

26 November 2019

#### Fast Facts

ASX Code: EMR

Shares on issue: 3,048 million

Market Cap: ~\$128 million

Cash: A\$14.9 million (30 September 2019)

Listed Investments: \$0.05 million (30 Sept 2019)

#### Board & Management

Simon Lee AO, Non-Executive Chairman

Morgan Hart, Managing Director

Mick Evans, Executive Director

Ross Stanley, Non-Executive Director

Ross Williams, Non-Executive Director

Mark Clements, Company Secretary

Brett Dunnachie, Chief Financial Officer

#### Company Highlights

- First mover in an emerging gold province in Cambodia
- Mineral Investment Agreement and Industrial Mining Licence granted over the Okvau Gold Project (100% owned) allowing for the development of the Okvau Deposit
- Okvau Deposit: Indicated and Inferred Mineral Resource Estimate of 1.14Moz at 2.0g/t Au (refer Table 1)
- DFS completed and demonstrates high grade, low cost, compelling development economics:
  - Ore Reserve of 14.3Mt & 2.0g/t Au for 0.9Moz (refer Table 2) in a single open pit with waste:ore ratio of 5.8:1
  - LOM average annual production of 106,000ozs pa
  - AISC US\$754/oz over LOM
  - Using US\$1,450/oz Au gold price:
    - NPV<sub>(5%)</sub> US\$337M pre-tax and US\$238M post-tax
    - IRR 69% pa pre-tax and 57% post-tax
    - Payback ~1.4 years pre-tax and 1.7 years post-tax
- Highly credentialed gold project development team
- Significant resource growth potential

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## Mineral Investment Agreement Approved for the Development of the Okvau Gold Project

**Approval of Mineral Investment Agreement ("MIA") and revised NPV of US\$337M demonstrates that Okvau is a robust and compelling project**

#### HIGHLIGHTS

- **Approval of Mineral Investment Agreement by Cambodian Council of Ministers, providing certainty and stability of the fiscal regime for the Okvau Gold Project development and operations**
- **Uplift in NPV to US\$337M (A\$488M) and IRR to 69% following an internal evaluation of original key assumptions applied to DFS demonstrates compelling economics of the Okvau Gold Project**
- **US\$60M Project Facility with Sprott Private Resource Lending II L.P. ("Sprott") for development of the Okvau Gold Project nearing finalisation**
- **Emerald is well positioned to capitalise on a unique development opportunity with reduced fiscal risk and a well-credentialed gold project development team**

**Emerald Resources NL (ASX: EMR)** ("Emerald") is pleased to announce that it has received approval from the Cambodian Council of Ministers for the execution of a Mineral Investment Agreement ("MIA") for the Okvau Gold Project. A Sor Chor Nor, an official Government announcement letter, has now been issued by the Council of Ministers approving the execution of the MIA by the relevant ministries.

Following the confirmation of the Sor Chor Nor and the key fiscal incentives of the MIA, Emerald has reviewed key assumptions and inputs of its Definitive Feasibility Study ("DFS"). Based on the prevailing gold price of US\$1,450/oz. and updating the key assumptions and inputs, the NPV (5%) of the Okvau Gold Project has significantly improved to US\$337M (A\$488M) pre-tax and US\$238M (A\$345M) post-tax with an outstanding Internal Rate of Return (IRR) of 69% pa pre-tax and 57% post-tax.

Managing Director Morgan Hart commented *"The approval of a direct agreement with the Cambodian Government for the development of the Okvau Gold Project is a significant milestone for Emerald and the people of Cambodia as it is the first time this has been implemented for a large scale mining project."*

The significant improvement in the NPV and IRR is the result of an ongoing effort by Emerald to critically examine and pursue improvements in all aspects of the 1.14Moz at 2.0g/t Au Okvau Gold Project economics. The comparison to the NPV announced as part of the DFS is outlined at Tables 3-4. Of note, the uplift is primarily based upon a gold price of US\$1,450/oz and concessions negotiated within the MIA.

Mr Hart commented *"The improvement in the NPV to US\$337M and IRR to 69% underlines the high-grade, low cost, compelling development economics of the Project with reduced implementation risk and significant exploration upside."*

*"With the MIA now approved and visibility on these updated Project economics, the Board has committed to developing the Okvau Gold Project subject to finalising funding requirements."*

## Mineral Investment Agreement - Sor Chor Nor

The Sor Chor Nor approves the signing of the MIA which provides clarity and stability of the fiscal regime for the development and operations of the Okvau Gold Project and is a significant milestone which provides a level of comfort for shareholders and other stakeholders. The objective of the MIA is to provide an equitable framework to develop these mineral resources in Cambodia.

The material terms of the MIA approved by the Council of Ministers are as follows;

### Financial Obligations and Benefits

- Renaissance Minerals Cambodia Limited ("Renaissance") shall pay to the Ministry a royalty of 3% on gross sales but retains 100% ownership of the Project;
- Renaissance will benefit from the following fiscal incentives:
  - (a) an income tax rate of 25% per annum for 5 years from the date of the MIA and thereafter the income tax rate will be applied at 30% per annum according to the Law on Taxation;
  - (b) a withholding tax rate of 0% of payment of dividends paid to foreign Affiliates for 5 years from the date of the MIA and thereafter the withholding tax will be applied at the rate according to applicable laws at the time (currently 14%); and
  - (c) an exemption from any import tax and duties on importation of equipment, machinery, mining trucks, earth moving equipment and goods and other mine facilities which are used exclusively for the purpose of this Project when the importation is done before 31 December 2022. Thereafter any import tax and duties will be applied according to applicable laws and regulations, subject to the change of law provisions as outlined below.

### Change of Law Protection and International Arbitration

- A standstill/stability clause to ensure that should there be the introduction of any new Laws and/or regulations of Cambodia which materially increase the financial burden of Renaissance, then the relevant ministry department shall negotiate in good faith to amend the terms of the MIA so as to return Renaissance to an economically equivalent position to that in which they were prior to such change or introduction, for a period of five years following the change in Law;
- Offshore arbitration provisions whereby any disputes unable to be resolved by a Joint Review Committee in Cambodia will take place at the Singapore International Arbitration Centre (SIAC).

The approval of the MIA by the Council of Ministers represents the final major regulatory milestone allowing development of the Okvau Gold project following the grant of the Industrial Mining Licence, the successful negotiation and approval by the Minister of Environment of the environmental contract and environmental licence and rezoning of the Mining Licence area to 'Sustainable Use' which lawfully permits commercial development under Cambodian law.

## Updated NPV and IRR

An extensive internal evaluation of the original key assumptions relating to the DFS on the Okvau Gold Project have resulted in a significant increase in the NPV(5%) to US\$337M (from US\$223M) pre-tax and US\$238M (from US\$160M) post-tax and an outstanding Internal Rate of Return (IRR) of 69% (from 48% pa pre-tax) and 57% (from 40% post-tax).

The DFS was completed on the development of a 2.0Mtpa operation at the Okvau Gold Project to +/-15% level of accuracy and confirmed an initial operating LOM of over 7 years, producing approximately 106,000 ounces of gold per annum on average, with an average LOM AISC of US\$731/oz. The estimated development costs remain at US\$91M with a further US\$7M in establishment costs and pre-production mining costs. The development costs include a US\$4.4M allowance for spare parts and first fills. The previous assumptions were based on a gold price of US\$1,250/oz and other than the key assumptions outlined in Table 3, the following original assumptions as announced on 1 May 2017 are appropriate and remain unchanged.

**Table 1 | Okvau Mineral Resource Estimate**

Okvau Mineral Resource Estimate									
Cut-off (Au g/t)	Indicated Resource			Inferred Resource			Total Resource		
	Tonnage (Mt)	Grade (g/t Au)	Contained Au (Koz)	Tonnage (Mt)	Grade (g/t Au)	Contained Au (Koz)	Tonnage (Mt)	Grade (g/t Au)	Contained Au (Koz)
0.70	15.11	2.08	1,008	2.57	1.61	133	17.68	2.01	1,141

The Project has a JORC Ore Reserve (Probable) estimate of 14.26Mt @ 1.98g/t Au for 907,000 ounces gold (refer Table 2).

**Table 2 | Okvau Ore Reserve Estimate**

Okvau Ore Reserve Estimate			
	Tonnage (Mt)	Grade (g/t Au)	Contained Au (Koz)
Probable Ore Reserve	14.26Mt	1.98g/t Au	907koz

The key assumptions revised in line with the uplift in the gold price and advanced discussions with inter-ministerial departments to achieve the revised NPV and IRR are as follows:

**Table 3 | Key changes to underlying assumptions**

	Original	Revised
Spot price	US\$ 1250/oz	1450/oz
Exchange Rate	US\$ 0.7525	0.69
Government Royalty	2.50%	3.00%
Diesel Price Assumption <sup>1</sup>	US\$ 0.57/ltr	0.74/ltr
Grid Power Cost <sup>2</sup>	US\$ 0.118/kwh	0.114/kwh
Tax rate first 5 years	30%	25%
Excess Profit Tax	nil	Included in updated model <sup>3</sup>

<sup>1</sup> All other mining cost assumptions remain unchanged other than the diesel price assumption as noted above.

<sup>2</sup> All other processing cost assumptions remain unchanged other than the grid power assumption as noted above.

<sup>3</sup> The Excess Profit Tax ("EPT") is calculated based on a ratio of cumulative revenues over cumulative costs of the project however the EPT, if any, is calculated based on profit in each 12 month tax period. The EPT tax to be paid at a US\$1,450 gold price is not expected to have a material impact to the project economics with an estimated annualised EPT amount of US\$1m over the life of the project. At an US\$1,600 gold price assumption, the annualised amount is estimated to be US\$2m over the life of the project.

**Table 4 | Key Operating and Financial Results (Revised DFS)**

Development Capital Costs <sup>2</sup>	US\$91M	
Mining Contractor Capital & Pre-Production Mining	US\$7M	
	US\$98M	
LOM C1 Cash Costs <sup>3</sup>	US\$658/oz	
LOM AISC <sup>4</sup>	US\$754/oz	
Operating Cash Flow (pre-tax)	US\$554M	A\$803M
Project Cash Flow After Capital (pre-tax)	US\$435M	A\$630M
NPV (5%)(pre-tax)	US\$337M	A\$488M
NPV (5%)(post-tax)	US\$238M	A\$345M
Payback (pre-tax)	17 months	
Payback (post-tax)	20 months	
IRR (pre-tax)	69% p.a.	
IRR (post-tax)	57% p.a.	

<sup>1</sup> All economics are 100% attributable to Emerald. Exchange rate of A\$0.69

<sup>2</sup> Includes US\$4.4M of capital spares and first fills

<sup>3</sup> C1 Cash Costs include site based mining, processing and admin operating costs plus transport and refining costs

<sup>4</sup> Includes C1 Cash Costs plus royalties, sustaining capital costs and rehabilitation & closure costs

**Table 4A | Study Results (Revised DFS)**

Ore Reserve	14.3Mt @ 2.0g/t gold for 907koz contained		
LOM Strip Ratio (waste t: ore t)	5.8:1		
Throughput	2.0Mtpa		
Life of Mine	7.2 years		
Processing Recovery	84%		
Recovered Ounces	762koz		
Average Annual Production	106koz		
Pre-Production Capital Costs <sup>2</sup>	US\$98M		
Sustaining Capital Costs <sup>3</sup>	US\$23M		
<b>Gold Price</b>	<b>US\$1,250/oz</b>	<b>US\$1,450/oz</b>	<b>US\$1,600/oz</b>
Gross Revenue	US\$952M	US\$1,104M	US\$1,219M
LOM Net Revenue (net of royalties <sup>4</sup> and refining)	US\$906M	US\$1,051M	US\$1,160M
Operating Cash Flow pre-tax	US\$408M	US\$554M	US\$663M
Project Cash Flow pre-tax	US\$290M	US\$435M	US\$544M
NPV <sub>(5%)</sub> pre-tax	US\$217M	US\$337M	US\$426M
NPV <sub>(5%)</sub> post-tax <sup>5</sup>	US\$155M	US\$238M	US\$296M
Payback pre-tax	2.2 years	1.4 years	1.2 years
Payback post-tax	2.4 years	1.7 years	1.3 years
IRR pre-tax	48%	69%	85%
IRR post-tax <sup>5</sup>	40%	57%	70%
LOM C1 Cash Costs <sup>6</sup>	US\$658/oz	US\$658/oz	US\$658/oz
LOM All-In Sustaining Costs ('AISC') <sup>7</sup>	US\$745/oz	US\$754/oz	US\$761/oz

<sup>1</sup> All economics are 100% attributable to Emerald

<sup>2</sup> Includes US\$4.4M of capital spares and first fills and US\$7.0M of mining capital and pre-production mining costs

<sup>3</sup> Includes US\$14.4M of rehabilitation and closure costs

<sup>4</sup> Royalties include Government royalty of 3.0% gross and a third party royalty of 1.5% gross (capped to A\$22.5M)

<sup>5</sup> Taxation is based on the Mining Investment Agreement and includes tax incentives for the first 5 years

<sup>6</sup> C1 Cash Costs include site based mining, processing and admin operating costs plus transport and refining costs

<sup>7</sup> Includes C1 Cash Cost plus royalties, sustaining capital costs, contributions to environmental & community funds and rehabilitation & closure costs

It is reasonable to expect that the increased gold price may result in an increase to Ore Reserves which may increase mine life and further enhance financial returns from the Project. The NPV has been calculated at Project level.

## DFS Study Consultants

The DFS has been managed by Emerald with a number of experienced and highly qualified specialist consultants engaged to cover each of the key disciplines (refer Table 5).

**Table 5 | DFS Consultants**

Consultant	Input
Mintrex	Plant Design, Infrastructure, Capital and Processing Costs
EGRM Consulting Pty Ltd, B Gossage	Mineral Resource Estimate
ACG (Australian Centre for Geomechanics), PM Dight	Geotechnical
Earth Systems Environmental	Environmental
Philip Luckett	Metallurgical Test Work
ATC Williams, R Holding	Tailings Storage Facility, Waste Rock and Water Treatment
EGC Engineering	Power and Electrical
KH Morgan and Associates, KH Morgan	Hydrology and Hydrogeology
Mining Resources Pty Ltd, G Williamson	Ore Reserves, Mining Costs, Optimisations, Mine Design and Scheduling

## Geology and Mineralisation

### Regional Geology

A large section of Indo-China, western Laos, Cambodia and southern Vietnam is underlain by Permo-Carboniferous metamorphosed shallow marine to upper arc volcanic rocks referred to as the Kontum Metamorphic Complex or Kontum Massif. This metamorphic complex was formed in rifting conditions following the Indo-Sinean collision in the Carboniferous.

The Indo-China Block is separated from the South China Block by the Jinshajiang Ailaoshan Suture Zone.

The Kontum Massif is bounded to the north by the Troung Son Fold Belt and to the south by the Loel Fold Belt. These fold belts contain volcano-sedimentary sequences with andesite and minor limestone.

The Kontum Massif, now a tectonic stable plate, was intruded in Cretaceous by small to medium sized dioritic to granitic bodies. The rhyo-dacitic intrusives are often associated with copper and gold mineralisation such as at Sepon in Laos.

The various lithologies in these intrusives are considered to result from fractionation from a common magma source. Some of these intrusives such as at the Okvau Deposit have significant hornfelsic haloes.

A major part of the region is overlain by Jurassic-Cretaceous sediment deposited in the Khorat sag basin. These sediments, in places, are overlain by Neogene-Quaternary basalt flows.

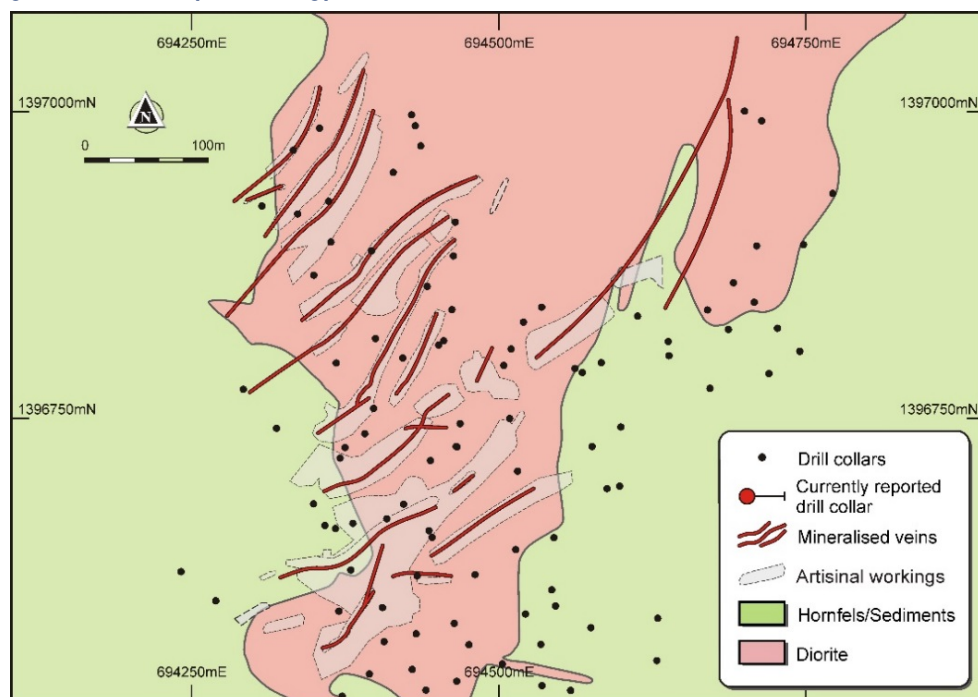
### Okvau Local Geology and Mineralisation

The Okvau Deposit is largely hosted in a Cretaceous diorite intrusion emplaced within an upper Triassic metasedimentary host rock package. Gold mineralisation is contained in a north-east trending fracture set in a narrow off-shoot or apophyses from a larger diorite intrusion however extends beyond the diorite contact into the metasediments as shown in Figure 1.

Gold mineralisation is concentrated along a network of brittle/ductile shears and arsenopyrite-rich sulphide veins. The mineralized shears typically comprise 10 to 50 metre wide core of strongly altered, fractured, and/or sheared rock locally with a weak planar fabric, surrounded by 0.5 to 2 metre wide less intensely altered halos which retain relict diorite texture. Variably deformed pyrrhotite, arsenopyrite and/or pyrite-rich layers up to 10 metres wide also commonly occur in the core of the shears.

The greater width of the alteration haloes around the shears, and textural evidence of movement along the shears implies they, rather than the narrow veins, were the principal fluid conduits within the Okvau Deposit. Gold-bearing fluids presumably accessed the fracture mesh which hosts the auriferous sulphide veins via the more strongly altered shears.

**Figure 1 | Okvau Deposit Geology**



The principal controls on the mineralisation are interpreted to be parallel to the western diorite contact with the metasediments however the low angle dipping planar shears (metasediment bedding parallel) also exert influence on the 3D distribution of the mineralisation. Gold grade continuity is therefore best defined as parallel to low dipping shears within the diorite which have an orientation in a shallow to moderate dipping plane to the south-east.



## Mineral Resource Estimate

The Okvau Mineral Resource estimate used for the DFS was prepared by independent resource consultants EGRM Consulting Pty Ltd (Principal Geologist, Brett Gossage) of Perth, Australia in April 2017 and is reported in accordance with the guidelines defined in the 2012 Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 Edition). Mr Gossage is a geologist and resource estimation specialist with over 27 years of experience including substantial experience working on applicable deposit types. A site visit was completed by Mr Gossage in December 2016. A more detailed description of the methodology used to estimate the Mineral Resources is contained in Appendix One.

The Mineral Resource estimate for the Okvau Deposit, reported above selected cut-offs is summarised in Table 6. A preferred lower cut-off grade 0.70g/t gold is selected to reflect the final economic cut-off determined based on the DFS parameters.

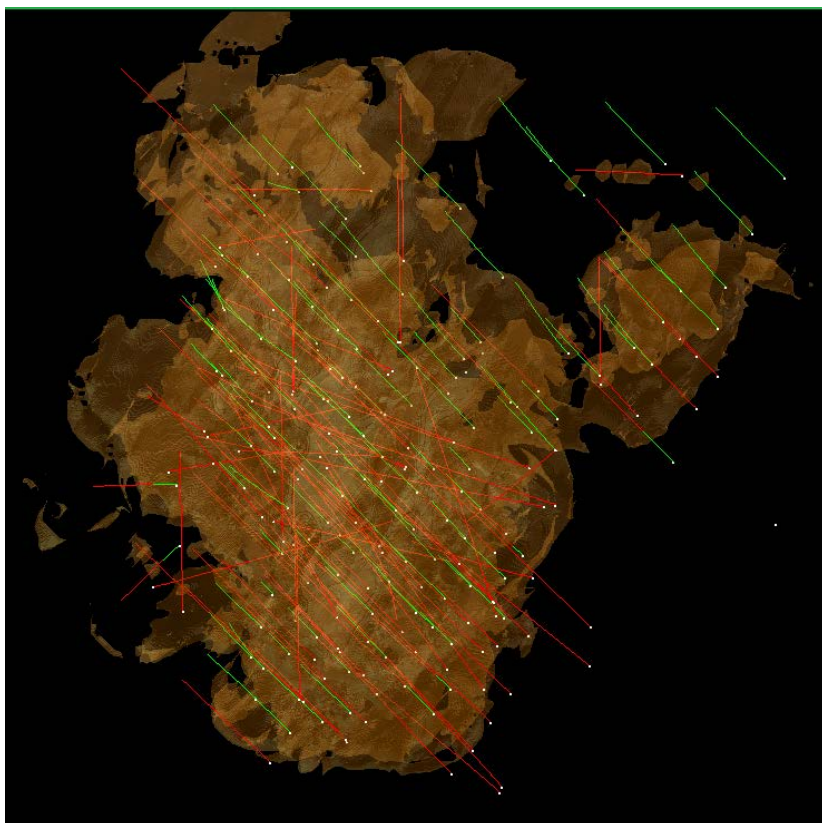
**Table 6 | Okvau Mineral Resource Estimate**

Okvau									
Mineral Resource Estimate									
Indicated Resource				Inferred Resource			Total Resource		
Cut-off (Au g/t)	Tonnage (Mt)	Grade (g/t Au)	Contained Au (Koz)	Tonnage (Mt)	Grade (g/t Au)	Contained Au (Koz)	Tonnage (Mt)	Grade (g/t Au)	Contained Au (Koz)
0.50	19.58	1.74	1,093	3.47	1.35	151	23.05	1.68	1,244
0.70	15.11	2.08	1,008	2.57	1.61	133	17.68	2.01	1,141
1.00	11.01	2.54	898	1.67	2.04	109	12.68	2.47	1,007

## Drilling

The Okvau Deposit has been drill tested with a combination of Diamond ('DD') and Reverse Circulation ('RC') drilling. Figure 2 presents a drill hole plan with the gold mineralisation envelope. The Okvau resource estimate covers approximately 500 metres of strike and 400 metres width of the mineralised vein system.

**Figure 2 | Okvau Drill Hole Plan (DD red and RC green) and Mineralisation Outline**



The Okvau Mineral Resource estimate is based on a database of 217 drill holes, for a total of 42,257 metres. The database is comprised of 112 DD holes for 31,447 metres and 105 RC drill holes for 10,810 metres. Drilling at Okvau is typically spaced at 25 metres by 25 metres centres in the top 100 metres of the deposit. Below 100m vertical the drill spacing widens to 25 metres drill sections and 50 metres on or along section

## Sampling Techniques and Analysis Methods

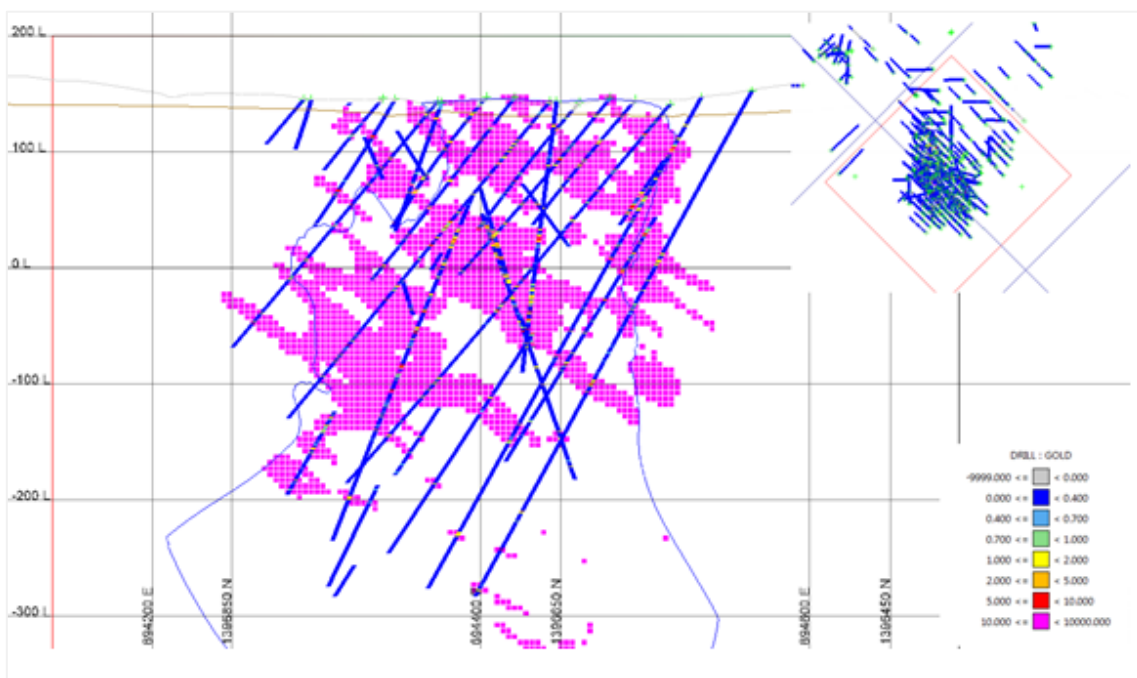
DD core was sampled using half-core where the core is cut in half down the longitudinal axis and sample intervals were determined by the geologist based on lithological contacts, with 80% of the sample intervals being 1 metre in length and an additional 15% of the sample intervals being 2 metres in length. RC samples were split through either a two or three tier riffle splitter at the drill rig and sampled on 1 metre intervals.

## Estimation Methodology

The lithological constraints and oxidation surfaces were generated by Emerald technical staff and were applied to the grade estimation. The modelled lithology includes diorite and metasedimentary (hornfels) host rocks. An oxidation surface representing the top of fresh rock was also modelled.

The grade estimate is based on a mineralisation constraint (estimation domain) generated with indicator kriging using drill holes coded with a mineralisation interpretation generated by Emerald technical staff. The mineralisation interpretation was completed using a 0.5g/t gold lower cut-off grade and includes a maximum 5 metres of internal dilution plus 2 metres of external dilution, and was generated using the known geological controls on gold mineralisation. Figure 3 shows a typical section.

**Figure 3 | Okvau Deposit Oblique Section**



The Mineral Resource gold estimate was determined using Multiple Indicator Kriging ('MIK') within the mineralisation zone constraints. MIK is a non-linear or 'recovered resource' grade estimation method which estimates grades and tonnages for a targeted selective mining unit ('SMU') block size, inclusive of dilution and ore loss. Secondary variables (sulphur, arsenic, bismuth, antimony, copper, and tellurium) have been estimated using Ordinary Kriging (OK).

A 'parent' block size of 20 metres x 25 metres x 10 metres was used followed by a change of support estimate to a 5 metre x 5 metre x 5 metre SMU. The model was constrained by a topographic survey and the geological model.

The MIK estimate was generated using a multi-pass estimation approach, with the high confidence sample search parameters (estimation pass 1 with a sample search of 50 metres x 50 metres x 20 metres) expanded by 100% for each subsequent pass to estimate blocks not originally estimated in prior high confidence estimation passes. The majority of categorised blocks were estimated searching to a maximum distance of 100 metres from data with the sample searches optimised based on geostatistical investigations and variography generated for both gold and indicator variables.

The grade estimates are based on 2 metre down-the-hole composites of the RC and DD drilling. High grade cuts were variously applied to the composite data to limit the influence of high grade outliers. High grade cuts have been determined via outlier analysis studies with a high grade cut of 20g/t gold and 40g/t gold applied to the fresh hornfels and diorite domains respectively. A 10 g/t gold high grade cut was applied to the oxide diorite domain composites and no high-grade cut applied to the hornfels oxide composites. To further limit extrapolation of high grade, additional high grade cuts of 6.98g/t gold and 8.88g/t gold were applied to the hornfels and diorite domains composites respectively for estimation passes 2 and 3.

A bulk density data set of 9,371 determinations were collected throughout the deposit via the immersion method of core billets. Based on the average bulk density grouped into fresh and oxidised samples and subdivided by lithology, bulk density was assigned to the block model for tonnage reporting. Bulk densities have been assigned to four domains as shown in Table 7.

**Table 7 | Okvau Bulk Densities**

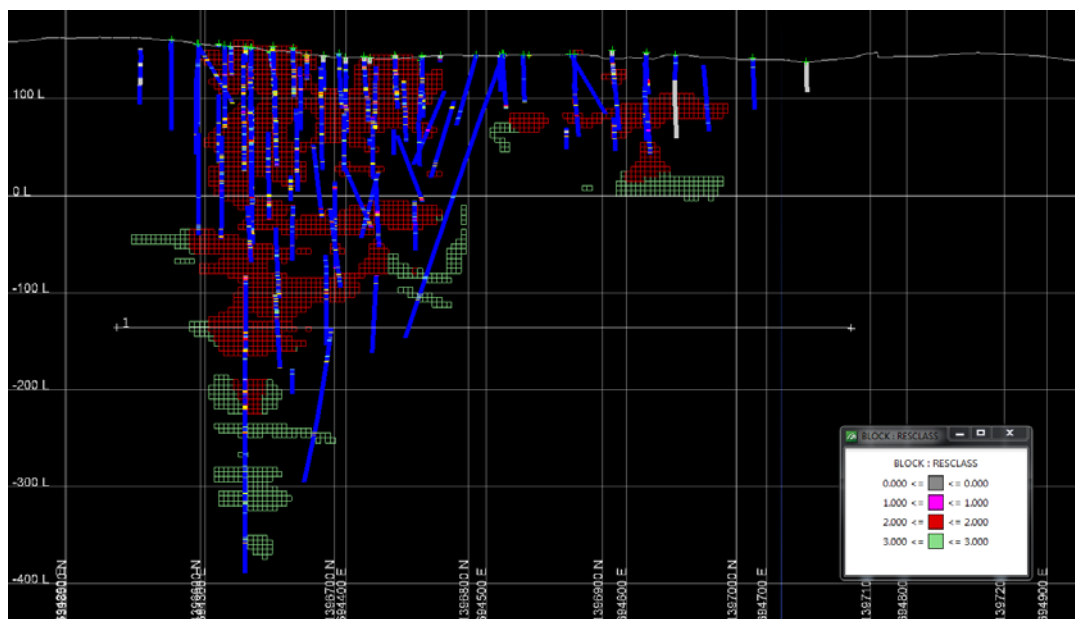
Lithology	t/m <sup>3</sup>
Diorite Oxidised	2.82
Diorite Fresh	2.87
Hornfels Oxidised	2.76
Hornfels Fresh	2.78

## Classification

The Okvau Deposit grade estimates have been classified in accordance with the guidelines set out in the JORC Code, 2012 Edition. The assessment of confidence levels of the key categorisation criteria, including the confidence of the resource development data, the geological interpretation, the drilling density and gold grade estimation is summarised in Appendix One. The resource classification is based solely on the gold estimate.

In summary, high confidence estimates that are within approximately 30 metres of drilling or better were considered as Indicated Mineral Resources. Inferred Mineral Resources were blocks that were not considered Indicated Resources but still within the interpreted mineralisation zone and within 75 metres of drilling (when estimated with pass 1 or 2) or within 40 metres of drilling for estimation pass 3. A cross sectional interpretation was completed using criteria listed above and a wireframe solid produced to capture those blocks that could be considered as Indicated and Inferred Resources. Figure 4 shows a long section displaying the classification.

**Figure 4 | Mineral Resource Classification (Red is Indicated Resources and Green is Inferred Resources)**



## Geotechnical and Hydrology

### Geotechnical

The Australian Centre for Geomechanics (ACG) was engaged to complete a geotechnical study for the DFS. The assessment undertaken was an update to previous works undertaken by Renaissance Minerals Limited.

The geotechnical analysis process comprised structural analysis, kinematic assessment on bench and batter scale, probabilistic analysis of wall stability and limit equilibrium numerical modelling on overall slope geometry. Based on the analysis conducted, the following pit design parameters were chosen:

- Berm interval: 20 metres -30 metres
- Berm width: 7.6 metres -10 metres
- Batter angle: 78°
- Inter-ramp angle: 59.3° - 61.3°
- Overall slope angle: 52°

The geotechnical study shows that the likelihood of a seismic event is extremely low.



## Hydrogeological

KH Morgan & Associates was engaged to undertake hydrogeological studies for the DFS. Total water supply requirement for mining and processing of gold ore at Okvau is estimated to be 2.261Mm<sup>3</sup> per annum. Water supply will be obtained from a combination of rainwater catchment tailings decant and pit dewatering with dry season supplement from the adjacent Prek Te River. Supply from the Prek Te has been assessed as being available at all flow conditions.

Water balance indicates that mill water supply can be drawn entirely from the TSF pond from May to end of October each year without call for abstraction from the Prek Te.

Except for rain runoff, groundwater input from the mining area is very low resulting from the very low hydraulic conductivity of the saprolitic regolith and extremely low conductivity of the underlying crystalline rocks.

The total water balance for the Project is shown below in Table 8.

**Table 8 | Project Water Balance**

Month	Uses						Sources				
	Processing	Dust suppression	Potable elution	Total	Decant from TSF	Pit dewatering	Pit rain catchment	TSF rain catchment balance	Total	Site water generation	River sourcing requirement
January	285.39	60	8.3	353.69	85.62	30	2.37	-	117.99	-	235.7
February	285.39	60	8.3	353.69	85.62	30	5.89	-	121.51	-	232.18
March	285.39	60	8.3	353.69	85.62	30	8.19	-	123.81	-	229.88
April	285.39	60	8.3	353.69	85.62	30	43.8	-	159.42	-	194.27
May	285.39	50	8.3	343.69	85.62	30	103.1	108.7	327.42	-	16.27
June	285.39	40	8.3	333.69	85.62	30	117.7	406.2	639.52	305.83	-
July	285.39	40	8.3	333.69	85.62	30	146.9	340.9	603.42	269.73	-
August	285.39	40	8.3	333.69	85.62	30	155.3	376.7	647.62	307.93	-
September	285.39	40	8.3	333.69	85.62	30	160.9	463.4	739.92	406.23	-
October	285.39	50	8.3	343.69	85.62	30	85.3	120.8	321.72	-	21.97
November	285.39	60	8.3	353.69	85.62	30	28.8	-	144.42	-	209.27
December	285.39	60	8.3	353.69	85.62	30	6.8	-	122.42	-	231.27

\*Mill water replacement requirement. All numbers expressed as m<sup>3</sup>h<sup>-1</sup>

A significant conclusion from the water balance study is that the Project processing facility will not generate water excess that will require discharge to the environment.

## Mining and Ore Reserves

Mining Resources Pty Ltd completed all mining aspects of the DFS and compiled the Ore Reserve for the Project.

The Okvau Deposit will be mined via conventional open pit mining methods from a single pit which will be mined in stages to maintain a relatively constant mining rate whilst providing adequate ore for processing at consistent ore grades. Mining will be undertaken by drilling and blasting ore and waste with load and haul using mining contractors. The proposed core mining fleet is made up of 120 tonne class excavators and 91 tonne class mine haul trucks.

## Pit Optimisation & Design

A number of Whittle optimisations were completed on the April 2017 Mineral Resource model and included all Resource categories including Inferred resources. The results from the optimisations were considered in context of sensitivities, risks, contained ounces, mine life and total project size. The pit shell selected as a basis for the mine design was optimal in terms of maximisation of profitability based on the input parameters. It was chosen on the basis of stripping ratio, grade and contained gold and limitation of the operating cost risk in high strip ratio waste removal.

The results of the selected pit shell are listed in Table 9.

**Table 9 | Selected Optimised Pit Shell**

Selected Pit Shell	
Mineralisation	14.49Mt
Grade	1.95g/t Au
Contained Gold	911koz
Waste	79.44Mt
Total Material	93.94Mt
Strip Ratio (t:t)	5.5:1

The final pit design was prepared to enable practical and efficient access to each bench and took into consideration the geotechnical design criteria. The final pit design has approximate dimensions of 650 metres by 600 metres to a maximum depth of 350 metres.

Table 10 provides a comparison of the final pit design with the optimized pit shell.

**Table 10 | Comparison of Final Pit Design to Optimised Pit Shell**

	Selected Pit Shell	Final Mine Design	Difference
Mineralisation	14.49Mt	14.42Mt	-0.5%
Grade	1.95g/t Au	1.97g/t Au	+1.0%
Contained Gold	911koz	914koz	+0.3%
Waste	79.44Mt	82.31Mt	+3.6%
Total Material	93.94Mt	96.73Mt	+3.0%
Strip Ratio (t:t)	5.5:1	5.7:1	+4.1%

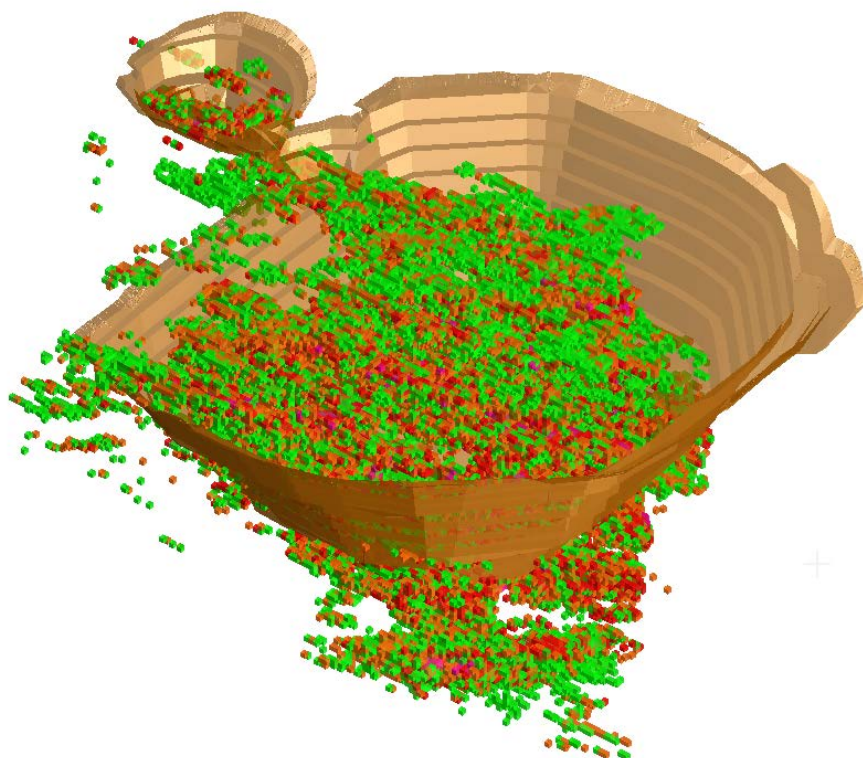
Inferred material accounted for only 7,000 ounces of gold or less than 1% of the total contained gold ounces and was excluded for the purposes of the DFS.

The final pit design based on Probable Ore Reserves (Indicated Resources) only at a cut-off of 0.625g/t gold is shown in Table 11.

**Table 11 | Final Pit Design Based on Indicated Mineral Resources at a Cut-Off of 0.625g/t Gold**

Final Mine Design (Indicated Resources Only)	
Mineralisation	14.26Mt
Grade	1.98g/t Au
Contained Gold	907koz
Waste	82.47Mt
Total Material	96.73Mt
Strip Ratio (t:t)	5.8:1

**Figure 5 | Open Pit Design**



## Ore Reserve

The Ore Reserve for the Project has been completed in accordance with the JORC Code, 2012 Edition. The Ore Reserve is based on Indicated Mineral Resources and as such is stated as Probable Ore Reserves. A more detailed description is contained in Appendix One.

Table 12 provides the Ore Reserve estimate.

**Table 12 | Ore Reserve Estimate**

	<b>Tonnes</b>	<b>Gold Grade</b>	<b>Contained Gold</b>
Probable Ore Reserve	14.26Mt	1.98g/t Au	907koz

The cut-off grade used in the estimation of the Ore Reserve is the non-mining, break-even gold grade taking into account modifying factors of mining recovery and dilution, metallurgical recovery, site operating costs, royalties and revenues. All these factors have been estimated to a DFS level. For reporting of Ore Reserves the calculated cut-off grade is 0.625g/t gold. The Ore Reserve estimate is reported within the open pit mine design prepared as part of the DFS.

## Mining Costs

Mining activities will be undertaken by an experienced mining contractor. Emerald sought indicative costs for load & haul and drill & blast from a highly reputable Australian mining contractor for use in the DFS. Allowance has been made for an owner's team retaining responsibility for technical services including mine planning, scheduling, grade control, surveying and management of the mining contract. Estimated mining costs are shown in Table 13.

**Table 13 | Mining Cost Estimate**

<b>Description</b>	<b>US\$/bcm</b>	<b>US\$/tonne</b>
Variable Load & Haul	US\$3.74/bcm	US\$1.33/t
Drill & Blast	US\$1.40/bcm	US\$0.50/t
Grade Control	US\$0.48/bcm	US\$0.17/t
Fixed & Ancillary Costs	US\$1.80/bcm	US\$0.64/t
Mining Supervision	US\$0.25/bcm	US\$0.09/t
Environmental Management	US\$0.08/bcm	US\$0.03/t
<b>Total Mining Costs</b>	<b>US\$7.75/bcm</b>	<b>US\$2.76/t</b>

Diesel price assumption varied from US\$0.57/hr to US\$0.74/hr

## **Processing & Metallurgical Test Work**

The Okvau process development and plant design is a result of knowledge gained from testwork undertaken by Emerald and previous work undertaken by Renaissance Minerals Limited. Extensive metallurgical test work has been performed on the Okvau primary ore. Gold extraction has proven to be predictable with the key determinants being grind size, gold grade, sulphur grade, arsenic grade, antimony grade and tellurium grade. The testwork undertaken demonstrates that an average gold recovery of approximately 84% is achievable based on LOM gold and sulphide grades.

This gold recovery will be achieved by coarse grinding and flotation, fine grinding of a low mass (8% mass pull) concentrate and conventional cyanide leaching of concentrate and flotation tails. The test work results confirm the Okvau primary gold mineralisation may be extracted through a conventional cyanide leach process circuit without any requirement for intensive oxidation.

Results of test work undertaken on a series of composite and variability samples has allowed an assessment of the metallurgical performance of the Okvau ore associated with grind size, leach time, reagent regimes and comminution characteristics.

### **Gold Extraction & Recovery**

Three phases of test work have now been undertaken on the Okvau ore. The initial two phases of test work were undertaken by Renaissance Minerals Limited. Phase one included testing on a Master Composite and 12 variability composites (represented by 12 different diamond drill cores). These 12 samples represented three major ore domains forming the Mineral Resource (northern diorite domain, southern diorite domain and western hornfels domain), and were represented by ore from down hole depths varying between 62 metres and 313 metres.

Phase two test work was undertaken on a further two Master Composites and 8 variability composites (represented by 8 different diamond core holes), ranging in down-hole depth from 11 metres to 253 metres and providing representative core across separate drill hole sections. The drill core was also selected to provide a reasonable spread of multi element head grades (Au, As, S, Te and Bi).

Phase three test work, conducted by Emerald, was undertaken on 1 bulk Master Composite, 6 Variability Composites and a further 3 New Composites assembled from selected intersections from 5 different diamond core holes. The intersections were selected to provide varying multi element head grades (Au, As, S, Te and Bi). The bulk Master Composite testwork undertaken targeted production of a bulk flotation concentrate for vendor thickener testwork and establishment of fine grinding power requirements.

A leach recovery algorithm (including allowance for soluble losses) has been generated based on the relevant test work results which takes into consideration; gold, sulphur, arsenic, bismuth, tellurium and antimony grades. The average gold recovery over the LOM is estimated to be 84%.

Total consumption of sodium cyanide is estimated to be 1.23kg/t of ore.

### **Comminution Testwork**

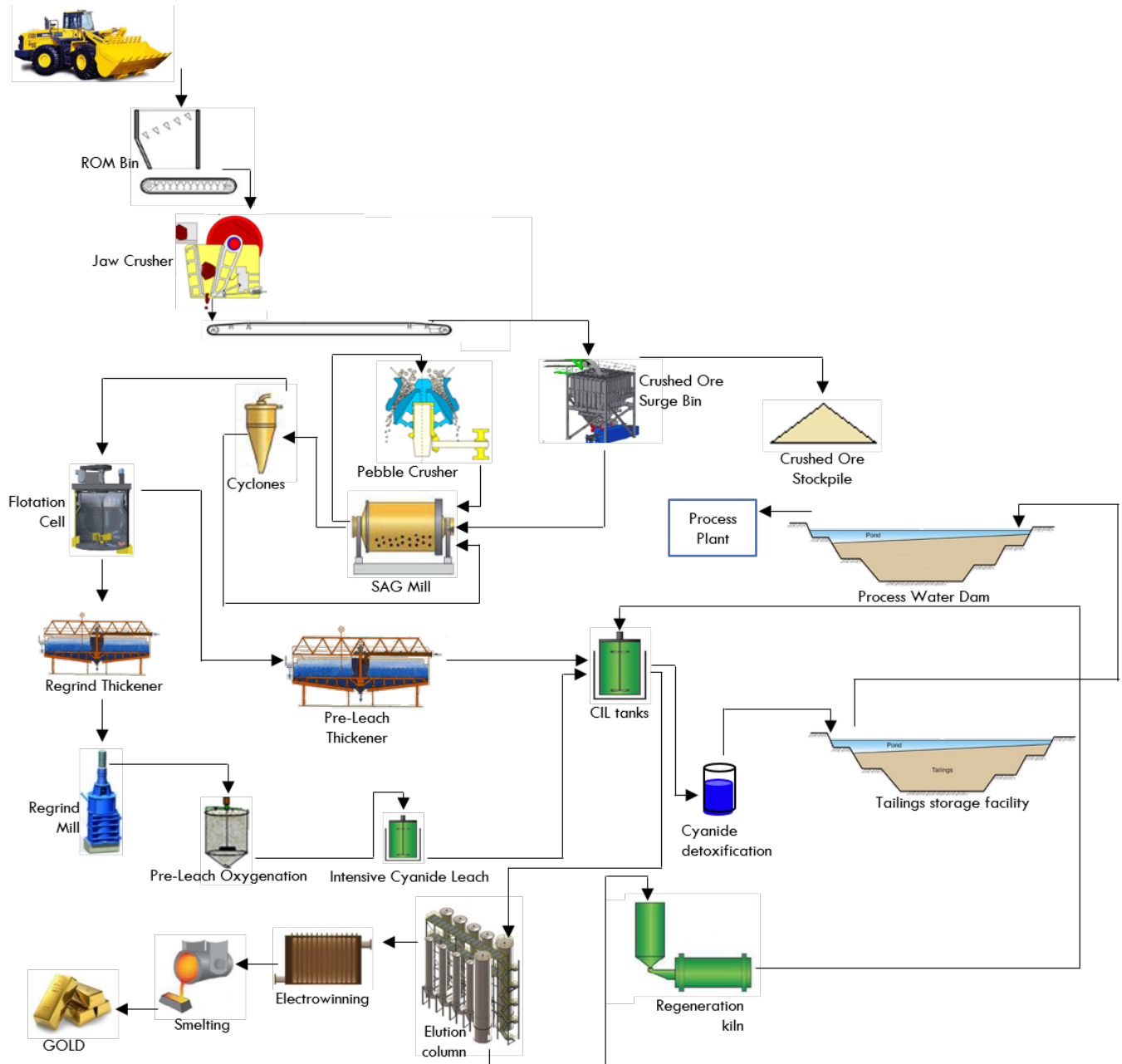
Comminution test work has been completed utilising diamond core across various lithologies of the Okvau Deposit. Comminution testwork has been carried out on ten composite samples and included SAG Mill Comminution ('SMC'), Unconfined Compressive Strength ('UCS'), Crushing Work Index ('CWi'), Ball Mill Work Index ('BWi') and Abrasion Index ('Ai') testing.

The test work indicated a reasonably hard ore in terms of SAG milling with an average A x b value of 29.0. The BWi at a closing screen size of 150 micron (reflecting the proposed primary grind size 80% passing 106 micron) was an average value of 17.5 kWh/t. The maximum BWi value from testing was 18.6 kWh/t. The average Ai was moderate with a value of 0.286g which is considered a low to moderate abrasion value.

The comminution test work was characterised by low variability between composites, indicating a relatively homogeneous ore.

Figure 6 shows the simplified process flow sheet design.

**Figure 6 | Process Flow Sheet**





## Process Plant

The Okvau process plant will have a nameplate throughput of 2.0Mtpa, with an availability of 8,000 hours per annum (91.3%) and a nominal capacity of 250 tonnes per hour ('tph'). The process plant will be located to the east of the open pit and adjacent to the TSF.

The process flow sheet and process design was prepared by Mintrex. The process design broadly comprises of the following:

- Primary Jaw Crushing
- Crushed Ore Stockpile and Reclaim System
- SAG Milling and Classification with Pebble Crushing
- Sulphide Flotation
- Flotation Concentrate Thickening
- Fine Grinding of Concentrate Through a Regrind Mill
- Pre-Leach Oxygenation of Concentrate
- Pre-Leach Thickening
- Leaching and Absorption of both Concentrate and Flotation Tailings
- Elution and Electrowinning
- Cyanide Detoxification of Tails

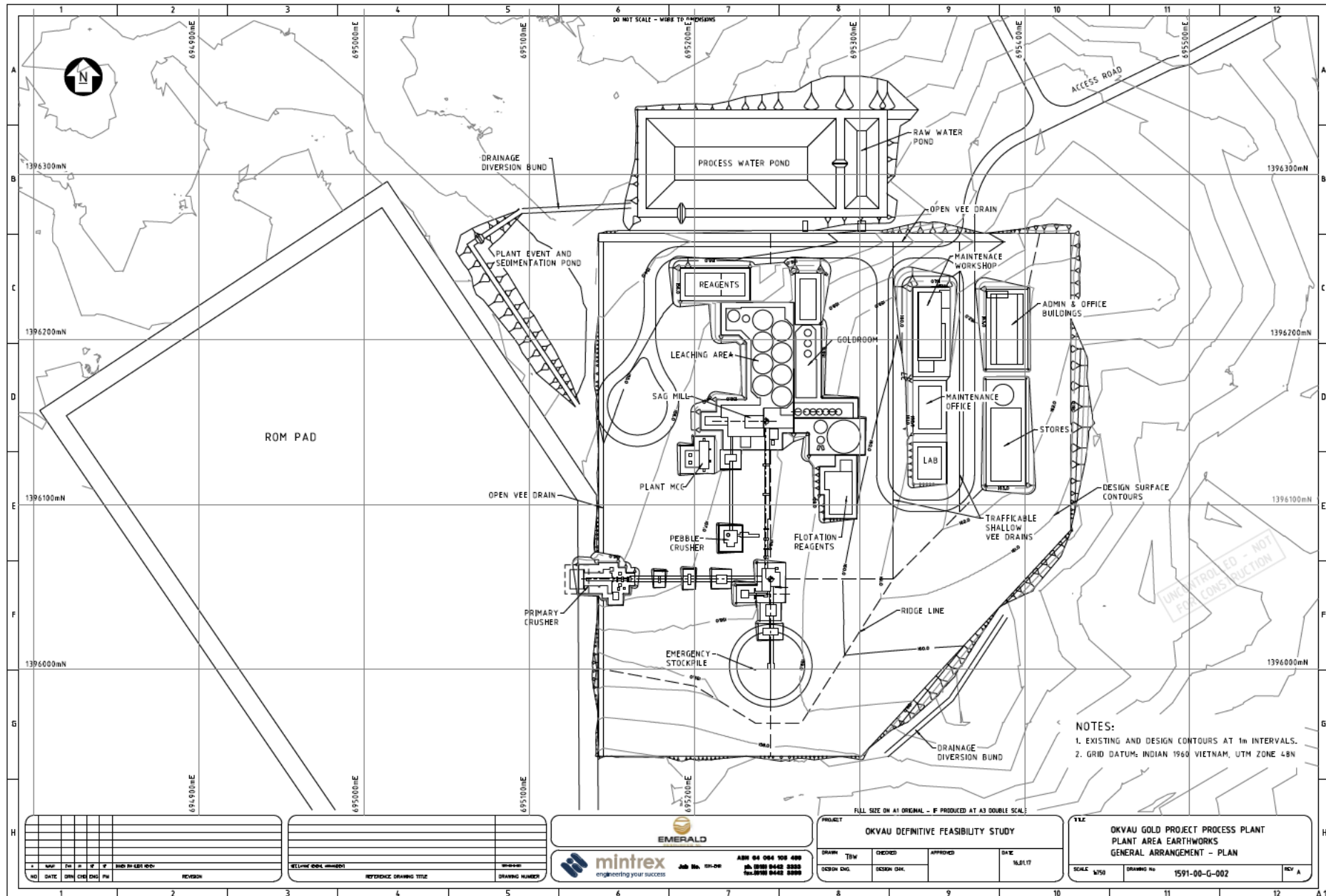
Ore will be placed in various stockpiles on the ROM pad adjacent to the process plant and will be fed by front end loader with a blending strategy to maximise predicted gold recoveries based on the gold recovery algorithm established through the metallurgical test work.

The process plant will comprise the following circuits:

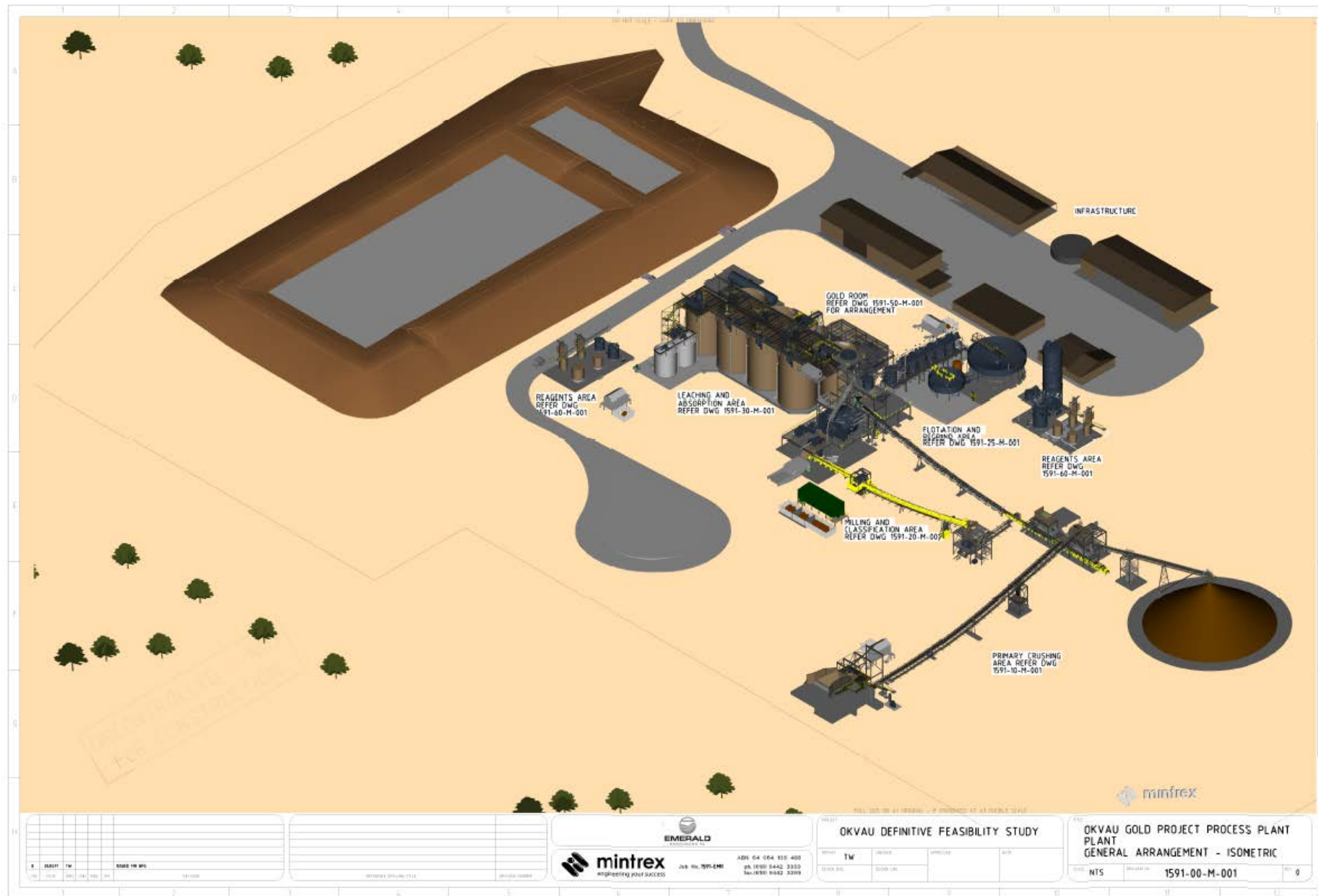
- Crushing circuit with a designed throughput of 350tph and availability of 70% on a 24 hour per day operation with a design crushing size of 80% passing 125mm;
- Crushed product will report to a surge bin with overflow reporting to an open stockpile;
- An apron feeder installed under the surge bin will directly feed the milling circuit via the mill feed conveyor. An emergency reclaim feeder will also be installed to provide feed to the mill when reclaiming ore from the stockpile via a front end loader;
- The SAG milling circuit is designed for a throughput of 250tph, operating with an availability of 8,000 hours per annum (91.3%) to provide a design grind of 80% passing 106 microns;
- A flotation circuit consisting of one conditioning tank and a bank of six rougher flotation cells designed to achieve a high sulphide recovery concentrate with a mass pull of approximately 8%;
- Regrind circuit utilising a regrind mill designed for a throughput of 21tph, operating with an availability of 8,000 hours per annum (91.3%) to provide a design concentrate regrind of 80% passing 10 micron;
- Pre-oxygenation circuit consisting of one tank with a nominal residence time of 40 hours;
- A CIL circuit will consist of one agitated adsorption tank to provide intensive cyanide leaching of the concentrate with a nominal residence time of 40 hours which will then be combined with the flotation tails and report to a further six agitated adsorption tanks in series with an additional nominal residence time of 30 hours;
- Gold recovery and refining will consist of an elution circuit, electrowinning cells and smelting;
- A cyanide detoxification circuit designed to reduce the cyanide in tails to below 50ppm;
- A TSF will be located immediately adjacent and to the south of the process plant for deposition of the process plant tailings.

Figures 7 and 8 provide the general arrangement of the plant site.

Figure 7 | Okvau Plant Site General Arrangement



### Figure 8 | Okvau Plant Site Layout



## Processing Costs

Processing costs have been estimated on the basis of 2.0Mtpa throughput on the process route described above and assuming grid power at 11.4 cents per kilowatt hour. A summary of processing costs is shown in Table 14.

**Table 14 | Processing Cost Estimate**

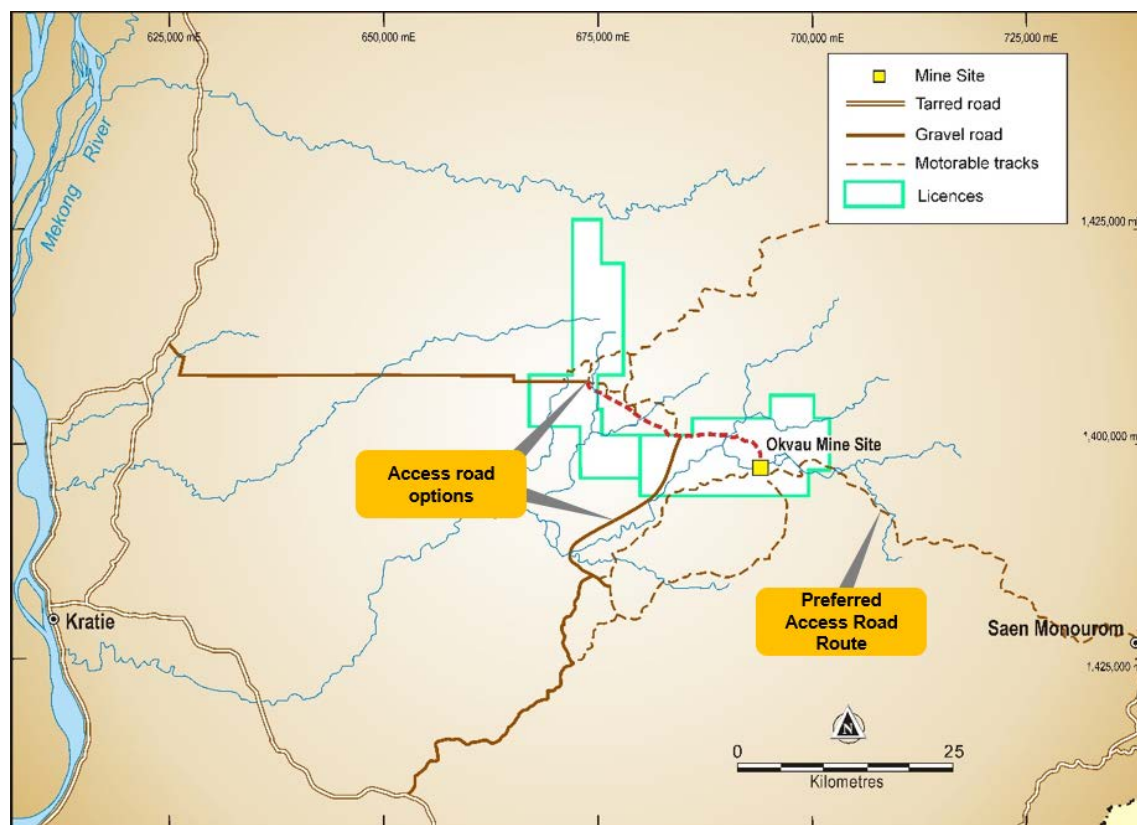
Description	US\$/tonne
Crusher Feed <sup>1</sup>	US\$0.25/t
Labour	US\$1.51/t
Reagents	US\$4.93/t
Consumables & Maintenance	US\$1.77/t
Power	US\$5.47/t
<b>Total Processing Costs</b>	<b>US\$13.93/t</b>

<sup>1</sup> Crushed feed is for variable costs only, with fixed costs included in the mining costs

## Project Infrastructure

The primary access to the Project will be via a road from Saen Monourom approximately 66km to the east of the Project as shown below in Figure 9. This road currently runs from Saen Monourom to approximately 15kms south-east of the Project site and currently services villages located between Saen Monourom and the Project. As part of the Project development, Emerald will upgrade this road where required to meet the required standards for operations and extend it the short distance to the Project site.

**Figure 9 | Project Access**



## Power

Electricite du Cambodge ('EDC') generates, transmits, and distributes electric power to distribution systems and bulk power consumers in Cambodia.

EDC is currently constructing a High Voltage transmission line from the town of Kratie located approximately 80km to the west of the Project to the Okvau Gold Project. The provision of grid power is a critical step to production and is on track to be available prior to commissioning of operations.

EDC have advised Emerald they will supply power at 11.4 cents per kilowatt hour based on new tariffs set by the Electricity Authority of Cambodia (EAC), in force from 15 August 2019.

## **Tailings Storage Facility**

Tailings from the process plant will be disposed of in a dedicated tailings storage facility ('TSF'). TSF will be located within a broad shallow valley to the south-east of the open pit, comprising a primary embankment to the south and a saddle embankment to the west. The waste rock dump will be located to the north and north-west of the TSF and will abut the TSF embankment to enhance structural stability of the TSF.

The proposed TSF development concept contains the currently envisaged life of mine tailings as well as provision for freeboard to contain process water and stormwater inputs. Assuming a tailings settled density of some 1.40t/m<sup>3</sup>, tailings production of 14.3Mt would require a storage requirement of around 10,500ML (10.5 million m<sup>3</sup>). The TSF has been designed to accommodate 17,800ML including freeboard.

## **Accommodation**

Emerald proposes building a permanent accommodation camp suitable to accommodate up to 207 people per day which allows for mining contractor personnel. The accommodation camp will be managed and operated initially (first year) by a third party service provider on a contract basis. After the first year of operation it is envisaged that the management and operation of the facility will be migrated to Emerald control.

The permanent accommodation camp will be adapted by room configuration to provide the required accommodation during the construction phase.

## **Other**

Project infrastructure to support mining and processing including mine and process plant services facilities, fuel storage, administrative offices and maintenance workshops has been included within the capital development costs for the Project.

## **Environment & Social**

### **Social, Environmental and Community**

Earth Systems was appointed to assist Emerald with the execution of the Environmental and Social Impact Assessment ('ESIA') for the Project. Earth Systems has previous experience in Cambodia and the region and utilised the services of a local registered consultancy, E&A Consultants, in undertaking many of the studies and the preparation of the documents required for the development approvals.

Renaissance submitted its detailed ESIA to the Ministry of Environment in Cambodia and has received all necessary environmental approvals by way of an Environmental Contract signed in November 2017.

Emerald estimates that a permanent workforce of approximately 250 will be required to operate the Project. Employees will be sourced from the local and adjacent provinces in conjunction with a small number of highly skilled expatriates.

A Rehabilitation and Conceptual Mine Closure Plan has been prepared as part of the ESIA. The rehabilitation and closure costs associated with this plan have been incorporated into the DFS.

### **Relocation and Resettlement**

The Project area is sparsely populated with ten dispersed villages containing approximately 5,000 residents identified within 20 kilometres of the Project. The nearest significant village is the O'Khlor settlement of Pu Tung village located approximately 15km away.

The closest settlement area to the Project is the Okvau Village (established 2005) which is considered a sub-village of the Pu Tung Village and is located directly in the area of the Okvau Deposit. Emerald has successfully resettled 62 affected households located at the Okvau Village in accordance with Cambodian laws and regulation, as well as the International Finance Corporation's (IFC) Performance Standards.

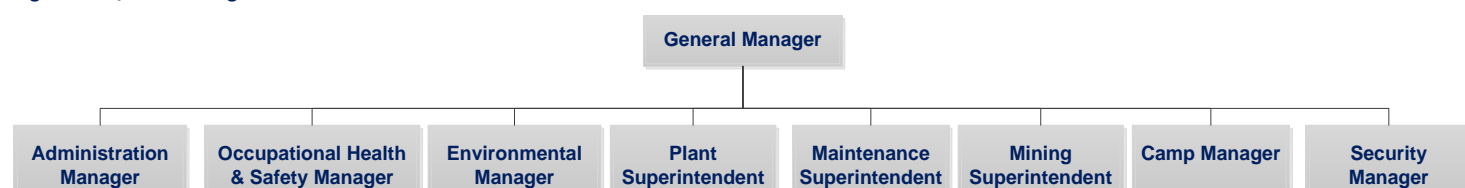
Resettlement costs have been factored into the DFS capital costs.

## **Operations**

The mining and processing activities will be supported by facilities, systems, services and infrastructure that are sufficient in magnitude, fit for purpose and based upon models used by Emerald management at other gold operations within Australia and overseas. The senior organisational chart is shown below in Figure 10.



**Figure 10 | Senior Organisational Chart**



Staff at the operation, operations personnel and contractor's personnel will work on a roster which includes fourteen work shifts followed by seven rostered days off with commute travel back to their point of origin provided by Emerald. In the case of expatriates, transport will be via helicopter to and from Phnom Penh and then international flights back to and returning from their point of origin. For local Cambodian workers, bus transportation will be provided back to their home towns of Saen Monourom, Snoul and Kratie.

## Workforce

The breakdown of employees for operations by expatriate and local employees is summarised in Table 15.

**Table 15 | Operating Workforce<sup>1</sup>**

<b>Emerald</b>	
Expatriates	26
Local	206
	<b>232</b>
<b>Mining Contractor</b>	
Expatriates	22
Local	76
	<b>98</b>
<b>Total Operating Workforce</b>	<b>330</b>

<sup>1</sup> The workforce breakdown is an average for the early years of operations with a reduction in expatriate workforce expected over the LOM

## Mining Contract

All mining operations will be carried out by a suitably experienced open pit mining contractor. This contractor will also be responsible for the mining-related construction activities, including Run of Mine (ROM) pad, haul road construction and maintenance during operations. As announced on 30 January 2019, an MoU has been signed with MACA Limited to supply earthmoving equipment and conduct contract mining services at the Okvau Gold Project.

## Capital and Operating Costs

### Capital Costs

The capital cost for the process plant and associated infrastructure has been estimated by Mintrex with input from Emerald. The estimate is presented in US dollars (US\$) to an accuracy level of +/-15% as at end of Quarter 1, 2017.

The estimated pre-production capital cost is US\$98.0M, inclusive of US\$7.1M of mining contractor establishment costs and pre-production mining costs. This cost includes all associated project infrastructure and indirect costs. It includes an allowance of US\$4.4M of spares, plus first fills and commissioning.

Emerald has chosen not to include a contingency allowance to the capital cost estimate as it is believed that sufficient conservatism has been adopted through the cost estimation process. This approach reflects Emerald's intention to manage construction of the Project with its own internal development team. Emerald will however ensure that sufficient funding be in place to cover the eventuality of a cost overrun to the magnitude that the Board of Emerald considers appropriate.

No allowance has been made for the acquisition of the initial mining fleet given Emerald's intention to utilise a mining contractor with the operating costs based on that operating strategy.

A breakdown of the major capital costs is shown in Table 16.

**Table 16 | Capital Cost Estimate**

Description	
Treatment Plant	US\$45.2M
Infrastructure (Road, Power, TSF, Camp, Plant Mobile Equipment & Process Plant Infrastructure)	US\$26.6M
Earthworks and Construction Overheads	US\$4.7M
EPCM and Commissioning	US\$7.4M
Owners Costs, Spares, First Fills & Household Resettlement	US\$7.0M
<b>Estimated Capital Costs</b>	<b>US\$90.9M</b>
Mining Contractor Establishment & Mobilisation	US\$2.2M
Pre-production Mining Costs	US\$4.9M
<b>Total Capital Requirement</b>	<b>US\$98.0M</b>

## Operating Costs

Operating costs have been estimated on the basis of a treatment rate of 2.0Mtpa in conjunction with the process design, mechanical equipment list, metallurgical test work results, estimated personnel requirements and labour costs, fuel and reagent supply costs. Indicative mining costs were provided by a reputable Australian mining contractor. Emerald's management team has also drawn on its past management of similar scale projects.

The average Life of Mine ('LOM') C1 Cash Cost is estimated at US\$658/oz of gold produced. Operating costs include all direct operating costs comprising mining costs, processing costs, ancillary costs, general & administration costs and transport & refining costs.

Overall summary of operating costs over the LOM is shown below in Table 17.

**Table 17 | C1 Cash Operating Cost Estimate**

Description	LOM Cost	LOM Cost / Ore Tonne	LOM Cost / Ounce
Mining	US\$262M	US\$18.37/t	US\$344/oz
Processing	US\$199M	US\$13.93/t	US\$261/oz
General & Administration	US\$37M	US\$2.58/t	US\$48/oz
Transport and Refining	US\$3M	US\$0.25/t	US\$5/oz
<b>C1 Cash Costs</b>	<b>US\$501M</b>	<b>US\$35.13/t</b>	<b>US\$658/oz</b>

## All-In Sustaining Costs (AISC)

Under the MIA, the royalty payable to the Cambodian Government is fixed at 3% of gross revenue. In addition, a third party royalty of 1.5% of gross revenue is payable which is capped at A\$22.5M.

The tailings storage facility ('TSF') has been designed to be developed in two stages, with the second stage to occur during the second year of operations at a cost of US\$1.3M to provide adequate capacity for LOM tails.

Additional sustaining capital includes maintenance of a Government owned access road to ensure it meets standards required for the Project, contributions to Environmental and Community Development Funds and an allowance for miscellaneous annual sustaining capital.

The total sustaining capital over the LOM is estimated at US\$9M plus a further US\$14M for rehabilitation and closure costs.

The average Life of Mine ('LOM') AISC is estimated at US\$754/oz of gold produced. Overall summary of AISC over the LOM is shown below in Table 18.

**Table 18 | All-In Sustaining Cost Estimate**

Description	LOM Cost	LOM Cost / Ore Tonne	LOM Cost / Ounce
C1 Cash Costs	US\$501M	US\$35.13/t	US\$658/oz
Royalties	US\$50M	US\$3.48/t	US\$65/oz
Sustaining Capital	US\$9M	US\$0.63/t	US\$12/oz
Rehabilitation & Closure Costs	US\$14M	US\$0.98/t	US\$19/oz
<b>All-in Sustaining Cash Cost</b>	<b>US\$574M</b>	<b>US\$40.22/t</b>	<b>US\$754/oz</b>

## **Project Finance**

As announced on 26 June 2019, the Company entered into an investment committee approved term sheet with Sprott to provide a US\$60 million facility to be utilized towards the financing of the Okvau Gold Project. Sprott's financing of the Okvau project will combine the strong development credentials of the Emerald team with the financial strength of the respected Sprott group.

The key terms of the Okvau Facility were outlined in the 26 June 2019 announcement and include satisfaction of customary conditions, including the MIA. Emerald and Sprott have continued to advance the preparation of formal documentation and satisfaction of conditions precedent to enable the drawdown of debt in the near term and the Board has committed to the development of the Okvau Gold Project subject to finalising project funding.

## **Cambodian Gold Project**

### **Summary**

Emerald's main focus is the exploration and development of its Cambodian Gold Projects which comprise a combination of 100% owned granted licences, applications and earn-in & joint venture agreements covering a combined area of 1,442 km<sup>2</sup>. The 100% owned Okvau Gold Project ('Okvau Gold Project') is the Company's most advanced project which is located approximately 275 kilometres north-east of Cambodia's capital city of Phnom Penh in the province of Mondul Kiri (refer Figures 11 and 12). The town of Kratie is located on the Mekong River approximately 90 kilometres to the west and the capital of Mondul Kiri, Saen Monourom is located approximately 60 kilometres to the south-east. In May 2017, Emerald completed a Definitive Feasibility Study ('DFS') on the development of the Okvau Gold Project which demonstrated a robust project producing approximately 106,000 ounces of gold per annum on average over 7 years from a single open pit.

In July 2018 the Company was granted the Industrial Mining Licence covering 11.5 km<sup>2</sup> which allows for the development of the Okvau Gold Project. The Mining Licence has an initial 15-year period with the right to two renewals of up to 10-years for each renewal in accordance with Cambodian laws. The grant of the Mining Licence followed approval of the Okvau Gold Project by the Office of Council Ministers for both the rezoning of the project area to 'Sustainable Use' and the granting of the Mining Licence. The rezoning of the Mining Licence area to 'Sustainable Use' lawfully permits commercial development under Cambodian law and follows the successful negotiation and approval by the Minister of Environment ('MoE') of the environmental contract (the 'Environmental Contract') and environmental licence ('Environmental Licence') in December 2017.

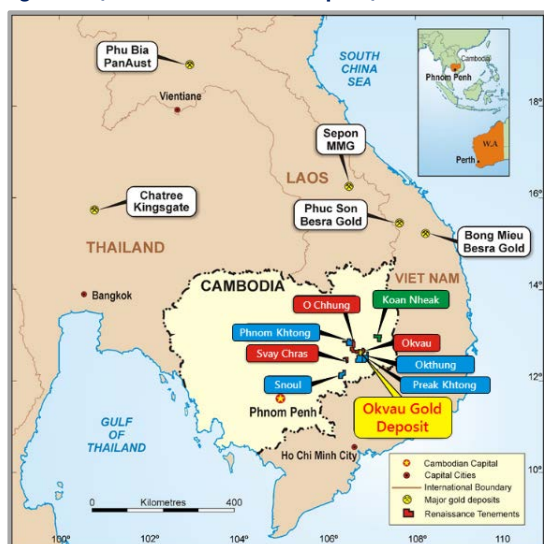
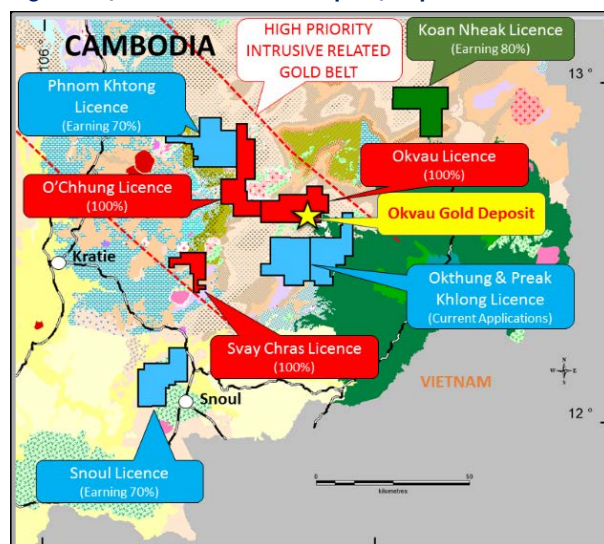
The Company has successfully completed the resettlement of 62 local families and site works to remove abandoned structures away from the Okvau Mining Licence area. Emerald has completed the installation of a security fence around the Project Development Area ('PDA') to ensure the safety of personnel, visitors and wildlife. Construction of a 35 tonne bridge across the Prek Te River, upgrades to an existing rural road and the construction of a new section of planned road have commenced which will allow all year continuous access to the Okvau site.

Topography of the tenure area is relatively flat with low relief of 80 metres to 200 metres above sea level. The Okvau Deposit and other gold occurrences within the tenure are directly associated with diorite and granodiorite intrusions and are best classed as Intrusive Related Gold mineralisation. Exploration to date has demonstrated the potential for large scale gold deposits with the geology and geochemistry analogous to other world class Intrusive Related Gold districts, in particular the Tintina Gold Belt in Alaska (Donlin Creek 38Moz, Pogo 6Moz, Fort Knox 10Moz, Livengood 20Moz).

In November 2019 the Mineral Investment Agreement ('MIA') was approved which provides certainty and stability of the fiscal regime for the development and operations of the Okvau Gold Project. Following confirmation of the key fiscal incentives of the MIA, the key assumptions and inputs of the DFS were reviewed resulting in a significant improvement in the NPV and IRR of the Project.

For further information please contact  
Emerald Resources NL

**Morgan Hart**  
**Managing Director**

**Figure 11 | Cambodian Gold Project | Location**

**Figure 12 | Cambodian Gold Project | Exploration Licence Areas**


### Forward Looking Statement

This announcement contains certain forward-looking statements. These forward-looking statements are not historical facts but rather are based on the Company's current expectations, estimates and projections about the industry in which Emerald Resources operates, and beliefs and assumptions regarding the Company's future performance. Words such as "anticipates", "expects", "intends", "plans", "believes", "seeks", "estimates", "potential" and similar expressions are intended to identify forward-looking statements. These statements are not guarantees of future performance and are subject to known or unknown risks, uncertainties and other factors, some of which are beyond the control of the Company, are difficult to predict and could cause actual results to differ materially from those expressed or forecasted in the forward-looking statements, which reflect the view of Emerald Resources only as of the date of this announcement. The forward-looking statements made in this release relate only to events as of the date on which the statements are made. Emerald Resources will not undertake any obligation to release publicly any revisions or updates to these forward-looking statements to reflect events, circumstances or unanticipated events occurring after the date of this announcement except as required by law or by any appropriate regulatory authority.

This announcement has been prepared in compliance with the current JORC Code 2012 Edition and the ASX listing Rules. All material assumptions on which the forecast financial information is based have been included in this announcement.

The Company believes that it has a reasonable basis for making the forward-looking statements in this announcement, including with respect to any production targets and financial estimates, based on the information contained in this announcement. All material assumptions underpinning the production target or the forecast financial information continue to apply and have not materially changed.

100% of the production target referred to in the 1 May 2017 announcement is based on Probable Ore Reserves.

Emerald has a highly experienced management team, undoubtedly one of the best credentialed gold development teams in Australia with a proven history of developing projects successfully, quickly and cost effectively. They are a team of highly competent mining engineers and geologists who have overseen the successful development of gold projects in developing countries such as the Bonikro Gold Project in Cote d'Ivoire for Equigold NL and more recently, Regis Resources Ltd.

The Company believes it has a reasonable basis to expect to be able to fund and develop the Okvau Gold Project for the reason set out above and in this announcement. However, there is no certainty that the Company can raise funding when required.

### Competent Persons Statements

The information in this report that relates to Exploration and Grade Control Results is based on information compiled by Mr Keith King, who is an employee to the Company and who is a Member of The Australasian Institute of Mining & Metallurgy. Mr Keith King has sufficient experience which is relevant to the style of mineralisation and type of deposits under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Keith King has reviewed the contents of this release and consents to the inclusion in this announcement of all technical statements based on his information in the form and context in which it appears.

The information in this report that relates to the Mineral Resources for the Okvau Gold Deposit was prepared by EGRM Consulting Pty Ltd, Mr Brett Gossage, who is a consultant to the Company, who is a Member of the Australasian Institute of Mining & Metallurgy (AIG), and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined by the 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Gossage has reviewed the contents of this news release and consents to the inclusion in this announcement of all technical statements based on his information in the form and context in which it appears.

Information in this announcement that relates to Ore Reserves for the Okvau Gold Deposit is based on, and fairly represents, information and supporting documentation prepared by Mr Glenn Williamson, an independent specialist mining consultant. Mr Williamson is a Member of the Australasian Institute of Mining & Metallurgy. Mr Williamson has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person (or "CP") as defined in the 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Williamson has reviewed the contents of this news release and consents to the inclusion in this announcement of all technical statements based on his information in the form and context in which it appears.

### No New Information

To the extent that announcement contains references to prior exploration results and Mineral Resource estimates, which have been cross referenced to previous market announcements made by the Company, unless explicitly stated, no new information is contained. The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcements and, in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed.

## Appendix One | JORC Code, 2012 Edition | 'Table 1' Report

### Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections).

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul style="list-style-type: none"> <li>Diamond drilling is used to recover a continuous core sample of bedrock. As a standard 1m length half-core samples are submitted for assay, in a small number of cases sample interval lengths have been modified to use geological boundaries as the limit of sample interval for assay.</li> <li>Reverse circulation (RC) drilling is used to collect 1m samples these are riffle split at the drill rig to produce a 3-5kg sub-sample.</li> <li>Soil samples (approx. 100g) are collected from shallow (+/- 20-30cm deep) augers, to avoid any surface contamination and used to define areas of interest and/or drill targets.</li> <li>Sample preparation is carried out at a commercial off-site laboratory (ALS Phnom Penh) and gold assays are conducted at the ALS Vientiane assay laboratory</li> <li>Standards, duplicates and blanks are inserted in sample batches to test laboratory performance.</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul style="list-style-type: none"> <li>A track-mounted Boart Longyear LF70 M/P drill rig is used to drill HQ3 and NQ2 diamond core.</li> <li>A track mounted Boart Longyear DB540 M/P drill rig is used to drill 5.25 inch RC holes.</li> <li>Core diameter varies – HQ, HQ3, NQ, NQ2, NQ3, NTW and BTW used at various times.</li> <li>Core was oriented by means of a REFLEX ACT orientation tool, following a standard operating procedure, for all drilling subsequent to 2009. A spear tool was used for drilling pre-2009.</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul style="list-style-type: none"> <li>All RC 1m samples and sub-samples (pre- and post-split) are weighed at the rig, to check that there is adequate sample material for assay. Any wet or damp samples are noted and that information is recorded in the database; samples are usually dry.</li> <li>Diamond core recovery is routinely monitored by comparing recovered core vs drill run lengths – recovery is consistently high. Recovery data are recorded on drill run lengths.</li> <li>There is no relationship between sample recovery and grade.</li> </ul>
Logging	<ul style="list-style-type: none"> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul style="list-style-type: none"> <li>All RC chips and diamond core is routinely logged (qualitatively) by a geologist, to record details of regolith (oxidation), lithology, structure, mineralization and/or veining, and alteration. In addition, the magnetic susceptibility of all samples is routinely measured. All logging and sampling data are captured into a database, with appropriate validation and security features.</li> <li>A geotechnical log is produced for all diamond core.</li> <li>Core has been logged to an appropriate level of detail by a geologist to support mineral resource estimation.</li> <li>100% of core is logged, with the mineralised intersections logged to greater detail.</li> <li>In addition to the geological logging, other features recorded are: location of bulk density samples; downhole camera survey calibration, intervals confidently oriented; and core condition.</li> <li>Standard field data are similarly recorded (qualitatively) routinely by a geologist for all soil sampling sites.</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul style="list-style-type: none"> <li>Most RC samples are dry and there is little likelihood of compromised results due to moisture.</li> <li>Diamond drill core is sawn in half with core split using a core saw; one half is preserved as a geological record, the other is sent for assay.</li> <li>All types of samples are prepared for assay at the NATA accredited ALS Cambodia sample prep facility in Phnom Penh. This facility has been inspected numerous times by independent consultants including by Mr Brett Gossage in December 2016.</li> <li>Samples are dried for a minimum of 12 hours at 100°C; crushed with a Boyd Crusher, to -2mm, with a rotary splitter attached, to deliver a 1.0-1.2kg split; which in turn is pulverized to -75µm by an Essa LM2 or LM5 Ring Mill. A standard &gt;85% pass rate is achieved (with particle size analysis performed on every fifteenth sample as a check).</li> <li>At least three field duplicate samples are collected at the RC drill rig (per hole) to monitor sampling precision; while coarse</li> </ul>



Criteria	JORC Code explanation	Commentary
		<p>crush duplicates of diamond core are generated at the sample prep stage (because of the need to preserve drill core).</p> <ul style="list-style-type: none"> <li>This sample technique is industry norm, and is deemed appropriate for the material.</li> </ul>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<ul style="list-style-type: none"> <li>All drill samples are sent to the NATA accredited ALS Laboratory in Vientiane, Laos, for fire assay. From 2016 a 50g fire assay was completed (Au-AA26: 50g ore grade method, total extraction by fusion, with an AA finish). Samples reporting &gt;100ppm upper detection limit are repeated by Au-AAGRA22 method, graphite furnace with gravimetric finish. Pre 2016, a 30g fire assay was completed (Au-AA25: 30g ore grade method, total extraction by fusion, with an AA finish), samples which report &gt;100ppm upper detection limit are repeated by Au-AAGRA22 method, graphite furnace with gravimetric finish.</li> <li>Resource and Metallurgy samples are sent to the similarly accredited ALS Lab in Brisbane, Australia, for multi-element ICP analysis, after aqua regia digest of a 1g charge by ME-MS42: ICP-MS for Ag, As, Bi, Cu, Sb, Te, Hg. Multi-element samples returning &gt;250ppm upper limit for Ag, As, Bi, Cu, Sb, Te by ME-MS42 are repeated by ME-IC41: ICP-AES.</li> <li>All Exploration 1m RC samples and soil samples are sent to the NATA accredited ALS Laboratory in Brisbane, Australia, for gold and multi-element ICP analysis, after digest of a 50g charge by aqua regia (TL44-MEPKG, ICP MS/AES for Au, Ag, Al, As, B, Ba, Be, Bi, Ca, Cd, Ce, Co, Cr, Cu, Fe, Ga, Hg, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, S, Sb, Sc, Se, Sn, Sr, Te, Th, Ti, Tl, Te, Th, Ti, U, V, W, Zn).</li> <li>Fire assay is considered a total gold assay.</li> <li>This method has a lower detection limit of 0.01g/t gold.</li> <li>All magnetic susceptibility measurements of drill samples are made with a Terraplus KT-10 magnetic susceptibility meter.</li> <li>An appropriate sample preparation and analytical quality control programme confirms that the gold fire assay values are of acceptable quality to underpin mineral resource estimation.</li> <li>Industry-standard QA/QC protocols are routinely followed for all sample batches sent for assay, which includes the insertion of commercially available CRMs and blanks into all batches - usually 1 of each for every 20 field samples. Some blanks used are home-made from barren basalt or quarry granite. QA/QC data are routinely checked before any associated assay results are reviewed for interpretation, and any problems are investigated before results are released to the market - no issues were raised with the results reported here.</li> <li>All assay data, including internal and external QA/QC data and control charts of standard, replicate and duplicate assay results, are communicated electronically.</li> <li>Reviews of QA/QC data concluded that the quality of assay data is sufficient to support reporting of the Okvau Resource Estimate.</li> </ul>
Verification of sampling and assaying	<ul style="list-style-type: none"> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul style="list-style-type: none"> <li>The calculations of all significant intercepts (for drill holes) are routinely checked by senior management.</li> <li>Two close spaced (twin) holes confirm confidence in the existence and projection of mineralised intercepts over short ranges.</li> <li>All field data associated with drilling and sampling, and all associated assay and analytical results, are managed in a relational database, with industry-standard verification protocols and security measures in place.</li> <li>Brett Gossage visited the site in December 2016 and visually verified the results in the assay database against mineralised intersections evident in the stored half core.</li> </ul>
Location of data points	<ul style="list-style-type: none"> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul style="list-style-type: none"> <li>Drill hole collar locations are surveyed with a differential GPS used in RTK survey mode. The instrument has sub centimeter accuracy for both horizontal coordinates and vertical coordinates.</li> <li>All locations are surveyed to the WGS84 UTM grid. Collar coordinates are routinely converted to a local grid (local N is approx. equivalent to UTM 045°), with an appropriate transformation about a common point - to simplify the interpretation of drill cross sections.</li> <li>In 2017, Wes Gartrell, a WA authorised mine surveyor, completed checks on the survey. His work confirmed the accuracy of all the previously collected survey data.</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> <li>The first 9 holes of the Okvau resource drill hole database were not surveyed downhole; but all subsequent holes were surveyed downhole at 25-30m intervals for all types of drilling, using a single-shot REFLEX survey tool (operated by the driller and checked by the supervising geologist).</li> <li>A topography surface was generated using data collected from a UAV (drone) survey referencing established survey control. This topography surface was confirmed by the survey positions of the drill collars and was applied to this study.</li> </ul>
Data spacing and distribution	<ul style="list-style-type: none"> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul style="list-style-type: none"> <li>Intersection spacing for the Okvau Resource Estimate is typically 25m by 25m or better in the top 100m of the deposit. Below 100m vertical the drill spacing widens to 25m drill sections and 50m on or along section.</li> <li>This drill spacing is considered to be sufficient to establish geological and grade continuity appropriate for the declaration of resources.</li> <li>No samples within a "zone of interest" are ever composited.</li> </ul>
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul style="list-style-type: none"> <li>Drill holes are usually designed to intersect target structures with a "close-to-orthogonal" intercept.</li> <li>Drilling has been done at various orientations; moderately to steeply northwest dipping is the most common.</li> <li>Most of the drill holes intersect the mineralised zones at sufficient angle for the risk of significant sampling orientation bias to be low.</li> </ul>
Sample security	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>The chain of custody for all drill samples from the drill rig to the ALS Sample Prep facility in Phnom Penh is managed by Renaissance personnel. RC drill samples are transported from the drill site to the Okvau field camp, where core is logged and all samples are batched up for shipment to Phnom Penh. Soil samples are collected by Renaissance personnel and they deliver the samples to the ALS sample prep facility.</li> <li>Sample submission forms are sent to the ALS Sample Prep facility in paper form (with the samples themselves) and also as an electronic copy. Delivered samples are reconciled with the batch submission form prior to the commencement of any sample preparation.</li> <li>ALS is responsible for shipping sample pulps from Phnom Penh to the analytical laboratories in Vientiane and Brisbane, and all samples are tracked via their Global Enterprise Management System.</li> <li>All bulk residues are stored permanently at the ALS laboratory in Vientiane, except for samples from the first 9 drill holes, which were submitted to Mineral Assay and Services Co in Thailand.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>All QAQC data are reviewed routinely, batch by batch, and on a quarterly basis to conduct trend analyses, etc. Any issues arising are dealt with immediately and problems resolved before results are interpreted and/or reported.</li> <li>Comprehensive QAQC audits have been conducted on this project by Duncan Hackman (August 2009, February 2010 &amp; November 2011), SRK (February 2013), Nola Hackman (January 2014) and Brian Wolfe (2015).</li> <li>Brett Gossage (2017) completed a review of the available quality data and concluded the data quality was robust and appropriate for resource estimation studies.</li> </ul>

## Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section).

Criteria	Explanation	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> <li>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.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>The Okvau Gold Deposit is located on the 11.5km<sup>2</sup> Industrial Mining Licence (No. 0003 ME GDMR L). The licence is held (100%) in the name of Renaissance Minerals (Cambodia) Ltd, a wholly owned Cambodian subsidiary of Renaissance Minerals Ltd. Emerald Resources NL owns 100% of Renaissance Minerals Ltd.</li> <li>The tenure is considered to be completely secure.</li> <li>The Okvau Industrial Mining Licence is located within the broader Phnom Prich Wilderness Sanctuary area however located inside the 'sustainable use' area which allows for commercial development under Cambodian Laws.</li> <li>The Royal Government of Cambodia (via the Ministry of Mines and Energy) is very supportive of the Project and has provided the company with all necessary licences/permits for construction and development of the project.</li> </ul>

Criteria	Explanation	Commentary
Exploration done by other parties	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>Renaissance Minerals (Cambodia) Ltd was acquired by Renaissance Minerals Ltd (ASX RNS) in May 2012 and was formerly named OZ Minerals (Cambodia) Ltd when it was a 100% owned subsidiary of OZ Minerals Ltd. OZ Minerals was formed in 2009 by the merger of Oxiana Ltd (who initiated the Okvau Project) and Zinifex.</li> <li>Oxiana and OZ Minerals completed the following work at Okvau between 2006 and 2011: a resource drill-out of the Okvau deposit; plus a regional geological interpretation of Landsat imagery; stream sediment geochemistry, with some soil sampling follow-up; airborne magnetic and radiometric surveys over both ELs, and various ground geophysical surveys (including gradient array IP); geological mapping and trenching; and the initial drill testing of various exploration targets.</li> </ul>
Geology	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>The Okvau Gold Deposit is interpreted as an "intrusion-related gold system". It is hosted mostly in Cretaceous age diorite and, to a lesser extent, in surrounding hornfels (metamorphosed, fine-grained clastic sediments). Gold mineralization is hosted within a complex array of sulphide veins, which strike northeast to east-west, and dip at shallow to moderately steep angles, to the south and southeast.</li> <li>Mineralisation is structurally controlled and mostly confined to the diorite. The highest grade intersections generally occur at the diorite-hornfels contact.</li> <li>The host diorite at Okvau is one of numerous similar Cretaceous-aged intrusions in eastern Cambodia, which are believed to be related to an ancient subduction zone that was located to the east, off the coast of current Vietnam.</li> </ul>
Drill hole Information	<ul style="list-style-type: none"> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul style="list-style-type: none"> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>The Okvau Resource Estimate is based on a database of 217 drill holes, for a total of 42257.38m. The database can be further broken down into 113 diamond drill holes for 31,447.38m and 105 reverse circulation (RC) drill holes for 10,810m.</li> <li>Intersection spacing for the Okvau Resource Estimate is typically 25m by 25m in the top 100m of the deposit. Below 120mRL vertical metres the drill spacing widens to 25m drill sections and 50m on or along section.</li> </ul>
Data aggregation methods	<ul style="list-style-type: none"> <li>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.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul style="list-style-type: none"> <li>Compositing done the Okvau Resource Estimate is discussed in Section 3.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>The majority of drill holes intersect the mineralisation at a sufficient angle for the risk of sampling orientation bias to be low.</li> </ul>
Diagrams	<ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>Appropriate maps are included in the body of the ASX release dated 1 May 2017.</li> </ul>
Balanced reporting	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable.</li> </ul>
Other substantive exploration data	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Surface geological mapping and detailed structural studies have helped inform the geological model of the Okvau Deposit.</li> <li>Emerald has completed a Definitive Feasibility Study, the result of which have been reported in the ASX release dated 1 May 2017. This study included metallurgical, geotechnical and hydrological studies.</li> </ul>
Further work	<ul style="list-style-type: none"> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul style="list-style-type: none"> <li>Further drilling at the Okvau Deposit will be undertaken to test lateral extensions of the known mineralisation</li> <li>Further drilling will be undertaken to test new targets, as potential is recognized.</li> </ul>

### Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in the preceding section also apply to this section).

Criteria	Explanation	Commentary
Database integrity	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>During a site visit by Brett Gossage, field observations were compared with the corresponding information in the database.</li> <li>Visual checks were made to confirm that mineralised intervals evident in the drill core corresponded with assay results in the database.</li> <li>Collar positions were checked on the ground to confirm positional accuracy.</li> </ul>
Site visits	<ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>A site visit was completed to the Okvau site by Brett Gossage on the 6/12/2016. In addition, the ALS sample preparation laboratory in Phnom Penh was reviewed on 5/12/2017. No material issues were identified.</li> <li>No review of the ALS Assay Laboratory in Vientiane, Laos, however, independent consultant Mr Brian Wolfe, completed a review of this facility in 2015 and concluded the laboratory was laboratories appeared clean and organized and no material issues were noted.</li> <li>Diamond drilling was being completed during the site visit. The drilling and sampling was completed consistent with good industry practice.</li> <li>The core management facilities were observed, and appeared to be organised and well suited to managing the logging and sampling procedures efficiently.</li> <li>No RC drilling was being completed during the site visit. The drilling and sampling protocols were reviewed and are considered to represent good industry practices.</li> <li>Based on the site reviews, no data quality issues have been identified sufficient to affect the currently designated classification of the resources.</li> </ul>
Geological interpretation	<ul style="list-style-type: none"> <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 of grade and geology.</li> </ul>	<ul style="list-style-type: none"> <li>The mineralisation is hosted within a Cretaceous diorite intrusion emplaced in a Triassic metasedimentary package. Gold grade continuity is best defined along the traces of planar shears within the diorite that extend into the metasediments (hornfels).</li> <li>A wireframe solid of the diorite has been generated and is used as a control of the mineralisation constraints. In addition, a wireframe representing the top of fresh has also been interpreted by Emerald.</li> <li>A mineralisation constraint was modelled based on a cross sectional and flitch interpretation that was completed by Emerald using a 0.5gt Au lower cutoff grade. The interpretation included 2m external dilution and a maximum 5m internal dilution. This interpretation was completed applying the interpreted geological controls.</li> <li>An indicator kriging estimate was generated using 1m downhole composites of the drilling coded with the Emerald mineralisation interpretation. A grade shell was constructed using a 0.35 or greater probability threshold estimated with the indicator kriging. The grade shell was constrained to within 100m of the nearest data point in the diorite and 75m within the hornfels. This grade constraint ensures the appropriate continuity of the interpreted zones with the inclusion of additional sub-grade material. The mineralisation constraint has been used for the resource estimation studies.</li> <li>Alternative grade constraints were generated by varying the cut-off grade, intercept criteria and the probability of the indicator estimate. The continuity of these alternative interpretation was variable according to the chosen parameters and the chosen grade shell was felt to be the most representative of the mineralization continuity and 3D geometry.</li> </ul>
Dimensions	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>The mineralization has been delineated over a strike length of approximately 680m, a width of approximately 650m and to a depth of 550m below surface.</li> </ul>
Estimation and modelling techniques	<ul style="list-style-type: none"> <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 significant (eg. Sulphur for acid mine drainage characterization).</li> </ul>	<ul style="list-style-type: none"> <li>Multiple Indicator Kriging (MIK) with change of support to estimate recoverable resources was chosen as the most appropriate estimation method for gold.</li> <li>Secondary variables (sulphur, arsenic, bismuth, antimony, copper, and tellurium) have been estimated using Ordinary Kriging (OK).</li> <li>The mineralisation domain to constrain estimation was modelled as described above. Diorite and hornfels mineralisation have been estimated separately with soft boundaries used to limit the sharing of data between the mineralisation domains.</li> <li>A downhole composite length of 2m has been used in estimation.</li> </ul>

Criteria	Explanation	Commentary
	<ul style="list-style-type: none"> <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 assumption about correlation 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 drillhole data, and use of reconciliation data if available.</li> </ul>	<ul style="list-style-type: none"> <li>Variogram model were generated and fitted for indicator and gold grade variograms. Separate variography was modelled for hornfels and diorite.</li> <li>A parent block size of 20mE x 25mN x 10mRL was used for grade estimation.</li> <li>A multiple pass estimation strategy was applied.</li> <li>Sample neighbourhood of dimensions of 50m x 50m x 20m, 100m x 100m x 40m, and 200 x 200mN x 80mRL were used for passes 1, 2 and 3 respectively. The reported resource is comprised of little of the 3<sup>rd</sup> estimation pass.</li> <li>A maximum of 40 and with a minimum of 24 (pass 1) and 12 (passes 2 &amp; 3) composites have been used in grade estimation. A maximum number of 8 composites from any drillhole have been allowed to estimate a single block.</li> <li>A combination of soft and semi-soft boundaries were used in grade estimation. Composites from the adjacent domain (i.e. hornfels when estimating diorite and the reverse) were used for estimation pass 1 (50m by 50m by 20m). For estimation passes 2 and 3, the adjacent domain composites were required to be within 40m by 40m by 10m of the block centroid for estimation. Adjacent domain composites further than this distance were excluded.</li> <li>Composite grades were capped at 20g/t for the hornfels and 40gt for the diorite fresh domains and 10g/t for the diorite oxide domain. For estimation passes 2 and 3, additional high grade caps of 6.98gt and 8.88gt were applied to the hornfels and diorite domains composites respectively to reduce the impact of potential extrapolation of high grade data.</li> <li>Density values were assigned based on lithology and oxidation. The assigned diorite density for oxide was 2.82t/m<sup>3</sup> and 2.87t/m<sup>3</sup> for fresh material. The assigned hornfels density was 2.76t/m<sup>3</sup> for oxidised rock and 2.78t/m<sup>3</sup> for fresh material.</li> <li>The topography surface was generated using data collected from a UAV (drone) survey referencing established survey control. The detailed UAV and surface survey incorporated has fully accounted for depletion by artisanal mining.</li> <li>From the MIK panel estimate, a selective mining unit (SMU) estimate has been generated based on a 5m by 5m and 5m block size. This SMU is based on the envisaged mining practises likely to be employed at Okvau.</li> <li>The MIK SMU has been localised to SMU size blocks for visualisation and mine planning purposes.</li> <li>Previous resource estimates are available (SRK 2013) and Wolfe (2015). Differences have been noted estimates in terms of grade, tonnage and resource classification relative to the current estimate. The differences are interpreted to be a result of improved understanding of the structural controls, additional drill hole data, differences in the domaining approach and the estimation method.</li> <li>The grade estimates were statistically and visually validated prior to acceptance.</li> </ul>
Moisture	<ul style="list-style-type: none"> <li>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</li> </ul>	<ul style="list-style-type: none"> <li>Tonnages are estimated on a dry basis, as described above.</li> </ul>
Cut-off parameters	<ul style="list-style-type: none"> <li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>	<ul style="list-style-type: none"> <li>The resource model has been designed to be robust for a range of lower cutoff grades between 0.3gt to 1.0gt. Based on the results of the Feasibility Study completed by Emerald, a cut-off of 0.70g/t was chosen as the base case for reporting Mineral Resources.</li> </ul>
Mining factors or assumptions	<ul style="list-style-type: none"> <li>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, extraction) mining dilution. 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 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.</li> </ul>	<ul style="list-style-type: none"> <li>The resource model assumes open cut mining is completed and a moderate to high level of mining selectivity is achieved in mining.</li> <li>It has been assumed that high quality grade control will be applied to ore/waste delineation processes using RC drilling, or similar, applying a pattern sufficient to ensure adequate coverage of the mineralisation zones.</li> <li>An SMU dimension of 5mE x 5mN x 5mRL has been selected for recoverable resources calculation.</li> </ul>
Metallurgical factors or assumptions	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Renaissance has undertaken several phases of metallurgical test work at the Bureau Veritas Minerals Pty Ltd laboratories in Perth, Western Australia under the management of Renaissance's metallurgical consultant Metpro Consultants Pty Ltd. Further metallurgical test work has been undertaken at ALS Metallurgy Pty Ltd laboratories in Perth, Western Australia under the control of Emerald resources NL. Utilising coarse grinding and flotation, fine grinding of a low mass concentrate and conventional cyanide leaching of concentrate and flotation tails the average LOM gold recovery is estimated to be 84%.</li> </ul>



Criteria	Explanation	Commentary
Environmental factors or assumptions	<ul style="list-style-type: none"> <li>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 option. While at this stage the determination of potential environmental impact, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</li> </ul>	<ul style="list-style-type: none"> <li>Artisanal surface mining is practiced in the project area, so that the surface expression of the deposit is represented by disturbed ground.</li> <li>Due to the low relief and reasonably open topography of the area, and the lack of land conflict issues, it is assumed that waste and process residue would not preclude the project from progressing.</li> <li>Renaissance has undertaken a detailed Environmental Impact Assessment.</li> <li>Renaissance submitted its detailed Environmental and Social Impact Assessment to the Ministry of Environment in Cambodia and has received all necessary environmental approvals by way of an Environmental Contract signed in November 2017.</li> </ul>
Bulk density	<ul style="list-style-type: none"> <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> </ul>	<ul style="list-style-type: none"> <li>9,371 dry bulk density measurements were taken for selected core samples, using the immersion method.</li> <li>The measurements have been sub-divided into fresh and oxidised samples and have also grouped by lithology.</li> <li>Based on the above the bulk densities have been assigned as either 2.82t/m<sup>3</sup> or 2.87t/m<sup>3</sup> for diorite oxide and fresh respectively and 2.76t/m<sup>3</sup> or 2.78t/m<sup>3</sup> for hornfels oxide and fresh respectively.</li> </ul>
Classification	<ul style="list-style-type: none"> <li>The basis for the classification of the 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>	<ul style="list-style-type: none"> <li>The estimate has been classified as Indicated and Inferred based on the quality of the data collected, the density of data, the confidence of the geological model and mineralisation model, and the gold grade estimation quality.</li> <li>Based on these factors, high confidence estimates that were within approximately 30m or better of drilling and have been estimated with high confidence grade interpolation (generally estimation pass 1, or within 20m of drilling for estimation pass 2) were considered as Indicated Mineral Resource.</li> <li>Inferred Mineral Resource blocks were estimates not considered Indicated Resource but still within the interpreted mineralisation zone and within 75m of drilling (when estimated with pass 1 or 2) or within 40m of drilling for estimation pass 3.</li> <li>A cross sectional interpretation was completed using criteria listed above and a wireframe solid produced to capture those blocks that could be considered as Indicated and Inferred Resource. Note the wireframes were constructed such that contiguous zones of indicated and inferred blocks were grouped resulting in isolated blocks being reclassified</li> <li>The result appropriately reflects the Competent Person's view of the deposit.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>The results of any audits or reviews of Mineral Resource estimates.</li> </ul>	<ul style="list-style-type: none"> <li>No audits or reviews of the Mineral Resource estimate have taken place. However, previous estimates have been generated by independent consultants.</li> </ul>
Discussion of relative accuracy / confidence	<ul style="list-style-type: none"> <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 technical and economic evaluation. Documentation should include assumptions made and the procedures used.</li> <li>These statement of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	<ul style="list-style-type: none"> <li>The Mineral Resource is considered to be of sufficient local confidence to allow mine planning studies to be completed.</li> <li>The Indicated and Inferred classifications assigned locally to the estimation are considered sufficient to represent the relative accuracy and confidence. This has been applied to a relative confidence based on data density and zone confidence for resource classification.</li> <li>No quantitative analysis in confidence limits has been undertaken.</li> <li>Production data are not available for Okvau.</li> </ul>

#### Section 4 Estimation and Reporting of Ore Reserves

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

Criteria	Explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	<ul style="list-style-type: none"> <li>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.</li> <li>Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.</li> </ul>	<ul style="list-style-type: none"> <li>The Mineral Resource estimate that forms the basis for this Ore Reserve Estimate was completed by Brett Gossage, Principal Consultant and Director of EGRM. Mr Gossage is a geologist with over 29 years' experience. He is a Member of the AusIMM and a Member of the AIG.</li> <li>The Mineral Resources reported are inclusive of the Ore Reserves</li> </ul>
Site visits	<ul style="list-style-type: none"> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> </ul>	<ul style="list-style-type: none"> <li>Glenn Williamson has undertaken six site visits for site inspection in support of mine planning and to coordinate</li> </ul>

Criteria	Explanation	Commentary
	<ul style="list-style-type: none"> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<p>groundwater monitoring studies, geotechnical drilling, surveying of exploration drill holes and topographical survey. The visits have contributed to the outcome of the Ore Reserve estimation process and the development of the DFS.</p>
Study status	<ul style="list-style-type: none"> <li>The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>The study to which this ore reserve estimate and report applies is a definitive feasibility study. The study has been conducted at a level necessary to establish that the mine plan is technically achievable and economic with modifying factors considered and applied where appropriate.</li> </ul>
Cut-off parameters	<ul style="list-style-type: none"> <li>The basis of the cut-off grade(s) or quality parameters applied.</li> </ul>	<ul style="list-style-type: none"> <li>Cut-off grade reported in the Ore Reserve Statement has been calculated on the basis of a gold price of US\$1,250 per Troy ounce. Mining recovery and mining dilution have been applied to the resource model in the MKK resource estimation stage no additional mining loss or mining dilution has been applied in the calculation of the reserve. Metallurgical recovery has been applied at 84% and costs have been estimated from quotations or established by estimation from first principles. The milling and administration costs have been estimated from first principles as part of a DFS study and the use of 84% metallurgical recovery is based on the results of metallurgical test work.</li> </ul>
Mining factors or assumptions	<ul style="list-style-type: none"> <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 the selected mining methods.</li> </ul>	<ul style="list-style-type: none"> <li>Whittle Optimisation was used to establish the basic shell on which to base design. Inputs included cost factors, both quoted earthmoving and drill and blast costs and estimated administration and milling costs, pit slopes, US\$1,200 per ounce gold price, mining recovery (100%) and dilution (0%) and metallurgical recovery (85%).</li> <li>From within the optimal shell, a nested shell was selected that provided space for cutback and a basis for evening out the production schedule for balancing fleet requirements.</li> <li>Pit slopes were recommended based on a study of geotechnical logging of existing exploration diamond drill holes, 5 geotechnical diamond drill holes (two of which were drilled in the most recent resource drilling programme based on the recommendation of Dr PM Dight (Geotechnical Engineer). An overall pit slope of 52 degrees was applied in optimization and design closely matched that with slopes including ramps.</li> <li>Minimum mining width has not been applied in optimization but has been applied to the resource model as 5mx5mx5m.</li> <li>Grade control drilling in advance of mining has been allowed for at US\$25/metre for drilling and assaying over 17,000,000 cubic metres.</li> <li>Inferred material has been included in the optimization in all runs and excluded from pit design analysis. No inferred material has been reported the pit design reported in the Ore Reserve.</li> <li>The mining schedule associated with the Ore Reserve calls for 2x 120 tonne excavators with 12x90 tonne dump trucks with ancillary gear to mine the ore and waste at the required rate.</li> </ul>
Metallurgical factors or assumptions	<ul style="list-style-type: none"> <li>The metallurgical process proposed 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> <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>	<ul style="list-style-type: none"> <li>The metallurgical process proposed is CIL in association with flotation to process arsenopyrite and antimony which occurs in association with the gold mineralization. The process is established and used by a number of gold producers successfully.</li> <li>A total of 6 metallurgical holes were drilled in two passes for metallurgical testing. Compositing of samples was done by level to simulate process feed for the holes drilled in the second pass.</li> <li>Metallurgical recovery has been applied at 84% in accordance with instruction and the results of test work. No further allowance has been made for deleterious elements.</li> <li>No recoverable minerals are defined by specification in this case.</li> </ul>
Environmental	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Environmental studies have been completed for the current stage of operations and will be ongoing for the Okvau Project. Environmental impact and mitigation strategies and costs having been established in support of the DFS. Selection has been made of sites for waste rock storage and a tailings storage facility. Waste rock characterization studies have been undertaken and contributed to design and costing in all phases of Earthmoving, Operations and Closure. The approvals process has been completed and the Okvau Project is fully permitted for construction and operations.</li> </ul>

Criteria	Explanation	Commentary
Infrastructure	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Infrastructure including access roads and power are being developed. These costs were not considered in the static analysis of Ore Reserves but have been costed in the DFS cash flow and capital estimates.</li> </ul>
Costs	<ul style="list-style-type: none"> <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 private.</li> </ul>	<ul style="list-style-type: none"> <li>Capital items with the exception of ongoing fixed costs associated with D&amp;B and ELHD were not considered directly in the Ore Reserve study. In the DFS study, the order of expected capital has been estimated at US\$98 million with mining capital accounted for added to the variable mining costs. Effect of capital expenditure in the DFS has been estimated using NPV and IRR modelling including sensitivity to gold price, cost and metallurgical factors.</li> <li>Deleterious elements such as arsenic and tellurides occur in the deposit. The effect of these on recovery has been indicated by metallurgical test work. The environmental impact of these minerals in the TSF and Waste Storage areas has been studied and mitigation of the effect of them has been considered in DFS design and costing</li> <li>Operating costs have, in the case of mining, been quoted by a mining contractor for drill and blast and load and haul. In-house first principle estimates have been made by Emerald as part of a DFS for other costs. All costs have been quoted or estimated in US\$.</li> <li>No allowance for royalties was made in the Ore Reserve estimation but royalties have been accounted for subsequently in the detailed financial modelling in the DFS.</li> <li>Transportation charges in relation to mining have been accounted for in contract rates quoted for load and haul and drill and blast. Fuel costs take account of delivery to site as do milling costs for consumables.</li> <li>No allowance has been made for refining charges on gold sales in the Ore Reserve study but has been accounted for in the financial model.</li> </ul>
Revenue factors	<ul style="list-style-type: none"> <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 returns, etc.</li> <li>The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.</li> </ul>	<ul style="list-style-type: none"> <li>Head grade of gold ore has been estimated by inclusion of dilution within the block model used as the resource model. Blocks within the resource model have been created at 5 metre x 5 metre x 5 metre SMU size and allow for mining dilution in the reported grade, influenced by the geology and surrounding grades.</li> <li>Gold price of US\$1,250 per troy ounce was applied in Ore Reserve Analysis. The project economics in this release have been based on a gold price of US\$1,450 and an AUD/USD exchange rate of \$0.69.</li> </ul>
Market assessment	<ul style="list-style-type: none"> <li>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</li> <li>A customer and competitor analysis along with the identification of likely market windows for the product.</li> <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 contract.</li> </ul>	<ul style="list-style-type: none"> <li>The product of this mine is a precious metal and the stated methodology of applying the metal price is considered to be adequate and appropriate.</li> <li>The gold market has been strong over a reasonable period of time and has been in excess of US\$1,500 per troy ounce in recent times.</li> <li>It has been assumed that supply and demand for gold will continue on the same average basis.</li> <li>There are no major market factors are anticipated or known at the time of reporting to provide a reason for adjusting this assumption.</li> </ul>
Economic	<ul style="list-style-type: none"> <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 assumptions and inputs.</li> </ul>	<ul style="list-style-type: none"> <li>A coarse NPV was calculated using DFS estimated Capital of US\$98 million and a discount rate of 5%. Cash flows were allowance for all capital to be spent in year 1 and all mining and processing costs expended on a flat floor basis based on 2,000,000 tonnes per annum processing with associated income from gold sales at \$1,450/troy ounce. This showed a pre-tax NPV of US\$337 million over 9 years from the project from commencement of construction based on a static pre-tax project cash flow of US\$442 million.</li> <li>Analysis of sensitivities was conducted on the Whittle shell selected for design.</li> <li>Financial modelling of NPV and IRR was conducted with sensitivity estimates in the DFS.</li> </ul>
Social	<ul style="list-style-type: none"> <li>The status of agreements with key stakeholders and matters leading to social licence to operate.</li> </ul>	<ul style="list-style-type: none"> <li>Consultation with stakeholders at local district and provincial levels has been ongoing since the baseline studies commenced a number of years ago. The final ESIA was submitted to the Ministry of Environment in December 2016. Feedback from Government and key stakeholders was very positive through numerous workshops and site visits with the Ministry of Environment. This culminated in the signing of the Environmental Contract in November 2017 with the Ministry of Environment and provides the necessary environmental and social approvals to develop the Okvau Gold Deposit.</li> </ul>
Other	<ul style="list-style-type: none"> <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> </ul>	<ul style="list-style-type: none"> <li>Flooding is a material risk to the pit in operations. It is planned to construct a substantial waste bund to exclude</li> </ul>

Criteria	Explanation	Commentary
	<ul style="list-style-type: none"> <li>Any identified material naturally occurring risks.</li> <li>The status of material legal agreements and marketing arrangements.</li> <li>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.</li> </ul>	<p>flood waters and mitigate the risk.</p> <ul style="list-style-type: none"> <li>Emerald has received an Industrial Mining Licence (No. 0003 ME GDMR L) from the Ministry of Mines &amp; Energy which covers an area of 11.5km<sup>2</sup> which allows for the development of the Okvau Gold Project. The company has negotiated a Mineral Investment Agreement, a direct agreement with the Royal Government of Cambodia for the development of the Okvau Gold Project. A Sor Chor Nor has been issued by the Cambodian Council of Ministers which provides approval for the Mineral Investment Agreement to be signed.</li> <li>Emerald has now been granted all material licences/permits for construction and development of the Okvau Gold Project.</li> </ul>
Classification	<ul style="list-style-type: none"> <li>The basis for the classification of the Ore Reserves into varying confidence categories.</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> <li>The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).</li> </ul>	<ul style="list-style-type: none"> <li>No Measured Mineral Resources existed in the resource model and all Probable Ore Reserves have been derived from Indicated Mineral Resources.</li> <li>The results of classification accurately reflect Glenn Williamson's view of the project.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>The results of any audits or reviews of Ore Reserve estimates.</li> </ul>	<ul style="list-style-type: none"> <li>No audit has been conducted of the Ore Reserve estimate.</li> </ul>
Discussion of relative accuracy/ confidence	<ul style="list-style-type: none"> <li>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.</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 technical and economic evaluation. Documentation should include assumptions made and the procedures used.</li> <li>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.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>The grade estimates were statistically and visually validated prior to acceptance in the resource estimation process.</li> <li>The Probable Ore Reserve which is the subject of the Ore Reserve Statement and DFS is based on an Indicated Mineral Resource where the confidence level is less than confidence would be in a Measured Mineral Resource. Confidence in the associated cost estimates is of a high level with those aspects having been estimated from first principles. Confidence in metallurgical recovery, and mining dilution and loss aspects is moderate, with those aspects not having been operationally tested. The overall global confidence in the Probable Ore Reserve is less than for a Proved Ore Reserve.</li> </ul>