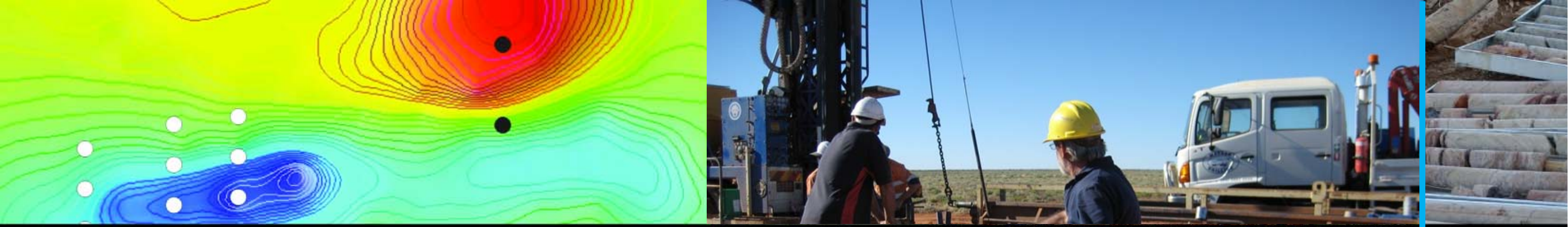

ASX and Media Release

Tarcoola 30 June 2017 Mineral Resource and Ore Reserve estimates

WPG Resources Ltd (ASX: WPG) is pleased to advise that it has completed its 30 June 2017 Mineral Resource and Ore Reserve estimates for Tarcoola prepared and reported in accordance with JORC (2012) guidelines. Highlights include:

- The inclusion of an additional 2,000 ounces from the Wondergraph prospect into indicated resource. Mineralisation is near surface (within 10m) and 500m from existing mining operations. Mineralisation at Wondergraph is open along strike in both directions.
- Total resource of 87,600 ounces including 13,700 ounces defined as a measured resource
- Remaining Ore Reserves of 567,200t at 3.0g/t for 54,300 ounces
- The resource model reconciles well to mined physicals and will act as a detailed planning tool to implement highly selective ore extraction.
- Several mineralised structures that are currently being mined, or are proximal to the current open pit are not included in the resource estimation and will form targets for drilling that is scheduled to commence this quarter.

This mineral resource estimate has been prepared using ordinary kriging techniques whereas the previous mineral resource estimate utilised a multiple indicated kriging methodology. This change in methodology has been the result of increased understanding of structural controls around gold mineralisation following commencement of mining operations and this increased knowledge base has informed both the mineral resource estimate and the revised reserve estimate.

As of 30 June 2016 the remaining life of mine strip ratio in the reserve estimate is 2.7:1 and, following the completion of the pushback underway in the September 2017 quarter, this strip ratio will reduce to 1.8:1 and Tarcoola will become a significant supplier of low cost ore to the Challenger mill.

21 September 2017

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WPG Resources Ltd

The Mineral Resource and Ore Reserve estimates set out below are followed by a summary of material information. Detailed technical information with reference to JORC (2012) compliance for the Mineral Resource and Ore Reserve estimates is provided in JORC Table 1 Sections 1 to 4 in Appendix 1.

The 30 June 2017 Mineral Resource estimate, which is shown in detail in Table 1, is a total of 1.6 million tonnes at an average grade of 1.7 g/t Au containing 87,600 ounces of gold.

Table 1: Tarcoola Mineral Resource Estimate as at 30 June 2017

Category	Tonnes (000 t)	Gold (g/t)	Gold (000 oz)
Measured	130	3.39	13.7
Indicated	930	1.82	54.4
Inferred	540	1.12	19.6
TOTAL*	**1,600**	**1.70**	**87.6**

*totals may vary due to rounding

The 30 June 2017 Ore Reserves estimate is 567,200 tonnes at an average grade of 3 g/t Au containing 54,300 ounces of gold. The Proved and Probable Ore Reserves for Tarcoola are detailed in Table 2.

Table 2: Tarcoola Ore Reserve Estimate as at 30 June 2017

Reserve Category	Type	Tonnage (000)	Gold (g/t)	Gold (000 oz)
Proved	Oxide	48.4	4.7	7.3
	Transition	23.2	4.0	3.0
	Primary	21.1	4.0	2.7
	Stockpile	58.8	1.9	3.6
	Total	**151.6**	**3.4**	**16.6**
Probable	Oxide	79.9	2.2	5.8
	Transition	119.0	2.3	8.8
	Primary	216.7	3.3	23.2
	Stockpile	0.0	0.0	0.0
	Total	**415.6**	**2.8**	**37.7**
Total*	Oxide	128.3	3.2	13.0
	Transition	142.2	2.6	11.7
	Primary	237.8	3.4	25.9
	Stockpile	58.8	1.9	3.6
	Total	**567.2**	**3.0**	**54.3**
Waste		1,548.6		
Waste : Ore		2.7		

*The tonnes and grades are stated to a number of significant digits reflecting the confidence of the estimate. Since each number and total is rounded individually the columns and rows in Table 2 may not show exact sums or weighted averages of the reported tonnes and grades.

The Mineral Resource estimate in table 1 above has been extracted from the detailed resource report that is attached to this abbreviated report. A summary of all material information used in the resource estimate is set out below. Detailed technical information with reference to JORC (2012) compliance for the Mineral Resource estimate is provided in JORC Table 1 Sections 1 to 3 in Appendix 1.

The previous resource estimate was prepared and first disclosed by Mungana Goldmines Limited (Mungana) under the JORC Code 2004. It was not updated to comply with the JORC Code 2012 prior to commencement of operations earlier in the year on the basis that the information had not materially changed since it was last reported.

Changes in Tarcoola Resource Estimate from commencement of mining in December 2016 to June 2017

Graph 1: Changes in Tarcoola Resource Estimate since commencement of mining in December 2016 to June 2017

The Ore Reserve estimate, based on the mine design completed by independent mining engineering consultants Australian Mine Design and Development Pty Ltd, is a total of 567,200 tonnes at an average grade of 3 g/t Au containing 54,300 ounces of gold and was prepared and reported in accordance with JORC (2012) guidelines.

This Ore Reserves estimate updates and replaces the August 2016 estimate. Detailed technical information with reference to JORC (2012) compliance for the Ore Reserve estimate is also provided in JORC Table 1 Section 4 Appendix 1.

Mineral Resource Estimate – Summary of Material Information

The most recent Mineral Resource estimate was reported in 2012, in accordance with the 2004 JORC Code. The Mineral Resource reported herein is being reported for the first time in accordance with the 2012 JORC Code.

The Tarcoola Mineral Resource estimate is based on information collected from numerous reverse circulation and diamond drilling campaigns that have been performed since 1979 to present. Since the last Mineral Resource estimate in 2012, Tarcoola Gold Pty Ltd has drilled an additional 683 RC Grade Control holes totalling 12,514 metres that have been included in the estimation.

The resource model has been generated through the interpretation of the drilling and structural mapping data and is showing strong geological continuity and consistency of mineralisation sufficient to support the reported Mineral Resource classification levels. Recent Grade control drilling and mining exposures has improved the understanding of the structural and lithological controls on mineralisation and has enabled the generation of mineral domains.

Numerous economic intersections lie outside of these mineral domains. Due to poor geologic continuity and reduced drillhole definition away from the Perseverance deposit, these intersections have been omitted from the Mineral Resource estimate. The increased geological understanding of the mineralising controls make such areas of mineralisation desirable drill targets to provide upside to future resource and reserve estimates.

Geology and Geological Interpretation

Mineralisation is present in four main styles that are related to structure and lithology. The following genetic models have been formed the basis of the model process. They are:

High-Sulphidation Epithermal Alteration of the Peela Conglomerate (PCG)

The PCG unit hosts significant gold mineralisation. The PCG unit intersects and is sinistrally offset by the Perseverance Shear Zone (PSZ), which is thought to be the dominant control on magmatic (acidic) fluid migration in the Mineral Resource area. Ore genesis is considered to be characteristic of a high-sulphidation epithermal system.

Perseverance Shear Zone (PSZ)

The PSZ is the major structural control on mineralisation within the Tarcoola open cut mine. The north-striking sub-vertical shear zone strikes due north and displaces both Paxton Granite (PGT) and Tarcoola Formation sediments by 200m of sinistral strike-slip displacement.

The dilational nature of the shear has enabled Lady Jane Diorite (LJD) dykes to intrude on shear contacts and parallel to localised shear fabrics. Mineralisation is narrow and tightly constrained within the PSZ, which is consistent with a dominantly tensile or extensional-shear vein-controlled host structure.

Low-Sulphidation Epithermal Mineralisation on Structural Contacts

Gold mineralisation has long been associated with magmatic fluid generation associated with intrusion of the LJD suite. Only some of the dykes are mineralised. The mechanism for mineralisation associated with the diorite intrusions is interpreted to be a low sulphidation epithermal process where gold and sulphides are derived from intermixing of magmatic fluids associated with the diorite intrusions and meteoric waters hosted within the host rocks. Gold mineralisation commonly extends along dilational structures that propagate from the diorites, particularly primary deformation event bedding parallel thrust faults.

Enriched Lower Saprolite and Transitional Oxide Domain

The lower saprolitic-transitional domain below the base of complete oxidation (BOCO) demonstrates gold enrichment and dispersion features, as well as preserving primary gold in host structures (veins). Mineralisation in this domain has both a lateral dispersion/enrichment blanket as well as grade continuity related to the primary (sulphide) mineralisation domains (e.g. sub-parallel to the PGT contact and PSZ structures). It is also noted that a zone of depletion occurs in the upper saprolite.

Cut-off grade

The cut-off grade used in the Mineral Resource estimate is 0.5 g/t Au and is considered reasonable for Mineral Resources which are extracted by open pit methods.

Estimation and Modelling Techniques

Grade estimation is based on geological logging and mapping of mineralised structures. The Mineral Resource estimate was completed using seven main grade estimation domains. Logging data, mapping data and analytical data was used to assist in the interpretation of these domains. Statistical analyses were conducted by applying dynamic anisotropy to the ordinary kriged grade interpolations. Top cuts were determined through identifying changes in the log probability plots of each estimation domain.

Geological Data Acquisition

Geological logs are completed on hard copy and the data manually entered into an Access database. Geological information collected includes lithology, rock colour, alteration, mineralogy, ore minerals and oxidation/weathering intensity. All core and chips are photographed using a digital camera.

Data Spacing and Drilling Methods

The Mineral Resource area extends from approximately 6,602,700 m N to 6,603,450 m N. Drilling north and south of this area is too widely spaced to support Mineral Resource estimation.

Drilling has generally been completed at 5-10 m E and 5-10 m N spacings increasing to 25–40 m spacings at the periphery of the deposit. There are four main drill directions (vertical, dip of 60° to 030°, 60° to 105° and 60° to 060°); hence the drilling grid is irregular.

Exploration drilling has been completed on a nominal 5–10 m section spacing over the central deposit area, from approximately 6,602,730 m N to 6,602,900 m N. Beyond this area, and within the limits of the modelled Mineral Resource area, drill section spacing increases to 20–40 m. Holes are generally spaced 5–40 m apart on sections, with holes closer together closer to surface.

Grade control drilling has been completed on a nominal 10 m N by 5 m E pattern.

Grade control drilling is undertaken by RC methods. Work is carried out by Mass Drill and Blast Pty Ltd. The drill rig is a track mounted Qubex fitted with a 1050 cfm 350 psi compressor and a cone sampling tower with a cone splitter. The rig is fitted with a directional orientation system. Holes are drilled with a 127 mm face sampling hammer. Samples are taken at measured (and marked) 1 m rod intervals, the downhole samples are collected via the cyclone and cone split sampler stack. A 12.5% sample spilt is collected off the sample chute. Duplicates are taken from the secondary sample chute. Where drilling is regarded to be sterilisation drilling (away from mineralisation), 2 m samples are taken at a cone split of 6.25%. The return hose and cyclone are cleaned between holes.

Geologists and/or field assistants are present at the RC drill rig while holes are being drilled and samples collected. On completion of logging, samples are bagged and tied for transport.

For diamond drilling, the core is collected daily from the rig and transported to the core facility, where it is laid on racks for logging and sampling. The cut samples are bagged and tied and transported directly to laboratories.

Location of Data Points

All production and grade control drillhole collars are surveyed utilising a Leica GS15 GNSS Receiver/Base configured instruments with realtime kinematic (RTK) data processing software. Equipment error limits are set to 20mm in both horizontal and vertical offsets. If points exceed this precision then re-survey is required.

Historical collar points have been validated by DGPS survey by Mungana in 2012. Various programs of downhole survey have been performed to validate drillhole traces.

Sample Recovery

Drilling recoveries were not recorded prior to 2012 for both RC chips and diamond core. Recent tests have demonstrated good recoveries through weighing the total returned sample from metre intervals, with weights within the vicinity of 30-40kgs and recent testing demonstrating recoveries of 98% when correlating to drillhole volumes. Where broken ground and clays impact sample recovery, a blade bit is used in Grade Control drilling. If the sample split is less than 1kg, then the sample is considered a null sample.

Quality of assay data and Laboratory tests

Samples are transported to the Challenger Laboratory, located at the Challenger Gold Mine, as soon as practicable after sampling. Each sample is tracked through Labman software to ensure that each assay is correctly matched to its sample. Several check processes are in place to ensure this compliance; samples are retained if reruns are required. Samples are dried at 90°C to eliminate the impact of moisture on sample processing. After drying, samples are crushed via a Boyd Crusher to <10 mm in size then split through a rotary splitter to produce a subsample. The crusher is cleaned regularly with barren bricks crushed between sample groups to prevent contamination.

Analysis is through the pressure aggressive leach (PAL) process. This process reflects the site mill extraction process where: each process is pulverised in aqueous solution with cyanide bearing assay tabs and a collection of assorted sized ball bearings, each sample is pulverised for an hour, resulting in an Au-CN complex bearing solution and remnant pulverised sample, and the pulverised material is 95% passing at 75 microns. Laboratory standards and blanks are run within each PAL to identify process contamination and laboratory precision.

Following PAL processing, samples are decanted, centrifuged and prepared for analysis in an AAS with a solvent separation with a DIBK and residence time of 20 minutes. The samples are then aspirated through the AAS to produce a reading. The AAS is calibrated for each PAL using analytical reagent prepared standards (of 1.0, 5.0, 10.0 and 20.0 ppm Au). Each sample reading is adjusted for PAL sample weight within Labman to report a gold grade in ppm. Where quality assurance/quality control (QAQC) protocols fail, the process is repeated.

Duplicates and CRMs are submitted within each sample despatch, with duplicates taken from the secondary sample catch. Duplicates are submitted with each sample despatch roughly every 20th sample. The primary CRM used is G313-6 that has a certified gold grade of 4.91 g/t Au. Re-assaying of samples by 50 g fire assay at Genalysis Intertek Laboratories, Wingfield SA has also been completed to check the PAL results. Results give confidence in the PAL method.

The results from over 550 duplicates demonstrate strong correlation of 0.97. Greater variability is present within duplicates of higher gold grades; which is likely to be influenced by the high nugget nature of the mineralisation.

Mining and Metallurgical factors taken into consideration for the Mineral Resource estimate:

- The existing mining method (open cut) was considered in selecting the reporting cut-off grade.
- All diamond and RC data was used in the Mineral Resource estimate.
- Ore from Tarcoola is and will continue to be processed at the Challenger CIP plant.

Resource classification criteria:

The following approach was adopted when classifying the Mineral Resource:

- Data quality was assessed.
- Confidence in the geological model, and geological continuity, was considered.
- Grade character and continuity was assessed.
- Drillhole spacing was reviewed, considering the geological and grade continuity.
- Production data was compared with model reported tonnage and grade.
- Areas with drillhole spacings > 50 m E by 50 m N were not classified as a Mineral Resource.
- Areas where the drillhole spacing was 20–50 m E by 20– 50 m N were classified as Inferred Mineral Resources.
- Areas where the drillhole spacing was 10–20 m E by 10– 20 m N were classified as Indicated Mineral Resources.
- Where the drillhole spacing was <10 m E by <10 m N were classified as Measured Mineral Resources.
- String files were digitised on 25 m N spacings and 3D solids were then generated for each classification category to flag the block model prior to reporting.

Ore Reserve estimate – Summary of Material Information

The Ore Reserve estimate is at 30 June 2017. The Mineral Resource estimate is inclusive of the Ore Reserves. Tarcoola ore reserves estimated herein have been derived from measured and indicated Mineral Resources. The Ore Reserve estimate does not include any inferred Mineral Resources.

Proved Ore Reserves are derived from Measured Resources. Probable Ore Reserves are derived from Indicated Mineral Resources. The Ore Reserves do not include any Inferred resources.

The variations to the August 2016 Ore Reserve estimate are as follows:

- Opencut mining commenced in December so there has been some depletion through mining,
- A new Resource Model has been prepared which incorporates extensive grade control drilling and geological mapping through the top 30 metres of the deposit.

Tarcoola is an operating opencut gold mine. The mine is being operated substantially in accordance with the 2016 Feasibility Study. Improvements are being made to the planning and operating procedures as more information is gained through grade control and mining.

Ore mined at Tarcoola is stockpiled next to the pit and then trucked 170km to the Challenger Gold Mine where the gold is recovered through that mine's CIP facility. The Challenger Gold Mine is also wholly owned by WPG. Tarcoola ore stockpiles at Tarcoola and Challenger are included in the Ore Reserves.

A recovery of 95% is applied to oxide, transition and primary ore types from both the Perseverance and Last Resource zones. Process recovery for Tarcoola ore through the Challenger mill up to the end of June 2017 averages 95%. This ore is almost entirely oxide.

Tarcoola ore is currently being processed as a blend with Challenger ore. The Tarcoola oxide ore has a high clay content which may adversely affect plant performance if included at more than 30% to 40% of the feed.

Tarcoola uses hydraulic excavators and trucks. All material is blasted using light to moderate powder factors. Material movement in blasting appears minimal and the mine uses systems to track ore displacement. The pit is being mined as a single stage.

A check pit optimisation was run for this Ore Reserve estimate using the new resource model and wall slopes and the actual production data and costs gathered since commencement of operations in December 2016. The pit optimisation showed that the current final pit design is appropriate for the current understanding of the resource and modifying factors.

The resource model defines the major structures at a level of confidence commensurate with Measured or Indicated Resource status but the grade control and mining has not yet been able to adequately define.

The Ore Reserve estimate does not include any adjustment for the tonnes mined from mineralised zones identified in the pit outside the Measured and Indicated resources since the mine commenced in December 2016.

Up to the end of June 2017, these additional zones added 35% contained gold to the production from the Measured and Indicated Resources. Even though the additional mineralisation is adding significantly to actual production it is not included in the Mineral Resource estimate and therefore cannot be included in the Ore Reserve estimate. The grade control procedures in place should continue to identify similar additional material if it is present through the remainder of the pit.

Mining loss and dilution adjustments applied to the Measured and Indicated portions of the resource take account of the width and shape of the above cut off grade zones in the model and in the pit, the high degree of care being taken to delineate and mine the zones with minimal dilution and the presence of lower grade material adjacent to the ore blocks. The adjustments average 5% dilution at 0.6 g/t Au. No mining loss is applied because of the extensive effort being applied to maximise mining recovery. These adjustments have minimal effect on the Measured and Indicated portions of the resource.

As an operating mine all required permits and agreements are in place and mining and process recoveries and costs are based on actual costs including mine operating, site, ore haulage and processing costs.

The Ore Reserves are reported against a cut-off grade assessed at A$1,650 /oz of gold.

The cut-off grade of 0.85 g/t Au is calculated using current actual costs and values. This is a run of mine grade inclusive of mining ore loss and dilution.

Total mined production from the commencement of operations in December 2016 to 30 June 2017 is compared against Measured and Indicated portions of the 2017 Ordinary Kriged Resource Model based on exploration drilling, grade control drilling, pit mapping and comparison with mill feed assays.

The Mineral Lease at Tarcoola was granted by the South Australian government in March 2016. The mine operates under an approved Program for Environmental Protection and Rehabilitation (PEPR).

Relevant environmental and other approvals for Tarcoola include:

- A Native Title Mining Agreement has been in place with the Antakirinja Matu–Yankunytjatjara Aboriginal Corporation (AMYAC) since 2015;
- A land use agreement which covers the haul road with ARTC and GWA;
- Site rehabilitation is undertaken in accordance with the project's approved PEPR.

Further Information

For further information please contact WPG's Executive Chairman Bob Duffin or CEO, Wayne Rossiter on (02) 9251 1044.

Competent Person Statements

Mineral Resources: The information in this report that relates to Tarcoola Mineral Resources is based on information compiled by Mr Aaron Meakin.

Aaron Meakin is a full-time employee of CSA Global Pty Ltd and is a Member of the Australasian Institute of Mining and Metallurgy 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 Competent Persons as defined in the 2012 edition of the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code).

Aaron Meakin consents to the disclosure of the information in this report in the form and context in which it appears.

Ore Reserves: The information in this report that relates to Ore Reserves is based on, and fairly represents, information and supporting documentation compiled by Mr John Wyche.

John Wyche is employed full-time by Australian Mine Design and Development Pty Ltd, an independent consultant mining engineering company and is a member of the Australasian Institute of Mining and Metallurgy and has 33 years of experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code).

John Wyche consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Forward-Looking Statements

This document may include forward-looking statements. Forward-looking statements include, but are not limited to statements concerning WPG's planned activities, including but not limited to mining and exploration programs, and other statements that are not historical facts. When used in this document, the words such as “could”, “plan”, “estimate”, “expect”, “intend”, “may”, “potential”, “should” and similar expressions are forward-looking statements. In addition, summaries of Exploration Results and estimates of Mineral Resources and Ore Reserves could also be forward looking statements. Although WPG believes that its expectations reflected in these forward-looking statements are reasonable, such statements involve risks and uncertainties and no assurance can be given that actual results will be consistent with these forward-looking statements.

CSA Global
Mining Industry Consultants

Mineral Resource Estimate

Tarcoola Deposit, South Australia

CSA Global Report № R313.2017
14 September 2017

www.csaglobal.com

Report prepared for

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Disclaimers

Purpose of this document

This Report was prepared exclusively for Tarcoola Gold Pty Ltd ("the Client") by CSA Global Pty Ltd ("CSA Global"). The quality of information, conclusions, and estimates contained in this Report are consistent with the level of the work carried out by CSA Global to date on the assignment, in accordance with the assignment specification agreed between CSA Global and the Client.

Notice to third parties

CSA Global has prepared this Report having regard to the particular needs and interests of our client, and in accordance with their instructions. This Report is not designed for any other person's particular needs or interests. Third party needs and interests may be distinctly different to the Tarcoola Gold Pty Ltd's needs and interests, and the Report may not be sufficient nor fit or appropriate for the purpose of the third party.

CSA Global expressly disclaims any representation or warranty to third parties regarding this Report or the conclusions or opinions set out in this Report (including without limitation any representation or warranty regarding the standard of care used in preparing this Report, or that any forward-looking statements, forecasts, opinions or projections contained in the Report will be achieved, will prove to be correct or are based on reasonable assumptions). If a third party chooses to use or rely on all or part of this Report, then any loss or damage the third party may suffer in so doing is at the third party's sole and exclusive risk.

CSA Global has created this Report using data and information provided by or on behalf of the Client [and the Tarcoola Gold Pty Ltd's agents and contractors]. Unless specifically stated otherwise, CSA Global has not independently verified that all data and information is reliable or accurate. CSA Global accepts no liability for the accuracy or completeness of that data and information, even if that data and information has been incorporated into or relied upon in creating this Report.

Results are estimates and subject to change

The interpretations and conclusions reached in this Report are based on current scientific understanding and the best evidence available to the authors at the time of writing. It is the nature of all scientific conclusions that they are founded on an assessment of probabilities and, however high these probabilities might be, they make no claim for absolute certainty.

The ability of any person to achieve forward-looking production and economic targets is dependent on numerous factors that are beyond CSA Global's control and that CSA Global cannot anticipate. These factors include, but are not limited to, site-specific mining and geological conditions, management and personnel capabilities, availability of funding to properly operate and capitalise the operation, variations in cost elements and market conditions, developing and operating the mine in an efficient manner, unforeseen changes in legislation and new industry developments. Any of these factors may substantially alter the performance of any mining operation.

Executive Summary

CSA Global Pty Ltd (CSA Global) was commissioned by Tarcoola Gold Pty Ltd (TCG) to prepare a Mineral Resource estimate for the Tarcoola gold deposit (Tarcoola), located in South Australia. The Mineral Resource estimate was required to be reported in accordance with the JORC Code[1].

CSA Global reviewed the data that was supplied by TCG and considers that data collection techniques are consistent with industry good practice, and therefore suitable for use in the preparation of a Mineral Resource estimate.

Three-dimensional models representing the mineralisation at Tarcoola were created by TCG. CSA Global reviewed the mineralisation models and found them to be largely robust and based on a sound understanding of the controls to the mineralisation. CSA Global only made minor modifications to the models prior to their use in constraining the Mineral Resource block model.

High-quality diamond core and reverse circulation samples were used to interpolate gold grade into blocks using ordinary kriging. Several methods were used to validate the block model including visual review, comparison of sampling and block model grades and reconciliation with production data.

The Mineral Resource estimate is shown in Table 1, reported by classification. A reporting cut-off grade of 0.5 g/t Au was applied.

Table 1: Tarcoola Mineral Resource estimate by JORC classification

JORC Classification	Tonnage (Mt)	Au (g/t)	Ounces (oz)
Measured	0.13	3.39	13,700
Indicated	0.96	1.83	56,600
Inferred	0.54	1.12	17,500
TOTAL	**1.60**	**1.70**	**87,700**

** Due to the effect of rounding, the total may not represent the sum of all components*

The block model reports 0.6% higher tonnage, 6% lower grade and 5% less metal than production data, adopting a reporting cut-off grade of 0.5 g/t Au which is consistent with the production cut-off grade. The results provide the Competent Person with a high degree of confidence in the data quality, geological modelling, grade interpolation and density data in the volume mined.

CSA Global recommends the following actions are completed to support future Mineral Resource estimation at Tarcoola:

- Additional density measurements should be taken in the oxide, transitional and fresh zones to support the assumption made in this Mineral Resource estimate.
- All drillhole data should be merged into a single database. This will create a single "point of truth" with robust and transparent validation systems.
- Certified reference materials should be sourced which represents the range of grades encountered at Tarcoola. Quality control results should be regularly monitored to ensure any issues can be readily detected and resolved.
- To convert Inferred Mineral Resources to higher classification categories, further infill drilling is required. CSA Global recommends a drill spacing of 20 m E (along strike) by 20 m RL (down dip) to

[1] Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. The JORC Code, 2012 Edition. Prepared by: The Joint Ore Reserves Committee of The Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia (JORC).

allow Mineral Resources to be considered for Indicated classification, and 10 m E by 10 m N to allow Mineral Resources to be considered for Measured classification.

- Although the controls to the mineralisation are relatively well understood, continued development of the geological model is recommended to support future Mineral Resource estimation and grade control.

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Appendix

1 Introduction

1.1 Context, Scope and Terms of Reference

CSA Global Pty Ltd (CSA Global) was commissioned by Tarcoola Gold Pty Ltd (TCG) to prepare a Mineral Resource estimate for the Tarcoola gold deposit (Tarcoola), located in South Australia. The Mineral Resource estimate was required to be reported in accordance with the JORC Code[2].

1.2 Sources of Information

CSA Global has completed the scope of work largely based on information provided by TCG, and has supplemented this information where necessary with publicly available information.

CSA Global has made all reasonable endeavours to confirm the authenticity and completeness of the technical data on which this report is based; however, CSA Global cannot guarantee the authenticity or completeness of such third-party information.

The report author is not qualified to comment on any legal, environmental, political or other issues relating to the status of the tenements, or for any marketing and mining considerations related to the economic viability of Tarcoola.

1.3 Independence

Neither CSA Global nor any of the authors of this report have any material present or contingent interest in the outcome of this report, nor do they have any pecuniary or other interest that could be reasonably regarded as affecting their independence. CSA Global's relationship with TCG is solely one of professional association between client and independent consultant.

1.4 Company and Author Summary

1.4.1 CSA Global

This report has been prepared by CSA Global, a privately-owned consulting company that has been operating from Perth, Western Australia for 30 years.

CSA Global provides multi-disciplinary services to clients in the global resources industry. CSA Global's services include project generation, exploration, resource estimation, project evaluation, development studies, mining operations assistance, and corporate consulting such as valuation and independent technical reporting. CSA Global has worked for major clients globally and many junior resource companies and has been involved in the preparation of independent reports for listed companies in most international mining jurisdictions.

1.4.2 Authors

The principal author of this report is Aaron Meakin.

Aaron Meakin, BSc (Hons), MAppFin, GradDipAppFin, MAusIMM (CP Geo), F Fin – CSA Global Manager – Resources

Aaron is a geologist with over 24 years' experience in mining, resource development and exploration. Aaron has significant mine production experience, having worked at both underground and open-pit

[2] Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. The JORC Code, 2012 Edition. Prepared by: The Joint Ore Reserves Committee of The Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia (JORC).

operations. His Mineral Resource estimation experience spans a range of commodities and styles of mineralisation, including shear zone hosted gold deposits.

Mr Meakin is responsible for the entire report.

Mr Warren Potma made contributions to sections of the report describing the deposit geology.

Warren Potma, MSc (Structural Geology), MAIG – CSA Global Principal Geologist

Warren is a geologist with more than 20 years' experience in exploration and mining geology, management and technical research and development (R&D). He specialises in structural geology, integrated mineral system analysis, three-dimensional (3D) modelling, and technical mentoring. Warren has extensive exploration, mine production and technical experience, and a strong background in applied exploration technology R&D and mineral systems research he gained while with CSIRO. He has a strong track record of discovery in Chilean magmatic hydrothermal mineral systems (iron oxide coper-gold, porphyry copper/gold), Archaean orogenic gold and VHMS systems, and broad experience across the range of magmatic-hydrothermal mineral systems.

Mr David Williams peer reviewed the report.

David Williams, BSc (Hons), MAusIMM, MAIG – CSA Global Principal Resource Geologist

David is a highly-experienced resource geologist with over 25 years' experience in mine geology and resource estimation projects. He has worked on a variety of commodities including gold, iron ore, uranium, nickel laterite, graphite and copper in Australia, Indonesia, and Namibia. David has expertise in grade control functions, mine production teams and the provision of geotechnical advice to senior mine management regarding risk minimisation.

1.5 Competent Persons Statement

The information in this report that relates to Mineral Resources is based on information compiled by Mr Aaron Meakin. Mr Aaron Meakin is a full-time employee of CSA Global Pty Ltd and is a Member of the Australasian Institute of Mining and Metallurgy. Mr Aaron Meakin 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 Competent Persons as defined in the 2012 edition of the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code). Mr Aaron Meakin consents to the disclosure of the information in this report in the form and context in which it appears.

2 Background

WPG Resources Ltd (WPG) is an ASX-listed company with a current focus on its advanced gold projects in South Australia. WPG holds its gold prospects through three wholly-owned subsidiaries – Challenger Gold Operations Pty Ltd (CGO), TCG and Tunkillia Gold Pty Ltd (TGL).

WPG has a portfolio of exploration projects in South Australia covering a combined area of 7,343 km^2. WPG considers these to have excellent potential for the discovery of several types of mineral occurrences including gold, nickel, base metals, iron ore and coal.

TCG own and operate the Tarcoola Gold Mine, which was brought into production in November 2016. The mine was officially opened on 13 December 2016 and haulage of ore to the Challenger Gold Mine for processing began during January 2017. The first gold was poured in February 2017.

Since mining has commenced, geological understanding of the deposit controls has increased substantially. This geological knowledge and the completion of substantial grade control drilling has necessitated an update of the Mineral Resource block model to support mine planning. The results were required to be publicly reported in accordance with ASX listing rules; hence supporting documentation was required to be compiled in accordance with the JORC Code.

2.1 Project Location and Access

The project area is located 3 km east of Tarcoola in South Australia. Access is via the Stuart Highway to Glendambo (280 km north of Port Augusta), then 124 km westwards by unsealed road via Kingoonya along the Old Stuart Highway.

2.2 Tenure

The Mineral Resource area lies within Mineral Lease (ML) 6455. ML6455 covers an area of 725.35 ha and is situated completely within Exploration Licence (EL) 5355 (Figure 1) which was owned by Tarcoola Iron Pty Ltd (Tarcoola Iron), a wholly-owned subsidiary of Stellar Resources Pty Ltd (Stellar).

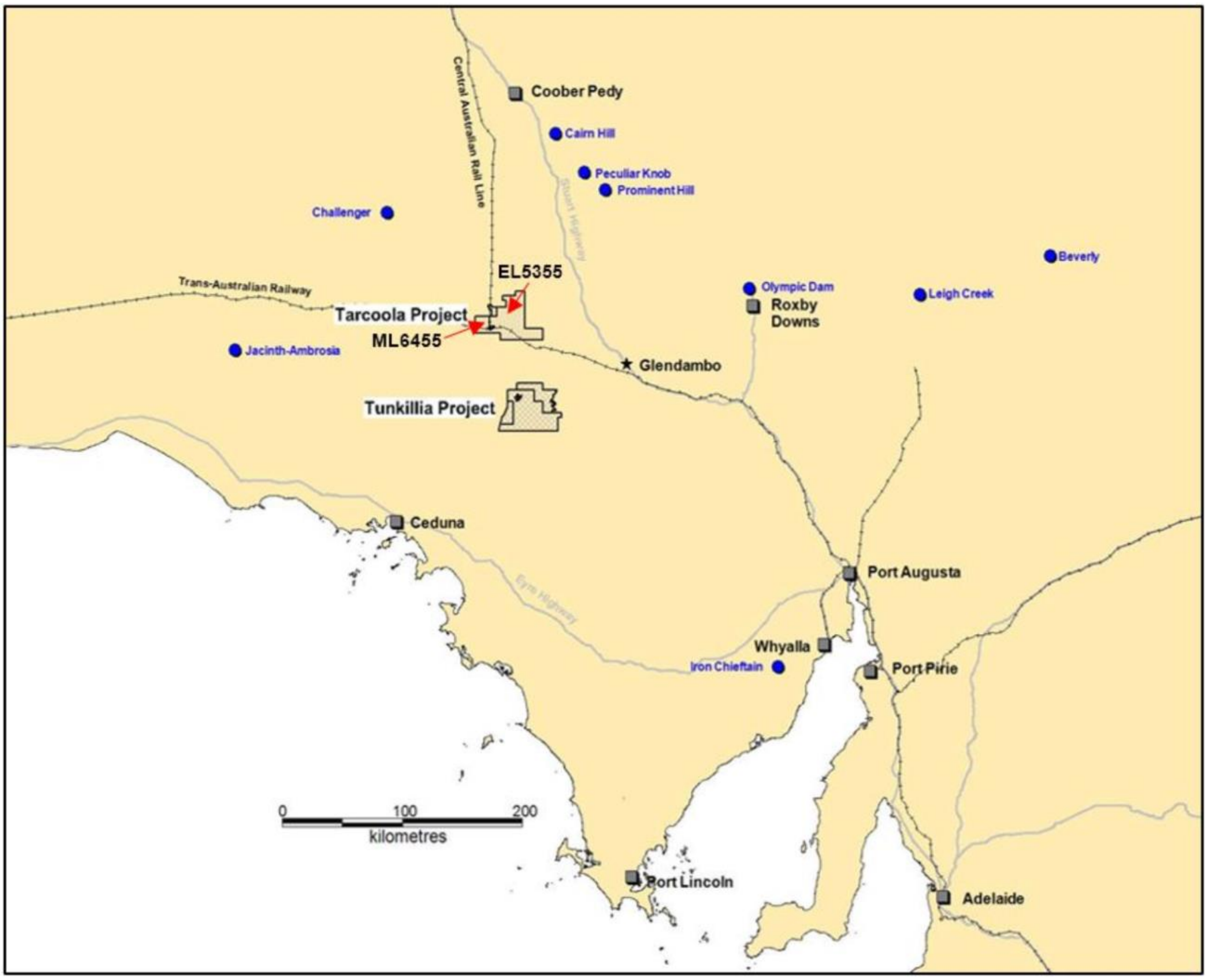

Figure 1: Location of Mineral Leases

Source: TCG

Under an Exploration and Development Agreement (EDA) with Tarcoola Iron, TGL had the right to explore and develop gold, silver and copper projects within EL5355 and, in relation to an area described as the "Exclusive Area", the right to explore for and develop all minerals. TGL assigned these rights to TCG, who purchased EL5355 from Tarcoola Iron. The transfer of the tenement received ministerial approval on 26 June 2015.

WPG acquired TGL from Mungana Gold Mines Limited (Mungana) in 2014. At the time of acquisition, several existing historic MLs were in the process of being transferred into the name of TGL, namely ML4650, ML4667, ML5179 and ML5300 (Figure 1). This process was completed post-acquisition.

As a result of this transfer, the South Australian Department of State Development (SADSD) reviewed the ML and bond conditions, and TGL posted a revised bond for the four MLs that cover the historic Tarcoola Block mining area and which have some non-Aboriginal archaeological heritage value. Some parts have been declared State Heritage Areas (Figure 1). ML6455 encompassed these MLs.

At the request of the SADSD, TGL elected to transfer the four existing MLs into the name of TCG. SADSD determined that this transfer will not trigger any change in the lease or bond conditions as these were both altered when the MLs were transferred. It is, however, the intent of TCG to relinquish these leases as a condition precedent to the granting of a new larger ML which will encompass an area including the four existing leases. SADSD has confirmed that the existing bond held over these four tenements will be credited against the new bond required for the new expanded ML area). TCG does not currently intend to mine within these tenements.

2.3 Land Ownership

The project area is wholly located within land classified as "unoccupied Crown land, Tarcoola Township" and is mainly surrounded by Crown Leases (CLs) Coladding and Pinding, CL1605/68 and CL1275/42 respectively, which form part of the greater Wilgena Station (Figure 1). The Crown granted these leases for pastoral activities such as sheep and cattle grazing. A condition of the lease is that the lessee must allow access to the land by authorised persons (those holding mineral tenements) to carry out exploration and mining operations. The Mulgathing pastoral lease is located west of the project site and Tarcoola township.

The closest housing structures are located on the western side of Tarcoola township. There are currently no permanent residents in Tarcoola and some of the houses are used infrequently by exploration personnel. Several of the houses and buildings are dilapidated and not fit for occupancy. TCG uses the hospital and houses, which are fit for purpose, in Tarcoola to house the workforce. Land ownership is summarised in Table 2.

Table 2: Land ownership in Tarcoola

Certificate of Title (CT)	Ownership	Proposed mining activity
CT5382/722	Tarcoola Gold	Nil
CT5405/490	Giovanni Pilla (Wilgena Hotel)	Nil
CT5456/319	Wayne John Stapleton	Nil
CT5715/129	Tarcoola Medical Fund (Tarcoola Hospital)	Nil
CT5724/928	Tarcoola Medical Fund (Tarcoola Hospital)	Nil
CT5729/388	Tarcoola Medical Fund (Tarcoola Hospital)	Nil
CT6000/697	Tarcoola Gold	Nil
CT6016/2	Australian Rail Track Corporation (Police Station)	Nil
CT6073/768	Tarcoola Gold	Nil

The creation of an access road and the installation of an above ground water pipeline as part of the project will be undertaken on exempt land (as defined by Section 9 of the *Mining Act 1971*) (Table 3). These mining activities will be in close proximity to the optic fibre cable and the rail line.

A waiver has been obtained from the Australian Rail Track Corporation (ARTC), as the landowner and owner of the infrastructure, in relation to any potential activities occurring in the south-western corner of the tenement. A waiver has also been obtained from NextGen, as owner of the optic fibre cable infrastructure.

Table 3: Exempt land details

Structure/feature	Distance from mining activity	Waiver required under the *Mining Act 1971*	Comments
Tarcoola township	3 km	No	Greater than 400 m from mining activity. No mining activity will be undertaken on exempt land – the Tarcoola township.
Tarcoola airstrip	N/A	No	No mining activity will be undertaken on exempt land – the airstrip.
Railway	N/A	No	No mining activity will be undertaken on exempt land – the railway.
Optic fibre cable	Installation of above ground water pipeline is <150 m from infrastructure	Yes	Waiver obtained from NextGen; advanced consultation has occurred
	Upgrade to haul road is <150 m from infrastructure	Yes	Waiver obtained from ARTC; advanced consultation has occurred

Structure/feature	Distance from mining activity	Waiver required under the *Mining Act 1971*	Comments
TW5P	Approximately 800 m	No	Pipeline to be constructed from TW5P to mine site in order to undertake mining operations.

2.4 Climate and Physiography

Topography is flat to gently undulating and sparsely vegetated. Most of the known surface gold mineralisation occurred along an elevated area termed the Tarcoola Ridge. Much of the ridge was covered with a veneer of colluvial pebbly scree. Thicker colluvial and alluvial cover is present over surrounding flats.

2.5 Project History

The first alluvial gold was discovered in the Tarcoola area in 1893. The first claims were pegged in 1900 and the Tarcoola Blocks Company formed in 1901, consolidating syndicates over the main reef systems. Various mines were worked until 1912. In 1924, renewed interest led to dewatering of the underground mines. The underground mines were then worked until 1947, with nearly all ore produced from the Fabian, Dedman, Lady Jane and McKechnie Reefs. In 1947, Standard Mining Company NL exercised an option on the old gold mines and small-scale production occurred until 1953.

Total recorded production was 2.38 tonnes of gold from 63,703 tonnes of ore according to the South Australian Resource Information Geoserver (SARIG) database.

In 1970, Inland Mining obtained a special ML over the Tarcoola area but surrendered the lease in 1972 without completing any work. Abadon Holdings NL obtained a position in the area in 1973 and conducted limited exploration.

Aberfoyle Exploration Pty Ltd (Aberfoyle) was granted EL407 in June 1978, and explored the area for uranium, and then Afmeco entered a head of agreement with Aberfoyle in 1979. Interest in gold was renewed in 1984 and the first gold-focused drilling program was completed in October 1985. In 1986, BHP joint-ventured into the project with Aberfoyle and Afmeco.

A sale and purchase agreement was then drafted in 1990 between the three joint venture partners and Queens Road Mines. Queens Road Mines then sold a 25% interest to Imdex Limited and a 20% interest to Grenfell Resources Limited (Grenfell), with an option to increase their interest to 75%. The project operated as the Tarcoola Joint Venture, with Queens Road Mines acting as the manager. Extensive drilling and other exploration activities was completed from 1991 through 1998.

AngloGold Pty Ltd (AngloGold) joint ventured into the area in 2001 and completed drilling and other exploration work, however the joint venture agreement was terminated after AngloGold did not identify an opportunity of suitable scale.

In June 2003, Gravity Capital (previously Grenfell) renewed the EL. In June 2004, the tenement was transferred to Hiltaba Gold Pty Ltd (a wholly owned subsidiary of Stellar). Stellar then completed regional exploration activities and entered into an agreement with Low Impact Diamond Drilling Services Pty Ltd (LIDDS), in which LIDDS acquired an interest over the Perseverance area.

In 2012, Mungana announced an agreement to acquire the assets from Stellar and LIDDS. WPG announced a sale and purchase agreement with Mungana to acquire the Tarcoola and Tunkillia gold projects in May 2014.

2.6 Previous Grade Tonnage estimates

Table 4 summarises previous grade tonnage estimates that have been reported for the Tarcoola deposit. A cut-off grade of 0.5 g/t Au has been used to enable meaningful comparison.

Table 4: Historical Mineral Resource estimates, Tarcoola deposit

Company/Practitioner	Year	Tonnes (Mt)	Au (g/t)	Ounces	JORC classification	JORC Code compliance	Cut-off grade (g/t)
H and S Consultants	2013	1.86	1.96	117,500	Indicated + Inferred	2004	0.5
QG (proportion of 0.25 for a probability of a block being above 0.5 g/t applied)	2012	1.34	2.10	89,500	Inferred	For internal use only	0.5
QG (unconstrained report > 0.5 g/t)	2012	3.97	1.90	241,000	Inferred	For internal use only	0.5
Queens Road	1995	1.31	1.80	76,000	Measured	Unknown	0.5

3 Geological Setting and Mineralisation

3.1 Regional Geology

The district is located within the Gawler Craton, where Archaean and Proterozoic rocks form the basement to an extensive cover of Phanerozoic sediments. The Archaean basement has been extensively deformed, whereas the Proterozoic rocks have been weakly to moderately deformed. Deformation within the Proterozoic rocks is expressed by open to moderate folding, thrusting and block faulting. The regional metamorphic grade reaches upper greenschist facies, but is lower-greenschist facies in most areas (MacArthur, 2013).

Figure 2 shows an interpretation of the basement in the Tarcoola area.

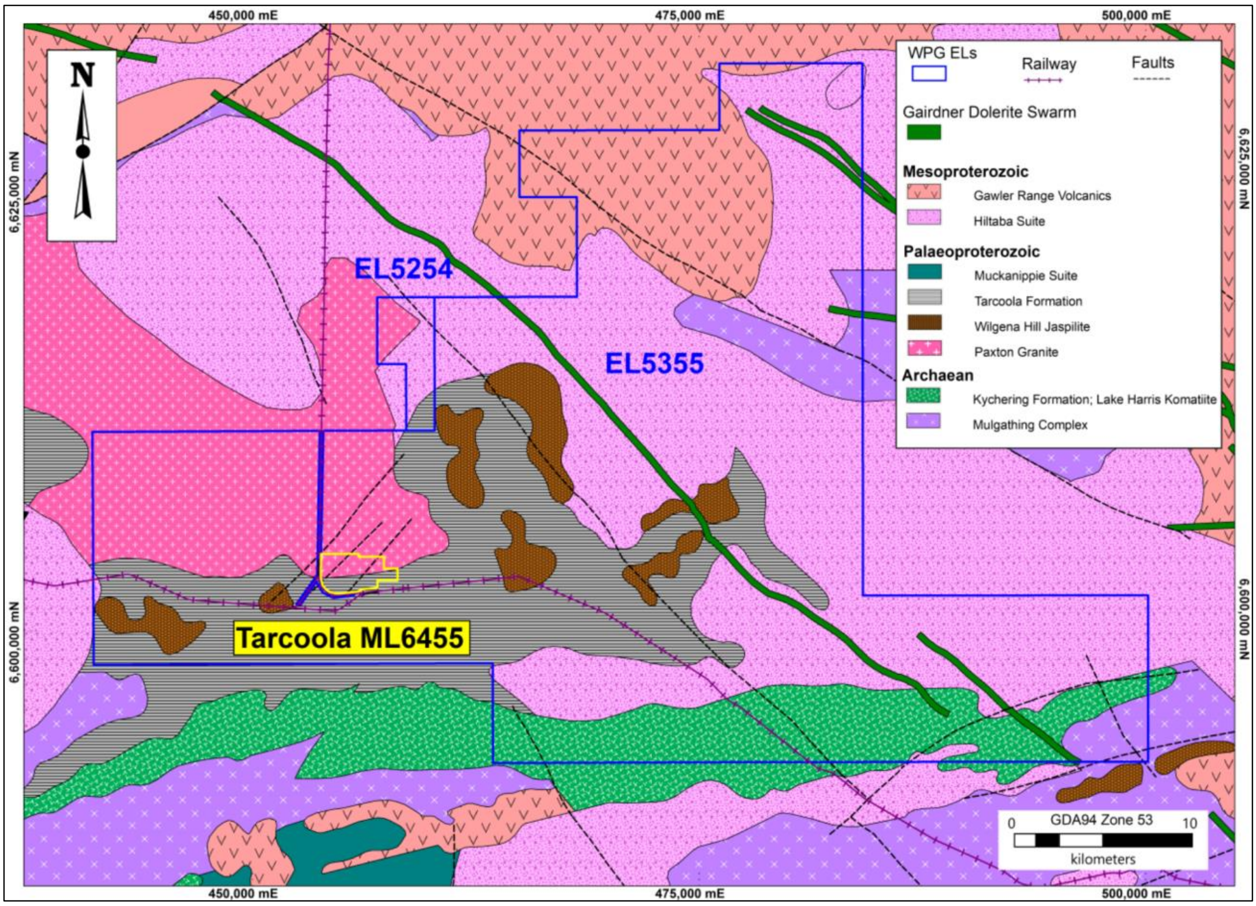

Figure 2: Regional geology solid basement interpretation of the Tarcoola area

Source: TCG

Silcrete capped mesas of the Late Jurassic Algebuckina Formation and a drape of Cainozoic colluvial, alluvial and aeolian sediments cover much of the basement in the area. The project area lies within the Nuyts and Wilgena subdomains of the Gawler Craton. Proterozoic rocks in the area comprise the Wilgena Hill Jaspilite and the Tarcoola Formation. Hiltaba Suite igneous rocks have intruded the Proterozoic sediments of the project area. Although not widely accepted, older Proterozoic granitoids (previously classified as Hiltaba Suite granitoids) form basement to parts of the Tarcoola Formation (Kneeshaw, 2003).

3.2 Deposit Geology and Mineralisation

3.2.1 Lithology

The content of this section is summarised from MacArthur (2012).

In the project area, Tarcoola Formation sediments unconformably overlie the Paxton Granite (PGT).

The base of the Tarcoola Formation stratigraphic sequence is marked by the Peela Conglomerate (PCG), which is characterised by BIF-rich conglomerates, granite dominated polymict conglomerates, and medium to pebble sized lithic arenites.

Overlying the PCG is the Fabian Quartzite Member (FQM). The base of the FQM is marked by a limestone unit which is up to 25 m thick. Overlying the limestone is a 15 m to 40 m thick sequence of interbedded shales, graphitic shales, siltstones, fine- to very fine-grained sandstones and distinctive units of pebbly arkose. Overlying the pebble arkose unit is a 40 m to 60 m thick sequence of fine-grained sandstones, siltstone, shale, graphitic shale and quartzites. A 7 m to 12 m thick unit comprising two massive black shale units separated by a bed of fine- to medium-grained sandstone. This unit is overlain by a 10 m to 15 m sequence of thinly interbedded units of graphitic shale, siltstone and/or fine-grained sandstone.

Igneous rocks in the area can be subdivided into two suites, the Tarcoola/PGT and the Lady Jane Diorite (LJD).

The Tarcoola Granite is a coarse-grained quartz-monzonite with prominent euhedral to subhedral phenocrysts. Within the granite is a fine to medium grained feldspar-rich aplite. The LJD ranges in composition from monzodioritic through intermediate/mafic. The LJD intrudes both the PGT and Tarcoola Formation sediments.

Figure 3 is a north-south section view showing the main lithological units and drillhole grades at the Tarcoola deposit.

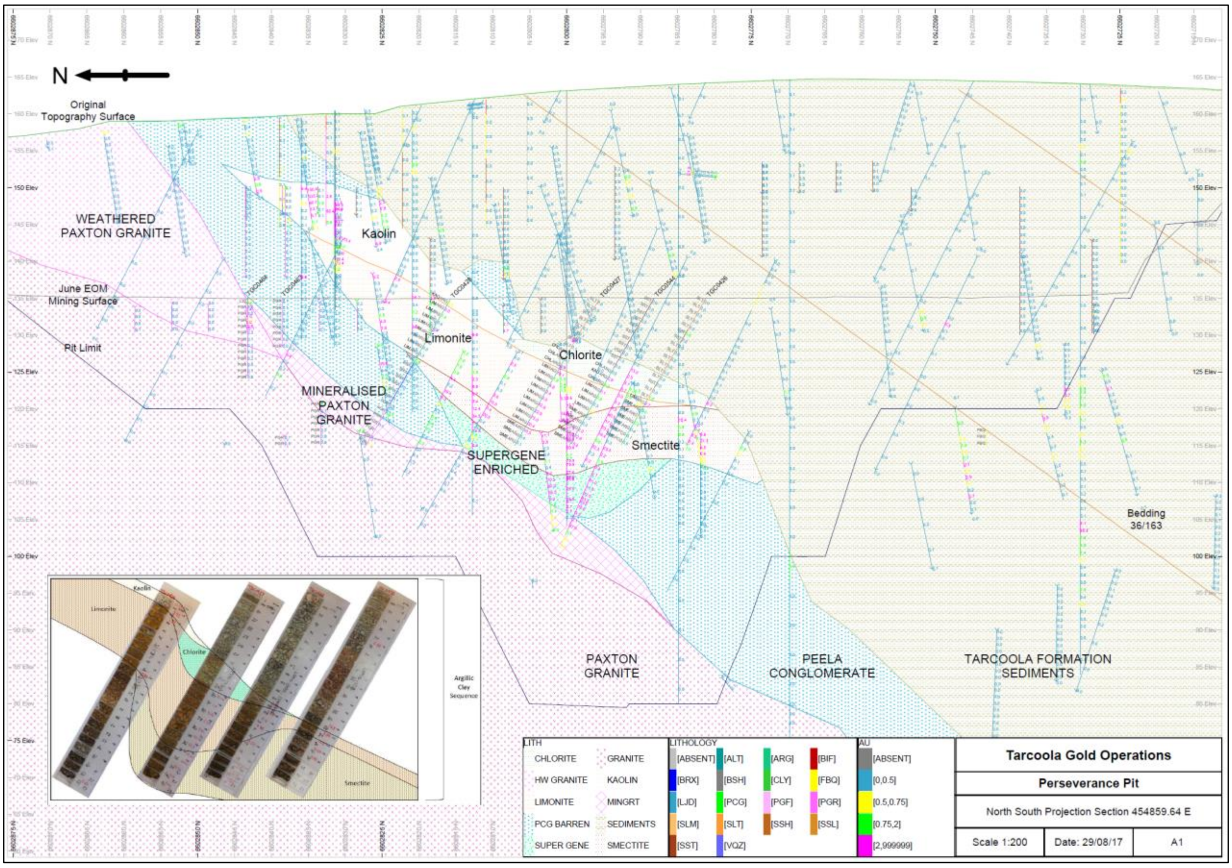

Figure 3: North-south section showing main lithological units and drillhole Au grades

Source: TCG

3.2.2 Structure

The content of this section is summarised from Verco and Traeger (2017). Some content is also drawn from Potma (2017).

Three main deformation events have occurred in the Tarcoola area:

- D1 – North-northwest to south-southeast directed shortening that resulted in open, broad scale folding. A regional basal thrust to the north of the Tarcoola Goldfield is associated with this event. Localised thrust faults occur on fold limbs between brittle quartzite and more ductile interbeds of the Tarcoola sediments.
- D2 – Regional shortening (north-northwest to south-southeast), trans-tensional (Reidel) sub-vertical, northwest and northeast trending faulting that controls narrow, mineralised veining and LJD intrusives. North-south normal faulting is also attributed to D2 deformation as sinistral shears dissect and displace D1 folding. Bedding parallel thrust faulting related to D1 was likely reactivated during D2 where localised short-wave folding and reverse faults locally displace quartzite bands.
- D3 – Represented by late stage, barren northwest trending veins that crosscut and intrude previous veining. Brecciated textures and crosscutting veining demonstrate reactivation of previous fluid pathways.

The proposes strain ellipse model is shown in Figure 4. At Tarcoola, bedding strike is subparallel to the orientation of the thrust faults in this diagram (east-northeast striking on the ground). The northwest and north-northeast oriented trans-tension faults are the equivalent of the synthetic and antithetic (or Reidel) strike-slip faults in this diagram (these would be expected to show extensional veining and shear fabrics).

The strain ellipse model predicts that minor sub-vertical to steeply-dipping normal faults and/or tension veins might open in the orientation of the "normal faults" in this diagram (i.e. in a north-northwest to north-south strike at Tarcoola) (Potma, 2017).

Gold mineralisation is well constrained to D2 deformation structures, particularly:

- North-northwest and north-northeast striking sub-vertical Reidel faults where mineralisation occurs within tension quartz veining; or on the contacts of diorite intrusives
- North striking sub-vertical normal faulting (i.e. the Perseverance Shear)
- Bedding parallel thrust faults.

Controls to the mineralisation are further discussed in Section 3.2.3.

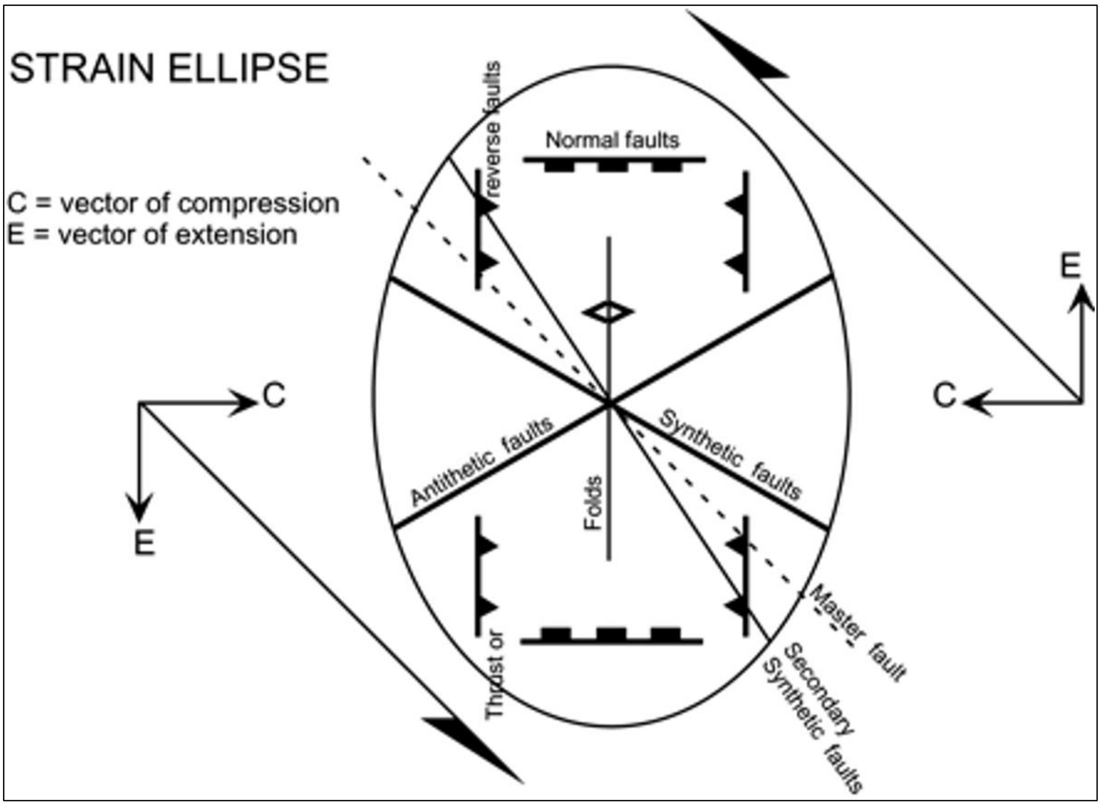

Figure 4: Strain ellipse model for the Tarcoola gold fields

Source: Potma, 2017

3.2.3 Mineralisation and Alteration

The content of this section is summarised from Verco and Traeger (2017).

Mineralisation is present in several forms that are related to structure and lithology. Several genetic models for the emplacement of gold mineralisation have been proposed which are summarised below.

High-Sulphidation Epithermal Alteration of the Peela Conglomerate

The PCG unit hosts significant gold mineralisation. The PCG unit intersects and is sinistrally offset by the Perseverance Shear Zone (PSZ), which is thought to be the dominant control on magmatic (acidic) fluid migration in the Mineral Resource area. The PCG unit is highly porous and represents the most permeable lithology in the area. A spectral study carried out by AUSSPEC in 1995 identified evidence of acid weathering, where crystalline kaolinite and local alunite were developed and carbonate had been stripped. This was interpreted to reflect the influence of sulphide weathering.

Ore genesis is characteristic of a high-sulphidation epithermal system. The following evidence is provided:

- Crystalline kaolin clays proximal to surface are a likely hangingwall acidic alteration product of the permeation of multiple phases of acidic fluid migration along the PCG.
- Fine arkosic sediments form a barren lithocap in the hangingwall of the PCG
- Residual vuggy, highly porous silica bands are predominant within the PCG. The texture is a likely by-product of pseudomorphus removal of rock fragments and porphyritic feldspars.
- Zoned argillic alteration occurs throughout the PCG with smectite, kaolin, limonite, goethite, alunite, chlorite and opaline clays. Silicic bands overprint previous sulphide alteration products and likely represent later feeder structures. These are the most common host of elevated gold mineralisation.
- Massive sulphide assemblages are not present within the unit; rather iron-rich clays represent the progressive degradation of sulphides through the neutralisation of acidic fluids with meteoric groundwaters.
- Alteration extends into the PGT footwall to the PCG. Whilst the granite forms an impermeable barrier, joint fissures and weathered surfaces promote increased alteration of feldspars, resulting in the generation of clays and mineralised structures.
- Due to the porous nature of alteration residues, and the parent PCG unit, enrichment at the base of oxidation a likely by-product of secondary weathering.

Perseverance Shear Zone

The PSZ is the major structural control on mineralisation within the Tarcoola open cut mine. The north striking sub-vertical shear zone strikes due north and displaces both PGT and Tarcoola Formation sediments by 200 m of sinistral strike-slip displacement.

The dilational nature of the PSZ has enabled LJD dykes to intrude on shear contacts and parallel to localised shear fabrics. Sericitisation of the wall rock is the dominant form of alteration. Argillic alteration clays are present at structural intersections with the PCG.

Mineralisation within the PSZ is confined to:

- Narrow stockwork veining that overprints brecciation and previous alteration
- Coarse 20–30 cm sub-vertical quartz veins containing disseminated pyrite, galena and sphalerite
- Limonitic alteration clays resulting from acidic alteration and depletion of sulphides
- Low sulphidation mineralisation along diorite contacts and structural selvages where magmatic and meteoric fluid mixing has deposited bornite, chalcopyrite, covellite and accessory gold.

Mineralisation is narrow and tightly constrained within the domain, which is consistent with a dominantly tensile or extensional-shear vein-controlled host structure.

Low-Sulphidation Epithermal Mineralisation on Structural Contacts

Gold mineralisation has long been associated with the magmatic fluid generation associated with intrusion of the LJD suite. Some dykes are mineralised, while some are not. Evidence for mineralised diorites includes:

- Northeast and northwest striking dykes associated with D2 Reidel faults have been interpreted and modelled to host Au mineralisation
- Diorites with a higher felsic composition are associated with mineralisation, whereas hornfels compositions are not
- Mineralisation is apparent on contacts with key stratigraphical units of the Tarcoola Formation and felsic components of the PGT

- Mineralisation is associated with iron and copper oxides (and sulphides in primary ores) as narrow veins on the selvages of diorite contacts.

The mechanism for mineralisation associated with the diorite intrusions is interpreted to be a low sulphidation epithermal process where Au and sulphides are derived from intermixing of magmatic fluids associated with the diorite intrusions and meteoric waters hosted within the host rocks. Gold mineralisation commonly extends along dilational structures that propagate from the diorites, particularly D2 bedding parallel thrust faults.

Enriched Lower Saprolite and Transitional Oxide Domain

The lower saprolitic-transitional domain below the base of complete oxidation (BOCO) demonstrates gold enrichment and dispersion features, as well as preserving primary gold in host structures (veins). Mineralisation in this domain has both a lateral dispersion/enrichment blanket as well as grade continuity related to the primary (sulphide) mineralisation domains (e.g. sub-parallel to the PGT contact and PSZ structures). It is also noted that a zone of depletion occurs in the upper saprolite.

4 Sampling Techniques and Data

4.1 Drilling Data

4.1.1 Drilling Techniques and History

Drilling has been completed over numerous campaigns since 1964. Table 5 shows the drilling history and summarises the sampling, analytical and hole location data for each series.

Table 5: Tarcoola drilling history

Year/s	Company	Holes	Metres	Hole type	Sampling	Assay	Hole ID (from)	Hole ID (to)
1964	SADME	4	240	DD (NQ)	Quarter core	AR_AAS	MESATD1	MESATD4
1979–1980	Aberfoyle	17	1,307	RC	Only selected chips sampled/reported	-	TPS001	TPS017
1985	Aberfoyle	21	1,121	OHP		EFAS 50 g charge	TP001	TP021
1987–1988	BHP Gold/ Aberfoyle JV	138	8,200	RC	1 m via cyclone and splitter	AR_AAS, >3 g/t FA AAS	TRC001	TRC138
1987–1988	BHP Gold/ Aberfoyle JV	113	6,531	RC	1 m or 4 m composites. Samples via 12.5% cyclone split.	AR_AAS, >3 g/t FA AAS	TC001	TC113
1988	BHP Gold/ Aberfoyle JV	37	1383.95	DD (HQ3)	? half core	FA	TGM001	TGM037
1988	BHP Gold/ Aberfoyle JV	12	1001.11	DD (HQ3)	1 m half core	FA	TD001	TD012
1989	BHP Gold/ Aberfoyle JV	282	4,423	RAB	1 m	FA	TAP001	TAP282
1991	Queens Road Mines/Imdex	17	1,112	RC	1 m	AR_AAS, >1 g/t FA AAS	TQ001	TQ017
1992	Queens Road Mines/Grenfell	30	1,617.2	RAB	Composites	AR_AAS, >1 g/t FA AAS	QB001	QB030
1993	Queens Road Mines/Grenfell	286	21,679.3	RC	4 m composites, >5 g/t Au 1 m re-assay	AR_AAS, >5 g/t FA AAS	QR001	QR286
1993	Queens Road Mines/Grenfell	31	2,513.5	RC	4 m composites, 1 m re-assay	AR_AAS, FA re-assay	PWR001	PWR031
1993	Queens Road Mines/Grenfell	2	116	RC	4 m composites	AR_AAS	GPR001	GPR002
1994	Queens Road Mines/Grenfell	3	354	RC	4 m composites	AR_AAS	DDR001	DDR003 DDSR001
1996	Grenfell	6	2,044.9	DD	Half core	AR_AAS	GP001D	GP005D GLR001D
1996–1997	Grenfell	100	13,040.3	RC/RCD/DD	2 m composites	AR_AAS	GP001R	GP100D
1997	Grenfell	36	3,999.5	RC	2 m composites	AR_AAS, >1 g/t FA AAS	WG001	WG036
1997	Grenfell	3	237	DD (HQ3)	Quarter core (met samples)	FA	GPMET001	GPMET003
1998	Grenfell	4	232	RC/RCD	1 and 2 m composites	AR_AAS	GP101RD	GP104R
2001	AngloGold/ Gravity Capital	29	5,605.9	RC/RCD	1 m	FA	TCRD001	TCRC029
2002	AngloGold/ Gravity Capital	11	2,027.3	RC/RCD	1 m	FA	TCRC033	TCRC038, 41, 47–50
2002	AngloGold/ Gravity Capital	12	3,511.85	RCD	1 m	FA	TCD004	TCD015

Year/s	Company	Holes	Metres	Hole type	Sampling	Assay	Hole ID (from)	Hole ID (to)
2008	LIDDS	2	85.8	DD (NQ-NTW)	? half core	FA (25 g)	MET01	METO2
2012	TGL	7	328.7	DD (tails)	Half core	FA (50 g)	Various	
2012	TGL	4	348.76	DD (HQ3)	Half core (met samples)	FA (50 g)	TAD001	TAD004
2012	TGL	43	1,932	RC	1 m	FA (50 g)	TARC001	TARC043
2016–2017	TCG	583	12,514.4	RC	1 m	PAL	TGC0001	TGC0683
2016–2017	TCG	7	334	RC	1 m	PAL	TGT0001	TGT0007
2016–2017	TCG	3	156	RC	1 m	PAL	TMB0001	TMB0003
2016–2017	TCG	2	96	RC	1 m	PAL	TRIG0001	TRIG0002

CSA Global reviewed a data validation report which was compiled by MacArthur (2013) in addition to the previous Mineral Resource report compiled by Hellman and Schofield Pty Ltd (H and S). These two reports detail data collection techniques for drilling programs completed prior to 2012. The information contained in these reports is summarised in this chapter, and expanded upon to provide comment on recent grade control drilling completed by TCG.

4.1.2 Drill Sample Recovery

Sample recoveries for reverse circulation (RC) percussion holes completed by TGL were measured through weighing metre intervals contained in plastic bags. TGL noted that good recoveries were achieved overall, with sample weights of 30–40 kg achieved from fresh material. Within the weathered zone, sample weights were more variable. Holes collared in Quaternary overburden yielded poor or no recovery from the upper unconsolidated cover sequence, which does not host gold mineralisation. Higher recoveries were achieved downhole as density increased and as the holes pass through heavily to moderately weathered material into hard rock.

For earlier programs, RC sample recovery is not quantified. According to TGL, some earlier reports noted difficult drilling. Grenfell noted that care was taken to maximise recoveries and minimise contamination and wet drilling conditions were not often encountered.

Diamond core recoveries were recorded by TGL. HQ triple tube (HQ3) drilling was used for some holes to maximise core recovery. Re-entry holes were not triple-tubed as they were drilled straight into fresh bedrock. Local zones of core loss were noted in the oxide zone; however, core recoveries were generally good. TGL attempted to control drilling rates and shorten drill runs through the oxide zone to maximise core recovery.

According to TGL, historical logs record recoveries for many of the holes completed by Grenfell and BHP. Core below the oxide zone returned excellent recoveries. Within the oxide zone, ore recoveries were also good in granitic lithologies. Within the sediments, core recoveries are good to poor.

In February 2017, an on-site analysis of drillhole recovery was performed by TGC, where during drilling the complete sample of each interval was collected and weighed. Sample masses indicated that recoveries were above 98%. To date, all drilling by TCG has been completed in dry ground and sample recoveries generally correlate with the drillhole volume. When drilling through clays a blade bit is used to improve recovery. Where broken ground and the intersection of clays impact recovery, and the split sample is less than 1 kg, then the sample interval is considered a null sample.

CSA Global was not provided with any quantified RC or core recovery data, hence it is assumed that historical documentation contains a valid appraisal of drill sample recovery.

4.1.3 Location of Data Points

Topography Data

In October 2012, Mungana engaged Aerometrex Pty Ltd to carry out Ortho flyovers of the Tarcoola and Tunkillia project areas. The aerial survey was conducted using a Vexcel UltraCam D with a lens focal distance and aperture of 100 mm f=1/5.6. The output pixel size was 25 cm GSD with a spatial accuracy of +/-2 GDS RMSE. Horizontal Datum is reported in Geocentric Datum of Australia 1994 (GDA94) and Vertical Datum in Australian Height Datum (AHD). The map projection is MGA Zone 53. The topographic digital terrain model (DTM) for the Tarcoola project has been developed from the 1 m contour map that was developed from the flyover data.

Since mining commenced, on-site survey has been carried out using Leica GS15 GNSS Receiver/Base configured instruments with RTK data processing. GNSS performance improves through the tracking of up to 60 satellites simultaneously on two frequencies with a re-acquisition time of less than 1 second. Data accuracy is:

- Horizontal: 3 mm +0.1ppm (rms)
- Vertical: 15 mm +1ppm (rms).

Base corrections are applied from Auspos positioning of long phase recording of two site survey stations.

Mining surfaces are generated through daily survey of pit crests, toe lines and mining surface spot height pickups and surveyed “as-drilled” points. Survey is carried out by TCG professional mining personnel and data processing is carried out in Surpac software to generate DTM surfaces.

Collar Data

Collar locations have varied somewhat over the project’s history, and are summarised below.

- Aberfoyle (1979–1985) – Collar location methods are not known.
- BHP (1987–1989) – BHP established a baseline grid in October 1986. Collar positions were laid out by measuring off the baseline grid. Final collar pickup methods at the time are not known, however subsequent operators surveyed collars by Total Station methods.
- Grenfell (1991–1997) – Grenfell established a 40 m by 40 m grid over the main part of the resource area and an 80 m by 80 m grid over the peripheral areas. CSA Global assumes that holes were laid out by measuring off this grid. Fugro Survey was contracted to survey drillhole collars by Total Station methods for holes completed by Grenfell and previous owners. According to TGL, hard copy field records documenting survey pickup coordinates are preserved and were reviewed.
- AngloGold (2001–2002) – Used a global position system (GPS) to survey collar positions.
- TGL (2012) – A differential global positioning system (DGPS) instrument was used and Ultimate Positioning SA validated collar positions. Historical collars that could be located were also validated by TGL by DGPS at the time. Many of the historical collars are still visible, with PVC casing and hole names labelled. Additional validation completed by TGL included data capture of hard copy Fugro Survey records and collar positions reported through open file, checks on the logged geology to confirm holes logged as granite or sediments plotted in the correct location, and checks against the topographic DTM. Several errors were identified in the database as a result of this work. A priority system was then used to assign collar coordinates to historical holes, with recent DGPS surveys given the highest priority (416 of 683 holes). In the absence of DGPS data, Fugro Survey data was used (238 of 683 holes). In the absence of both DGPS and Fugro Survey data, open file data was used (29 of 683 holes).

- TCG (2016–2017) – All production and grade control drillhole collars are surveyed utilising a Leica GS15 GNSS survey equipment as described above. Equipment error limits are set to 20 mm in both horizontal and vertical offsets. If points exceed this precision then re-survey is required.

Downhole Survey Data

Downhole survey methods have varied somewhat over the projects history, and are summarised below.

- Aberfoyle (1979–1985) – Holes not surveyed at the time of the drilling, however set-up positions are well documented.
- BHP (1987–1989) – Holes not surveyed at the time of the drilling, however set-up positions are well documented.
- Grenfell (1991–1997) – A single shot Eastman camera was used, with surveys taken every 30–50 m (GP, GL series). Early-generation holes completed by Grenfell/Queens Road were not surveyed at the time of the drilling. Grenfell conducted a campaign of Eastman surveys for open historical holes, using Fugro Survey as a contractor.
- AngloGold (2001–2002) – A single shot Eastman camera was used, with surveys taken every 30–50 m (TCD, TCRC series).
- TGL (2012) – A reflex Ezi-shot downhole camera was used, with readings taken every 30 m for diamond holes (TADD series) and end-of-hole for RC holes (TARC series). TGL completed validation checks on the downhole surveys including consistency checks on available databases, comparison of digital databases against hard copy records, and against original Eastman camera discs, cross checks on grid to magnetic conversions and visual review.
- TGC (2016–2017) – In February 2017, Kinetic Technologies was engaged to perform a downhole optics survey for a geotechnical review. A total of seven holes were downhole surveyed for deviation using a directional survey probe. Readings were taken at 10 m downhole intervals. Results showed minor lifting in holes deeper than 28 m. The majority of grade control holes were drilled to 23 m; hence hole deviation is not considered to be significant.

4.1.4 Geological Logging

Geological logging practices have varied somewhat over the project's history, and are summarised below.

- Aberfoyle (1979–1985) – Drillholes were logged, however logs were subsequently re-coded by AngloGold.
- BHP (1987–1989) – Drillholes were logged, however logs were subsequently re-coded by AngloGold.
- Grenfell (1991–1997) – Drillholes were logged, however logs were subsequently re-coded by AngloGold.
- AngloGold (2001–2002) – AngloGold completed re-logging of approximately 17,000 m of diamond and RC drilling and conversion of historical data into a consistent coding system. Most of the relogging was holes originally logged by Grenfell, primarily the GP series drilled along the PSZ. Part of the BHP diamond drill core (TD series) that was stored at the core library in Adelaide was also re-logged. The BHP holes that intersected the granite-sediment contact were specifically selected for re-logging. The logging system adopted by AngloGold was subsequently adopted by TGL.
- TGL (2012) – Geological logs were completed on hard copy and the data was manually entered into an Access database. Geological information collected included lithology, rock colour, alteration, mineralogy, ore minerals and oxidation/weathering intensity. All core and chips were photographed using a digital camera. TGL also cross-checked the logging data against semi-quantitative mineralogical data collected through a Teraspec Pro Portable Analytical Spectral device.

- TCG (2016–2017) – Geological logging was broadly consistent with TGL, with some modification to account for the increased geological understanding of the deposit.

4.1.5 Sampling Techniques and Sample Preparation

RC sampling techniques have varied slightly over the project's history, and are summarised below. Diamond core sampling has remained relatively consistent between the various exploration programs.

- SADME (1964) – Diamond holes were quarter-cored by Grenfell.
- Aberfoyle (1979–1985) – Samples of open holes TP001–021 were collected in a PVC bag via a cyclone, and then split down to approximately 1.5 kg.
- Newmex Exploration Limited/Tarcoola Gold Ltd (1987–1988) – RC samples from TRC001–TRC025 were collected over 1 m intervals via a cyclone with an incorporated splitter. Approximately 3 kg was collected for analysis. RC samples from TRC026–TRC138 were collected over 1 m intervals and riffle split to collect a sample. The weight of the sample was approximately 2 kg.
- BHP (1987–1989) – RC holes were sampled at 1 m intervals with rock chips homogenised via a cyclone before being split and sampled. A 4 m composite sample weighing approximately 2.5 kg was initially submitted for analysis. The 1 m samples were only submitted of the original 4 m sample returned a value of >0.5 g/t Au. Diamond core was apparently half-cored, with samples generally taken at 1 m intervals.
- Grenfell (1991–1993) – RC holes were sampled at 1 m intervals and were fully collected in plastic bags. The plastic bags were rolled several times to help ensure mixing prior to collecting a 1–2 kg sample using a short plastic tube (spear) inserted diagonally several times into the material. A 4 m composite was initially submitted for analysis. 1 m samples were only submitted if the original 1 m sample returned a value of >0.3 g/t Au. Diamond core was apparently half-cored, with samples generally taken at 1 m intervals.
- Grenfell (1995–1997) – RC holes were sampled at 1 m intervals were fully collected in a plastic bucket, and then poured through a three-tier riffle splitter. Buckets were emptied through the splitter at 0.5 m intervals. A 3 kg sample was collected in a calico bag for assay, and the remaining sample collected in a large plastic bag. Poor sample recovery was apparently only noted within a small number of drillholes. Diamond core was apparently half-cored, with samples generally taken at 1 m intervals.
- AngloGold (2001–2002) – RC holes were sampled at 1 m intervals. Detail surrounding the sampling techniques was not provided to CSA Global. According to MacArthur, 2012, no problems were encountered with drilling conditions, all samples were kept dry and sample recoveries were described as excellent. Diamond core was apparently half-cored, with samples generally taken at 1 m intervals.
- TGL (2012) – Diamond core was generally half cored, samples taken at 1 m intervals or to geological contacts.
- TCG (2016–2017) – Grade control drilling is undertaken by RC methods. Work is carried out by Mass Drill and Blast Pty Ltd. The drill rig is a track mounted Qubex fitted with a 1050 cfm 350 psi compressor and a cone sampling tower with a cone splitter. The rig is fitted with a directional orientation system. Holes are drilled with a 127 mm face sampling hammer. Samples are taken at measured (and marked) 1 m rod intervals, the downhole samples are collected via the cyclone and cone split sampler stack. A 12.5% sample spilt is collected off the sample chute. Duplicates are taken from the secondary sample chute. Where drilling is regarded to be sterilisation drilling (away from mineralisation), 2 m samples are taken at a cone split of 6.25%. The return hose and cyclone are cleaned between holes.

4.1.6 Analytical Methods

Analytical techniques have varied somewhat over the project's history, and are summarised below.

- SADME (1964) – Diamond holes were sent to Amdel in Adelaide for analysis by Aqua Regia digest flame atomic absorption spectrometry (AAS) with a 0.02 detection limit. Any samples returning grades >1 g/t Au were re-assayed by fire assay and an AAS finish.
- Aberfoyle (1985–1987) – Samples were submitted to Classic Laboratories in Perth for fire assay using a 50 g charge, with analytical determination by AAS.
- Newmex Exploration Limited, Tarcoola Gold Limited (1987–1988) – Samples from TRC001–TRC025 were submitted to Genalysis in Perth for analysis using Aqua Regia digest and AAS finish after roasting to oxidise sulphides. Fire assay was carried out on all samples containing >1 g/t Au determined following Aqua Regia. Samples from TRC026–TRC138 were submitted to Classic Comlabs, Adelaide, for analysis by fire assay.
- BHP Gold (1988–1991) – Samples were submitted to Amdel Laboratories in Adelaide for analysis. The analytical method is not known.
- Queens Road Mine/Grenfell (1992–1994) – Samples were submitted to Amdel for digest by Aqua Regia (two parts hydrochloric acid to one-part nitric acid), followed by extraction into organic solvent (D.I.B.K.). A 50 g subsample was then analysed by AAS with a 0.02 g/t detection limit.
- Grenfell (1996–1998) – Earlier samples were submitted to Amdel for analysis by Aqua Regia digest with AAS finish. Any samples returning grades >1 g/t Au were re-assayed by fire assay with an AAS finish. Later holes were submitted to Aqua Regia digest with graphite furnace AAS.
- AngloGold, Gravity Capital Limited (2001–2002) – Earlier holes (up to TCRC0029) were submitted to Genalysis in Adelaide. Sample preparation was completed in Adelaide, and then sample analysis was completed in Genalysis (Perth) via a 50 g fire assay with AAS finish (Method FA50/AAS). Later holes were submitted to Analabs in Perth for analysis by fire assay.
- LIDDS (2008) – Two core holes were submitted to Onsite Laboratory Services, Bendigo for analysis by 25 g fire assay with AAS finish. Subsampling techniques are not known.
- TGL (2012) – Au analysis was completed by Intertek-Genalysis in Adelaide, via a 50 g lead collection fire assay with AAS finish to a 0.005ppm detection limit (Method FA50/AA). Sample preparation was carried out at the laboratory and involved drying the samples at 105°, crushing the sample to a nominal –10 mm particle size using a Jacques or Boyd jaw crusher, and using a mixing mill (chrome-steel bowl) to achieve an autonomous grind of approximately 90% passing <75 microns. The bowl was brushed and vacuum cleaned between each sample.
- TGC (2016–2017) – Samples are transported to the Challenger Laboratory, located at the Challenger Gold Mine, as soon as practicable after sampling. Each sample is tracked through Labman software to ensure that each assay is correctly matched to its sample. Several check processes are in place to ensure this compliance; samples are retained if reruns are required. Samples are dried at 90°C to eliminate the impact of moisture on sample processing. After drying, samples are crushed via a Boyd Crusher to <10 mm in size then split through a rotary splitter to produce a subsample. The crusher is cleaned regularly with barren bricks crushed between sample groups to prevent contamination. Analysis is through the pressure aggressive leach (PAL) process. This process reflects the site mill extraction process where: each process is pulverised in aqueous solution with cyanide bearing assay tabs and a collection of assorted sized ball bearings, each sample is pulverised for an hour, resulting in an Au-CN complex bearing solution and remnant pulverised sample, and the pulverised material is 95% passing at 75 microns. Laboratory standards and blanks are run within each PAL to identify process contamination and laboratory precision. Following PAL processing, samples are decanted, centrifuged and prepared for analysis in an AAS with a solvent separation with a DIBK and residence

time of 20 minutes. The sample is then aspirated through the AAS to produce a reading. The AAS is calibrated for each PAL using analytical reagent prepared standards (of 1.0, 5.0, 10.0 and 20.0 ppm Au). Each sample reading is adjusted for PAL sample weight within Labman to report a gold grade in ppm. Where quality assurance/quality control (QAQC) protocols fail, the process is repeated.

4.1.7 Verification and Sampling and Assaying

Alternative company personnel have verified significant intersections.

BHP Gold completed some diamond twinning to verify RC intersections. These results are discussed in Section 5.2.

The location and tenor of historical intersections is broadly consistent with modern holes which gives confidence in the historical data. The location of historic holes has been confirmed through programs of collar re-survey. Several checks have been made during mining where open drillholes have been intersected during mining. To date no surveyed downhole traces have exceeded their recorded hole path by greater than 1 m.

No adjustments were made to analytical data prior to preparation of the Mineral Resource estimate, other than replacement of below detection results with a value equal to half the detection limit.

4.1.8 Survey Grid

All site data is reported in GDA94 and Vertical Datum in AHD. The map projection is MGA Zone 53. Historic survey data has been converted to GDA94 and is reported as such in x, y and z columns within the Microsoft Access database that was provided to CSA Global.

4.1.9 Data Spacing and Distribution

The Mineral Resource area extends from approximately 6,602,700 m N to 6,603,450 m N. Drilling north and south of this area is too widely spaced to support Mineral Resource estimation.

Drilling has generally been completed at 5–10 m E and 5–10 m N spacings increasing to 25–40 m spacings at the periphery of the deposit. There are four main drill directions (vertical, dip of 60° to 030°, 60° to 105° and 60° to 060°); hence the drilling grid is very irregular.

Exploration drilling has been completed on a nominal 5–10 m section spacing over the central deposit area, from approximately 6,602,730 m N to 6,602,900 m N. Beyond this area, and within the limits of the modelled Mineral Resource area, drill section spacing increases to 20–40 m. Holes are generally spaced 5–40 m apart on sections, with holes closer together as you get closer to surface.

Grade control drilling has been completed on a nominal 10 m N by 5 m E pattern.

4.1.10 Orientation in relation to Geological Structure

Numerous drilling orientations have been adopted at the Tarcoola deposit. There are a number of controls to the mineralisation, each with their dominant orientation, which means that several drill orientations need to be adopted to test different structural and/or lithological features.

The main controls to the mineralisation are discussed in Section 3.2. The main mineralisation domains include the PGT Contact zone (which includes the PCG), which has a variable orientation and "wraps" around the edge of the PGT, the north-south striking PSZ, zones of supergene enrichment (which are generally sub-horizontal), and mineralisation associated with northwest striking structures.

Given the multiple orientations of mineralisation domains, and multiple drill orientations, the orientation of drilling in relation to geological structure varies significantly.

4.1.11 Sample and Data Security

A field assistant is always present at the RC drill rig while samples are being collected. Samples are bagged, tied and kept in numerical sequence. TCG staff transport all samples to the laboratory. Chips are sieve collected during each sample drop and are placed in pre-labelled chip trays for lithological logging.

4.1.12 Audits and Reviews

To the best of CSA Global's knowledge, no external audit or review of the drilling data has been completed. Various operators extensively reviewed historical documentation when they acquired the asset, and where possible the data was validated by means such as re-sampling, re-logging, picking up old collar positions and re-entering old holes to collect downhole survey data.

4.2 Previous Mining

The total recorded historical (pre-TCG) production is 2.38 tonnes of gold from 63,703 tonnes of ore according to the SARIG database.

TCG is actively mining the Tarcoola open pit. As at the end of June 2017, 101 kt @ 2.32 g/t Au has been mined. The Mineral Resource estimate reported in this document is depleted to the end of June 2017.

5 Quality Assurance

5.1 Summary of Procedures

5.1.1 SADME (1964)

To the best of CSA Global's knowledge, no quality control (QC) samples were submitted.

5.1.2 Aberfoyle (1985–1987)

To the best of CSA Global's knowledge, no QC samples were submitted.

5.1.3 Newmex Exploration Limited, Tarcoola Gold Ltd (1987–1988)

To the best of CSA Global's knowledge, no QC samples were submitted.

5.1.4 BHP Gold/Afmeco/Aberfoyle (1988–1991)

BHP completed diamond holes as twin checks on previously completed RC holes. Holes TD009, TD002, TD010, TD011, TD012, TD008, TD006 and TD007 were all RC twins.

5.1.5 Queens Road Mine/Grenfell (1992–1994)

QC results are apparently documented in earlier resource reports, but were not provided to CSA Global for review. According to MacArthur, 2013, duplicate samples were taken every 20th sample and submitted to Australian Assay Laboratories "as an umpire check for Amdel Laboratories".

Aqua Regia results were also check by sending samples that returned >1 g/t Au for fire assay. Spear and riffle split samples were also compared for samples which assayed >1 g/t Au.

5.1.6 Grenfell (1996–1998)

RC field duplicates were collected at a rate of one in 20 samples. Standards and blanks were also inserted in the sample stream.

5.1.7 AngloGold, Gravity Capital Limited (2001–2002)

To the best of CSA Global's knowledge, no QC samples were submitted.

5.1.8 LIDDS (2008)

To the best of CSA Global's knowledge, no QC samples were submitted.

5.1.9 TGL (2012)

TGL submitted field duplicate samples and standards (most certified reference materials (CRMs)) with drillhole samples. Standards were submitted every 20th sample and field duplicates every 50th sample. Laboratory pulp duplicates were also submitted. Fourteen standards (including one blank) appear to have been used.

5.1.10 TCG (2016–2017)

Duplicates and CRMs are submitted by site geologists within each sample despatch, with duplicates taken from the secondary sample catch. Duplicates are submitted with each sample despatch roughly every 20th sample. The primary CRM used is G313-6 that has a certified gold grade of 4.91 g/t Au. Re-assaying of samples by 50 g fire assay at Genalysis Intertek Laboratories, Wingfield SA has also been completed to check the PAL results.

5.2 Quality Control Results

5.2.1 BHP Gold (1988–1991)

CSA Global reviewed the diamond twin results which were presented in MacArthur (2012):

- Hole TD009 twinned TC082. The holes targeted oxide mineralisation in sediments at the Perseverance deposit on section 6,602,795 m N. The high-grade RC results were broadly confirmed in the diamond hole.
- Hole TD002 twinned TC018. The holes targeted oxide mineralisation in sediments at the Perseverance deposit on section 6,602,820 m N. The high-grade RC results were not confirmed in the diamond hole, apparently due to significant core loss associated with washing away of the clay matrix.
- Hole TD010 twinned TC089. The holes targeted oxide mineralisation in sediments at the Perseverance deposit on section 6,602,850 m N. The high-grade RC results were not confirmed in the diamond hole, apparently due to significant core loss.
- Hole TD011 aimed to twin TC092. The holes targeted oxide mineralisation in sediments at the Perseverance deposit on section 6,602,850 m N. The diamond hole was abandoned prior to reaching the mineralisation.
- Hole TD012 twinned TC087. The holes targeted oxide mineralisation in sediments at the Perseverance deposit on section 6,602,840 m N. The high-grade RC results were confirmed in the diamond hole. The diamond hole also intersection some additional mineralisation toward the top of the hole.
- Hole TD008 twinned TC028. The holes targeted oxide mineralisation in granite at the Last Resource deposit on section 6,603,160 m N. One of the two high-grade RC intersections was confirmed in the diamond hole. The diamond hole did not replicate high-grade Au mineralisation toward the top of the RC hole, supposedly due to zones of core loss.
- Hole TD006 twinned TC034. The holes targeted oxide mineralisation in granite at the Last Resource deposit on section 6,603,205 m N. The high-grade RC intersection was confirmed in the diamond hole. Some shallow mineralisation was also intersected in the diamond hole.
- Hole TD007 twinned TC052. The holes targeted oxide mineralisation in granite at the Last Resource deposit on section 6,603,245 m N. The high-grade RC intersection was confirmed in the diamond hole.

5.2.2 Queens Road Mine/Grenfell (1992–1994)

CSA Global reviewed the QC results which were presented in MacArthur (2012).

Figure 5 shows the comparison between the Aqua Regia and fire assay results. Although some scatter is observed, no significant bias is noted with the Aqua Regia results.

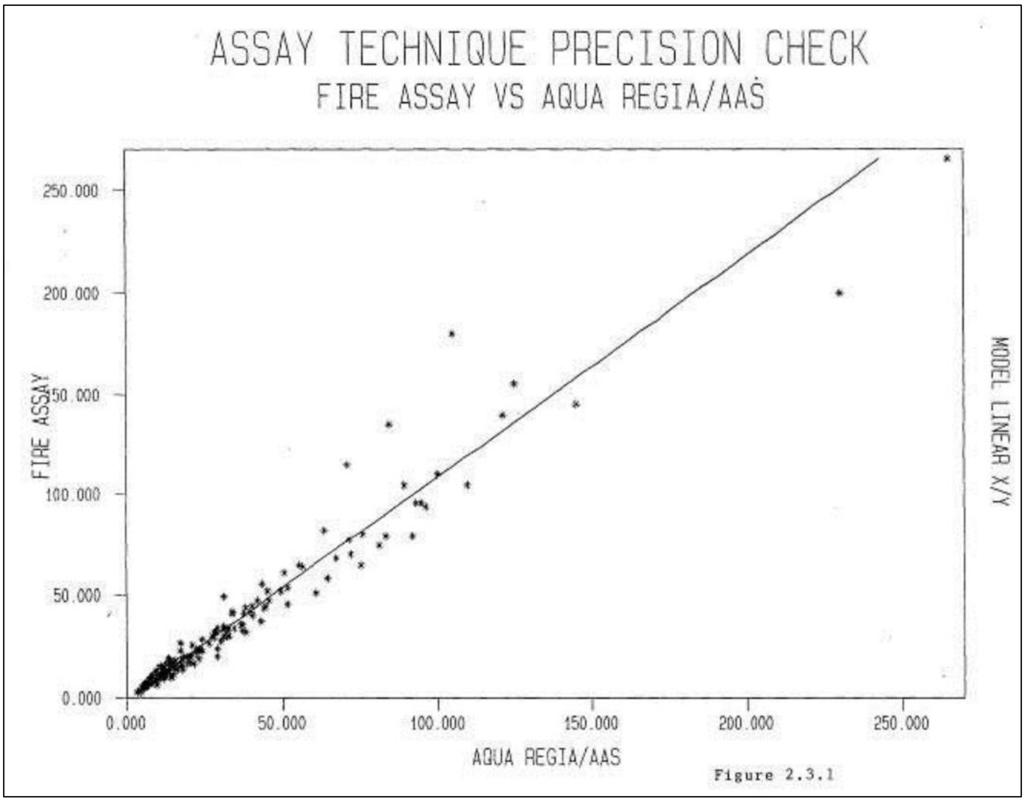

Figure 5: Aqua Regia versus Fire Assay results

Source: MacArthur, 2012

Figure 6 shows the comparison between the spear and riffle-split sample results. Significant scatter is observed, which possibly reflects the difficulty in obtaining a representative sample using a spear. No significant bias is noted however when comparing the spear samples to the riffle-split samples.

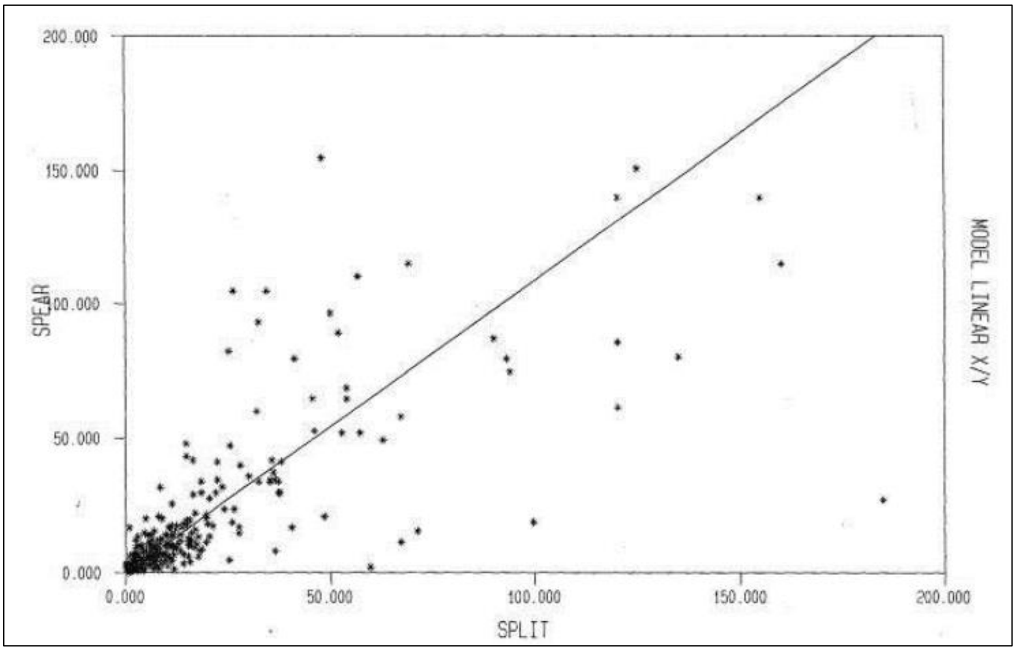

Figure 6: Spear versus Riffle-split results

Source: MacArthur, 2012

Field duplicate results were also presented; however, the duplicates were sent to an alternate laboratory. This is therefore a check on both sample precision and analytical accuracy in one sample, which makes it is difficult to determine either. Significant scatter was observed in the results.

5.2.3 Grenfell (1996–1998)

CSA Global reviewed QC results which were presented in MacArthur (2012). Twelve standards (certification unknown) including two blanks appear to have been used. Plots were shown which summarised the results of standards EUR01 (18 samples), STD06 (nine samples), AMD2_10G (104 samples), AMD2 (143 samples) and AMD3 (143 samples). Expected mean values were provided for standards pre-fixed AMD only (five of the 12), however no expected standard deviation data was available. The AMD standard results indicated no significant bias. Given the absence of an expected mean value for the other standards, no assessment of analytical bias could be made. Blanks results indicated there was no issue with carry-over contamination.

Field duplicate results showed some scatter when compared to the original sample, however no bias in the results was evident.

Pulp repeats were analysed by the laboratory and a reasonable amount of scatter was observed, however no significant bias was noted. CSA Global considers that this could be expected due to the high-nugget nature of the mineralisation.

5.2.4 TGL (2012)

CSA Global reviewed the QC results which were presented in MacArthur (2012). Plots were shown which summarised the results of three of the most used CRMs, namely OREAS16a (45 samples), OREAS19a (26 samples) and OREAS62d (eight samples). Almost all results were within the mean plus/minus two standard deviation range and no significant bias was noted. Blank results (OREAS 22c) were also reviewed and no significant issues with carry-over contamination were evident. Two slightly elevated results (from 56 blank samples) were apparently from the batch that contained TAD003 samples, which contained high-grade mineralisation. Collectively the results give confidence in the accuracy of the laboratory and the procedures to ensure no contamination between samples.

Twenty-seven field duplicate samples were also submitted. The results compared quite well, although the mean grade of the primary sample was 0.23 g/t Au compared to a grade of 0.20 g/t Au for the duplicate sample. The results give confidence in RC sample collection procedures.

Fifty-one pulp repeats were analysed by the laboratory and a reasonable amount of scatter was observed. The mean of the original sample was 10.84 g/t Au compared to 12.46 g/t for the repeat analysis. Although there is a reasonable difference between the mean grades, CSA Global considers that this could be expected due to the high-nugget nature of the mineralisation.

Grind size checks were also completed by the laboratory and returned good results, giving confidence in pulverisation methods.

5.2.5 TGC (2016–2017)

The results from over 550 duplicates demonstrate strong correlation of 0.97 (Figure 7). Greater variability is present within duplicates of higher Au grades; which is likely to be influenced by the high nugget nature of the mineralisation.

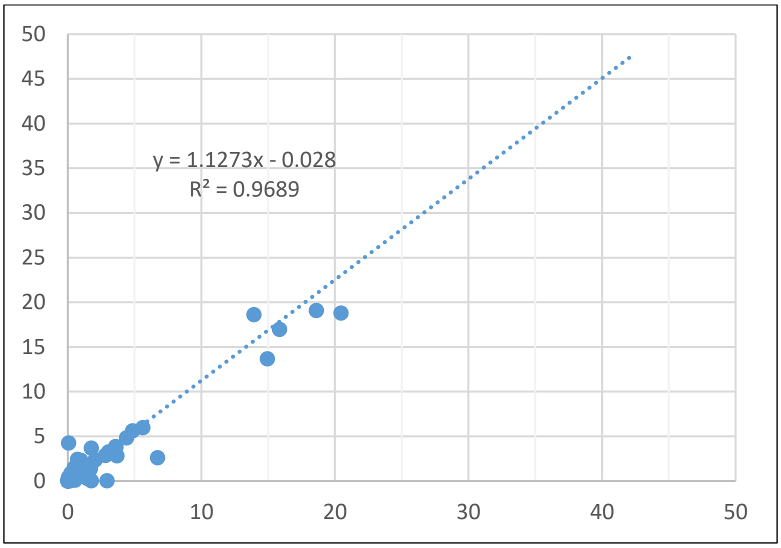

Figure 7: Field duplicate results

Source: TCG

CRM results for G313-6 are shown in Figure 8. The mean value is 4.77 g/t Au, slightly below the certified value of 4.91 g/t Au. Results give confidence in the accuracy of the primary laboratory.

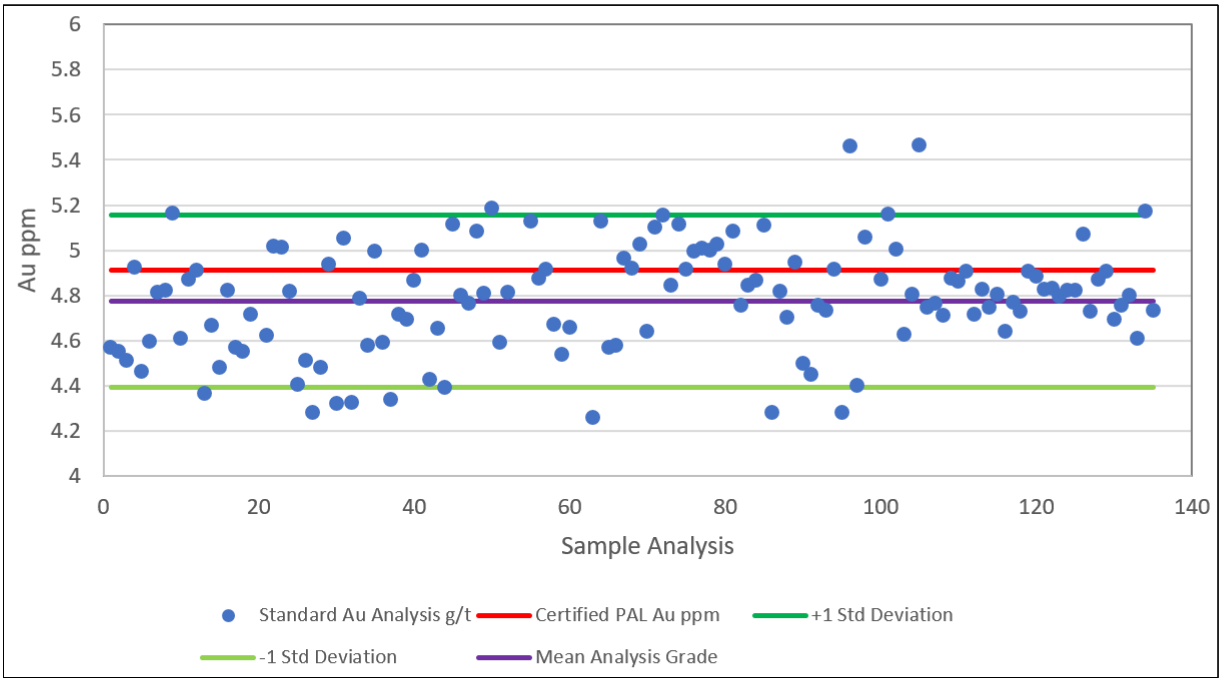

Figure 8: G313-6 CRM results

Source: TCG

PAL versus fire assay results are shown in Figure 9. Results give confidence in the PAL method.

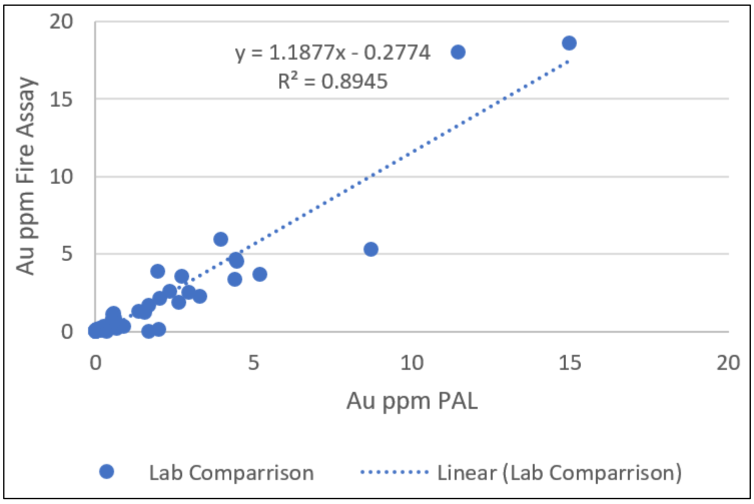

Figure 9: PAL versus Fire Assay results

Source: TCG

5.3 Competent Persons' Opinion on Data Quality

Documentation is available which describes data collection techniques for all phases of drilling that have been completed at Tarcoola. Although collar location, downhole survey, logging and analytical techniques have varied slightly over the projects history, no significant QC issues have been previously noted.

A high confidence can be placed in the location of drillholes for all phases of drilling.

The amount of sampling and analytical QC data that has been collected has varied over the project's history.

Limited sampling and analytical QC data is available to support drilling programs completed prior to 1992, which represents a relatively minor portion of the dataset.

Between 1992 and 1994, the only meaningful QC data appears to be a comparison of spear and riffle split sampling results. No significant bias was noted between the methods.

Between 1996 and 1998, standard results indicate no significant bias, and blank results suggest no issue with carry-over contamination. Field duplicate results reveal a reasonable amount of scatter, which implies poor sample precision, however no bias was noted. Check (umpire laboratory) assay results also revealed considerable scatter but no significant bias was noted.

To the best of CSA Global's knowledge, no QC samples were submitted between 2001 and 2002 and in 2008. This data represents a small portion of the dataset.

QC data is available to support the drilling completed by TGL and TGC.

TGL used blanks to monitor carry-over contamination and no significant issues were detected. Field duplicates were used to assess sample precision, while CRMs were used to assess analytical accuracy. Some pulps were also sent to an umpire laboratory as a further check on analytical accuracy. Field duplicate results provide some confidence in sample precision. The scatter which is observed is understandable given the moderate to high nugget component. The CRMs reasonably demonstrated the accuracy of the laboratory analyses. Pulp repeats were higher than the original results, which does cause some concern, however given the CRM results the Competent Person has reasonable confidence in the accuracy of the primary laboratory. No issues with carry-over contamination were noted, evidenced from the blank results.

TGC collects field duplicates to monitor sample precision and submits one main CRM to monitor analytical accuracy. The field duplicate results give some confidence in sample precision, with the scatter which is observed likely a consequence of the high-nugget nature of the mineralisation. Although only one CRM was used (several should be submitted across the expected grade range), no bias was noted.

The Competent Person decided that all diamond and RC data should be used in the Mineral Resource estimate after consideration of the information presented in this chapter.

6 Data Import and Validation

6.1 Software

Data import, validation, geological modelling and block modelling was undertaken using Datamine Studio RM software. Snowden Supervisor (version 8) was used for statistical and geostatistical analysis.

6.2 Data Import

CSA Global was provided with two Access databases which contained the exploration and grade control drilling data. The file *Tarcoola_170815.mdb* contained the exploration data and the file *Tarcoola_MiningRC_Database.mdb* contained the grade control data.

Collar, survey, lithology and assay data was then exported from the Access databases as Excel spreadsheets. These Excel spreadsheets were then converted to CSV format and imported into Datamine using Datamine macros prepared by CSA Global.

Once standard Datamine tables were created, the data was de-surveyed to create 3D drillhole trace files for use in geological modelling and grade interpolation.

6.3 Data Validation

CSA Global checked the drillhole files for the following errors prior to Mineral Resource estimation:

- Absent collar data
- Multiple collar entries
- Questionable downhole survey results
- Absent survey data
- Overlapping intervals
- Negative sample lengths
- Sample intervals which extended beyond the hole depth defined in the collar table.

No significant issues potentially affecting the Mineral Resource estimate were detected. Validation errors as detected were communicated to TCG. De-surveyed drillhole files were visually checked as a final validation exercise.

6.4 Site Visit

A site visit was completed by CSA Global Principal Geologist, Warren Potma, in February 2017. Findings from the site visit were communicated to the Competent Person.

During this time, the following actions were completed:

- Limited core was inspected
- RC chips were inspected
- The controls to the mineralisation were discussed in detail
- Sectional interpretations were reviewed
- Geological data collection systems were reviewed.

6.5 Final Data Selection

All RC and diamond data was used to prepare the Mineral Resource estimate given that data collection methods are known for all periods of drilling. Rotary air blast (RAB) drillholes were used to assist with the interpretation of mineralisation models, however were excluded for grade estimation.

The database used for grade estimation is comprised of drilling carried out by numerous companies including:

- BHP/Aberfoyle Joint Venture
- Queens Road Mines/Imdex Joint Venture
- Queens Road Mines/Grenfell Joint Venture
- Grenfell
- AngloGold/Gravity Capital Joint Venture
- LIDDS
- TGL
- TGC.

Drilling programs appear to have been carried out according to industry good practice. Furthermore, QC data has been collected and generally supports the precision and accuracy of the data.

7 Geological Modelling

7.1 Wireframes Provided by TCG

Numerous wireframes were provided by TCG which included mineralisation domains, weathering surfaces and topographic surfaces. The wireframes provided are shown in Table 6.

Table 6: Wireframes provided by TCG

File name	Description
bocotr/pt.dm	Base of complete oxidation DTM
tofrtr/pt.dm	Top of fresh rock DTM
topotr/pt.dm	Topography DTM (original surface)
170630pu_eom.dtm/str	Surface DTM 30 June 2017
Model_interp_peela_clean_170822tr/pt.dm	Paxton Granite Contact domain wireframe
Model_interp_persheartr/pt.dm	Perseverance Shear Zone domain wireframe
Model_interp_diorite1tr/pt.dm	Diorite 1 domain wireframe
Model_interp_diorite3tr/pt.dm	Diorite 2 domain wireframe
Model_interp_diorite4tr/pt.dm	Diorite 4 domain wireframe
supergene_dispersiontr/pt.dm	Lateral dispersion wireframes
Wondergraph_geo_v1_dtmtr/pt.dm	Wondergraph domain wireframe

The following approach was adopted when creating the mineralisation wireframes:

7.1.1 Paxton Granite Contact Domain

A broad zone of mineralisation was modelled around the PGT/PCG contact zone. Sectional interpretations were completed approximately orthogonal to the strike of the zone, which varied given the undulating nature of the granite contact. This zone includes the PCG which is often highly mineralised, and the upper part of the PGT, where mineralisation sometimes occurs because of fluid migration along structural pathways.

Given the complexity of the mineralisation, no discrete cut-off grade was used when interpreting this domain. Mapping, logging and analytical data was used to define a broad zone of mineralisation associated with the favourable geological setting, which is largely represented by high sulphidation mineralisation as described in Section 3.2.3. The PGT Contact Domain represents a broad geological domain with often erratic, but locally highly continuous gold mineralisation.

7.1.2 Perseverance Shear Zone Domain

A zone of mineralisation was modelled around the PSZ, which has been mapped in open pit exposures. The mineralisation is locally continuous but patchy, and therefore it was necessary to model a broad zone of mineralisation around the PSZ which contains many low-grade samples. Below the current open pit, interpreted strings were snapped to drillholes, using a nominal 0.2 g/t Au cut-off grade. The PSZ Domain represents a broad linear domain with locally highly continuous gold mineralisation.

7.1.3 Granite Vein Domain

A zone of mineralisation was modelled around the granite vein, which represents a zone of shearing that largely lies to the north of the PGT Contact Domain. The mineralisation is generally low-grade and discontinuous, and therefore it was necessary to model a broad zone of mineralisation. Interpreted strings were snapped to drillholes, using a nominal 0.2 g/t Au cut-off grade, to model the vein, however it was necessary to include significant material below 0.2 g/t Au to maintain continuity. The Granite Vein Domain represents a broad linear domain with locally continuous elevated gold mineralisation.

7.1.4 Diorite 1, 2 and 4 Domains

The Diorite 1, Diorite 2 and Diorite 4 Domains represents mineralisation associated with an LJD which has been mapped within the open pit. Mineralisation is often but not always located near the contacts of the diorite. The mineralisation is discontinuous and the grade distribution is erratic within the diorite unit.

7.1.5 Lateral Dispersion Domain

Two zones were modelled which represent mineralisation formed by lateral dispersion from other grade domains.

7.1.6 Wondergraph Domain

The Wondergraph Domain represents a series of high grade northwest dipping structures that host gold mineralisation. The mineralisation appears continuous within the modelled area.

7.2 Wireframes Created by CSA Global

The mineralisation interpretations were reviewed by CSA Global and modifications were made to the PSZ, Granite Vein, Diorite 1, Diorite 2, Diorite 4 and Wondergraph mineralisation wireframes. Where possible, interpretations were snapped to drillholes.

CSA Global saved the amended files using the file names shown in Table 7. MINZON codes were applied to each domain as shown.

Table 7: Wireframes modified by CSA Global

File name	Description	MINZON
PCGtr/pt.dm	Paxton Granite Contact grade domain wireframe	100
PSVtr/pt.dm	Perseverance Shear Zone grade domain wireframe	200
GVtrpt.dm	Granite Vein grade domain wireframe	300
Di1tr/pt.dm	Diorite 1 grade domain wireframe	400
Di2tr/pt.dm	Diorite 2 grade domain wireframe	500
Di4tr/pt.dm	Diorite 4 grade domain wireframe	600
Sup1tr/pt.dm	Lateral dispersion zone 1 grade domain wireframe	700
Sup2tr/pt.dm	Lateral dispersion zone 2 grade domain wireframe	750
wond1tr/pt.dm	Wondergraph grade domain wireframe	800

The final domain wireframes are shown in Figure 10. Lateral dispersion wireframes are not shown.

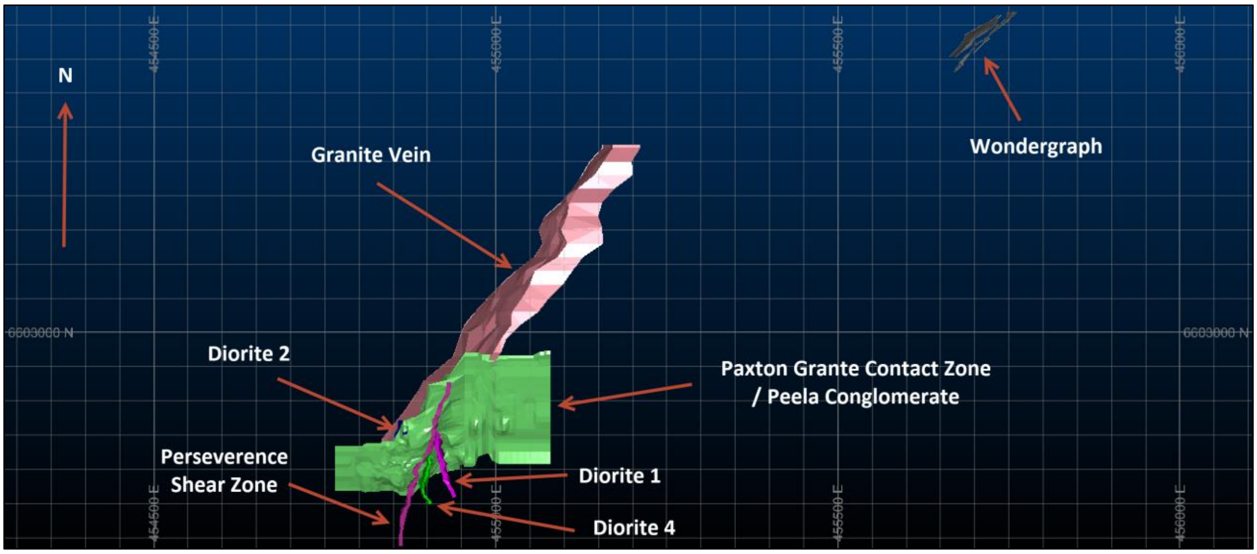

Figure 10: Tarcoola mineralisation domains

8 Statistical and Geostatistical Analysis

8.1 Statistical Analysis

Statistical analysis was completed to:

- Determine the appropriate length for compositing
- Assess whether hard or soft boundaries should be applied across oxidation boundaries during grade estimation
- Assess the nature of the gold mineralisation in each domain
- Assess the requirement for further sub-domaining with the lodes
- Derive top cut values.

8.1.1 Data Flagging

Drillhole data was flagged within the mineralisation and geological envelopes, and relative to weathering surfaces, as presented in Table 6 and Table 7. RAB and open hole percussion (OHP) holes were removed prior to statistical analysis. Datamine variables and associated codes are presented in Table 16 and Table 17.

8.1.2 Composite Length Selection

A histogram of raw sample lengths was initially viewed for all mineralisation domains. This was completed to assist with the selection of an appropriate composite length. Sample data needs to be regularised prior to completing domain statistics to ensure there is no risk of introducing bias into the analysis due to unequal sample lengths. Generally, the composite length should be as close to the original sample length as possible to preserve the natural variability of the data.

It was clear that 1 m was the dominant sample length for all MINZON codes. The sample length histogram for all data within the PGT Contact Domain is shown in Figure 11. The mean sample length is 1.29 m. Based on the results, a 1 m composite length was chosen for all domains.

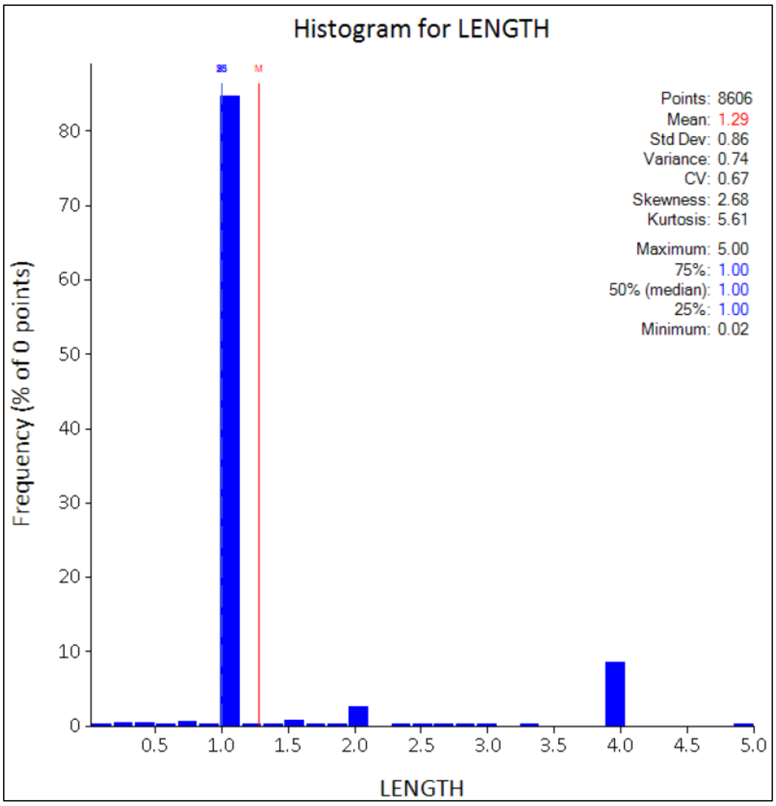

Figure 11: Sample length histogram

8.1.3 Drilling Statistics by Mineralisation Domain and Oxidation Status

The population in each mineralisation domain is highly positively skewed, typical of most gold deposits. Furthermore, there was evidence of multiple populations in some of the domains. Sub-domains were not interpreted or modelled.

The mean gold grades by mineralisation domain and oxidation state (not de-clustered) are shown for the main domains in Table 8. Given there is no apparent correlation between oxidation status and Au grade, a decision was made to adopt soft boundaries between oxidation boundaries — meaning that block estimation within a particular oxidation zone was allowed to be informed by composites in other oxidation zones.

Table 8: Assay means (Au g/t, composites) by oxidation status, with number of samples

MINZON	Oxide (samples)	Transitional (samples)	Fresh (samples)
100	2.01 (6,945)	1.54 (1,827)	1.12 (1,674)
200	2.23 (1,305)	0.40 (56)	5.99 (18)
300	0.36 (1,092)	0.53 (1,600)	0.77 (1,297)
400	1.58 (1,051)	0.22 (102)	0.09 (55)
500	0.24 (135)	0.16 (45)	NS
600	1.58 (1,051)	0.22 (102)	0.09 (55)

8.1.4 Domain Statistics

More detailed descriptive statistics of the domains were then compiled to gain a better understanding of the characteristics of the mineralisation.

Table 9: Domain statistics

Statistic	Domain								
	100	**200**	**300**	**400**	**500**	**600**	**700**	**750**	**800**
Samples	10,443	1,375	3,983	1,208	180	852	1310	332	203
Minimum	0	0	0.003	0.001	0.001	0.001	0	0	0.003
Maximum	1,506	1300	56.7	155	10.07	32.49	315	64	89.43
Mean	1.78	2.21	0.56	1.39	0.22	0.36	2.00	2.21	2.97
Standard deviation	19	35	2.9	7.3	0.9	1.7	11.9	7.8	8.6
Coefficient of variation	10.8	16.1	5.1	5.3	4.1	4.7	596	351	2.9
Variance	368	1259	8.4	54	0.8	2.8	142	60	73
Log est. mean	0.85	1.26	0.37	0.86	0.21	0.27	1.41	2.08	4.51
Percentile (25)	0.01	0.02	0.03	0.01	0.01	0.01	0.03	0.03	0.09
Percentile (50)	0.06	0.13	0.09	0.06	0.02	0.04	0.12	0.14	0.56
Percentile (75)	0.29	0.52	0.28	0.28	0.10	0.12	0.61	0.82	2.02

8.1.5 Selection of Top Cuts

The requirement for top cuts was reviewed given the potential for extreme grades to bias (high grade) the block grade during block grade estimation. The coefficient of variation (COV) was first assessed to understand the degree of skewness in the data, and consequently the requirement for top-cutting. Coombes (2008) recommends top cutting of datasets with a COV>1.2. Given the COV was greater than 1.2 for all modelled lenses, the application of top cuts was considered for all domains.

To top cut means to reset any composited grades that are higher than the top cut to the top cut value. This can have considerable impact on the estimated metal, hence careful consideration is required. Selection of too severe a top cut can unnecessarily adversely impact project economics, while selection of no top cut can lead to significant high grade Au bias in the block model.

All methods used to select a top cut are subjective. CSA Global adopted the following approach when selecting a top cut:

- The raw statistics were assessed. Domains which do not have significant outliers were not top cut.
- The log-probability plot was reviewed and the upper part of the distribution was assessed. Grades which represented positions where changes in the slope of the plot occurred were initially considered for a potential top cut.
- The histogram was the reviewed. The point at which the number of samples supporting the high-grade tail diminishes was also considered as a top cut value.
- After consideration of results of the above two methods, a top cut value was selected.

The selected top cuts are shown in Table 10.

Table 10: MINZON top cut values

Statistic			Domain						
	100	**200**	**300**	**400**	**500**	**600**	**700**	**750**	**800**
Top cut	110	40	35	25	None	8	70	40	30
Percentile of top cut	99.7	99.6	99.6	98.2	–	99.2	99.5	99.5	98.5
Number of samples	24	7	5	22	0	8	7	6	3
Uncut mean	1.78	2.21	0.56	1.39	0.22	0.36	2.00	2.21	2.97
Cut mean	1.45	1.17	0.54	1.02	0.22	0.30	1.33	1.45	2.52

8.2 Geostatistical Analysis

8.2.1 Variography

Variography was completed using data within all mineralisation domains.

A horizontal variogram fan was initially created to define the known strike of the mineralisation. The dip was then selected from the across-strike vertical fan and the plunge was selected from the dip-plane fan. Variogram models were then created in the direction of maximum continuity (plunge and major direction), orthogonal to the plunge in the plane of the reef (semi-major direction) and across-strike (minor direction).

A Normal Scores transform was initially applied to the data given the highly skewed nature of the distribution.

Downhole variograms were created for each MINZON to determine the nugget effect, with a lag of 1 m adopted to capture the shortest possible sample spacing.

Determination of the nugget effect is critical for grade estimation. If the nugget effect is modelled to be too high, the kriged estimate will be overly smoothed. Conversely, if the nugget effect is modelled too low, the kriged grade estimates will be too continuous. In this case, a degree of grade continuity will be implied which does not exist, ultimately leading to misclassification of ore and waste.

Experimental variograms were then generated in the major direction, semi-major direction and the minor direction using a lag of 5 m.

Downhole variograms and some directional variograms were interpreted, and spherical models were fitted to the data to generate a set of parameters to be used for ordinary kriging. There was generally insufficient data in the minor direction to model variograms. Variograms were back transformed after modelling.

The mineralisation displays a moderate to high nugget component (24–52%) and significant short-range grade variability. Table 11 shows the variogram parameters that were derived from the modelling and Figure 12 shows the downhole, major, semi-major and minor variogram models for MINZON 100. Note that MINZON 700 and 750 adopted the parameters for MINZON 100 and MINZON 800 adopted the parameters from MINZON 300, although the variograms were rotated in the direction of the mineralisation.

Table 11: Variogram parameters by domain (MINZON)

Dip/Dip direction	Nugget (%)	Structure 1		Structure 2	
		Sill (%)	Range (m)	Sill (%)	Range (m)
100					
–45° — 135 (major)	0.51	0.45	5	0.04	32
0° — 225 (semi-major)			8		25
–45° — 315 (minor)			6		17
200					
0° — 200 (major)	0.52	0.47	16	0.01	45
–90° — 0 (semi-major)			7		26
0° — 110 (minor)			7		9
300					
–65° — 305 (major)	0.24	0.33	9	0.44	38
0° — 335 (semi-major)			6		96
–25° — 125 (minor)			2		16
400					

Dip/Dip direction	Nugget (%)	Structure 1		Structure 2	
		Sill (%)	Range (m)	Sill (%)	Range (m)
–90° — 0 (major)	0.35	0.6	10	0.05	45
0° — 170 (semi-major)			10		16
0° — 260 (minor)			10		12
500					
–80° — 305 (major)	0.25	0.65	15	0.1	59
0° — 035 (semi-major)			15		59
–10° — 125 (minor)			8		15
600					
–90° — 0 (major)	0.30	0.50	8	0.20	51
0° — 010 (semi-major)			8		26
0° — 110 (minor)			11		12

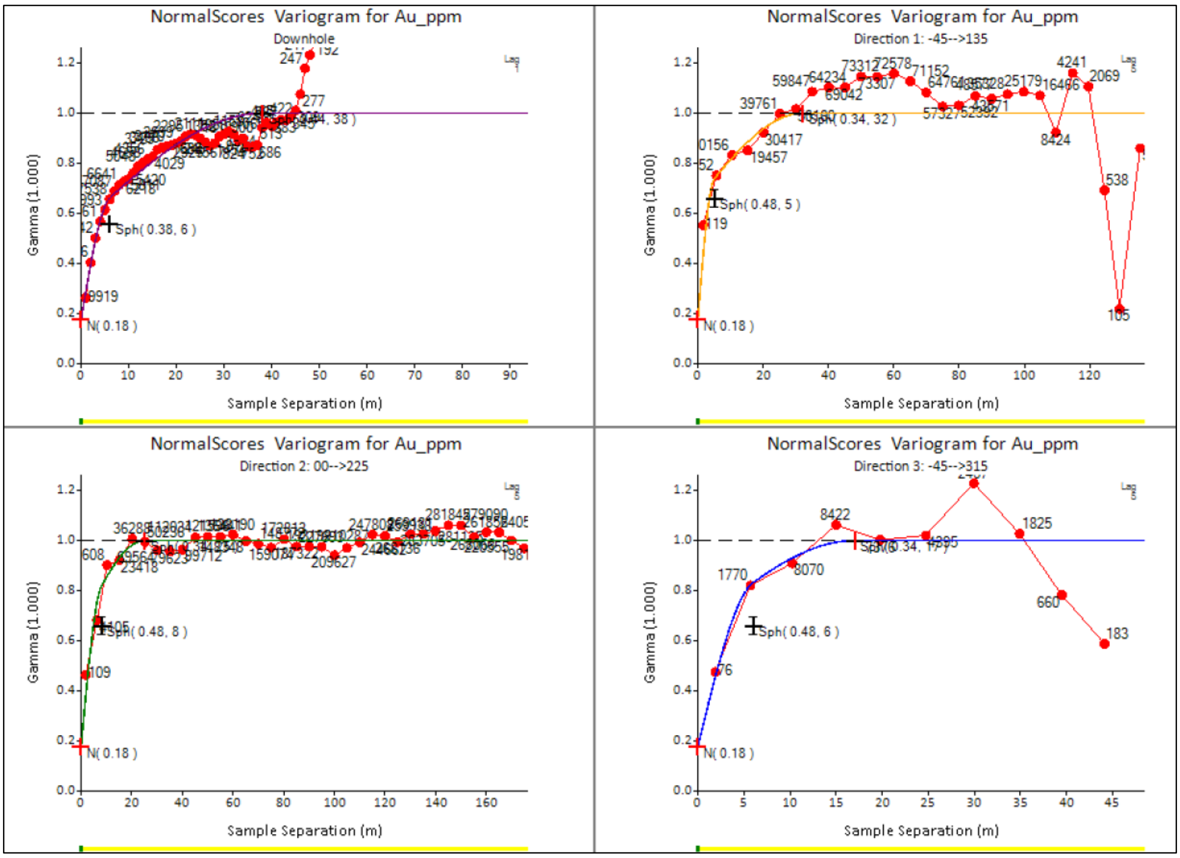

Figure 12: Paxton Granite Contact domain variogram models, MINZON 100

8.2.2 Kriging Neighbourhood Analysis

Quantitative kriging neighbourhood analysis (QKNA) was undertaken for the main grade estimation domain (MINZON 100) to assess the effect of changing key kriging neighbourhood parameters on Au block grade estimates. The objective of the analysis was to find a balance between minimising conditional bias and allowing practical block selectivity. The Kriging Efficiency (KE) and Slope of Regression (SOR) were determined for a range of each of the parameters below:

- Block size
- Minimum/Maximum samples.

KE measures how well the histogram of estimated block grades matches the theoretical histogram of true block grades in the domain of interest. Values approaching one indicate better estimation of the true histogram and low conditional bias while values approaching zero (or less than zero) indicate poor estimation and high conditional bias.

The SOR is the correlation coefficient between estimated and true block grades. A value of one is the optimum case, and implies conditional unbiasedness, while values less than one imply greater degrees of conditional bias (Vann *et al.,* 2003).

Negative kriging weights were also reviewed for all scenarios. The percent of negative kriging weights gives a measure of the redundancy of the samples informing the estimate. Sample redundancy becomes problematic if the percent of negative kriging weights exceeds approximately 5% (Vann *et al.,* 2003).

The block sizes shown in Table 12 were reviewed, which represents a range of sizes which could be considered given the mining selectivity and nominal drill pattern. A search ellipse was chosen to represent the full variogram range.

Table 12: Block sizes reviewed

X Dimension (m)	Y Dimension (m)	Z Dimension (m)
2.5	2.5	2.5
2.5	2.5	5
2.5	5	5
5	5	5
5	5	10
5	5	10
5	10	5
10	10	10
20	20	20
25	25	25

Figure 13 shows KE and SOR results for the different block sizes. Based on these results, a block size of 5 m E by 5 m N by 5 m RL was selected.

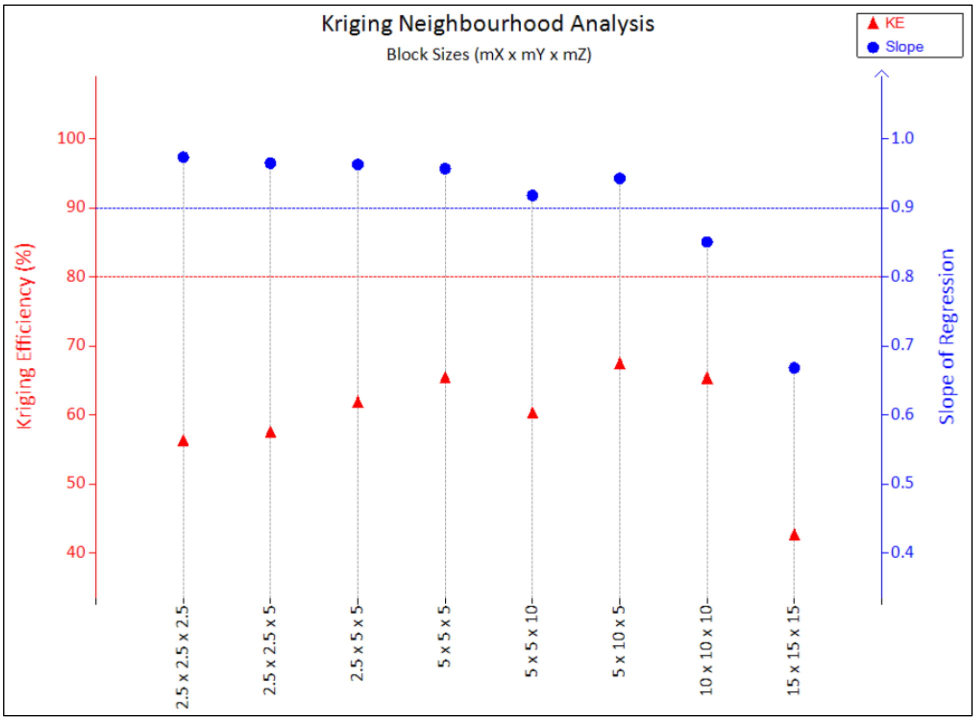

Figure 13: Kriging neighbourhood analysis – block size review

KE and SOR were then reviewed by varying sample criteria (between two and 50 at increments of two) for 5 m E by 5 m N by 5 m RL blocks, with results presented in Figure 14. A minimum of 12 samples and a maximum of 24 samples were selected based on these results. No negative kriging weights occurred.

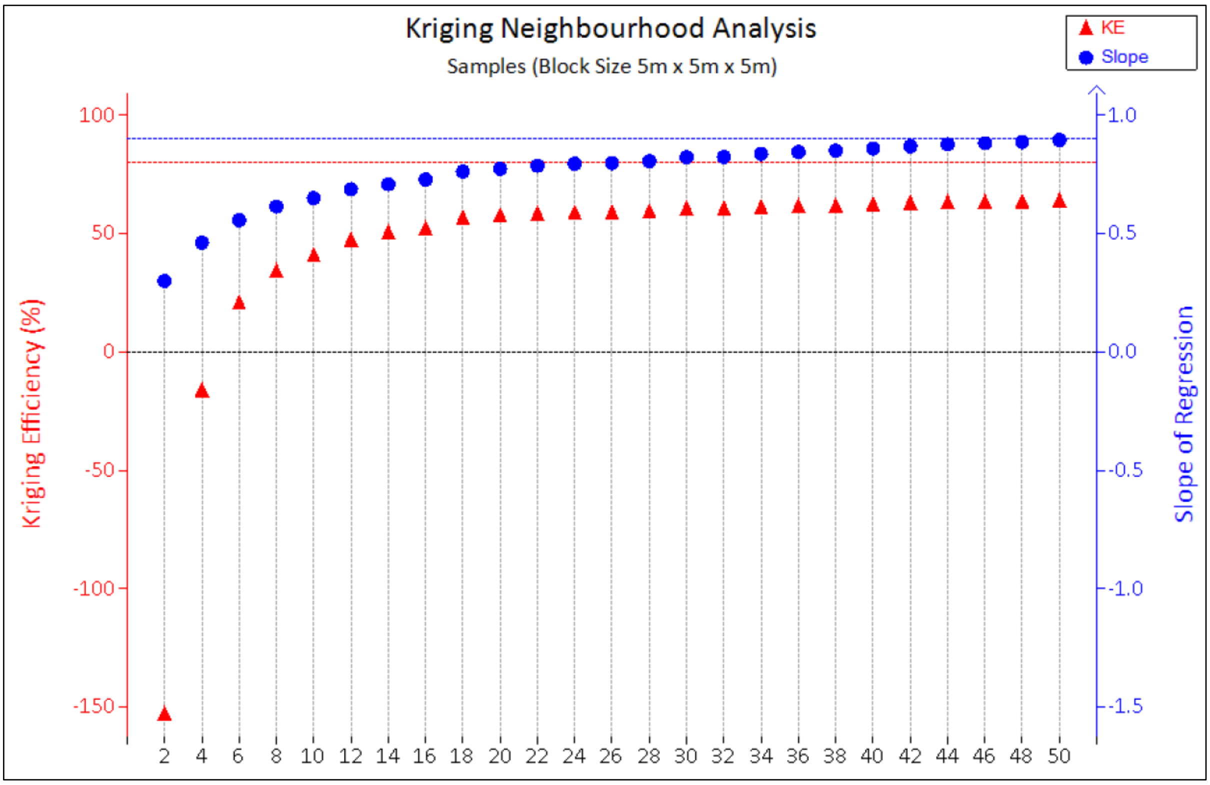

Figure 14: Kriging neighbourhood analysis – sample number review

The estimation and search parameters which were chosen are shown in Table 13. The primary, secondary, and tertiary search ellipse dimensions represent approximately half of the variogram range, the full variogram range and two times the full variogram range respectively.

Table 13: Estimation search parameters

Parameter		Primary	Secondary	Tertiary
Input data		Drillhole	Drillhole	Drillhole
Estimation method		Ordinary kriging	Ordinary kriging	Ordinary kriging
Search ellipse dimensions (radius)	Major	16	32	64
	Semi-major	12	24	48
	Minor	8	16	32
Block size	X (m)	5		
	Y (m)	5		
	Z (m)	5		
Minimum number of samples		12	12	2
Maximum number of samples		24	24	24
Maximum samples per hole		8	8	8
Discretisation		3 by 3 by 3	3 by 3 by 3	3 by 3 by 3

9 Density

9.1 Data

CSA Global was provided with an Access database table containing 493 specific gravity measurements. The table fields included hole_id, depth, sg, dry_g, wet_g, method and description.

Grenfell originally commissioned density measurements to be completed in hole TD009 at Amdel, with samples taken at approximately 10 m intervals. TD009 was drilled through sedimentary rocks from surface, encountering the base of oxidation at 80 m. One piece of core, approximately 5–10 cm in length was selected as close as possible to each 10 m interval. A wax-coating procedure was adopted to prevent sample disintegration and to close voids in the sample. Samples were dried overnight, weighed dry, and then coated with wax, and weighed again. The coated piece was then weighed immersed in water and the volume was used to calculate the specific gravity. Ten measurements were made.

TGL completed an additional 483 specific gravity measurements in 2012. One piece of representative core was selected per metre, typically a 10–20 cm piece. The core was weighed dry and then suspended in a bucket of rain water and weighed wet, ensuring the core did not touch the sides or bottom of the bucket. Friable core was wrapped in glad wrap to prevent disintegration. The specific gravity was then calculated.

9.2 Analysis and Approach

CSA Global imported the density data into Datamine. Density data was then selected within each mineralisation domain and further subset by oxidation status, using the BOCO and TOFR wireframes provided. Mean values were then calculated for each domain according to oxidation status for assignment into the block model. Only 105 measurements were taken within the mineralisation envelopes as shown in Table 14. Based on this review, a density of 2.12 t/m^3, 2.60 t/m^3 and 2.68 t/m^3 was applied to oxide, transitional and fresh material respectively for all mineralisation domains.

Table 14: Density values applied to the Mineral Resource block model

MINZON	OXID	Mean density (t/m^3)	Number of samples
100	Oxide	2.12	28
	Transitional	2.60	12
	Fresh	2.68	51
600	Oxide		No samples
	Transitional	2.50	14
	Fresh		No samples

10 Metallurgy

10.1 Historical Work

TGL and prior owners completed metallurgical testwork on samples sourced from the project. The following historical reports were compiled:

- Amdel Report No. 06590/88, January 1988
- Amdel Report No. 06660/6681/88, May 1988
- Addendum to Amdel Report No. 06660/6681/88, June 1988
- Ammtec Report, Job No. A1747, June 1988
- D.J. Gilbert, BHP Exploration Research Group Memorandum E6/16/11-Q, Mineralogical Occurrence of Gold in Sink Fractions from Tarcoola, South Australia, June 1988
- Amdel Report No. N000LH98, April 1988.

Result of all testwork are not provided in this report, however according to MacArthur (2013), all samples tested to the date of the report were highly amenable to gold extraction by leaching in cyanide. Furthermore, amalgamation testwork completed suggest that a large proportion of the gold present could be recoverable by gravity concentration (49.2% to 69.9%).

10.2 Recent Processing

Ore is currently trucked from the Tarcoola mine site to the Challenger mine site, where it is processed through a carbon-in-pulp (CIP) plant. The plant has the capacity to process up to 90 tonnes per hour, although nominally processes at 75 tonnes per hour (650,000 tonnes per annum of ore). Table 15 shows recent processing statistics for Tarcoola deposit ore. Excellent gold recoveries are noted.

Table 15: Processing Summary - Tarcoola Gold Mine Ore

Measurement	April 2017	May 2017	June 2017	July 2017	August 2017	Total
Feed ounces (calculated)	107	724	1,948	1,239	1,038	5,056
Milled Tonnes Dry	2,844	9,364	14,171	15,898	15,397	57,674
Rate (tph)	73.1	73.0	75.8	76.4	72.7	74.2
Mill availability	93.2	86.4	99.3	88.1	97.2	92.8
Au grade (calculated)	1.17	2,41	4.28	2.42	2.21	2.70
Recovery (%)	95.33	94.33	95.81	94.18	95.08	95.0
Recovered Ounces	102	683	1,867	1,166	998	4,816

11 Block Modelling

11.1 Block Model Construction

MINZON codes were assigned to the block model based on the mineralisation wireframes. They form the geological basis for the Mineral Resource estimate and are listed in Table 16. OXID codes were also assigned as shown in Table 17. These variables and assigned codes were also assigned to drillhole sample data (Section 8.1.1).

Table 16: Mineralisation codes

Mineralisation description	MINZON
Paxton Granite Contact Domain	100
Perseverance Shear Zone Domain	200
Granite Vein Domain	300
Diorite 1 Domain	400
Diorite 2 Domain	500
Diorite 4 Domain	600
Wondergraph Domain	800

Table 17: Oxidation codes

Oxidation description	OXID
Oxide	1
Transitional	2
Fresh	3

Model prototype parameters, including block dimensions and model extents are shown in Table 18. The block size represents approximately half of the drill spacing in the more densely drilled parts of the deposit.

Table 18: Block model summary

Axis	Origin	Model extent (m)	No. of blocks	Block dimension (m)	Sub-block dimension (m)
Easting (x)	454,700	600	220	5	1
Northing (y)	6,602,600	800	200	5	1
Elevation (Z)	–100	300	60	5	1

11.2 Grade Interpolation and Assignment Methodology

11.2.1 In-situ Mineralisation

Grade was interpolated into blocks using ordinary kriging. Search neighbourhood parameters are detailed in Table 13.

Dynamic anisotropy was adopted to enable the search ellipse to follow the orientation of the interpreted wireframes. Dynamic anisotropy is a process whereby a search ellipse is defined for each block, allowing the undulating nature of the mineralisation to be reflected in the modelling.

A point file was first created using the Datamine process ANISOANG with each point representing the dip and dip direction of a wireframe triangle. Points which represented the ends of wireframes were then deleted to create a final point file. The point file was then used to interpolate dip and dip direction into the block model, which were used to rotate the search ellipses. Variogram models used the same rotation angles as the search ellipse.

11.3 Block Model Validation

11.3.1 Absent Data and Negative Grades

The block model was initially checked for absent values. No absent data was present. The model was also checked for negative AU grades, which are often present due to negative kriging weights. No negative grades were present.

11.3.2 Visual Review

The block model was then validated by comparing block model grades with drillhole composites on 25 m sections. Block grades were found to reasonably reflect the drillhole data, with a degree of smoothing evident in the block model which is expected given the change in support.

11.3.3 Statistical Review

Mean global block model and drillhole composite grades were then compared for each mineralisation domain. Composite data was de-clustered using a 20 m E by 20 m N by 20 m RL grid. Results are shown in Table 19. Block model grades compare well with the composite grades.

Table 19: Comparison of drillhole and block model grades

Domain	Composite mean (naive)	De-clustered mean	Block model mean (not tonnage weighted)	Block model mean (tonnage weighted)
100	1.45	0.86	0.97	0.82
200	1.17	0.88	0.91	0.96
300	0.56	0.64	0.73	0.59
400	1.02	0.68	0.54	0.66
500	0.22	0.21	0.22	0.19
600	0.30	0.32	0.31	0.31
800	2.97	2.77	2.62	2.53

11.3.4 Swath Plots

Swath plots were created for northing, easting and elevation slices throughout the deposit at 25 m increments. Block mean grades compared reasonably well with the drillhole grades. Au northing plots for all domains are shown in Figure 15, Figure 16, Figure 17, Figure 18, Figure 19, Figure 20 and Figure 21.

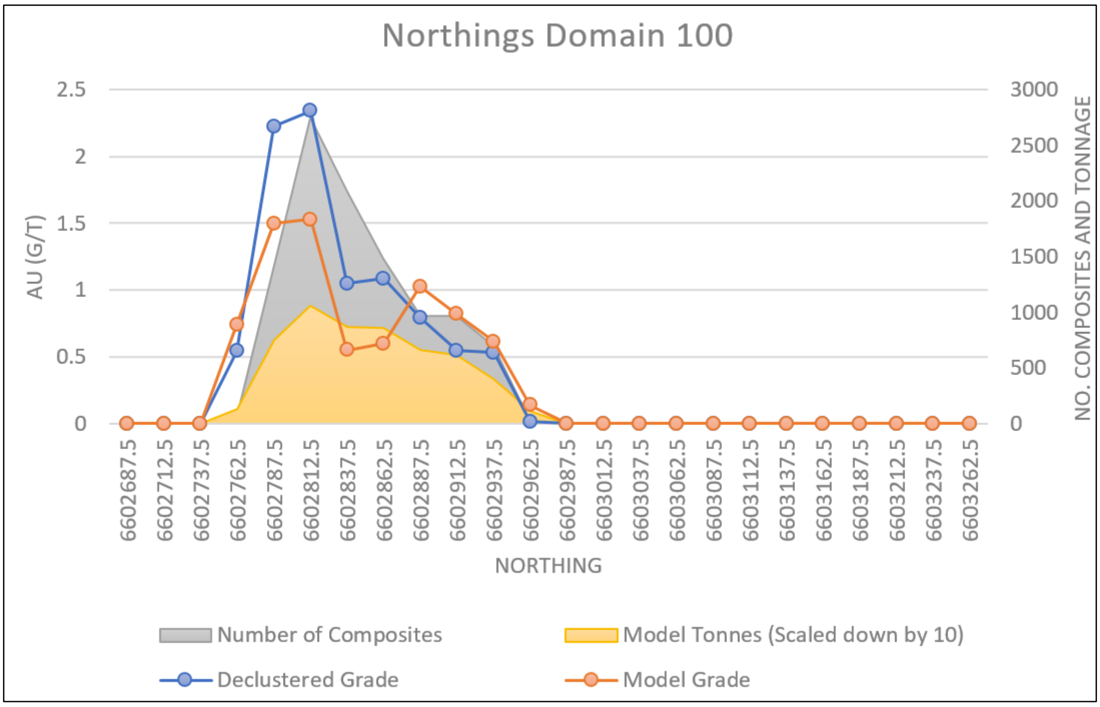

Figure 15: Au northing swath plot for MINZON 100

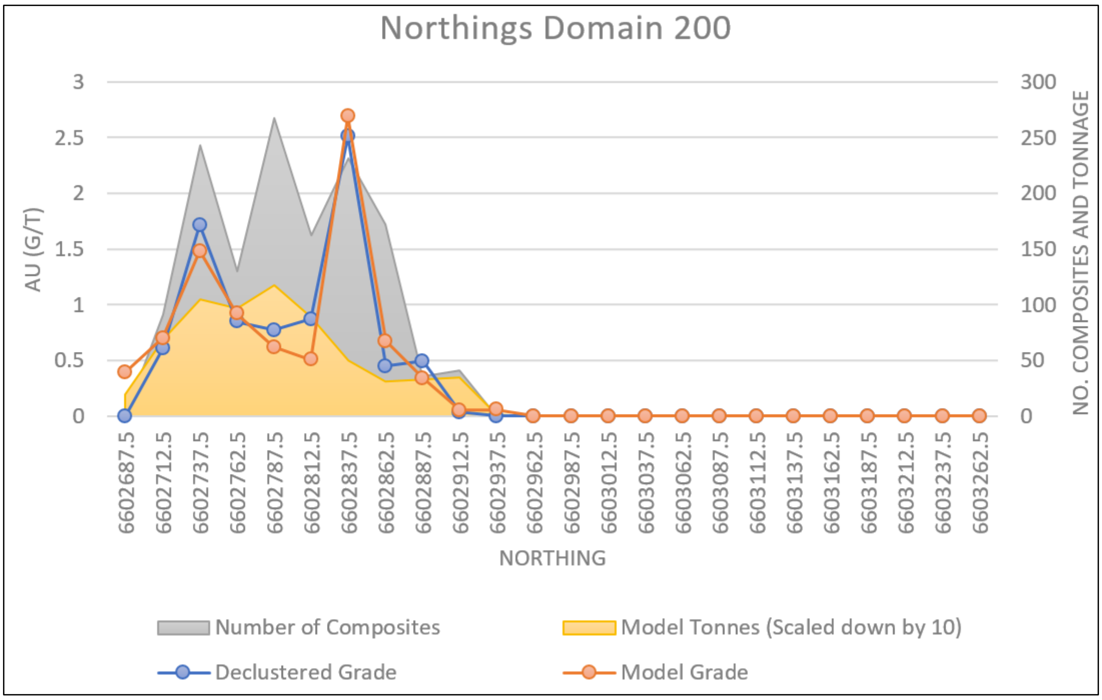

Figure 16: Au northing swath plot for MINZON 200

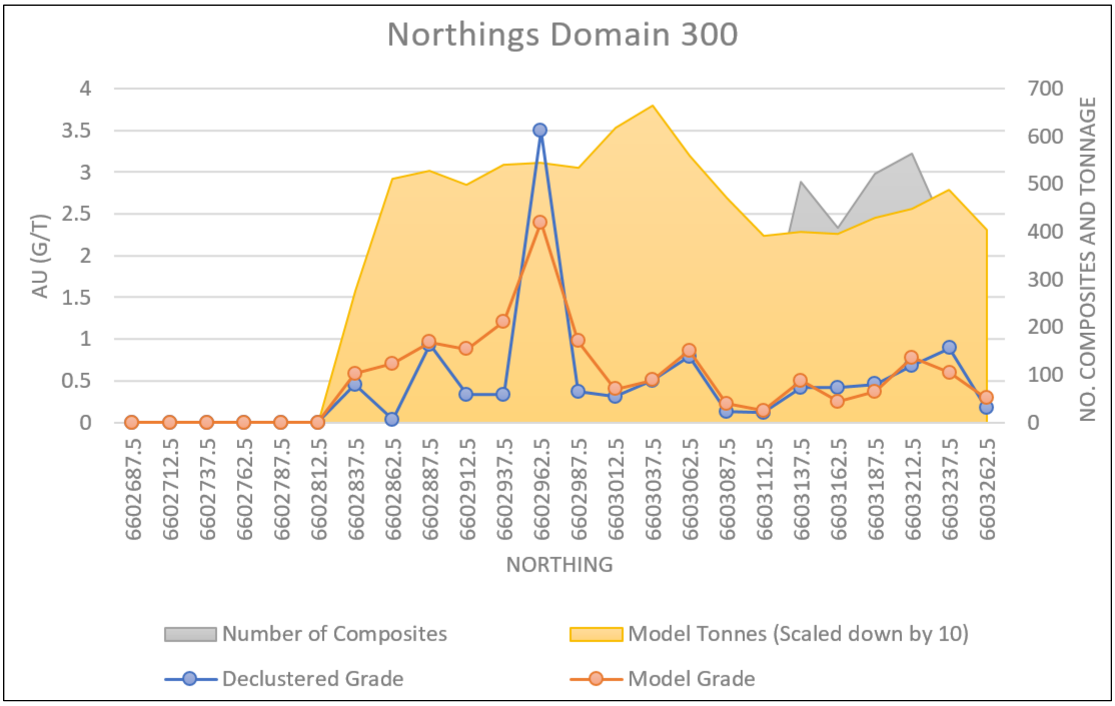

Figure 17: Au northing swath plot for MINZON 300

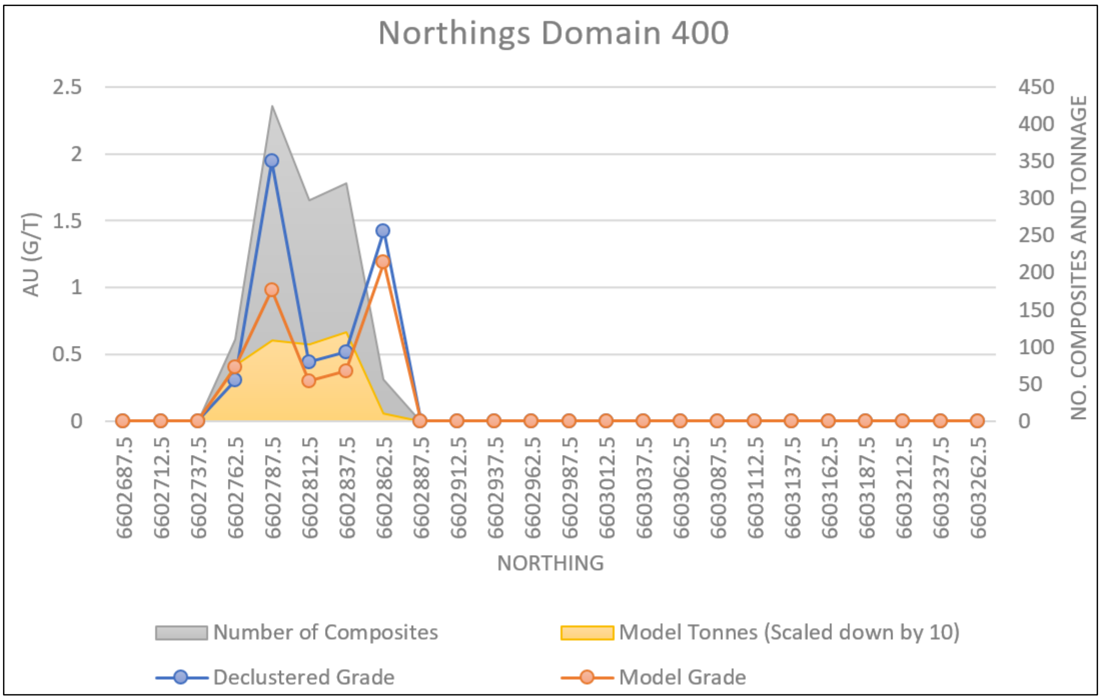

Figure 18: Au northing swath plot for MINZON 400

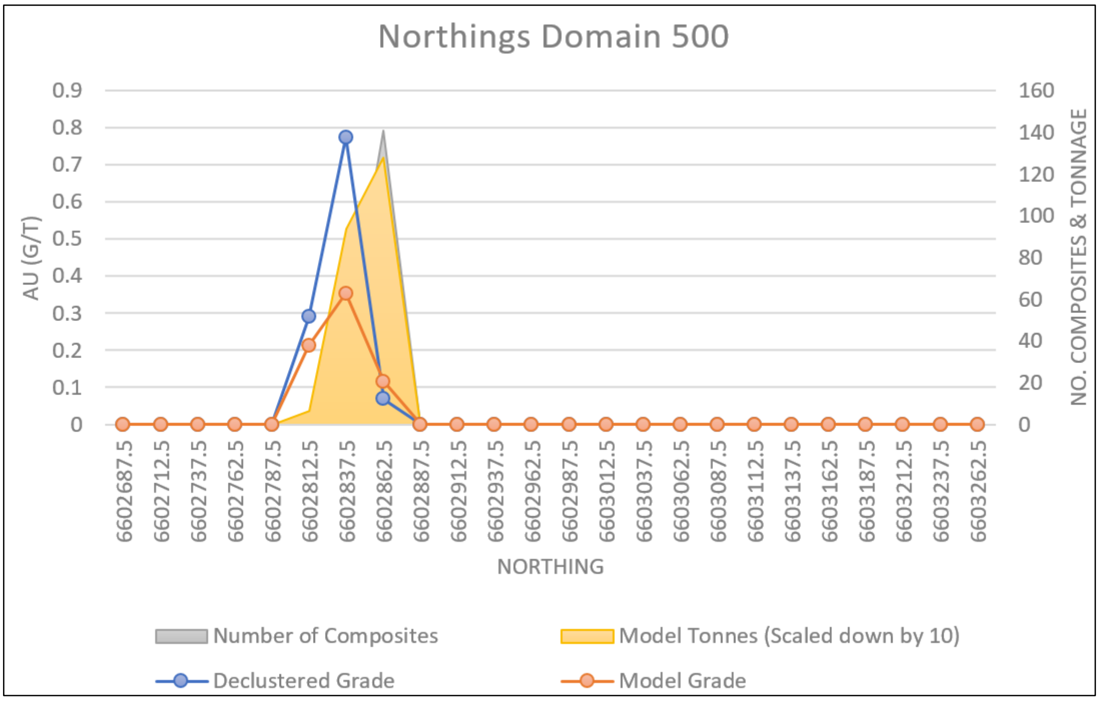

Figure 19: Au northing swath plot for MINZON 500

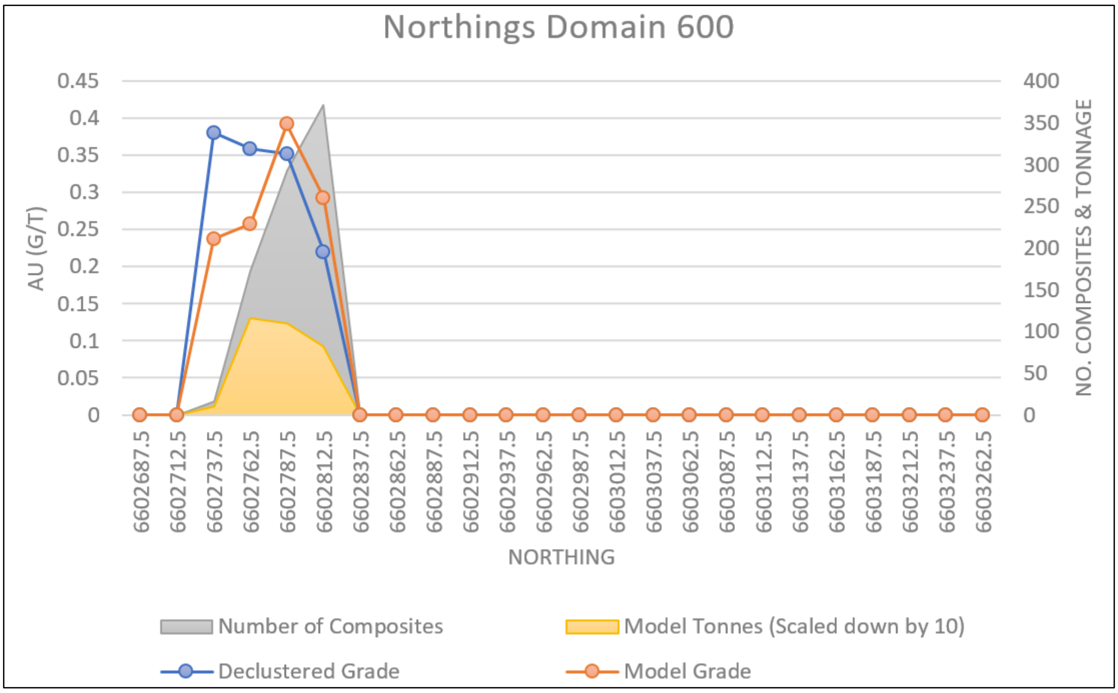

Figure 20: Au northing swath plot for MINZON 600

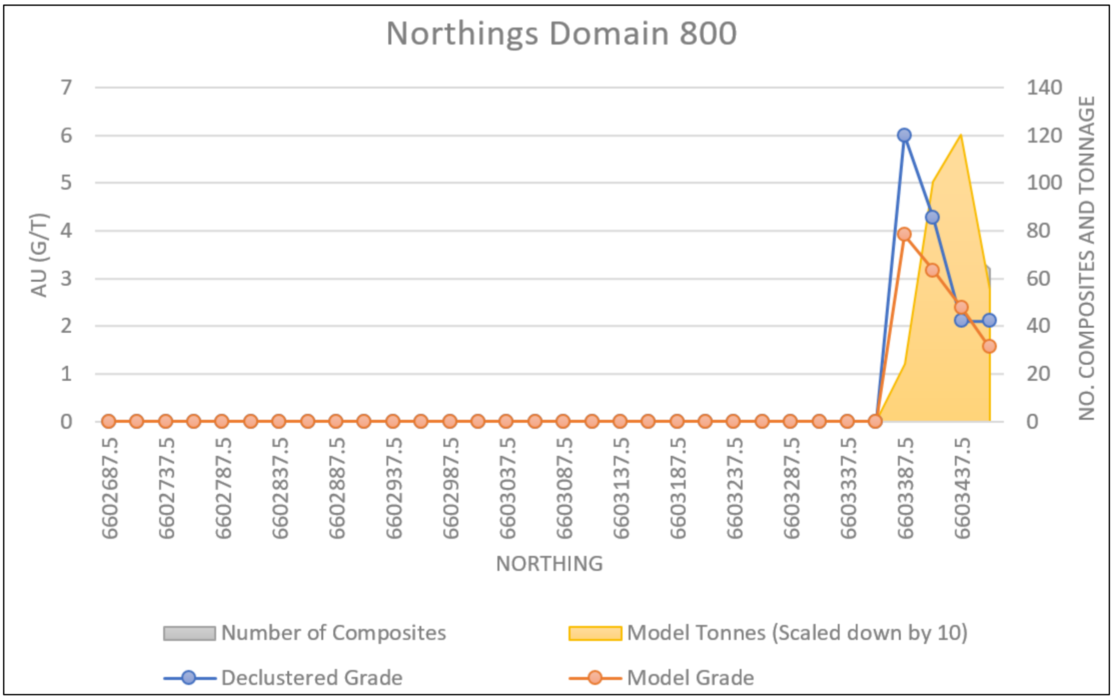

Figure 21: Au northing swath plot for MINZON 800

11.3.5 Reconciliation

The mined-out area was reported from the block model to compare with production data. The results are shown in Table 20. The block model reports 0.6% higher tonnage, 6% lower grade and 5% less metal than production data, using a reporting cut-off grade of 0.5 g/t Au which is consistent with the production cut-off grade. The results provide the Competent Person with a high degree of confidence in the geological modelling, grade interpolation and density data in the volume mined. This level of confidence can be extrapolated to the Measured Mineral Resource volumes given that the associated drill density is consistent with previously mined areas.

Table 20: Block model reconciliation with production data

	Tonnes	Au grade (g/t)	Ounces
Mined	101,400	2.32	7,549
Block model	102,028	2.18	7,135
Difference	**+0.6%**	**–6%**	**–5%**

12 Mineral Resource Reporting

12.1 Reasonable Prospects Hurdle

Clause 20 of the JORC Code (2012) requires that all reports of Mineral Resources must have reasonable prospects for eventual economic extraction, regardless of the classification of the Mineral Resource.

The Mineral Resource is deemed to have reasonable prospects for eventual economic extraction on the following basis:

- The Tarcoola Mine is currently in operation, with all associated infrastructure, power, water and workforce currently in place
- All Mineral Resources lie within 220 m of surface and therefore it is considered reasonable that they could be extracted by open pit methods, subject to completion of mining studies.

12.2 Mineral Resource Classification

The Mineral Resource has been classified in accordance with guidelines contained in the JORC Code. The classification applied reflects the author's view of the uncertainty that should be assigned to the Mineral Resources reported herein.

Key criteria that have been considered when classifying the Mineral Resource are summarised in JORC Table 1 which is contained in Appendix 1.

The following approach was adopted when classifying the Mineral Resource:

- Data quality was assessed
- Confidence in the geological model, and geological continuity, was considered
- Grade character and continuity was assessed
- Drillhole spacing was reviewed and considered in light of the geological and grade continuity
- The block model was reconciled against production data
- Areas with drillhole spacings > 50 m E by 50 m N were not classified as a Mineral Resource
- Areas where the drillhole spacing was 20–50 m E by 20–50 m N were classified as Inferred Mineral Resources
- Areas where the drillhole spacing was 10–20 m E by 10–20 m N were classified as Indicated Mineral Resources
- Where the drillhole spacing was <10 m E by <10 m N were classified as Measured Mineral Resources. CSA Global notes that the mined-out area had been drilled on a pattern which approximates 5–10 m E by 5–10 m N, and the model reconciles very closely with production data. Measured Mineral Resources are supported by a similar drill pattern.

To avoid the spotted dog effect, string files were digitised on 25 m N spacings and 3D solids were then generated for each classification category to flag the block model prior to reporting.

12.3 Mineral Resource Estimate

12.3.1 Mineral Resource by JORC Classification

The Mineral Resource estimate is shown in Table 21, reported by classification. Mineral Resources are reported above 0.5 g/t Au. Mineral Resources are further reported by domain in Table 22.

Table 21: Tarcoola Mineral Resource estimate by JORC classification

JORC Classification	Tonnage (Mt)	Au (g/t)	Ounces (oz)
Measured	0.13	3.39	13,700
Indicated	0.96	1.83	56,600
Inferred	0.54	1.12	17,500
TOTAL	**1.60**	**1.70**	**87,700**

** Due to the effect of rounding, the total may not represent the sum of all components*

Table 22: Tarcoola Mineral Resource estimate by Domain and JORC classification

JORC Classification	Tonnage (Mt)	Au (g/t)	Ounces (oz)
MINZON 100			
Measured	0.13	3.39	13,700
Indicated	0.26	1.87	15,700
Inferred	0.04	1.58	2,200
TOTAL	**0.43**	**2.29**	**31,600**
MINZON 200			
Indicated	0.031	1.78	1,800
Inferred	0.003	0.75	70
TOTAL	**0.034**	**1.70**	**1,900**
MINZON 300			
Indicated	0.63	1.80	36,400
Inferred	0.36	0.99	11,300
TOTAL	**0.99**	**1.50**	**47,800**
MINZON 400			
Indicated	0.02	1.53	800
TOTAL	**0.02**	**1.53**	**800**
MINZON 500			
Inferred	0.002	1.20	80
TOTAL	**0.002**	**1.20**	**80**
MINZON 600			
Inferred	0.01	0.81	300
TOTAL	**0.01**	**0.81**	**300**
MINZON 700			
Inferred	0.04	1.14	1,600
TOTAL	**0.04**	**1.14**	**1,600**
MINZON 750			
Inferred	0.06	1.04	1,900
TOTAL	**0.06**	**1.04**	**1,900**
MINZON 800			
Indicated	0.02	2.63	1,900
TOTAL	**0.02**	**2.63**	**1,900**

** Due to the effect of rounding, the total may not represent the sum of all components*

12.4 Comparison with Previous Mineral Resource Estimate

The Mineral Resource estimate reported herein compares favourably with the 2013 Mineral Resource estimate completed by H and S Consulting of 1.87 million tonnes @ 1.96 g/t Au for 118,000 oz (using a 0.5 g/t Au cut-off grade).

12.5 Final File Names and Storage

12.5.1 File Names

A list of the final files that were created in the preparation of the Mineral Resource estimate are contained in Table 23.

Table 23: Tarcoola Mineral Resource estimate – final file list

File name	Description
tc120917.m	Combined Mineral Resource plus waste model
tc0917.m	Mineral Resource model
tcmin.c	Composite file flagged for estimation
100_meastr/pt.dm	Wireframe to delineate Measured Mineral Resources in MINZON 100
100_indtr/pt.dm	Wireframe to delineate Indicated Mineral Resources in MINZON 100
200_indtr/pt.dm	Wireframe to delineate Indicated Mineral Resources in MINZON 200
300_indtr/pt.dm	Wireframe to delineate Indicated Mineral Resources in MINZON 300
pcgtr/pt.dm	Paxton Granite domain (MINZON 100)
psvtr/pt.dm	Perseverance Shear Zone domain (MINZON 200)
gvtr/pt.dm	Granite Vein domain (MINZON 300)
di1tr/pt.dm	Diorite 1 domain (MINZON 400)
di2tr/pt.dm	Diorite 2 domain (MINZON 500)
di4tr/pt.dm	Diorite 4 domain (MINZON 600)
sup1tr/pt.dm	Lateral dispersion domain (MINZON 700)
sup2tr/pt.dm	Lateral dispersion domain (MINZON 750)
wond1tr/pt.dm	Wondergraph domain (MINZON 800)
bocotr/pt.dm	Base of complete oxidation
tofrtr/pt.dm	Top of fresh rock
topotr/pt.dm	Topography file (original surface)
topo0617tr/pt.dm	Topography file (end of June 2017)

12.5.2 File Storage

All files associated with the scope of work have been saved on the CSA Global Perth server under the directory \Clients\Tarcoola Gold\2017_08_TCGMRE01.

13 Conclusions and Recommendations

13.1 Conclusions

CSA Global considers that data collection techniques are consistent with industry good practise and suitable for use in the preparation of a Mineral Resource estimate to be reported in accordance with the JORC Code. QC data largely supports the integrity of the data which has been used to prepare the Mineral Resource estimate.

3D models representing the mineralisation at Tarcoola were created by TCG and modified by CSA Global. CSA Global reviewed the mineralisation models and found them to be largely robust.

High-quality diamond core and RC samples were used to interpolate grades into blocks using ordinary kriging. Several methods were used to validate the block model including visual review and comparison of sampling and block model grades.

13.2 Recommendations

CSA Global recommends the following actions are completed to support the ongoing evaluation effort at Tarcoola:

- Additional density measurements should be taken in the oxide, transitional and fresh zones to support the assumption made in this Mineral Resource estimate.
- All drillhole data should be merged into a single database. This will create a single "point of truth" with robust and transparent validation systems.
- CRMs should be sourced which represents the range of grades encountered at Tarcoola. QC results should be regularly monitored to ensure any issues can be readily detected and resolved.
- To convert Inferred Mineral Resources to higher classification categories, further infill drilling is required. CSA Global recommends a drill spacing of 20 m E (along strike) by 20 m RL (down dip) to allow Mineral Resources to be considered for Indicated classification, and 10 m E by 10 m N to allow Mineral Resources to be considered for Measured classification.
- Although the controls to the mineralisation are relatively well understood, continued development of the geological model is recommended to support future Mineral Resource estimation and grade control.

14 References

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Vann, J., Jackson, S. and Bertoli, O. 2003. Quantitative Kriging Neighbourhood Analysis for the Mining Geologist - A Description of the Method with Worked Case Examples.

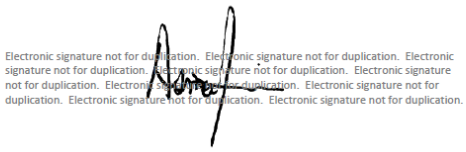
Verco, R. 2017. Memorandum: Tarcoola Grade Control Model Update. 5 May 2017.

Verco, R. and Traeger, S. 2017. Memorandum: Tarcoola Geology Update. 12 August 2017.

15 Competent Person's Statement

I, Aaron Meakin, confirm that:

- I have 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").
- I am a Competent Person as defined by the 2012 JORC Edition, having five years' experience which is relevant to the style of mineralisation and type of deposit described in this report, and to the activity for which I am accepting responsibility.
- I am a Member of The Australasian Institute of Mining and Metallurgy.
- I am a full-time employee of CSA Global Pty Ltd.
- I have disclosed to the reporting company the full nature of the relationship between myself and the company, including any issue that could be perceived by investors as a conflict of interest.



Aaron Meakin

Manager – Resources, CSA Global Pty Ltd

Appendix 1: JORC Table 1

Section 1 – Key Classification Criteria

Criteria	JORC Code explanation	Commentary
Sampling techniques	*Nature and quality of sampling (e.g. 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.*	Samples used in the Mineral Resource estimate were obtained through reverse circulation (RC) and diamond drilling methods collected from campaigns completed since the mid-1980s. Rotary air-blast (RAB) drilling has also been completed. These holes were used to guide interpretation but not used for grade estimation.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Diamond core has been sawn in half or quarter using a core saw. RC samples were collected using various splitting methods over the projects history. A splitter has generally been used, however spear samples were taken for a period of time.
	Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. "RC 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 (e.g. submarine nodules) may warrant disclosure of detailed information.	RC and diamond drilling samples were analysed by various laboratories by either fire assay or Aqua Regia digest and detection by atomic absorption spectrometry (AAS). TCG currently use a pressure acid leach (PAL) process. 1 m RC or diamond samples are generally collected.
Drilling techniques	*Drill type (e.g. core, RC, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. 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.).*	Drilling has taken place over numerous periods since the mid-1980s as follows: • 1987–1989 BHP Gold/Aberfoyle JV (RC and HQ3 DD) • 1991–1994 Queens Road Mines/Grenfell Resources (RC) • 1996–1998 Grenfell Resources (RC, RCD, HQ3 DD) • 2001–2002 AngloGold/Gravity Capital (RC/RCD) • 2008 LIDDS (NQ DD) • 2012 Tunkillia Gold (RC and HQ3 DD) • 2016–2017 Tarcoola Gold (RC).
Drill sample recovery	*Method of recording and assessing core and chip sample recoveries and results assessed.*	Drilling recoveries were not recorded prior to 2012 for both RC chips and diamond core. According to TGL, some earlier reports noted difficult drilling. Grenfell noted that care was taken to maximise recoveries and minimise contamination and wet drilling conditions were not often encountered. AngloGold noted no major problems with drilling conditions. Sample recoveries for TGL RC programmes were measured through weighing metre intervals contained in plastic bags. TGL noted good recoveries, with weights of 30–40 kg achieved in fresh material. Within the weathered zone, sample weights were more variable. Holes collared in the Quaternary overburden yielded poor or no recovery from the upper unconsolidated cover sequence, which does not host gold mineralisation. Greater recoveries were achieved downhole as density increased and as the holes pass through heavily to moderately weathered material into hard rock. Diamond core recoveries were recorded by TGL. Local zones of core loss were noted in the oxide zone however core recoveries were generally good.

Criteria	JORC Code explanation	Commentary
		In February 2017, an onsite analysis of drillhole recovery was performed by TGC where during drilling the complete sample of each interval was collected and weighed. Sample masses indicated that recoveries were above 98% of the total drillhole mass. To date all drilling has been done in dry ground and sample recoveries are generally reflective of hole mass. When drilling through clays a blade bit is used to improve recovery. Were broken ground and clays impact recovery and the split sample is less than <1 kg then the sample interval is considered a null sample.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	HQ triple tube (HQ3) drilling was used for some holes to maximise core recovery. Re-entry holes were not triple-tubed as they were drilled straight into fresh bedrock. Drilling rates were controlled and short drill runs were often used through the oxide zone to maximise core recovery.
	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.	No relationship between sample recovery and gold grade has been identified.
Logging	*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.*	Logging practises varied over the project's history, however AngloGold attempted to standardise the logging by relogging holes in 2002. Approximately 17,000 m of diamond and RC drilling and conversion of historical data into a consistent coding system. Some inconsistency in the logging is evident in the current database, however significant mapping has been completed in the pit which, in conjunction with the logging, provides a sound geological basis to prepare a Mineral Resource estimate.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	Logging is generally qualitative in nature.
	The total length and percentage of the relevant intersections logged.	All diamond core and RC drilling has been geologically logged.
Subsampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.*	Diamond samples are generally half-cored, with core sawn in half using a core-saw. Occasionally quarter-core samples are taken.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	Almost all RC samples were collected using a riffle or cone splitter at 1 m intervals consistent with industry good practise. Early Grenfell RC holes were spear sampled. Samples were collected in full in plastic bags, and the plastic bags were rolled several times to help ensure mixing prior to collecting a 1–2 kg sample using a short plastic tube inserted diagonally several times into the material.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	SADME (1964) – Diamond holes were quarter-cored by Grenfell. Aberfoyle (1979–1985) – Samples of open holes TP001–021 were collected in a PVC bag via a cyclone, and then split down to approximately 1.5 kg. Newmex Exploration Limited/Tarcoola Gold Ltd (1987–1988) – RC samples from TRC001–TRC025 were collected over 1 m intervals via a cyclone with an incorporated splitter. Approximately 3 kg was collected for analysis. RC samples from TRC026–TRC138 were collected over 1 m intervals and riffle split to collect a sample. The weight of the sample was approximately 2 kg. BHP (1987–1989) – RC holes were sampled at 1 m intervals with rock chips homogenised via a cyclone before being split and sampled. A 4 m composite sample weighing approximately 2.5 kg was initially submitted for analysis. The 1 m samples were only submitted if the original 4 m sample returned a value of

Criteria	JORC Code explanation	Commentary
		>0.5 g/t Au. Diamond core was apparently half-cored, with samples generally taken at 1 m intervals. Grenfell (1991–1993) – RC holes were sampled at 1 m intervals were collected in full in plastic bags. The plastic bags were rolled several times to help ensure mixing prior to collecting a 1–2 kg sample using a short plastic tube inserted diagonally several times into the material. A 4 m composite was initially submitted for analysis. 1 m samples were only submitted of the original 1 m sample returned a value of >0.3 g/t Au. Diamond core was apparently half-cored, with samples generally taken at 1 m intervals. Grenfell (1995–1997) – RC holes were sampled at 1 m intervals were collected in full in a plastic bucket, and then poured through a three-tier riffle splitter. Buckets were emptied through the splitter at 0.5 m intervals. A 3 kg sample was collected in a calico bag for assay, and the remaining sample collected in a large plastic bag. Poor sample recovery was apparently only noted within a small number of drillholes. Diamond core was apparently half-cored, with samples generally taken at 1 m intervals. AngloGold (2001–2002) – RC holes were sampled at 1 m intervals. Detail surrounding the RC subsampling techniques was not provided to CSA Global. Diamond core was apparently half-cored, with samples generally taken at 1 m intervals. Tunkillia Gold (2012) – Diamond core was generally half cored, samples taken at 1 m intervals or to geological contacts. Tarcoola Gold (2016–2017) – Grade control drilling is undertaken by RC methods. The rig is track mounted and fitted with a compressor and a cone sampling tower with a cone splitter. Holes are drilled with a 127 mm face sampling hammer. Samples are taken at measured (and marked) 1 m rod intervals with a 12.5% sample spilt collected off the sample chute.
	Quality control procedures adopted for all subsampling stages to maximise representivity of samples.	Subsampling is performed during the preparation stage according to the assay laboratories' internal protocols.
	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.	To the best of the Competent Persons knowledge, no RC field duplicates were taken prior to 1995. After 1995, field duplicates have generally been inserted in the sample stream at a rate of one in every 20 samples. No data was provided for the AngloGold drilling program however (2001–2002). Results generally give confidence in sampling procedures.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes are considered to be appropriate to the grain size of the material being sampled.
Quality of assay data and laboratory tests	*The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*	Analytical techniques have varied somewhat over the projects history, and are summarised below. SADME (1964) – Diamond holes were quarter-cored by Grenfell and sent to Amdel in Adelaide for analysis by Aqua Regia digest flame AAS with a 0.02 detection limit. Any samples returning grades >1 g/t Au were re-assayed by fire assay with and AAS finish. Aberfoyle Exploration (1985–1987) – Samples were submitted to Classic Laboratories in Perth for fire assay using a 50 g charge. Newmex Exploration Limited, Tarcoola Gold Limited (1987–1988) – Samples from TRC001–TRC025 were submitted to Genalysis in Perth for analysis using Aqua Regia digest and AAS finish after roasting to oxidise sulphides. Fire assay was carried out on all samples containing >1 g/t Au determine following Aqua Regia. Samples from TRC026–TRC138 were submitted to Classic Comlabs, Adelaide for analysis by fire assay.

Criteria	JORC Code explanation	Commentary
		BHP Gold (1988–1991) – Samples were submitted to Amdel Laboratories in Adelaide for analysis. The analytical method is not known. Queens Road Mine/Grenfell Resources (1992–1994) – Samples were submitted to Amdel for digest by Aqua Regia (two parts hydrochloric acid to one-part nitric acid), followed by extraction into organic solvent (D.I.B.K.). A 50 g subsample was then analysed by AAS with a 0.02 g/t Au detection limit. Grenfell Resources (1996–1998) – Earlier samples were submitted to Amdel for analysis by Aqua Regia digest with AAS finish. Any samples returning grades >1 g/t Au were re-assayed by fire assay with and AAS finish. Later holes were submitted to Aqua Regia digest with graphite furnace AAS. AngloGold, Gravity Capital Limited (2001–2002) – Earlier holes (up to TCRC0029) were submitted to Genalysis in Adelaide. Sample preparation was completed in Adelaide, and then sample analysis was completed in Perth via a 50 g fire assay with AAS finish (Method FA50/AAS). Later holes were submitted to Analabs in Perth for analysis by fire assay. Low Impact Diamond Drilling Services (2008) – Two core holes were submitted to Onsite Laboratory Services, Bendigo for analysis by 25 g fire assay with AAS finish. Subsampling techniques are not known. Tunkillia Gold (2012) – Au analysis was completed by Intertek-Genalysis in Adelaide, via a 50 g lead collection fire assay with AAS finish to a 0.005 ppm detection limit (Method FA50/AA). Sample preparation was carried out at the laboratory and involved drying the samples at 105 degrees, crushing the sample to a nominal –10 mm particle size using a Jacques or Boyd jaw crusher, and using a mixing mill (chrome-steel bowl) to achieve an autonomous grind of approximately 90% passing <75 microns. The bowl is brushed and vacuum cleaned between each sample. Tarcoola Gold (2016–2017) – Samples are dried at 90˚C to eliminate the impact of moisture on sample processing. After drying samples are crushed via a Boyd Crusher to <10 mm in size then split through a rotary splitter to produce a sub-sample. The crusher is cleaned regularly and has barren bricks crushed between sample groups to prevent contamination. Analysis is through the pulverising aggressive leach (PAL) process. This process reflects the site mill extraction process where: each process is pulverised in aqueous solution with cyanide bearing assay tabs and a collection of assorted sized ball bearings. Each sample is pulverised for an hour, resulting in an Au-CN complex bearing solution and remnant pulverised sample, and the pulverised material is 95% passing 75 microns. Following PAL processing, samples are decanted, centrifuged and prepared for analysis in an AAS with a solvent separation with a DIBK and residence time of 20 minutes. The sample is then aspirated through the AAS to produce a reading.
	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.	No geophysical studies were used in the preparation of this Mineral Resource estimate.
	Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of	The amount of sampling and analytical QC data that has been collected has varied over the project's history. Limited sampling and analytical QC data is available to support drilling programs completed prior to 1992, which represents a relatively minor portion of the dataset.

Criteria	JORC Code explanation	Commentary
	accuracy (i.e. lack of bias) and precision have been established.	Between 1992 and 1994, the only meaningful QC data appears to be a comparison of spear and riffle split sampling results. No significant bias was noted between the methods. Between 1996 and 1998, standard results indicate no significant bias, and blank results suggest no issue with carry-over contamination. Field duplicate results reveal a reasonable amount of scatter, which implies poor sample precision, however no bias was noted. Check (umpire laboratory) assay results also revealed considerable scatter but no significant bias which further attests to the accuracy of the analytical data. To the best of CSA Global's knowledge, no QC samples were submitted between 2001 and 2008. QC data is available to support the drilling completed by TGL and TGC. Tunkillia Gold used blanks to monitor carry-over contamination and no significant issues were detected. Field duplicates were used to assess sample precision, while CRMs were used to assess analytical accuracy. Some pulps were also sent to an umpire laboratory as a further check on analytical accuracy. Field duplicate results provide some confidence sample precision. The scatter which is observed is understandable given the moderate to high nugget effect evident at Tarcoola. The CRMs reasonably demonstrated the accuracy of the laboratory. Pulp repeats were higher than the original results, which does cause some concern, however give the CRM results the Competent Person has reasonable confidence in the accuracy of the primary laboratory. Tarcoola Gold collects field duplicates to monitor sample precision and submits one main CRM to monitor analytical accuracy. The field duplicate results give some confidence in sample precision, with the scatter which is observed likely a consequence of the high-nugget nature of the mineralisation. Although only one CRM was used, no bias was noted. The Competent Person formed the view that all diamond and RC data should be used in the Mineral Resource estimate after consideration of the QC data and historical documentation.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.*	Alternative company personnel have verified significant intersections.
	The use of twinned holes.	Some diamond twinning was completed by BHP Gold to verify RC intersections and the location and tenor of historical intersections were broadly consistent with modern holes. The location of historic holes has been confirmed through programs of collar re-survey. Several checks have been made during mining where open drillholes have been intersected during mining. To date no surveyed downhole traces have exceeded their recorded hole path by greater than 1 m.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Templates have been set up to facilitate geological logging. Prior to the import into the central database, logging data is validated for conformity and overall systematic compliance by the geologist. Assay results are received from the laboratory in digital format.
	Discuss any adjustment to assay data.	No adjustments were made to analytical data prior to preparation of the Mineral Resource estimate, other than replacement of below detection results with a value equal to half the detection limit.

Criteria	JORC Code explanation	Commentary
Location of data points	*Accuracy and quality of surveys used to locate drillholes (collar and downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.*	Collar location and downhole survey methods have varied somewhat over the project's history. Almost all hole collars have been surveyed by GPS, DGPS or total station methods, with checks completed against the topographic DTM. Downhole survey methods have varied somewhat over the projects history, and are summarised below. Aberfoyle (1979–1985) – Holes not surveyed. Set-up positions were used and are well documented. BHP (1987–1989) – Holes not surveyed. Set-up positions were used and are well documented. Grenfell (1991–1997) – A single shot Eastman camera was used, with surveys taken every 30–50 m (GP, GL series). Early-generation holes completed by Grenfell/Queens Road were not surveyed at the time of the drilling. Grenfell conducted a campaign of Eastman surveys for open historical holes, using Fugro Survey as a contractor. AngloGold (2001–2002) – A single shot Eastman camera was used, with surveys taken every 30–50 m (TCD, TCRC series). Tunkillia Gold (2012) – A reflex Ezi-shot downhole camera was used, with readings taken every 30 m for diamond holes (TADD series) and end-of-hole for RC holes (TARC series). TGL completed validation checks on the downhole surveys including consistency checks on available databases, comparison of digital databases against hard copy records, and against original Eastman camera discs, cross checks on grid to magnetic conversions and visual review. Tarcoola Gold (2016–2017) – In February 2017, Kinetic Technologies was engaged to perform a downhole optics survey for a geotechnical review. A total of seven holes were downhole surveyed for deviation using a directional survey probe. Readings were taken at 10 m downhole intervals. Results showed minor lifting in holes deeper than 28 m. The majority of grade control holes are drilled to 23 m; hence hole deviation is not considered to be a significant.
	Specification of the grid system used.	All site data is reported in Geocentric Datum of Australia 1994 (GDA94) and Vertical Datum in Australian Height Datum (AHD). The map projection is MGA Zone 53. Historic Survey Data has been converted to GDA94 and is reported as such in x, y and z columns within the Access database which was provided to CSA Global.
	Quality and adequacy of topographic control.	In October 2012, Mungana Gold Mines Pty Ltd engaged Aerometrex to carry out Ortho flyovers of the Tarcoola and Tunkillia projects. The aerial survey was carried out using a Vexcel UltraCam D with a lens focal distance and aperture of 100 mm f=1/5.6. The output pixel size was 25 cm GSD with a spatial accuracy of +/- 2 GDS RMSE – Ortho. Horizontal Datum is reported in GDA94 and Vertical Datum in AHD. The map projection is MGA Zone 53. The topographic DTM for the Tarcoola project has been developed from the 1 m contour map that was developed from this flyover data. Since mining commenced, on-site survey has been carried out using Leica GS15 GNSS Receiver/Base configured instruments with RTK data processing. GNSS performance occurs through the tracking of up to 60 satellites simultaneously on two frequencies with a reacquisition time of less than 1 second. Data accuracy is: • Horizontal: 3mm +0.1ppm (rms) • Vertical: 15mm +1ppm (rms) Base corrections are applied from Auspos positioning of long phase recording of two site survey stations.

Criteria	JORC Code explanation	Commentary
		Mining surfaces are generated through daily survey of pit crests, toe lines and mining surface spot height pickups and surveyed "as-drilled" points. Survey is carried out by professional mining personnel and data processing is carried out in Surpac software to generate DTM surfaces.
Data spacing and distribution	*Data spacing for reporting of Exploration Results.*	The Mineral Resource area extends from approximately 6,602,700 m N to 6,603,500 m N. Drilling north and south of this area is too widely spaced to support Mineral Resource estimation. Drilling has generally been completed at 5–10 m spacings increasing to 25–40 m spacings at the periphery of the deposit. There are four main drill directions (vertical, 60° to 030°, 60° to 105° and 60° to 060°), hence the drilling grid is very irregular. Drilling has been completed on a nominal 5–10 m section spacing over the central deposit area, from approximately 6,602,730 m N to 6,602,900 m N. Beyond this area, and within the limits of the modelled Mineral Resource area, drill section spacings increases to 20–40 m. Holes are generally spaced 5–40 m apart on sections, with holes closer together nearer the surface.
	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.	The Competent Persons believe the mineralised domains have sufficient geological and grade continuity to support the classification applied to the Mineral Resources given the current drill pattern. Mineral Resource estimation procedures are also considered appropriate given the quantity of data available and style of mineralisation under consideration.
	Whether sample compositing has been applied.	Sample compositing was not applied.
Orientation of data in relation to geological structure	*Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*	Holes have been drilled at several orientations, and the orientation of relevant mineralisation-hosting geological structures varies considerably. All operators have aimed to intersect the mineralisation at a high-angle to its strike, however this has not always been achieved.
	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.	The relationship between the drilling orientation and the orientation of key mineralised structures is not considered to have introduced a sampling bias.
Sample security	*The measures taken to ensure sample security.*	A field assistant is always present at the RC drill rig while samples are being collected. Samples are bagged, tied and kept in numerical sequence. Tarcoola Gold staff transport all samples to the laboratory. Chips are sieve collected during each sample drop and are placed in pre-labelled chip trays for lithological logging.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	MacArthur carried out a review of sampling techniques and data in 2013.

Section 2 – Key Classification Criteria

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	*Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.*	The resource area lies within Mineral Lease (ML) 6455. ML6455 covers an area of 725.35 ha and is situated completely within Exploration Licence (EL) 5355 which was owned by Tarcoola Iron Pty Ltd (Tarcoola Iron), a wholly-owned subsidiary of Stellar Resources Pty Ltd. Under an Exploration and Development Agreement with Tarcoola Iron, Tunkillia Gold had the right to explore and develop gold, silver and copper projects within EL5355 and, in relation to an area described as the "Exclusive Area", the right to explore for and develop all minerals. Tunkillia Gold assigned these rights to Tarcoola Gold, who purchased EL5355 from Tarcoola Iron. The transfer of the tenement received ministerial approval on 26 June 2015.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	The Tarcoola deposit is currently being mined. There are no known impediments to obtaining a licence in the future.
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	The Tarcoola deposit has been subject to sporadic exploration by numerous parties since alluvial gold was first discovered in 1893. A summary of the drilling history is provided in Table 1 Section 1.
Geology	*Deposit type, geological setting and style of mineralisation.*	Mineralisation is present in four main styles that are related to structure and lithology. Several genetic models for the emplacement of gold mineralisation have been proposed which are summarised below. **High-Sulphidation Epithermal Alteration of the Peela Conglomerate (PCG)** The Peela Conglomerate (PCG) unit hosts significant gold mineralisation. The PCG unit intersects and is sinistrally offset by the Perseverance Shear Zone (PSZ), which is thought to be the dominant control on magmatic (acidic) fluid migration in the Mineral Resource area. Ore genesis is considered to be characteristic of a high-sulphidation epithermal system. **Perseverance Shear Zone** The PSZ is the major structural control on mineralisation within the Tarcoola open cut mine. The north-striking sub-vertical shear zone strikes due north and displaces both Paxton Granite (PGT) and Tarcoola Formation sediments by 200 m of sinistral strike-slip displacement. The dilational nature of the shear has enabled LJD dykes to intrude on shear contacts and parallel to localised shear fabrics. Mineralisation is narrow and tightly constrained within the PSZ, which is consistent with a dominantly tensile or extensional-shear vein-controlled host structure. **Low-Sulphidation Epithermal Mineralisation on Structural Contacts** Gold mineralisation has long been associated with magmatic fluid generation associated with intrusion of the Lady Jane Diorite (LJD) suite. Only some of the dykes are mineralised. Evidence for mineralised diorites includes: • Northeast and northwest striking dykes associated with D2 Reidel faults have been interpreted and modelled to host Au mineralisation. • Diorites with a higher felsic composition are associated with mineralisation, whereas hornfels compositions are not.

Criteria	JORC Code explanation	Commentary
		• Mineralisation is apparent on contacts with key stratigraphical units of the Tarcoola Formation and felsic components of the PGT. • Mineralisation is associated with iron and copper oxides (and sulphides in primary ores) as narrow veins on the selvages of diorite contacts. The mechanism for mineralisation associated with the diorite intrusions is interpreted to be a low sulphidation epithermal process where Au and sulphides are derived from intermixing of magmatic fluids associated with the diorite intrusions and meteoric waters hosted within the host rocks. Gold mineralisation commonly extends along dilational structures that propagate from the diorites, particularly D2 bedding parallel thrust faults. **Enriched Lower Saprolite and Transitional Oxide Domain** The lower saprolitic-transitional domain below the base of complete oxidation (BOCO) demonstrates gold enrichment and dispersion features, as well as preserving primary gold in host structures (veins). Mineralisation in this domain has both a lateral dispersion/enrichment blanket as well as grade continuity related to the primary (sulphide) mineralisation domains (e.g. sub-parallel to the PGT contact and PSZ structures). It is also noted that a zone of depletion occurs in the upper saprolite.
Drillhole information	*A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drillholes:* • *Easting and northing of the drillhole collar* • *Elevation or RL (Reduced Level – Elevation above sea level in metres) of the drillhole collar* • *Dip and azimuth of the hole* • *Downhole length and interception depth* • *Hole length.*	Exploration results are not being reported.
	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.	Exploration results are not being reported.
Data aggregation methods	*In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.*	Exploration results are not being reported.
	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.	Exploration results are not being reported.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	Exploration results are not being reported.

Criteria	JORC Code explanation	Commentary
Relationship between mineralisation widths and intercept lengths	*These relationships are particularly important in the reporting of Exploration Results.*	Exploration results are not being reported.
	If the geometry of the mineralisation with respect to the drillhole angle is known, its nature should be reported.	Holes have been drilled at several orientations, and the orientation of relevant mineralisation-hosting geological structures varies considerably. All operators have aimed to intersect the mineralisation at a high-angle to its strike, however this has not always been achieved.
	If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. "downhole length, true width not known").	Exploration results are not being reported.
Diagrams	*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 drillhole collar locations and appropriate sectional views.*	Relevant maps and diagrams are included in the body of the report.
Balanced reporting	*Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	Exploration results are not being reported.
Other substantive exploration data	*Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	No substantive exploration data not already mentioned in this table has been used in the preparation of this Mineral Resource estimate.
Further work	*The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).*	Further work will be focused on testing for dip extensions and strike extensions and to confirm grade and geological continuity implied by the current block model.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Diagrams have been included in the body of this report.

Section 3 – Key Classification Criteria

Criteria	JORC Code explanation	Commentary
Database integrity	*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.*	Logging is completed in Excel templates using standard logging codes. Each assay grade is written on the corresponding chip tray interval and photographed for digital verification of grade intercepts. Analytical results are imported directly into the Access database by experienced Tarcoola Gold geologists.
	Data validation procedures used.	CSA Global completed numerous checks on the data. Absent collar data, multiple collar entries, suspect downhole survey results, absent survey data, overlapping intervals, negative sample lengths and sample intervals which extended beyond the hole depth defined in the collar table were reviewed. Only minor validation errors were detected which were communicated to Tarcoola Gold and corrected prior to the preparation of the Mineral Resource estimate.
Site visits	*Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*	A site visit was completed by a CSA Global Principal Geologist prior to commencement of the Mineral Resource estimate. The outcome of the site visits (broadly) were that data has been collected in a manner that supports reporting a Mineral Resource estimate in accordance with the JORC Code, and controls to the mineralisation are reasonably understood.
	If no site visits have been undertaken indicate why this is the case.	Not applicable.
Geological interpretation	*Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.*	A high level of confidence exists in the geological interpretation following extensive open pit mapping and 16 years of drilling.
	Nature of the data used and of any assumptions made.	All interpretations were based on both drillholes and surface mapping.
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	Alternative interpretations are unlikely to materially impact on the Mineral Resource estimate.
	The use of geology in guiding and controlling Mineral Resource estimation. *The factors affecting continuity both of grade and geology.*	The main geological controls are well understood, and have been used in controlling Mineral Resource estimation. Mineralisation solid models were generated based on Tarcoola Gold and CSA Global understanding of the litho-structural framework.
Dimensions	*The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	The Mineral Resource is contained within an area defined by a strike length of 650 m and across-strike width of approximately 500 m. All reported Mineral Resources lie within approximately 220 m of surface.
Estimation and modelling techniques	*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.*	The Mineral Resource estimate has been completed using seven main grade estimation domains. The following top cuts were applied following statistical analysis: • Paxton Granite Contact Domain: 110 g/t Au • Perseverance Shear Zone: 40 g/t Au • Granite Vein: 15 g/t Au • Diorite 1: 25 g/t Au • Diorite 2: No top cut • Diorite 4: 8 g/t Au • Lateral dispersion zone 1: 70 g/t Au • Lateral dispersion zone 2: 40 g/t Au • Wondergraph: 30 g/t Au Quantitative kriging neighbourhood analysis was undertaken to assess the effect of changing key kriging neighbourhood parameters on block grade estimates. Kriging efficiency and slope of regression were determined for a range of block

Criteria	JORC Code explanation	Commentary
		sizes, minimum/maximum samples, search dimensions and discretisation grids. A three-pass search ellipse strategy was adopted whereby search ellipses were progressively increased if search criteria could not select sufficient data for the block estimate. Dynamic anisotropy was used to ensure undulation in the mineralisation was captured by the search ellipses. Ordinary kriging was adopted to interpolate grades into cells, with variogram rotations consistent with search ellipse rotations. Statistical analysis was completed using Supervisor software. All geological modelling and grade estimation was completed using Datamine software.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	The most recent Mineral Resource estimate was reported in 2012, in accordance with the 2004 JORC Code. The Mineral Resource reported herein is similar in size, grade and classification to the 2012 Mineral Resource estimate.
	The assumptions made regarding recovery of by-products.	No assumptions have been made regarding the recovery of by-products.
	Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).	No deleterious elements have been estimated.
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	A 5 m E by 5 m N by 5 m RL parent cell size was used with sub-celling to 1 m E by 1 m N by 1 m RL to honour wireframe boundaries. The drillhole data spacing is highly variable but approximates 10 m along strike by 10 m across strike by 10 m down-dip in the better drilled central areas of the deposit, extending to 25 m spacings or greater on the deposit peripheries.
	Any assumptions behind modelling of selective mining units.	No assumptions were made regarding selective mining units.
	Any assumptions about correlation between variables	No assumptions were made regarding correlation between variables.
	Description of how the geological interpretation was used to control the resource estimates.	The mineralisation wireframes that were used as constraints to grade estimation were based on geological interpretation. Geological logging and mapping within the open pit has led to a good understanding of the controls to the mineralisation. Nine main mineralisation domains were identified and interpreted, namely the Paxton Granite Contact Domain, Perseverance Shear Zone Domain, Granite Vein Domain, Diorite Dyke Domains (x3), Lateral Dispersion domains (x2) and the Wondergraph Domain. Logging data, mapping data and analytical data was used to assist in the interpretation of these domains. Each domain should be considered a geological zone associated with gold mineralisation.
	Discussion of basis for using or not using grade cutting or capping.	The coefficient of variation (COV), histograms and probability plots were reviewed for Au for each grade domain to help understand the distribution of grades, and assess the requirement for top cuts for each. Top cutting was deemed necessary where the COV was high (>2) and individual high-grade samples were deemed to potentially result in biased block model results. The point at which the number of samples supporting a high-grade distribution diminishes was generally used to select the top-cut.
	The process of validation, the checking process used, the comparison of model data to drillhole data, and use of reconciliation data if available.	Drillhole grades were initially visually compared with cell model grades. Domain drillhole and block model statistics were then compared. Swath plots were also created to compare drillhole grades with block model grades for

Criteria	JORC Code explanation	Commentary
		easting, northing and elevation slices throughout the deposit. The block model reflected the tenor of the grades in the drillhole samples both globally and locally.
Moisture	*Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	Tonnages are estimated on a dry basis.
Cut-off parameters	*The basis of the adopted cut-off grade(s) or quality parameters applied.*	The Mineral Resource is reported above a cut-off grade of 0.5 g/t Au. The adopted cut-off grade is considered reasonable for Mineral Resources which are extracted by open pit methods.
Mining factors or assumptions	*Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	In selecting the reporting cut-off grade, the existing mining method (open cut) was considered.
Metallurgical factors or assumptions	*The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	Ore from Tarcoola is currently processed through the Challenger Gold Mine processing plant. Excellent recoveries (94–96%) are achieved.
Environmental factors or assumptions	*Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these 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.*	Environmental considerations have been considered in gaining mining approvals.
Bulk density	*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.*	Bulk density determinations adopted the water displacement method.
	The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.),	TGL completed 483 specific gravity measurements in 2012. One piece of representative core was selected per metre, typically a 10–20 cm piece. The core was weighed dry and then suspended in a bucket of rain water and weighed wet,

Criteria	JORC Code explanation	Commentary
	moisture and differences between rock and alteration zones within the deposit.	ensuring the core did not touch the sides or bottom of the bucket. Friable core was wrapped in glad wrap to prevent disintegration. The specific gravity was then calculated.
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	Density was assigned to the block model based on oxidation status as follows: • Oxide 2.12 g/cm^3 • Transitional 2.60 g/cm^3 • Fresh 2.68 g/cm^3
Classification	*The basis for the classification of the Mineral Resources into varying confidence categories.*	The following approach was adopted when classifying the Mineral Resource: • Data quality was assessed. • Confidence in the geological model, and geological continuity, was considered. In domains where grade and geological continuity could not be assumed in the view of the Competent Person, the domain was set to Inferred. • Drillhole spacing was reviewed, considering the geological and grade continuity. • Production data was compared with model reported tonnage and grade. • Areas with drillhole spacings > 50 m E by 50 m N were not classified as a Mineral Resource. • Areas where the drillhole spacing was 20–50 m E by 20–50 m N were classified as Inferred Mineral Resources. • Areas where the drillhole spacing was 10–20 m E by 10–20 m N were classified as Indicated Mineral Resources. • Where the drillhole spacing was <10 m E by <10 m N were classified as Measured Mineral Resources. Note that reconciliation data (model versus actual) was supportive of a Measured classification given that areas that have been mined were tested at this spacing and reconciled within 5% in terms of metal. In order to avoid the spotted dog effect, string files were digitised on 25 m N spacings and 3D solids were then generated for each classification category to flag the block model prior to reporting.
	Whether appropriate account has been taken of all relevant factors (i.e. 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).	Appropriate account has been taken of all relevant criteria including data integrity, data quantity, geological continuity, and grade continuity.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The Mineral Resource estimate appropriately reflects the Competent Person's views of the deposit.
Audits or reviews	*The results of any audits or reviews of Mineral Resource estimates.*	The current model has not been audited by an independent third party but has been subject to CSA Global's internal peer review processes.
Discussion of relative accuracy/ confidence	*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.*	The Mineral Resource accuracy is communicated through the classification assigned to this Mineral Resource. The Mineral Resource estimate has been classified in accordance with the JORC Code, 2012 Edition using a qualitative approach. All factors that have been considered have been adequately communicated in Section 1, Section 2 and Section 3 of this Table.
	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	The Mineral Resource statement relates to a global tonnage and grade estimate. Grade estimates have been made for each block in the block model.

Criteria	JORC Code explanation	Commentary
	evaluation. Documentation should include assumptions made and the procedures used.	
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	The Mineral Resource block model reconciles within 5% of reported production in terms of total metal.

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TARCOOLA OPENCUT GOLD MINE

ORE RESERVES ESTIMATE

As at 30th June 2017

Australian Mine Design and Development Pty Ltd

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1 ORE RESERVES STATEMENT

1.1 Scope

The June 2017 Ore Reserves Statement for the Tarcoola Gold Mine was prepared for Tarcoola Gold Pty Ltd by Australian Mine Design and Development Pty Ltd (AMDAD) and is current as at 30th June 2017. Tarcoola Gold is a wholly owned subsidiary of WPG Resources Ltd (WPG). All of the Ore Reserves are for extraction by open pit mining.

This Ore Reserves Statement is an update to the August 2016 Ore Reserves. Two major changes from the 2016 Ore Reserves are:

- Opencut mining commenced in December so there has been some depletion through mining,
- A new Resource Model has been prepared which incorporates extensive grade control drilling and geological mapping through the top 30 metres of the deposit.

As an operating mine all required permits and agreements are in place and mining and process recoveries and costs are based on actual data.

It is noted that Resource to mining reconciliations up to the end of June 2017 using the new resource model show a large positive reconciliation. When compared to the Measured and Indicated resource in the current model mining has produced 57% more tonnes at 86% of the estimated grade to deliver 35% more contained gold. Discussions with the Tarcoola Gold geologist show that positive reconciliation is due to additional mineralised structures being identified in the pit during mining. The new zones of gold mineralisation are on different orientations to the main structures. The main structures which are captured in the resource are well modelled but the orientation of the exploration drilling does not suit modelling of the new zones. Even though the additional mineralisation is adding significantly to actual production the fact that is not included in the Mineral Resource means it cannot be included in the Ore Reserves.

1.2 Ore Reserves

The Ore Reserve estimate is summarised in Table 1-1.

Ore mined at Tarcoola is stockpiled next to the pit and then trucked 170km to the Challenger Gold Mine where the gold is recovered through that mine's CIP facility. The Challenger Gold Mine is also wholly owned by WPG. Tarcoola ore stockpiles at Tarcoola and Challenger are included in the Ore Reserves.

1.3 Contributing Persons

The Ore Reserve estimate prepared by AMDAD is supported by contributions from the persons and companies listed in Table 1-2. The information supplied is incorporated in this Statement without alteration and in the context supplied.

1.4 Accord with JORC Code

This Reserves Statement has been prepared in accordance with the guidelines of the 2012 Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code). Section 2 describes the factors considered in assigning reserve categories under the Code. It follows Table 1 of the JORC Code.

The Competent Person signing off on the overall Ore Reserves Statement is John Wyche. Mr Wyche is a Member of The Australasian Institute of Mining and Metallurgy who has 33 years of experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the JORC Code.

Mr Wyche is a full time employee of Australian Mine Design and Development Pty Ltd and acts as a consultant mining engineer to WPG. Mr Wyche is not an employee of WPG and does not hold shares or other equities in WPG.

John Wyche BE(Mining), BComm, MAusIMM(CP)

Managing Director
Australian Mine Design and Development Pty Ltd

Table 1-1 Tarcoola Opencut Ore Reserves

Category	Type	ktonnes	g/t Au	Contained Au koz
Proved	Oxide	48.4	4.7	7.3
	Transition	23.2	4.0	3.0
	Primary	21.1	4.0	2.7
	Stockpile	58.8	1.9	3.6
	Total	**151.6**	**3.4**	**16.6**
Probable	Oxide	79.9	2.2	5.8
	Transition	119.0	2.3	8.8
	Primary	216.7	3.3	23.2
	Stockpile	0.0	0.0	0.0
	Total	**415.6**	**2.8**	**37.7**
Total	Oxide	128.3	3.2	13.0
	Transition	142.2	2.6	11.7
	Primary	237.8	3.4	25.9
	Stockpile	58.8	1.9	3.6
	Total	**567.2**	**3.0**	**54.3**

Waste	1,548.6
Waste : Ore	2.7

Note 1: The tonnes and grades are stated to a number of significant digits reflecting the confidence of the estimate. Since each number and total is rounded individually the columns and rows in the above table may not show exact sums or weighted averages of the reported tonnes and grades.

Note 2: The Ore Reserves do not include any adjustment for the tonnes mined from mineralised zones identified in the pit outside the Measured and Indicated resources since the mine commenced in December 2016. Up to the end of June 2017 these additional zones added 35% contained gold to the production from the Measured and Indicated Resources.

Table 1-2 Contributing Experts

EXPERT PERSON / COMPANY	AREA OF EXPERTISE	REFERENCES
Aaron Meakin, CSA Global Pty Ltd	Resource modelling and estimation	"*Mineral Resource Estimate, Tarcoola, South Australia*", 14th September 2017, CSA Global Report No. R313.2017
Tony Meyers, Rocktest Consulting	Geotechnical assessment	"*Assessment of the Proposed Slope Specifications for the Tarcoola Mine*", March 2017 "*Additional Geotechnical Advice Regarding the Proposed Slope Specifications for the Tarcoola Mine*", April 2017
Tarcoola Gold Pty Ltd	Pit design, production records, pit survey, CIP process recovery, project operating costs	Various emails, spread sheets, design data and verbal advice provided from 22nd August to 4th September 2017.
WPG Resources Limited	Gold price, allocation of Challenger process costs	Email dated 24th August 2017
South Australian State Government website	Status of mining lease and PER	http://www.minerals.statedevelopment.sa.gov.au/mining/mines_and_quarries/tarcoola_gold_project
John Wyche, Australian Mine Design and Development Pty Ltd	Ore reserve reporting	"*Tarcoola Opencut Gold Mine Ore Reserves Estimate as at 30th June 2017*", September 2017

2 JORC CODE TABLE 1 - REPORTING OF ORE RESERVES

Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	• *Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.* • *Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.*	• The Ore Reserve is derived from the resource model prepared by Aaron Meakin of CSA Global Pty Ltd in September 2017. • The Mineral Resource is inclusive of the Ore Reserve. • The Resource model includes Measured, Indicated and Inferred categories. Only Measured and Indicated blocks are included in the Ore Reserve. • The Mineral Resource Model is an Ordinary Kriged estimate for gold. • This resource model replaces the MIK model used for the 2016 Feasibility Study and Ore reserves estimate. • The Ore Reserves differ from the August 2016 Ore reserves due to: o Adoption of a new resource model, o Revision of the pit design, and o Depletion of the Ore reserves through mining from December 2016 to June 2017. • The Ore Reserves include material on stockpile at Tarcoola and Challenger which is awaiting processing.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	• The Competent Person for the Ore Reserve is John Wyche, General Manager of Australian Mine Design and Development Pty Ltd (AMDAD). Mr Wyche visited the site on 22nd August 2017. The following were inspected: o The pit including wall and floor conditions and observable structures and lithologies, o The waste rock dump, o Low and high grade stockpiles, o Grade control procedures, o Mining methods including blasting and selective mining, o Tarcoola / Challenger ore haulage fleet, o Production records, and o Mine planning.

Criteria	JORC Code explanation	Commentary
		Discussions were held with Tarcoola Gold mining engineer and geologist. • The only significant issue observed in relation to the Ore Reserves is the delineation of additional above cut off material during mining. This material is not included in eth Mineral Resource and cannot be added to the Ore Reserves.
Study status	• *The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.* • *The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.*	• Tarcoola is an operating opencut gold mine. • The mine is being operated substantially in accordance with the 2016 Feasibility Study. Improvements are being made to the planning and operating procedures as more information is gained through grade control and mining.
Cut-off parameters	• *The basis of the cut-off grade(s) or quality parameters applied.*	• The cut off grade for Ore Reserves reporting uses the following inputs: ○ CIP process recovery of 95% for all ore types, ○ Process costs including transport costs for ore to Challenger and marginal cost of Challenger CIP plant to treat Tarcoola ore, ○ Site costs for Tarcoola which are low due to off-site processing and small owner team, ○ Incremental ore mining costs (the average cost of mining a tonne of material as ore instead of waste), ○ Mining loss and dilution estimates, ○ Gold price set at A$1,650 /oz less realisation costs and royalties. • The cut off grade calculated using current actual values for these inputs is 0.85 g/t Au. This is a run of mine grade inclusive of mining ore loss and dilution.
Mining factors or assumptions	• *The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by*	• Tarcoola is an operating open pit mine using hydraulic excavators and trucks. All material is blasted using light to moderate powder factors. Material movement in blasting appears minimal and the mine

Criteria	JORC Code explanation	Commentary
	optimisation or by preliminary or detailed design). • *The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.* • *The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.* • *The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).* • *The mining dilution factors used.* • *The mining recovery factors used.* • *Any minimum mining widths used.* • *The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.* • *The infrastructure requirements of the selected mining methods.*	uses systems to track ore displacement. Grade control drilling, grade estimation, block mark ups and pit mapping are carried out daily. Tarcoola Gold appears to have a good working relationship with the mining contractor evidenced by the good condition of the pit floors and walls and efforts taken to selectively mine thin ore zones. • The pit is being mined as a single stage. • A geotechnical review of the pit wall slopes was undertaken in early 2017. At this time sufficient areas of the walls were exposed to allow a thorough assessment of rock structure. Pit wall specifications were revised based on the expert report and the pit was re-designed to include the new slope recommendations. The revised slope specifications result in some steepening of overall slopes compared to the 2016 feasibility study design. This includes allowance for two wide geotechnical berms. • A check pit optmisation was run for this Ore Reserve estimate using the new resource model and wall slopes and the actual production data and costs gathered since commencement of operations in December 2016. The pit optimisation showed that the current final pit design is appropriate for the current understanding of the resource and modifying factors. • Checks of the resource model against the material mined from December 2016 to June 2017 show a large positive reconciliation. Actual production mined 57% more tonnes at 14% lower grade than the Measured and Indicated portions of the resource model to give 35% more contained gold. The resource model defines the major structures at a level of confidence commensurate with Measured or Indicated Resource status but the grade control and mining is picking up additional above cut off grade zones which the resource model has not yet been able to adequately define. • Mining loss and dilution adjustments were only applied to the Measured and Indicated portions of the resource. The adjustments take account of the width and shape of the above cut off grade zones in the model and in the pit, the high degree of care being taken to

Criteria	JORC Code explanation	Commentary
		delineate and mine the zones with minimal dilution and the presence of lower grade material adjacent to the ore blocks. The adjustments average 5% dilution at 0.6 g/t Au. No mining loss is applied because of the extensive effort being applied to maximise mining recovery. These adjustments have minimal effect on the Measured and Indicated portions of the resource. The reduction in overall mined grade compared to the resource is mainly due to the addition of mineralised zones defined during mining but not included in the resource. While these zones are selected for mining based on the 0.85 g/t cut off grade their average mined grade is lower than the average grade of material mined from the zones defined in the resource model. • The final pit design below the 30th June 2017 surveyed pit floor contains 91,000 tonnes of Inferred resources. This Inferred material is not included in the Ore Reserves. It was treated as waste in the check pit optimisation. • No adjustments have been made to the ore reserves to account for the positive reconciliations up to June 2017 which are due to the addition of above cut off grade mineralisation identified during mining but not included in the resource model
Metallurgical factors or assumptions	• *The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.* • *Whether the metallurgical process is well-tested technology or novel in nature.* • *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.* • *Any assumptions or allowances made for deleterious elements.* • *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.* • *For minerals that are defined by a specification, has the ore reserve*	• Gold ore is trucked to the Challenger Gold Mine which is 170km by road from Tarcoola. It is processed through Challenger's Carbon in Pulp (CIP) plant which includes a gravity circuit to recover coarse gold. • A recovery of 95% is applied to oxide, transition and primary ore types from both the Perseverance and Last Resource zones. • Process recovery for Tarcoola ore through the Challenger mill up to the end of June 2017 averages 95%. This ore is almost entirely oxide. • Support for the 95% recovery estimate for the transition and primary ore is provided from the following test work: ○ May 1998 – AMDEL cyanide leach tests on composites of

Criteria	JORC Code explanation	Commentary
	estimation been based on the appropriate mineralogy to meet the specifications?	quartz/shale sulphide gold mineralization. Head grades were in the range expected from the opencut and some higher grades. Test were in tap water and local bore water. CIL recoveries on grinds at P80 75µm were 95% to 98%. Amenability to gravity concentration was noted. ○ June 1988 – AMMTEC cyanide leaching and CIP test work on composites of oxidized granites, oxidized sediments and sulphides. Head grades in range expected from opencut. Test in Perth tap water and local bore water. Recoveries on grinds at P85 75µm were 95% to 98%. ○ June 2013 – ALS cyanide leach tests on oxide and sulphide composites. Head grades were significantly higher than average grades expected from opencut. Bottle roll CIL tests gave gold recoveries of 88% to 98%. Gravity / bottle roll tests gave recoveries of 95% to 99%. • Tarcoola ore is currently being processed as a blend with Challenger ore. The Tarcoola oxide ore has a high clay content which may adversely affect plant performance if included at more than 30% to 40% of the feed.
Environmen-tal	• *The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.*	• Tarcoola has completed all approvals necessary for mining. Mining commenced in December 2016. • The Mineral Lease (ML6455) was granted on 8th March 2016. • The Program for Environmental Protection and Rehabilitation (PEPR) was approved by the South Australian Department of State Development on 4th November 2016. • Aboriginal and recent historical heritage sites have been identified but do not impact on the planned operations. • Hydrogeological assessments show that the water requirements of the operation can be met from the proposed borefield without significant drawdown on the ground water resource.

Criteria	JORC Code explanation	Commentary
Infrastructure	• *The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.*	• Infrastructure at Tarcoola consists of: o Tarcoola Village Hospital refurbished for use as dormitory style accommodation, o Mining contractor's workshop, offices and explosives magazine, o Borefield water supply, o Existing airstrip. • Infrastructure external to Tarcoola consists of: o Tarcoola to Challenger haul road upgrade, o ROM stockpile receival area for road trains from Tarcoola.
Costs	• *The derivation of, or assumptions made, regarding projected capital costs in the study.* • *The methodology used to estimate operating costs.* • *Allowances made for the content of deleterious elements.* • *The source of exchange rates used in the study.* • *Derivation of transportation charges.* • *The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.* • *The allowances made for royalties payable, both Government and private.*	• Mine operating costs are well defined in the mining contractor's schedule of rates. • Ore haulage costs to Challenger are covered by a haulage contract and a toll for use of the railway corridor. The costs include maintenance of the haul road. • Ore processing costs are the marginal cost of treating the Tarcoola ore through the Challenger CIP facility. Challenger is also 100% owned by WPG so the Tarcoola process cost allocation is well defined. • Tarcoola site costs cover the small owner's team, mining lease rent and other minor holding costs. Costs will continue at a low rate after completion of mining when the low grade stockpile will be reclaimed and trucked to Challenger. • Royalties are paid to the South Australian State Government, a private third party and the Antakirinja Matu-Yankunytjatjara Aboriginal Corporation under the native title agreement.
Revenue factors	• *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.*	• The Ore Reserves are reported against a cut off grade assessed at A$1,650 /oz of gold.

Criteria	JORC Code explanation	Commentary
	• *The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.*	
Market assessment	• *The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.* • *A customer and competitor analysis along with the identification of likely market windows for the product.* • *Price and volume forecasts and the basis for these forecasts.* • *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.*	• Historically gold supply has been relatively price inelastic. Tarcoola's contribution to world gold production is small. Whatever the project can produce will be sold but the price will be subject to many factors most of which are beyond the control of the gold producers.
Economic	• *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.* • *NPV ranges and sensitivity to variations in the significant assumptions and inputs.*	• The Feasibility Study financial analysis by WPG used a discount rate of 7.5% to estimate the project NPV. The Feasibility Study project life is 40 months including 5 months of pre-production mining. The mine was planned to operate for 24 months to provide 35 months of mill feed to the Challenger mill. The shorter mine life is to reduce fixed costs. • The Feasibility Study financial model was run at A$1,700/oz for gold. It produced a positive NPV which remained positive in sensitivity analyses run on key inputs including gold price and recovery. Sensitivity ranges were ±10% of the Base Case. • Checks on the Ore Reserves reported within the current pit design show that the pit will remain strongly cash positive to its full design depth. It stays cash positive even with reductions of 15% to both the gold price and process recovery.
Social	• *The status of agreements with key stakeholders and matters leading to social licence to operate.*	• A Native Title Mining Agreement was executed with the Antakirinja Matu-Yankunytjatjara Aboriginal Corporation (AMYAC) as the Native Title Holder in December 2015.
Other	• *To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:* • *Any identified material naturally occurring risks.*	• No material risks with high likelihood have been identified for the project. • The most significant risk noted by AMDAD a fall in gold price,

Criteria	JORC Code explanation	Commentary
	• *The status of material legal agreements and marketing arrangements.* • *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.*	although a sustained fall to well below the current price can be endured. • The Mineral Lease (ML6455) was granted on 8th March 2016. • The Program for Environmental Protection and Rehabilitation (PEPR) was approved by the South Australian Department of State Development on 4th November 2016.
Classification	• *The basis for the classification of the Ore Reserves into varying confidence categories.* • *Whether the result appropriately reflects the Competent Person's view of the deposit.* • *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).*	• Proved Ore Reserves are derived from Measured Resources. Probable Ore Reserves are derived from Indicated Mineral Resources. The Ore Reserves do not include any Inferred resources. • In the opinion of the Competent Person for the Ore Reserves, John Wyche, the Ore Reserves which are reported against a A$1,650 /oz gold price are acceptable because this price is within the range of US$ gold prices and A$/US$ exchange rates that could be reasonably expected over the life of the project. • Pit optimisation runs showed that the same pit would be mined at lower gold prices so the definition of Ore Reserves only relates to the application of gold price to the Measured and Indicated Resources within the pit.
Audits or reviews	• *The results of any audits or reviews of Ore Reserve estimates.*	• No audits of the Ore Reserves have been undertaken.
Discussion of relative accuracy/ confidence	• *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.*	• This Ore Reserves estimate is derived from an ordinary kriged resource model based on exploration drilling, grade control drilling, pit mapping and comparison with mill feed assays. • Tarcoola is a small to medium scale pit. Information gained over the first six months of mining has allowed the new resource model to estimate the known structures such the Perseverance Shear and the Peela Conglomerates at a high level of local confidence. • Additional above cut off grade zones have been defined in the pit

Criteria	JORC Code explanation	Commentary
	• *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.* • *Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.* • *It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	during mining. These are not included in the resource model or in the Ore Reserves. The grade control procedures in place should continue to identify similar additional material if it is present through the remainder of the pit.

3 PIT RECONCILIATION TO JUNE 2017

Total mined production from the commencement of operations in December 2016 to 30th June 2017 is compared against Measured and Indicated portions of the 2017 Ordinary Kriged Resource Model from the same volume of the pit with adjustments for mining loss and dilution.

Compared to the Measured and Indicated portions of the resource which can be reported as Ore Reserves, actual mine production achieved 57% more tonnes at 14% lower grade to deliver 35% more contained gold.

Table 3-1 Tarcoola Pit Reconciliation

Mining dilution	5%
Dilution grade	0.6
Troy oz/gm	31.10348
Mining loss	0%

	Qtrly Reports				2017 OK Model at 0.75 g/t COG to 30-Jun-17 Surface				
	Dec-16 Qtr	Mar-17 Qtr	Jun-17 Qtr	YTD	Measured and Indicated Blocks only		Additional Mined not Included in Resource		
	31-Dec-16	31-Mar-17	30-Jun-17	30-Jun-17	Resource	ROM			
tonnes	8,825	37,432	74,030	120,287	73,016	76,667	43,620	57%	
Au g/t	2.71	1.87	2.49	2.31	2.78	2.68	1.67	62%	86%
Au oz	769	2,250	5,926	8,946	6,537	6,608	2,338	35%	

4 RESOURCE AND RESERVE CATEGORIES - EXPLANATION

According to the 2012 Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code):-

A ‘Mineral Resource’ is a concentration or occurrence of material of intrinsic economic interest in or on the Earth’s crust in such form, quality and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge. Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories.

An ‘Inferred Mineral Resource’ is that part of a Mineral Resource for which tonnage, grade and mineral content can be estimated with a low level of confidence. It is inferred from geological evidence and assumed but not verified geological and/or grade continuity.

An ‘Indicated Mineral Resource’ is that part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a reasonable level of confidence. It is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes. The locations are too widely or inappropriately spaced to confirm geological and/or grade continuity but are spaced closely enough for continuity to be assumed.

A ‘Measured Mineral Resource’ is that part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a high level of confidence. It is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes. The locations are spaced closely enough to confirm geological and grade continuity.

An ‘Ore Reserve’ is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined. Appropriate assessments and studies have been carried out, and include consideration of and modification by realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction could reasonably be justified. Ore Reserves are sub-divided in order of increasing confidence into Probable Ore Reserves and Proved Ore Reserves.

The guidelines in the JORC Code state that the term ‘economically mineable’ implies that extraction of the Ore Reserve has been demonstrated to be viable under reasonable financial assumptions. What constitutes the term ‘realistically assumed’ will vary with the type of deposit, the level of study that has been carried out and the financial criteria of the individual company. For this reason, there can be no fixed definition for the term ‘economically mineable’.

A ‘Probable Ore Reserve’ is the economically mineable part of an Indicated, and in some circumstances, a Measured Mineral Resource. It includes diluting materials and allowances for losses which may occur when the material is mined. Appropriate assessments and studies have been carried out, and include consideration of and modification by realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors These assessments demonstrate at the time of reporting that extraction could reasonably be justified.

A 'Proved Ore Reserve' is the economically mineable part of a Measured Mineral Resource. It includes diluting materials and allowances for losses which may occur when the material is mined. Appropriate assessments and studies have been carried out, and include consideration of and modification by realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction could reasonably be justified.

The guidelines provided in the JORC Code note that "A Proved Ore Reserve represents the highest confidence category of reserve estimate. The style of mineralisation or other factors could mean that Proved Ore Reserves are not achievable in some deposits."

The following figure, from the JORC Code, sets out the framework for classifying tonnage and grade estimates to reflect different levels of geological confidence and different degrees of technical and economic evaluation.

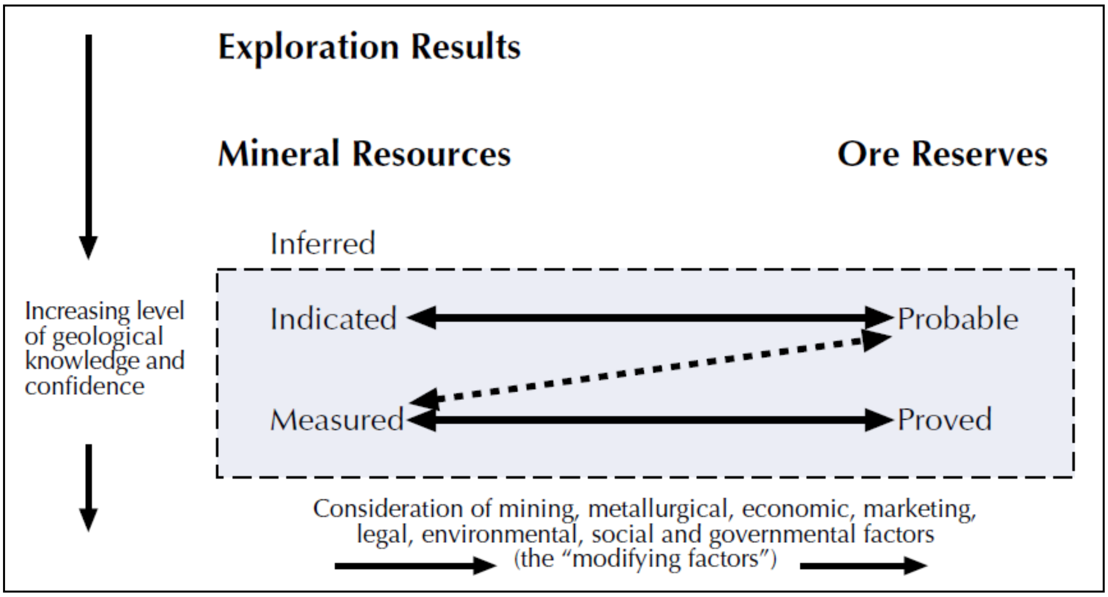

Figure 1 General relationship between Exploration Results, Mineral Resources and Ore Reserves, From 2012 JORC Code Figure 1.

Mineral Resources can be estimated mainly by a geologist on the basis of geoscientific information with some input from other disciplines. Ore Reserves, which are a modified sub-set of the Indicated and Measured Mineral Resources (shown within the dashed outline), require consideration of the Modifying Factors affecting extraction, and should in most instances be estimated with input from a range of disciplines.

Measured Mineral Resources may convert to either Proved Ore Reserves or Probable Ore Reserves. The Competent Person may convert Measured Mineral Resources to Probable Ore Reserves because of uncertainties associated with some or all of the Modifying Factors which are taken into account in the conversion from Mineral Resources to Ore Reserves.

Inferred Resources cannot convert to Ore Reserves.