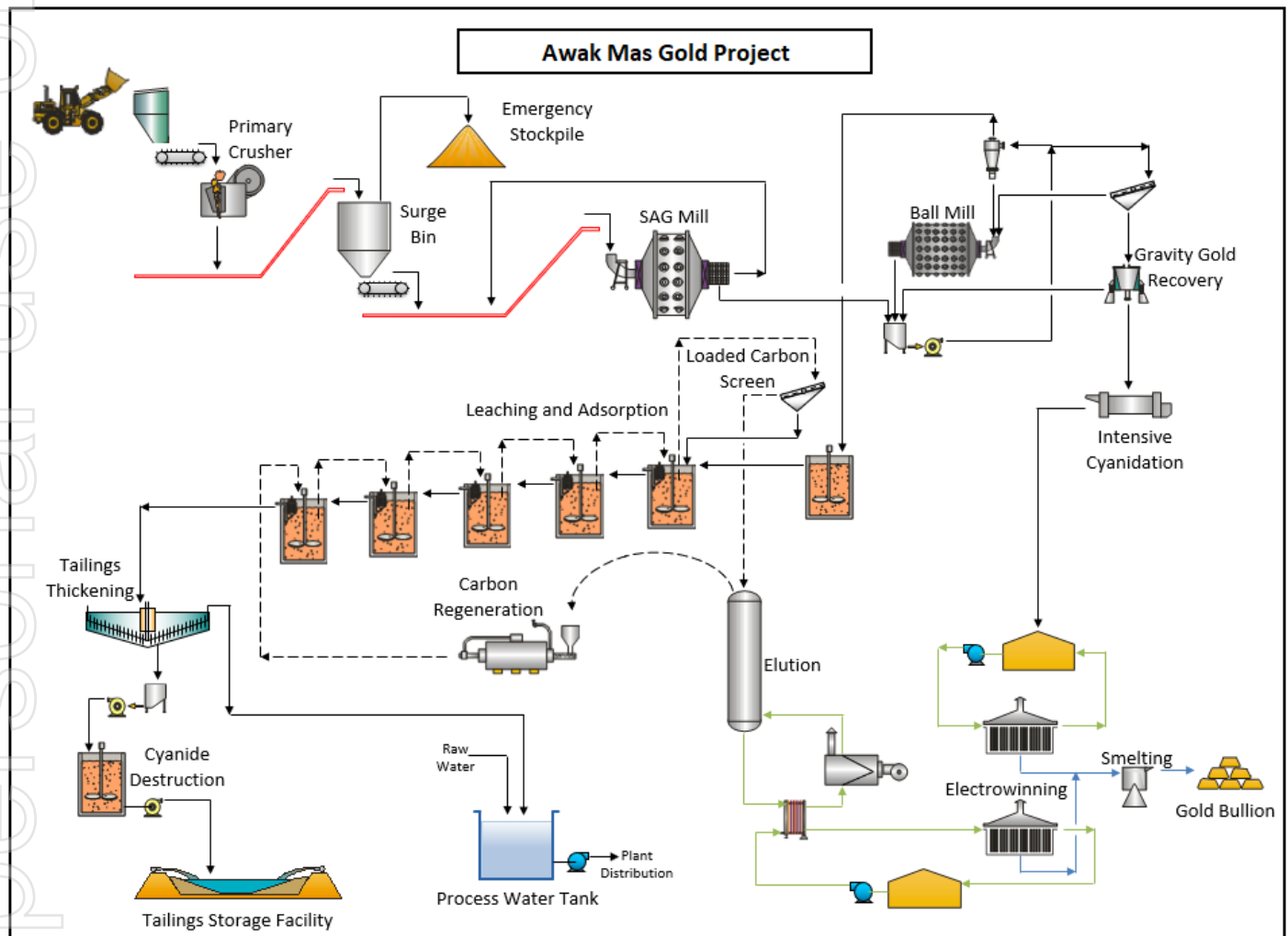


Figure 6: Process Flowsheet

The key process plant design criteria for the WOL flowsheet, derived from available and reviewed testwork, is summarised in Table 4.

The WOL process plant will have a design capacity of 2.5 Mtpa and designed for an average head grade of 1.55 g/t Au and a gold recovery of 93%. The process plant comprises primary crushing, wet grinding in a SAG and ball milling circuit (SAB circuit), gravity gold recovery, cyanide carbon in leach gold recovery and elution, reagents, air and water services. CIL tailings would be thickened and cyanide detoxified prior to disposal in the Tailings Storage Facility. The process plant would produce a gold doré product.

<sup>8</sup> ASX Announcement Awak Mas DFS Optimisation - Metallurgy Breakthrough released 10 October 2017

<sup>9</sup> ASX Announcement Quarterly Activities Report – June 2020 – Released 18 July 2019

Table 4: Process Plant Design Criteria Summary

Criteria	Units	Base Case	Source
Ore Throughput	Mtpa	2.5	Client
Crushing Plant Utilisation	%	75.0	Assumed/Typical
Wet Plant Utilisation	%	91.3	Assumed/Typical
Head Grade	Au g/t	1.55	Design selected based on May 2018 US\$1,200/oz MRE shells
	%S	0.84	Testwork
<b>Physical Characteristics</b>			
BWi	kWh/t	12.8	Testwork
RWi	kWh/t	17.9	Testwork
Ai	g	0.35	Testwork
JK Axb	-	60.8	Testwork
<b>Gold Recovery</b>			
Gravity	%	40.0	Testwork
CIL	%	85.2	Testwork
Overall Gold Recovery	%	93.3	Testwork
Primary Grind Size P80	µm	75	Testwork
<b>Leach and Adsorption</b>			
CIL Feed Rate	t/h	313	Calculated
Residence Time	h	24	Testwork/Engineer
Cyanide Consumption	kg/t CIL Feed	0.40	Calculated/Testwork

## TAILINGS STORAGE FACILITY

Golder Associates completed a preliminary geotechnical investigation, tailings characterisation and Tailing Storage Facility (TSF) design for the Project Pre-Feasibility Study (PFS) in 2013. Further geotechnical investigation and seismic study work was completed in 2017/18 to progress a preliminary design of the TSF for the DFS.

The Kandeapi Valley, approximately 3 km east of the proposed process plant site, is considered to be the most suitable location for the TSF (Figure 2). The proposed TSF embankment is aligned east-west across the Kandeapi Valley with a saddle dam extension to the south-east.

A conventional downstream embankment configuration has been selected as most appropriate for a potentially seismic environment. For the PFS, the design slopes adopted were 1:2.5 (V:H) downstream and 1:3 (V:H) upstream. These are unchanged in the DFS. After the construction of the initial TSF embankment to start operations, the embankment is raised in stages during the life of the operation.

Coffey Services (Coffey) were engaged in March 2020 to undertake a review of the DFS geotechnical investigations and design. Coffey has completed an assessment of the Kandeapi Valley site and confirmed this remains the preferred TSF

location with an expanded tailings storage of up to 44 Mt. Preliminary design to support the Ore Reserve Estimate has an additional two staged lifts from the DFS, 740 mRL to 764 mRL, to suit the June 2020 Ore Reserve Estimate. Given the increased Ore Reserve, sustaining capital has been factored to provide for future expansion of tailings capacity for years 11 to 16.

## **SITE INFRASTRUCTURE AND FACILITIES**

The proposed site infrastructure supports both mine operations and the processing of ore through the provision of power, water, logistics, administration and other necessary support services.

The DFS assumes that a support facilities complex will be located at Belopa. This comprises an administration office, warehouse and core yard (including core process and storage), designed to accommodate the local administrative and logistics operations as well as providing an area for core analysis and storage over the life of the Project. This office coordinates all freight to and from the site following arrival at the Belopa Port or by truck from Palopo Port, Makassar Port or other sources.

In addition to site facilities, a small corporate office will be located in Jakarta focused on national level government relations.

## Competent Persons Statements

The information in this announcement that relates to the Ore Reserves of Nusantara Resources is summarised from publicly available reports as released to the ASX of the respective companies. The results are duly referenced in the text of this report and the source documents noted above.

### Exploration and Resource Targets

Any discussion in relation to the potential quantity and grade of Exploration Targets is only conceptual in nature. While Nusantara Resources may report additional JORC compliant resources for the Awak Mas Gold Project, there has been insufficient exploration to define mineral resources in addition to the current JORC compliant Mineral Resource inventory and it is uncertain if further exploration will result in the determination of additional JORC compliant Mineral Resources.

### Exploration Results

The information in this report which relates to Exploration Results is based on, and fairly represents, information compiled by Mr Colin McMillan, (BSc) for Nusantara Resources. Mr McMillan is an employee of Nusantara Resources and is a Member of the Australian Institute of Mining and Metallurgy (AusIMM No: 109791).

Mr McMillan 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".

### Mineral Resources

The information in this report that relates to the Mineral Resource Estimation for the Awak Mas Gold Project is based on and fairly represents information compiled by Mr Adrian Shepherd, Senior Geologist, (BSc), MAusIMM CP, for Cube Consulting Pty Ltd. Mr Shepherd is an employee of Cube Consulting Pty Ltd and is a Chartered Professional geologist and a current Member of the Australian Institute of Mining and Metallurgy (AusIMM No: 211818).

Mr Shepherd 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 Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Shepherd consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.

### Ore Reserves

The information in this report that relates to the Ore Reserves Estimation for the Awak Mas Gold Project is based on and fairly represents information compiled by Mr David Varcoe, Principal Mining Engineer, for AMC Consulting Pty Ltd. Mr Varcoe is an employee of AMC Consulting Pty Ltd and is a current Fellow of the Australian Institute of Mining and Metallurgy (AusIMM No: 105971).

Mr Varcoe 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 Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Varcoe consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.

### Metallurgy

The information in this report that relates to metallurgy and metallurgical test work and findings for Awak Mas Gold Project is based, and fairly represents information compiled by Mr John Fleay, Manager Metallurgy, FAusIMM, for DRA Global. Mr Fleay is an employee of DRA Global and is a current Member of the Australian Institute of Mining and Metallurgy (AusIMM No: 320872). Mr Fleay 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 Competent Persons as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Fleay consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.

### New Information or Data

Nusantara Resources confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and, in the case of estimates of Mineral Resources and Ore Reserves, which all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not materially changed from the original market announcement.

## JORC Code, 2012 Edition – Table 1

### Section 4 Estimation and Reporting of Ore Reserves

(Criteria in this section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	JORC Code (2012) Explanation	Commentary
<b>Mineral Resource estimate for conversion to Ore Reserves</b>	Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.	<p>The Mineral Resource estimate used as the basis of this Ore Reserve for the Awak Mas Gold Project (“Project”), is comprised of the Awak Mas and Salu Bulu deposits. This Mineral Resource estimate was compiled by Principal Geologist Mr. Adrian Shepherd of Cube Consulting, who is the Competent Person for these Mineral Resources. The estimate is based on assay data from 960 diamond holes at Awak Mas and 144 diamond drill holes at Salu Bulu. The data set, geological interpretation and model was validated using Nusantara’s internal Quality Assurance and Quality Control (QAQC) processes and reviewed by an independent external consultant. The grade estimation approach used a combined Localised Uniform Conditioning (“LUC”) and Ordinary Kriging (“OK”) technique to estimate the Indicated and Inferred components of the resource. Ordinary Kriging was only applied to the narrow, steep dipping sub-vertical domains. LUC is a recoverable estimation technique typically used for estimation into small blocks using wider spaced resource definition drilling. The technique was considered appropriate given high short-scale grade variability and the uncertainty associated with the estimation of the local grade tonnage distribution.</p> <p>The LUC panel was set at 20m x 20m x 5m (XYZ) with a block size for local estimation to a SMU size of 5m x 5m x 2.5m (XYZ).</p>
	Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	The Mineral Resources are reported inclusive of the Ore Reserve (refer ASX announcement 28 April 2020) and referred to as the May 2020 MRE.
<b>Site visits</b>	<p>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</p> <p>If no site visits have been undertaken indicate why this is the case.</p>	<p>The Competent Person (Ore Reserves) conducted a site visit in October 2017, he was involved with the DFS and the 2020 updated economic assessment. The following activities were completed:</p> <ul style="list-style-type: none"> <li>• Gained general familiarization with the site including likely mining conditions, proposed pit location, waste dump location, site drainage and site access</li> <li>• Assessed proposed locations of mining related infrastructure relative to the designed open pit</li> <li>• Observed resource drilling activities</li> </ul>

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Criteria	JORC Code (2012) Explanation	Commentary
		<ul style="list-style-type: none"> <li>Inspected core drill hole sites to get an understanding of the variations in weathering profiles across the deposit</li> <li>Viewed diamond drill core from selected holes.</li> </ul> <p>Other key contributors to the Feasibility study have also visited the site.</p>
<b>Study status</b>	<p>The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.</p> <p>The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.</p>	<p>The Ore Reserve estimate is the result of the preparation of an update to the Definitive Feasibility Study (DFS) completed by a team consisting of Nusantara personnel and independent external consultants and announced on the ASX, 4 October 2018. This work is being updated in conjunction with this Ore Reserve to recognise the updated Mineral Resource estimation, post DFS metallurgical test work results showing improved estimated recovery, and the improved gold price. This Ore Reserve Estimate is an update of a previous estimate (Refer ASX announcement 13 September 2018). The significant change from the previous Ore Reserve Estimate is due to additional definition drilling resulting in an increase in the underlying Mineral Resource Estimate, through an additional 15 diamond drill holes totalling 2,221m for Awak Mas and Salu Bulu. The assessment draws on work completed in the previous DFS on the two deposits, Awak Mas and Salu Bulu. The major contributors to the DFS and current assessment include consultants from AMC Consultants, Cube Consulting, Golder, DRA, Coffey Services, Lorax, and Resindo Resources &amp; Energy (Resindo).</p> <p>The proposed mine plan supporting the Ore Reserve Estimate is considered technically achievable. All technical proposals made for the operational phase involve the application of conventional open pit mining, gold processing and tailings disposal technology which is widely utilised in gold mining operations in Indonesia.</p> <p>Financial modelling completed as part of the DFS and 2020 assessment shows that the project is economically viable under current assumptions.</p> <p>Material Modifying Factors (economic, mining, processing, infrastructure, environmental, legal, social and commercial) have been considered during the Ore Reserve estimation process.</p>
<b>Cut-off parameters</b>	<p>The basis of the cut-off grade(s) or quality parameters applied.</p>	<p>A 0.5g/t cut-off grade was applied in estimating the Ore Reserve. This is above the estimated marginal cut-off grade of approximately 0.4g/t. Cut-off grade is calculated in consideration of the following parameters:</p> <ul style="list-style-type: none"> <li>Gold price</li> <li>Operating costs</li> </ul>

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Criteria	JORC Code (2012) Explanation	Commentary
<b>Mining factors or assumptions</b>	<p>The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).</p> <p>The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.</p>	<ul style="list-style-type: none"> <li>• Process recovery</li> <li>• Transport and refining costs</li> <li>• General and administrative cost</li> <li>• Royalty costs.</li> </ul> <p>The current deposits associated with the Awak Mas Gold Project will be mined by open pit mining methods utilising conventional mining equipment. Pit designs and waste dump designs were completed as part of the DFS and this updated assessment. The estimated Measured and Indicated Mineral Resource within the pit designs is the basis of the Ore Reserve estimates.</p> <p>The selected mining method, design and extraction sequence are tailored to suit the local setting in Indonesia, waste rock removal and storage, orebody characteristics, minimise dilution and ore loss. The sequence is designed to defer waste movement and capital expenditure, utilise proposed process plant capacity and expedite free cash generation in a safe and environmentally sustainable manner.</p> <p>Mining operating and capital costs were estimated from first principles as part of this Ore Reserve update and referenced against contractor budget quotes. DFS costs were updated where appropriate for this assessment.</p>
	<p>The assumptions made regarding geotechnical parameters (e.g. pit slopes, stope sizes, etc), grade control and pre-production drilling.</p>	<p>Geotechnical modelling has been commenced by AMC Consultants and is based on a review of the geotechnical work completed as part of previous studies, supported by a site visit, additional testing, dewatering test pumping, and inspection of diamond drill core samples and three-dimensional slope stability analysis. The analysis considered static and dynamic (earthquake) loading and derived satisfactory safety factors. The recommended geotechnical design parameters are matched to the pit designs and assume dry slopes on the basis of adequate dewatering ahead of mining. A dewatering plan is developed and costed. A geotechnical management plan is developed.</p> <p>Conventional drill and blast mining methods will be employed at Awak Mas and Salu Bulu with blast-hole (BH) sampling utilised as the primary procedure for grade control. In addition, reverse circulation (RC) drilling will be used specifically to determine where ore/waste boundaries exist and for updating the mine planning process for future mining.</p> <p>Shallow trenching across benches will be used selectively to assist with ore mark-out by determining both visually and quantitatively (by sampling) the position of contact boundaries. Floor mapping will assist with creation of dig-</p>

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Criteria	JORC Code (2012) Explanation	Commentary
	<p>The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate). The mining dilution factors used. The mining recovery factors used. Any minimum mining widths used.</p>	<p>blocks which, when coupled with the blast-hole sampling and 3D modelled RC drilling, will give a level of GC necessary to support selective mining where appropriate. The DFS includes provision of an on-site laboratory for assaying.</p> <p>Mining dilution and recovery modifying factors were simulated by modelling to a Selective Mining Unit (SMU) of 5x5x5m and regularizing the Mineral Resource block model to that SMU. The selected SMU is matched to the proposed mining equipment and methodology.</p> <p>The modelling yielded the following results:</p> <ul style="list-style-type: none"> <li>• Mining tonnage dilution factor of 7% for Awak Mas and 1% for Salu Bulu</li> <li>• A net mining recovery factor of 106% of tonnes and 99% contained gold for Awak Mas and net mining recovery factor of 100% of tonnes and 99% contained gold for Salu Bulu.</li> </ul> <p>The relatively low dilution factors reflect the fact that the Mineral Resource model has an element of dilution and is constructed considering the mining SMU.</p>
	<p>The manner in which Inferred Mineral Resources are utilized in mining studies and the sensitivity of the outcome to their inclusion.</p>	<p>The mining schedule is based on supplying suitable material to the processing plant with a name plate capacity of 2.5 Mtpa. The plant feed included a mix of oxide, transitional and fresh material from Awak Mas and Salu Bulu.</p> <p>The mining schedule is based on realistic mining productivity and equipment utilisation estimates, and considered the pit development requirements, the selected mining fleet productivity and the vertical rate of mining development. Inferred Mineral Resources were considered as waste during the pit optimisation process. Minor quantities of Inferred Mineralization are included in the production schedule but do not report to Ore Reserves the project financial result is not sensitive to the inclusion of the Inferred mineralization in the schedule. It is planned to upgrade the majority of the Inferred mineralisation inside the pit designs to Indicated prior to progressive mining.</p>
	<p>The infrastructure requirements of the selected mining methods.</p>	<p>The proposed mine layout includes designs for a processing plant, tailings storage facility, open pits, waste rock dumps, a ROM pad, a quarry, surface water diversion channels, sediment control structures, surface dewatering bores, light and heavy vehicle workshop facilities, explosives storage and supply facilities, security, technical services and administration facilities, site access roads, power supply, water supply and employee accommodation.</p>

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Criteria	JORC Code (2012) Explanation	Commentary
		<p>Waste material from mining activities will be disposed of as follows:</p> <ul style="list-style-type: none"> <li>• Topsoil will be disposed of at designated stockpiles for application in on-going rehabilitation activities;</li> <li>• Some waste rock may be utilised to construct the Run of Mine (ROM) pad and other site infrastructure such as roads;</li> <li>• Some selected waste rock may be utilised to construct on-going TSF embankment lifts;</li> <li>• Excess waste rock will be disposed of at designated engineered waste rock dumps.</li> <li>• Waste dumps will be geotechnical designed for stability</li> </ul> <p>Waste dumps will be designed to allow for water management and sediment runoff control.</p>
<p><b>Metallurgical factors or assumptions</b></p>	<p>The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.</p> <p>Whether the metallurgical process is well-tested technology or novel in nature.</p> <p>The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.</p> <p>Any assumptions or allowances made for deleterious elements.</p> <p>The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.</p> <p>For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?</p>	<p>A processing flowsheet, mass balance, water balance, equipment identification, mechanical and electrical design were all developed to Australian standards and conform to Indonesian standards.</p> <p>A single stage primary crushing, Semi Autogenous Grinding and Ball Milling comminution circuit followed by a conventional gravity, carbon in leach (CIL) and cyanide destruction process is proposed. This process is considered appropriate for the Awak Mas and Salu Bulu ore types.</p> <p>The proposed metallurgical process is commonly used in the Indonesian and international gold mining industry and is considered to be well-tested and proven technology.</p> <p>Significant comminution testing has been carried out on diamond drill core samples. These tests have been carried out on oxide, transitional, and fresh ore types which were obtained across the deposits. These comminution parameters have been applied to process design and equipment selection.</p> <p>Gold recovery values were applied by ore domain, as determined by Minnova from additional testwork completed post-DFS. The following results were derived per ore domain:</p> <p>Rante, Tanjung and Lematik 93.2%</p> <p>Mapacing, Ongan 92,2%</p> <p>Salu Bulu 94.8%</p> <p>No deleterious elements of significance have been determined from metallurgical testwork and mineralogy investigations.</p>

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Criteria	JORC Code (2012) Explanation	Commentary
<b>Environmental</b>	The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.	<p>Extensive environmental baseline studies have been conducted at the Awak Mas Gold Project site from 2013 to 2017. The studies have established a seasonal database for key environmental components, which include: meteorology, hydrology, terrestrial ecology (flora and fauna); aquatic ecology (algae, plankton, benthic invertebrates, nekton and biota tissue metal contents); hydrogeology; surface water quality; stream/river sediment quality; soils, air quality and noise.</p> <p>Baseline studies have been considered in the environmental and social impact assessment (ESIA) for the Awak Mas project. The ESIA (AMDAL in Indonesian) determined the significant impacts of the projects and environmental management plans have been developed to eliminate, and where not possible, mitigate negative environmental impacts associated with mining and processing operations. Monitoring of key environmental and social components will be continued during the construction, operations and closure phases of the project as stipulated in the approved AMDAL/Environmental Permit. Progressive reclamation of site during construction and operations will be guided by the approved 5-Year Reclamation Plan for the Project. The monitoring data will form the basis for assessment of the efficacy of environmental management plans and continual improvement in environmental management practices for the Project.</p> <p>Geochemical characterization test work on ore/tailings and waste rock were completed in September 2019 to assess the potential for acid rock drainage/metal leaching (ARD/ML) from mine wastes. The test work involved standard static tests to assess potential for ARD. All samples tested were categorized as Non-Acid Forming (NAF) and therefore the risk of acid rock drainage from waste rock and tailings from the Awak Mas Project is negligible.</p> <p>Locations for engineered waste rock and tailings storage facilities have been selected based on geographical, geotechnical, hydrological, economic and environmental considerations.</p>
<b>Infrastructure</b>	The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.	The project site is within economic distances of existing infrastructure of the South Sulawesi province. Existing roads into and from Belopa, the capital of the Luwu Regency, to Site provide for delivery services and consumable supplies. Belopa is some 45km to the east, on the coast, with access to coastal shipping facilities. Nusantara would work with the Regency Government on

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Criteria	JORC Code (2012) Explanation	Commentary
		<p>proposals to upgrade sections of the road that provide access to Site as part of the early works for the Project.</p> <p>An upgraded electricity supply lateral from Sulawesi's power supply grid would be built from Belopa to Site to supply electric power on Site.</p> <p>The mine workforce will be a mix of personnel from within the Luwu Regency and Fly In-Fly Out (FIFO) based at a camp on Site during rostered days on. There is a regional airport at Bua, north of Belopa, which has daily scheduled flights to Makassar, the provincial capital for South Sulawesi. Makassar is a regional hub for the area and has a large port and international airport, which provides connection to south east Asia and Australia.</p> <p>Hydrological studies indicate that there is sufficient water available in the river systems adjacent to the Project to service the needs of the Project for the life of mine. The water from the Songgang River would be pumped to a raw water pond at the process plant. The AMDAL allows for the extraction of water for these purposes.</p> <p>Development of a quarry within the Contract of Work (CoW) is proposed to provide rock, which is of sufficient quality for construction of TSF embankment supplemented by mined waste, sediment catchment embankments, haul roads, other infrastructure and to provide feed for the production of aggregates for construction and operation of the mine.</p>
<b>Costs</b>	The derivation of, or assumptions made, regarding projected capital costs in the study	<p>All mining capital estimates are based on a mix of market rates, updated to reflect 2020 market conditions, with key equipment priced by vendors and Indonesian mining contractors. The remainder of Project capital costs are drawn from the 2018 DFS.</p> <p>It is assumed that all mobile mining equipment required for the project will be supplied and operated by a mining contractor.</p> <p>It is assumed that power infrastructure to Site will be supplied by Perusahaan Listrik Negara (PLN), which is an Indonesian government-owned corporation which generates and manages electricity distribution in Indonesia.</p> <p>The capital cost estimate accuracy is +/-15%.</p> <p>Mine development costs were developed from a combination of inputs from Nusantara, AMC Consultants, Resindo, Minnovo and Indonesian mining contractors. The basis of the estimate is:</p> <ul style="list-style-type: none"> <li>Contract mining assuming drill and blast with conventional excavator and truck mining. Support mining equipment is allowed for site</li> </ul>

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Criteria	JORC Code (2012) Explanation	Commentary
		<p>pioneering and ongoing mining.</p> <ul style="list-style-type: none"> <li>• Mobilisation of mining equipment and personnel from within Indonesia</li> <li>• Earthworks quantities are determined by specialised earthworks modelling using Lidar data, geotechnical inputs by a qualified geotechnical consultant who undertook geological modelling and drilling and site visits by competent engineers to review local conditions and physical features that relate to the development.</li> <li>• Mine dewatering requirements developed from test pumping, analysis and hydrogeological modelling</li> <li>• A mining schedule developed on a monthly basis for the first 5 years and then quarterly</li> <li>• A contingency allowance on capital cost items calculated to reflect the relevant level of confidence in the estimate</li> </ul> <p>Processing and processing infrastructure development capital costs have been adopted, unchanged from the DFS, which were estimated by Resindo using a combination of inputs from Coffey Services, Resindo and Minnov. The basis of the estimate is:</p> <ul style="list-style-type: none"> <li>• Earthworks quantities determined from detailed site inspections by a competent civil engineer</li> <li>• Concrete and structural quantities developed from site layouts and similar designs from other projects</li> <li>• A mechanical equipment list developed from the recommended process design criteria</li> <li>• Budget pricing from local and international suppliers</li> <li>• Additional TSF volume suitable for up to 44 Mt LOM storage has been developed from the DFS design (740 mRL) to 764 mRL and included in years 11 and 14 as sustaining capital cost.</li> <li>• Contingency allowances calculated on a line by line basis relevant to the source and confidence in market rates</li> </ul>
	<p>The methodology used to estimate operating costs.</p>	<p>The operating cost estimate accuracy is +/-15%. Other support capital costs for accommodation camp facilities, administration office, security facilities, heavy equipment workshop, logistics warehouse at</p>

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		<p>Belopa, access road from Belopa, explosives magazine, etc were estimated by Resindo.</p> <p>Operating costs assume a mix of employees from the within the Luwu Regency and a FIFO scenario with various rosters on Site. A specialist HR consultant advised on the salary scales applicable to all roles envisaged for the project.</p> <p>Mining operating costs have been estimated by AMC on the basis of scheduled material movement and mining rates for a contractor mining scenario with technical services supplied by employees of Nusantara and its wholly owned subsidiary, PT Masmino Dwi Area (Masmino) (principally Indonesian Nationals). Mine design and schedules were prepared by competent mining engineers. Process and process plant infrastructure operating costs have been estimated by Minново (updated post-DFS from metallurgical testwork) using:</p> <ul style="list-style-type: none"> <li>• Reagent and grinding media consumption rates derived from testwork and budget quotations</li> <li>• A load list for power consumption</li> <li>• Industry standards</li> </ul> <p>The Minново operating costs are based on the assumption that:</p> <ul style="list-style-type: none"> <li>• A primary crush, conventional SAB circuit, gravity and leach and cyanide destruction process plant will be utilised to treat ore at a rate of 2.5 Mtpa</li> <li>• Primary crusher utilisation of 75% and wet plant utilisation of 91.3%</li> <li>• Grid power is available through PLN</li> <li>• Reagent delivery will be to the Belopa warehouse for storage, prior to consolidation for delivery to Site</li> <li>• The process plant will be operated by Nusantara employees</li> </ul> <p>The operating cost estimate is considered to be appropriate for the current market in Indonesia.</p>
	<p>Allowances made for the content of deleterious elements.</p>	<p>No allowance is made for deleterious elements since testwork to date on ore from Awak Mas and Salu Bulu has not shown the presence of deleterious elements.</p>

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	The source of exchange rates used in the study.	<p>Capital Costs for process plant and infrastructure are estimated in 2018 United States dollars.</p> <p>Foreign currency exchange rates were derived as tabled below.</p> <table border="1"> <thead> <tr> <th>Currencies</th> <th>Code</th> <th>1 Native = USD</th> <th>1 USD = Native</th> </tr> </thead> <tbody> <tr> <td>US Dollar</td> <td>USD</td> <td>1.0000</td> <td>1.0000</td> </tr> <tr> <td>Indonesian Rupiah</td> <td>IDR</td> <td>0.00006</td> <td>14,135</td> </tr> <tr> <td>Australian Dollar</td> <td>AUD</td> <td>0.74</td> <td>1.35</td> </tr> <tr> <td>Euro</td> <td>EUR</td> <td>1.16</td> <td>0.86</td> </tr> <tr> <td>Japanese Yen</td> <td>JPY</td> <td>0.01</td> <td>111.5</td> </tr> <tr> <td>Singapore Dollar</td> <td>SGD</td> <td>0.74</td> <td>1.36</td> </tr> <tr> <td>Korean Won</td> <td>KRW</td> <td>0.001</td> <td>1,119</td> </tr> <tr> <td>Chinese Yuan Renminbi</td> <td>CNY</td> <td>0.15</td> <td>6.82</td> </tr> </tbody> </table>				Currencies	Code	1 Native = USD	1 USD = Native	US Dollar	USD	1.0000	1.0000	Indonesian Rupiah	IDR	0.00006	14,135	Australian Dollar	AUD	0.74	1.35	Euro	EUR	1.16	0.86	Japanese Yen	JPY	0.01	111.5	Singapore Dollar	SGD	0.74	1.36	Korean Won	KRW	0.001	1,119	Chinese Yuan Renminbi	CNY	0.15	6.82
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	<p>The derivation of, or assumptions made, regarding projected capital costs in the study. Derivation of transportation charges.</p> <p>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</p> <p>The allowances made for royalties payable, both Government and private.</p>	<p>Transport charges - Gold bullion transportation charges are derived on the basis on information provided from a leading Indonesian bullion shipment organisation.</p> <p>Treatment and refining charges are estimated on the basis of rates from a leading Indonesian Gold Refinery.</p> <p>An allowance has been made for royalties, including an allowance of 4.00% of revenue for royalties payable to the Government of Indonesia.</p>																																							
<b>Revenue factors</b>	<p>The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.</p> <p>The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.</p>	<p>The mined ore head grades are estimated utilising industry accepted geostatistical techniques with the application of relevant mining modifying factors.</p> <p>Gold price and exchange rates have been determined by an external financial expert group on the basis of current market trends.</p> <p>A Life-of-mine (LOM) gold price forecast of US\$1,400/oz (Real 2020) is applied in the financial modelling for the project supporting the Ore Reserve calculation process. This price forecast was established by Nusantara on the basis of review of US\$ gold price forecasts. The Recent LT real gold price forecasts per</p>																																							

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		HSBC at January 2020 was USD1,425 per ounce and per Macquarie Bank at March 2020 was USD1,400 per ounce provide the basis of the assumption.
<b>Market assessment</b>	<p>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</p> <p>A customer and competitor analysis along with the identification of likely market windows for the product.</p> <p>Price and volume forecasts and the basis for these forecasts.</p> <p>For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.</p>	There is a transparent market for the sale of gold.
<b>Economic</b>	<p>The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.</p> <p>NPV ranges and sensitivity to variations in the significant assumptions and inputs.</p>	<p>Discounted cash flow modelling and sensitivity analysis has been completed to evaluate the economic performance of the Ore Reserve. Key value driver inputs into the financial model included:</p> <ul style="list-style-type: none"> <li>• Gold price at US\$1,400/oz based on forecast long term pricings</li> <li>• Discount rate of 5%, on real, ungeared forecast cashflows.</li> </ul> <p>The Ore Reserve estimate is based on work completed to at least a DFS level of accuracy with inputs for mining, processing, general and administration, sustaining capital and contingencies scheduled and costed to generate the initial Ore Reserve cost model.</p> <p>The Project cost model based on the Ore Reserve returns a positive NPV based on assumed commodity prices and the Competent Person is satisfied that the project economics that support the statement of the Ore Reserves retains a profit margin against reasonable future commodity price movements.</p>
<b>Social</b>	The status of agreements with key stakeholders and matters leading to social licence to operate.	Nusantara and previous owners through a wholly owned subsidiary, PT Masmino Dwi Area (Masmino), have occupied the site for over a decade and has worked harmoniously with the local community over that period. There has been extensive and ongoing community engagement over a number of years, including specialist studies as part of an Environmental and Social Impact Assessment. Masmino Community Development and Empowerment Plan was developed in 2019 and approved in December 2019. Masmino enjoys a strong relationship with the communities around Awak Mas and are committed to working with these communities to ensure the project benefits extend beyond direct employment.

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<p><b>Other</b></p>	<p>To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:</p> <p>Any identified material naturally occurring risks.</p> <p>The status of material legal agreements and marketing arrangements.</p> <p>The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.</p>	<p>The Project is held under a 7th Generation Contract of Work (CoW) signed with the Indonesian Government (GOI) in 1998 and is owned 100% by Masmindo. The CoW grants Masmindo the sole right to explore and develop the Awak Mas Gold Project.</p> <p>In March 2018 Masmindo signed an amendment with the GOI which reaffirms Masmindo as the legal holder of the CoW with the sole rights to explore and exploit minerals within the CoW area until 2050 with the option of two ten-year extensions under the IUPK mining licence regime. The Amendment more closely aligned the CoW to prevailing laws and regulations.</p> <p>All major environmentally-related approvals/permits for the Awak Mas Gold Project are in place, specifically these are:</p> <ul style="list-style-type: none"> <li>• Government of Indonesia Feasibility Study (GOI FS) – originally approved May 17, 2017 was updated to align with feasibility study completed in 2018. The updated GOI FS was approved by the Minister of Energy and Mineral Resources (MEMR) on July 9, 2019.</li> <li>• AMDAL and Environmental Permit – The approved AMDAL and issuance of the Environmental Permit granted by the Government of South Sulawesi on April 12, 2017 was further updated for changes in the GOI FS. The updated AMDAL was approved and a new Environmental Permit was issued on October 17, 2019.</li> <li>• Construction Permit – MEMR issued the Construction Permit for the Awak Mas project on June 20, 2017 followed by a Minister’s Decree on January 16, 2018 regarding change from Construction to Production/ Operations Phase (which includes construction) for the Awak Mas Project, which is valid until June 19, 2050.</li> <li>• 5-Year Reclamation Plan – Approved by MEMR in February 2019.</li> </ul> <p>There may be a requirement to submit further amendments to the approved GOI FS, AMDAL and 5-Year Reclamation Plan if development plans significantly differ from those approved.</p> <p>In addition to the major permits listed above, several other permits are required for the operation phase of the project. Examples include TSF dam safety permit, tailings permit, explosive permit, water use permit, hazardous waste storage permit, etc. These permits will need to be secured during construction and operations, as applicable.</p>

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		<p>The Project location is classified as “land for other uses” and does not have a forestry designation. Therefore, a Forestry ‘borrow and use’ (Pinjam Pakai) Permit is not required for the Awak Mas Project.</p> <p>Within the CoW and project area there are small scale farming activities whereby locals primarily grow cloves, coffee and coco. These land are largely communal without legal title. Masmindo is currently conducting land compensation activities with these local farmers to make free and clear its land status from any third-party land entitlement/ownership outside the Company and is expected to be completed by December 2020.</p>
<b>Classification</b>	<p>The basis for the classification of the Ore Reserves into varying confidence categories.</p> <p>Whether the result appropriately reflects the Competent Person’s view of the deposit.</p> <p>The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).</p>	<p>The main basis of classification of Ore Reserves is the underlying Mineral Resource classification. All Probable Ore Reserves derive from Indicated Mineral Resources in accordance with JORC Code (2012) guidelines.</p> <p>The results of the Ore Reserve estimate reflect the Competent Person’s view of the deposit.</p> <p>No Probable Ore Reserves are derived from Measured Mineral Resources.</p> <p>No Inferred Mineral Resource is included in the Ore Reserves.</p>
<b>Audits or reviews</b>	<p>The results of any audits or reviews of Ore Reserve estimates.</p>	<p>The testwork and models, which form the basis of the Ore Reserve estimate was subjected to various reviews and audits:</p> <ul style="list-style-type: none"> <li>• Metallurgical testwork was reviewed by Nusantara metallurgists and process engineers and confirmed to be adequate for a DFS level study</li> <li>• Geotechnical inputs were prepared by AMC and subject to internal review</li> <li>• Open pit designs, production schedules and mining cost models were reviewed through AMC’s internal peer review system</li> <li>• The basis of design for the process plant and infrastructure was reviewed by Nusantara metallurgists and process engineers and was deemed appropriate for the study</li> <li>• The financial model applied for project valuation was reviewed by Nusantara financial accountants and was considered to be appropriate for the study</li> </ul>
<b>Discussion of relative</b>	<p>Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using</p>	<p>The Awak Mas DFS and the 2020 updated economic assessment resulted in a technically robust and economically viable business case for a greenfield</p>

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<p><b>accuracy/ confidence</b></p>	<p>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 reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.</p> <p>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.</p> <p>Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.</p> <p>It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</p>	<p>gold mining operation located in Indonesia. This is deemed to be an appropriate basis for the Ore Reserves estimate.</p> <p>In the opinion of the Competent Person, cost assumptions and modifying factors applied in the process of estimating are reasonable and to a level of accuracy supporting the statement of Probable Ore Reserves.</p> <p>Gold price and exchange rate assumptions were set out by Nusantara and are subject to market forces and present an area of uncertainty.</p> <p>In the opinion of the Competent Person, there are reasonable prospects to anticipate that all relevant legal, environmental and social approvals to operate will be granted within the project timeframe.</p>

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