

## POSITIVE SCOPING STUDY COMPLETED AT THE MT STIRLING GOLD PROJECT – LEONORA REGION, WA

Study outlines viable open pit mining scenario at strategic gold deposit located ~10km north-east of Red 5's King of the Hills gold deposit based on third-party processing

### Highlights:

- Scoping Study managed by independent mining consultants Minecomp Pty Ltd (Minecomp), with inputs from BM Geological Services Pty Ltd (BMGS) and Torian Resources.
- Study based on open pit mining only of the existing Inferred Resource of 981,000t at 1.6g/t 50,000oz across the Mt Stirling and Mt Stirling Well deposits.
- Study assumes treatment via a third-party processing facility.
- Base case of 103,000t of material to be mined from multiple pits within the project area.
- Potential identified within the Study for significant improvements to the project.
- Planning underway for Pre-Feasibility Study activities.

### SCOPING STUDY PARAMETERS – CAUTIONARY STATEMENTS

*The Scoping Study ("Study") referred to in this announcement has been undertaken to determine the potential viability of an open pit mining operation at the Mt Stirling Project based on the Mt Stirling and Mt Stirling Well resources within the Project area. The purpose of the Study is to determine the probable scale of mining operations at the project and to determine whether to proceed with more definitive feasibility studies. This study is based on low level technical and economic assessments that are not sufficient to support the estimation of ore reserves. Further exploration and evaluation work and appropriate studies are required before Torian will be in a position to estimate any ore reserves or to provide any assurance of an economic development case.*

*The Study is based on the material assumptions outlined below. These include assumptions about the availability of funding. While Torian considers all of the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the Scoping study will be achieved.*

*The Study includes existing JORC 2012 Code inferred resources defined within the project. Investors are cautioned that there is a low level of geological confidence in Inferred Resources and there is no certainty that further drilling will result in the determination of Measured or Indicated Resources or that the Production Target will be realised.*

*To achieve the range of outcomes indicated in the Scoping Study, funding in the order of \$0.4M will likely be required. Investors should note that there is no certainty that Torian will be able to raise that amount of funding when needed. It is also likely that such funding may only be available on terms that may be dilutive to or otherwise affect the value of Torian's existing shares.*

*It is also possible that Torian could pursue other "value realisation" strategies such as sale, partial sale or joint venture of the project. If it does, this could materially reduce Torian's proportionate ownership of the project.*

*Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Scoping Study. Key components of the Study and the Material Assumptions used in the Study are contained within this announcement. Information includes preliminary pit optimisations, estimated mine production schedules, metallurgical recoveries from existing test work and costs based on comparison with similar operations and estimates provided by mining and engineering contractors. The basis of all Material Assumptions is presented in the following section.*

#### **Directors**

Torian Resources Limited (ASX: **TNR**, “**Torian**” or “**the Company**”) is pleased to present the outcomes of a Scoping Study on its 100%-owned Mt Stirling Gold Project (“Project”), located near the town of Leonora in Western Australia in a well-established mining district.

The Scoping Study was managed by independent mining consultants Minecomp Pty Ltd (“Minecomp”), with inputs from BM Geological Services Pty Ltd (BMGS) and Torian Resources, and was based on open pit mining within the existing Inferred Mineral Resource of **981,000t grading 1.6g/t Au for 50,300 contained ounces** (refer Table 2 on page 3 below).

The Mt Stirling and Stirling Well deposits are located approximately 10km north-east of Red 5 Limited’s King of the Hills (formerly Tarmoola) gold mine, within a broader tenement package which adjoins the broader regional tenement package owned by Red 5 (Figure 1).

### **SCOPING STUDY BASE OUTCOMES**

The Mt Stirling Project Scoping Study assumes a conventional truck and excavator operation mining open cut pits to a maximum depth of 40m, a gold price of AUD\$1,700, with trucking to one of the nearby treatment facilities and processing by traditional CIP circuit.

Geotechnical parameters used for the conceptual pit design are based in part on observations made on the existing small underground workings combined with initial parameters used elsewhere in the Goldfields region.

The major cost estimates used are based on current industry costs where applicable, indicative quotes from trucking contractors, mining contractors, processing facilities, accommodation and hire companies. Key outcomes of the Scoping Study are set out in Table 1 below:

<b>Table 1 – Mt Stirling Project, Scoping Study Outcomes Summary</b>		
Proportion of Inferred Resource within conceptual open pits	%	<b>100</b>
Study accuracy	%	<b>+/-30</b>
Pre-production period	months	<b>6</b>
Operations period	months	<b>6</b>
Depth mined	m	<b>40</b>
Total material	BCM	<b>261,000</b>
Waste Tonnage	tonnes	<b>533,000</b>
Mined mineralisation tonnes (after dilution and loss)	tonnes	<b>103,000</b>
Mined mineralisation grade (after dilution and loss)	g/t	<b>2.3</b>
Strip ratio		<b>5.2</b>
Mill Recovery	%	<b>92%</b>
Estimated recovered ounces	oz	<b>7,100</b>

Based on these positive outcomes, and the upside opportunities outlined in the Scoping Study, the Company believes this justifies committing to the next stage of its exploration and development program at Mt Stirling.

Torian is currently investigating a number of options to monetise the project, including potential funding avenues, joint venture opportunities and/or an outright sale.

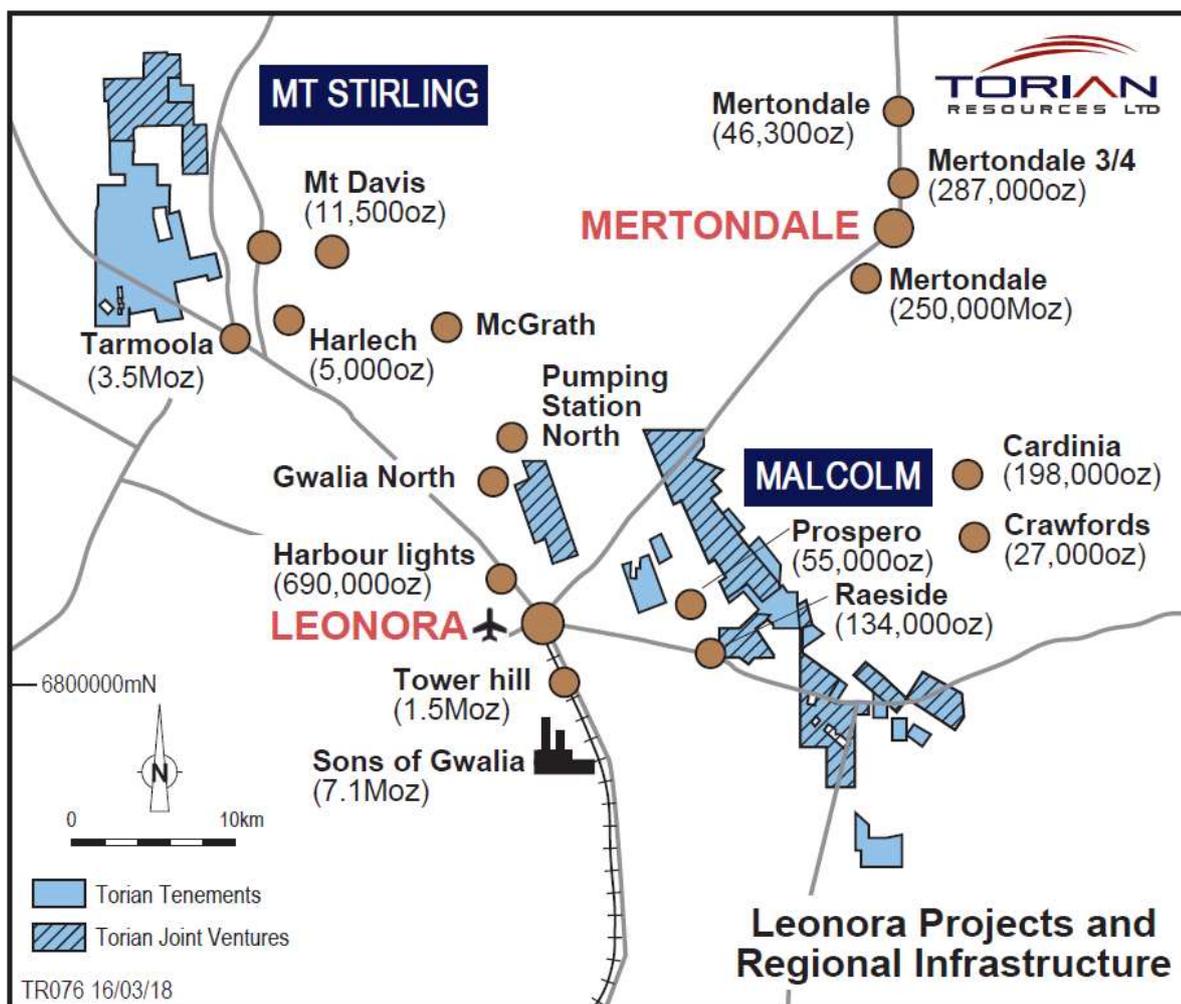


Figure 1: Mt Stirling Location and Regional Infrastructure

## MATERIAL ASUMPTIONS

### Resources

The Scoping Study is based on the Resources summarised in Table 2 (see Torian Resources Limited ASX release dated 22/02/2019) which were generated in Surpac using ordinary kriging estimation technique.

Table 2: Mt Stirling 2019 Resource Estimate (JORC Code 2012) <sup>(1)</sup>

JORC (2012) Inferred Resources – Gold >0.5g/t <sup>(1)</sup>				
Project	Deposit	Tonnes	Gold g/t	Ounces
Mt Stirling	Mt Stirling	727,000	1.5	33,900
	Mt Stirling Well	254,000	2.0	16,400
<b>Totals (Dry metric tonnes)</b>		<b>981,000</b>	<b>1.6</b>	<b>50,300</b>

(1) Refer to Torian Resources Limited ASX release dated 22/02/2019 for further information.

## **Production**

Ore production from the \$1,700/oz optimal shell is estimated to total 103,000 tonnes at 2.3g/t Au after allowing for dilution and ore loss during the mining process.

The Resources captured by the \$1,700 pit shell are classified as 100% Inferred.

No additional Exploration Targets were considered in the Study.

The conceptual mining and processing timeline cover a 12-month period which includes pre-mining mobilisation and closure and is estimated to produce 7,100oz Au, assuming a gold recovery of 92%.

The overall strip ratio is estimated to be 5.2:1 (waste: ore).

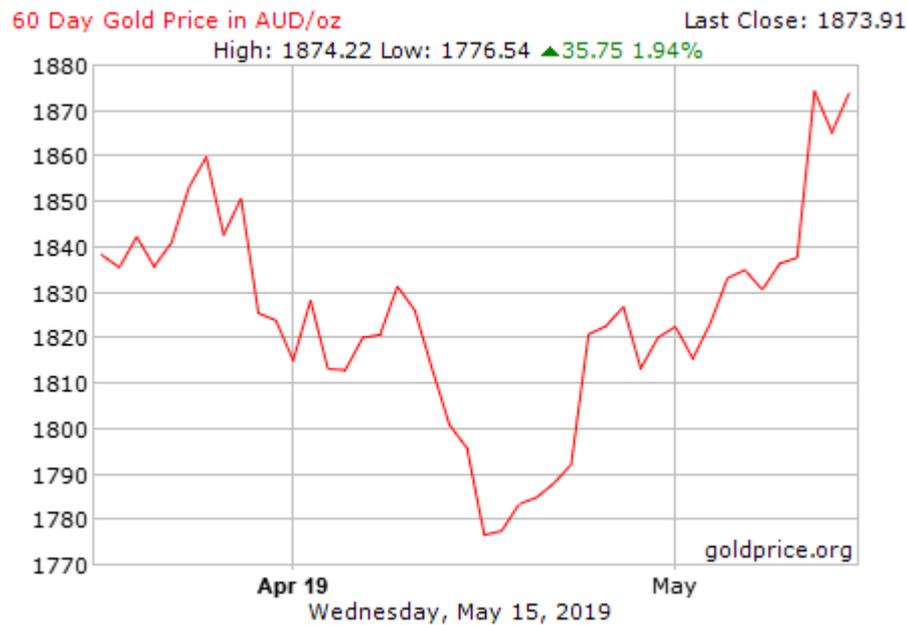
### **CAUTIONARY STATEMENT**

Investors are cautioned that there is a low level of geological confidence in Inferred Resources and there is no certainty that further drilling will result in the determination of Measured or Indicated Resources or that the Production Target will be realised.

## **Study Review**

- The Scoping Study including capital estimates, mining, haulage and processing costs has been completed to an accuracy of +/-30% and has been undertaken solely on open pit mining based on the existing Inferred Resources defined at the Mt Stirling Project.
- Mr Gary McCrae, an employee of Minecomp Pty Ltd, provided preliminary optimum pit shells. The work was undertaken on data collated by Torian Resources and generated an open pit optimisation study based on the Mt Stirling Project Inferred Resources (Table 2, Torian ASX release dated 22/02/2019).
- Processing costs were provided by a nearby toll-treatment mill and mining costs were estimated by Minecomp based on their recent experience in the district.
- Haulage and rehabilitation costs were provided by local contractors.
- Staffing levels and costs were generated based on previous experience, similar operations and public salary and contractor costs and salary information.
- The potential economic return of the project over the Life-Of-Mine and has not been reported due to the level of accuracy of this study.
- Sensitivity analysis of key inputs shows that the project is most sensitive to changes in the price of gold.
- The Study has used a base-case gold price of AUD\$1,700.

- The average gold price in the 60 days prior to the issuing of this announcement was above AUD\$1,800 (Figure 1).



**Figure 2: AUD\$ Gold Price 16 March – May 15 2019 (Source: goldprice.org)**

### Operating and Processing Cost Information

- Mining load and haulage costs are reflective of the use of 777D conventional dump trucks and ancillary equipment.
- For the purposes of this study, ore cartage and treatment costs are indicative of toll treatment at a third party ore treatment plant within 100km of Mt Stirling.
- No contractual arrangements have been entered into with any mining contractor or processing facility.

### Operating Cost Estimates

The operating cost estimates cover:

- Administration, contract mining, contract haulage, toll processing and maintenance costs.
- The Scoping Study assumes that all ore will be processed as it is mined and that processing capacity will be available to meet this requirement.
- A State Government royalty rate of 2.5% has been applied to all gold produced.
- The operating costs have been prepared to Scoping Study level of accuracy of +/- 30%.

- Operating costs have been estimated utilising a variety of sources including:
  - *First-principle estimates.*
  - *Quotations and budget estimates from external suppliers of goods and services.*
  - *Costs and mobile equipment requirements estimated by Minecomp on the basis of similar operations.*
  - *Internal Torian advice.*
  - *Published and unpublished costs from similar sized West Australian operations.*

## **Geotechnical**

- The 45° overall angle for optimisation analysis was based upon field observations and the geological setting and geometry of the mineral resources. This angle takes into account allowances for perceived 777D haulage truck ramp configurations.

## **Pit Optimisations**

- A pit shell based on a gold price of AUD\$1,700/oz was selected for evaluation by this Scoping Study.
- 20% mining dilution at 0.00g/t Au and 5% ore loss factors were applied. These factors are in line with those used for first pass scoping level optimisation analyses of resources of this geometry and nature

## **Infrastructure**

- The operation is located on Crown land in the well-established mining region north of Leonora.
- Electrical power for the workshop and administration office will be supplied on site by diesel generators.
- The study has assumed accommodation will be provided by Torian in a nearby township.
- Offices and associated buildings will be hired as required.
- A haul road from the open cut to the waste dump and an access track from the mine site to the Old Agnew Road will be required.
- Raw water will be required for dust suppression and is expected to be sourced from pit dewatering and / or bores located nearby.

## **Environmental**

- Underground mining and impoundment of tailings was undertaken historically on the site; the tailings remain and have not been rehabilitated. Sulphidic waste material mined will be specifically placed and encapsulated within the general waste dump. Extra mining costs and equipment have been included to facilitate this.

- No baseline environmental studies have been completed for the immediate environs of the site. It is anticipated that the proposed mining activity may require baseline studies as part of the approval to mine permitting process.
- Torian does not foresee any obvious detrimental environmental issues based on studies undertaken in the vicinity of the proposed mine.

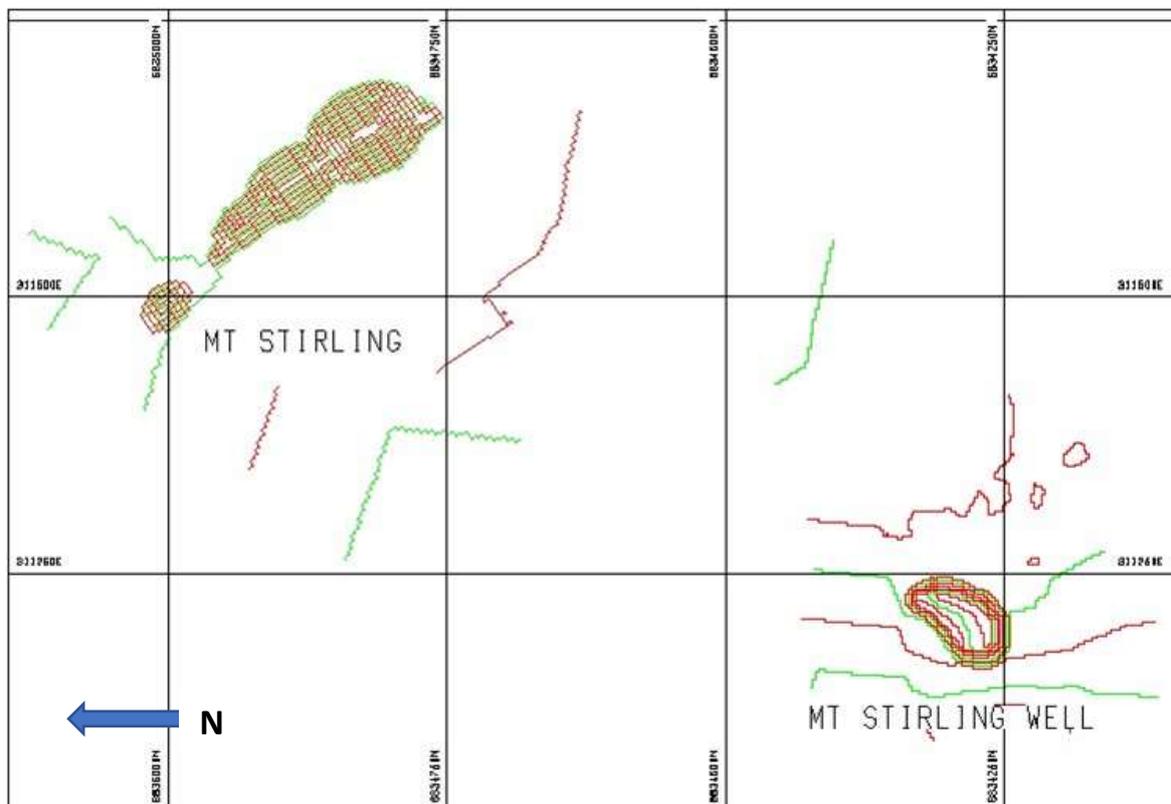
## Social

- Key stakeholders include the State of Western Australia Government, local Leonora Shire and the Tarmoola pastoral lease.

## KEY RISKS

The Scoping Study assumed that all required permits are granted in a timely manner, that no major environmental issue is encountered, that funding is available, that the resource is accurate, and suitable custom milling capacity will be available when required.

There are many other risks that will be more clearly defined as the project advances to the next round of study.



**Figure 3: Mt Stirling and Mt Stirling Well Optimum Shells at \$1,700/oz, Toll Treatment**

## Upside

Work programs currently being planned for the Mt Stirling Project are anticipated to add substantial value to the overall project as additional resources are defined and included into the mine scheduling, metallurgical characteristics are confirmed and optimised, and assessment commences on other value-add opportunities such as:

- Inclusion of low-cost heap leach processing of low grade mined material;
- Addition of new resources;
- Ore sorting trials to upgrade ore prior to dispatch to milling facility; and
- Longer term open cut and underground mining.

## Work Programs

- Definition of additional new shallow and potentially open pit amenable resources within the Leonora Region.
- Detailed metallurgical drilling of large diameter core (PQ size) to obtain specific metallurgical samples of both the oxide and sulphide zones within the proposed open pits.
- Detailed metallurgical testwork to determine final recoveries for each ore classification from each proposed open pit.
- Update detailed mining and processing costing based on the new metallurgical data.
- Application of new mining tenements as required.
- Stakeholder discussions.

## Management Comments

Commenting on the Scoping Study outcomes, Torian's Managing Director, Mr Mark Borman, said:

*"The Scoping Study results, using reasonable assumptions, are highly encouraging. The Project currently shows a relatively short open pit mine life, but there is clear potential for significantly increased cash flow through increases in mine life, which we expect to achieve through the Company's future resource definition programs.*

*"Further substantial upside could be unlocked by improved mine scheduling, increased economies of scale, inclusion of low capital cost heap leaching of low-grade mined material and potentially improved recoveries within the sulphide material."*

**ENDS**

## **For further information:**

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## **Competent Persons' Statements**

*The information contained in this report which relates to the Scoping Study and Mineral Resources is based on information compiled, reviewed and conclusions derived by Ms Lyndal Money, who is a Member of the Australasian Institute of Mining and Metallurgy and a full-time employee of the company. Ms Money has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which she is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for reporting of Exploration Results, Exploration Targets, Mineral Resources and Ore Reserves". Ms Money consents to inclusion in the report of the matters based on this information in the form and content in which it appears.*

## **Disclaimer**

*Certain statements contained in this announcement, including information as to the future financial or operating performance of Torian and its projects are forward-looking statements that:*

- *May include, among other things, statements regarding targets, estimates and assumptions in respect of mineral resources and anticipated grades and recovery rates, production and prices, recovery costs and results, capital expenditures, and are or may be based on assumptions and estimates related to future technical, economic, market, political, social and other conditions;*
- *Are necessarily based upon a number of estimates and assumptions that, while considered reasonable by Torian, are inherently subject to significant technical, business, economic, competitive, political and social uncertainties and contingencies, and*
- *Involve known and unknown risks and uncertainties that could cause actual events or results to differ materially from estimated or anticipated events or results reflected in such forward-looking statements.*