# **ASX** Announcement

9 August 2016



# GOLD MINING SET TO COMMENCE AT THE ULYSSES PROJECT FOLLOWING POSITIVE FEASIBILITY STUDY AND COMPLETION OF MINING AGREEMENTS

#### **KEY POINTS**

- Mining Alliance entered into with SMS Innovative Mining Pty Ltd ('SMS') and Toll Milling Agreement entered into with Paddington Gold Pty Ltd ('Paddington') to enable the development of the Ulysses West open pit that forms part of the broader Ulysses Gold Project
- Subject to shareholder approval, SMS to provide a mix of equity and debt funding for the Project significantly reducing development risk
- Mining Alliance Agreement allows mining to commence at Ulysses West in September 2016 based on positive Feasibility Study
- Feasibility study demonstrates a technically and commercially viable open pit project at Ulysses West resulting in:
  - ➤ Maiden Ore Reserve of 74,000 tonnes at 4.1g/t gold for 9,700 ounces
  - > Pre-production capex of only \$350,000
  - > AISC \$1,060/ounce<sup>1</sup>
- First cash flow in Q4 2016 with total estimated free cash flow of ~A\$6 million from initial 4 month Ulysses West pit (@A\$1750/ounce)
- Share placement to raise up to \$1.7 million completed to support further development at Ulysses and allow ongoing exploration of the broader Ulysses Project and the Company's highly prospective Viking Gold Project
- All key mining approvals are in place or due imminently

Genesis Minerals Limited (ASX: GMD) ('Genesis' or the 'Company') is pleased to announce mining will commence at Ulysses West in late September after the Company entered into a Mining Alliance Agreement with highly regarded mining contractor, SMS Innovative Mining Pty Ltd ("SMS"), a Toll Milling Agreement with Paddington Gold Pty Ltd ("Paddington") and the delivery of a positive Feasibility Study.

The Alliance will significantly de-risk the development of the Ulysses West open pit, the first open pit proposed to be completed at the Ulysses Project ('Ulysses' or the 'Project'). The positive Ulysses West Feasibility Study demonstrates a technically and commercially viable open pit mining project

<sup>1</sup> The Company has concluded it has a reasonable basis for providing the forward looking statements in this announcement. See Appendix 1: Forward Looking and Cautionary Statements.

ABN: 72 124 772 041 Unit 6, 1 Clive St West Perth, WA, Australia, 6005 ASX Code: GMD www.genesisminerals.com.au

T: +61 8 9322 6178

based on toll treatment of the Ulysses West ore and contract open pit mining and ore haulage. A Probable Ore Reserve of 74,000 tonnes @ 4.1g/t gold for 9,700 contained ounces has been estimated within the Ulysses West open pit design which is scheduled to take 4 months to mine.

Genesis' Managing Director, Mr Michael Fowler said, the results of the Feasibility Study for the initial Ulysses West open pit demonstrate the potential to generate strong cash flows over a short timeframe for the Company which will fund the next phase of development at Ulysses and further exploration at the Ulysses and Viking Projects.

"The Mining Alliance agreement with SMS significantly de-risks the initial development at Ulysses and we look forward to working closely with SMS to bring Ulysses West into production in the coming months to extract maximum value from this first open pit at Ulysses.", he added.

The commencement of mining will be subject to receiving final mining approvals with these relevant approvals due imminently.

#### **Mining Alliance**

Genesis and SMS Innovative Mining Pty Ltd have entered into a Mining Alliance Agreement ('Mining Alliance') to initially develop and mine the Ulysses West open pit which will include haul road construction, mobilisation of equipment, site establishment, drill and blast, and load and haul of waste and ore.

SMS will also provide a mix of equity and debt funding to support the development of the initial open pit at Ulysses West, subject to shareholder approval.

The initial project investment by SMS will consist of the subscription by SMS (or such nominee) for Shares in Genesis, at \$0.025 per share, to the value of \$2.5 million. Genesis will issue Shares to SMS until the full satisfaction of invoiced amounts as per the mining schedule to an aggregate of \$2.5 million. Once the aggregate amount of \$2.5 million has been reached all further invoiced amounts will be treated as an interest free loan from SMS to Genesis (if required) which will continue to accrue until repaid out of cashflow generated by Genesis from gold sales.

SMS and Genesis will jointly investigate opportunities to develop other open pit mining operations (including the next phase of Ulysses) and generate further low risk cash flow for the parties.

The Mining Alliance remains subject to and conditional on:

- Genesis convening a general meeting by 30 October 2016 of its shareholders to approve the proposed issue of shares to SMS (or nominee) to give effect to the initial project investment;
- all approvals from applicable Government Agencies (including the Western Australian Department of Minerals and Petroleum) being obtained in connection with the Initial Project.

Amongst the key benefits of entering into the Mining Alliance agreement are:

• the provision of a strong funding solution for the commencement of mining by the Company at the Ulysses West pit;

- the provision of support and expertise with a group with a strong track record in mining similar sized operations; and
- both parties jointly identifying and pursuing new project opportunities.

## **Toll Milling Agreement**

Genesis has executed a detailed Letter Agreement with Paddington Gold Pty Ltd ("Paddington"), a wholly-owned subsidiary of Norton Gold Fields Ltd, who own and operate the 3.5Mtpa Paddington mill located ~160km south of the Ulysses Project.

Under the terms of the Agreement, Genesis must use best endeavours to mine and deliver mined ore to the Paddington Mill ROM Pad within an agreed timeframe using Paddington's preferred haulage contractor. Ore haulage to Paddington will be via the sealed Goldfields Highway.

Genesis and Paddington have agreed to detailed procedures to determine grade, metallurgical recoveries and moisture determination to determine gold ounces recovered for each batch of ore. These detailed procedures cover stockpile management, tonnage estimation, crushing and sampling of ore via the dedicated sampling plant and grade and metallurgical analyses through a certified independent laboratory.

The final gold ounces recovered for each batch will be calculated based on dry tonnage, average assay grade and metallurgical recovery and will take approximately 4 to 6 weeks to determine following delivery of the batch to the Paddington ROM pad.

Payments to Genesis will be fixed on the last updated Australian dollar spot gold price as quoted by the Perth Mint at the time the last truck arrives on the Paddington ROM for any given batch.

#### Payment Structure and Timing

Genesis and Paddington have agreed to a two stage payment method.

- 1. An initial payment to Genesis will be made within 15 days of final ore delivery to the Paddington ROM pad for any given batch. The estimated recoverable ounces on which the initial payment will be calculated is based on 80% of the Ulysses West mine claim grade, an estimate of dry tonnages delivered to the Paddington ROM pad and a nominal 90% metallurgical recovery. For the initial payment Genesis will be paid 50% of the gross revenue of the estimated recoverable ounces at the fixed gold price.
- 2. A final payment will be made once final recovered gold ounces are determined on receipt of gold grades and metallurgical recoveries from the laboratory. The final payment to Genesis for each batch will be calculated based on the final gold ounces recovered and the fixed gold price less payment for haulage and processing costs to Paddington and the initial payment.

A definitive toll milling agreement is to be executed prior to commencing toll treatment.

#### **Placement**

Genesis has received firm commitments to raise up to \$1.71 million before costs by way of a Placement to sophisticated and professional investors via the issue of up to 68.4 million new shares at an issue price of \$0.025 per share.

The Placement was oversubscribed and has been very well supported by both existing and new shareholders.

The proceeds from the Placement will be used for:

- Working capital requirements to commence mining at Ulysses West Pit, and
- Continued exploration of the Ulysses (at depth and along strike of Mineral Resource) and Viking Projects.

The Placement is being conducted under the Company's current 25% capacity in line with ASX listing rules 7.1 and 7.1A and is expected to settle on August 12, 2016.

## **Feasibility Study and Ore Reserve Commentary**

The Ore Reserves for Ulysses West of 74,000 tonnes @ 4.1g/t gold for 9,700 contained ounces have been estimated using a gold price of A\$1,600 per ounce and are based only on toll treatment of the Ulysses ore and contract open pit mining and ore haulage. The Feasibility Study used to generate the Ore Reserves utilised the January 2016 Ulysses Mineral Resource<sup>2</sup> as set out in Table 4.

Table 1 Ulysses Ore Reserve Summary - August 2016

Ore Reserve Category	Tonnes (Mt)	Au g/t	Au Oz
Proved	-	-	-
Probable	74,000	4.1	9,700
Total	74,000	4.1	9,700

Note: Rounding errors may occur

The Feasibility Study completed by Genesis to convert the Ulysses Mineral Resource to Ore Reserves was carried out appropriate to the Ulysses deposit type, open pit mining method and the scale of the proposed operation. A financial model was developed with sensitivities applied to all key inputs and assumptions, which is appropriate to the level of the study undertaken. Undiscounted cash flows remained positive for all of the key sensitivities conducted including gold price, combined toll treatment and haulage costs and ore grade.

<sup>&</sup>lt;sup>2</sup> See GMD ASX Release dated February 1, 2016

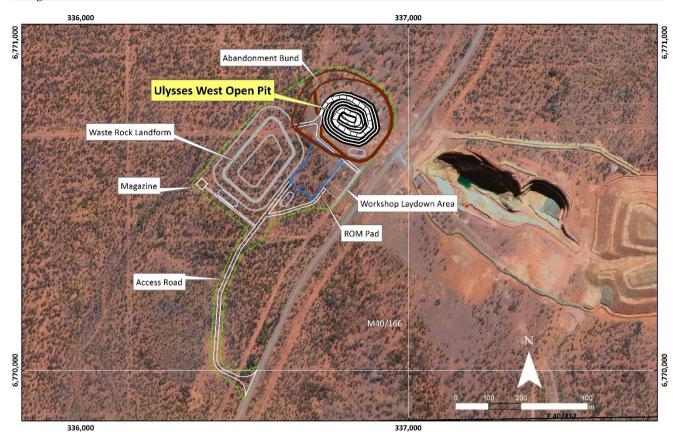


Figure 1 Location map showing site layout

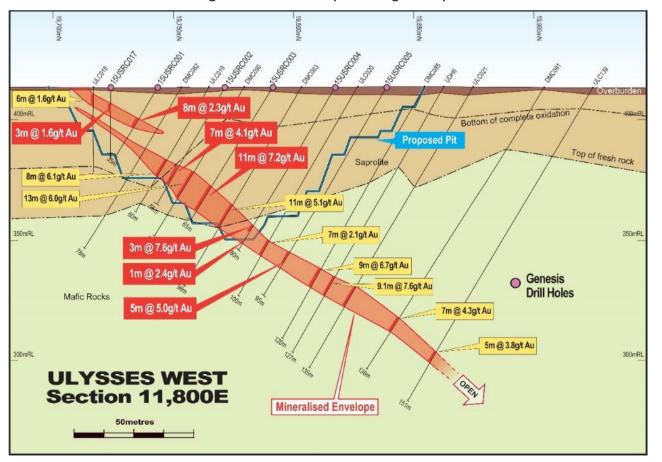


Figure 2 Cross section 11,800N with proposed pit outline.

#### **Material Assumptions**

The maiden Ore Reserves have been estimated after completion of a Feasibility Study which included:

- utilising the January 2016 Ulysses Mineral Resource of 2.1Mt at 2.2g/t Au for 151,500 ounces of gold<sup>3</sup>;
- mining by conventional contract load and haul open pit mining and road haulage to a processing facility to treat ore by toll treatment;
- pit optimisations at various gold price scenarios using wall angles based on independent geotechnical advice;
- pit design including provision for ramps, waste dumps and surface water management structures;
- metallurgical parameters from independent, detailed test work;
- mining recovery of 95% and mining dilution of 10% to 15%, based on ore type, ore body width and geometry, was applied;
- mining costs based on earthmoving and drill and blast contractor quotation;
- bulk densities derived from detailed testing and historical mining;
- road haulage based on contractor estimates;
- toll treatment costs based on advanced discussions with third party treatment facilities;
- administration and other costs estimated by Genesis; and
- a gold price of A\$1,600 per ounce.

The project has very low infrastructure requirements and site infrastructure will be of a temporary nature with personnel to be accommodated in Leonora and Kalgoorlie.

#### Study Team

The feasibility study was carried out using suitably qualified external consultants where appropriate and included:

- Resource Estimate Payne Geological Services
- Resource Optimisation and Open Pit Design MineComp Kalgoorlie
- Geotechnical Green Geotechnical
- Metallurgy ALS Metallurgy supervised by Minelogix
- Environmental (Mine Plan and Closure Plan) Botanica
- Hydrogeological (surface and ground) Review Groundwater Resource Management

# Open Pit Mining

Open pit mining will be by conventional truck and excavator with the pit to be mined to a maximum depth of 60m. A two stage grade control program will be completed with an initial program commencing at surface prior to mining commencing.

 $<sup>^3</sup>$  See GMD ASX Release dated February 1, 2016 and Table 4 for a breakdown of the individual Mineral Resource categories

#### Metallurgy

Recent metallurgical test work by ALS Metallurgy on composite and variability samples representative of the ore zones together with historical recovery data indicate recoveries for oxide and transitional ore types will be between 92% and 96% dependent on grade while primary ore recoveries are estimated to be between 85% and 90%. Reagent consumptions are low for all ore types and the gravity recoverable component is expected to be between 15% and 30% for all ore types.

#### Permitting Status

A list of all environmental approvals and licences for the Ulysses operation are listed in Table 2.

**Approval** Status Grant of Mining Tenement and associated Tenement Conditions Granted until 2021 13 August 2016 - 31 August 2021 (CPS **DMP Clearing Permit** 7052/1) **DoW Groundwater Abstraction Licence** Issued DoW Construct or Alter Well Licence Issued DMP - Mining Proposal for the Ulysses Project **Approved** DMP - Mine Closure Plan for the Ulysses Project **Approved** Main Roads - Goldfields highway access point Approved Main Roads - Deed for Blasting and Road Closure Pending DMP - PMP Project Management Plan Pending

Table 2 Approvals and Licences

## Key Results

Key results from the Feasibility Study include:

**Physicals** Unit **Ulysses** Ore Reserve tonnes 74,000 4.1 Grade g/t Metallurgical recovery % 92.9 8,900 Ounces recovered ounces Stripping ratio 17 593,070 Total material movement Bcm Maximum pit depth Metres 60

Table 3 Ore Reserve Physicals

The financial model developed for the contract mining of the Ulysses West open pit and toll treatment of the ore demonstrates at a gold price of \$1,600/ounce the project can generate net cashflows of ~\$4.5 million (lifting to ~\$6 million should a \$1750/ounce be achieved) from net revenues of \$13.3 million. Total operating costs for the project are estimated at ~\$980 per ounce with all in sustaining costs of ~\$1,060 per ounce.

Pre-production capital requirements are estimated to be less than \$350,000 and include grade control drilling and assaying, site establishment, clearing and grubbing, haul road construction and highway access.

Operating costs for the Ulysses open pit are estimated to be \$8.8 million and includes all costs associated with mining, road haulage, processing and site-based general and administration costs. The operating costs have been compiled from:

- Budget quotations received for mining services to be provided under the Mining Alliance;
- Contractor estimates received for ore haulage;
- Budget quotations for toll treatment provided under the Toll Milling Agreement; and
- Estimates of site-based general and administration costs based on Genesis internal calculations and industry standards from similar operations.

For the purpose of the Ore Reserve Estimate, a marginal cut-off of 1.3g/t gold was calculated based upon an assumed gold price of A\$1,600/ounce and applicable processing, haulage and administration costs.

The estimated Ore Reserve underpinning the production target has been prepared by a competent person in accordance with the requirements in Appendix 5A (JORC Code).

## Ore Reserve Classification

The classification of the Ulysses Ore Reserve has been carried out in accordance with the recommendations of the JORC Code 2012. It is based on the density of the drilling, estimation methodology and the mining method to be employed.

All Probable Ore Reserves have been derived from Indicated Mineral Resources.

Full details for JORC Table 1 Section 4 can be found in Appendix 2.

For further information, visit: www.genesisminerals.com.au or please contact

Michael Fowler
Managing Director
Genesis Minerals Limited

T: +61 8 9322 6178

E: mfowler@genesisminerals.com.au

#### **COMPETENT PERSONS STATEMENTS**

The information in this report that relates to Exploration Results is based on information compiled by Mr. Michael Fowler who is a full-time employee of the Company, a shareholder of Genesis Minerals Limited and is a member of the Australasian Institute of Mining and Metallurgy. Mr. Fowler has sufficient experience which 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. Fowler consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The Information in this report that relates to Mineral Resources is based on information compiled by Mr Paul Payne, a Competent Person who is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr Payne is a full-time employee of Payne Geological Services and is a shareholder of Genesis Minerals Limited. Mr Payne 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 Payne consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The Information in this report that relates to Ore Reserves is based on information compiled by Mr Gary McCrae, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy. Mr McCrae is a full-time employee of MineComp Pty Ltd. Mr McCrae 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 McCrae consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Table 4. Ulysses Mineral Resource Summary - January 2016 (0.75g/t gold lower cut off)

Mineral Resource Category	Tonnes (Mt)	Au g/t	Au Oz
Measured	-	-	-
Indicated	1.62	2.4	122,500
Inferred	0.51	1.8	29,000
Total	2.13	2.2	151,500

Mineral Resource Inclusive of Ore Reserves

#### **About SMS**

SMS Innovative Mining Pty Ltd is a wholly owned subsidiary of SMS Rental Pty Ltd, which recently celebrated 15 years in business. A privately owned company, headquartered in Perth with large workshop facilities in Welshpool, Kalgoorlie and Port Hedland.

SMS has over 100 employees located in Western Australia, has a fleet of over 200 heavy earthmoving assets across Australia and specialises in providing innovative solutions to clients for Contract Mining, Equipment Rental and Maintenance services.

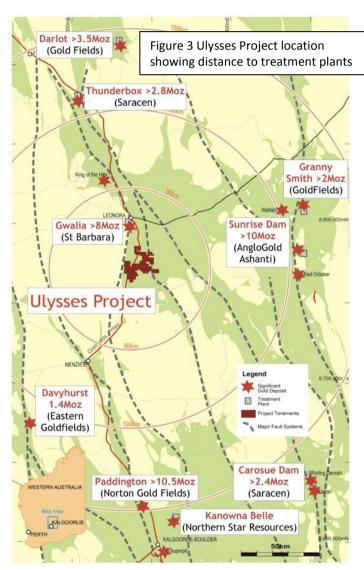
SMS having recently opened a new 12,000sqm facility in Kalgoorlie and intends upon further establishing a growing presence in the Goldfields mining region.

## **Ulysses Project Background**

Ulysses is centred about 30km south of Leonora and 200km north of Kalgoorlie in Western Australia (Figure 3). The Project comprises a granted mining lease and two granted exploration licences.

Ulysses is located in the minerals rich and highly prospective Eastern Goldfields of Western Australia. It is located south of the Sons of Gwalia (+6Moz of Production and 1.8Moz Reserve) mine and along strike of Orient Well and Kookynie mine camps which have produced over 0.7Moz. It is close to world leading mining infrastructure which will allow toll treatment of ore from Ulysses. The Project contains a shallow JORC 2012 compliant resource of 151,000 ounces of gold (see GMD ASX Release dated February 1, 2016).

The Ulysses Deposit was mined by Sons of Gwalia in 2002 producing 266,358 t @ 2.92 g/t Au for 24,985 Oz Au. Ore was treated at the Gwalia Treatment plant. St Barbara Limited acquired the project in April 2004 as part of the purchase of the Sons of Gwalia Gold Division.



Until recently no exploration had been completed on M40/166 since mining was completed in 2002 and no significant exploration has occurred on the surrounding exploration licences since 2004. Numerous high priority exploration targets remain at the Project.

#### **Appendix 1: Forward Looking and Cautionary Statements**

Some statements in this report regarding estimates or future events are forward looking statements. They include indications of, and guidance on, future earnings, cash flow, costs and financial performance. Forward looking statements include, but are not limited to, statements preceded by words such as "planned", "expected", "projected", "estimated", "may", "scheduled", "intends", "anticipates", "believes", "potential", "could", "nominal", "conceptual" and similar expressions. Forward looking statements, opinions and estimates included in this announcement are based on assumptions and contingencies which are subject to change without notice, as are statements about market and industry trends, which are based on interpretations of current market conditions. Forward looking statements are provided as a general guide only and should not be relied on as a guarantee of future performance. Forward looking statements may be affected by a range of variables that could cause actual results to differ from estimated results, and may cause the Company's actual performance and financial results in future periods to materially differ from any projections of future performance or results expressed or implied by such forward looking statements. These risks and uncertainties include but are not limited to liabilities inherent in mine development and production, geological, mining and processing technical problems, the inability to obtain any additional mine licenses, permits and other regulatory approvals required in connection with mining and third party processing operations, competition for among other things, capital, acquisition of reserves, undeveloped lands and skilled personnel, incorrect assessments of the value of acquisitions, changes in commodity prices and exchange rate, currency and interest fluctuations, various events which could disrupt operations and/or the transportation of mineral products, including labour stoppages and severe weather conditions, the demand for and availability of transportation services, the ability to secure adequate financing and management's ability to anticipate and manage the foregoing factors and risks. There can be no assurance that forward looking statements will prove to be correct.

This announcement has been prepared in compliance with the JORC Code (2012) and the current ASX Listing Rules.

Genesis Minerals Limited has concluded it has a reasonable basis for providing the forward looking statements included in this announcement. The Company advises that the Feasibility Study results, Production Target and Forecast Financial Information contained in this announcement are based on a Probable Ore Reserve. This announcement contains details of the Mining Alliance and capital raising which provides the Company with sufficient funding to commence mining at Ulysses West.

# Appendix 2

# **JORC Table Section 2 Reporting of Exploration Results**

Criteria	JORC Code explanation	Certified Person Commentary
Mineral tenement and land tenure status	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.	The deposit is located within Mining Lease M40/166 which is owned by Ulysses Mining Pty Ltd.  The Mining Lease was granted for a term of 21 years and expires 28 January 2022.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	The tenements are in good standing.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The tenement was previously held in a joint venture between Sons of Gwalia Limited ("SWG") and Dalrymple Resources NL. The majority of drilling was completed by SWG between 1999 and 2001.  The project was acquired by St Barbara Limited ("SMB") in 2004. SBM
Geology	Deposit type, geological setting and style of mineralisation.	work was limited to resource modelling and geological review.  Ulysses is an orogenic, lode-style deposit hosted within mafic rocks of the Norseman-Wiluna greenstone belt  Gold mineralisation occurs within a strong zone of shearing and biotite-sericite-pyrite alteration typically 5-10m true width.  The shear zone strikes east-west and dips 30-40° to the north.
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:  easting and northing of the drill hole collar elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar dip and azimuth of the hole down hole length and interception depth hole length.	No exploration results are being released.
	• 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.	No exploration results are being released.
Data aggregation	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated	No exploration results are being released.
methods	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	No exploration results are being released.

	aggregations should be shown in detail.	
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values are currently used for reporting of exploration results
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 (eg 'down hole length, true width not known').</li> </ul>	Drill holes are angled to local grid south which is approximately perpendicular to the orientation of the mineralised trend. Some shallow holes are vertical.  Only down hole lengths are reported.
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>	Appropriate plans are included in this release.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	All exploration results are reported.
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.	Metallurgical test work and geotechnical reviews are currently being undertaken.
	• The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).	Further work will include systematic infill and extensional drilling of the currently defined resource.
Further work	<ul> <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>	Appropriate plans are included in this release.

# **JORC Table 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>	<ul> <li>Data was captured electronically to prevent transcription errors.</li> <li>Validation included comparison of gold results to logged geology to verify mineralised intervals.</li> </ul>
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>	A site visit was undertaken by the Competent Person in 2015 to verify the extent of mining operations, locate drill collars from previous drilling and confirm that no obvious impediments to future project exploration or development were present.
Geological interpretation	<ul> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both</li> </ul>	<ul> <li>The confidence in the geological interpretation is considered to be good, with highly continuous mineralised structures defined by good quality drilling.</li> <li>The deposit consists of moderate dipping mineralised lodes which have been interpreted based on logging and assay data from samples taken at regular intervals from angled drill holes.</li> </ul>
Dimensions	of grade and geology.  • 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 Ulysses Mineral Resource area extends over a strike length of 1,500m and has a vertical extent of 127m from surface at 412mRL to 285mRL.
Estimation and modelling techniques	<ul> <li>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.</li> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>The assumptions made regarding recovery of by-products.</li> <li>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</li> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>Any assumptions behind modelling of selective mining units.</li> <li>Any assumptions about correlation</li> </ul>	<ul> <li>Using parameters derived from modelled variograms, Ordinary Kriging (OK) was used to estimate average block grades within the deposit.</li> <li>Surpac software was used for the estimation.</li> <li>A high grade cut of 25g/t was applied to 1m composite data. Only 8 samples were cut.</li> <li>The parent block dimensions used were 5m NS by 10m EW by 5m vertical with sub-cells of 1.25m by 2.5m by 1.25m. The parent block size was selected on the basis of being approximately 50% of the average drill hole spacing in the deposit area beneath the existing pit.</li> <li>Historical production records were available for an open pit completed in the 2002 and a portion of historic grade control data was available which largely confirms the current interpretations.</li> <li>Previous resource estimates have been completed and compare well with the current estimate.</li> <li>No assumptions have been made regarding recovery of byproducts.</li> <li>No estimation of deleterious elements was carried out. Only Au was interpolated into the block model.</li> <li>An orientated ellipsoid search was used to select data and was based on parameters derived from the variography.</li> <li>An initial interpolation pass was used with a maximum range of 40m which filled 66% of blocks. A second pass radius of 80m filled 31% of the blocks and a third pass range of 120m filled the remaining 4% of blocks.</li> <li>A minimum of 10 and a maximum of 24 samples were used.</li> <li>Selective mining units were not modelled in the Mineral</li> </ul>

Criteria	JORC Code explanation	Commentary
Moisture	<ul> <li>between variables.</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> <li>Discussion of basis for using or not using grade cutting or capping.</li> <li>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</li> <li>Whether the tonnages are estimated</li> </ul>	<ul> <li>Resource model. The block size used in the model was based on drill sample spacing and lode orientation.</li> <li>Only Au assay data was available, therefore correlation analysis was not possible.</li> <li>The deposit mineralisation was constrained by wireframes constructed using a 0.3g/t Au cut-off grade in association with logged geology. The wireframes were applied as hard boundaries in the estimate.</li> <li>For validation, trend analysis was completed by comparing the interpolated blocks to the sample composite data within 20m easting intervals and by 10m vertical intervals.</li> <li>Tonnages and grades were estimated on a dry in situ basis. No</li> </ul>
Wosture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	moisture values were reviewed.
Cut-off parameters	<ul> <li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>	<ul> <li>The Mineral Resource has been reported at a 0.75g/t Au cut-off based on assumptions about economic cut-off grades for open pit mining.</li> </ul>
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.	<ul> <li>The deposit has previously been mined using selective open pit mining methods. It is assumed that further open pit mining is possible at the project.</li> <li>Portions of the deposit are considered to have sufficient grade and continuity to be considered for underground mining.</li> <li>No mining parameters or modifying factors have been applied to the Mineral Resource.</li> </ul>
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 test-work was undertaken by previous operators at the project and has been reviewed     Results of recent test work and previous processing have demonstrated that good gold recovery can be expected from conventional processing methods.
Environmental factors or assumptions	Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of 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	<ul> <li>The previous mining operation included the development of waste dumps at the site.</li> <li>The area is not known to be environmentally sensitive and there is no reason to think that approvals for further development including the dumping of waste would not be approved.</li> </ul>

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Criteria	JORC Code explanation	Commentary
	potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	
Bulk density  Classification	<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), moisture and differences between rock and alteration zones within the deposit.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> <li>The basis for the classification of the</li> </ul>	<ul> <li>Bulk density determinations were made on samples from drill core using the weight in air/weight in water method.</li> <li>Bulk density values used in the resource were 2.1t/m³, 2.5t/m³ and 2.8t/m³ for oxide, transitional and fresh mineralisation respectively.</li> </ul>
	<ul> <li>Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC, 2012). The Mineral Resource was classified as Indicated and Inferred Mineral Resource on the basis of data quality, sample spacing, and lode continuity.  The Indicated portion of the Mineral Resource was defined where good continuity of mineralisation was evident and within the drilled area where hole spacings ranged from 25m by 25m or less in the well drilled portion to 40m by 40m spacings.  The remaining portions of the deposit were classified as Inferred Mineral Resource due to poor grade continuity or sparse drilling.  The definition of mineralised zones is based on sound geological understanding producing a robust model of mineralised domains. This model has been confirmed by previous mining which supported the interpretation.  The Mineral Resource estimate appropriately reflects the view of the Competent Person.
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	A documented internal audit of the Mineral Resource estimate was completed by the consulting company responsible for the estimate.
Discussion of relative accuracy/ confidence	<ul> <li>Where appropriate a statement of the relative 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 stated 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.</li> <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</li> </ul>	<ul> <li>The Ulysses Mineral Resource estimate is considered to be reported with a high degree of confidence. The consistent lode geometry and continuity of mineralisation is reflected in the Mineral Resource classification. The data quality is good and the drill holes have detailed logs produced by qualified geologists.</li> <li>The Mineral Resource statement relates to global estimates of tonnes and grade.</li> <li>The deposit is not currently being mined. Historical production records are available for the deposit.</li> </ul>

Criteria	JORC Code explanation	Commentary
	technical and economic evaluation.  Documentation should include assumptions made and the procedures used.  These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	

# **JORC Table Section 4 Estimation and Reporting of Ore Reserves**

type, mining method and scale. The study was carried out internally and externally using consultants where appropriate.  type, mining method and scale. The study was carried out internally and externally using consultants where appropriate.  type, mining method and scale. The study was carried out internally and externally using consultants where appropriate.  type, mining method and scale. The study was carried out internally and externally using consultants where appropriate.  type, mining method and scale. The study was carried out internally and externally using consultants where appropriate.  type, mining method and scale. The study was carried out internally and externally using consultants where appropriate.  type, mining method and scale. The study was carried out internally and externally using consultants where appropriate.  type, mining method and scale. The study was carried out internally and externally using consultants where appropriate.  type, mining method and scale. The study was carried out internally and externally using consultants where appropriate.  type, mining method and scale. The study was carried out internally and externally using consultants where appropriate.  type, mining method and scale. The study was carried out internally and externally using consultants where appropriate.  type, mining method and scale. The study was carried out internally and externally using consultants where appropriate.	resource estimate for conversion to conversion to an Ore Reserve.  - Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.  - Comment on any site visits undertoken by the Competent Person and the outcome of those visits If no site visits have been undertoken indicate why this is the case The Code requires that a study to a least Pre-Feasibility Study level has been undertoken to consell externion and will have determined an minerial Modifying Factors have been undertoken to converted to fore Reserves The Code requires that a study to a least Pre-Feasibility Study level has been undertoken to convert Mineral Resources to Pre-Reserves The Code requires that a study to a least Pre-Feasibility Study level has been undertoken to convert Mineral Resources to Pre-Reserves The Bosis of the cut-off grade(s) or quality parameters of the selected mining method(s) and that material Modifying Factors have been considered The method and assumptions used a resported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resources to Preserves Such studies will have been carried out and material Modifying Factors have been considered The method and assumptions used a reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resources in Convert the Mineral Resources to Preserves Such and the Pre-Feasibility or Feasibility Study to convert the Mineral Resources including associated design issues such as pre-strip, access such and a such as a pre-strip, access that the Pre-Feasibility or Feasibility Study to convert the Mineral Resources including associated design issues such as pre-strip, access the preserves during optimisation and evaluation processes, etc The mining developed pit and stope optimisation (if appropriate) The mining developed pit and stope optimisation (if appropriate) The mining developed pit and stope optimisation (if appropriate) The mining developed pit and stope optimisation (if appr	Criteria	JORC Code explanation	Commentary
undertoken by the Competent Person and the outcome of those visits.  If no site visits have been undertoken indicate why this is the case.  **The type and level of study undertoken to enable Mineral Resources to be converted to Ore Reserves.  If the Code requires that a study to at least Pre-Feasibility Study level has been undertoken to convert Mineral Resources to Dre 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.  **Cut-off parameters 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.  **The basis of the cut-off grade(s) or quality parameters applied.  **Mining factors**  **The method and assumptions used as reported in the Pre-Feasibility or Persibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application or by preliminary or detailed design).  **The choice, nature and appropriate factors by optimisation or by preliminary or detailed design].  **The choice, nature and appropriate passes such as pre-strip, access, etc.  **The assumptions made regarding geotechnical parameters (eg pit slopes stope sizes, etc.) grade control and pre-production drilling.  **The major assumptions made and Mineral Resource model used for pit and stope optimisation if appropriate.  **The mining dilution factors used.**  **The mining decovery factors used.**  **The mining dilution factors used.**  **The mining dilution factors used.**  **The mining dilution factors used.**  **The mining recovery factors used.**  **The m	study status  **The type and level of study undertoken been undertoken indicate why this is the case.  **The Code requires that a study to at least Pre-Feasibility Study level has been undertoken to enable Mineral Resources to to be converted to Ore Reserves.  **The Code requires that a study to at least Pre-Feasibility Study level has been undertoken to convert Mineral Resources to Ore Reserves. Such studies will have been carried at and will have determined a mine plan that is technically achievable and economically vable, and that material Modifyling foctors have been considered.  **The Dassis of the cut-off grade(s) or quality parameters applied. Mining factors or assumptions  **The mode requaring geotechnical parameters (i.e. either by application of appropriate). The choice, nature and appropriateness of the selected mining method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ope Reserve (i.e. either by application of appropriate place) by parameters including associated design issues such as pre-strip, access, etc.  **The membrane requaring geotechnical parameters (leg pit slopes, stope sizes, etc.) grade control and pre-production drilling.  **The mojor assumptions made engarding geotechnical parameters (leg pit slopes, stope sizes, etc.) grade control and pre-production drilling.  **The mojor assumptions made and Mineral Resource model was papiled.**  **The mining dilution factors used.**  **A parameter sincluding associated design issues such as pre-strip, access, etc.  **The mining recovery foctors used.**  **A pay minimum mining widths used.**  **The mining accovery foctors used.**  **A pay minimum mining widths used.**  **The infrastructure requirements of the selected mining method and sale.**  **In mining accovery foctors used.**  **An avereal geotechnical report provided pit slopes and report provided pit slopes and report provided pit slopes and report provided pit slopes.**  **Additional mining dilution of 5 to 15% was applie	Resource estimate for conversion to	estimate used as a basis for the conversion to an Ore Reserve.  • Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore	and reported previously on February 1, 2016. The Ore Reserve has been determined using this model.
undertoken to enable Mineral Resources to be converted to Ore Reserves.  • The Code requires that a study to at least Pre-Feasibility Study level has been undertoken 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.  Cut-off parameters  Mining factors or assumptions  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).  The choice, nature and appropriateress of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.  The assumptions made regarding geotechnical parameters (ep git slopes, stope sizes, etc), grade control and pre-production drilling. The major assumptions made and Mineral Resource model used for pit and stope optimisation if appropriate).  The mining gidution factors used. The mining recovery factors used. Any minimum mining widths used. The mining recovery factors used. The mining recovery f	with the condition of the study was carried out internally and externally using consultants where appropriate.  **The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to O're Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically violate, and that material Modifying Factors have been considered.  **Out-off parameters**  **In basis of the cut-off grade(s) or quality parameters applied.**  **Mining factors**  **In 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).  **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.  **The assumptions made regarding geotechnical parameters (sp plt slopes, stope sizes, etc), grade control and Americal Resource model used for pit and stope optimisation iff appropriate).  **The mining recovery factors used.**  **The mining mittoin factors used.**  **The mining dilution factors used.**  **The mining mittoin fulling.**  **The mining mittoin factors used.**  **The mining mittoin fulling.**  **The mining mining mittoin fulling.**  **The mining dilution factors used.**  **The mining mining mittoin fulling.**  **The mining mining mining mittoin fulling.**  **The mining mining mining mining fulling.**  **The mining mining mining mining fulling.**  **The mining mining mining mining fulling.**  **Th	Site visits	<ul><li>undertaken by the Competent Person and the outcome of those visits.</li><li>If no site visits have been undertaken</li></ul>	
Cut-off parameters	## The basis of the cut-off grade(s) or quality parameters applied.  ## 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).  ## The basis of the cut-off grade(s) or quality parameters applied.  ## 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).  ## 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.  ## The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.  ## The major assumptions made and Mineral Resource model was factored to generate diluted Ore Reserves during optimisation and evaluation processes.  ## Mining method is conventional open-pit with drill and blast, excavate, load and haul.  ## An external geotechnical report provided pit slopes and recommended inputs for pit design.  ## Additional mining dilution of 5 to 15% was applied.  ## Miniman width reflected by lode interpretation 3 to 5m plus dilution.  ## Infrastructure required is small and of a temporary nature, i.e. workshop, offices, fuel tank, generator, magazine and water transfer dam.  ## Infrastructure required is small and of a temporary nature, i.e. workshop, offices, fuel tank, generator, magazine and water transfer dam.  ## The mining dilution factors used.  ## The mining method(s).  ## The mining dilution factors used.  ## The mining minimal min	Study status	undertaken to enable Mineral Resources to be converted to Ore Reserves.  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	type, mining method and scale. The study was carried out
mining factors or assumptions  **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).  **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.  **The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.  **The mainer all models and stope optimisation (if appropriate).  **The mining recovery factors used.** Any minimum mining widths used.  **The manner in which Inferred Mineral Resources are utilised in mining**  and is 1.3 g/t gold.  **The Mininar Resource model was factored to generate diluted Ore Reserves during optimisation and evaluation processes.  **Mining method is conventional open-pit with drill and blast, excavate, load and haul.  **An external geotechnical report provided pit slopes and recommended inputs for pit design.  **Additional mining dilution of 5 to 15% was applied.  **Mining recovery of 95% was applied.  **Mining r	maining method(s) and other mining parameters including associated design issues such as pre-strip, accessent.  The mosumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc). The mojor assumptions made and Minieral Resource model was factored to generate diluted Ore Reserves during optimisation and evaluation processes.  Mining method is conventional open-pit with drill and blast, excavate, load and haul.  An external geotechnical report provided pit slopes and recommended inputs for pit design.  Additional mining dilution of 5 to 15% was applied.  Mining recovery of 95% was applied.  Inferred Resources were not used or included in optimisation or final designs.  Infrastructure required is small and of a temporary nature, i.e. workshop, offices, fuel tank, generator, magazine and water transfer dam.  Infrastructure required is small and of a temporary nature, i.e. workshop, offices, fuel tank, generator, magazine and water transfer dam.  The mining dilution factors used.  Any minimum mining widths used.  The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.  The infrastructure requirements of the selected mining methods.	Cut-off		Cutoff is calculated as part of the mine optimisation evaluation
The infrastructure requirements of		Mining factors	<ul> <li>quality parameters applied.</li> <li>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).</li> <li>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.</li> <li>The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.</li> <li>The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).</li> <li>The mining dilution factors used.</li> <li>The mining recovery factors used.</li> <li>Any minimum mining widths used.</li> <li>The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.</li> <li>The infrastructure requirements of</li> </ul>	<ul> <li>and is 1.3 g/t gold.</li> <li>The Mineral Resource model was factored to generate diluted Ore Reserves during optimisation and evaluation processes.</li> <li>Mining method is conventional open-pit with drill and blast, excavate, load and haul.</li> <li>An external geotechnical report provided pit slopes and recommended inputs for pit design.</li> <li>Additional mining dilution of 5 to 15% was applied.</li> <li>Mining recovery of 95% was applied.</li> <li>Minimum width reflected by lode interpretation 3 to 5m plus dilution.</li> <li>Inferred Resources were not used or included in optimisation or final designs.</li> <li>Infrastructure required is small and of a temporary nature, i.e. workshop, offices, fuel tank, generator, magazine and water</li> </ul>

Critoria	IOPC Code explanation	Commontary
Criteria	JORC Code explanation	Commentary
factors or assumptions	<ul> <li>and the appropriateness of that process to the style of mineralisation.</li> <li>Whether the metallurgical process is well-tested technology or novel in nature.</li> <li>The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.</li> <li>Any assumptions or allowances made for deleterious elements.</li> <li>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.</li> </ul>	<ul> <li>conventional CIL methods.</li> <li>Well-tested existing technology.</li> <li>One metallurgical test work program was completed by ALS Metallurgy on composite and variability samples representative of the ore zones. Historical recovery data was also available.</li> <li>Test work indicates recoveries for oxide and transitional ore types will be between 92 and 96% dependent on grade while primary ore recoveries are estimated to be between 85 and 90%. 94% was applied for oxide and transitional ore and 87% for primary ore.</li> <li>Metallurgy testwork programs have included gravity concentration, cyanide leach and grind establishment</li> <li>No deleterious elements are present.</li> <li>No bulk sample testwork has been carried out.</li> </ul>
	<ul> <li>For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?</li> </ul>	
Environmen- tal	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.	<ul> <li>A Clearing Permit, Mining Proposal and Closure plan has been approved by the DMP.</li> <li>Waste rock is typically non-acid forming.</li> <li>No tailings will be stored on site.</li> </ul>
Infrastructure	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.	<ul> <li>Infrastructure at site is minimal and consists of access roads and tracks.</li> <li>Accommodation and flights will use established facilities at Leonora.</li> <li>The project has low infrastructure requirements of a temporary nature.</li> </ul>
Costs	<ul> <li>The derivation of, or assumptions made, regarding projected capital costs in the study.</li> <li>The methodology used to estimate operating costs.</li> <li>Allowances made for the content of deleterious elements.</li> <li>The source of exchange rates used in the study.</li> <li>Derivation of transportation charges.</li> <li>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</li> <li>The allowances made for royalties payable, both Government and</li> </ul>	<ul> <li>Capital costs based on contractor quotes.</li> <li>Operating costs based on contractor quoted costs for load and haul and drill and blast and other mining costs.</li> <li>No deleterious elements present.</li> <li>Using 2016 average gold price.</li> <li>Cost models use Australian dollars.</li> <li>Ore haulage rates based on quoted contractor rates.</li> <li>Toll Treatment costs based on known current milling costs. No penalties or specifications.</li> <li>State royalty of 2.5% used.</li> <li>Third party royalty applied.</li> </ul>
Revenue factors	<ul> <li>private.</li> <li>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</li> </ul>	Gold price of A\$1,600 used in the study.

Criteria	JORC Code explanation	Commentary
	<ul> <li>returns, etc.</li> <li>The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and coproducts.</li> </ul>	
Market assessment	The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and	<ul> <li>Gold doré will be sold at the Perth Mint as it is produced.</li> <li>Market window unlikely to change.</li> <li>Price is likely to go up, down or remain same.</li> <li>Not industrial mineral.</li> </ul>
	<ul> <li>demand into the future.</li> <li>A customer and competitor analysis along with the identification of likely market windows for the product.</li> </ul>	
	<ul> <li>Price and volume forecasts and the basis for these forecasts.</li> <li>For industrial minerals the customer specification, testing and acceptance requirements prior to a supply</li> </ul>	
Economic	<ul> <li>contract.</li> <li>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.</li> <li>NPV ranges and sensitivity to variations in the significant</li> </ul>	<ul> <li>No NPV applied.</li> <li>Project is relatively short life at &lt;6 months.</li> <li>Sensitivity analyses have been completed.</li> </ul>
Social	<ul> <li>assumptions and inputs.</li> <li>The status of agreements with key stakeholders and matters leading to social licence to operate.</li> </ul>	<ul> <li>Stakeholders have been consulted.</li> <li>A Heritage Survey was completed with the Aboriginal Claimant Group.</li> </ul>
Other	<ul> <li>To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:</li> <li>Any identified material naturally occurring risks.</li> </ul>	<ul> <li>A risk review has been completed. No material risks are identified.</li> <li>A Project Management Plan (PMP) has been submitted to the DMP and is pending approval.</li> </ul>
	<ul> <li>The status of material legal agreements and marketing arrangements.</li> </ul>	
	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	
Classification	<ul> <li>contingent.</li> <li>The basis for the classification of the Ore Reserves into varying confidence categories.</li> </ul>	<ul> <li>Reserves are classified according to Resource classification.</li> <li>They reflect the Competent Person's view.</li> <li>No Measured Resource exists. All Reserve is Probable category</li> </ul>
	<ul> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> <li>The proportion of Probable Ore</li> </ul>	and based on Indicated Resource.

Criteria JORC Code explanation	Commentary
Audits or reviews  Discussion of relative accuracy/ confidence  The results of any audits or reviews of Ore Reserve estimates.  Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve 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 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.  The statement should specify whether it relates to global or local estimates, and, if local, state the relevant to nages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.  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.  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	No audits carried out.  Confidence is in line with gold industry standards and the companies aim to provide effective prediction for current and future mining projects.  No statistical quantification of confidence limits has been applied Estimates are global.  The Reserve is most sensitive to; a) resource grade accuracy, b) gold price c) pit wall stability.  Reserve confidence is reflected by the Probable category applied, which in turn reflects the confidence of the Mineral Resource.  No modern production data is available for comparison.