

14 June 2016

## **Siana Gold Project: Underground Mine Approved for Development Following Completion of Positive Updated Feasibility Study**

*Economic and technical outcomes support plan to extend Siana mine life well beyond current open pit*

### Key Points

#### Siana Underground

- Updated Feasibility Study completed by independent consultants Mining One Pty Ltd.
- Results from the Feasibility Study indicate that there is a financially and technically viable underground project based on a JORC 2012 compliant Ore Reserve.
- Maiden JORC 2012 Underground Ore Reserve comprises 3.01 Mt at 4.1 g/t Au for 396,000 oz of contained gold.
- The Feasibility Study also considered a long-term mine plan based on the whole underground resource (Measured, Indicated and Inferred material).
- Key Feasibility Study outcomes for the long-term mine plan include:
  - Average annual forecast recovered gold production of ~60,000 oz per annum over an 8-year production mine life
  - Forecast life-of-mine all-in sustaining costs (AISC) of US\$930-US\$980 per ounce
  - Forecast pre-tax NPV of US\$50M, assuming a US\$1,200/oz gold price and 10% discount rate
  - Forecast pre-tax IRR of 22%
  - Pre-production capital cost estimate of US\$60M
- Based on the positive outcomes of the updated Feasibility Study the Siana underground mine has been approved for development and is scheduled to commence in the second half of 2016.

#### Cautionary Statements

A component of the resources underpinning the production target is classified as inferred mineral resources. There is a low level of geological confidence associated with inferred mineral resources and there is no certainty that further exploration work will result in the determination of indicated mineral resources or that the production target itself will be realised.

The Group is satisfied that it has reasonable grounds for reporting a production target that is based on ore reserves as well as inferred mineral resources because the proportion of production attributable to inferred mineral resources is not the determining factor in the project viability. The majority of the Inferred mineral resource that features in the long term mine plan has been scheduled in the last half of the mine life.

#### Siana Open Pit Update

- Continued strong open pit performance with production of 12,145 ounces for April and May 2016.
- Siana open pit on track to achieve the upper end of FY2015-16 guidance of 57,000 to 60,000 ounces.
- Open pit production for FY2016-17 forecast at 72,000 to 80,000 ounces at an AISC in the range of US\$740 to US\$780/oz.
- Reducing operating cost profile reflects an expected significant reduction in the waste-to-ore ratio in the open pit from ~8:1 currently to ~3:1 from July 2016 onwards.

### **Red 5 Limited**

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**Management Comment**

- “This is a great result for the Red 5 Group, with the successful update of the Underground Feasibility Study marking a significant milestone for the Siana operation. This demonstrates that the proposed Siana underground development is an economically robust project that will significantly extend the life of the Siana operation well beyond the current open pit operation with an initial mine plan based on the extraction of 504,000oz of gold over a 9-year mine life including development.” – Red 5 Managing Director, Mark Williams

**Feasibility Study Assumptions and Qualifying Remarks**

The factual basis and thus reasonableness of all key assumptions is detailed in the Feasibility Study report. The key cost assumptions made in the Feasibility Study were based on either recently updated cost data or quotes from suppliers or pricing already received on site. A gold price of US\$1,200 per ounce was used and is consistent with current market trends and independent expert guidance. Productivity assumptions were based on equipment specifications and methods outlined in the relevant handbook and checked against what has been achieved at similar mines.

The results from the Feasibility Study indicate that there is an economic case for mining the Siana underground resource on the basis of the reserve estimate alone.

**OVERVIEW**

Red 5 Limited (ASX: RED) is pleased to advise that an updated Feasibility Study has been completed by independent consultants Mining One Pty Ltd (Mining One) for the proposed underground mine development at the Siana Gold Project in the Philippines. The results confirm a technically viable project with robust economic outcomes which has the potential to significantly extend the life of the operation well beyond the current open pit.

The Feasibility Study includes a maiden Ore Reserve estimate for the Siana Underground of 3.01 Mt @ 4.1 g/t gold, underpinning the proposed development of an underground mine directly below the existing open pit to extract 0.5 million tonnes of ore per annum for processing through the existing Siana mill (refer to Underground Reserve table below).

<b>Siana JORC 2012 Underground Reserve Estimate as at June 2016</b>							
<b>Estimate</b>	<b>Classification</b>	<b>Cut Off Au (g/t)</b>	<b>Tonnes (Mt)</b>	<b>Au g/t</b>	<b>Ag g/t</b>	<b>Contained Au (koz)</b>	<b>Contained Ag (koz)</b>
<b>June 2016</b>	Probable	2.4	3.01	4.1	6.7	396	644
<b>JORC 2012</b>	<b>Total</b>	<b>2.4</b>	<b>3.01</b>	<b>4.1</b>	<b>6.7</b>	<b>396</b>	<b>644</b>

Notes on the Reserve

1. Discrepancy in summation may occur due to rounding.
2. Reserves have been reported below the Stage 4 Final Pit (-130m level).
3. A cut-off grade of 2.4 g/t Au has been applied.
4. For grade estimation, the updated Siana underground resource has been constrained based on the geological interpretation which coincides with a nominal 1.0 g/t Au threshold grade. Zones of internal waste within some zones graded less than 1.0 g/t Au over a nominal two metres length and were interpreted and estimated separately.

Based on the long term mine plan that considers the whole resource (Measured, Indicated and Inferred) the Siana Underground operation is forecast to produce on average **~60,000 ounces per annum** over an 8-year production mine life. The projected cash operating cost (C1) range is between US\$700-US\$750 per ounce, and all-in sustaining costs (AISC) are forecast to be between US\$930-US\$950 per ounce.

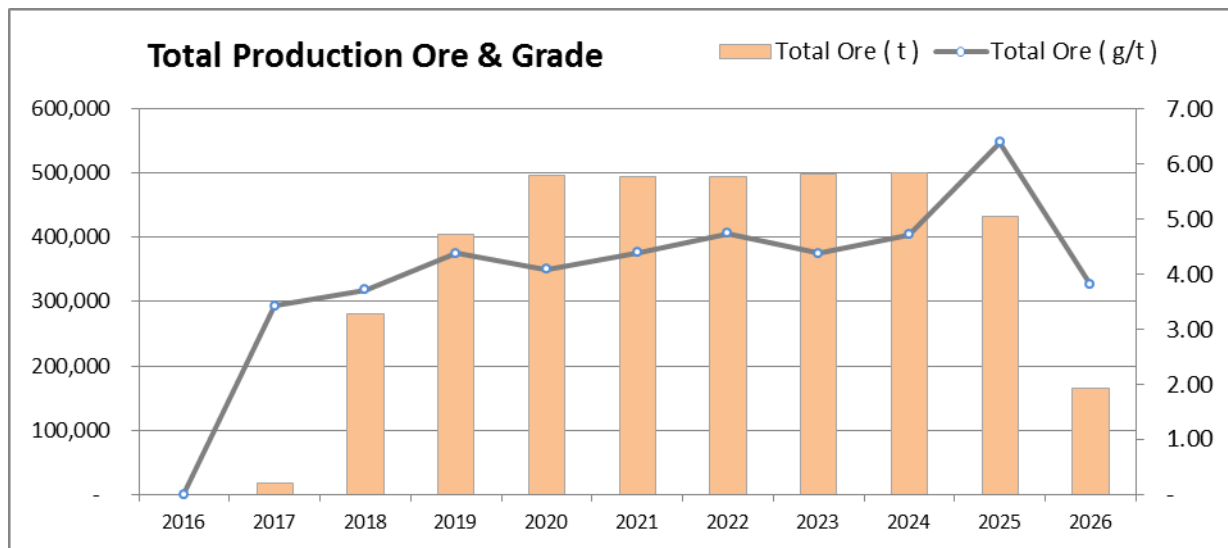
It should be noted that under the current long term mine plan 77% of the gold produced will be sourced from material classified as Indicated in the resource model with the remaining 23% sourced from Inferred material. There is no material classified as Measured in the current underground resource model. 79% of the forecast gold production in the long term mine plan is based on Probable Reserves; there is no Proven portion to the reserve estimate. No portion of the total gold production under the long term mine plan is based on exploration targets or foreign estimates.

The estimated ore reserves and/or mineral resources underpinning the production target of the total gold production have been prepared by competent persons in accordance with the requirements of the JORC Code, 2012 Edition.

There is considerable potential to extend the mine life through resource extension and further exploration of near-mine targets.

The forecast project Net Present Value (NPV<sub>@10%</sub>, Pre-Tax) for the long term mine plan at an estimated gold price of US\$1,200 over an 8-year production mine life is US\$50 million with an IRR of 22%. The pre-production capital cost for the underground mine development (including infrastructure, paste plant and development) is estimated at US\$60 million.

The robust economics and the capital cost estimate for the underground mine development make this an attractive growth opportunity for the Red 5 Group. The positive results from the Feasibility Study paves the way for the commencement of underground mine development, with a projected 12-month timeline to access first underground ore.



The Group believes that it will be able to fund the underground mine development at Siana by utilising the cash-flow generated by the existing open pit operation over the next 18 months as well as being able to accelerate initial underground development through a short-term loan facility provided by Philippines bank Metropolitan Bank & Trust Company (Metrobank) (see below for further details of this facility). This will enable the operation to transition to underground mining following the completion of the open pit by the end of calendar year 2017.

Opportunities also exist during the underground operating phase of the project for additional ore feed to be potentially sourced from the nearby Mapawa Project or existing near-mine prospects. This would have the potential to generate further economic returns from the project.

## **OPEN PIT UPDATE AND FY2016-17 GUIDANCE**

The strong operational performance of the Siana Gold Project has continued with 12,145 ounces of gold recovered for the months of April and May 2016, from processing 126,711 tonnes of ore at an estimated 86% recovery.

The Group is on track to achieve production guidance for the June 2016 Quarter of 16,000-19,000 ounces and expects production for the full 2015-16 financial year to be at the upper end of its previously announced guidance range of 57,000-60,000 ounces.

Following completion of the annual work plan and budget for the 2016-17 financial year, Red 5 has updated its production guidance for the year ending 30 June 2017 to 72,000 to 80,000 ounces at a forecast all-in sustaining cost (AISC) in the range of US\$740 to US\$780 per ounce.

The reducing cost profile for the open pit operation reflects a reduction in the forecast waste-to ore-ratio in the Siana open pit as the open pit progresses through Stages 3 and 4. The strip ratio is currently ~8:1 and is projected to fall to ~3:1 from July 2016 onwards. The reduction in all-in sustaining costs should result in strong cash-flow generation for the remainder of the open pit operation, which can be utilised to fund the proposed underground development.

Gold sales of ~14,000 ounces for April and May 2016 amounted to US\$17.5 million and the current Group cash balance is A\$13 million. Current ore stockpiles are estimated at ~136,000 tonnes at a grade of 1.35 g/t Au.

Greenstone Resources Corporation (GRC), the Red 5 Group associated entity operating in the Philippines, has secured a short-term loan facility of 300 million Philippine pesos (approximately A\$8.8 million) from leading Philippines bank, Metropolitan Bank & Trust Company (Metrobank), which is available to accelerate early development of the Siana underground operation.

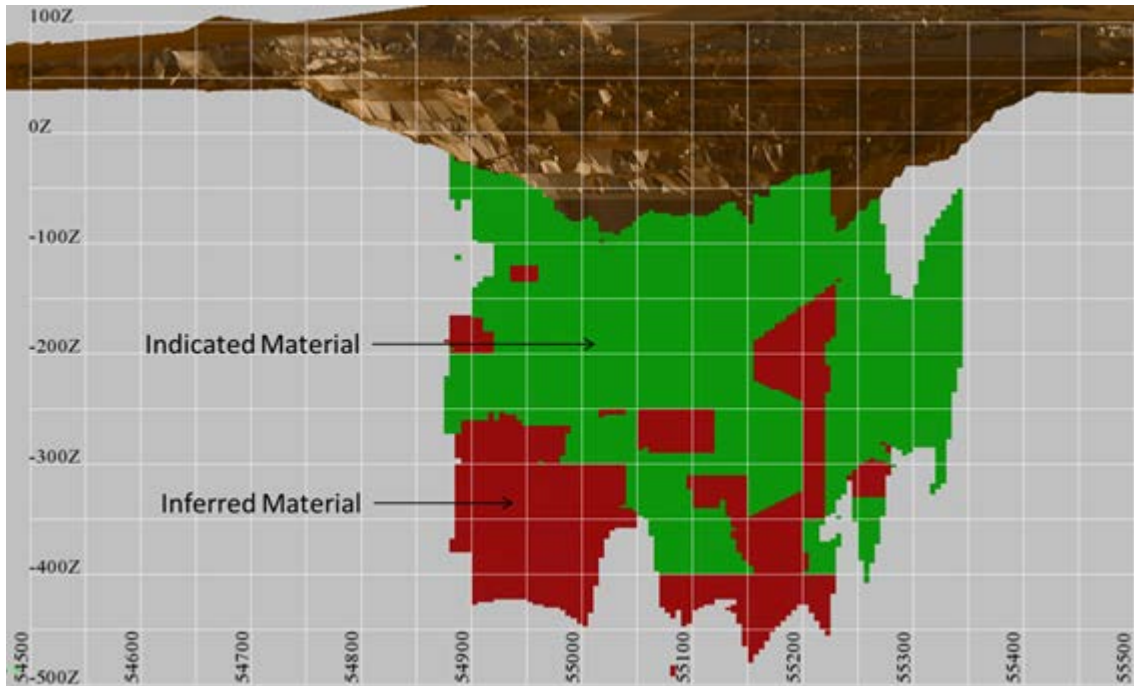
The facility is for a period of four months commencing from date of draw-down and is secured against plant and equipment. Interest is payable each month in arrears and is currently estimated to be between 6% and 8%. A Standby Letter of Credit Line facility of a further 100 million Philippine pesos is also available from Metrobank. GRC will investigate the opportunity to seek a renewal of the facility once the initial four months has passed.

## **UNDERGROUND FEASIBILITY STUDY**

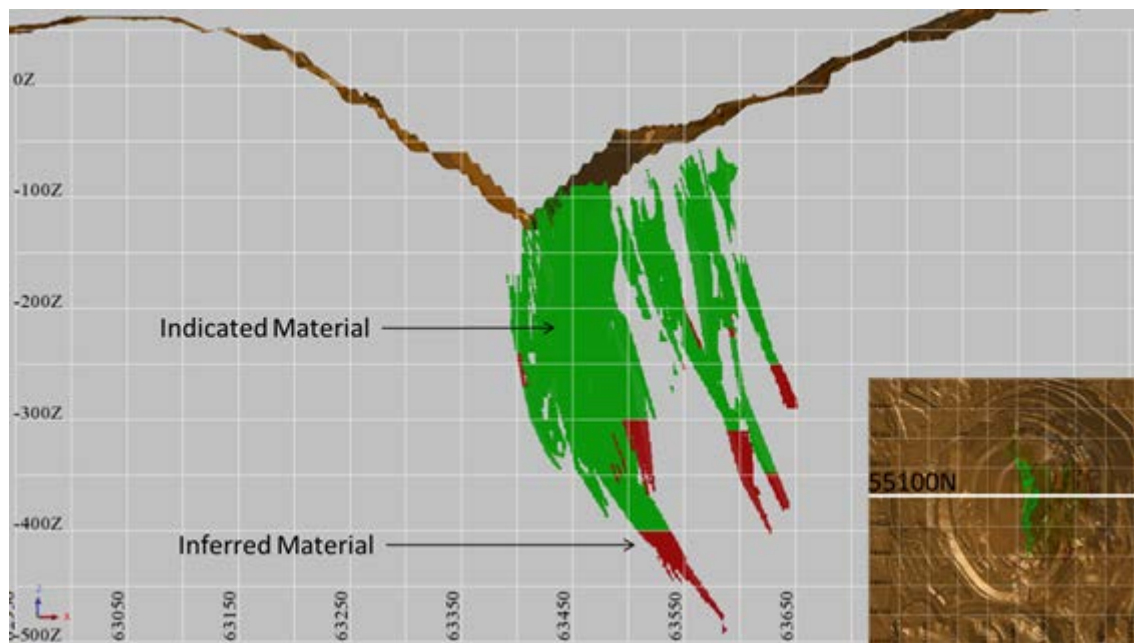
### **Long-Term Mine Plan**

The Feasibility Study considered the technical and economic viability of mining the whole resource beneath the final pit design as it is currently understood. This included the assessment of resource material classified as both Indicated and Inferred (there is no material classified as Measured). The motivation for this approach is that the Inferred material only makes up a small proportion of the total ore inventory (10%) and is likely to be converted to Indicated material on the basis of the proposed grade control drilling program. A representative long section and cross-section is provided below to provide some indication where the Inferred material is located. The majority of this material has been scheduled to be mined in the last half of the mine life.

The forecast project mine production plan is for 8 years mining some 3.8Mt at a head grade of 4.6 g/t gold equivalent for a total of 504,000 ounces of recovered gold.



Long-section of the resource model above 1.0g/t Au equivalent.



Cross-section at 55100N

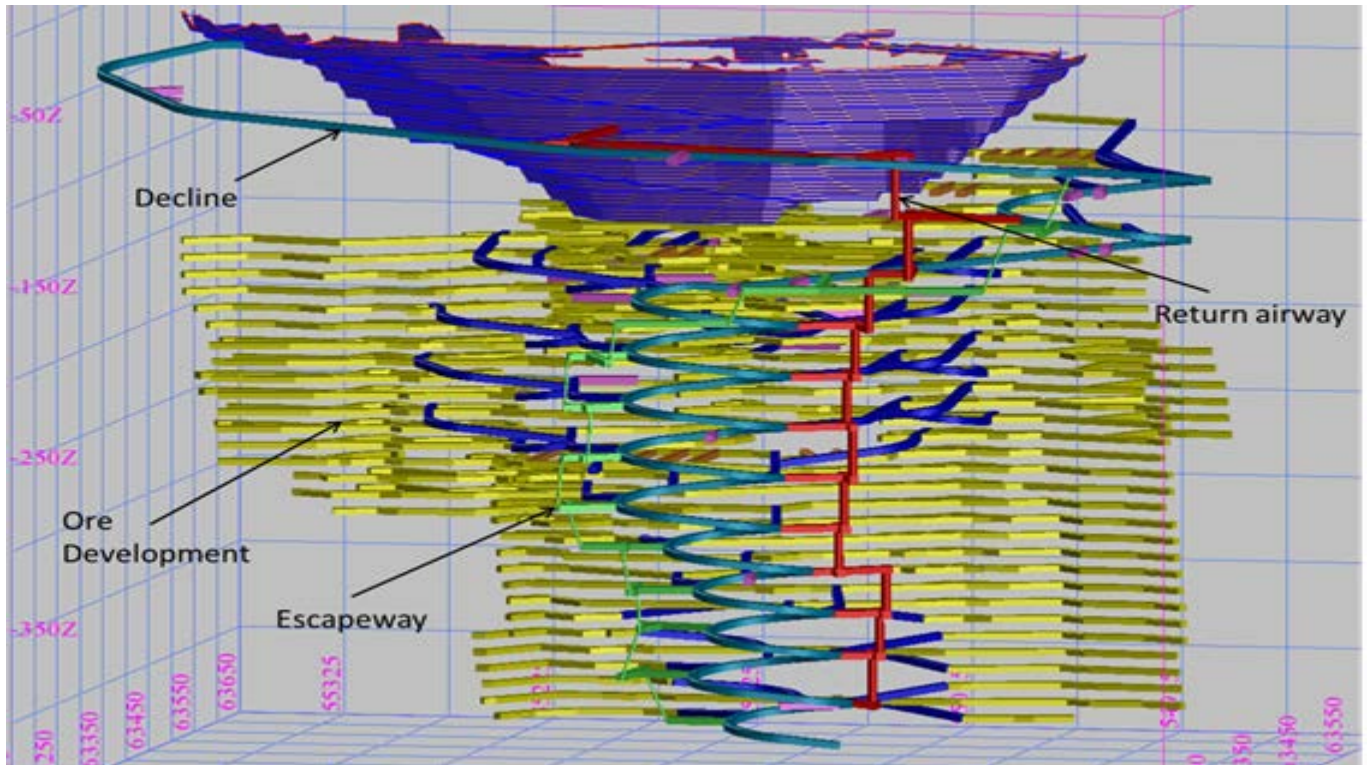
### Mining Methods

Mining One has undertaken a detailed review of the mining methods adopted in previous studies. The updated mine plan is based on the use of a conservative short up-hole retreat mining method with cemented paste-fill for the majority of the orebody.

A geotechnical assessment of the proposed mining method and tunnel development was also conducted as part of the Feasibility Study. In the context of the Siana ore body, Mining One believes that there are significant advantages in the up-hole retreat mining method using conventional jumbo drill and blast for tunnel development and stoping.

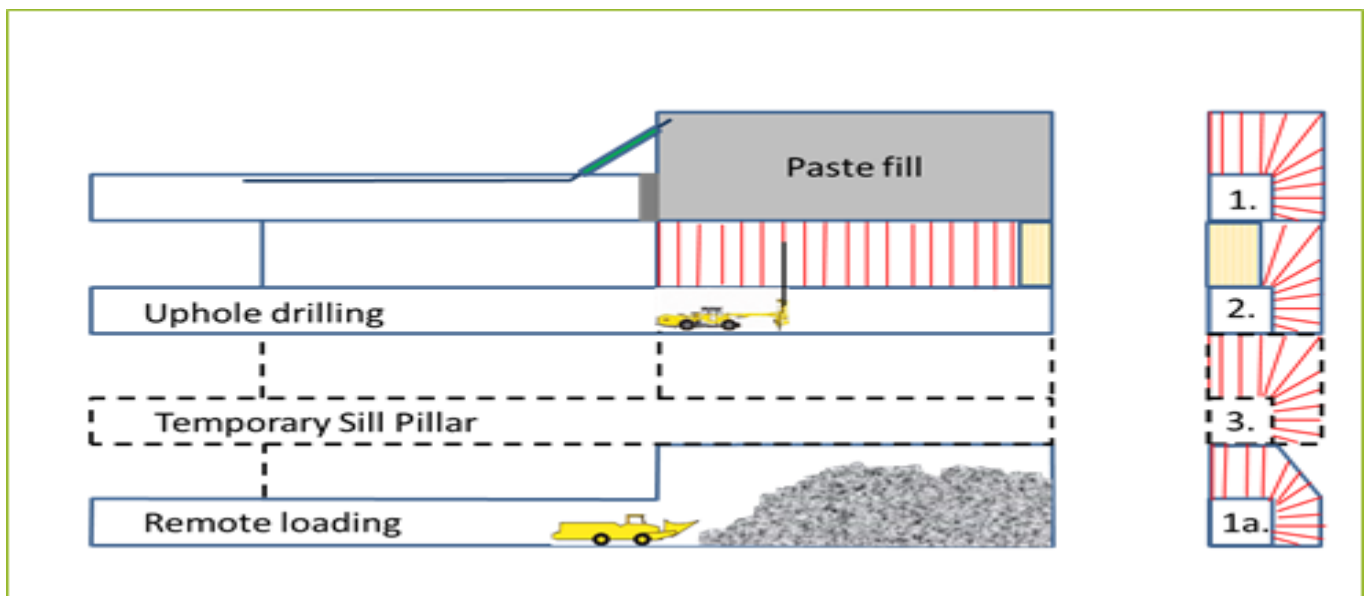


A key to the success of the project will be managing geotechnical and hydrogeological issues. As such a detailed development design with multiple level access and short level spacing has been produced that will allow for control of the mining front while also providing scheduling flexibility. An isometric view of the mining front is provided below.



**Isometric view of ore development**

The principal mining method proposed for the underground operation is uphole stoping with cemented paste. This is a proven and productive mining method. Given the ground conditions a small level spacing (10m) has been used. This will allow for better control of the mining voids and drilling and blasting. The use of cemented fill means mining can be conducted on several levels. A schematic illustration of the mining method is provided below.



**Schematic illustration of the proposed mining method**

### Processing

Ore from the Siana underground operation will be processed at the existing 1.1Mtpa gravity and carbon-in-leach (CIL) processing facility located at Siana.

### Pre-production capital costs

The total pre-production capital costs for the underground project have been estimated at US\$60 million. The capital expenditure estimate for the Feasibility Study predominantly relates to construction of a paste plant, infrastructure and underground development.

### Operating cash costs

The estimated C1 operating cash costs plus royalties over the life-of-mine (LOM) are US\$700-US\$750 per ounce. The life-of-mine all-in sustaining cost (AISC) is forecast at US\$930-US\$980 per ounce. The costs have been based on quotes from various suppliers and costs already received on site. Mining cost estimates have been validated with estimates from several underground mining contract specialists.

### Pricing assumptions

For the purposes of the Feasibility Study, the Group has adopted a gold price of US\$1,200 per ounce over the life of the project. The Group believes that this pricing profile is appropriate and Mining One considers that it is consistent with market trends and long term pricing projections from independent sources.

### Financial evaluation

A summary of key parameters from the financial model used in the Feasibility Study is outlined in the following table:

Summary of Key Parameters from Underground Feasibility Study Financial Model		
Life of Mine (LOM) including development	Years	9
LOM Ore Mined	Mt	3.8
Maximum Plant Feed Rate	Mtpa	1.1
Average Gold Head Grade	g/t	4.6
Average Gold Recovery	%	90
Average Forecast Gold Price	US\$/oz	1,200
Forecast FX Rate	AUD:USD	0.72
Initial Capital Cost	US\$M	60
Average LOM Operating Cost	US\$/oz	700-750
Ave AISC Costs	US\$/oz	930-980
NPV (10% Discount Rate, Pre-Tax)	US\$M	50
IRR	%	22

### LONG TERM TAILINGS STORAGE FACILITY

Planning and implementation for the long term tailings storage facility continues to progress well. Concept designs have been completed by Knight Piésold on the preferred location. Sterilisation drilling and geotechnical assessments have also been finalised. International consultants AECOM have continued to advance the required statutory Environmental Performance Report and Management Plan with two important activities of the Public Scoping and Technical Conference being completed during the past two months.

### SUMMARY AND MANAGEMENT COMMENT

Commenting on the results of the Underground Feasibility Study and open pit update, Red 5's Managing Director, Mr Mark Williams, said: "This is a great result for the Group, with the successful update of the Underground Feasibility Study marking a significant milestone for the Siana operation. This demonstrates that the proposed Siana underground development is an economically robust project that will significantly extend the life of the

Siana operation well beyond the current open pit operation with an initial mine plan based on the extraction of 504,000oz of gold over an 8-year production mine life.”

“Importantly, the technical fundamentals and financial returns of the project are underpinned by a capital cost estimate which the Group will aim to fund from internal cash-flow from the open pit mine.”

“Against this backdrop, it is pleasing to see that the strong performance of the open pit mine is continuing with production on track to achieve the upper end of our guidance range for FY2015-16. We have also updated production guidance for FY2016-17, with all-in sustaining costs projected to fall as the strip ratio of the latter stages of the open pit reduces significantly from current levels.”

“The growing cash-flows generated by the open pit should provide strong momentum as we move ahead with the underground mine and put in place the foundations for what we believe will be a long and successful future for the Siana operation.”

## RESERVE ESTIMATE

As part of the underground Feasibility Study, Mining One has completed a maiden Ore Reserve estimate for the Siana underground deposit. The assessment considered the parts of the resource classified as indicated (there are no parts of the resource classified as measured). Some diluting material contained inferred and unclassified material.

A summary of the Ore Reserve estimate is provided below, with full details provided in Appendix 1.

Siana JORC 2012 Underground Reserve Estimate as at June 2016							
Estimate	Classification	Cut Off Au (g/t)	Tonnes (Mt)	Au g/t	Ag g/t	Contained Au (koz)	Contained Ag (koz)
June 2016 JORC 2012	Probable	2.4	3.01	4.1	6.7	396	644
	<b>Total</b>	<b>2.4</b>	<b>3.01</b>	<b>4.1</b>	<b>6.7</b>	<b>396</b>	<b>644</b>

### Notes on the Reserve

1. Discrepancy in summation may occur due to rounding.
2. Reserves have been reported below the Stage 4 Final Pit (-130m level).
3. A cut-off grade of 2.4 g/t Au has been applied.
4. For grade estimation, the updated Siana underground resource has been constrained based on the geological interpretation which coincides with a nominal 1.0 g/t Au threshold grade. Zones of internal waste within some zones graded less than 1.0 g/t Au over a nominal two metres length and were interpreted and estimated separately.

## JORC 2012 Maiden Ore Reserve Summary for the Siana Underground

### Material Assumptions, Outcomes from Feasibility Study and Economic Assumptions

The material assumptions used for the Reserve estimate were the same as those for the long term mine plan (provided above and detailed in the Feasibility Study report). As there is not a significant difference in the ore inventory between the long term mine plan and the reserve, adjustment to the productivity assumptions and mining methods was not required. The nature and location of the indicated material meant that the same capital mine design could be used. For more detail the reader is directed to JORC code Table 1 below.

### Criteria Used for Classification

Typically inferred material is adjacent to material classified as indicated in the resource model. As a result, the scheduled mining of some of the indicated material included some inferred material as dilution. The grade of the inferred material was not considered when assessing whether or not the relevant part of the resource should be included in the reserve estimate.



Some material captured in the mine design and used for assessing the reserve included, as dilution, material that was unclassified in the resource model. Unclassified material typically included parts of the resource model that are assumed to be of a background grade for the valuable metals, but are not actually estimated in the modelling process. Unclassified material also includes dilution from the paste fill material. The grade for this material was assumed to be zero.

The unclassified material and inferred material makes up a small proportion of the reserve. Moreover it is directly adjacent to material that is classified as indicated. Given this, for the purposes of estimating a reserve, this material has been reclassified as indicated and included in probable reserve. All other indicated material captured with the mine design above the relevant cut-of grade was converted to a probable reserve. As specified in the JORC 2012 Code only indicated and measured material can be converted into a reserve.

#### ***Mining Methods and Mining Assumptions***

The principal mining method proposed for the underground operation is uphole stoping with cemented paste. This is a proven mining method that is associated with good productivities and reasonable costs. Given the ground conditions a small level spacing (10m) has been used. This will allow for good control of the mining voids and drill and blast issues. The use of cemented fill means mining can be conducted on several levels.

Key to the success of the project will be managing geotechnical and hydrogeological issues. As such a detailed development design with multiple level access and short level spacing has been produce that will allow for control of the mining front while also providing scheduling flexibility.

#### ***Processing Methods and Processing Assumptions***

Ore from the Siana underground operation will be processed at the existing 1.1Mtpa gravity and carbon-in-leach (CIL) processing facility located at Siana. A fixed gold tail of 0.44 g/t and a silver recovery of 45% have been used for metallurgical recovery.

#### ***Cut-Off Grade***

A cut-off grade assessment was completed indicating an optimal cut-off grade of 2.4 g/t of Au equivalent should be applied for the purposes of developing a reserve estimate. Some low grade material has to be mined as development in order to access the resource above the economic cut-off grade. This material is not economic by itself; however, given that it has to be mined and transported to surface the valuable metal need only cover the cost of treatment. As a result this material has been included for the purposes of estimating the reserve. The cut-off grade for this material is 0.9 g/t Au equivalent.

#### ***Block Model Estimation Methodology***

Grades were estimated using ordinary kriging which is an appropriate technique for resource evaluation of the style of mineralisation at Siana. The software package for statistics, variography and estimation was Surpac version 6.6. Grades for each mineralised zone were estimated separately using composited diamond drill hole samples from the mineralised zone being estimated. Outlying gold sample grades greater than 90 g/t Au were cut to 90 g/t Au based on a break in the Au grade sample distribution at 90 g/t Au. Search radii and orientations for grade estimation were based on the results of directional variography.

#### ***Material Modifying Factors and Approvals***

Key approvals are in place for the Underground Development including the 2002 Mineral Production Sharing Agreement (MPSA), the 2009 Feasibility Study which led to the approval of the Partial Declaration of Mining Project Feasibility (DMPF), the 2009 Environmental Protection and Enhancement Program (EPEP), the 2009 (and amended 2011) Environmental Compliance Certificate (ECC) and the three year Development/Utilisation Program from November 2015 to November 2018.

Existing mine infrastructure will be used for the underground mine with some new office, workshops and accommodation buildings to be constructed.

Please refer to the Competent Person's statement and the detailed information given in the JORC Table 1 at the end of this Announcement in Appendix 1.

**ENDS**

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**About Red 5 Limited**

Red 5 Limited (ASX: RED) through its associated Philippine company Greenstone Resources Corporation is a gold producer which operates the Siana Gold Project, located in the established gold mining region of Surigao del Norte in the Philippines. This richly endowed region hosts epithermal gold systems and world-class porphyry copper-gold deposits.

The Siana Gold Project re-commenced operations in January 2015 following the redevelopment of tailings storage capacity and is now focused on steady-state gold production and laying the foundations for the Company's future growth. The Company is focussed on the following key areas to create value for shareholders:

- **Reliable production** – to deliver steady and reliable production at Siana based on achievable targets;
- **Technical strength** – to implement high standards across all aspects of the business, including mining, processing, the management of the Tailings Storage Facility and the open pit wall cut-backs; and
- **Growth** – to lay the foundations for the Company's future growth by finalising its long-term mining plans for the open pit and future underground mine, and by recommencing exploration activities to grow its resource and reserve inventory and unlock the potential of its highly prospective exploration portfolio.

**Competent Person's Statements****Siana Open Pit Mineral Resources and Ore Reserves**

The information in this report that relates to Mineral Resources and Ore Reserves at the Siana Open Pit is extracted from the report titled Siana Open Pit Mining Review and Reserve Update dated 24 September 2015 and is available on the ASX web-site. Red 5 confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Persons findings are presented have not been materially modified from the original market announcements.

**Siana Underground Mineral Resources**

The information in this report that relates to Mineral Resources at the Siana Underground is extracted from the report titled Siana Underground Mineral Resource dated 23 February 2016 and is available on the ASX web-site. Red 5 confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Persons findings are presented have not been materially modified from the original market announcements. The Siana underground resource estimate was prepared by the Competent Person in accordance with the JORC 2012 code.

**Siana Underground Maiden Ore Reserves**

Dr David Trembath confirms that he is the Competent Person for Siana Underground Ore Reserves summarised in this Report. Dr Trembath has read and understood the requirements of the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 Edition). Moreover, he is qualified as Competent Person as defined by the JORC Code, 2012 Edition, having five years' experience that is relevant to the style of mineralisation and type of deposit described in the Report and to the activity for which he is accepting responsibility. Dr Trembath is a member of The Australasian Institute of Mining and Metallurgy, (membership number 309404). Dr Trembath is a consultant working for Mining One Pty Ltd which has been engaged by Red 5 Limited to perform this work. He has reviewed the Report to which this Consent Statement applies and verifies that the Ore Reserve section of this Report fairly and accurately reflects in the form and context in which it originally appears in an ore reserve report.

### **Forward-Looking Statements**

Certain statements made during or in connection with this statement contain or comprise certain forward-looking statements regarding Red 5 Mineral Resources and Reserves, exploration operations, project development operations, production rates, life of mine, projected cash flow, capital expenditure, operating costs and other economic performance and financial condition as well as general market outlook. Although Red 5 believes that the expectations reflected in such forward-looking statements are reasonable, such expectations are only predictions and are subject to inherent risks and uncertainties which could cause actual values, results, performance or achievements to differ materially from those expressed, implied or projected in any forward looking statements and no assurance can be given that such expectations will prove to have been correct. Accordingly, results could differ materially from those set out in the forward-looking statements as a result of, among other factors, changes in economic and market conditions, delays or changes in project development, success of business and operating initiatives, changes in the regulatory environment and other government actions, fluctuations in metals prices and exchange rates and business and operational risk management. Except for statutory liability which cannot be excluded, each of Red 5, its officers, employees and advisors expressly disclaim any responsibility for the accuracy or completeness of the material contained in this statement and excludes all liability whatsoever (including in negligence) for any loss or damage which may be suffered by any person as a consequence of any information in this statement or any error or omission. Red 5 undertakes no obligation to update publicly or release any revisions to these forward-looking statements to reflect events or circumstances after today's date or to reflect the occurrence of unanticipated events other than required by the Corporations Act and ASX Listing Rules. Accordingly you should not place undue reliance on any forward looking statement.

## APPENDIX 1

### Siana Gold Project – JORC 2012 Underground Reserve Estimate

Criteria	JORC Code 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>A mineral resource estimate has been produced by McKeown (2016). The compliance with the JORC (2012) is dealt with in this report. A central conclusion of the report is that the resource estimate provided does comply with the criteria set out in JORC 2012.</li> <li>The measured and indicated parts of the resource model are inclusive of the mineral resources used in the determination of the reserve estimate. This is to say the reserve estimate should <b>not</b> be added to the resource estimate for the purpose of estimating the total mineral resource.</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 conducted by the competent person in 2015 for the purpose of assessing JORC 2012 compliance. A key recommendation from that visit was to produce an updated feasibility study to meet the conditions set out in JORC (2012).</li> </ul>
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>A bankable feasibility study was conducted in 2009 (Red 5 Limited, 2009a). Although much of this complied with the conditions set out in the JORC (2012) there were areas that required updating and more detail (Trembath, et al., 2015a).</li> <li>In 2016 another feasibility study was commissioned for the purpose of assessing the technical and financial viability of mining beneath the current designed life of mine pit (Trembath, et al., 2016). This study assesses a mine plan based on the indicated parts of the resource that is technically and economically viable.</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>An analysis based on guidance from Hall (2014) was developed to determine the optimal gold equivalent cut-off grade for the resource (2.4 g/t). This analysis modeled a range ore inventories at varying cut-off grades to determine the optimal value.</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> </ul>	<ul style="list-style-type: none"> <li>Detailed development and stope designs based on geotechnical advice and optimum cut-off grade were used to convert the indicated parts of the mineral resource to an ore reserve.</li> <li>A range of mining methods were considered on technical and financial grounds. The mining methods chosen were based on developing a practical, safe and financially robust mine plan. Matters were complicated by the presence of old workings believed to have now collapsed and or back-filled. The proposed use of cemented paste fill will aid in the recovery of the resource and the overall</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>• <i>The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.</i></li> <li>• <i>The major assumptions made and mineral resource model used for pit and stope optimisation (if appropriate).</i></li> <li>• <i>The mining dilution factors used.</i></li> <li>• <i>The mining recovery factors used.</i></li> <li>• <i>Any minimum mining widths used.</i></li> <li>• <i>The manner in which inferred mineral resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.</i></li> <li>• <i>The infrastructure requirements of the selected mining methods.</i></li> </ul>	<p>stability of the mine.</p> <ul style="list-style-type: none"> <li>• The geotechnical conditions to be encountered are likely to be fair to poor. Matters are complicated by the hydrology and the presence of old workings. Having noted this, the design criteria and support methodology used in the mine design process was based on sound geotechnical modeling. Tunnel development sizes were minimized, and stope designs kept within geotechnical guidance.</li> <li>• A grade control program has been designed and costed for the resource.</li> <li>• A resource block model was used for the purpose of designing the mine. It is arguable that the block model will increase in complexity with grade control sampling. Given the current experience with mining the resource it is believed that this issue is unlikely to introduce any serious error in the estimation of the ore reserve.</li> <li>• Dilution was based on a geotechnical assessment and applied to the final design stopes as dilution skin. Additional dilution from cemented backfill material was also applied at a rate of 5% of the total ore movement as a tonnage.</li> <li>• Where short up-hole stoping is proposed a 95% mining recovery of the stoped ore inventory by tonnage is assumed. In and around old workings the mining recovery is assumed to be 80%. For the crown pillar zone the recovery is 30%. This low mining recovery represents the uncertainty associated with mining the crown pillar.</li> <li>• The minimum mining width for stoping, including dilution is in the order of 3m. The minimum mining width for ore development is 4.5m.</li> <li>• Inferred material is typically adjacent to material classified as indicated in the resource model. As a result, the scheduled mining of some of the indicated material will typically include some inferred material as dilution. To assess the implications of this the valuable metal associated with the inferred material was removed from the assessment of the relevant stope. If after this process the stope remained above the cut-off grade then it remained in the reserve inventory. If the stope grade as result of removing the valuable metal associated with the inferred material fell below the cut-off grade then the whole stope was removed from the ore inventory. This process ensured that it is not the grade of the inferred material that determined the economic viability of the ore inventory. However, given that the inferred grade is the best estimate of the grade of the relevant proportion of the diluting material in a stope it was used in estimating the grade.</li> </ul>



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		<ul style="list-style-type: none"> <li>• A separate mine plan was developed that included the assessment of all resource categories. The financial value of the resource improved significantly as a result including inferred material in the mine plan.</li> <li>• The infrastructure requirements were addressed in the mining feasibility study including the specification of a paste-fill plant, primary and secondary ventilation fans, pumping system, electrical reticulation.</li> </ul>
<i>Metallurgical factors or assumptions</i>	<ul style="list-style-type: none"> <li>• <i>The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.</i></li> <li>• <i>Whether the metallurgical process is well-tested technology or novel in nature.</i></li> <li>• <i>The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.</i></li> <li>• <i>Any assumptions or allowances made for deleterious elements.</i></li> <li>• <i>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.</i></li> <li>• <i>For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?</i></li> </ul>	<ul style="list-style-type: none"> <li>• The Siana site already has an operating mill. Ore from the mineral resource is currently being processed and treated successfully.</li> <li>• Ore currently being treated in the mill is considered representative of the underground mineral resource. The mill is currently performing with an estimated 89% recovery for gold and 45% recovery for silver. This recovery factor was used in the assessment of the resource.</li> <li>• No assumptions or allowances were made for deleterious elements beyond what is already understood of the metallurgical characteristics of the ore.</li> <li>• The mill produces a doré product.</li> </ul>
<i>Environmental</i>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The mine is currently operating with all relevant environmental permits. The mine plan involves a backfill system that will return a significant portion of the waste rock and tailings to underground void as a cemented product.</li> <li>• A closure plan and fund exists for the mine.</li> </ul>
<i>Infrastructure</i>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The mine is currently operating. It is located a small distance off a main highway. Some adjustments to the site infrastructure are required including upgrade of site accommodation and power facilities.</li> </ul>
<i>Costs</i>	<ul style="list-style-type: none"> <li>• <i>The derivation of, or assumptions made, regarding projected capital costs in the study.</i></li> <li>• <i>The methodology used to estimate operating costs.</i></li> <li>• <i>Allowances made for the content of deleterious elements.</i></li> <li>• <i>The source of exchange rates used</i></li> </ul>	<ul style="list-style-type: none"> <li>• Capital costs have been estimated on the basis of budget quotes from suppliers and detailed design and scheduling.</li> <li>• Operating costs have been estimated on the basis of budget quotes from suppliers and detailed design and scheduling. Quotes from specialist mining contractors have been used to validate the estimates.</li> </ul>

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	<p><i>in the study.</i></p> <ul style="list-style-type: none"> <li>• <i>Derivation of transportation charges.</i></li> <li>• <i>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</i></li> <li>• <i>The allowances made for royalties payable, both Government and private.</i></li> </ul>	<ul style="list-style-type: none"> <li>• No inflation or escalation in costs was assumed in the modeling.</li> <li>• No allowances were made for the content of deleterious elements beyond what is currently understood.</li> <li>• The study was costed in US dollars making it somewhat insensitive to exchange rate fluctuations. For those costs depending on exchange rates published rates at the time of the study were used.</li> <li>• Transportation charges of the doré were provided by the company.</li> </ul>
Revenue factors	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The head grade is derived from interrogating the resource model with the proposed mine design. Modifying factors were applied to account for recovery and dilution from backfill material. Treatment charges were based on what is currently achieved on site. Further charges for administration, royalties and excise tax was also accounted for.</li> <li>• A gold price of \$1,200 per ounce US has been used for gold and \$14 US per ounce for silver. This pricing is consistent with guidance from a range of independent sources (Hubbard, 2015) (International Monetary Fund, 2016) (World Bank Group, 2016).</li> </ul>
Market assessment	<ul style="list-style-type: none"> <li>• <i>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</i></li> <li>• <i>A customer and competitor analysis along with the identification of likely market windows for the product.</i></li> <li>• <i>Price and volume forecasts and the basis for these forecasts.</i></li> <li>• <i>For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Gold and silver are readily saleable and require no specific marketing or sales contract.</li> <li>• There are no direct competitors in the production of gold and silver.</li> <li>• Recent analysis shows increasing demand for gold with modest increases in supply (Street, et al., 2016).</li> <li>• The price forecast assumes a fixed value over the life of the mine. The long term trend indicates that gold and silver price will increase. The current forecasts are within IMF guidance confidence intervals (International Monetary Fund, 2016).</li> </ul>
Economic	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>NPV ranges and sensitivity to variations in the significant assumptions and inputs.</i></li> </ul>	<ul style="list-style-type: none"> <li>• A discount rate of 2.5% was used in the analysis of the reserve estimate NPV. This rate is based on the Australian Government Bond long term yield rate. No inflation in either cost or prices has been assumed in the financial modeling.</li> <li>• A Monte Carlo simulation of the cash value of the reserve was completed. The results indicate that there is a 75% chance that the project would be cash positive given systematic errors in major determinants of the value of the project.</li> </ul>
Social	<ul style="list-style-type: none"> <li>• <i>The status of agreements with key stakeholders and matters leading to social licence to operate.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The mine is currently operating with a good working relationship with land owners and government administrators and regulators.</li> </ul>
Other	<ul style="list-style-type: none"> <li>• <i>To the extent relevant, the impact of the following on the project and/or on the estimation and classification of</i></li> </ul>	<ul style="list-style-type: none"> <li>• The major technical risks for the project are associated with water management, maintaining good ground conditions when</li> </ul>

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	<p><i>the ore reserves:</i></p> <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>mining in the ore, mining in and around old-workings, and the management of heat. The proposed mine plan addresses these risks to the extent that they are currently understood.</p> <ul style="list-style-type: none"> <li>• There is some ambiguity in the guidance on escapeway requirement in the Department of Environment and Natural Resources (2000). It is recommended that further clarification be sought on this. However, it is the competent person's opinion that this issue is unlikely to represent a significant risk to the technical and economic viability of the project. There are no other outstanding legal issues that pose an impediment to mining.</li> <li>• The mine is currently operating a producing open pit and complying with all relevant legal, social, environmental obligations. It is not anticipated that mining the underground resource beneath the pit will incur further risks in this regard.</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>• A detailed mine design was completed targeting the parts of the resource classified as indicated (there was no material classified as measured) and above the specified optimal cut-off grade. Material within the relevant grades of valuable metal contained within these designs was considered for conversion to a reserve estimate. The majority of this material was classified as indicated; however, some diluting material included unclassified material and inferred material. Given that the inferred and unclassified material was typically adjacent to indicated material it was reclassified as indicated for purpose of a reserve estimate. The indicated material within the economic design was then converted into a probable reserve estimate. There is no proven reserve.</li> <li>• It is the competent person's view that the methods used for the purpose of the reserve estimate provide a fair and reasonable estimate of the minable parts of the resource as it is currently understood.</li> <li>• No parts of the resource were classified as measured.</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>• An audit of previous reserve estimates has been completed. To date no audit of the current reserve estimate has been completed.</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</li> </ul>	<ul style="list-style-type: none"> <li>• The reserve is based on a feasibility study completed to a level of detail that is typically expected for the scale of the resource currently understood at Siana. The level of planning and analysis is greater than what would be expected in a prefeasibility study and thus the confidence in the results should have improved. A key factor in the assessment of the reserve is the accuracy of the cost estimates and key determinants</li> </ul>

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	<p><i>such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.</i></p> <ul style="list-style-type: none"> <li><i>• 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.</i></li> <li><i>• 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.</i></li> <li><i>• 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.</i></li> </ul>	<p>such as the mine production profile. Confidence intervals around such estimates are almost impossible to quantify (McCarthy 2009, p.63). Maybe all that can be said here is that sufficient detail has been considered to show that the mine plan has a reasonable chance of success. On the current approach the use of geostatistical analysis to estimate the relevant confidence intervals would be complex. Simulation methods that may help in this regard, and have been recommended in the feasibility study. However, further work is considered unnecessary for the purpose of a reserve declaration primarily because the resource modelling currently reconciles well with production data.</p> <ul style="list-style-type: none"> <li>• Key risks to the reserve are: gold price, resource grade tonnage distribution, production rate, metallurgical recovery and mining costs. The competent person believes that the required attention to detail has been given to the project such that assumptions and estimates are based on reasonable grounds. However, the combined effect of errors in assumptions has been tested in a Monte Carlo simulation.</li> <li>• Modifying factors have been applied to account for uncertainties in mineability of certain parts of the resource. For instance a recovery factor of 30% has been applied to the crown pillar zone of the resource to reflect the uncertainty in the recovery of this part of the resource. For mining around old workings a recovery factor of 80% has been applied. For all other mining the assumed recovery is 95% of design shape. Dilution has been accounted for based on geotechnical analysis or in the case of paste fill dilution applied as a factor (5%).</li> </ul>