Chariot High Grade Gold Resource increased by 40% - Amended

EMMERSON RESOURCES LIMITED (ASX: ERM) ("**ERM**" or "the **Company**") has re-released its announcement from 2 December 2021 "Chariot High Grade Gold Resource increased by 40%".

The amended announcement includes additional disclosure on pages 2 to 4 to ensure the release complies with ASX Listing Rule 5.8.1.

This ASX announcement was authorised for release by the Board.

For further information, please contact:

Rob Bills
Managing Director and CEO
E: rbills@emmersonresources.com.au
T: +61 8 9381 7838

Media enquiries
Michael Vaughan, Fivemark Partners
E: michael.vaughan@fivemark.com.au
T: +61 422 602 720

Chariot High Grade Gold Resource increased by 40%

Highlights

- Mineral Resource Estimate (MRE) for the Chariot gold deposit at Tennant Creek has increased total ounces by 40% to:
  - **556,200t at 7.8g/t Au for 138,800oz Au**
- New Chariot resource estimate supports a conceptual **high grade 17.7g/t Au open pit** and **6.3 g/t Au underground** operation
- Chariot resource remains open and poorly explored at depth and significant scope exists to increase the resource with further drilling
- Emmerson is entitled to a free carried 6% gold production royalty from Joint Venture Partner, Tennant Consolidated Mining Group over all mines within the Joint Venture areas, including Chariot
- Chariot is one of several mines which are undergoing scoping studies by TCMG ahead of finalising the mining and production schedule. Studies are progressing over the high-grade Mauretania gold project

Emmerson Managing Director, Rob Bills commented:

"This new Mineral Resource Estimate for Chariot is testament to the high grade and value of these Tennant Creek style gold deposits and the emerging value of Emmerson's 6% gold production royalty.

New geological and geotechnical work in combination with an increased gold price suggests that extraction of ore at Chariot will benefit from a change from selective to bulk mining. This will allow for the inclusion of lower grade material from the chlorite shear zones that surround the ironstone hosted mineralisation and translate into a more continuous orebody at depth.

The Exploration and Mining Joint Venture with Tennant Consolidated Mining Group (TCMG) – whereby TCMG fund $10.5m in exploration over five years, complete mining studies such as this resource estimate and establish a processing facility – provide a clear pathway to monetisation of further similar projects.

Emmerson retains a free carry, low risk 6% gold production royalty over all mines including Chariot. Until the earn-in by TCMG is completed, Emmerson remains the manager and operator of the exploration programs and retains 100% ownership of all the exploration and mining tenements.

The next steps at Chariot include finalising the mining options and studies, permitting, and assessing the potential for resource additions, particularly from extensions to the underground resource which currently remains open at depth. "

Chariot Mineral Resource Estimate

Emmerson Resources Limited ("Emmerson", ASX: ERM) advises of a significant upgrade to the Mineral Resource Estimate (MRE) for the Chariot Gold Project at Tennant Creek, Northern Territory (Figure 1 and Figure 2). The MRE is an important part of the mining studies being undertaken by TCMG with a view to commencing future mining and processing.

A total of 138,800 ounces of gold has been reported as a MRE is in compliance with the 2012 JORC Code (Table 1A) and represents an increase of 40% from the previous underground estimate in November 2013 (ASX: 28 November 2013, Table 1B).

Chariot was originally discovered by Normandy Mining in 1998 and mined by Giants Reef Mining from 2003 to 2005 – when the low gold price at the time coupled with corporate and mining issues led to premature closure.

Emmerson engaged independent consultant Optiro Pty Ltd ("Optiro") in 2013 to provide a MRE based on selective mining of high-grade ore shoots. The selective mining method would necessitate leaving ore behind to support the rock mass, resulting in suboptimal extraction of the orebody.

In 2021, TCMG engaged Optiro, (as part of TCMG's obligations under the Small Mines Joint Venture with Emmerson) to update the Chariot MRE. This scope of work included geologically remodelling the ironstone to include the surrounding, gold-bearing chlorite alteration halo and incorporating the results of the recent geotechnical relogging and optimisation studies.

Importantly, geotechnical relogging and the change to bulk rather than selective underground mining methods resulted in the reclassification of some of the upper portions of the orebody that had previously been sterilised due to poor ground conditions. Furthermore, this new geological interpretation better captures the distribution of gold grades hosted within the chlorite altered Chariot Shear Zone and provides a more robust and continuous resource at depth.

The Mineral Resource Estimate (Table 1A, Figure 2 and Figure 3) is reported above a 1.0 g/t gold cut-off grade above 180mRL (open pit scenario), and above a 2.0 g/t gold cut-off grade below 180mRL (underground scenario).

The Chariot orebody remains open and poorly explored at depth, which provides an opportunity for future underground exploration – with associated costs funded as part of the TCMG Small Mines Joint Venture with Emmerson.

Summary of Mineral Resource Estimate for the Chariot Deposit

Emmerson Resources confirms the reporting of the Mineral Resource Estimate for the Chariot Deposit as at 2 December 2021.

The estimate of Mineral Resources are reported in accordance with the Australia Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, 2021 (JORC Code) and the Australia Securities Exchange Listing Rules. This report summarized the information contained in the JORC Code Table 1 which is included in the Appendix to this report. The breakdown of the total Mineral Resource estimate into the categories specified in the JORC Code is contain in Table 1A.

A summary of JORC Table 1 is provided below for compliance with the Mineral Resource and in line with requirements of ASX listing rule 5.8.1.

Geology and Geological Information

The mineralisation at Chariot is located in hematite-magnetite-chlorite ("ironstone") rock, with gold as the dominant economic commodity and subordinate copper and bismuth. Gold mineralisation at Chariot occurs as lenses, typically (but not entirely) hosted by the east-west striking magnetite-haematite-rich ironstone unit. Some mineralisation is present within the chloritised halo surrounding the ironstone. The Chariot system is interpreted to be a shear system within the alteration and ironstone units which has pinch and swell zones that determine where the broad mineralisation zones occur. Faulting and shearing are very localised, and as such have not been used to constrain the mineralisation and geological domains.

The geological interpretation of the deposit is based on open pit and underground mapping and sampling of the host units which have been interpreted into a 3D model of the lithology domains. The high density of RC and Diamond drilling throughout the deposit and underground mining has supported the development of a robust geological model and understanding of the mineralisation distribution. The host rocks are generally well defined in the logged lithology records. Geological continuity is demonstrated by historical underground mining. All geological observations were used to guide the interpretation and further control the trends of the Mineral Resource estimate.

Sampling and Sub-sampling Techniques

Chariot Open Pit Mineral Resource Estimates (MRE) estimated in 2013 is recently re-classified in 2021 Optiro Pty Ltd (Optiro). The Open Pit MRE is based on logging and sampling of 258 drillholes, with approximately 3,084 drilling samples

(predominantly 1m interval), with ranges from 0.5m to 1.4m. Drilling type include reverse circulation (RC) (30% of samples) and surface and underground diamond drillholes (DDH) (70% of samples). Chariot Underground MRE (Optiro, 2021) is based on logging and sampling of 197 drillholes, with approximately 4,079m of samples (predominantly 1m interval), with ranges from 0.5m to 1.4m. Drilling type include surface and underground DDH (98% of samples) and RC (2% of samples).

Sampling techniques of 22 RC drillholes by Normandy Tennant Creek Pty Ltd (NTC) from 1998 – 2001 - samples were taken from cyclone with a split sample for each meter. Variations in sample quantity and wet samples were not recorded. 3m composite sample collected by spearing the cycloned 1m samples. For surface DDH, 20 holes were sampled, with a nominal 1m sample collected from half core splits. Generally, sampling was constrained by ironstone boundaries.

Sampling techniques of 118 RC drillholes by Giants Reef Mining Pty Ltd (GRM) from 2001-2005 - samples were collected on a 1m basis using a 5 ¼ inch diameter face-hammer, with sample split through a three-tier splitter. Composite samples were then created from the 1m samples using a variety of sample lengths ranging from 3m to 6m. Every 1m interval, a sieved chip samples were collected and put in a chip tray. For surface DDH, 26 holes were sampled based on geological boundaries to a maximum length of 1m, marked up prior to being halved by diamond saw, same side of the cut core was dispatched to the laboratory. For underground DDH, 269 holes were sampled with the whole core submitted for analysis. The maximum sample length was controlled by the amount of sample that can physically fit into a calico sample bag (8" x 12"), with LTK60 size core, this approximates ~0.8m.

Drilling Techniques

Data used for both Open Pit and Underground MRE are from historical drilling of NTC and GRM from 1998 – 2005. Logging and sampling of 136 RC holes and 122 DDH (HQ and NQ) were used in the Open Pit estimation. Logging and sampling of 4 RC holes, 27 surface DDH (HQ, HQ3 and NQ2 core sizes) and 166 underground DDH (LTK60 - 44.1mm core diameter) were used for Underground estimation.

Mineral Resource Classification

Mineral Resource classification criteria are based on the level of data informing both geological model and grade estimation.

The Mineral Resource has been constrained to a maximum vertical depth of 500 m below surface. Blocks have been classified as Indicated and Inferred based on drill hole spacing, geological continuity and estimation quality parameters.

The Indicated Mineral Resource is supported by drilling with nominal 20 m x 20 m spacing, supported by between 15 and 20 samples. Geological continuity is demonstrated by the geological interpretation, pit and underground mapping and mining. Geostatistical confidence is demonstrated by a slope of regression above 0.4.

The Inferred Mineral Resource was defined where there was a low to moderate level of geological confidence in geometry, there was still continuity of grade, and drill spacing was greater than 20 m. Inferred blocks are supported by less than 15 samples in the estimate. Geological support was defined to a lower level of confidence in terms of continuity and extent. Geostatistical confidence is demonstrated by a slope of regression less than 0.4.

Unclassified mineralisation has not been included in this Mineral Resource. This is the material that has no estimated grades above 2.0 g/t gold is material and which is unsupported by geology and drilling.

The geotechnically unstable zone surrounding mining voids that was defined by previous operators was reviewed by a program of geotechnical core logging and geotechnical consultant review. This material was assessed as mineable. Given the reasonable prospect of economic extraction this material was given an indicated status where supported by drilling and geological continuity. This upgraded (previously reported) material in the open pit MRE (2013) from Inferred to Indicated.

Sample Analysis Method

Historical field QC procedures undertaken by NTC and GRM involved the use of certified reference material (CRM) as assay standards and include blanks and duplicates.

Historical Drilling: NTC – 1998 – 2001: Australian Laboratory Services P/L (ALS) in Alice Spring carried out assaying for NTC. RC and core samples by fire assay using a 50g charge (FA50). A suite of ancillary elements (Cu, Bi, Pb, Zn, Ag and Fe) were also assayed by aqua Regia (AR) digestion and Atomic Absorption Spectroscopy (AAS) finish. The rejects of selected high-grade samples were re-assayed by screen fire assay (SFA). This method involves screening of a 2kg sample through a 200mesh screen, then fire assaying the entire coarse fraction, including the screen. The grade of the fine fraction is determined by multiple FA50 assays. The method was applied to samples with presence of visible gold in the drill core. For high grade RC sample results, RC re-splits prepared from the original cyclone 1m samples were also re-assayed by a SFA method. Procedures developed for assay quality control (standard submitted every 10th sample), field duplication and blanks were also inserted.

Historical Drilling: GRM – 2001 to 2005: Amdel Laboratories in Adelaide carried out assaying of GRM from 2001 to 2003. Gold

was assayed by FA50, and ancillary elements Bi, Cu and Fe analysed by AR/AAS. North Australian Laboratories Pty Ltd (NAL) based in Pine Creek supplied analytical services to GRM from 2003 to 2005. Samples were prepared in Tennant Creek and analysis completed in Pine Creek, using a 50g charge FA standard CRM were inserted at the end of the sample string, and blank inserted after any anticipated high-grade samples.

Estimation Methodology

The open pit model (2013) has a nominal lower cut-off grade of 0.8g/t Au which was utilised for interpreting geological continuity of the mineralisation down to the 150mRL. Drillhole intercepts were composited downhole to 1m lengths and gold estimation of all mineralisation domains was carried out using ordinary kriging and hard boundaries between all domains. Top cuts were applied and varied between 230g/t for all high-grade domains and 4g/t gold for the ironstone domains and 3.0 g/t gold for the alteration. Three search passes, with increasing search distances and decreasing minimum sample numbers, were employed.

For the underground model (2021), the alteration and ironstone wireframes were updated by implicit modelling using Leapfrog Software to produce smoother, more lensoidal surfaces. The overall geometry and constraints of the previous geological interpretation (2013) were adhered to, whilst an indicator approach was applied to the material within the alteration domain to separate out the low-grade sub-domains.

The categorical indicator (CIK) process is based on the inflection grade threshold exhibited by the data at 0.2 g/t gold. Categorical variography returned a nugget of 25% and a maximum range of 86m by 25m by 9m. The categorical processing resulted in the blocks being divided into high and low-grade sub-domains using a 45% probability threshold; the blocks thus selected were then used to control grade estimation. Drillhole intercepts were composited downhole to 1m lengths and gold estimation was carried out using ordinary kriging with dynamic anisotropy, and hard boundaries between the sub domains. Top cuts were applied to the composites prior to estimation to reduce the influence of outliers, 138 g/t gold to the high-grade domain, and 0.7 g/t gold to the low-grade domain. Three search passes, with increasing search distances and decreasing minimum sample numbers, were employed.

For both the open pit and underground estimates density was estimated by ordinary kriging in the fresh rock within the alteration and ironstone rock units using hard boundaries. Density variography returned a nugget from 4% to 12% of the sill and a maximum range extending to 77m by 49m by 20m. Density measurements in the oxide ironstone (3.55 t/m3) and oxide alteration (2.88 t/m3) domains were assigned default values as there was not enough density measurements to support an estimate.

Cut-off Grades

For the open pit model, a nominal lower cut-off grade of 0.8g/t Au was utilised for interpreting geological continuity of the mineralisation. For reporting, the cut-off grades applied to the estimate were 1.0g/t gold for reporting above 180mRL.

For the underground model a nominal lower cut-off grade of 0.2g/t Au, with a 45% probability threshold, was utilised for discriminating the low and high-grade domains within the alteration domain. For reporting, the cut-off grades applied to the estimate were 2.0g/t gold reporting below the 180mRL.

Mining and Metallurgical Methods Parameters

The open pit Mineral Resource is constrained to a maximum vertical depth of 150 m below surface to satisfy the reasonable prospect of eventual economic extraction criteria for JORC compliance. The open pit Mineral Resource has been reported within a pit optimisation shell run by Mining Consultants using assumed cost scenarios to define the material with Reasonable Prospect of Economic Extraction.

The underground Mineral Resource has been reported below 180mRL using a cut-off grade of 2.0 g/t gold, which is considered the lower grade required for bulk tonnage underground mining.

An approximate metallurgical recovery of 90% has been assumed in determining Reasonable Prospects of Eventual Economic Extraction, based on historical production data. The mine was in recent production and treated at a conventional CIP gold plant at Warrego. There is extensive data supporting that gold can be extracted using conventional processes.

For further information, please contact:

Rob Bills
Managing Director and CEO
E: rbills@emmersonresources.com.au
T: +61 8 9381 7838

Media enquiries
Michael Vaughan, Fivemark Partners
E: michael.vaughan@fivemark.com.au
T: +61 422 602 720

This release has been authorised by the Board of Emmerson Resources Limited.

History of the Chariot Gold Project

The Chariot Mine operated between 2003-2005, producing 253,734t @ 10.9g/t gold for 86,326oz gold. The mine was closed in 2005 due to Giants Reef Mining (the then mine owner) entering administration.

The Chariot Gold Project is located approximately 10km West of Tennant Creek. Chariot has been mined by both open pit and underground methods. The deposit was originally discovered by Normandy Mining in 1998. Giants Reef Mining acquired Normandy Mining's interest (57%) in June 2001, and Sons of Gwalia's interest (43%) in March 2003. Giants Reef Mining commenced open pit mining in February 2003 until April 2003. Underground mining commenced from June 2003 until November 2005, with access via a decline with levels spaced approximately 20m vertically apart.

The Chariot deposit is located within a steeply dipping, east-west striking magnetite-hematite rich ironstone lenses within the Warramunga Formation sediments. The ironstone lenses run sub-parallel to the sediment bedding, with chlorite altered, sheared, hangingwall and footwall zones.

The mineralisation at Chariot is gold dominant, with minor to subordinate copper and bismuth hosted by the magnetite-hematite-chlorite rock. The mineralisation is interpreted to be structurally controlled via short-range structures, lenses, and shoots.

About Emmerson Resources, Tennant Creek and New South Wales

Emmerson has a commanding land holding position and is exploring the Tennant Creek Mineral Field (TCMF), one of Australia's highest-grade gold and copper fields producing over 5.5Moz of gold and 470,000t of copper from deposits including Warrego, White Devil, Orlando, Gecko, Chariot, and Golden Forty. These high-grade deposits are highly valuable exploration targets, and to date, Emmerson's discoveries include high-grade gold at Edna Beryl and Mauretania, plus copper-gold at Goanna and Monitor. These Emmerson discoveries were found utilising new technology and concepts and are the first discoveries in the TCMF for over two decades.

A recent rush of new tenement applications by major and junior explorers in the Tennant Creek district not only highlights the prospectivity of the region for copper and gold but also Emmerson's strategic 1,700km^2 land holding.

Emmerson's Strategic Alliance (ASX: 16 November 2020) with TCMG enables the value of projects such as Chariot to be monetised via TCMG's future mining and processing activities. Emmerson retains a free carry, 6% production royalty as part of the Small Mines Joint Venture with TCMG.

In addition, Emmerson is exploring across four early-stage gold-copper projects in NSW, identified (with our strategic alliance partner Kenex/Duke Exploration ASX: DEX) from the application of 2D and 3D predictive targeting models – aimed at increasing the probability of discovery. Duke can earn up to 10% (to pre BFS) of any project generated providing certain success milestones are met.

The highly prospective Macquarie Arc in NSW hosts >80Moz gold and >13Mt copper with these resources heavily weighted to areas of outcrop or limited cover. Emmerson's four exploration projects contain many attributes of the known deposits within the Macquarie Arc but remain underexplored due to historical impediments, including overlying cover (farmlands and younger rocks) and a lack of effective exploration.

Competency Statement

The information in this report that relates to database used in the estimation is based on information compiled by Dr Ana Liza Cuison, MAIG, MSEG. Dr Cuison is a Member of the Australian Institute of Geoscientists and has sufficient experience which is relevant to the style of mineralisation and types of deposits under consideration and to the activity which she is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Dr Cuison is a full-time employee of the Company and consents to the inclusion in this report of the matters based on her information in the form and context in which it appears.

The information in this report that relates to Mineral Resource estimate and classification for the Chariot Gold deposit is based on information compiled by Justine Tracey. Justine Tracey is an employee of Optiro Pty Ltd, and a Member of the Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists. Justine Tracey has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and the activity she is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves ('the JORC Code')". Justine Tracey consents to the inclusion in the report of the matters based on the 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 Emmerson Resources Limited's anticipated future events, including future resources and exploration results, and other statements that are not historical facts. When used in this document, the words such as "could, "estimate", "plan," "expect," "intend," "may", "potential," "should," and similar expressions are forward-looking statements. Although Emmerson believes that its expectations reflected in these forward- looking statements are reasonable, such statements involve risks, assumptions, uncertainties, and other important factors, many of which are beyond the control of the Company, and which may cause actual results, performance, or achievements to differ materially from those expressed or implied by such statements.

The Company does not undertake any obligation to update forward-looking statements even if circumstances or management's estimates or opinions should change. Forward-looking statements are provided as a general guide only and should not be relied on as an indication or guarantee of future performance. Given these uncertainties, investors should not place undue reliance on forward-looking statements. The Company cautions investors against using this announcement solely as a basis for investment decisions without regard for this disclaimer.

.

Table 1A: Chariot Mineral Resource Estimate November 2021

Nov -21 Chariot MRE				
	Category	Tonnes (kt)	Gold grade (g/t)	Ounces (koz)
Open Pit	Indicated	64.5	18.1	37.6
	Inferred	8.2	14.4	3.8
	Total	72.7	17.7	41.4
Underground	Indicated	223	7	77
	Inferred	260.5	4.6	20.4
	Total	483.5	6.3	97.4
Total		**556.2**	**7.8**	**138.8**

Note: Inconsistencies in total tonnage reporting are due to rounding

*Open Pit model is Sept-13 and reported within an optimised pit shell at a cut-off grade of 1.0 g/t gold

*Underground model is Nov-21, reported below 180mRL at a cut-off grade of 2.0 g/t gold

*All failure zone material is reported as Indicated as geotechnical study confirmes material is mineable by caving

Table1B: Chariot Mineral Resource Estimate September 2013

01/09/2013 Chariot MRE				
	Category	Tonnes (kt)	Gold grade (g/t)	Ounces (koz)
Open Pit	Indicated	13.3	11.1	4.7
	Inferred	59.4	19.2	36.7
	Total	72.7	17.7	41.4
Underground	Indicated	51.8	16	26.6
	Inferred	53	18.4	31.4
	Total	104.8	17.2	58
Total		**178**	**17.4**	**99.5**

Note: Inconsistencies in total tonnage reporting are due to rounding

*Open Pit model is Sept-13 and reported within a optimised pit shell at a cut-off grade of 1.0 g/t gold

*Underground model is Nov-21, reported below 180mRL at a cut-off grade of 6.0 g/t gold

*Failure zone material all classified as Inferred

Table 1C: Variance between Chariot 2013 and 2021 Mineral Resource Estimates

Variance				
	Category	Tonnes (kt)	Gold grade (g/t)	Ounces (koz)
Open Pit	Indicated	51.2	7.0	32.9
	Inferred	-51.2	-4.8	-32.9
	Total	0	0.0	0
Underground	Indicated	171.2	-9	50.4
	Inferred	207.5	-13.8	-11
	Total	378.7	-10.9	39.4
Total		**378.2**	**-9.6**	**39.3**

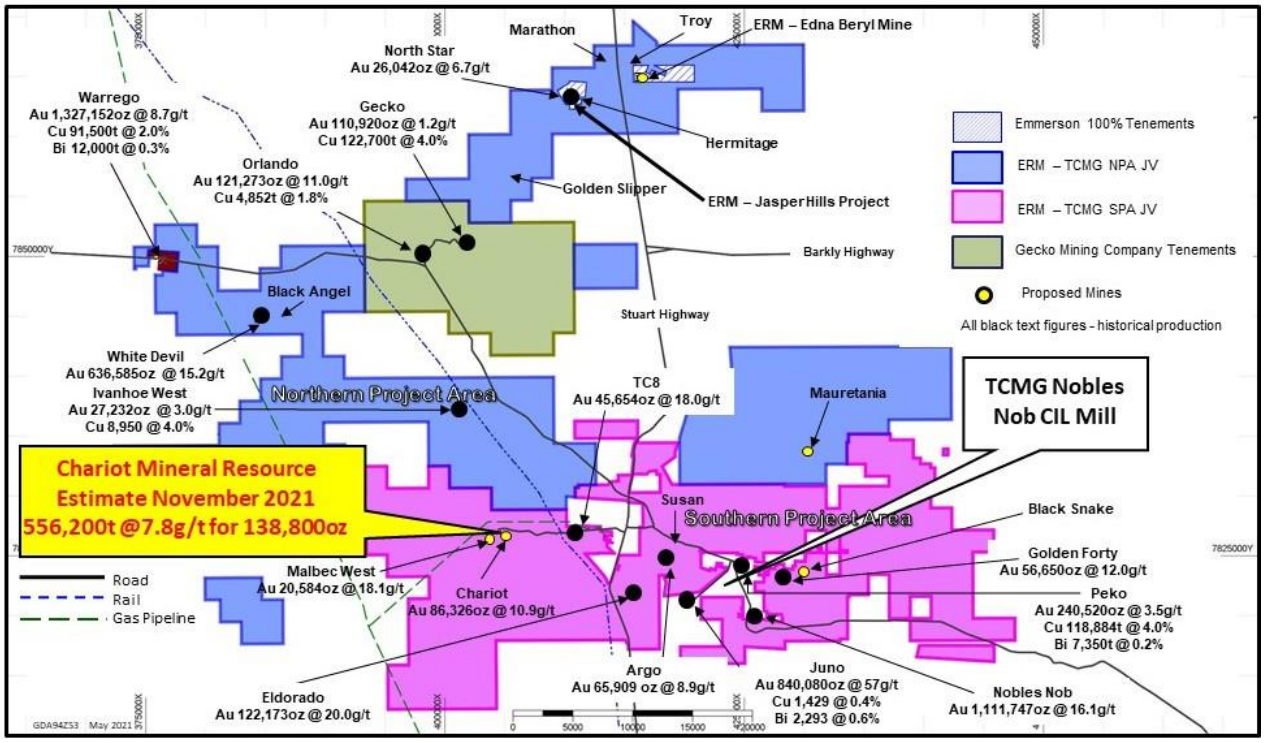
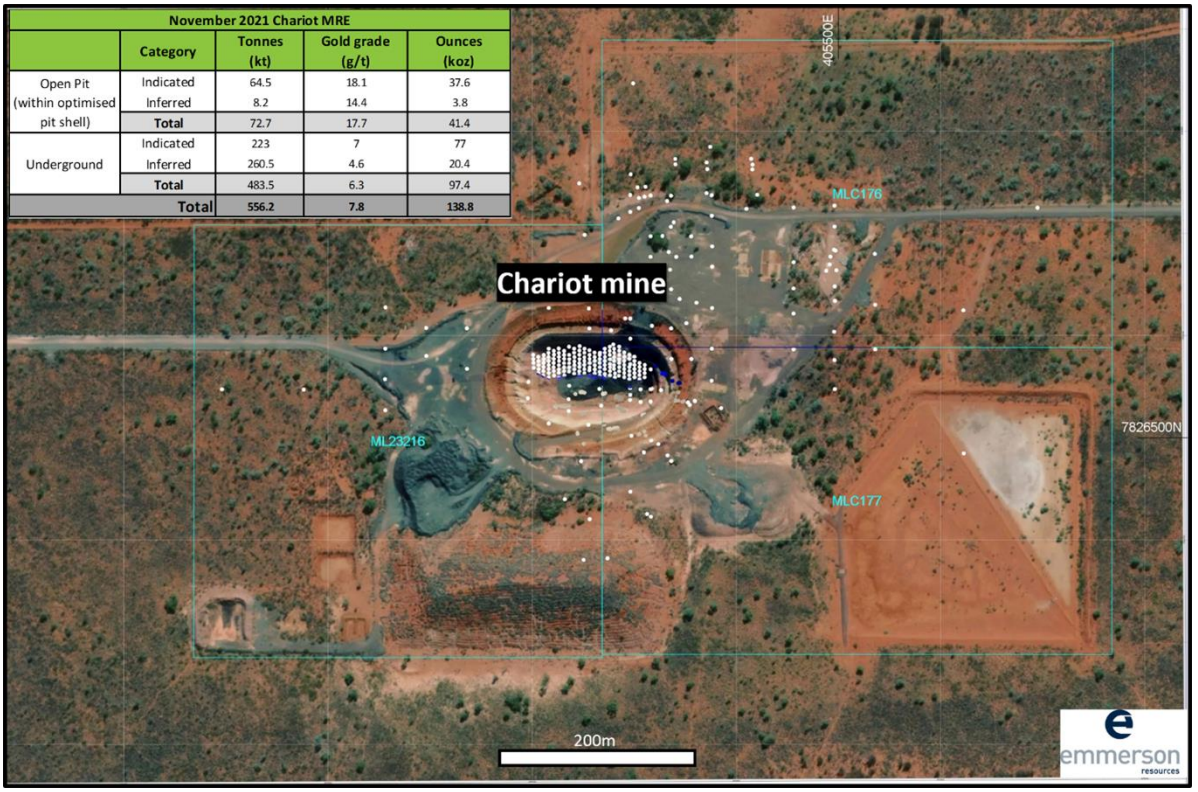


Figure 1: *Map of the Emmerson Tennant Creek Project showing the Northern Project Area (NPA), and Southern Project Area (SPA), which is covered by the Exploration (EEJV) and Small Mines (SMJV). Yellow dots are potential small mines and/or remnant resources. Noting that Emmerson has retained 100% of the Jasper Hills and Edna Beryl projects.*

Note: Quoted production from major historical deposits after Ahmad, M. and Munson, T.J. (2013). Geology and mineral resources of the Northern Territory, Special Publication 5, p. 9:37.

For Chariot mine and Malbec West mine, quoted production from Giants Reef Mill Reconciled Production to end of month September 2005 (internal report).



November 2021 Chariot MRE				
	Category	Tonnes (kt)	Gold grade (g/t)	Ounces (koz)
Open Pit (within optimised pit shell)	Indicated	64.5	18.1	37.6
	Inferred	8.2	14.4	3.8
	Total	72.7	17.7	41.4
Underground	Indicated	223	7	77
	Inferred	260.5	4.6	20.4
	Total	483.5	6.3	97.4
Total		556.2	7.8	138.8

Figure 2: *Plan view of Chariot Deposit and drill hole location. Also showing the Chariot Mineral Resource Estimate.*

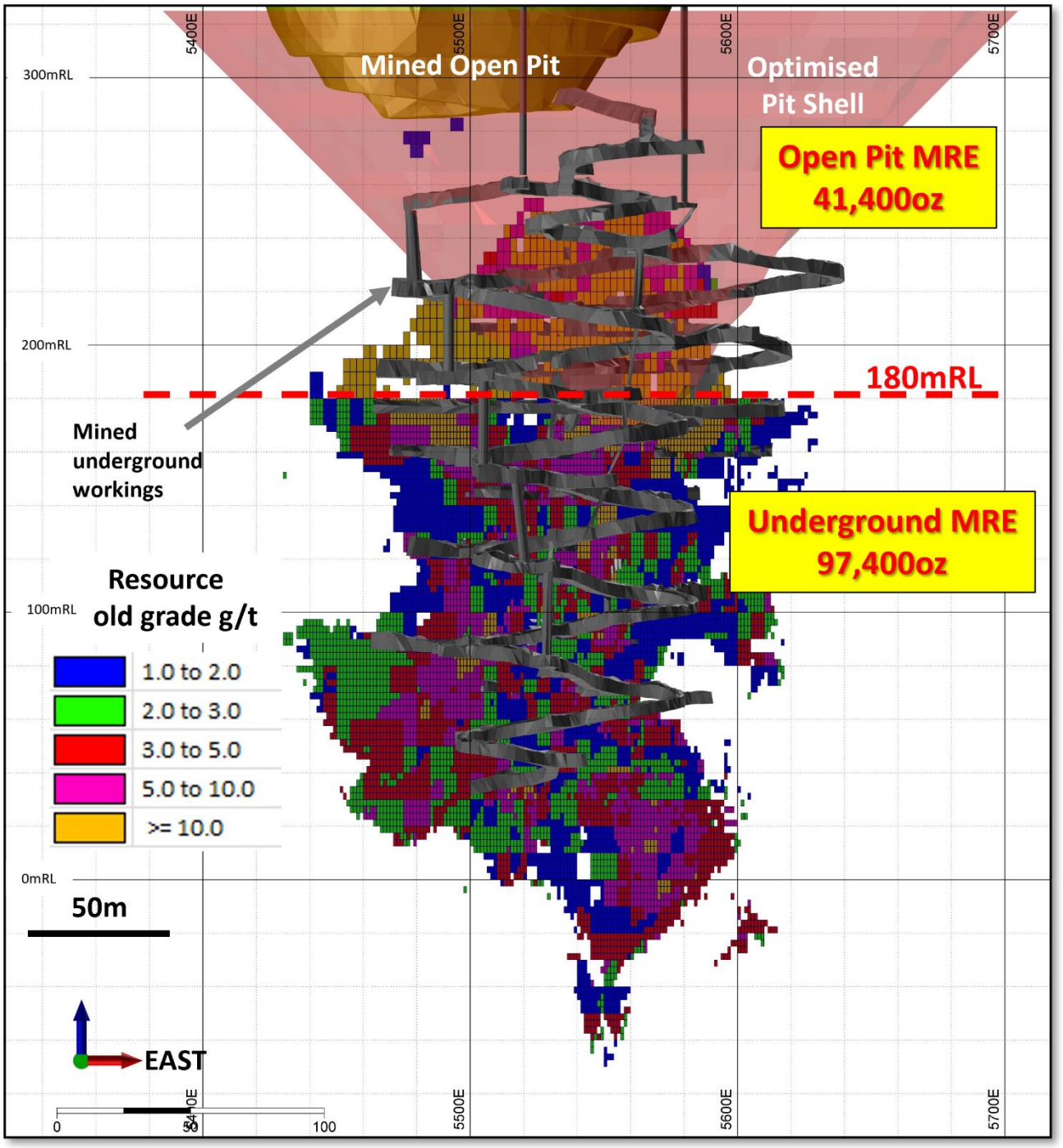


Figure 3: *Chariot Mineral Resource Estimate - gold grades above 1g/t, not mined (looking North).*

Appendix 1

1. JORC Code Table 1 – Chariot Deposit

The following table provides a summary and comment on important assessment and reporting criteria used at Chariot for the determination of the Chariot Mineral Resource estimate and in accordance with the requirements of the JORC Table 1 checklist in the *The Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves* (the JORC Code, 2012) on and 'if not, why not' basis.

Section 1: Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	• Chariot Open Pit Mineral Resource Estimates (MRE) estimated in 2013 is recently re-classified in 2021 Optiro Pty Ltd (Optiro) (refer to text in this announcement). The Open Pit MRE is based on logging and sampling of 258 drillholes, with approximately 3,084 drilling samples (predominantly 1m interval), with ranges from 0.5m to 1.4m. Drilling type include reverse circulation (RC) (30% of samples) and surface and underground diamond drillholes (DDH) (70% of samples). • Chariot Underground MRE (Optiro, 2021) is based on logging and sampling of 197 drillholes, with approximately 4,079m of samples (predominantly 1m interval), with ranges from 0.5m to 1.4m. Drilling type include surface and underground DDH (98% of samples) and RC (2% of samples). • Sampling techniques of 22 RC drillholes by Normandy Tennant Creek Pty Ltd (NTC) from 1998 – 2001 - samples were taken from cyclone with a split sample for each meter. Variations in sample quantity and wet samples were not recorded. 3m composite sample collected by spearing the cycloned 1m samples. For surface DDH, 20 holes were sampled, with a nominal 1m sample collected from half core splits. Generally, sampling was constrained by ironstone boundaries. • Sampling techniques of 118 RC drillholes by Giants Reef Mining Pty Ltd (GRM) from 2001-2005 - samples were collected on a 1m basis using a 5 ¼ inch diameter face-hammer, with sample split through a three-tier splitter. Composite samples were then created from the 1m samples using a variety of sample lengths ranging from 3m to 6m. Every 1m interval, a sieved chip samples were collected and put in a chip tray. For surface DDH, 26 holes were sampled based on geological boundaries to a maximum length of 1m, marked up prior to being halved by diamond saw, same side of the cut core was dispatched to the laboratory. For underground DDH, 269 holes were sampled with the whole core submitted for analysis. The maximum sample length was controlled by the amount of sample that can physically fit into a calico sample bag (8" x 12"), with LTK60 size core, this approximates ~0.8m.

Drilling techniques	• Data used for both Open Pit and Underground MRE are from historical drilling of NTC and GRM from 1998 – 2005
	  ○ Logging and sampling of 136 RC holes and 122 DDH (HQ and NQ) were used in the Open Pit estimation.
	  ○ Logging and sampling of 4 RC holes, 27 surface DDH (HQ, HQ3 and NQ2 core sizes) and 166 underground DDH (LTK60 - 44.1mm core diameter) were used for Underground estimation.
	• Drilling at Chariot completed by Emmerson Resources Ltd (ERM) from 2014-2015 were outside the Chariot deposit and thus not included in the resource estimation.

Drill sample recovery	• Drill sample recovery was not recorded for all RC drilling. • Core recoveries are fair to good on comments and data recorded on previous company reports. • Recoveries from some of the surface and underground diamond drillholes range from 50% to 98%.
Logging	• The entire length of all drillholes has been logged for lithology, weathering/oxidation, alteration, mineralization, veining, and structures by NTC and GRM. • Standard logging/operating procedures (SOPs) were employed by NTC and GRM for logging RC chip and diamond core. Lithological logging is both quantitative and qualitative. • Logging codes and operating procedures were reviewed by Emmerson geologist in 2013 and were considered satisfactory. All lithological, oxidation, alteration and presence of sulphide information were converted to Emmerson standard lithological naming convention. • Logging is to a level of detail to support appropriate MRE.

Sub-sampling techniques and sample preparation	• NTC and GRM employed sampling protocols for sampling RC samples and DDH core samples. Both company sampling procedures are considered satisfactory by Emmerson geologists.
	• Historical Drilling: NTC – 1998 – 2001:
	  ○ Core from surface drilling was cut in half using a standard brick saw. A nominal 1m sample collected from half core splits, with same side of the cut core dispatched to the laboratory for assaying. Sampling was constrained by ironstone boundaries
	  ○ RC samples were taken from cyclone with a split sample for each meter. Variations in sample quantity and wet samples were not recorded. 3m composite sample collected by

Criteria	Commentary

	spearing the cycloned 1m samples. Intervals returning >0.1g/t Au were re-assayed using the 1m splits.
	• Historical Drilling: GRM – 2001 to 2005
	  ○ Core from surface drilling was cut in half using a diamond saw. Samples were based on geological boundaries to a maximum length of 1m, marked up prior to being halved by diamond saw, same side of the cut core was dispatched to the laboratory for assaying.
	  ○ Core from underground drilling were sampled with the whole core submitted for analysis.
	  ○ RC samples collected on a 1m basis using a 5 ¼ inch diameter face-hammer, with sample split through a three-tier splitter. Composite samples were then created from the 1m samples using a variety of sample lengths ranging from 3m to 6m. Any anomalous composite samples were re-sampled as individual 1m samples with the sample split for assaying approximately 1 – 3 kg.
	  ○ Special instructions from GRM to the North Australian Laboratories Pty Ltd (NAL): Crush entire samples to minus 10mm, split off one quarter volume and place in original sample bag; Fine crush remainder and split off 1kg sample for pulverising; Pulverise 1kg and split off 50mg sub-sample for full suite assay; for every 10th sample, assay (Au only) to get repeats, duplicates, and sub-samples.
	  ○ All coarse crush, all 50gm sub-samples, and the remainder of bulk sample reject were returned to GRM.

Quality of assay data and laboratory tests	• Historical field QC procedures undertaken by NTC and GRM have been documented and reviewed, which involve the use of certified reference material (CRM) as assay standards and include blanks and duplicates.
	• Historical Drilling: NTC – 1998 – 2001:
	  ○ Australian Laboratory Services P/L (ALS) in Alice Spring carried out assaying for NTC. RC and core samples by fire assay using a 50g charge (FA50). A suite of ancillary elements (Cu, Bi, Pb, Zn, Ag and Fe) were also assayed by aqua Regia (AR) digestion and Atomic Absorption Spectroscopy (AAS) finish. The rejects of selected high-grade samples were re-assayed by screen fire assay (SFA). This method involves screening of a 2kg sample through a 200mesh screen, then fire assaying the entire coarse fraction, including the screen. The grade of the fine fraction is determined by multiple FA50 assays. The method was applied to samples with presence of visible gold in the drill core. For high grade RC sample results, RC re-splits prepared from the original cyclone 1m samples were also re-assayed by a SFA method.
	  ○ Procedures developed for assay quality control (standard submitted every 10th sample), field duplication and blanks were also inserted.
	• Historical Drilling: GRM – 2001 to 2005
	  ○ Amdel Laboratories in Adelaide carried out assaying of GRM from 2001 to 2003. Gold was assayed by FA50, and ancillary elements Bi, Cu and Fe analysed by AR/AAS.
	  ○ North Australian Laboratories Pty Ltd (NAL) based in Pine Creek supplied analytical services to GRM from 2003 to 2005. Samples were prepared in Tennant Creek and analysis completed in Pine Creek, using a 50g charge FA. standard CRM were inserted at the end of the sample string, and blank inserted after any anticipated high-grade samples.
	• In 2003, Snowden Mining Industry Consultants Pty Ltd (Snowden) completed an independent technical audit of the Chariot Project as proposed by GRM. Part of the audit is the Quality of Sampling including Quality Assurance and quality control (QAQC) collected at by NTC and GRM submitted to ALS and Amdel (field duplicates, blanks, standards, SFA, and internal laboratory standards). Overall, Snowden reported that the Chariot Project is robust, and the data presented provide a reasonable expectation of Probable Ore reserves, production rates, costs, and revenues.
	• In 2005, Snowden reported a review of the QAQC collected by GRF submitted to NAL (CRM/standards, blanks, duplicates, laboratory cross checks). Overall, Snowden's conclusion is that the Chariot database provides acceptably representative samples and of the mineralization at Chariot.

Verification of sampling and assaying	• All data from NTC and GRM is kept in ERM database (Datashed). In 2013 and 2021, Emmerson geologists have reviewed and verified the hard copy historical drilling information for Chariot. • The hard copy data is from NTC and GRF drilling from 1998 to 2005. Original historical data sheets and files were used to validate drilling results and the contents of the digital database against the original logging. • Original Assay Certificates from NTC and GRM drilling (1998 to 2005) were used to validate the digital data in ERM Datashed. • In 2005, Snowden reported a review of the QAQC collected by GRF submitted to NAL, which include the laboratory cross check. GRM have submitted a series of duplicate samples to NAL and

Criteria	Commentary
	ALS for comparison. Snowden's review showed that the laboratory comparison duplicate data indicated that a similar level of precision was achieved between the two laboratories.
Location of data points	• Previous tenement holders, NTC created the survey control for the drilling grid over the Chariot area in 1992 and 1993. The grid is parallel to the Australian Map Grid (AMG Datum AGD66) and local elevations are 1,000m above Australian Height Datum (AHD) values. • Using total station survey equipment, GRM established control over the Chariot area and drill collars have been located with accuracy of ± 100mm. • Topographic measurements are collected (updated) from the final survey drill hole pick up. • All downhole survey measurements were surveyed by a single shot downhole camera every 30m. GRM edited the data to exclude readings that are obviously affected by magnetic interference. The single shot camera results have been partly crosschecked by a downhole gyroscope probe that records dip and bearing. GRM reported good correlation between methods. • ERM database included columns with the transformation of AMG Datum AGD66 to MGA Datum GDA94, and local elevations converted to AHD.
Data spacing and distribution	• No exploration results are reported in this report. • Geological modelling and a geostatistical analysis have been determined that drill spacing is sufficient to establish the degree of geological and grade continuity necessary to support the reported Mineral Resource as qualified through classification.
Orientation of data in relation to geological structure	• The majority of the drilling is perpendicular to the interpreted strike of the Chariot deposit. • A 3D geological model was generated by ERM geologist in 2013 using validated lithology and mineralization from historical drilling. • Review of available drill data, historical reports and geological maps suggest that the Chariot deposit has been drilled at the correct orientation. • Surface drill holes used in the estimation are angled (~60°) to intersect the orebody. Underground holes were drilled in fans (~+35° to -45°) to intersect the orebody.
Sample security	• RC and DDH sampling protocols were employed by NTL and GRM from 1998-2005. • Sampling protocols showed samples were selected/collected, bagged, and labelled in the calico bags. • Samples were then placed inside a polyweave bags and sealed for transport to the assay laboratory. • The assay laboratory confirms that all samples have been received and that no damage has occurred during transport. • While samples are being processed in the Lab they are considered to be secured.
Audits or reviews	• In 2003, Snowden Mining Industry Consultants Pty Ltd (Snowden) completed an independent technical audit of the Chariot Project as proposed by GRM. Overall, Snowden reported that Project is robust, and the data presented provide a reasonable expectation of Probable Ore reserves, production rates, costs and revenues. • An internal database review and validation was undertaken in 2013 and 2021 by ERM geologists. Data was validated against original data sources for collar, survey, lithology, alteration, mineralization, structure and assay. The overall error rates across the dataset were found to be very low. Isolated issues include absence of survey intervals and minor errors in collar survey precision.

Section 2: Reporting of Exploration Results

Criteria	Commentary

Mineral tenement and land tenure status	• The Chariot tenure group currently encompasses three granted mineral leases (ML23216, MCL176 & MCL177) that cover a combined area of 0.47 km2.
	• The tenure includes the historically mined Chariot mine site including tailings and immediate surrounds.
	• ERM manage and operate these titles under a small mine joint venture agreement with Tennant Consolidated Mining Group (TCMG JV).
	• The Chariot group of tenements forms part of ERM's Southern Project Area (SPA).
	• The titles are subject to the following agreements:
	  ○ Mineral Lease NO 23216 Agreement, signed in July 2002 between the Native Title holders of the Tennant Creek region, represented by the Central Land Council, and Giants Reef Exploration Pty Ltd, and
	  ○ the Indigenous Land Use Agreement (ILUA), signed in September 2000 between the Native Title holders of the Tennant Creek region, represented by the Central Land Council, and Giants Reef Exploration Pty Ltd.
	• All tenements are in good standing and no known impediments exist.

Exploration done by other parties	• Previous exploration within MLC176-177 & ML23216 was conducted by NTC (1998-2001) and GRM (2001-2005). • Emmerson Resources conducted exploration drilling to test Chariot East, Chariot West, Chariot North and Chariot South from 2014-2015.
Geology	• The gold-copper-bismuth mineralisation of the Tennant Creek Mineral Field is predominantly hosted in magnetite-chlorite-hematite ironstones or sheared variants. The ironstones and associated mineralisation are localised in EW- to WNW-trending structures that have historically been referred to as "lines of lode". They lie discordant to folded Warramunga Formation rocks and tend to be located in structural flexures, near the hinge zones of fold axes. • The Chariot mine forms part of the Wine Line corridor, a well-defined structural zone aligning several known deposits from Malbec in the west to TC8 in the east. The local geology comprises Lower Proterozoic Warramunga Formation siltstone, sandstone and greywacke. Minor components of the Warramunga Formation include hematite-jasper-quartz (haematite shale) units and quartz-magnetite-hematite ironstone. Transported cover sediments blanket the Chariot area with colluvial deposits and aeolian sands of up to 7 m thick in places. • The mineralisation at Chariot is located in hematite-magnetite-chlorite ("ironstone") rock, with gold as the dominant economic commodity and subordinate copper and bismuth. The distribution of economic grades appears structurally controlled. The ironstone is shaped in the form of an elongated teardrop in section, which is thickest at depth and essentially lenticular in plan view. The Chariot system is interpreted to be a shear system within the alteration and ironstone units which has pinch and swell zones that determine where the broad mineralisation zones occur. Faulting and shearing are very localised, and as such have not been used to constrain the mineralisation and geological domains. • The weathering profile over the Chariot mineralisation is extensive to depths of over 100 m. • The Chariot mine historically produced ~86,326oz Au between 2003 and 2005.
Drillhole information	• The Chariot Project is in Figure 1. A drillhole location map is included in Figure 2. All drill hole information, including tabulations of drillholes positions and lengths is stored in ERM Datashed. • This information is not included herein as the Mineral Resource estimate incorporates this information.
Data aggregation methods	• No data aggregation in the original assay database were done prior to estimation. • Metal equivalents are not reported
Relationship between mineralisation widths and intercept lengths	• The Chariot orebody is subvertical. All holes used in the MRE were drilled at an angle to intersect mineralization. • Based on review of drill data and historical reports it is considered that the drilling is representative and that no sample bias has been introduced. • Review of available drill data, historical reports and geological maps suggest that the Chariot orebody has been drilled at the correct orientation.
Diagrams	• Relevant maps and a long section are included with this announcement.
Balanced reporting	• Exploration results are not reported as part of this announcement.
Other substantive exploration data	• A geotechnical review by ERM/TCMG consultant (2021) assessed the 'failure zone' material, which was previously classified as inferred given the uncertainty of the mineability of this material. Based on the subsequent review, which concluded that the material within this 'at risk' zone has reasonable prospects of economic extraction (RPEEE), the material within this zone has been

Criteria	Commentary
	upgraded to an indicated classification in both the Nov 2021 underground MRE and the October 2013 open pit MRE (Refer to Section 3).
Further work	• The next steps at Chariot include finalising the mining options and studies, permitting, and assessing the potential for resource additions, particularly from extensions to the underground resource which currently remains open at depth.

2. JORC Code Table 1 – Chariot

a. Section 3: Estimation and Reporting of Mineral Resources – Chariot

The following table provides a summary of important assessment and reporting criteria used for the reporting of the Chariot Deposit Mineral Resource in accordance with the Table 1 checklist in *The Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves* (The JORC Code, 2012 Edition) on an 'if not, why not' basis.

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.	• All historical Normandy and Giants Reef Mining data for the Chariot Gold deposit was uploaded into ERM's Datashed database after ERM acquired the project. ERM data was logged in the field, and imported into Datashed, with assay files uploaded in digital format upon receipt from the laboratory. • Routine database checks are conducted by ERM's consultant Database Manager. • All data has been validated by ERM geologists prior to inclusion in the resource estimate. • Personnel access to the Datashed database is restricted to preserve the security of the data.
	• *Data validation procedures used.*	• During 2005, an independent consultant (Snowden) reviewed the results from the QC samples and concluded that the QC samples used to monitor the laboratories performance were successful in showing that the analytical results are sufficiently reliable to be used in the present resource estimation. • All data was checked visually by ERM in 3D to ensure that hole locations and surveys were correct.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*	• A site visit was not undertaken by the Competent Person.
	• *If no site visits have been undertaken indicate why this is the case.*	The Competent Person did not undertake a site visit to the area as there is no access to the underground deposit. The Competent Person is very familiar with the Project and has previously worked in the Tennant Creek area and on the Project during 2002 to 2004 and 2008 to 2010.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.*	• The geological interpretation of the deposit is based on open pit and underground mapping and sampling of the host units which have been interpreted into a 3D model of the lithology domains. The high density of RC and Diamond drilling throughout the deposit and underground mining has supported the development of a robust geological model and understanding of the mineralisation distribution. • The host rocks are generally well defined in the logged lithology records. Geological continuity is demonstrated by historical underground mining.
	• *Nature of the data used and of any assumptions made.*	• Data is stored in a master Datashed database. Exports were in CSV format for import to modelling software, with separate files for collar, survey, assay, geotech, density, core recovery, magnetic susceptibility, and geological structures. No assumptions were made or applied to the data. • The data is considered to be robust due to effective database management, and validation checks to verify the quality. Original data and survey records are utilised to validate any noted issues.
	• *The effect, if any, of alternative interpretations on Mineral Resource estimation.*	• Alternative interpretations for the mineralisation in the underground model have been reported as a high-grade selective model which uses an ordinary kriged estimate within constrained mineralisation domains.

Criteria	JORC Code Explanation	Commentary
		This interpretation resulted in a highly selective high grade Mineral Resource Estimate which does not reflect current exploitation plans.
	• *The use of geology in guiding and controlling Mineral Resource estimation.*	• The underground gold grade estimate is wholly constrained within the alteration lithological unit. The fresh rock density estimate is wholly constrained within the alteration and ironstone lithological units. The open pit grade estimate has ensured that mineralised domains are wholly constrained within the ironstone and alteration geological units. All geological observations were used to guide the interpretation and further control the trends of the Mineral Resource estimate.
	• *The factors affecting continuity both of grade and geology.*	• Gold mineralisation at Chariot occurs as lenses, typically (but not entirely) hosted by the east-west striking magnetite-haematite-rich ironstone unit. Some mineralisation is present within the chloritised halo surrounding the ironstone. • The Chariot system is interpreted to be a shear system within the alteration and ironstone units which has pinch and swell zones that determine where the broad mineralisation zones occur. Faulting and shearing are very localised, and as such have not been used to constrain the mineralisation and geological domains.
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 Chariot deposit Mineral Resource has an approximate strike length of 160 m and width of up to 30 m within ironstone and alteration units. The open pit block model extends down to 180mRL, which is 150 m below surface. The underground block model extends from the 180mRL to the -210mRL which is further 390 m vertical extent. • The plan width of mineralised zones in the open pit model ranges from 5 m to 30 m for the narrower mineralisation Domains.
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.*	**Software used:** • Leapfrog Geo – wireframe modelling of geological units • Snowden Supervisor - geostatistics, variography, kriging neighbourhood analysis (KNA) and block model validation. • Datamine Studio RM – wireframe modelling of mineralisation domains for the open pit model, drill hole validation, compositing, block modelling, estimation, classification and reporting. **Open Pit Model above 180mRL** • Mineralisation was domained into 24 mineralisation lenses using a nominal 1 g/t gold cut-off above the 150mRL and 4.0 g/t gold cut-off below the 150mRL. • Drillhole intercepts were composited downhole to 1m lengths and gold estimation of all mineralisation domains (including the low-grade ironstone and alteration domains) was carried out using ordinary kriging and hard boundaries between all domains. Three search passes, with increasing search distances and decreasing minimum sample numbers, were employed. • Density was estimated by Ordinary Kriging in the fresh rock material within the alteration and ironstone rock units using hard boundaries. Density variography returned a nugget from 28% to29% and a maximum

Criteria	JORC Code Explanation	Commentary
		range of 150m by 74m by 25m. Density measurements in the oxide ironstone (3.55 t/m^3) and oxide alteration (2.88 t/m^3) domains were assigned default values as there was not enough density measurements to support an estimate. • A parent block of 5m (Y) x 5m (X) x 10m (Z) with sub celling to 2.5m (Y) x 1m (X) x 5m (Z) was used. • Treatment of extreme grade values – high grade results within the deposit were capped by analysing histograms, log histograms, log probability plots and spatial analysis of individual high grades. Top cuts varied between 230g/t for all high-grade domains and 4g/t gold for the ironstone domains and 3.0 g/t gold for the alteration. Caps were applied to composites prior to estimation. **Underground model below 180mRL** • The alteration and ironstone lithology wireframes were updated by implicit modelling using Leapfrog Software to produce smoother, more lensoidal surfaces. The overall geometry and constraints of the previous geological interpretation were adhered to, and all wireframe solids were snapped to RC and diamond drillholes. Face sample lines and sludge drillholes were used to guide the mineralisation interpretation, but not necessarily snapped into the wireframe solids. • An indicator approach was applied to the material within the alteration domain to separate out the low-grade sub-domains. The categorical indicator process is based on the inflection grade threshold exhibited by the data at 0.20 g/t gold. Categorical variography returned a nugget of 25% and a maximum range of 86m by 25m by 9m. The categorical processing resulted in the blocks being divided into high and low-grade sub-domains using a 45% probability threshold; the blocks thus selected were then used to control grade estimation. • Drillhole intercepts were composited downhole to 1 m lengths and gold estimation was carried out using ordinary kriging with Dynamic Anisotropy (DA), and hard boundaries between the sub domains. DA allows the search ellipsoid to follow the vein reference plane to improve local estimation efficiency. Caps (top-cuts) were applied to the composites prior to estimation to reduce the influence of outliers, 138 g/t gold to the high-grade domain, and 0.7 g/t gold to the low-grade domain. Hard boundaries were applied between the low- and high-grade subdomains. Gold variography for the high-grade domain returned a nugget of 20% and a maximum range of 91m by 36m by 10m. Gold variography for the low grade returned a nugget of 39% and a maximum range of 81m by 81m by 15m. Three search passes were used, with increasing search distances and decreasing minimum sample numbers. • Density was estimated by Ordinary Kriging in the fresh rock within the alteration and ironstone rock units using hard boundaries. Density variography returned a nugget from 4% to 12% of the sill and a maximum range extending to 77m by 49m by 20m. Density measurements in the oxide ironstone (3.55 t/m^3) and oxide alteration (2.88 t/m^3) domains were

Criteria	JORC Code Explanation	Commentary
		assigned default values as there was not enough density measurements to support an estimate. • A parent block of 5m (Y) x 5m (X) x 10m (Z) with sub celling to 1.25m (Y) x 1.25m (X) x 2.5m (Z) was applied.
	• *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.*	• Previous recent estimates have been carried out by Optiro (2013) and Snowden (2005). Comparisons to these models are not definitive due to the markedly differing estimation methodology and domaining used. • As part of the current underground MRE update, a check estimate was made using the ironstone and alteration domains as a hard boundary for a separate CIK estimate to distinguish the low-grade mineralisation. Comparison of this alternative model shows that there is local metal underestimation in the alteration domain and that the current reported MRE validates better with the input composite data. • An alternative CIK check estimate was undertaken using a higher cut-off grade for CIK estimation in the ironstone domain. This check model returned a 3% lower metal which confirms that a CIK approach to sub-domaining out low-grade mineralisation at the Chariot deposit is an appropriate and robust approach.
	• *The assumptions made regarding recovery of by-products.*	• No by-product recovery has been assumed.
	• *Estimation of deleterious elements or other non-grade variables of economic significance (e.g., sulphur for acid mine drainage characterisation).*	• No other elements were estimated.
	• *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.*	• The parent block size is 5m (Y) x 5m (X) x 10m (Z). This is based upon an average drillhole spacing of 10 m x 10 m and optimised to the mineralisation direction of east-west.
	• *Any assumptions behind modelling of selective mining units.*	• The Chariot deposit has been mined by both open pit and underground methods. The selectivity implied by the current underground MRE model is considered to be appropriate for a bulk tonnage underground extraction style gold deposit to be exploited. Internal dilution has been applied during the estimate to account for the pinch and swell sheared nature of the mineralisation domains. • The selectivity implied by the open pit MRE model is considered to be commensurate with an open pit cut back model for surface mining.
	• Any assumptions about correlation between variables.	• No correlated variables have been investigated or estimated.
	• *Description of how the geological interpretation was used to control the resource estimates.*	• The geological interpretation was used at all stages to control the estimation. It was used to guide the orientation and shape of the mineralised domains and the low-grade subdomains. These were then used as boundaries for the grade estimation, using the trend of the mineralisation and geological units to control the search ellipse direction and the major controls on the distribution of grade.
	• *Discussion of basis for using or not using grade cutting or capping.*	• Top cuts were used in the estimate to control the over-influence of high-grade outliers. Top cuts, where appropriate, were applied on an individual domain basis.
	• *The process of validation, the checking process used, the comparison of model*	• Validation checks of the estimate occurred by way of global and local statistical comparison, comparison of

Criteria	JORC Code Explanation	Commentary
	data to drillhole data, and use of reconciliation data if available.	volumes of wireframe versus the volume of the block model, comparison of the model average grade (and general statistics) and the declustered sample grade by domain, swath plots by northing, easting and elevation, visual check of drill data versu model data and comparison of global statistics for check estimates.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• The tonnage was estimated on a dry basis.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied*	• For the open pit model, a nominal lower cut-off grade of 1.0g/t gold was utilised for interpreting geological continuity of the mineralisation. For reporting, the cut-off grades applied to the estimate were 1.0g/t gold for reporting above 180mRL • For the underground model a nominal lower cut-off grade of 0.2g/t gold, with a 45% probability threshold, was utilised for discriminating the low and high-grade domains within the alteration domain. For reporting, the cut-off grades applied to the estimate were 2.0g/t gold reporting below the 180mRL.
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.*	• The open pit Mineral Resource is constrained to a maximum vertical depth of 150 m below surface to satisfy the reasonable prospect of eventual economic extraction criteria for JORC compliance. The open pit Mineral Resource has been reported within a pit optimisation shell run by Mining Consultants using assumed cost scenarios to define the material with Reasonable Prospect of Economic Extraction. • The underground Mineral Resource has been reported below 180mRL using a cut-off grade of 2.0 g/t gold, which is considered the lower grade required for bulk tonnage underground mining.
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.*	• An approximate metallurgical recovery of 90% has been assumed in determining Reasonable Prospects of Eventual Economic Extraction, based on historical production data. The mine was in recent production and treated at a conventional CIP gold plant at Warrego. There is extensive data supporting that gold can be extracted using conventional processes.
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*	• The deposit lies within granted Mining Leases ML23216, MLC176, MLC177. • The Chariot project is located in a mature gold mining district, with mining in the area occurring over the past 100 years. There are no major water courses in the project area, although ephemeral streams cut across the project. • The current assumption of waste rock being of no environmental significance is based on local experience in numerous greenschist facies gold deposits which contain significant carbonate mineralogy as part of the mineralisation and waste

Criteria	JORC Code Explanation	Commentary
	reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made	rock. The mineralisation is a low sulphidation type with limited acid forming potential. • It is assumed that surface waste dumps will be used to store waste material and conventional storage facilities will be used for the process plant tailings. • The deposit has been mined in the past. Existing waste dumps are present, with no signs or records of environmental issues.
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 was estimated using ordinary kriging and hard boundaries in the ironstone and alteration domains below the base of oxidation. Density assignments in the transitional and oxide domains are based on default values based on the mean of the recorded density measurements within these zones. The assumed density values were derived from 4,488 experimental data primarily based on Archimedean determinations from predominantly unweathered core pieces. The values assigned are similar to those assumed in previous estimates.
	• *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.*	• Density was measured using a standard well-documented procedure, the immersion or Archimedes method. Density has been calculated in both the ironstone and alteration zones and on both mineralised and barren zones.
	• *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	• Samples taken were coded by lithology and weathering. Averages were derived within each weathering zone and this value then used to code the block model for the oxide and transition zones. Results within each weathering zone (oxide, transitional and fresh) compared well to previous model bulk density application.
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.*	• The Mineral Resource has been constrained to a maximum vertical depth of 500 m below surface. • Blocks have been classified as Indicated and Inferred based on drill hole spacing, geological continuity and estimation quality parameters. • The Indicated Mineral Resource is supported by drilling with nominal 20 m x 20 m spacing, supported by between 15 and 20 samples. Geological continuity is demonstrated by the geological interpretation, pit and underground mapping and mining. Geostatistical confidence is demonstrated by a slope of regression above 0.4. • The Inferred Mineral Resource was defined where there was a low to moderate level of geological confidence in geometry, there was still continuity of grade, and drill spacing was greater than 20 m. Inferred blocks are supported by less than 15 samples in the estimate. Geological support was defined to a lower level of confidence in terms of continuity and extent. Geostatistical confidence is demonstrated by a slope of regression less than 0.4. • Unclassified mineralisation has not been included in this Mineral Resource. This is the material that has no estimated grades above 2.0 g/t gold is material and which is unsupported by geology and drilling. • The geotechnically unstable zone surrounding mining voids that was defined by previous operators was reviewed by a program of geotechnical core logging and geotechnical consultant review. This material was

Criteria	JORC Code Explanation	Commentary
		assessed as mineable. Given the reasonable prospect of economic extraction this material was given an indicated status were supported by drilling and geological continuity. This upgraded (previously reported) material in the open pit MRE (previously reported in 2013) from Inferred to Indicated.
	• *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).*	• Grade reliability, volume uncertainty and assay uncertainty have all been considered in the assignment of Mineral Resource categories. Consideration has been given to all relevant factors in the classification of the Mineral Resource.
	• *Whether the result appropriately reflects the Competent Person's view of the deposit.*	• The classification reflects the Competent Person's view of the deposit.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• No external audits have been conducted on the Mineral Resource estimate. • Optiro undertakes rigorous internal peer reviews during the compilation of the Mineral Resource model and reporting.
	• *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*	• With further drilling it is expected that there will be variances to the tonnage, grade, and metal of the deposit. The Competent Person expects that these variances will not impact on the economic extraction of the deposit. One of the main issues is continuity and thickness variations, and these will continue to be a key focus of mining as the deposit is exploited, and locally there will be variable outcomes as grade control progresses. The Competent Person considers the Mineral Resource categories to be appropriate with respect to these risks. • It is the Competent Person's view that this Mineral Resource estimate is appropriate to the type of deposit and proposed mining style. The Tennant Creek ironstone-hosted style of mineralisation is well understood and has a substantial mining history to underpin the decisions made in preparing this Mineral Resource estimate.
	• *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*	• The Mineral Resource classification is appropriate at the global scale.
	• *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available*	• A review of production data and underground surveyed voids of the Chariot mine was undertaken by ERM. The purpose of the review was to confirm spatially what ore material had been mined previously. The review confirmed that the 3D void model used previously in the 2013 MRE update by Optiro was accurate based on all historical information available. • Chariot was mined (open pit and underground) by Giants Reef Mining from January 2003 until November 2005, with production grades meeting the planned grades expected through the Warrego Processing Plant.