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ASX Announcement

22 July 2021

ACQUISITION TO ELEVATE MUNGARI TO A CORNERSTONE ASSET AND A$400 MILLION EQUITY RAISING

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Evolution Mining Limited (ASX:EVN) ("**Evolution**" or the "**Company**") is pleased to announce that it has entered into an agreement with Northern Star Resources Limited ("**Northern Star**") to acquire the Acquisition Assets (as defined below) (the "**Transaction**").

The Acquisition Assets, located in the Eastern Goldfields of Western Australia, comprise:

- 100% interest in the Kundana Operations ("**Kundana Operations**")
- 51% interest in the East Kundana Joint Venture ("**EKJV**")
- 100% interest in certain tenements comprising the Carbine Project ("**Carbine**")
- 75% interest in the West Kundana Joint Venture ("**WKJV**") (together, the "**Acquisition Assets**")

The main Acquisition Assets are located within 8km of Evolution's Mungari Operations and represent an important strategic opportunity for Evolution to consolidate the region, optimise the value of its existing infrastructure and capture significant operational synergies.

Evolution has agreed to pay Northern Star A$400 million in cash upon closing of the Transaction. The Transaction will be funded by an A$400 million fully underwritten institutional placement ("**Institutional Placement**") and is accompanied by a non-underwritten share purchase plan ("**SPP**") (collectively the "**Equity Raising**"). Associated transaction costs[1] will be funded through cash and available liquidity. Any excess funds raised via the Equity Raising will be used to fund general corporate purposes.

The Transaction is subject to the receipt of all consents required under the WA Mining Act to transfer legal title of the Acquisition Assets to Evolution, with completion expected in late August 2021.

Transaction Highlights

- A logical, value accretive and opportunistic acquisition of a portfolio of high-grade underground operating mines located within 8km[2] from Evolution's Mungari Mill
- Builds on strong existing Maduwongga, Marlinyu Ghoorlie and community partnerships
- Provides pathway to an annual production objective of 200,000 ounces at Mungari
- Consolidates a 1,027km² land package and increases strategic presence in the Kalgoorlie district
- Unlocks compelling operational synergies
- Improved near-term grade profile anticipated to increase production and cash flow
- More than doubles Mungari Mineral Resources and Ore Reserves[3] to significantly extend mine life
- Expected to be accretive on Production, Mineral Resources and net mine cash flow per share bases

[1] Includes stamp duty and Transaction related fees
[2] Refers to proximities of Kundana Operations and EKJV deposits
[3] Acquisition Assets Mineral Resources and Ore Reserves are provided in Appendix 3 and 4 of this announcement and reported as at 31 March 2021. Those Mineral Resources and Ore Reserves have been prepared using a gold price assumption of A$2,250/oz to estimate Mineral Resources and A$1,750/oz to estimate Ore Reserves. Evolution's Mineral Resources and Ore Reserves are provided in Appendix 2 of this announcement

Commenting on the Transaction, Evolution's Executive Chairman, Jake Klein said:

"This is a pivotal transaction that will transform Mungari to establish the operation as the fourth cornerstone asset in the Evolution portfolio. It presents a unique strategic opportunity for Evolution to consolidate the Eastern Goldfields region given our existing presence at Mungari, resulting in Evolution being one of the largest tenement holders in the Kalgoorlie region. The Acquisition Assets are located in close proximity to Mungari's processing infrastructure, with all key mining operations and identified orebodies located within 8km of the Mungari mill[4]. This unlocks the ability to capture valuable unique synergies and provides significant operational flexibility for the combined operations.

The Transaction improves Mungari on a production, mine life, and Mineral Resources basis. We are also excited about the exploration potential that the consolidated land package holds, which represents further mine life extension opportunities for Mungari. It also improves the overall scale, quality and mine life of the portfolio, which continues to operate exclusively in Tier 1 mining jurisdictions.

Finally, we look forward to partnering with Rand and Tribune at the EKJV as we seek to optimise the value of this operation for the benefit of all shareholders."

Integration with Evolution's Mungari Operations

Evolution has identified a range of opportunities to further unlock value through the consolidation of its existing Mungari Operations and the Acquisition Assets, with the objective of reducing costs, increasing production and extending mine life.

The Transaction will allow Evolution to consolidate the operations into an integrated operating platform, which has various benefits, including:

- A >85% reduction in haulage distance, given the proximity of the Mungari Mill to the Acquisition Assets relative to where the majority of ore is currently processed at Northern Star's Kanowna Belle Mill (which is a haulage distance of 52–55km[5])
- Mungari Mill processing costs per tonne are currently materially lower than the Kanowna Belle Mill with additional cost benefits expected to be realised through the planned mill expansion to 4.2Mtpa
- Potential unit cost savings from corporate overheads and site general & administration expenses from consolidation of assets
- Opportunity to optimise Mungari's life of mine plan and improve operational flexibility through access to multiple high-grade ore sources
- Combination of skills to benefit from best practice mining across integrated operations

Overview of the Acquisition Assets

The Acquisition Assets, located in the Eastern Goldfields of Western Australia, comprise of the Kundana Operations (100%), a 51% interest in the EKJV, the Carbine Project (100%) and a 75% interest in the WKJV.

The Kundana Operations consist of the Millennium, Pope John and Moonbeam underground operating areas, with future underground production planned from additional mining areas. Significant potential exists for mine life extension through near-mine exploration upside.

The EKJV is an unincorporated joint venture with Rand Mining Limited ("**Rand**") and Tribune Resources Limited ("**Tribune**")[6]. Through the Transaction, Evolution will acquire a 51% interest in the EKJV and hold operatorship of the EKJV operations, which comprise three primary underground mines: Rubicon, Hornet and Pegasus (collectively, "**RHP**").

[4] Refer to footnote 2 above
[5] Some ore from the Kundana operation is also processed through the South Kalgoorlie and Carosue Dam mills with haul distances at least as far as Kanowna Belle
[6] Evolution also holds a 21% interest in Tribune Resources Limited

The Carbine Project lies to the north of Kundana, nearby Evolution's Castle Hill deposits, with existing Mineral Resources and Ore Reserves. Four open pits are planned in the area.

As at 31 March 2021, the Acquisition Assets had total Ore Reserves of 579koz grading 4.0g/t gold and Mineral Resources of 2,443koz grading 4.1g/t gold[7].

Proximity of the Acquisition Assets and Evolution's Mungari Operations

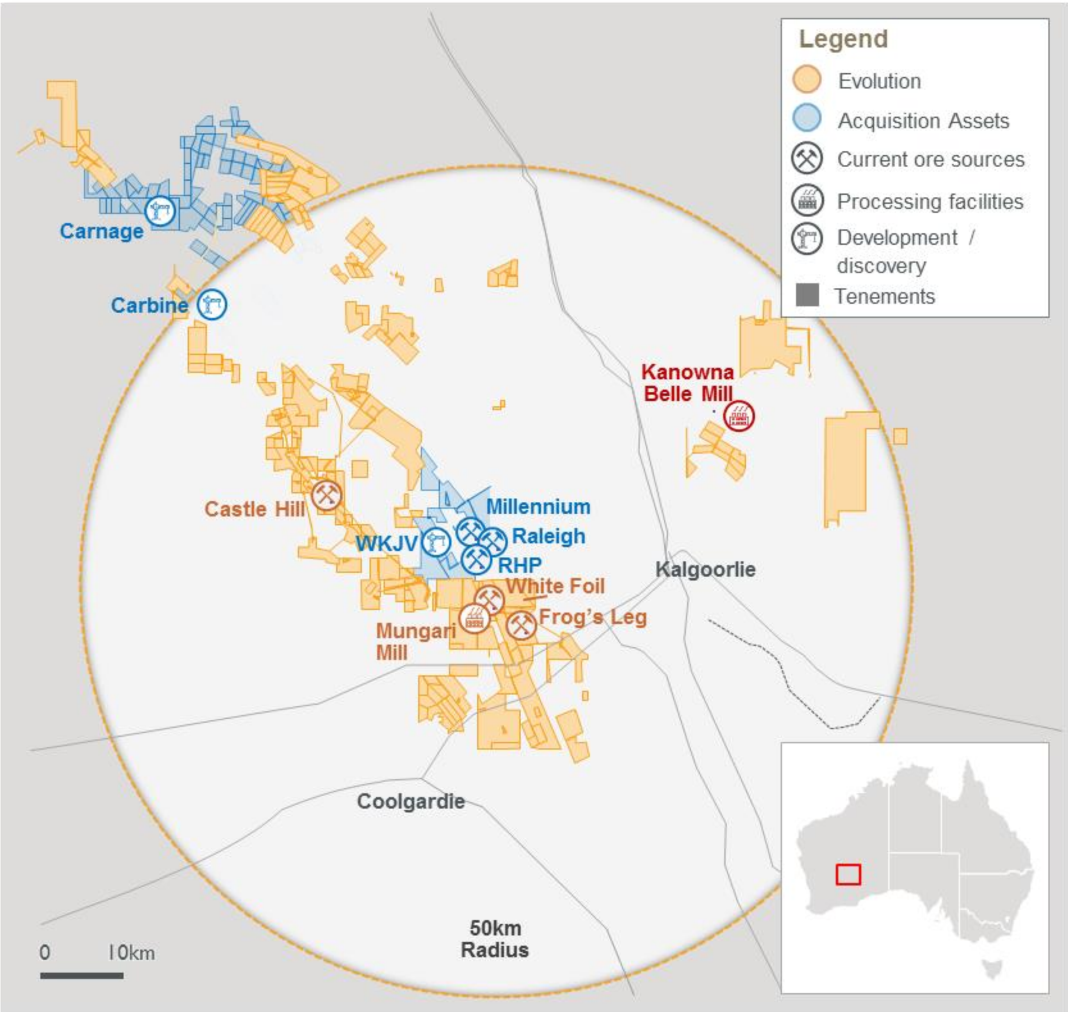

Figure 1: Map of the Kalgoorlie Eastern Goldfields region, highlighting the Acquisition Assets and Mungari tenements

[7] Refer to footnote 3 above

Updated Group Three-year Outlook

As a result of the Transaction, Evolution's Group Three-year gold production outlook has increased to 700 – 760koz in FY22; 815 – 875koz in FY23; and 940 – 1,010koz in FY24. This represents an increase in production of 30koz in FY22; 65koz in FY23; and 60koz in FY24. The Group three-year All-In Sustaining Cost ("**AISC**") outlook is unchanged at A$1,220 – A$1,280/oz in FY22; A$1,125 – A$1,185/oz in FY23; and A$1,170 – A$1,230/oz in FY24.

Representing the quality of the Transaction, the Three-year capital investment outlook changes are minimal with Sustaining Capital increasing by A$5 million per annum and Major Capital unchanged. The Three-year Sustaining Capital outlook is A$125 – 155 million in FY22; A$120 – 160 million in FY23 and A$125 – 165 million in FY24. Major Capital Three-year outlook is A$440 – 510 million in FY22; A$490 – 560 million in FY23; and A$290 – 360 million in FY24.

Group Three-year Outlook comprises 3% Proved Ore Reserves, 79% Probable Ore Reserves, 6% Indicated Mineral Resources, 10% Inferred Mineral Resources and 3% Exploration Targets. The revised Three-year Outlook for Mungari does not compromise of any Exploration Targets.

There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production targets will be realised.

The potential quantity and grade of the Exploration Targets are conceptual in nature and there has been insufficient exploration to determine a Mineral Resource and there is no certainty that further exploration work will result in the determination of Mineral Resources or that the production target itself will be realised. Information on the Exploration Targets is provided in the initial release entitled "Cowal Underground Board Approval, Red Lake Growth Update and Group Three-year Outlook" released to the ASX on 16 July 2021 and available to view at www.evolutionmining.com.au.

Material assumptions for Evolution assets

Material assumptions for Evolution assets on which the Group Three-year Outlook is based are presented in ASX releases entitled "Annual Mineral Resources and Ore Reserves Statement", "Annual Mineral Resources and Ore Reserves Statement" and "Cowal Underground Board Approval, Red Lake Growth Update and Group Three-year Outlook" released to the ASX on 17 February 2021, 12 February 2020 and 16 July 2021 respectively and are available to view at www.evolutionmining.com.au.

The material assumptions upon which the Group Three-year Outlook forecast financial information is based are: Gold A$2,200/oz; Silver A$27.50/oz; Copper A$11,000/t; and Diesel A$80/bbl. The All-In Sustaining Cost Outlook is based on a Gold price of A$2,200/oz (Royalties) and a Copper price of A$11,000/t (by-product credits).

Material assumptions for Acquisition Assets

The material assumptions for the Acquisition Assets are presented in Appendix 4 Acquisition Assets JORC Code Table 1 of this release. Those Mineral Resources and Ore Reserves have been prepared based on estimation criteria using a gold price assumption of A$2,250/oz to estimate Mineral Resources and A$1,750/oz to estimate Ore Reserves.

Competent Persons Statement

The Ore Reserves and Mineral Resources underpinning the Group Three-year Outlook have been prepared by Competent Persons in accordance with the requirements of the JORC Code 2012.

Equity Raising

The A$400 million cash consideration for the Transaction will be funded via the Institutional Placement.

The Institutional Placement will involve the issuance of approximately 104 million new fully paid ordinary Evolution shares ("**New Shares**") to certain eligible institutional investors to raise approximately A$400 million at an issue price of A$3.85 per share ("**Issue Price**").

The Issue Price represents a 5.4% discount to the closing price of Evolution shares of A$4.07 as at market close on Wednesday, 21 July 2021, being the last day of trading in Evolution shares prior to the announcement of the Institutional Placement.

The Institutional Placement is being conducted within Evolution's existing capacity under ASX Listing Rule 7.1 and accordingly no shareholder approval is required in connection with the Institutional Placement (or the SPP that follows).

It is expected that Evolution's trading halt will be lifted upon announcement of the completion of the Institutional Placement, which is expected to occur on Friday, 23 July 2021. Settlement of the Institutional Placement is expected to occur on Tuesday, 27 July 2021, with the New Shares to be issued and commence trading on the ASX on Wednesday, 28 July 2021. The New Shares will rank equally with Evolution's existing shares with effect from their issue and will be entitled to the dividend for the six months ending 30 June 2021.

J.P. Morgan Securities Australia Ltd ("**J.P. Morgan**") is acting as the sole lead manager, bookrunner and underwriter of the Institutional Placement.

Share Purchase Plan Details

In addition to the Institutional Placement, Evolution will offer all eligible existing shareholders (including retail shareholders) on Evolution's share register at 7:00pm (Sydney time) on Wednesday, 21 July 2021 with registered addresses in Australia or New Zealand the opportunity to apply for new Evolution shares through the SPP without brokerage fees.

The price paid by eligible shareholders for SPP Shares will be the lesser of:

- the Issue Price
- a 2.5% discount (rounded down to the nearest cent) to the 5-day VWAP of Evolution shares up to, and including, the closing date of the SPP (expected to be Friday, 20 August 2021)

Evolution intends to target a raising of up to A$50 million via the SPP[8].

The application for new shares under the SPP will be capped at the statutory maximum allowed of A$30,000 per eligible shareholder, across all their holdings.

The SPP offer period will open on Thursday, 29 July 2021 and close at 5:00pm (Sydney time) on Friday, 20 August 2021, subject to Evolution's discretion to amend these dates. Shares issued under the SPP will rank equally with Evolution's existing shares with effect from their issue and will be entitled to the dividend for the six months ending 30 June 2021.

The terms and conditions of the SPP will be set out in an SPP offer booklet, which will be despatched to eligible Evolution Shareholders by their preferred method of contact as well as a separate announcement to ASX in due course. Participation in the SPP is optional and Evolution reserves the right to scale back any applications under the SPP.

Shareholders who have any questions regarding the SPP should contact Evolution's SPP Information Line on 1300 222 378 (within Australia or outside Australia) at any time from 8.30am to 5.30pm (Sydney time), Monday to Friday.

[8] Evolution may decide to accept applications (in whole or in part) that result in the SPP raising more or less than this amount in its absolute discretion. Further details will be provided in the SPP Offer Booklet expected to be despatched to eligible shareholders on Thursday, 29 July 2021.

Equity Raising Timetable

Event	Date (2021)
Record date for SPP	7:00pm (Sydney time) Wednesday, 21 July
Trading halt and announcement of Institutional Placement and SPP	Thursday, 22 July
Institutional Placement bookbuild	Thursday, 22 July
Announcement of outcome of Institutional Placement	Friday, 23 July
Trading halt lifted – trading resumes on ASX	Friday, 23 July
Settlement of New Shares issued under the Institutional Placement	Tuesday, 27 July
Allotment and normal trading of New Shares issued under the Institutional Placement	Wednesday, 28 July
SPP offer opens and SPP offer booklet is dispatched	Thursday, 29 July
SPP offer closes	5:00pm (Sydney time) Friday, 20 August
SPP issue and allotment date	Friday, 27 August
SPP shares commence trading	Monday, 30 August
Dispatch of holding statement	Monday, 30 August

The above timetable is indicative only and subject to change. The commencement and quotation of New Shares is subject to approval from the ASX, subject to the requirements of the Corporations Act, the ASX Listing Rules and other applicable rules. Evolution reserves the right to amend this timetable at any time without notice, including extending the period for the SPP or accepting late applications, either generally or in particular cases, or to withdraw or vary the Equity Raising in its absolute discretion.

Investor Presentation

Further details of the Transaction and Equity Raising are detailed in the Investor Presentation released on the ASX platform today.

Evolution's Advisers

Treadstone Resource Partners is acting as financial adviser and Allens is acting as legal adviser in relation to the Transaction and Equity Raising.

J.P. Morgan is acting as the sole lead manager, bookrunner and underwriter in relation to the Institutional Placement.

Conference Call

Jake Klein (Executive Chairman) and Lawrie Conway (Finance Director and Chief Financial Officer) will host a conference call for investors, analysts and media to discuss this announcement at 9:30am Sydney time on 22 July 2021. Access detailed are provided below.

Conference Call Details

Participants can pre-register for the call at the link below. They will receive a calendar invite and a unique code which is to be quoted when dialing into the call:

https://s1.c-conf.com/diamondpass/10015375-2jbndq.html

Replay numbers:

- Australia: 1800 265 784
- Australia Local: +61 7 3107 6325
- Replay PIN: 10015375

Replay available until 27 July 2021.

This announcement has been authorised for release to the ASX by Evolution's Board of Directors.

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About Evolution Mining

Evolution Mining is a leading, globally relevant gold miner. Evolution operates five wholly-owned mines – Cowal in New South Wales, Mt Rawdon and Mt Carlton in Queensland, Mungari in Western Australia, and Red Lake in Ontario, Canada. In addition, Evolution holds an economic interest in the Ernest Henry copper-gold mine in Queensland.

Important Notice

This announcement is not financial product or investment advice, a recommendation to acquire securities or accounting, legal or tax advice. It does not constitute an invitation or offer to apply for securities. It has been prepared without taking into account the objectives, financial or tax situation or needs of individuals. Before making an investment decision, prospective investors should consider the appropriateness of the information having regard to their own objectives, financial and tax situation and needs and seek legal and taxation advice appropriate for their jurisdiction. Evolution is not licensed to provide financial product advice in respect of an investment in securities.

Not for distribution or release in the United States

This announcement has been prepared for publication in Australia and may not be distributed or released in the United States. This announcement does not constitute an offer to sell, or the solicitation of an offer to buy, any securities in the United States or to any person who is acting for the account or benefit of any person in the United States (to the extent such a person is acting for the account or benefit of a person in the United States). The New Shares described in this announcement have not been, and will not be, registered under the U.S. Securities Act of 1933, as amended (the "U.S. Securities Act") and may not be offered or sold, directly or indirectly, in the United States or to any person acting for the account or benefit of a person in the United States unless they have been registered under the U.S. Securities Act, or are offered and sold in a transaction exempt from, or not subject to, the registration requirements of the U.S. Securities Act and any other applicable US state securities laws.

Forward-looking statements

This announcement includes forward-looking statements, including forward looking statements relating to the future operation of the Company and the Acquisition Assets. These forward-looking statements are based on the Evolution's expectations and beliefs concerning future events. Forward-looking statements are necessarily subject to risks, uncertainties and other factors, many of which are outside the control of the Evolution, which could cause actual results to differ materially from such statements. Evolution makes no undertaking to subsequently update or revise the forward-looking statements made in this announcement to reflect the circumstances or events after the date of this announcement.

You are strongly cautioned not to place undue reliance on forward-looking statements, particularly in light of the current economic climate and the significant volatility, uncertainty and disruption caused by COVID-19.

Reserves and resources reporting

Investors should note that it is a requirement of the ASX listing rules that the reporting of ore reserves and mineral resources in Australia comply with the Australasian Joint Ore Reserves Committee Code for Reporting of Mineral Resources and Ore Reserves (the "JORC Code"), whereas mining companies in other countries may be required to report their ore reserves and/or mineral resources in accordance with other guidelines (for example, SEC Industry Guide 7 in the United States). Investors should note that while the Company's and Northern Star's Mineral Resource and Ore Reserve estimates comply with the JORC Code, they may not comply with the relevant guidelines in other countries. In particular, they do not comply with the mining disclosure requirements of the United States under SEC Industry Guide 7 or the new mining disclosure rules adopted by the SEC for SEC-registered mining companies on 31 October 2018 ("New SEC Mining Disclosure Rules"), which govern the disclosure of mineral reserves (and, under the New SEC Mining Disclosure Rules, mineral resources) in registration statements and other documents filed with the SEC. SEC Industry Guide 7 does not recognise classifications other than proven and probable reserves and, as a result, the SEC historically has not permitted mining companies to disclose their mineral resources in SEC filings. Under the New SEC Mining Disclosure Rules, the SEC now recognizes estimates of "measured mineral resources", "indicated mineral resources" and "inferred mineral resources." In addition, under the New SEC Mining Disclosure Rules, the SEC has amended its definitions of “proven mineral reserves” and “probable mineral reserves” to be “substantially similar” to the corresponding standards under the JORC Code. While the New SEC Mining Disclosure Rules will more closely align SEC disclosure requirements for mining properties with current industry and global regulatory practices and standards, including the JORC Code, and will permit SEC registered mining companies to disclose information concerning their mineral resources, in addition to its mineral reserves, in its SEC filings, investors should not assume that mineral resources classified under the JORC Code will be classified as mineral resources under the New SEC Mining Disclosure Rules, or that quantities reported as "resources" will be converted to reserves under the JORC Code, the New SEC Mining Disclosure Rules or any other reporting regime or that the Company will be able to legally and economically extract them.

Appendix 1: Summary of Key Terms of the Transaction

Item	Description
Share and Asset Sale Agreement (“**SASA**”)	Under a Share and Asset Sale and Purchase Agreement between Northern Star Resources Limited ("**NSR**"), Northern Star (Kanowna) Pty Limited ("**NSK**"), Northern Star Mining Services Limited and Toledo Holding (Ausco) Pty Limited, Toledo Tenement Holdings Pty Limited and Evolution Mining (collectively, "**Evolution**"), Evolution has agreed to acquire the following assets: ▪ 100% interest in the Kundana Operations by acquiring all of the shares in Kundana Gold Pty Ltd; ▪ 51% interest in the East Kundana Joint Venture by acquiring all of the shares in Gilt-Edged Mining Pty Limited ("**GEM**"); ▪ 75% interest in the West Kundana Joint Venture by acquiring all of the shares in GEM; and ▪ certain tenements comprising the Carbine Project.
Purchase Price	A$400 million payable on completion.
Conditions Precedent / timing to closing	▪ Ministerial consent under the Mining Act to transfer legal title to certain tenements forming part of the Carbine Project. ▪ Completion to occur 20 Business Days following satisfaction or waiver of the Condition Precedent. ▪ Cut-off date for satisfaction or waiver of the Condition Precedent is 60 days after the SASA is executed or as otherwise agreed.
Warranty regime	Customary warranty package for a transaction of this nature, including warranties that relate to title, capacity and authority, ownership of shares and material assets (including mining tenements), real property, native title, aboriginal heritage, employees, litigation, disclosure and tax.
Interim Period Covenants	Standard interim period covenants to provide customary protections such as conducting the Gold Operations in the ordinary course and consistent with business practices, restrictions on disposing assets or approving capital expenditure above certain monetary thresholds, and maintaining and operating the Assets in accordance with standard mining industry practices.
Working Capital Adjustment & Locked Box	▪ Working capital adjustment to apply to the period from execution of the SASA and 31 July 2021. ▪ A Locked Box mechanism will then apply from 1 August to the date on which Completion occurs.
Employees	Evolution will make offers to an agreed list of employees on the same or substantially similar terms.
Evolution guarantee and indemnity	Evolution Mining Limited provides a standard Parent Company Guarantee.
Termination rights	Standard termination rights, including for the Condition Precedent not being satisfied or waived by the cut-off date, for failing to comply with completion obligations, for triggering a material adverse change, for a breach of interim period covenants, and a reciprocal right for breach of a fundamental warranty (ie, title, capacity and authority).

APPENDIX 1: SUMMARY OF KEY TERMS OF THE TRANSACTION

Item	Description
Transitional services	Standard transitional services arrangements have been agreed to ensure that Evolution and NSR will work collaboratively to plan and implement a smooth, safe and timely transition in respect of ownership of the assets.
Rand and Tribune Indemnity	In 2019, Rand Mining, Rand Exploration NL and Tribune Resources Limited ("**Rand and Tribune Group**") commenced proceedings against GEM, EKJV Management Pty Ltd ("**EKJVM**") and NSK in relation to the EKJV and ore treatment arrangements for the ore produced from those operations. The parties are waiting for the court to hand down its decision. NSR has given an indemnity to Evolution in respect of any liability of GEM or EKJVM to pay damages as a result of that litigation, together with a capped indemnity to compensate Evolution for losses in value it may suffer if it cannot process GEM's share of EKJV ore at the Mungari Mill.

Evolution MINING

APPENDIX 2: EVOLUTION DECEMBER 2020 MINERAL RESOURCES AND ORE RESERVES

December 2020 Group Gold Mineral Resource Statement

Gold			Measured			Indicated			Inferred			Total Resource			CP[4]	Dec 19 Resource
Project	Type	Cut-Off	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)		Gold Metal (koz)
Cowal[1]	Open pit	0.35	20.63	0.46	306	209.19	0.85	5,724	22.90	0.84	615	252.71	0.82	6,645	1	6,089[1]
Cowal	UG	1.5	-	-	-	22.78	2.55	1,868	14.75	2.43	1,151	37.53	2.50	3,019	1	2,502
Cowal[1]	**Total**		**20.63**	**0.46**	**306**	**231.97**	**1.02**	**7,593**	**37.65**	**1.46**	**1,765**	**290.24**	**1.04**	**9,664**	**1**	**8,591**
Red Lake[3]	**Total**	**3.3**	**-**	**-**	**-**	**28.09**	**7.45**	**6,371**	**19.72**	**6.82**	**4,322**	**47.81**	**7.19**	**11,053**	**2**	**-**
Mungari[1]	Open pit	0.5	-	-	-	37.55	1.19	1,443	6.80	1.35	296	44.36	1.22	1,739	3	1,849
Mungari	UG	1.8	0.34	5.09	56	1.78	3.25	187	2.58	2.46	204	4.71	2.95	448	3	560
Mungari[1]	**Total**		**0.34**	**5.09**	**56**	**39.34**	**1.29**	**1,629**	**9.39**	**1.66**	**500**	**49.07**	**1.39**	**2,186**	**3**	**2,409**
Mt Rawdon[1]	**Total**	**0.21**	**7.29**	**0.34**	**81**	**32.91**	**0.60**	**630**	**10.47**	**0.52**	**175**	**50.66**	**0.54**	**885**	**4**	**1,062**
Mt Carlton[1]	Open pit	0.35	-	-	-	6.96	0.70	157	2.17	2.56	178	9.12	1.14	335	5	343[1]
Mt Carlton[3]	UG	2.55	-	-	-	0.33	4.26	45	0.08	3.19	7.88	0.40	4.05	52	5	75
Mt Carlton[1]	**Total**		**-**	**-**	**-**	**7.28**	**0.86**	**201**	**2.24**	**2.58**	**186**	**9.53**	**1.26**	**387**	**5**	**418**
Ernest Henry[2]	**Total**	**0.9**	**4.29**	**0.51**	**70**	**45.43**	**0.61**	**896**	**8.98**	**0.61**	**177**	**58.70**	**0.61**	**1,143**	**6**	**1,288**
Marsden	**Total**	**0.2**	-	-	-	**119.83**	**0.27**	**1,031**	**3.14**	**0.22**	**22**	**122.97**	**0.27**	**1,053**	**1**	**1,053**
Total			**32.55**	**0.49**	**513**	**504.85**	**1.15**	**18,711**	**91.59**	**2.43**	**7,147**	**628.99**	**1.30**	**26,371**		**15,167**

Data is reported to significant figures to reflect appropriate precision and may not sum precisely due to rounding. Mineral Resources are reported inclusive of Ore Reserves. UG denotes underground.

[1]Includes stockpiles [2]Ernest Henry Operation cut-off 0.9% CuEq [3]Red Lake cut-off is 3.3g/t Au except for Cochenour (3.0g/t Au) and HG Young (3.2g/t Au) deposits

[4]Group Mineral Resources Competent Person (CP) Notes refer to 1. James Biggam; 2. Dean Fredericksen; 3. Brad Daddow; 4. Tim Murphy; 5. Ben Coutts; 6. Jessica Shiels (Glencore)

[5]The Mineral Resource for the Mt Carlton A39 underground deposit has been estimated using a AuEq (g/t) cut-off of 4.4g/t to enable quotation of this silver rich deposit as equivalent gold ounces.

The gold equivalent (AuEq) calculation accounts for silver recoveries determined from metallurgical test work and uses an assumed silver price of A$26/oz and gold price of A$2,000/oz as per the below equation.

AuEq=26/2,000*0.8203*silver grade (Silver price/Gold price*silver recovery*silver grade). It is the Competent Persons opinion that the assigned cut-off criteria satisfies the JORC Code requirement that the reported Mineral Resource meets reasonable prospects of eventual economic extraction and that the silver present within the A39 deposit can be economically recovered.

Full details of the Ernest Henry Mineral Resources and Ore Reserves are provided in the report entitled "Glencore Resources and Reserves as at 31 December 2020" released 3 February 2021 and available to view at www.glencore.com. The Company confirms that it is not aware of any new information or data that materially affects the information included in the Reports and that all material assumptions and parameters underpinning the estimates in the Reports continue to apply and have not materially changed except for Cowal Underground. This revised information is provided in ASX release entitled 'Cowal Underground Board Approval, Red Lake Growth Update and Group Three-year Outlook" released on 16 July 2021 and available to view at www.evolutionmining.com. The Company confirms that the form and context in which the Competent Persons' findings are presented have not been materially modified from the Reports. Evolution Mining has an economic interest earning rights to 100% of the revenue from future gold production and 30% of future copper and silver produced from an agreed area, and 49% of future gold, copper and silver produced from the Ernest Henry Resource outside the agreed area. The Ernest Henry Resource is reported here on the basis of economic interest and not the entire mine resource. The above reported figures constitute 77% of the total Ernest Henry gold resource.

APPENDIX 2: EVOLUTION DECEMBER 2020 MINERAL RESOURCES AND ORE RESERVES

December 2020 Group Gold Ore Reserve Statement

Gold			Proved			Probable			Total Reserve				Dec 19 Reserves
Project	Type	Cut-Off	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)	Competent Person[4]	Gold Metal (koz)
Cowal[1]	Open pit	0.45	20.60	0.46	306	104.72	0.96	3,241	125.32	0.88	3,547	1	3,634[1]
Cowal	Underground	1.8	-	-	-	12.55	2.59	1,045	12.55	2.59	1,045	2	
Cowal	**Total**		**20.60**	**0.46**	**306**	**117.27**	**1.14**	**4,287**	**137.87**	**1.04**	**4,593**		**4,438**
Red Lake[3]	**Total**	**4.4**	**-**	**-**	**-**	**13.16**	**6.90**	**2,929**	**13.16**	**6.90**	**2,929**	**3**	
Mungari	Underground	2.9	**-**	**-**	**-**	0.30	3.57	35	0.30	3.57	35	4	68
Mungari[1]	Open pit	0.75	-	-	-	9.68	1.35	419	9.68	1.35	419	4	500
Mungari[1]	**Total**		-	-	-	**9.98**	**1.41**	**454**	**9.98**	**1.41**	**454**	**4**	**568**
Mt Rawdon[1]	**Open pit**	**0.3**	**4.26**	**0.41**	**56**	**15.82**	**0.67**	**342**	**20.08**	**0.62**	**398**	**5**	**538**
Mt Carlton[1]	Open pit	0.8	-	-	-	6.13	0.63	124	6.13	0.63	124	6	270[1]
Mt Carlton[5]	Underground	3.2	-	-	-	0.30	4.52	44	0.30	4.52	44	6	40
Mt Carlton[1]	**Total**		-	-	-	**6.43**	**0.81**	**168**	**6.43**	**0.81**	**168**	**6**	**311**
Ernest Henry[2]	**Underground**	**0.9**	**2.67**	**0.81**	**70**	**29.94**	**0.47**	**455**	**32.62**	**0.50**	**525**	**7**	**660**
Marsden	**Open pit**	**0.3**	**-**	**-**	**-**	**65.17**	**0.39**	**817**	**65.17**	**0.39**	**817**	**6**	**817**
		Total	**27.54**	**0.49**	**432**	**257.77**	**1.14**	**9,452**	**285.31**	**1.08**	**9,884**		**6,642**

Data is reported to significant figures to reflect appropriate precision and may not sum precisely due to rounding
[1] Includes stockpiles [2] Ernest Henry Operation cut-off 0.9% CuEq [3]Red Lake cut-off is 4.3g/t Au except for Lower Campbell (4.4g/t Au) and Upper Campbell (2.5g/t Au) deposits
[4]Group Ore Reserve Competent Person (CP) Notes refer to 1. Ryan Kare; 2. Joshua Northfield; 3. Brad Armstrong; 4. Ken Larwood; 5. Thomas Lethbridge; 6. Anton Kruger; 7. Michael Corbett (Glencore)
[5]The Ore Reserve for the Mt Carlton A39 underground deposit has been estimated using a AuEq (g/t) cut-off of 6.1g/t to enable quotation of this silver rich deposit as equivalent gold ounces

The gold equivalent (AuEq) calculation accounts for silver recoveries determined from metallurgical test work and uses an assumed silver price of A$20/oz and gold price of A$1,450/oz as per the below equation.

AuEq = 20/1,450*0.8203*silver grade (Silver price/Gold price*silver recovery*silver grade). It is the Competent Persons opinion that the assigned cut-off criteria meets the minimum acceptable criteria to support economic extraction and that the silver present within the A39 deposit can be economically recovered.

The Company confirms that it is not aware of any new information or data that materially affects the information included in the Reports and that all material assumptions and parameters underpinning the estimates in the Reports continue to apply and have not materially changed except for Cowal Underground. This revised information is provided in ASX release entitled 'Cowal Underground Board Approval, Red Lake Growth Update and Group Three-year Outlook" released on 16 July 2021 and available to view at www.evolutionmining.com. The Company confirms that the form and context in which the Competent Persons' findings are presented have not been materially modified from the Reports. Evolution Mining has an economic interest earning rights to 100% of the revenue from future gold production and 30% of future copper and silver produced from an agreed area, and 49% of future gold, copper and silver produced from the Ernest Henry Resource outside the agreed area. The Ernest Henry Resource is reported here on the basis of economic interest and not the entire mine resource. The above reported figures constitute 86% of the total Ernest Henry gold reserve.

APPENDIX 3: ACQUISITION ASSETS RESOURCES & RESERVES

Acquisition Assets Mineral Resource Statement[1]

Gold	Measured			Indicated			Inferred			Total Resource		
Project	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)
Kundana (100%)	0.59	4.2	80	4.07	4.4	571	3.27	3.8	403	7.93	4.1	1,053
EKJV (51%)[2]	1.12	6.2	223	2.88	5.2	485	2.06	4.5	295	6.06	5.2	1,003
Carbine (100%)	-	-	-	2.89	2.3	213	1.87	2.9	174	4.76	2.5	387
Total	**1.71**	**5.5**	**302**	**9.84**	**4.0**	**1,269**	**7.20**	**3.8**	**872**	**18.83**	**4.1**	**2,443**

Gold	Proved			Probable			Total Reserve		
Project	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)
Kundana (100%)	0.20	4.8	30	1.34	4.3	184	1.53	4.4	214
EKJV (51%)[2]	0.66	4.8	101	1.07	5.4	185	1.73	5.1	286
Carbine (100%)	-	-	-	1.24	2.0	78	1.24	2.0	78
Total	**0.85**	**4.8**	**131**	**3.65**	**3.8**	**447**	**4.50**	**4.0**	**579**

(1) Mineral Resources and Ore Reserve estimation criteria have been prepared using a gold price assumption of A$2,250/oz to estimate Mineral Resources and A$1,750/oz to estimate Ore Reserves. The Acquisition Assets Mineral Resources and Ore Reserves are expected to be re-estimated as at 31 December 2021 as part of Evolution's Annual Mineral Resources and Ore Reserves Statement which will be released in February 2022.

Rounding may result in apparent summation differences between tonnes, grade and contained metal content.

Ounces are estimates of metal contained in the Ore Reserve and do not include allowances for processing losses.

(2) EKJV deposits are 51% interest, except Raleigh and Falcon North which are 50%

Competent Persons Statement

The Acquisition Assets Mineral Resource and Ore Reserve estimates are based on, and fairly represents, information and supporting documentation compiled by Michael Mulroney and Jeff Brown respectively. Mr Mulroney and Mr Brown are Members of the Australasian Institute of Mining and Metallurgy and are full-time employee of Northern Star Resources Limited. Mr Mulroney and Mr Brown have sufficient experience that is relevant to the styles of mineralisation and type of deposits 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". Mr Mulroney and Mr Brown consent to the inclusion in this announcement of the matters based on this information in the form and context in which it appears.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Kundana: JORC Code, 2012 Edition – Table 1 Report

Millennium, Centenary Crown, Centenary South and Centenary Deeps: Resources and Reserves – 31 March 2021

Section 1: Sampling Techniques and Data
(Criteria in this section apply to all succeeding sections.)

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td rowspan="3">Sampling techniques</td><td>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.</td><td>A combination of sample types was used to collect material for analysis including underground diamond drilling (DD), surface diamond drilling, surface Reverse Circulation drilling (RC) and face channel (FC) sampling.
<table>
<tr><th></th><th colspan="3">Millennium</th><th colspan="3">Centenary Crown</th><th colspan="3">Centenary South</th><th colspan="3">Centenary Deeps</th></tr>
<tr><th></th><th># of Holes</th><th>Total m's</th><th># of Samples</th><th># of Holes</th><th>Total m's</th><th># of Samples</th><th># of Holes</th><th>Total m's</th><th># of Samples</th><th># of Holes</th><th>Total m's</th><th># of Samples</th></tr>
<tr><td>DD</td><td>395</td><td>77,193</td><td>38,199</td><td>49</td><td>29,907</td><td>168</td><td>57</td><td>16,139</td><td>89</td><td>220</td><td>38,930</td><td>23,104</td></tr>
<tr><td>FS</td><td>1,255</td><td>5,988</td><td>10,221</td><td>836</td><td>4,055</td><td>1,403</td><td>463</td><td>1,621</td><td>556</td><td>3,310</td><td>9,751</td><td>13,331</td></tr>
<tr><td>RC</td><td>102</td><td>11,216</td><td>6,960</td><td>104</td><td>23,409</td><td>321</td><td>18</td><td>1,987</td><td>28</td><td>101</td><td>7,200</td><td>7,037</td></tr>
<tr><td>RC_DD</td><td>3</td><td>893</td><td>549</td><td>1</td><td>194</td><td>1</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Total</td><td>1,755</td><td>95,290</td><td>55,929</td><td>990</td><td>57,565</td><td>1,893</td><td>538</td><td>19,747</td><td>673</td><td>3,631</td><td>55,881</td><td>43,472</td></tr>
</table></td></tr>
<tr><td>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</td><td>DD drilling is sampled within geological boundaries with a minimum (0.3m) and maximum (1.0m) sample length. Face channel sampling is constrained within geological and mineralised boundaries with a minimum (0.2m) and maximum (1.0m) channel sample length.</td></tr>
<tr><td>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., ‘reverse circulation drilling was used to obtain 1m samples from which 3kg was pulverised to produce a 30g 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.</td><td>DD drill core was nominated for either half core or full core sampling. Core designated for half core was cut in half using an automated core saw. The mass of material collected will depend on the drill hole diameter and sampling interval selected. Core designated for full core was broken with a rock hammer if sample segments were too large to fit into sample bags.

A sample size of at least 3kg of material was targeted for each face sample interval.

All samples were delivered to a commercial laboratory where they were dried, crushed to 95% passing 3mm if required, at this point large samples may be split using a rotary splitter, pulverisation to 90% passing 75µm, a 40g charge was selected for fire assay.</td></tr>
</table>

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
Drilling techniques	Drill type (e.g., core, reverse circulation, 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.).	Both RC and Diamond Drilling techniques are used to drill the Kundana deposits. Surface diamond drill holes were completed using HQ2 (63.5mm) whilst underground diamond drill holes were completed using NQ2 (50.5mm). Historically, core was orientated using the Reflex ACT Core orientation system. Currently, core is orientated using the Boart Longyear Trucore Core Orientation system. RC Drilling was completed using a 5.75” drill bit, downsized to 5.25” at depth. In many cases, RC pre-collars were drilled followed by diamond tails. Pre-collar depth was determined in the drill design phase depending on the target been drilled and production constraints.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	For DD drilling, any core loss is recorded on the core blocks by the driller. This is then captured by the logging geologist and entered as interval into the hole log.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	For diamond drilling the contractors adjust their rate of drilling and method if recovery issues arise. All recovery is recorded by the drillers on core blocks. This is checked and compared to the measurements of the core by the geological team. Any issues are communicated back to the drilling contractor.
	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.	Recovery was excellent for diamond core and no relationship between grade and recovery was observed. Average recovery across the Kundana camp is at 99%.
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.	All diamond core is logged for lithology, veining, alteration, mineralisation and structural. Structural measurements of specific features are also taken through oriented zones. Logging is entered in AcQuire using a series of drop-down menus which contain the appropriate codes for description of the rock. Most underground faces are logged for lithology and mineralisation. Logging is captured on a face sample sheet underground which is then transferred to AcQuire. Faces are then input into AcQuire using a series of drop-down menus which contain appropriate codes for description of the rock.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	All core logging is qualitative with mineralised zones assayed for quantitative measurements. Every core tray is photographed wet. All underground faces are logged and sampled to provide both qualitative and quantitative data. All faces are washed down and photographed before sampling is completed.
	The total length and percentage of the relevant intersections logged.	For all drillholes, the entire length of the hole was logged.
Sub-sampling techniques	If core, whether cut or sawn and whether quarter, half or all core taken.	DD drill core was nominated for either half core or full core sampling. Core designated for half core was cut in half using an automated core saw. The mass of material collected will depend on the drill hole diameter and sampling interval selected. Core designated for full core was broken with a rock hammer if sample segments were too large to fit into sample bags.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
and sample preparation	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	For previous RC drilling, all RC samples are split using a rig-mounted cone splitter to collect a sample 3-4kg in size from each 1m interval. These samples were utilised for any zones approaching known mineralization and from any areas identified as having anomalous gold. Outside known mineralised zones spear samples were taken over a 4m interval for composite sampling.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Preparation of samples was conducted at Bureau Veritas Kalgoorlie and Perth preparation facilities, while surface exploration drilling was sent to Genalysis. Sample preparation commenced with sorting, checking, and drying at less than 110°C to prevent sulphide breakdown. Samples are jaw crushed to a nominal -6mm particle size. If the sample is greater than 3kg, a Boyd crusher with rotary splitter is used to reduce the sample size to less than 3kg (typically 1.5kg) at a nominal <3mm particle size. The entire crushed sample (if less than 3kg) or sub-sample is then pulverised to 90% passing 75µm, using a Labtechnics LM5 bowl pulveriser. 400g Pulp subsamples are then taken with an aluminium scoop and stored in labelled pulp packets. The sample preparation is considered appropriate for the deposit.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Procedures are utilised to guide the selection of sample material in the field. Standard procedures are used for all processes within the laboratory. Grind checks are performed at the pulverising stage requiring at least 90% of material to pass below 75µm.
	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.	Umpire sampling selection is conducted on all the Kundana core samples as an entire batch. A minimum of 3% of the samples processed each month are selected to be sent to the ALS Perth check lab.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	The sample sizes are considered appropriate for the material been 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.	A 40g fire assay charge is used with a lead flux in the furnace. The prill is totally digested by HCl and HNO_3 acids before Atomic Absorption Spectroscopy (AAS) determination for gold analysis.
	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 tools were used to determine any element concentrations.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
	Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.	Certified reference materials (CRMs) are inserted into the sample sequence at a rate of 1 per 20 samples to ensure correct calibration. Any values outside of 3 standard deviations are re-assayed with a new CRM. Blanks are inserted into the sample sequence at a nominal rate of 1 per 20 samples. The insertion points are selected at random, except where high grade mineralisation is expected. In these cases, a blank is inserted after the high-grade sample to test for contamination. Results greater than 0.2gpt are investigated, and re-assayed if appropriate. New pulps are prepared if anomalous results cannot be resolved. Barren flushes are regularly inserted after anticipated high gold grades at the pulverising stage. No field duplicates were submitted for diamond core. Pulp duplicates are requested after any ore zone. These are indicated on the sample sheet and submission sheet. When visible gold is observed in core, a quartz flush is requested after the sample. Laboratory performance was monitored using the results from the QA samples mentioned above. This was supplemented by the internal QA samples used by the laboratories, which included pulp duplicates and CRMs. The QA studies indicate that accuracy and precision are within industry accepted limits.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	All significant intersections are verified by another Northern Star senior geologist during the drill hole validation process and later by a Competent Person to be signed off.
	The use of twinned holes.	No twinned holes were drilled for this data set. Re-drilling of some of the drillholes has occurred due to issues downhole (e.g., bogged rods). These have been captured in the database as an 'A'. Re-drilled holes are sampled whilst the original drillhole is logged but not sampled.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Geological logging and sampling are directly recorded into AcQuire. Assay files are received in *.cvs, *.pdf and *.sif formats. The *.cvs's are loaded directly into the database using an AcQuire importer object. Assays are then processed through a form in AcQuire for QAQC checks. Non-editable electronic copies of these are stored.
	Discuss any adjustment to assay data.	No adjustments are made to this assay data. If there are issues with the results files received, amended versions are requested from the lab.
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	Planned holes are marked up by the mine survey department using a total station survey instrument in mine grid (Kundana 10). The actual hole position is then located by the mine survey department once drilling is completed. Holes are lined up on the collar point using the DHS Minnovare Azimuth Aligner. Planned azimuths and dips of the holes are downloaded to the aligner which is then placed on the rod string to align the hole for drilling. During drilling, single shot surveys are conducted every 30m to track the deviation of the hole and to ensure it stays close to design. This is performed using the DeviShot camera which measures the gravitational dip and magnetic azimuth. Results are uploaded from the DeviShot software into a *.cvs format which is then imported into the AcQuire database. At the completion of the hole, a Multishot DeviFlex survey is completed taking measurements every 3m to ensure accuracy of the hole. The is relative change survey which is then referenced back to the Azimuth aligner to provide an accurate,

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
		continuous nonmagnetic survey. This is also converted to *.cvs format and imported into the AcQuire database.
	Specification of the grid system used.	Collar coordinates are recorded in mine grid (Kundana 10) and transformed into MGA94_51.
	Quality and adequacy of topographic control.	Quality topographic control has been achieved through Lidar data and survey pickups of holes over the last 15 years.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Drill hole spacing varies across the deposit. For resource targeting drilling, spacing was typically a minimum of 80m x 80m. This allowed for Resource Definition infill drilling at 40m x 40m spacing. Grade control drilling is drilled on a level by level basis with drill spacing at 20m x 20m. This include hanging wall and footwall probing where the ore body is greater than development drive width.
	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 data spacing and distribution is considered sufficient to support the Resource and Reserve estimates.
	Whether sample compositing has been applied.	No sample compositing has been 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.	Majority of the mineralisation in the Kundana area dips steeply (80°) to the WSW. Diamond drilling is designed to target the orebodies perpendicular to this orientation to allow for an ideal intersection angle. Instances where this was not achievable (mostly due to drill platform location), drilling was not completed or re-designed once a suitable platform became available. Drillholes with low intersection angles are excluded from resource estimation where more suitable data is available.
	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.	No sampling bias is considered to have been introduced by the drilling orientation. Where drillholes have been particularly oblique, they have been flagged as unsuitable for resource estimation.
Sample security	The measures taken to ensure sample security.	Prior to laboratory submission, samples are stored by Northern Star Resources in a secure yard. Once submitted to the laboratories they are stored in a secure fenced compound, tracked through their chain of custody and via audit trails.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits have been undertaken of the data and sampling practices at this stage.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Section 2: Reporting of Exploration Results
(Criteria listed in the preceding section also apply to this section.)

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.	All holes mentioned in this report are located within the M16/87, M16/72, M16/97 tenements, which are owned by Kundana Gold Pty Ltd a wholly owned subsidiary of Northern Star Resources. There are no private royalty agreements applicable to this tenement.
	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.	No known impediments exist, and the tenements are in good standing.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Early exploration was completed in the mid-1980s by White Flag Joint Venture with the development and operation of South Pit. Modern mining continued since late 1988 through to 1999 when the Centenary Underground ceased operations. Exploration continued over the camp through various companies including Placer Dome and Barrick Gold. Early 2014 saw Northern Star Resources purchase the Kundana camp from Barrick Gold and mining recommenced in March 2014. Millennium was discovered in the same year and commenced mining in 2016.
Geology	Deposit type, geological setting and style of mineralisation.	The Kundana camp is situated within the Norseman-Wiluna Greenstone Belt, in an area dominated by the Zuleika shear zone, which separates the Coolgardie domain from the Ora Banda domain. K2-style mineralisation consists of narrow vein deposits hosted by shear zones located along steeply dipping overturned lithological contacts. The K2 structure is present along the contact between a black shale unit (Centenary Shale) and intermediate volcaniclastics (Black Flag Group).
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: • easting and northing of the drill hole collar • elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar • dip and azimuth of the hole • down hole length and interception depth • hole length.	A summary of the data present in the Millennium and Centenary deposits can be found above. The collar locations are presented in plots contained in the NSR 2021 resource report. Drillholes vary in survey dip from +59 to -90, with hole depths ranging from 15m to 848m, with an average depth of 201m. The assay data acquired from these holes are described in the NSR 2021 resource report. All validated drill hole data were used directly or indirectly for the preparation of the resource estimates described in the resource report.
	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.	The exclusion of drill hole information is not material and does not detract from the understanding of the report.
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.	All reported assay results have been length weighted to provide an intersection width. A maximum of 2m of barren material (considered < 1gpt) between mineralised samples has been permitted in the calculation of these widths. Typically grades over 2.0gpt are considered significant, however,

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
		where low grades are intersected in areas of known mineralisation these will be reported. No top-cutting is applied when reporting intersection results.
	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.	Where an intersection incorporates short lengths of high grade results these intersections will be reported in addition to the aggregate value. These will typically take the form of ##.#m @ ##.#gpt including ##.#m @ ##.#gpt.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values have been used.
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results:	True widths have been calculated for intersections of the known ore zones based on existing knowledge of the nature of these structures.
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	Both the downhole width and true width have been clearly specified when used.
	If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').	Both down the hole and estimated true widths have been 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 drill hole collar locations and appropriate sectional views.	Appropriate plans and section have been included at the end of this Table.
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.	Both high and low grades have been reported accurately, clearly identified with the drill hole attributes and 'From' and 'To' depths.
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 other material exploration data has been collected for this area.
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).	Drilling will continue in various parts of the mine with the intention of extending areas of known mineralisation. Areas of focus will be to extend the K2 structure both down dip and along strike to the north. Drilling will also focus on infilling areas of the resource to improve confidence.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling	Appropriate diagrams accompany this release.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
	areas, provided this information is not commercially sensitive.	

Section 3: Estimation and Reporting of Mineral Resources
(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

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.	Sampling and logging data is either recorded on paper and manually entered into the database system or captured digitally via a logging laptop and directly loaded into the database system. There are checks in place to avoid duplicate holes and sample numbers. Where possible, raw data is loaded directly into the database from laboratory and survey derived files.
	Data validation procedures used.	The complete exported data base including drill and face samples is brought into Datamine and checked visually for any apparent errors i.e., holes or faces sitting between levels or not on surface DTM's. Multiple checks are then made on numerical data. This includes: • Empty table checks to ensure all relevant fields are populated • Unique collar location check, • Distances between consecutive surveys is no more than 60m for drill-holes • Differences in azimuth and dip between consecutive surveys of no more than 0.3 degrees • The end of hole extrapolation from the last surveyed shot is no more than 30m • Underground face sample lines are not greater than +\- 5 degrees from horizontal Errors are corrected where possible. When not possible the data is resource flagged as "No" in the database and the database is re-exported. This data is not used in the estimation process. Several drilling programs completed between 2014 and 2016 had erroneous metre depths recorded, these drill-holes have been omitted from the ore wireframe interpretations and flagged as invalid. Where there were no QAQC issue with the assays, the correct intervals were recorded, the translation to the 'correct' location (based on development above and below) applied and these intervals were appended to the data set before compositing. In addition to being Resource Flagged as "Yes" or "No", drill holes are assigned a Data Class which provides a secondary level of confidence in the data quality. Data Class (DC) values range from 0 to 3, with criteria summarised below: • DC 3 = Recent data; all data high quality, validated and all original data available. • DC 2 = Historic data; may or may not have all data in AcQuire or hard copy available but has proximity to recent drilling which confirms the dip, width, and tenor. Used to assist in classification. • DC 1 = Historic data; same criteria as DC 2 but cannot be verified with recent drilling, i.e., too far away, or dissimilar dip, width and/or tenor to recent drilling. Not used in Resource estimate. • DC 0 = Historic data; no original information or new drilling in proximity to verify. Not used in Resource estimate.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	The geological interpretations underpinning these resource models were prepared by geologists working in the mine and in direct, daily contact with the ore body. The estimation of grades was undertaken by personnel familiar with the ore body and the general style of mineralisation encountered. The Senior Resource Geologist, a Competent Person for reviewing and signing off on

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
		estimations of the Millennium/Centenary lodes maintained a site presence throughout the process.
	If no site visits have been undertaken indicate why this is the case.	The Competent Person has maintained a presence onsite.
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	The interpretation of the Millennium and Centenary deposits were carried out using a systematic approach to ensure continuity of the geology and estimated mineral resource. The confidence in the geological interpretation is high and is supported with information acquired during ore development as well as from drilling. The interpretation of all the Millennium and Centenary mineralisation wireframes was conducted using the sectional interpretation method. Where development levels were present sectional interpretation was completed in plan-view at approximately 5m spacing to allow for a better constrained and geologically realistic wireframe. Where only drilling data was present, sectional interpretation was completed at approximately 10 - 20m spacing. Wireframes were checked for unrealistic volumes and updated where appropriate.
	Nature of the data used and of any assumptions made.	All available geological data was used in the interpretation including mapping, drill holes, underground face channel data and structural models.
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	No other interpretations have been tested.
	The use of geology in guiding and controlling Mineral Resource estimation.	The interpretation of the main Millennium and Centenary structures is based on the presence of quartz veining/shearing and continuity between sections of these structures and adjacent mineralised structures.
	The factors affecting continuity both of grade and geology.	Within the Centenary Main Vein (K2) structure at Millennium/Centenary, grade continuity is affected when the percentage of quartz decreases and only a sheared structure remains. This results in lower grade in areas where only the shear is present and higher grade where quartz is evident. Within Millennium North, the shear increases in width and the mineralisation is present as stockwork veins within the shear. Overall metal content is broadly preserved but is diluted over a greater width. Significant dextral offsetting fault structures (Yellowbird Fault and Emu Fault) affect the continuity of the K2 structure at Millennium. These faults are interpreted to be post mineralisation and offset the ore between 1 and 20m. The dilation and silicification of shale in the hanging-wall halo zone of the K2 structure controls grade immediately adjacent to the K2.
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 strike length of the Millennium K2 structure is approximately 875m. The strike length of the Centenary K2 structure is approximately 600m. The individual ore bodies occur in a major regional Zuleika shear system extending over tens of kilometres. Millennium K2 structure is 1.2m wide on average and can be up to 8m at Millennium North, while Centenary K2 is averages 0.6m wide and can be up to 3m wide. Both have a minimum width of ~ 0.1m. Mineralisation is known to occur from the base of cover to around 900m below 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	The Millennium K2 and Centenary K2 mineralisation used 1m composites with direct grade estimation unless stated otherwise. Some areas at the South and

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Criteria	JORC Code explanation	Commentary
	extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.	Crown of Centenary used full length composites with indirect grade estimation for consistency with previous estimates. **K2V** (Millennium K2) – comprised of higher-grade quartz vein material in the K2; divided into two grade subdomains based on data density; high density around development levels and lower density distant to development. Each subdomain was analysed separately for top cuts. Variography was completed on the combined subdomains. Both subdomains have a search range of ~60m in direction 1 and 35m in direction 2. Three passes were used for estimation with distances for pass 1 generally 66% of the variogram range (although also driven by the underlying understanding of the local Geology). **K2S** (Millennium K2) – comprised of lower grade sheared material at the southern extent of the K2; divided into two grade subdomains based on data density; high density around development levels and lower density distant to development. Each subdomain was analysed separately for top cuts. Variography was completed on both subdomains combined. Both subdomains have a search range of ~35m in direction 1 and 30m in direction 2. Three passes were used for estimation with distances for pass 1 generally 66% of the variogram range (although also driven by the underlying understanding of the local Geology). **K2NTH** (Millennium K2) – comprised of quartz vein stockwork material within sheared shale in the north of the K2; divided into two grade subdomains based on data density; high density around development levels and lower density distant to development. Each subdomain was analysed separately for top cuts. Variography was completed on both subdomains combined. Both subdomains have a search range of ~65m in direction 1 and 40m in direction 2. Three passes were used for estimation with distances for pass 1 generally 66% of the variogram range (although also driven by the underlying understanding of the local Geology). **HWNTH/FWNTH/HW/FW** (Millennium) - hanging wall (HWNTH) and foot wall (FWNTH) grade halos for the northern portion of K2. Hanging wall (HW) and foot wall (FW) grade halos for the remainder of K2; All domains were divided into two grade subdomains based on data density; high density around development levels and lower density distant to development. Top cut analysis was completed on each domain separately. Variography was completed on HW/HWNTH combined and FW/FWNTH combined. FWNTH/FW domains both had a search range of ~30m in direction 1 and 30m in direction 2 for both high and low-density subdomains. The HW domain had a search range of ~60m in direction 1 and 30m in direction 2 for both high and low subdomains. The HWNTH domain had a search range of ~40m in direction 1 and 40m in direction 2 for both high and low subdomains. Three passes were used for estimation with distances for pass 1 generally 66% of the variogram range (although also driven by the underlying understanding of the local Geology). **K2** (Centenary South) - divided into two grade subdomains based on data density: high density around development levels and lower density distant to development. Each subdomain was analysed separately for top cuts. Variography was completed on both subdomains combined. Both subdomains have a search range of ~80m in direction 1 and 50m in direction 2. Three passes were used for estimation with distances for pass 1 generally 66% of the variogram range (although also driven by the underlying understanding of the local Geology). **K2** (Centenary Crown) - divided into two grade subdomains based on data density: high density around development levels and lower density distant to development. Each subdomain was analysed separately for top cuts. Variography was completed on both subdomains combined. The high-density subdomain has a search range of ~200m in direction 1 and 125m in direction 2. The low-density subdomain has a search range of ~150m for direction 1 and 100m for direction 2. Three passes were used for estimation with distances for pass 1 generally 66% of the variogram range (although also driven by the underlying understanding of the local Geology). **K2** (Centenary Deeps) - divided into two grade subdomains based on data density: high density around development levels and lower density distant to

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Criteria	JORC Code explanation	Commentary
		development. Both subdomains were analysed together for top cuts. Variography was completed on both subdomains combined with channel data removed. Both subdomains have a search range of ~80m in direction 1 and 70m in direction 2. Three passes were used for estimation with distances for pass 1 generally 66% of the variogram range (although also driven by the underlying understanding of the local Geology). **HW/FW Halo** (Centenary/ Centenary Crown) - divided into two grade subdomains based on data density: high density around development levels and lower density distant to development. Each subdomain was analysed separately for top cuts. Variography was completed on both subdomains combined. All domains and subdomains had a search range of ~80m in direction 1 and ~40m in direction 2. Three passes were used for estimation with distances for pass 1 generally 66% of the variogram range (although also driven by the underlying understanding of the local Geology). **Decas1/Decas2** - each comprised of one domain analysed separately for top cuts. An isotropic search was used for both domains. Both domains had search ranges of 25m in all directions. Estimation was completed using a hard boundary for both domains. Three passes were used for estimation with distances for pass 1 generally 66% of the variogram range (although also driven by the underlying understanding of the local Geology).
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource Estimate takes appropriate account of such data.	An Inverse Distance Squared and Nearest Neighbour estimate is run for comparison.
	The assumptions made regarding recovery of by-products.	No assumptions are made and only gold is defined for estimation.
	Estimation of deleterious elements or other non-grade variables of economic significance (e.g., sulphur for acid mine drainage characterisation).	No deleterious elements estimated in the model.
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	Block sizes varied depending on sample density. In areas of high density underground face sampling, a 5m x 5m x 5m block size was chosen. Lower data density is defined as drill spacing at approximately 30m - 40m, with a 10m x 10m x 10m block size chosen for these areas. All the varying block sizes are added together after being estimated individually. Search ellipse dimensions were derived from the variogram model ranges.
	Any assumptions behind modelling of selective mining units.	Selective mining units were not used during the estimation process.
	Any assumptions about correlation between variables.	No assumptions have been made.
	Description of how the geological interpretation was used to control the resource estimates.	Hanging wall and foot wall wire frame surfaces were created using sectional interpretation. These were used to define the Millennium/Centenary K2 and hanging wall and footwall halo mineralised zones based on the shearing, veins, and gold grade. K2 (Millennium/Centenary) - steeply dipping structure with quartz veining evident from drilling and development.

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Criteria	JORC Code explanation	Commentary
		Footwall/Hanging wall halo (Millennium/Centenary) - Steeply dipping sheared structure with minor quartz stringers in the hanging-wall and footwall of the K2 evident from drilling and development. Decas 1 and Decas 2 - steeply dipping structure with quartz veining evident from drilling and development. For mine planning purposes, a waste model is created by projecting the hanging wall and footwall surfaces 15m either side. A default grade of 0.1gpt is assigned and the same resource classification as the adjacent ore lode is applied.
	Discussion of basis for using or not using grade cutting or capping.	Top cuts were applied to the composited sample data. Top cuts were selected based on a statistical analysis of the data and vary by domain (ranging from 20gpt to 150gpt for individual domains and deposits) The top cut values are applied in several steps, using influence limitation top cutting. A top cut (AU) and non-top cut (*_NC) variable is created, as well as a spatial variable (*_IL) which only has values where the top cut values appear; this applies to both gold and true thickness (TT) top cutting (where indirect estimation is used). For example, where true thickness and gold both require a top cut, the following variables will be created and estimated: • AU (top cut gold) • AU_NC (non- top-cut gold) The top-cut and non-top cut values are estimated using search ranges based on the variogram, and the *_IL values estimated using very small ranges (e.g., 5m x 5m x 5m). Where the *_IL values produce estimated blocks within these restricted ranges, the *_NC estimated values replace the original top cut estimated values (AU).
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	Statistical measures of Kriging error, such as Kriging Efficiency and Slope of Regression, are used to assess the quality of the estimation for each domain. Differences between the declustered, top-cut composite data set and the average model grade must be within 10%. Swath plots comparing declustered, top-cut composites to block model grades are prepared and plots are prepared summarising the critical model parameters. Visually, block grades are assessed against drill hole and face data.
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 Estimate has been reported at a 1.63gpt cut off within 2.5m minimum mining width (excluding dilution) MSOs using a $A2,250/oz gold price.
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	No mining assumptions have been made during the resource wireframing or estimation process.

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Criteria	JORC Code explanation	Commentary
	rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	
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.	All metallurgy assumptions are based on extensive operating history for the K2 ore materials through the Kanowna Belle and HBJ processing facilities.
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 green fields 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.	A “Licence to Operate” is held by the operation which is issued under the requirement of the “Environmental Protection Act 1986”, administered by the Department of Environment (DoE). The licence stipulates environmental conditions for the control of air quality, solid waste management, water quality, and general conditions for operation. Groundwater Licences are held for water abstraction, including production bore field water use for mineral processing, and mine dewatering, in accordance with the Rights in Water and Irrigation Act 1914. These Licences are also regulated by DoE and are renewable on a regular basis. Kanowna Operations conduct extensive environmental monitoring and management programs to ensure compliance with the requirements of the licences and lease conditions. An Environmental Management System is in place to ensure that Northern Star employees and contractors meet or exceed environmental compliance requirements. The Kalgoorlie operations are fully permitted including groundwater extraction and dewatering, removal of vegetation, mineral processing, and open pits. Kalgoorlie Operations have been compliant with the International Cyanide Management Code since 2008. Compliance with air quality permits is particularly important at Kanowna because of the roaster operation and because there are three facilities in the Kalgoorlie region emitting SO_2 gas. Kanowna has a management program in place to minimize the impact of SO_2 on regional air quality and ensure compliance with regulatory limits.
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.	A thorough investigation into average density values for the various lithological units at Millennium/Centenary was completed and the mean densities by lithology were coded into the database. Where there were no measurements for a specific lithology, a default of 2.8 t/m^3 was applied. Density was then estimated by Ordinary Kriging using the associated gold estimation parameters for that domain. Post estimation, default density values for the oxide and transitional zones were applied, based on regional averages.
	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.	No/minimal voids are encountered in the ore zones and underground environment.
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	Assumptions on the average bulk density of individual lithologies, based on 331 bulk density measurements at Millennium/Centenary. Assumptions were also made based on regional averages, on the default densities applied to oxide (1.9 t/m^3) and transitional (2.3 t/m^3) material.

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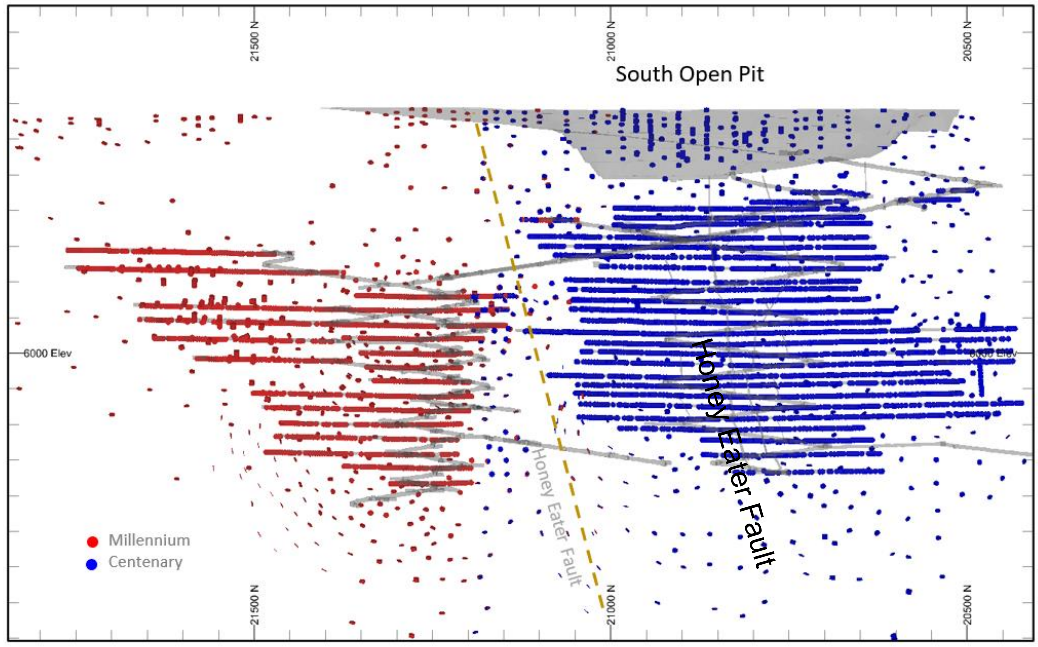
Criteria	JORC Code explanation	Commentary
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.	Classification is based on a series of factors including: • Geologic grade continuity • Density of available drilling • Statistical evaluation of the quality of the kriging estimate • Confidence in historical data
	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).	All relevant factors have been given due weighting during the classification process.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The resource model methodology is appropriate and reflects the Competent Persons view of the deposit.
Audits or reviews	The results of any audits or reviews of Mineral Resource Estimates.	All resource models have been subjected to internal peer reviews.
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.	These Mineral Resource Estimates are considered robust and representative of the Millennium and Centenary style of mineralisation. The application of geostatistical methods has helped to increase the confidence of the model and quantify the relative accuracy of the resource.
	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.	This resource report relates to the Millennium and Centenary deposits. Each is a global estimate reflecting the total average tonnes and grade.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	No reconciliation factors are applied to the resource post-modelling.

MILLENIUM CENTENARY
. Long section view of the Millennium-Centenary deposits and the data used in each resource estimate.



Section 4: Estimation and Reporting of Ore Reserves
(Criteria listed in Section 1, and where relevant in Sections 2 and 3, also apply to this section.)

Criteria	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.	Northern Star Resources Limited 2021 Mineral Resource.
	Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	The Mineral Resources are reported inclusive of the Ore Reserve.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	Site visits have been undertaken by the Competent Person.
	If no site visits have been undertaken indicate why this is the case.	Not applicable
Study status	The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.	A minimum Pre-Feasibility level study has been completed.
	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.	Upgrade of previous Ore Reserve.
Cut-off parameters	The basis of the cut-off grade(s) or quality parameters applied.	Forward looking forecast costs and physicals form the basis of the cut-off grade calculations.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
		• The assumed AUD gold price is at a conservative assumption of A$1,750/oz • Mill recovery factors are based on test work and historical averages from the region. Various cut-off grades are calculated including a break-even cut-off grade (BCOG), Variable cut-off grade (VCOG) and Mill cut-off grade (MCOG). The VCOG is used as the basis for stope design, though any areas which are marginal or require significant development are assessed by a detailed financial analysis to confirm their profitability.
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 optimisation or by preliminary or detailed design).	Indicated Resources were converted to Probable Ore Reserves subject to mine design physicals and an economic evaluation. Stockpiled material was considered as proved.
	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 Kundana Gold Operations (incorporating Millennium, Centenary, Pope John, Moonbeam and Christmas) is accessed via a portal within the Centenary open pit. The ore is accessed from the hanging wall from levels at 20m spacing (25m in Millennium North). Top down open stoping methods are applied and the levels are broken into selectively sized stoping blocks to maximise production.
	The assumptions made regarding geotechnical parameters (e.g., pit slopes, stope sizes, etc.), grade control and pre-production drilling.	The mine design considers well established geotechnical constraints and is reviewed by geotechnical engineers prior to being finalised. Historical geological and geotechnical information is gathered from the nearby operations including Barkers, Strzelecki and Centenary, and operating Raleigh, Rubicon, Hornet and Pegasus mine are applied to the geotechnical parameters used. Grade control is carried out through resource definition drilling and face sampling of all ore drives.
	The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).	This Table 1 applies to underground mining only.
	The mining dilution factors used.	10% dilution has been applied to all stopes in Millennium and Millennium North. The Centenary Deeps orebody is located within the Centenary Shale host rock, known to cause external dilution. All stope shapes designed in this region have been assumed to overbreak to the drive width and individual dilution factors have been applied based on stope width.
	The mining recovery factors used.	A calculated 70% recovery is applied to unfilled up hole stopes to account for pillar requirements.
	Any minimum mining widths used.	A minimum stope mining width of 2.5m has been used. This considers a minimum stope width of 1.7m +0.4m dilution in the Hangingwall and +0.4m dilution in the Footwall.
	The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.	Designed stopes with greater than 50% inferred blocks are excluded from the reported Ore Reserve.

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Criteria	JORC Code explanation	Commentary
	The infrastructure requirements of the selected mining methods.	Infrastructure in place, currently an operating mine.
Metallurgical factors or assumptions	The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.	Ore from the Kundana Gold operations is treated at the Jubilee Mill, Kanowna Belle and Carosue Dam milling facilities, all owned by NSR. These facilities are designed to process more than 6.7 million tonnes per annum as a combined throughput (Jubilee – 1Mtpa, Kanowna Belle– 2Mtpa, Carosue Dam – 3.7Mtpa). All plants have the capability to treat free milling ores with additional capacity at the Kanowna Belle facility to treat refractory material. Ore is treated either using the flotation circuit and associated concentrate roaster circuit (including carbon-in-leach (CIL) gold recovery) or bypassing the flotation circuit and going directly to a CIL circuit designed to treat flotation tails. The plants campaign both refractory and free milling ores every month.
	Whether the metallurgical process is well-tested technology or novel in nature.	Plus 20 years milling experience with Kundana ores.
	The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.	Plus 20 years milling experience with Kundana ores.
	Any assumptions or allowances made for deleterious elements.	No assumptions made.
	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.	Plus 20 years milling experience with Kundana ores.
	For minerals that are defined by a specification, has the ore Reserve estimation been based on the appropriate mineralogy to meet the specifications?	Not applicable.
Environmental	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.	Millennium, Centenary and Pope John are currently compliant with all legal and regulatory requirements. All government permits and Licences and statutory approvals are either granted or in the process of being granted.
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.	All current site infrastructure is suitable to the proposed mining plan.
Costs	The derivation of, or assumptions made, regarding projected capital costs in the study.	Mine development capital cost based on historical performance on site and life-of-mine forward planning. Plant and equipment capital are based on site operating experience and the LOM plan.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
	The methodology used to estimate operating costs.	All overhead costs and operational costs are projected forward on an AUD $/t based on historical data.
	Allowances made for the content of deleterious elements.	No allowances made.
	The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.	Single commodity pricing for gold only, using a long-term gold price of A$1,750/oz, 2.5% WA state Government Royalty, as per NSR corporate guidance.
	The source of exchange rates used in the study.	All rates considered in Australian Dollars (AUD) as per NSR corporate guidance.
	Derivation of transportation charges.	Historic performance.
	The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.	Historic performance.
	The allowances made for royalties payable, both Government and private.	All State Govt. and third-party royalties are built into the cost model.
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.	All revenue based on a gold price of A$1,750/oz.
	The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	Corporate guidance.
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.	All product is assumed sold direct at spot market prices
	A customer and competitor analysis along with the identification of likely market windows for the product.	Not relevant for gold.
	Price and volume forecasts and the basis for these forecasts.	Not relevant for gold.
	For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	Not relevant for gold.
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.	All costs assumptions are made based on historical performance from the mine and current economic forecast seen as representative of current market conditions.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
	NPV ranges and sensitivity to variations in the significant assumptions and inputs.	Sensitivities assessed at varying gold prices.
Social	The status of agreements with key stakeholders and matters leading to social licence to operate.	Agreements are in place and are current with all key stakeholders.
Other	To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:	No issues foreseen.
	Any identified material naturally occurring risks.	No issues foreseen.
	The status of material legal agreements and marketing arrangements.	No issues foreseen.
	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.	No issues foreseen.
Classification	The basis for the classification of the Ore Reserves into varying confidence categories.	All Ore Reserves include Proved and Probable classifications. These classifications are based on Mineral Resource classifications as modified by subsequent grade control drilling and face sampling results.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The results appropriately reflect the Competent Persons view of the deposit.
	The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	None.
Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.	This Ore Reserve has been prepared and peer reviewed internally within Northern Star Resources. There have been no external reviews of this Ore Reserve estimate.
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.	Confidence in the model and Ore Reserve is considered high based on nearby Northern Star operated mines along the same ore bearing structures and the previous 12 months development and stope performance at the Millennium Operation.

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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.	Ore Reserves are best reflected as global estimates.
	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.	Other than dilution and recovery factors described above, no additional modifying factors applied. There is high confidence in these models as the areas are well known and well drilled.
	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.	Reconciliation results from past mining at Centenary, Millennium and Pope John reflect estimates in the Ore Reserve estimates.

JORC Code, 2012 Edition – Table 1 Report

Pope John: Resources and Reserves – 31 March 2021

Section 1: Sampling Techniques and Data
(Criteria in this section apply to all succeeding sections.)

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td>Sampling techniques</td><td>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.</td><td>A combination of sample types was used to collect material for analysis
<table>
<tr><td></td><td colspan="3">Pope John</td></tr>
<tr><td></td><td>Number of Holes</td><td>Total metres</td><td>Number of Samples</td></tr>
<tr><td>DD</td><td>143</td><td>32945</td><td>17233</td></tr>
<tr><td>FS</td><td>1587</td><td>7668</td><td>13046</td></tr>
<tr><td>RC</td><td>38</td><td>5164</td><td>2452</td></tr>
<tr><td>RC_DD</td><td>21</td><td>9735</td><td>3383</td></tr>
<tr><td>TOTAL</td><td>1789</td><td>55512</td><td>36114</td></tr>
</table>
including underground diamond drilling (DD), surface diamond drilling (RC) and face channel (FC) sampling. RAB holes were excluded from the estimate.</td></tr>
<tr><td></td><td>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</td><td>DD drilling is sampled within geological boundaries with a minimum (0.3m) and maximum (1.0m) sample length. Face channel sampling is constrained within geological and mineralised boundaries with a minimum (0.2m) and maximum (1.0m) channel sample length.</td></tr>
<tr><td></td><td>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., 'reverse circulation drilling was used to obtain 1m samples from which 3kg was pulverised to produce a 30g 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</td><td>DD drill core was nominated for either half core or full core sampling. Core designated for half core was cut using an automated core saw. The mass of material collected will depend on the drill hole diameter and sampling interval selected. Core designated for full core was broken with a rock hammer if sample segments were too large to fit into sample bags.

A sample size of at least 3kg of material was targeted for each face sample interval.

All samples were delivered to a commercial laboratory where they were dried, crushed to 95% passing 3mm if required, at this point large samples may be</td></tr>
</table>

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
	(e.g., submarine nodules) may warrant disclosure of detailed information.	split using a rotary splitter, pulverisation to 95% passing 75µm, a 40g charge was selected for fire assay.
Drilling techniques	Drill type (e.g., core, reverse circulation, 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.).	Both RC and Diamond Drilling techniques were used to drill the Pope John deposit. Surface diamond drill holes were completed using HQ2 (63.5mm) core whilst underground diamond drillholes were NQ2 (50.5mm) core. Historically, core was orientated using the Reflex ACT Core orientation system. Currently, core is orientated using the Boart Longyear Trucore Core Orientation system. RC Drilling was completed using a 5.75" drill bit, downsized to 5.25" at depth. In many cases, RC pre-collars were drilled followed by diamond tails. Pre-collar depth was determined in the drill design phase depending on the target been drilled and production constraints.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	For DD drilling, any core loss is recorded on the core block by the driller. This is then captured by the logging geologist and entered as interval into the hole log.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	For diamond drilling the contractors adjust their rate of drilling and method if recovery issues arise. All recovery is recorded by the drillers on core blocks. This is checked and compared to the measurements of the core by the geological team. Any issues are communicated back to the drilling contractor.
	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.	Recovery was excellent for diamond core and no relationship between grade and recovery was observed. Average recovery across the Kundana camp is at 99%.
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.	All diamond core and RC chips are logged for lithology, veining, alteration, mineralisation and structural. Structural measurements of specific features are also taken through oriented zones. Logging is entered in AcQuire using a series of drop-down menus which contain the appropriate codes for description of the rock. Most underground faces are logged for lithology and mineralisation. Logging is captured on a face sample sheet underground which is then transferred to AcQuire. Faces are then input into AcQuire using a series of drop-down menus which contain appropriate codes for description of the rock.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	All core logging is qualitative with mineralised zones assayed for quantitative measurements. Every core tray is photographed wet. Underground faces are logged and sampled to provide both qualitative and quantitative data. All faces are washed down and photographed before sampling is completed.
	The total length and percentage of the relevant intersections logged.	For all drill holes, the entire length of the hole was logged.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	DD drill core was nominated for either half core or full core sampling. Core designated for half core was cut in half using an automated core saw. The mass of material collected will depend on the drill hole diameter and sampling interval selected. Core designated for full core was broken with a rock hammer if sample segments were too large to fit into sample bags.

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Criteria	JORC Code explanation	Commentary
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	All RC samples are split using a rig-mounted cone splitter to collect a sample 3 - 4kg in size from each 1m interval. These samples were utilised for any zones approaching known mineralization and from any areas identified as having anomalous gold. Outside known mineralised zones spear samples were taken over a 4m interval for composite sampling.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Preparation of NSR samples was conducted at Bureau Veritas Kalgoorlie and Perth facilities, while surface exploration drilling was sent to Genalysis. Underground drill core was processed at ALS Global Kalgoorlie and Perth facilities due to limited lab capacity at Bureau Veritas. Sample preparation commenced with sorting, checking, and drying at less than 110°C to prevent sulphide breakdown. Samples are jaw crushed to a nominal -6mm particle size. If the sample is greater than 3kg a Boyd crusher with rotary splitter is used to reduce the sample size to less than 3kg (typically 1.5kg) at a nominal <3mm particle size. The entire crushed sample (if less than 3kg) or sub-sample is then pulverised to 90% passing 75µm, using a Labtechnics LM5 bowl pulveriser. 400g pulp subsamples are then taken with an aluminium scoop and stored in labelled pulp packets. The sample preparation is considered appropriate for the deposit.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Procedures are utilised to guide the selection of sample material in the field. Standard procedures are used for all processes within the laboratory. Grind checks are performed at the pulverising stage requiring at least 90% of material to pass below 75µm.
	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.	Umpire sampling selection is conducted on all the Kundana core samples as an entire batch. A minimum of 3% of the samples processed each month are selected to be sent to the ALS Perth check lab.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Samples sizes collected are considered appropriate for the material 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.	A 40g fire assay charge is used with a lead flux in the furnace. The prill is totally digested by HCl and HNO_3 acids before Atomic Absorption Spectroscopy (AAS) determination for gold analysis.
	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 tools were used to determine and element concentrations.
	Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.	Certified reference materials (CRMs) are inserted into the sample sequence at a rate of 1 per 20 samples to ensure correct calibration. Any values outside of 3 standard deviations are re-assayed with a new CRM. Blanks are inserted into the sample sequence at a rate of 1 per 20 samples. The insertion points are selected at random, except where high grade mineralisation is expected. In these cases, a Blank is inserted after the high-grade sample to test for contamination. Results greater than 0.2gpt if received are investigated, and re-assayed if appropriate. New pulps are prepared if anomalous results cannot be resolved. Barren flushes are regularly inserted after anticipated high gold grades at the pulverising stage.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
		No field duplicates were submitted for diamond core. Pulp duplicates are requested after any ore zone. These are indicated on the sample sheet and submission sheet. When visible gold is observed in core, a quartz flush is requested after the sample. Laboratory performance was monitored using the results from the QA samples mentioned above. This was supplemented by the internal QA samples used by the laboratories, which included pulp duplicates and CRMs. The QA studies indicate that accuracy and precision are within industry accepted limits.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	All significant intersections are verified by another Northern Star geologist during the drill hole validation process, and later by a Competent Person to be signed off.
	The use of twinned holes.	No dedicated twinned holes were drilled for this data set. Re-drilling of some of the drillholes has occurred due to issues downhole (e.g., bogged rods). These have been captured in the database as an ‘A’. Re-drilled holes are sampled whilst the original drillhole is logged but not sampled.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Geological logging and sampling are directly recorded into AcQuire. Assay files are received in *.cvs, *.pdf and *.sif formats. The *.cvs’ are loaded directly into the database using an AcQuire importer object. Assays are then processed through a form in AcQuire for QAQC checks. Noneditable electronic copies of these are stored.
	Discuss any adjustment to assay data.	No adjustments are made to this assay data. If there are issues with the results files received, amended versions are requested from the lab.
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	Planned holes are marked up by the mine survey department using a total station survey instrument in mine grid (Kundana 10). The actual hole position is then located by the mine survey department once drilling is completed. Holes are lined up on the collar point using the DHS Minnovare Azimuth Aligner. Planned azimuths and dips of the holes are downloaded to the aligner which is then placed on the rod string to align the hole for drilling. During drilling, single shot surveys are conducted every 30m to track the deviation of the hole and to ensure it stays close to design. This is performed using the DeviShot camera which measures the gravitational dip and magnetic azimuth. Results are uploaded from the DeviShot software into a *.cvs format which is then imported into the AcQuire database. At the completion of the hole, a Multishot DeviFlex survey is completed taking measurements every 3m to ensure accuracy of the hole. The is a relative change survey which is then referenced back to the Azimuth aligner to provide an accurate, continuous nonmagnetic survey. This is also converted to *.cvs format and imported into the AcQuire database.
	Specification of the grid system used.	Collar coordinates are recorded in mine grid (Kundana 10) and transformed into MGA94_51.
	Quality and adequacy of topographic control.	Quality topographic control has been achieved through Lidar data and survey pickups of holes over the last 15 years.
Data spacing	Data spacing for reporting of Exploration Results.	Drillhole spacing varies across the deposit. For Resource Targeting drilling spacing was typically a minimum of 80m x 80m. This allowed for infill drilling at 40m x 40m spacing known as Resource Definition. Grade control drilling was

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Criteria	JORC Code explanation	Commentary
and distribution		drilled on a level by level as required basis with drill spacing at 20m x 20m and down to 10m x 10m.
	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 data spacing and distribution is considered sufficient to support the Resource and Reserve estimates.
	Whether sample compositing has been applied.	No sample compositing has been 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.	A majority of the mineralisation in the Pope John deposit dips steeply (71°) to the WSW. Diamond drilling was designed to target the ore bodies perpendicular to this orientation to allow for an ideal intersection angle. Instances where this was not achievable (mostly due to drill platform location), drilling was not completed or re-designed once a suitable platform became available. Drillholes with low intersection angles will be excluded from resource estimation where more suitable data is available.
	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.	No sampling bias is considered to have been introduced by the drilling orientation. Where drillholes have been particularly oblique, they have been flagged as unsuitable for resource estimation.
Sample security	The measures taken to ensure sample security.	Prior to laboratory submission samples are stored by Northern Star Resources in a secure yard. Once submitted to the laboratories they are stored in a secure fenced compound, tracked through their chain of custody and via audit trails.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits have been undertaken of the data and sampling practices at this stage.

Section 2: Reporting of Exploration Results
(Criteria listed in the preceding section also apply to this section.)

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.	All holes mentioned in this report are located within the M16/87, M16/72, M16/157 tenements, which are owned by Kundana Gold Pty Ltd a wholly owned subsidiary of Northern Star Resources. There are no private royalty agreements applicable to this tenement.
	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.	No known impediments exist, and the tenements are in good standing.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Early exploration was completed in the 1980s by White Flag Joint Venture with the development and operation of South Pit. Modern mining continued in late

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Criteria	JORC Code explanation	Commentary
		1980s with the Kundana North and Strzelecki Open pits. Mining continued through to 1999 when the Centenary Underground ceased operations. Exploration continued over the camp through various companies including Placer Dome and Barrick Gold. Early 2014 saw Northern Star Resources purchase the Kundana camp from Barrick Gold and mining recommenced in March 2014. Millennium was discovered in the 2015 and commenced mining in 2017. Mining of the Pope John deposit commenced in 2019.
Geology	Deposit type, geological setting and style of mineralisation.	The Kundana camp is situated within the Norseman-Wiluna Greenstone Belt, in an area dominated by the Zuleika shear zone, which separates the Coolgardie domain from the Ora Banda domain. K2-style mineralisation consists of narrow vein deposits hosted by shear zones located along steeply dipping overturned lithological contacts. The K2 structure is present along the contact between a black shale unit (Centenary shale) and intermediate volcaniclastics (Black Flag Group). Pope John is on the Centenary K2 trend. The deposit extends between the Pope John Fault in the north through to the Lucifer Fault in the south. At the Lucifer Fault, the K2 horizon is offset approximately 200m to the south west and becomes the Moonbeam deposit. The Pope John lode is locally offset by several smaller mine scale faults in between the two larger regional faults. The K2 mineralization is typical of the area with a high-grade laminated quartz vein being the primary gold hosting unit with minor halo grade disseminated around this structure in the Centenary Shale and Black Flag volcaniclastics.
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: • easting and northing of the drill hole collar • elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar • dip and azimuth of the hole • down hole length and interception depth • hole length.	A summary of the data present in the Pope John deposits can be found above. Collar locations are presented in plots contained in the NSR 2021 resource report. Drillholes vary in survey dip from +29° to -84°, with hole depths ranging from 80m to 753m, with an average depth of 282m. The assay data acquired from these holes are described in the NSR 2021 resource report. All validated drill hole data were used directly or indirectly for the preparation of the resource estimates described in the resource report.
	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.	The exclusion of drill hole information is not material and does not detract from the understanding of the report.
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.	Any reported assay results have been length weighted to provide an intersection width. A maximum of 2m of barren material (considered < 1gpt) between mineralised samples has been permitted in the calculation of these widths. Typically grades over 2.0gpt are considered significant, however, where low grades are intersected in areas of known mineralisation these will be reported. No top-cutting is applied when reporting intersection results.
	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	Where an intersection incorporates short lengths of high grade results these intersections will be reported in addition to the aggregate value. These will typically take the form of ##.#m @ ##.#gpt including ##.#m @ ##.#gpt.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
	such aggregations should be shown in detail.	
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values have been used for the reporting of these exploration results.
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results:	True widths have been calculated for intersections of the known ore zones, based on existing knowledge of the nature of these structures.
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	Both the downhole width and true width have been clearly specified when used.
	If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').	It is known and has been reported as such.
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 drill hole collar locations and appropriate sectional views.	Appropriate plans and section have been included at the end of this Table.
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.	Both high and low grades have been reported accurately, clearly identified with the drill hole attributes and 'From' and 'To' depths.
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 other material exploration data has been collected for this area.
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).	Drilling will continue in various parts of the mine with the intention of extending areas of known mineralization. Areas of focus will be to extend the K2 structure both down dip and along strike to the north. Drilling will also focus on infilling areas of the resource to improve confidence.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Appropriate diagrams accompany this release.

Section 3: Estimation and Reporting of Mineral Resources
(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

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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.	Sampling and logging data is either recorded on paper and manually entered into a database system or captured digitally via a logging laptop and directly loaded into the database system. There are checks in place to avoid duplicate holes and sample numbers. Where possible, raw data is loaded directly into the database from laboratory and survey derived files. Northern Star personnel have validated the database during the interpretation of the mineralisation, with any drill holes containing dubious data excluded from the MRE. Northern Star provided a list of holes to be excluded from the MRE and the reasons behind those exclusions.
	Data validation procedures used.	The complete exported data base including drill and face samples is brought into Datamine RM and checked visually for any apparent errors i.e., holes or faces sitting between levels or not on surface DTM's. Multiple checks are then made on numerical data including: • Empty table checks to ensure all relevant fields are populated • Unique collar location check, • Distances between consecutive surveys is no more than 50m for drill-holes • Differences in azimuth and dip between consecutive surveys of no more than 0.3 degrees • The end of hole extrapolation from the last surveyed shot is no more than 30m • Underground face sample lines are not greater than +\- 5 degrees from horizontal Errors are corrected where possible. When not possible the data is resource flagged as "No" in the database and the database is re-exported. This data will not be used in the estimation process. In addition to being validated, drill holes are assigned a Data Class, which provides a secondary level of confidence in the quality of the data. A review of all the historic data for Pope John was undertaken in 2018 and Data Class (DC) values from 0-3 assigned, criteria summarised below: • DC 3 = Recent data; all data high quality, validated and all original data available. • DC 2 = Historic data; may or may not have all data in AcQuire or hard copy available but has proximity to recent drilling which confirms the dip, width and tenor. Used to assist in classification. • DC 2 = Recent data; minor issues with data but not proximal to the ore zone. • DC 1 = Historic data; same criteria as DC 2 but cannot be verified with recent drilling, i.e., too far away or too dissimilar dip, width and/or tenor to recent drilling. Not used in Resource estimate. • DC 0 = Historic data; no original information or new drilling in proximity to verify. Not used in Resource estimate.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	The geological interpretations underpinning these resource models have been prepared by geologists working in the mine and in direct, daily contact with the ore body. The estimation of grades was undertaken by personnel familiar with the ore body and the general style of mineralisation encountered. The Senior Resource Geologist, a competent person for reviewing and signing off on estimations of the Pope John lode maintained a site presence throughout the process.
	If no site visits have been undertaken indicate why this is the case.	The Competent Person has maintained a presence onsite.
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	The interpretation of the Pope John deposit has been carried out using a systematic approach to ensure continuity of the geology and estimated mineral resource. The confidence in the geological interpretation is high and is supported with information acquired during ore development as well as from drilling.

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Criteria	JORC Code explanation	Commentary
		The interpretation of the Pope John mineralisation wireframe was conducted using the sectional interpretation method in Datamine RM software. Where development levels were present sectional interpretation was completed in plan-view at approximately 5m - 10m spacing to allow for a better constrained and geologically realistic wireframe. Where only drilling data was present sectional interpretation was completed at approximately 20m spacing. Wireframes were checked for unrealistic volumes and updated where appropriate.
	Nature of the data used and of any assumptions made.	All available geological data was used in the interpretation including mapping, drill holes, underground face channel data and structural models.
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	Due to the close spaced nature of the data from the recent mining and the consistency of the structure conveyed by this dataset, no alternative interpretations have been considered.
	The use of geology in guiding and controlling Mineral Resource estimation.	The interpretation of the main Pope John structure is based on the presence of quartz veining/shearing and continuity between sections of these structures and adjacent mineralised structures.
	The factors affecting continuity both of grade and geology.	The structure is reasonably continuous over the length of the deposit with either quartz veining, the shear or the controlling structure used to guide this interpretation. At the southern end of the deposit, a significant number of dextral offsetting fault structures affect the continuity of the K2 structure at Pope John. These faults are interpreted to be post-mineralisation and offset the ore between 1m and 15m. Several other smaller structures have been intersected during development with offset of up to a metre. These structures have been wireframed to account for any potential ore volume loss. The Pope John Fault controls the extent of the mineralisation at the northern end of the deposit. The Lucifer fault at the Southern end of the deposit terminates the K2 orebody. The grade continuity within the K2 exists as a high grade, south trending plunge within the plane of mineralisation. The Moonbeam deposit is the offset of the Pope John K2 along the Lucifer fault ~200m to the south-west. A hard boundary is assumed between Pope John and Moonbeam due to the unknown vertical offset component of the fault.
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 strike length of the Pope John K2 structure is approximately 450m. The K2 mineralisation occurs in a major regional shear system extending over tens of kilometres. Pope John K2 is ~ 0.5m wide and can be up to 1.5m wide with a minimum width of ~ 0.1m. The K2E orebody is situated in the hangingwall of the K2 on the contact between the Victorious Basalt and Centenary Shale and comprises quartz veining and intense biotite alteration. It currently has a strike length of 40m and extends 30m down dip but is open in all directions. With further development and drilling, the extent and continuity of the mineralisation may increase. Mineralisation is known to occur from the base of cover to around 625m below surface.
	The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation	The Pope John K2, K2E, footwall (FW) and hanging wall (HW) domains used 1.0m composites with direct grade estimation of gold. Except for K2E, the gold grade estimation has been completed using Ordinary Kriging (OK), utilising a

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
Estimation and modelling techniques	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.	three-pass search strategy using Datamine Studio RM software. Details of the estimation parameters for each mineralisation zone are summarised below. **K2** - divided into two subdomains based on data density and two further subdomains (upper and lower) based on grade. The high-density subdomain surrounds development levels and lower density subdomain is distant to development. Within the data density subdomains, the face data and drill hole data were analysed and top cut using the influence limitation approach separately. 150gpt Au and 50gpt Au was used for faces and drillholes, respectively. Once top cut, the data was combined and variography completed on the composite file, indicating grade continuity in the SE plunge direction. The high-density data had a search range of 30m in direction 1 and 2, the low-density data subdomain had a search range of 225m in direction 1 and direction 2. Three passes were used for estimation with distances based on the variogram. The upper grade subdomain comprises predominantly low-grade RC drilling. The lower grade subdomain comprises high grade drilling and channels from the remainder of the K2 domain and includes both data density subdomains. The upper and lower grade subdomains were estimated separately using a hard boundary to restrict the sharing ofmetal between the two areas. **K2E** - estimated using ID^2 with a three-pass search strategy, using an isotropic search ellipse, 50m x 50m x 50m. A drill hole restriction of a maximum of 3 samples per drill hole was applied to all 3 search passes. This ensures that at least two drillholes are used to inform the estimate. **HW Halo/FW Halo** - estimated using OK and a three-pass estimation strategy. The same subdomaining strategy as the K2 was applied to both halos, they were divided into two subdomains based on data density: high density around development levels and lower density distal to development. Within the subdomains, the face data and drill hole data were analysed and top cut using the influence limitation approach separately. The HW halo used 23gpt Au and 7gpt Au for face and drillholes respectively, the FW halo used 30gpt Au and 7gpt Au for faces and drillholes, respectively. The top cut subdomain composite files were combined for variography for each halo. For both FW and HW halos, estimation was completed using a soft boundary between the high and low-density subdomains.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource Estimate takes appropriate account of such data.	K2 mineralisation zones had check estimates using Inverse Distance power of 2 (ID2) and Nearest Neighbour (NN) completed as a comparison. K2E mineralised zone had a check estimate using NN completed as a comparison. FW/HW halo zones had an ID2 check estimate completed. All estimates have been compared to the previous MRE.
	The assumptions made regarding recovery of by-products.	No assumptions have been made regarding recovery of any 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 considered and therefore estimated for this deposit.
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	The data spacing varies considerably within the deposit, ranging from underground development samples (every 3m along strike x 25m down dip) to drill hole intercepts which varied from grade control spacing at 20m (along strike) x 25m (down dip) to resource definition spacing at 40m (along strike) x 50m (down dip). As such, the block sizes varied depending on sample density. In areas of high-density, a 5m x 5m x 5m block size was chosen. For lower-density drilling (where no development was present) a block size of 10m x 10m x 10m was chosen.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
		All the varying block sizes are added together after being estimated individually. Search ellipse dimensions were derived as a ratio of the variogram range (dependent on the underlying Geology of each domain).
	Any assumptions behind modelling of selective mining units.	No selective mining units are assumed in this estimate.
	Any assumptions about correlation between variables.	No other elements other than gold have been estimated.
	Description of how the geological interpretation was used to control the resource estimates.	Hangingwall and footwall wireframe surfaces were created using sectional interpretation. These were used to define the Pope John K2 and hangingwall and footwall halo mineralised zones based on the shearing, veins, and gold grade. K2 (Pope John) is a steeply dipping structure with quartz veining evident from drilling and development. Footwall/Hangingwall halo (Pope John) - Steeply dipping sheared structure with minor quartz stringers in the hangingwall and footwall of the K2 evident from drilling and development. For mine planning purposes a waste model is created by projecting the hangingwall and footwall surfaces 15m either side. A default grade of 0.1gpt is assigned and the same resource classification as the adjacent ore lode is applied to ensure consistency in MSO Resource Classification reporting.
	Discussion of basis for using or not using grade cutting or capping.	Top cuts were applied to the composited sample data. The top cut values are applied in several steps, using influence limitation top cutting. A top cut (AU) and non-top cut (*_NC) variable is created, as well as a spatial variable (*_IL) which only has values where the top cut values appear. For example, where gold requires a top cut, the following variables will be created and estimated: • AU (top cut gold) • AU_NC (non- top-cut gold) The top-cut and non-top cut values are estimated using search ranges based on the variogram, and the *_IL values estimated using very small ranges (e.g., 5m x 5m x 5m). Where the *_IL values produce estimated blocks within these restricted ranges, the *_NC estimated values replace the original top cut estimated values (AU). The application of the top-cuts has not resulted in a significant decrease in the mean grade from the un-cut to top-cut data. No hard top cuts have been applied to the Pope John resource estimate as no genuinely anomalous values exist in the data set.
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	Statistical measures of estimation performance, such as the Slope of Regression, are used to assess the quality of the estimation for each domain. Differences in the global grade of the declustered, top cut composite data set and the average model grade were within 10%, or justification for a difference outside 10% was explicable. Swath plots comparing declustered, top cut composites to block model grades are prepared and reviewed. Plots are also prepared summarising the critical model parameters.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
		Visually, block grades are assessed against drill hole and face data.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	The tonnes have been estimated on a dry basis.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	The Mineral Resource Estimate has been reported at a 1.63gpt cut off within 2.5m minimum mining width (excluding dilution) MSOs using a $AU2,250/oz gold price.
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.	No mining assumptions have been made during the resource wireframing or estimation process.
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.	No metallurgical assumptions have been made during the resource wireframing or estimation process.
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 green fields 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.	A “Licence to Operate” is held by the operation which is issued under the requirement of the “Environmental Protection Act 1986”, administered by the Department of Environment (DoE). The Licence stipulates environmental conditions for the control of air quality, solid waste management, water quality, and general conditions for operation. Groundwater Licences are held for water abstraction, including production bore field water use for mineral processing, and mine dewatering, in accordance with the Rights in Water and Irrigation Act 1914. These Licences are also regulated by DoE and are renewable on a regular basis. Kanowna Operations conduct extensive environmental monitoring and management programs to ensure compliance with the requirements of the Licence and lease conditions. An Environmental Management System is in place to ensure that Northern Star employees and contractors meet or exceed environmental compliance requirements. The Kalgoorlie operations are fully permitted including groundwater extraction and dewatering, removal of vegetation, mineral processing, and open pits. Kalgoorlie Operations have been compliant with the International Cyanide Management Code since 2008. Compliance with air quality permits is particularly important at Kanowna because of the roaster operation and because there are three facilities in the Kalgoorlie region emitting SO_2 gas. Kanowna has a management program in

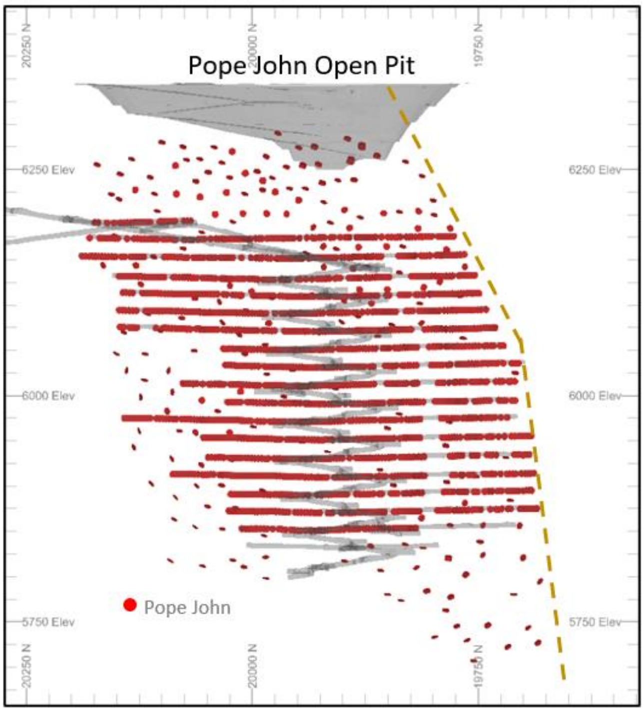
APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
		place to minimize the impact of SO_2 on regional air quality and ensure compliance with regulatory limits.
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.	An investigation into average density values for the various lithological units at Pope John was completed and the mean densities by lithology were coded into the database. Where there were no measurements for a specific lithology a default of 2.8 t/m^3 was applied. Density was then estimated by Ordinary Kriging or Inverse Distance Squared, using the associated gold estimation parameters for that domain. Post estimation, default density values for the transitional zone has been applied, based on regional averages.
	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.	No significant voids are encountered in the ore zones and underground environment.
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	Assumptions on the average bulk density of individual lithologies, based on 423 bulk density measurements at Pope John. Assumptions were also made based on regional averages, on the default density applied to transitional (2.3t/m^3) material, due to lack of data in this area. The mineralised structure does not extend above the completely oxidised horizon (BOCO).
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.	Classification is based on a series of factors including: • Geologic grade continuity • Density of available drilling • Statistical evaluation of the quality of the kriging estimate • Confidence in historical data, based on the Data Class system
	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).	All relevant factors have been given due weighting during the classification process.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The Resource model methodology is appropriate, and the estimated grades reflect the Competent Persons view of the deposit.
Audits or reviews	The results of any audits or reviews of Mineral Resource Estimates.	The Resource model has been subjected to internal peer reviews.
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 Estimate is considered robust and representative of the Pope John K2 mineralisation. The application of geostatistical methods has helped to increase the confidence of the model and quantify the relative accuracy of the resource.
	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	This resource report relates to the Pope John deposit. The model will show local variability even though the global estimate reflects the total average tonnes and grade.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
	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.	No reconciliation factors are applied to the resource post-modelling.

POPE JOHN DEPOSIT
. Long section view of the Pope John deposit and data used in the Resource Estimate.



Section 4: Estimation and Reporting of Ore Reserves
(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	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.	Northern Star Resources Limited 2021 Mineral Resource.
	Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	The Mineral Resources are reported inclusive of the Ore Reserve.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	Site visits have been undertaken by the Competent Person.
	If no site visits have been undertaken indicate why this is the case.	Site visits undertaken.
Study status	The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.	A minimum Pre-Feasibility level study has been completed.
	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.	Upgrade of previous Ore Reserve.
Cut-off parameters	The basis of the cut-off grade(s) or quality parameters applied.	Forward looking forecast costs and physicals form the basis of the cut-off grade calculations. • The assumed AUD gold price is at a conservative assumption of $1,750/oz • Mill recovery factors are based on test work and historical averages from the region. Various cut-off grades are calculated including a break-even cut-off grade (BCOG), Variable cut-off grade (VCOG) and Mill cut-off grade (MCOG). The VCOG is used as the basis for stope design, though any areas which are marginal or require significant development are assessed by a more detailed financial analysis to confirm their profitability.
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 optimisation or by preliminary or detailed design).	Indicated Resources were converted to Probable Ore Reserves subject to mine design physicals and an economic evaluation. Stockpiled material was considered as proved.
	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 Kundana Gold Operations (incorporating Millennium, Centenary, Pope John, Moonbeam and Christmas) is accessed via a portal within the open pit. The ore is accessed from the Hanging wall from levels at 20m spacing (25m in Millennium North). Top down open stoping methods are applied, and the levels are broken into selectively sized stoping blocks to maximise production.
	The assumptions made regarding geotechnical parameters (e.g., pit slopes, stope sizes, etc.), grade control and pre-production drilling.	The mine design considers well established geotechnical constraints and is reviewed by geotechnical engineers prior to being finalised. Historical geological and geotechnical information is gathered from the nearby operations including Barkers, Strzelecki and Centenary, and still in operation, Raleigh, Rubicon, Hornet and Pegasus, and learnings from this are applied to the geotechnical parameters used. Grade control is carried out through resource definition drilling and face sampling of all ore drives.
	The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).	This Table 1 applies to underground mining only

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Criteria	JORC Code explanation	Commentary
	The mining dilution factors used.	20% dilution has been applied to all stopes.
	The mining recovery factors used.	A calculated 70% recovery is applied to unfilled up hole stopes to account for rib pillar requirements and 65% recovery on levels where regional sill pillars are required.
	Any minimum mining widths used.	A minimum stope mining width of 2.5m has been used. This considers a minimum stope width of 1.7m +0.4m dilution in the Hangingwall and +0.4m dilution in the Footwall.
	The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.	Designed stopes with greater than 50% inferred blocks are excluded from the reported Ore Reserve.
	The infrastructure requirements of the selected mining methods.	Infrastructure in place, currently an operating mine.
Metallurgical factors or assumptions	The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.	Ore from the Kundana Gold operations is treated at the Jubilee Mill, Kanowna Belle and Carosue Dam milling facilities, all owned by NSR. These facilities are designed to process more than 6.7 million tonnes per annum as a combined throughput (Jubilee – 1Mtpa, Kanowna Belle– 2Mtpa, Carosue Dam – 3.7Mtpa). All plants have the capability to treat free milling ores with additional capacity at the Kanowna Belle facility to treat refractory material. Ore is treated either using the flotation circuit and associated concentrate roaster circuit (including carbon-in-leach (CIL) gold recovery) or bypassing the flotation circuit and going directly to a CIL circuit designed to treat flotation tails. The plants campaign both refractory and free milling ores every month.
	Whether the metallurgical process is well-tested technology or novel in nature.	Plus 10 years milling experience with Kundana ores.
	The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.	Plus 10 years milling experience with Kundana ores.
	Any assumptions or allowances made for deleterious elements.	No assumptions made
	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.	Plus 10 years milling experience with Kundana ores.
	For minerals that are defined by a specification, has the ore Reserve estimation been based on the appropriate mineralogy to meet the specifications?	Not applicable.
Environmental	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	Kundana Gold is currently compliant with all legal and regulatory requirements. All government permits and Licences and statutory approvals are either granted or in the process of being granted.

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Criteria	JORC Code explanation	Commentary
	of approvals for process residue storage and waste dumps should be reported.	
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.	All current site infrastructure is suitable to the proposed mining plan.
Costs	The derivation of, or assumptions made, regarding projected capital costs in the study.	Mine development capital cost based on historical performance on site and life-of-mine forward planning. Plant and equipment capital are based on site experience and the LOM plan.
	The methodology used to estimate operating costs.	All overhead costs and operational costs are projected forward on an AUD $/t based on historical data.
	Allowances made for the content of deleterious elements.	No allowances made.
	The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.	Single commodity pricing for gold only, using a long-term gold price of AUD $1,750/oz, 2.5% WA state Government Royalty, as per NSR corporate guidance.
	The source of exchange rates used in the study.	All rates considered in Australian Dollars (AUD) as per NSR corporate guidance.
	Derivation of transportation charges.	Historic performance.
	The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.	Historic performance.
	The allowances made for royalties payable, both Government and private.	All State Govt. and third-party royalties are built into the cost model.
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.	All revenue based on a gold price of AUD $1,750/oz.
	The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	Corporate guidance.
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.	All product is assumed sold directly to market at the nominated Corporate gold price.
	A customer and competitor analysis along with the identification of likely market windows for the product.	Not relevant for gold.

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Criteria	JORC Code explanation	Commentary
	Price and volume forecasts and the basis for these forecasts.	Corporate guidance.
	For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	Not relevant for gold.
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.	All costs assumptions are made based on historical performance from the mine and current economic forecast seen as representative of current market conditions.
	NPV ranges and sensitivity to variations in the significant assumptions and inputs.	Sensitivities assessed at varying gold prices.
Social	The status of agreements with key stakeholders and matters leading to social licence to operate.	Agreements are in place and are current with all key stakeholders.
Other	To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:	No issues foreseen.
	Any identified material naturally occurring risks.	No issues foreseen.
	The status of material legal agreements and marketing arrangements.	No issues foreseen.
	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.	No issues foreseen.
Classification	The basis for the classification of the Ore Reserves into varying confidence categories.	Ore Reserves classifications are derived from the underlying Resource model classifications – i.e., Measured Resource material is converted to either Proved or Probable Reserves, with Indicated Resource material converting to Probable Reserve.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The results appropriately reflect the Competent Persons view of the deposit.
	The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	None.

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Criteria	JORC Code explanation	Commentary
Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.	This ore Reserve has been prepared and peer reviewed internally within Northern Star Resources. There have been no external reviews of this Ore Reserve estimate.
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.	Confidence in the model and Ore Reserve is considered high based on nearby Northern Star operated mines along the same ore bearing structures and the previous 12 months development and stope performance at the Kundana Gold Operations.
	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.	Ore Reserves are best reflected as global estimates.
	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.	There is high confidence in these models as the areas are well known and well drilled.
	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.	Reconciliation results from past mining at Centenary, Millennium and Pope John reflect estimates in the Ore Reserve estimates.

JORC Code, 2012 Edition – Table 1 Report

Strzelecki Underground - 31 March 2021

Section 1: Sampling Techniques and Data
(Criteria in this section apply to all succeeding sections.)

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.	A combination of sample types was used to collect material for analysis including underground diamond drilling (DD), surface diamond drilling (RC) and face channel (FC) sampling. RAB holes were excluded from the estimate and where sufficient diamond drill holes were present, RC holes were also excluded.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><th></th><th colspan="3">Strzelecki</th></tr>
<tr><th></th><th># of Holes</th><th>Total m's</th><th># of Samples</th></tr>
<tr><td>DD</td><td>245</td><td>57,914</td><td>34,446</td></tr>
<tr><td>FS</td><td>4,789</td><td>6,816</td><td>9,287</td></tr>
<tr><td>RC</td><td>94</td><td>6,746</td><td>6,100</td></tr>
<tr><td>RC_DD</td><td>3</td><td>1,275</td><td>620</td></tr>
<tr><td>Total</td><td>5,131</td><td>72,751</td><td>50,453</td></tr>
</table>

RC holes utilised in the estimate are all above the UG workings and near surface. The majority of these are within the depleted open pit area.</td></tr>
<tr><td></td><td>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</td><td>DD core is sampled within geological boundaries with a minimum (0.2m) and maximum (1.0m) sample length. Historical face samples range from 0.01m vein point samples to full face channels.</td></tr>
<tr><td></td><td>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., ‘reverse circulation drilling was used to obtain 1m samples from which 3kg was pulverised to produce a 30g 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.</td><td>Historical face and DD data makes up a large portion of the data. The sample collection methods and assay methods are variable due to the time span over which these samples were collected. The samples were collected in line with normal practices at the time. The majority of these historic samples affect already depleted areas.

The details outlined in this report focus on details of the recent diamond drilling data collection practices as specifics on data collection methods for historical data were not recorded or no longer available.

DD drill core was nominated for either half core or full core sampling. Core designated for half core was cut in half using an automated core saw. The mass of material collected will depend on the drill hole diameter and sampling interval selected. Core designated for full core was broken with a rock hammer if sample segments were too large to fit into sample bags.

All the face samples used were from the historic Strzelecki mining. Many of these only targeted the vein and were point samples with a depth of 0.01m.

All of the recent samples added in the STZR* series drilling were delivered to a commercial laboratory where they were dried, crushed to 95% passing 3mm if required, at this point large samples may be split using a rotary splitter, pulverisation to 90% passing 75µm, a 40g charge was selected for fire assay.</td></tr>
<tr><td>Drilling techniques</td><td>Drill type (e.g., core, reverse circulation, 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.).</td><td>There is limited information on the specifics of historical data. The following provides details mainly on the practices undertaken for the recent UG diamond drilling.

Underground DD techniques were predominantly used to drill the Strzelecki deposit.

Surface diamond drill holes were completed using HQ2 (63.5mm) core whilst underground diamond drill holes were completed using NQ2 (50.5mm) core.

Currently, core is orientated using the Boart Longyear Trucore Core Orientation system.

In some cases, RC pre-collars were drilled followed by diamond tails. Pre-collar depth was determined in the drill design phase depending on the target been drilled and production constraints.</td></tr>
<tr><td></td><td>Method of recording and assessing core and chip sample recoveries and results assessed.</td><td>For DD drilling, any core loss is recorded on the core block by the driller. This is captured by the logging geologist and entered as interval into the hole log.</td></tr>
</table>

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
Drill sample recovery	Measures taken to maximise sample recovery and ensure representative nature of the samples.	For diamond drilling, the contractors adjust their rate of drilling and method if recovery issues arise. All recovery is recorded by the drillers on core blocks. This is checked and compared to the measurements of the core by the geological team. Any issues are communicated back to the drilling contractor.
	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.	Recovery was acceptable for diamond core and no relationship between grade and recovery is observed. Average recovery across the Kundana camp is at 99%. Much of the core loss at Strzelecki is in the footwall of the main lodes, where a softer shear zone exists in the SAQ lithological unit.
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.	There is limited information on the specifics of historic geological logging. The following provides details mainly on the practices undertaken for the recent UG diamond drilling and is broadly applicable to historical core logging. All diamond core is logged for lithology, veining, alteration, mineralisation, and structure. Structural measurements of specific features are taken through oriented zones. Logging is entered in AcQuire using a series of drop-down menus which contain the appropriate codes for description of the rock. Historical underground face samples range from multiple to single samples. Many faces contain a singular point sample in the ore zone down to 0.01m in length. Others contain the ore sample as well as waste samples up to ~4.5m in length.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	For all recently drilled holes all core logging is qualitative with mineralised zones assayed for quantitative measurements. Every core tray is photographed wet. A large portion of historic core and underground faces no longer have photos available.
	The total length and percentage of the relevant intersections logged.	For all recently added drill holes, the entire length of the hole was logged. For historic drill holes, there are areas with incomplete data.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	There is limited information on the specifics of detailed sample preparation techniques utilized for historic drilling. The following provides details mainly on the practices undertaken for the recent UG diamond drilling and is partially applicable to historical core logging. Where available details of historical practices have been provided. Diamond core is cut using an automated core saw. The type of drilling determines the level of sampling/cutting completed. Half core is taken for most exploration drilling. In the case of half core sampling, half the core is taken with the remaining half being stored for later reference. Whole core samples are utilised in areas where the ground conditions result in very broken core and cutting the core is not practical. There has been no recent Grade Control (GC) drilling into the Strzelecki deposit.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	For RC drilling, all RC samples are split using a rig-mounted cone splitter to collect a sample 3 - 4kg in size from each 1m interval. any areas identified as having anomalous gold. Outside known mineralised zones spear samples were taken over a 4m interval for composite sampling.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Historic sample preparation data is incomplete. However, the samples that do have a variation of fire assay or screen fire assays recorded indicates there was adequate preparation applied to use these sample methods. As such the

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Criteria	JORC Code explanation	Commentary
		preparation of the historic samples lacking this data detail has been deemed appropriate. Preparation of NSR samples was conducted at Bureau Veritas Kalgoorlie and Perth preparation facilities, Sample preparation commenced with sorting, checking, and drying at less than 110°C to prevent sulphide breakdown. Samples are jaw crushed to a nominal -6mm particle size. If the sample is greater than 3kg a Boyd crusher with rotary splitter is used to reduce the sample size to less than 3kg (typically 1.5kg) at a nominal <3mm particle size. The entire crushed sample (if less than 3kg) or sub-sample is then pulverised to 90% passing 75µm, using a Labtechnics LM5 bowl pulveriser. 400g pulp subsamples are then taken with an aluminium scoop and stored in labelled pulp packets. The sample preparation is considered appropriate for the deposit.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Procedures are utilised to guide the selection of sample material in the field. Standard procedures are used for all processes within the laboratory. Grind checks are performed at the pulverising stage requiring at least 90% of material to pass below 75µm.
	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.	Umpire sampling selection is conducted on all Kundana core samples as an entire batch. A minimum of 3% of the samples processed each month are selected to be sent to the ALS Perth check lab.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	The sample sizes are considered appropriate for 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.	Specifics of historic assay methods are not completely available. However, as the methods were in line with standard practices of the day, they have been deemed suitable for use. Assay methods that are recorded are fire assays and screen fire assays in high grade zones. Charge size, prill composition and size as well as final analysis methods are not recorded for historical data. For more recent drilling (post-2014) a 40g fire assay charge is used with a lead flux in the furnace. The prill is totally digested by HCl and HNO_3 acids before Atomic Absorption Spectroscopy (AAS) determination for gold analysis. For areas around the target zone and of prospective high-grade mineralisation, a fire assay to extinction method may be used. For the assay to extinction, a total of five 40g charges go through the above fire assay process. The average of these five charges is then taken and used as the primary assay value. These extent and selection of which zones are fire assayed to extinction is decided upon by the logging geologist at the sample selection stage.
	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 tools were used to determine any element concentrations.
	Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.	Certified reference materials (CRMs) are inserted into the sample sequence at a rate of 1 per 20 samples to ensure correct calibration. Any values outside of three standard deviations are re-assayed with a new CRM. Blanks are inserted into the sample sequence at a rate of 1 per 20 samples. The insertion points are selected at random, except where high grade mineralisation is expected. In these cases, a Blank is inserted after the high-grade sample to test for contamination. Results greater than 0.2gpt if received

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Criteria	JORC Code explanation	Commentary
		are investigated, and re-assayed if appropriate. New pulps are prepared if anomalous results cannot be resolved. Barren flushes are regularly inserted after anticipated high gold grades at the pulverising stage. No field duplicates were submitted for diamond core. Pulp duplicates are requested after zones of suspected mineralization. However, areas which are fire assayed to extinction are not selected to have pulp duplicates analysed. These are indicated on the sample sheet and submission sheet. When visible gold is observed in core, a quartz flush is requested after the sample. Laboratory performance was monitored using the results from the QA samples mentioned above. This was supplemented by the internal QA samples used by the laboratories, which included pulp duplicates and CRMs. The QA studies indicate that accuracy and precision are within industry accepted limits.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	All significant intersections are verified by another Northern Star geologist during the drill hole validation process, and later by a Competent Person to be signed off.
	The use of twinned holes.	No twinned holes were drilled for this data set. Re-drilling of some of the drill holes has occurred due to issues downhole (e.g., bogged rods). These have been captured in the database as an ‘A’. Re-drilled holes are sampled whilst the original drill hole is logged but not sampled.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Geological logging and sampling are directly recorded into AcQuire. Assay files are received in *.cvs, *.pdf and *.sif formats. The *.cvs’s are loaded directly into the database using an AcQuire importer object. Assays are then processed through a form in AcQuire for QAQC checks. Non-editable electronic copies of these are stored.
	Discuss any adjustment to assay data.	No adjustments are made to this assay data. If there are issues with the results files received, amended versions are requested from the lab.
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	Planned holes are marked up by the mine survey department using a total station survey instrument in mine grid (Kundana 10). The actual hole position is then located by the mine survey department once drilling is completed. Holes are lined up on the collar point using the DHS Minnovare Azimuth Aligner. Planned azimuths and dips of the holes are downloaded to the aligner which is then placed on the rod string to align the hole for drilling. During drilling, single shot surveys are conducted every 30m to track the deviation of the hole and to ensure it stays close to design. This is performed using the DeviShot camera which measures the gravitational dip and magnetic azimuth. Results are uploaded from the DeviShot software into a csv format which is then imported into the AcQuire database. At the completion of the hole, a Multishot survey, using the Devi flex survey tool is completed taking measurements every 3m to ensure accuracy of the hole. This is a relative change survey which is then referenced back to the Azimuth aligner to provide an accurate, continuous nonmagnetic survey. This is also converted to *.cvs format and imported into the AcQuire database.

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Criteria	JORC Code explanation	Commentary
	Specification of the grid system used.	Collar coordinates are recorded in mine grid (Kundana 10) and transformed into MGA94_51.
	Quality and adequacy of topographic control.	Quality topographic control has been achieved through Lidar data and survey pickups of holes over the last 15 years.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Drill hole spacing varies across the deposit. For Resource Targeting drilling spacing was typically a minimum of 60m x 60m. This allowed for infill Resource Definition drilling at 30m x 30m spacing.
	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 data spacing and distribution is considered sufficient to support the Resource and Reserve estimates.
	Whether sample compositing has been applied.	No sample compositing has been 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.	The mineralisation in the Strzelecki deposit dips 65° to the WSW. Diamond drilling was designed to target the orebodies perpendicular to this orientation to allow for an ideal intersection angle. Instances where this was not achievable (mostly due to drill platform location), drilling was not completed or re-designed once a suitable platform became available. Drill holes with low intersection angles will be excluded from resource estimation where more suitable data is available.
	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.	No sampling bias is considered to have been introduced by the drilling orientation. Where drill hole intersections are particularly oblique, they have been flagged as unsuitable for resource estimation.
Sample security	The measures taken to ensure sample security.	Prior to laboratory submission, samples are stored by Northern Star Resources in a secure yard. Once submitted to the laboratories they are stored in a secure fenced compound, tracked through their chain of custody and via audit trails.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits have been undertaken of the data and sampling practices at this stage.

Section 2: Reporting of Exploration Results
(Criteria listed in the preceding section also apply to this section.)

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.	All holes mentioned in this report are located within the M16/72, M16/157 M16/97, tenements, which are owned by Kundana Gold Pty Ltd a wholly owned subsidiary of Northern Star Resources. There are no private royalty agreements applicable to this tenement.

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Criteria	JORC Code explanation	Commentary
	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.	No known impediments exist, and the tenements are in good standing.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Early exploration was completed in the mid-1980s by the White Flag JV with the development and operation of South Pit. Modern mining continued in late 1980s with the Kundana North and Strzelecki Open pits. Mining continued through to 1999 when the Centenary Underground ceased operations. Exploration continued over the camp through various companies including Placer Dome and Barrick Gold. In early 2014, Northern Star Resources purchased the Kundana camp from Barrick Gold and mining recommenced in March 2014.
Geology	Deposit type, geological setting and style of mineralisation.	The Kundana camp is situated within the Norseman-Wiluna Greenstone Belt, in an area dominated by the Zuleika Shear zone, which separates the Coolgardie domain from the Ora Banda domain. This regional scale shear zone also contains several large-scale faults cross cutting the major shear zone at an approximately north-south orientation. Mineralization along the Strzelecki trend consists of a shear hosted vein. This is present on the contact between a quartz rich arenite (SAQ) unit and intermediate andesite (Black Flag Group) unit. This quartz arenite unit is a small sedimentary unit situated on the contact of the much larger, coarse grained, mafic Powder Sill Gabbro. The Strzelecki main vein is the Strzelecki trend deposit north of the Pope John fault on the quartz arenite - andesite contact. The Strzelecki footwall vein is situated parallel within the footwall andesite. There are several smaller mine scale faults offsetting the main and footwall Strzelecki lodes.
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: • easting and northing of the drill hole collar • elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar • dip and azimuth of the hole • down hole length and interception depth • hole length.	A summary of the data present in the Strzelecki deposit can be found above. The collar locations are presented in plots contained in the NSR 2021 resource report. Drill holes vary in survey dip from +85 degrees to -90 degrees, with hole depths ranging from 5m to 1,606m, with an average depth of 244m. The assay data acquired from these holes are described in the NSR 2021 resource report. All validated drill hole data was used directly or indirectly for the preparation of the resource estimates described in the resource report.
	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.	The exclusion of information is not material.
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.	All reported assay results have been length weighted to provide an intersection width. A maximum of 2m of barren material (considered < 1gpt) between mineralised samples has been permitted in the calculation of these widths. Typically grades over 1.0gpt are considered significant, however, where low grades are intersected in areas of known mineralisation these will be reported. No top-cutting is applied when reporting intersection results.
	Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the	No new information is presented in this release. Where an intersection incorporates short lengths of high grade results these intersections will be

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Criteria	JORC Code explanation	Commentary
	procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.	reported in addition to the aggregate value. These will typically take the form of ##.#m @ ##.##gpt including ##.#m @ ##.##gpt.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values have been used for the reporting of these exploration results.
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results:	True widths have been calculated for intersections of the known ore zones, based on existing knowledge of the nature of these structures.
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	Both the downhole width and true width have been clearly specified when used.
	If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').	It is known and has been reported as such.
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 drill hole collar locations and appropriate sectional views.	Appropriate plans and section have been included at the end of this Table.
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.	Both high and low grades have been reported accurately, clearly identified with the drill hole attributes and 'From' and 'To' depths.
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 other material exploration data has been collected for this area.
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).	Drilling will continue in various parts of the deposit with the intention of extending areas of known mineralisation. Drilling is continuing to the south towards the Pope John fault and historic Strzelecki workings. Drilling will also focus on infilling areas of the resource to improve confidence.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Appropriate diagrams accompany this release.

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Section 3: Estimation and Reporting of Mineral Resources
(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

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.	Sampling and logging data is either recorded on paper and manually entered into a database system or is captured digitally via a logging laptop and directly loaded into the database system. There are checks in place to avoid duplicate holes and sample numbers. Where possible, raw data is loaded directly into the database from laboratory and survey derived files. Northern Star personnel have validated the database during the interpretation of the mineralisation, with any drill holes containing dubious data excluded from the MRE. Northern Star provided a list of holes to be excluded from the MRE and the reasons behind those exclusions.
	Data validation procedures used.	The database has further checks performed to back -up those performed in section 2. The complete exported data base including drill and face samples is brought into Datamine RM and checked visually for any apparent errors i.e., holes or faces sitting between levels or not on surface DTM's. Multiple checks are then made on numerical data including: • Empty table checks to ensure all relevant fields are populated • Unique collar location check, • Distances between consecutive surveys is no more than 50m for drill-holes • Differences in azimuth and dip between consecutive surveys of no more than 0.3 degrees • The end of hole extrapolation from the last surveyed shot is no more than 30m • Underground face sample lines are not greater than +\- 5 degrees from horizontal Errors are corrected where possible. When not possible the data is resource flagged as "No" in the database and the database is re-exported. This data will not be used in the estimation process. In addition to being validated, drill holes are assigned a Data Class, which provides a secondary level of confidence in the quality of the data. An extensive review of all the historic data for Strzelecki was undertaken in 2018 and Data Class (DC) values from 0-3 assigned to each drill hole and channel, criteria summarised below: • DC 3 = Recent data; all data high quality, validated and all original data available. • DC 2 = Historic data; may or may not have all data in AcQuire or hard copy available but has proximity to recent drilling which confirms the dip, width and tenor. Used to assist in classification. • DC 2 = Recent data; minor issues with data but away from the ore zone. • DC 1 = Historic data; same criteria as DC 2 but cannot be verified with recent drilling, i.e., too far away or too dissimilar dip, width and/or tenor to recent drilling. Not used in Resource estimate. • DC 0 = Historic data; no original information or new drilling in proximity to verify. Not used in Resource estimate.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	The geological interpretations underpinning these resource models have been prepared by geologists working in adjacent mines and in direct, daily contact with similar ore bodies. The estimation of grades was undertaken by personnel familiar with the ore body and the general style of mineralisation encountered. The Senior Resource Geologist, a Competent Person for reviewing and signing off on estimations of the Strzelecki and Xmas lodes maintained a site presence throughout the process.
	If no site visits have been undertaken indicate why this is the case.	The Competent Person has maintained a presence onsite.

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Criteria	JORC Code explanation	Commentary
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	The interpretation of the Strzelecki deposit has been carried out using a systematic approach to ensure continuity of the geology and estimated mineral resource. The confidence in the geological interpretation is high and is supported with information acquired during ore development as well as from drilling for Strzelecki. The interpretation of the Strzelecki mineralization wireframes was conducted using the sectional interpretation method. Where development levels were present sectional interpretation was completed in plan-view at approximately 5m - 10m spacing to allow for a better constrained and realistic wireframe. Where only drilling data was present sectional interpretation was completed at approximately 10m - 20m spacing. Wireframes have been checked for unrealistic volumes and updated where appropriate. The geological interpretation of Strzelecki is considered robust due to the nature of the mineralization and that large portions of the deposit have been developed and mined.
	Nature of the data used and of any assumptions made.	Underground development mapping and sampling along with diamond drill core lithology, structure, alteration, and mineralisation logs have been used to generate the mineralisation model for Strzelecki Main Vein and Strzelecki Foot Wall. The primary assumption that the mineralization is hosted within structurally controlled quartz veins is considered robust. The relationship between the Xmas and Strzelecki deposits is currently under review. At this stage, a hard boundary has been assumed between these deposits.
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	Due to the close spaced nature of the data from the recent mining and the consistency of the structure conveyed by this dataset, no alternative interpretations have been considered.
	The use of geology in guiding and controlling Mineral Resource estimation.	The interpretation of the main Strzelecki structure (SMV) is based on the presence of logged quartz percentage, quartz veining/shearing and continuity between sections of these structures and adjacent mineralised structures. The SFW is a footwall lode approximately 40m west of the SMV. Geologically, it sits on the contact between an intermediate volcaniclastic sediment and interleaved mafic and felsic volcanics. The lode presents as a narrow vein, usually between 0.1 and 0.4m. Gold is vein hosted, with little to no mineralised alteration halo.
	The factors affecting continuity both of grade and geology.	Structure is continuous over the length of the Strzelecki deposit with either quartz or the controlling structure used to guide this interpretation. The mineralised structure pinches out at the northern extent of the Strzelecki deposit before any offsetting structure terminates mineralisation. The grade continuity is consistent within the SMV and exists as a high-grade south trending plunge, up to 200m.
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 Strzelecki deposit strikes approximately north-south over a length of 850m and dips steeply to the west with the down-dip extents more than 1,500m. The SMV is ~ 0.5m wide and can be up to 1.5m wide with a minimum width of ~ 0.1m. The SFW has a strike of ~300 – 400m and down dip extent of 450m. SFW is ~ 1m wide and can be up to 1.5m wide with a minimum width of ~ 0.1m.
	The nature and appropriateness of the estimation technique(s) applied and key	The Strzelecki mineralisation is comprised of Strzelecki Main Vein (SMV) and Strzelecki Foot Wall (SFW). All mineralisation domains used 1.0m

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Criteria	JORC Code explanation	Commentary
Estimation and modelling techniques	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.	composites with direct grade estimation. The Resource Estimation has been completed using Ordinary Kriging (OK), utilising a three-pass search strategy using Datamine Studio RM software. Details of the estimation parameters for each mineralisation zone are summarised below. SMV - divided into two subdomains based on data density: high density around development levels and lower density distal to development. The subdomains were combined, and an influence limitation top cut selected at 600gpt Au. A lower cut grade of 10gpt was selected to create the lower cut model (this is described in grade cut strategy below). Once top cut, variography was completed on the combined composite file, indicating grade continuity down plunge to the south. The data had a search range of ~200m in direction 1 and 150m in direction 2. Three passes were used for estimation. SFW - divided into two subdomains based on data density: high density around development levels and lower density distal to development. The subdomains were combined, analysed and top cut at 250gpt Au. Once top cut, variography was completed on the combined composite file. The data had a search range of ~120m in direction 1 and 80m in direction 2. Three passes were used for estimation.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource Estimate takes appropriate account of such data.	All mineralisation zones had check estimates using Inverse Distance power of 2 (ID^2) and Nearest Neighbour (NN) completed as a comparison. Estimates using a soft and semi-soft boundary (with the Strzelecki and Xmas composites combined) have also been compared and reviewed. The SMV estimate has been compared to the previous MRE.
	The assumptions made regarding recovery of by-products.	No assumptions have been made regarding recovery of any 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 considered and therefore estimated for this deposit.
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	The data spacing varies considerably within the deposit, ranging from underground development samples (every 1m along strike x 15m down dip) to drill hole intercepts which varied from grade control spacing at 20m (along strike) x 25m (down dip) to resource definition spacing at 50m (along strike) x 50m (down dip). As such, the block sizes varied depending on sample density. In areas of high-density underground face samples with average spacing of 2m, a 5m x 5m x 5m block size was chosen. For lower density drilling (where no development was present) with wider spacing, a block size of 10m x 10m x 10m was chosen. All the varying block sizes are added together after being estimated individually. Search ellipses were derived from variograms, with distances for pass 1 generally 66% of the variogram range (although also driven by the underlying understanding of the local geology).
	Any assumptions behind modelling of selective mining units.	No selective mining units are assumed in this estimate.
	Any assumptions about correlation between variables.	No other elements other than gold have been estimated.

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Criteria	JORC Code explanation	Commentary
	Description of how the geological interpretation was used to control the resource estimates.	Hanging wall and footwall wireframe surfaces were created using sectional interpretations. These were used to define the SMV and SFW mineralised zones based on the shearing, veins, and gold grade. SMV (Strzelecki main vein) steeply dipping structure with quartz veining evident from drilling and development. SFW (Strzelecki footwall) steeply dipping structure in the footwall of the SMV, quartz veining evident from drilling and development. For mine planning purposes, a waste model is created by projecting the hanging wall and footwall surfaces 50m either side. A default grade of 0.1gpt is assigned and the same resource classification as the adjacent ore lode is applied.
	Discussion of basis for using or not using grade cutting or capping.	Top cuts were applied to the composited sample data with the intention of reducing the impact of outlier values on the average grade (ranging from 250 to 600gpt for Strzelecki). The top cut values are applied in several steps using influence limitation top capping. A top cut (AU) and non-top cut (*_NC) variable is created, as well as a spatial variable (*_IL) which only has values where the top cut values appear. For example, where gold requires a top cut, the following variables will be created and estimated: • AU (top cut gold) • AU_NC (non- top-cut gold) • AU_IL (spatial variable; values present where AU data is top cut) The top-cut and non-top cut values are estimated using search ranges based on the modelled gold variogram, and the *_IL values estimated using very small ranges (e.g., 5m x 5m x 5m). Where the *_BC values produce estimated blocks within these restricted ranges, the *_NC estimated values replace the original top cut estimated values (AU). The same principle has been applied to produce a ‘lower-cut’ to the composited sample data with the intention of limiting the impact of high-grade samples on genuine low-grade areas, especially where there is an order of magnitude difference in assayed grade. A spatial variable (*_LC) is created using the non-top cut (*_NC) variable which only has values where the low-cut values appear; this applies to gold low cutting only. For example, where gold requires a low cut, the following variables will be created and estimated: • AU_NC (non- cut gold) • AU_LC (spatial variable; values present where AU data is low-cut) The non-top cut values are estimated using search ranges based on the modelled gold variogram, and the *_LC values estimated using small ranges (e.g., 25m x 20m x 15m). Where the *_LC values produce estimated blocks within these restricted ranges, the *_LC estimated values replace the original top cut estimated values (AU). Multiple iterations are tested with different search ranges to ensure a reasonable result.
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	Statistical measures of Kriging error, such as Kriging Efficiency and Slope of Regression, are used to assess the quality of the estimation for each domain. Differences between the declustered, top-cut composite data set and the average model grade must be within 10%. Swath plots comparing declustered, top-cut composites to block model grades are prepared and visual checks summarising the critical model parameters. Visually, block grades are assessed against drill hole and face data.

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Criteria	JORC Code explanation	Commentary
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	The tonnes have been estimated on a dry basis.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	The Mineral Resource Estimate has been reported at a 1.63gpt cut off within 2.5m minimum mining width including no dilution MSOs using a $AUD2,250/oz gold price.
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.	No mining assumptions have been made during the resource wireframing or estimation process.
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.	No metallurgical or recovery assumptions have been made during the MRE.
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 green fields 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.	A “Licence to Operate” is held by the operation which is issued under the requirement of the “Environmental Protection Act 1986”, administered by the Department of Environment (DoE). The licence stipulates environmental conditions for the control of air quality, solid waste management, water quality, and general conditions for operation. Groundwater Licences are held for water abstraction, including production bore field water use for mineral processing, and mine dewatering, in accordance with the Rights in Water and Irrigation Act 1914. These Licences are also regulated by DoE and are renewable on a regular basis. Kanowna Operations conduct extensive environmental monitoring and management programs to ensure compliance with the requirements of the licences and lease conditions. An Environmental Management System is in place to ensure that Northern Star employees and contractors exceed environmental compliance requirements. The Kalgoorlie operations are fully permitted including groundwater extraction and dewatering, removal of vegetation, mineral processing, and open pits. Kalgoorlie Operations have been compliant with the International Cyanide Management Code since 2008. Compliance with air quality permits is particularly important at Kanowna because of the roaster operation. Kanowna has a management program in place to minimize the impact of SO_2 on regional air quality and ensure compliance with regulatory limits.

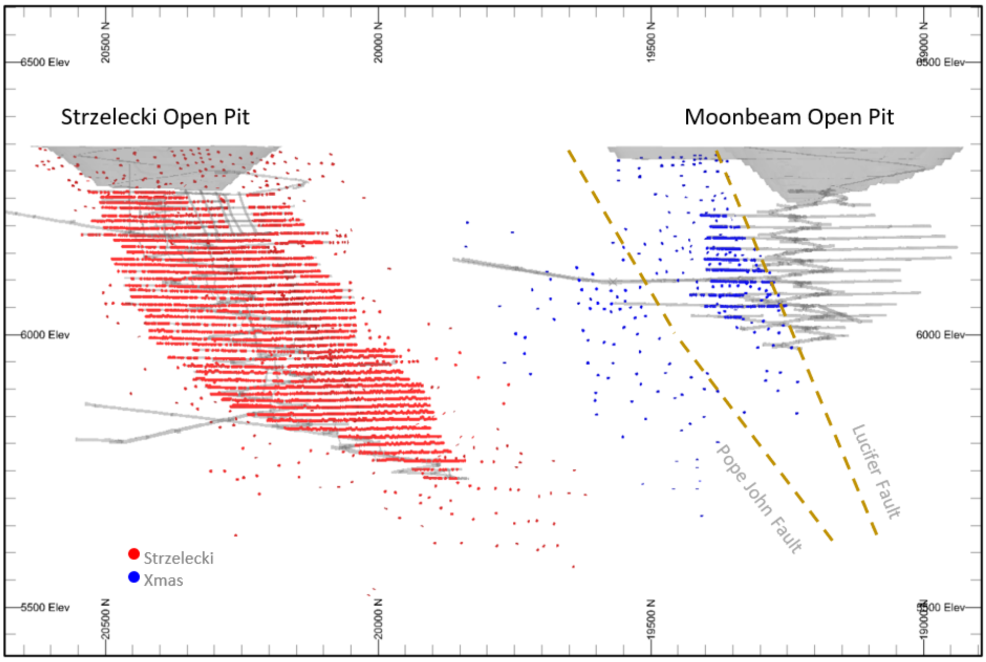
APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
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.	A thorough investigation into average density values for the various lithological units at Strzelecki has been completed. As a result, the mean densities by lithology were coded into the database (taking an average of all measurements, excluding outliers). Where there were no measurements for a specific lithology, a default of 2.77 t/m^3 was applied. Density was then estimated by Ordinary Kriging using the associated gold estimation parameters for that domain. Post estimation, default density values for the oxide and transition zones were applied, based on regional averages.
	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.	No significant voids are encountered in the ore zones and underground environment.
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	Assumptions on the average bulk density of individual lithologies, based on 1,854 bulk density measurements. Assumptions were also made based on regional averages, on the default densities applied to oxide (1.8 t/m^3) and transitional (2.3 t/m^3) material, due to lack of measurements in these zones.
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.	Classification is based on a series of factors including: • Geologic grade continuity • Density of available drilling • Statistical evaluation of the quality of the kriging estimate • Confidence in historical data, based on the new Data Class system
	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).	All relevant factors have been given due weighting during the classification process.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The resource model methodology is appropriate, and the estimated grades reflect the Competent Person's view of the deposit.
Audits or reviews	The results of any audits or reviews of Mineral Resource Estimates.	The Resource model has been subjected to internal peer reviews. No external audits have been undertaken on Strzelecki.
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 Estimate is considered robust and representative of the Strzelecki style of mineralisation. The application of geostatistical methods has helped to increase the confidence of the model and quantify the relative accuracy of the resource.
	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	This resource report relates to the Strzelecki mineralization. The model will show local variability even though the global estimate reflects the total average tonnes and grade.

Criteria	JORC Code explanation	Commentary
	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.	No reconciliation factors are applied to the resource post-modelling.

STRZELECKI DEPOSIT

Long section view of the Strzelecki deposit and data used in the Resource Estimate



Section 4: Estimation and Reporting of Ore Reserves

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

Criteria	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.	Northern Star Resources Limited 2021 Mineral Resource.
	Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	The Mineral Resources are reported inclusive of the Ore Reserve

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	Site visits undertaken.
	If no site visits have been undertaken indicate why this is the case.	Site visits undertaken.
Study status	The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.	A minimum Pre-Feasibility level study has been completed.
	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.	Upgrade of previous Ore Reserve.
Cut-off parameters	The basis of the cut-off grade(s) or quality parameters applied.	Forward looking forecast costs and physicals form the basis of the cut-off grade calculations. • The assumed AUD gold price is at a conservative assumption of $1,750/oz. • Mill recovery factors are based on test work and historical averages from the region. Various cut-off grades are calculated including a fully costed cut-off grade (COG), variable cut-off grade (VCOG) and mill cut-off grade (MCOG). The VCOG is used as the basis for stope design, though any areas which are marginal or require significant development are assessed by a more detailed financial analysis to confirm their profitability.
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 optimisation or by preliminary or detailed design).	Indicated Resources were converted to Probable Ore Reserves subject to mine design physicals and an economic evaluation. Stockpiled material was considered as Proved Reserve.
	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 Kundana Gold Operations (incorporating Millennium, Centenary, Pope John, Moonbeam, Strzelecki and Christmas) is accessed via a portal within the open pit. The ore is accessed from the Hanging wall from levels at 20m spacing (25m in Millennium North). Top down open stoping methods are applied and the levels are broken into selectively sized stoping blocks to maximise production.
	The assumptions made regarding geotechnical parameters (e.g., pit slopes, stope sizes, etc.), grade control and pre-production drilling.	The mine design considers well established geotechnical constraints and is reviewed by geotechnical engineers prior to being finalised. Independent geotechnical reviews were conducted for the Barkers and Strzelecki mines to provide guidance on pillar locations and extraction sequences. Historical geological and geotechnical information is gathered from the nearby operations that operated previously, including Barkers, Strzelecki, Raleigh and Centenary, and still in operation, Rubicon, Hornet and Pegasus with learnings applied to the geotechnical parameters used.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
		Grade control is carried out through Resource Definition drilling and face sampling of all ore drives.
	The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).	This Table 1 applies to underground mining only.
	The mining dilution factors used.	20% dilution is applied to unfilled up hole stopes.
	The mining recovery factors used.	A calculated 70% recovery is applied to unfilled up hole stopes to account for rib pillar requirements and 65% recovery on levels where regional sill pillars are required.
	Any minimum mining widths used.	A minimum stope mining width of 2.5m has been used. This considers a minimum stope width of 1.7m +0.4m dilution in the Hangingwall and +0.4m dilution in the Footwall.
	The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.	Designed stopes with greater than 50% inferred blocks are excluded from the reported Ore Reserve.
	The infrastructure requirements of the selected mining methods.	Infrastructure in place, currently an operating mine.
Metallurgical factors or assumptions	The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.	Ore from the Kundana Gold operations is treated at the Jubilee Mill, Kanowna Belle and Carosue Dam milling facilities, all owned by NSR. These facilities are designed to process more than 6.7 million tonnes per annum as a combined throughput (Jubilee – 1Mtpa, Kanowna Belle– 2Mtpa, Carosue Dam – 3.7Mtpa). All plants have the capability to treat free milling ores with additional capacity at the Kanowna Belle facility to treat refractory material. Ore is treated either using the flotation circuit and associated concentrate roaster circuit (including carbon-in-leach (CIL) gold recovery) or bypassing the flotation circuit and going directly to a CIL circuit designed to treat flotation tails. The plants campaign both refractory and free milling ores every month.
	Whether the metallurgical process is well-tested technology or novel in nature.	Plus 10 years milling experience with Kundana ores.
	The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.	Plus 10 years milling experience with Kundana ores.
	Any assumptions or allowances made for deleterious elements.	No assumptions made.
	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.	Plus 10 years milling experience with Kundana ores.
	For minerals that are defined by a specification, has the ore Reserve	Not applicable.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
	estimation been based on the appropriate mineralogy to meet the specifications?	
Environmental	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.	The Millennium operation is currently compliant with all legal and regulatory requirements. All government permits and Licences and statutory approvals are either granted or in the process of being granted.
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.	All current site infrastructure is suitable to the proposed mining plan.
Costs	The derivation of, or assumptions made, regarding projected capital costs in the study.	Mine development capital cost based on historical performance on site and life-of-mine forward planning. Plant and equipment capital also based on site experience and the LOM plan.
	The methodology used to estimate operating costs.	All overhead costs and operational costs are projected forward on an AUD $/t based on historical data.
	Allowances made for the content of deleterious elements.	No allowances made.
	The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.	Single commodity pricing for gold only, using a long-term gold price of AUD $1,750/oz., 2.5% WA state Government Royalty, as per NSR corporate guidance.
	The source of exchange rates used in the study.	All rates considered in Australian Dollars (AUD) as per NSR corporate guidance.
	Derivation of transportation charges.	Historic performance.
	The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.	Historic performance.
	The allowances made for royalties payable, both Government and private.	All State Govt. and third-party royalties are built into the cost model.
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.	All revenue based on a gold price of AUD $1,750/oz.
	The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	Corporate guidance.
	The demand, supply and stock situation for the particular commodity, consumption	All product is assumed sold direct at the Corporate gold price.

Criteria	JORC Code explanation	Commentary
Market assessment	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.	Not relevant for gold.
	Price and volume forecasts and the basis for these forecasts.	Not relevant for gold.
	For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	Not relevant for gold.
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.	All costs assumptions are made based on historical performance from the mine and current economic forecast seen as representative of current market conditions.
	NPV ranges and sensitivity to variations in the significant assumptions and inputs.	Sensitivities assessed at varying gold prices.
Social	The status of agreements with key stakeholders and matters leading to social licence to operate.	Agreements are in place and are current with all key stakeholders.
Other	To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:	No issues foreseen.
	Any identified material naturally occurring risks.	No issues foreseen.
	The status of material legal agreements and marketing arrangements.	No issues foreseen.
	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.	No issues foreseen.
Classification	The basis for the classification of the Ore Reserves into varying confidence categories.	All Ore Reserves include Proved (if any) and Probable classifications. These classifications are based on Mineral Resource classifications as modified by subsequent grade control drilling and face sampling results.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The results appropriately reflect the Competent Persons view of the deposit.

Criteria	JORC Code explanation	Commentary
	The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	None.
Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.	This Ore Reserve has been prepared and peer reviewed internally within Northern Star Resources. There have been no external reviews of this Ore Reserve estimate.
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.	Confidence in the model and Ore Reserve is considered high based on nearby Northern Star operated mines along the same ore bearing structures.
	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.	Ore Reserves are best reflected as global estimates.
	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.	Other than dilution and recovery factors described above, no additional modifying factors applied. There is high confidence in these models as the areas is well known and well drilled.
	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.	Reconciliation results from past mining at Centenary, Millennium, Barkers and Strzelecki reflect estimates in the Ore Reserve estimates.

JORC Code, 2012 Edition – Table 1 Report

Xmas Deposit: Resources and Reserves – 31 March 2021

Section 1: Sampling Techniques and Data
(Criteria in this section apply to all succeeding sections.)

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.).	A combination of sample types was used to collect material for analysis, surface diamond drilling (DD), surface reverse circulation drilling (RC), surface RC drilling with diamond tails (RC_DD) and face sampling (FS). RAB holes were excluded from the estimate and where sufficient diamond drillholes were present, RC holes were also excluded.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td></td><td>These examples should not be taken as limiting the broad meaning of sampling.</td><td>
<table>
<tr><th></th><th>XMAS</th><th></th><th></th></tr>
<tr><th></th><th>Number of Holes</th><th>Total Metres</th><th>Number of Samples</th></tr>
<tr><td>DD</td><td>166</td><td>39187</td><td>17495</td></tr>
<tr><td>FS</td><td>201</td><td>955</td><td>1478</td></tr>
<tr><td>RC</td><td>32</td><td>2521</td><td>2132</td></tr>
<tr><td>RC_DD</td><td>10</td><td>4723</td><td>1939</td></tr>
<tr><td>TOTAL</td><td>409</td><td>47387</td><td>23044</td></tr>
</table>
</td></tr>
<tr><td></td><td>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</td><td>DD drilling is sampled within geological boundaries with a minimum (0.2m) and maximum (1.0m) sample length.</td></tr>
<tr><td></td><td>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., ‘reverse circulation drilling was used to obtain 1m samples from which 3kg was pulverised to produce a 30g 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.</td><td>DD drill core was nominated for either half core or full core sampling. Core designated for half core was cut in half using an automated core saw. The mass of material collected will depend on the drill hole diameter and sampling interval selected. Core designated for full core was broken with a rock hammer if sample segments were too large to fit into sample bags.

All samples were delivered to a commercial laboratory where they were dried, crushed to 95% passing 3mm if required, at this point large samples may be split using a rotary splitter, pulverisation to 90% passing 75µm with a 40g charge selected for fire assay.</td></tr>
<tr><td>Drilling techniques</td><td>Drill type (e.g., core, reverse circulation, 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.).</td><td>Both RC and Diamond Drilling techniques were used to drill the Kundana deposits.

Surface diamond drill holes were completed using HQ2 (63.5mm) core whilst underground diamond drill holes were completed using NQ2 (50.5mm) core.

Historically, core was orientated using the Reflex ACT Core orientation system. Currently, core is orientated using the Boart Longyear Trucore Core Orientation system.

RC drilling was generally completed using a 5.75” drill bit, downsized to 5.25” at depth.

In many cases RC pre-collars were drilled followed by diamond tails. Pre-collar depth was determined in the drill design phase depending on the target been drilled and production constraints.</td></tr>
<tr><td>Drill sample recovery</td><td>Method of recording and assessing core and chip sample recoveries and results assessed.</td><td>For DD drilling, any core loss is recorded on the core block by the driller. This is then captured by the logging geologist and entered as interval into the hole log.</td></tr>
<tr><td></td><td>Measures taken to maximise sample recovery and ensure representative nature of the samples.</td><td>For diamond drilling the contractors adjust their rate of drilling and method if recovery issues arise. All recovery is recorded by the drillers on core blocks. This is checked and compared to the measurements of the core by the geological team. Any issues are communicated back to the drilling contractor.</td></tr>
<tr><td></td><td>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.</td><td>Recovery was excellent for diamond core and no relationship between grade and recovery was observed. Average recovery across the Kundana camp is at 99%. Much of the core loss at Xmas is in the footwall of the main lodes, where a softer shear zone exists in the SAQ lithological unit.</td></tr>
<tr><td>Logging</td><td>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.</td><td>All diamond core is logged for lithology, veining, alteration, mineralisation and structural. Structural measurements of specific features are also taken through oriented zones.</td></tr>
</table>

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
		Logging is entered in AcQuire using a series of drop-down menus which contain the appropriate codes for description of the rock.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	All core logging is qualitative with mineralised zones assayed for quantitative measurements. Every core tray is photographed wet. All underground faces are logged and sampled to provide both qualitative and quantitative data.
	The total length and percentage of the relevant intersections logged.	For all drill holes, the entire length of the hole was logged.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	Diamond core is cut using an automated core saw. The type of drilling determines the level of sampling/cutting completed i.e., half core is always taken for exploration drilling. In the case of half core sampling, half the core is taken with the remaining half being stored for later reference. Whole core samples are utilised in areas where the ground conditions result in very broken core and cutting the core is not practical.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	For RC drilling, all RC samples are split using a rig-mounted cone splitter to collect a sample 3 - 4kg in size from each 1m interval. These samples were utilised for any zones approaching known mineralisation and from any areas identified as having anomalous gold. Outside known mineralised zones spear samples were taken over a 4m interval for composite sampling.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Preparation of NSR underground channel samples was conducted at Bureau Veritas Kalgoorlie and Perth preparation facilities. Underground drill core samples were processed at ALS Global Kalgoorlie and Perth facilities. Surface exploration drilling was sent to Genalysis. Sample preparation commenced with sorting, checking and drying at less than 110°C to prevent sulphide breakdown. Samples are jaw crushed to a nominal -6mm particle size. If the sample is greater than 3kg, a Boyd crusher with rotary splitter is used to reduce the sample size to less than 3kg (typically 1.5kg) at a nominal <3mm particle size. The entire crushed sample (if less than 3kg) or sub-sample is then pulverised to 90% passing 75µm, using a Labtechnics LM5 bowl pulveriser. 400g pulp subsamples are then taken with an aluminium scoop and stored in labelled pulp packets. The sample preparation is considered appropriate for the deposits.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Procedures are utilised to guide the selection of sample material in the field. Standard procedures are used for all processes within the laboratory. Grind checks are performed at the pulverising stage requiring at least 90% of material to pass below 75µm.
	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.	Umpire sampling selection is conducted on all the Kundana core samples as an entire batch. A minimum of 3% of the total samples processed each month are selected to be sent to the ALS Perth check lab.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	The sample sizes are considered appropriate for the material been 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.	A 40g fire assay charge is used with a lead flux in the furnace. The prill is totally digested by HCl and HNO_3 acids before Atomic Absorption Spectroscopy (AAS) determination for gold analysis. For areas around the target zone and of prospective high-grade mineralisation, a fire assay to extinction method may be used. For the assay to extinction, a total of five 40g charges go through the above fire assay process. The average of these five charges is then taken and used as the primary assay value. These extent and selection of which zones

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
		are fire assayed to extinction is decided upon by the logging geologist at the sample selection stage.
	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 tools were used to determine any element concentrations.
	Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.	Certified reference materials (CRMs) are inserted into the sample sequence at a rate of 1 per 20 samples to ensure correct calibration. Any values outside of 3 standard deviations are re-assayed with a new CRM. Blanks are inserted into the sample sequence at a rate of 1 per 20 samples. The insertion points are selected at random but are at least 1 in every 20 samples. Results greater than 0.2gpt if received are investigated, and re-assayed if appropriate. New pulps are prepared if anomalous results cannot be resolved. Barren flushes are regularly inserted after anticipated high gold grades at the pulverising stage. When visible gold is observed in core, a quartz flush is requested after the sample. No field duplicates were submitted for diamond core. Pulp duplicates are requested after zones of suspected mineralisation. However, areas which are fire assayed to extinction are not selected to have pulp duplicates analysed These are indicated on the sample sheet and submission sheet. Laboratory performance was monitored using the results from the QA samples mentioned above. This was supplemented by the internal QA samples used by the laboratories, which included pulp duplicates and CRMs. The QA studies indicate that accuracy and precision are within industry accepted limits.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	All significant intersections are verified by another Northern Star geologist during the drill hole validation process, and later by a Competent Person to be signed off.
	The use of twinned holes.	No twinned holes were drilled for this data set. Re-drilling of some of the drillholes has occurred due to issues downhole (e.g., bogged rods). These have been captured in the database as an 'A'. Re-drilled holes are sampled whilst the original drillhole is logged but not sampled.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Geological logging and sampling are directly recorded into AcQuire. Assay files are received in **.cvs, **.pdf and **.sif formats. The csv's are loaded directly into the database using an AcQuire importer object. Assays are then processed through a form in AcQuire for QAQC checks. Noneditable electronic copies of these are stored.
	Discuss any adjustment to assay data.	No adjustments are made to this assay data. If there are issues with the results files received, amended versions are requested from the lab.
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	Planned holes are marked up by the mine survey department using a total station survey instrument in mine grid (Kundana 10). The actual hole position is then located by the mine survey department once drilling is completed. In some cases, drill hole collar points are measured off survey stations if a mark-up cannot be completed.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
		Holes are lined up on the collar point using the DHS Minnovare Azimuth Aligner. Planned azimuths and dips of the holes are downloaded to the aligner which is then placed on the rod string to align the hole for drilling. During drilling, single shot surveys are conducted at the 30m mark to check azimuth aligner set up and track off collar deviation. The DeviFlex tool is used at 50m intervals to track the deviation of the hole and to ensure it stays close to design. This is a relative change tool which measures the change in orientation along the path of the hole at 3m intervals. The DeviFlex tool is referenced back to the azimuth aligner measurement to provide a non-magnetic survey in true North. At the completion of the hole, a final DeviFlex survey is completed taking measurements for the entire hole. Results are uploaded from the DeviFlex software into cloud service. This data is then reviewed, downloaded, and imported into the AcQuire database. The download from the DeviFlex service utilises an average of all the DeviFlex surveys taken over the entire hole. These are review and validated and erroneous surveys discarded. Prior to the overshot mounted DeviFlex tool being available, a combination of magnetic and DeviFlex single shot surveys were used and 30m intervals whilst drilling. A final end of hole multi shot DeviFlex survey was taken to provide a continuous non-magnetic survey of the entire hole trace.
	Specification of the grid system used.	Collar coordinates are recorded in mine grid (Kundana 10) and transformed into MGA94_51 for reporting.
	Quality and adequacy of topographic control.	Quality topographic control has been achieved through Lidar data and survey pickups of holes over the last 15 years.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Drill hole spacing varies across the deposit. For resource targeting drilling spacing was typically a minimum of 60m x 60m. This allowed for RSD and GC infill drilling down 15m x 15m.
	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 data spacing and distribution is considered sufficient to support the resource and Reserve estimates.
	Whether sample compositing has been applied.	No sample compositing has been 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.	The Kundana deposits are orientated relatively north to south with dips varying between 30° to 90° to the West. Diamond drilling was designed to target the orebodies perpendicular to this orientation to allow for an ideal intersection angle. Instances where this was not achievable (mostly due to drill platform location), drilling was not completed or re-designed once a suitable platform became available. Drill holes with low intersection angles will be excluded from resource estimation where more suitable data is available.
	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.	No sampling bias is considered to have been introduced by the drilling orientation. Where drill holes have been particularly oblique, they have been flagged as unsuitable for resource estimation.
Sample security	The measures taken to ensure sample security.	Prior to laboratory submission samples are stored by Northern Star Resources in a secure yard. Once submitted to the laboratories they are stored in a secure fenced compound, tracked through their chain of custody and via audit trails.

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Criteria	JORC Code explanation	Commentary
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits have been undertaken of the data and sampling practices at this stage.

Section 2: Reporting of Exploration Results
(Criteria listed in the preceding section also apply to this section.)

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.	All holes mentioned in this report are located within the M16/157 tenement, which are owned by Kundana Gold Pty Ltd a wholly owned subsidiary of Northern Star Resources. There are no private royalty agreements applicable to this tenement.
	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.	No known impediments exist, and the tenements are in good standing.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Early exploration was completed in the mid-1980s by the White Flag Joint Venture with the development and operation of South Pit. Modern mining continued in late 1980s with the Kundana North and Strzelecki Open pits. Mining continued through to 1999 when the Centenary Underground ceased operations. Exploration continued over the camp through various companies including Placer Dome and Barrick Gold. Early 2014 saw Northern Star Resources purchase the Kundana camp from Barrick Gold and mining recommenced in March 2014. Pegasus was discovered in the same year and commenced mining in 2015.
Geology	Deposit type, geological setting and style of mineralisation.	The Kundana camp is situated within the Norseman-Wiluna Greenstone Belt, in an area dominated by the Zuleika shear zone, which separates the Coolgardie domain from the Ora Banda domain. This regional scale shear zone also contains several large-scale faults cross cutting the major shear zone at an approximately north-south orientation. Mineralisation along the Strzelecki trend consists of a shear hosted vein. This is present on the contact between a quartz-rich arenite (SAQ) unit and intermediate andesite (Black Flag Group) unit. This quartz arenite unit is a small sedimentary unit situated on the contact of the coarse-grained mafic Powder Sill Gabbro. The Xmas ore body sits on the Strzelecki trend to the north of the Lucifer Fault. Recent close spaced drilling and development completed has indicated the presence of smaller, mine scale faults which can disrupt the continuity of the mineralised trend.
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: • easting and northing of the drill hole collar	A summary of the data present in the Xmas deposit can be found above. The collar locations are presented in plots contained in the NSR 2021 resource report.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
	• elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar • dip and azimuth of the hole • down hole length and interception depth • hole length.	Drill holes vary in dip from +44° to -76°, hole depths ranging from 13m to 876m with an average depth of 233m. The assay data acquired from these holes are described in the NSR 2021 resource report. All validated drill hole data were used directly or indirectly for the preparation of the resource estimates described in the resource report.
	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.	The exclusion of information is not material.
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.	All reported assay results have been length weighted to provide an intersection width. A maximum of 2m of barren material (considered < 1gpt) between mineralised samples has been permitted in the calculation of these widths. Typically grades over 2.0gpt are considered significant, however, where low grades are intersected in areas of known mineralisation these will be reported. No top-cutting is applied when reporting intersection results.
	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.	Where an intersection incorporates short lengths of high grade results these intersections will be reported in addition to the aggregate value. These will typically take the form of ##.#m @ ##.##gpt including ##.#m @ ##.##gpt.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values have been used for the reporting of these exploration results.
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results:	True widths have been calculated for intersections of the known ore zones, based on existing knowledge of the nature of these structures.
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	Both the downhole width and true width have been clearly specified when used.
	If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').	It is known and has been reported as such.
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 drill hole collar locations and appropriate sectional views.	Appropriate plans and section have been included at the end of this Table and in the NSR 2021 resource 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.	Both high and low grades have been reported accurately, clearly identified with the drill hole attributes and 'From' and 'To' depths.

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Criteria	JORC Code explanation	Commentary
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 other material exploration data has been collected for this area.
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).	Drilling will continue in various parts of the deposit with the intention of extending areas of known mineralization. Drilling is continuing down dip of the currently defined Xmas structure. Drilling will also focus on infilling areas of the resource to improve confidence prior to development.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Appropriate diagrams accompany this release.

Section 3: Estimation and Reporting of Mineral Resources
(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

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.	Sampling and logging data are either recorded on paper and manually entered into a database system or is captured digitally via a logging laptop and directly loaded into the database system. There are checks in place to avoid duplicate holes and sample numbers. Where possible, raw data is loaded directly into the database from laboratory and survey derived files. Northern Star personnel have validated the database during the interpretation of the mineralization, with any drill holes containing dubious data excluded from the MRE. Northern Star has provided a list of holes to be excluded from the MRE and the reasons behind those exclusions in the MY21 Xmas Resource Report.
	Data validation procedures used.	The complete exported data base including drill and face samples is brought into Datamine RM and checked visually for any apparent errors i.e., holes or faces sitting between levels or not on surface DTM's. Multiple checks are then made on numerical data including: • Empty table checks to ensure all relevant fields are populated • Unique collar location check, • Distances between consecutive surveys is no more than 50m for drill-holes • Differences in azimuth and dip between consecutive surveys of no more than 0.3 degrees • The end of hole extrapolation from the last surveyed shot is no more than 30m • Underground face sample lines are not greater than +\- 5 degrees from horizontal (unless sampling has purposely been completed as such i.e., sampling low-angle mineralisation) Errors are corrected where possible. When not possible the data is resource flagged as "No" in the database and the database is re-exported. This data will not be used in the estimation process.

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Criteria	JORC Code explanation	Commentary
		In addition to being validated, drill holes are assigned a Data Class, which provides a secondary level of confidence in the quality of the data. An extensive review of all the historic data for Xmas was undertaken in 2018 and Data Class (DC) values from 0 - 3 assigned to each drill hole and channel, criteria summarised below: • DC 3 = Recent data; all data high quality, validated and all original data available. • DC 2 = Historic data; may or may not have all data in AcQuire or hard copy available but has proximity to recent drilling which confirms the dip, width and tenor. Used to assist in classification. • DC 2 = Recent data; minor issues with data but away from the ore zone. • DC 1 = Historic data; same criteria as DC 2 but cannot be verified with recent drilling, i.e., too far away or too dissimilar dip, width and/or tenor to recent drilling. Not to be used in Resource estimate. • DC 0 = Historic data; no original information or new drilling in proximity to verify. Not to be used in Resource estimate.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	The geological interpretations underpinning these resource models have been prepared by geologists working in adjacent mines and in direct, daily contact with similar ore bodies. The estimation of grades was undertaken by personnel familiar with the ore body and the general style of mineralisation encountered. The Senior Resource Geologist, a Competent Person for reviewing and signing off on estimations of the Xmas lodes maintained a site presence throughout the process.
	If no site visits have been undertaken indicate why this is the case.	The Competent Person has maintained a presence onsite.
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	The interpretation of the Xmas deposit has been carried out using a systematic approach to ensure continuity of the geology and estimated mineral resource. The confidence in the geological interpretation is moderate and is supported with information acquired during ore development as well as from drilling. It is difficult to interpret many of the smaller scale structures which offset the ore from diamond drilling data alone. Efforts have been taken to proactively interpret these structures wherever possible, with intersected structures extrapolated to the extents of the deposit. The interpretation of the Xmas mineralisation wireframe was conducted using the sectional interpretation method in Datamine RM software. Where development levels were present sectional interpretation was completed in plan-view at approximately 5 - 10m spacing to allow for a better constrained and geologically realistic wireframe. Where only drilling data was present sectional interpretation was completed at approximately 20m spacing.
	Nature of the data used and of any assumptions made.	Xmas mineralisation is based on drill and face data (lithology, structure, alteration, and mineralization logs). The primary assumption is that the mineralization is hosted within structurally controlled quartz veins, which is considered robust.
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	No alternative interpretations have been considered.
	The use of geology in guiding and controlling Mineral Resource estimation.	The interpretation of the main Xmas structure (XMV) is based on the presence of logged quartz percentage, quartz veining/shearing and continuity between sections of these structures and adjacent mineralised structures. The XHW lode is in the hanging wall of XMV. XHW has been interpreted based on the presence of logged quartz.
	The factors affecting continuity both of grade and geology.	Xmas is interpreted to be offset by several cross-cutting structures along its strike length, ranging from centimetre to metre scale. As these intersect obliquely to the ore lode, the result can be a 'gap' in the ore wireframe where

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
		no volume exists. Efforts have been made to interpret these structures wherever possible to ensure reasonable conversion of Resource as data spacing increases. Mineralisation on the Xmas trend is truncated at the south by the Lucifer fault. The relationship between the Strzelecki and Xmas deposits is currently under investigation. At this stage, a hard boundary is assumed which prevents high-grade intersections at the south of Strzelecki from informing the Xmas estimate. Grade continuity within the XMV is inconsistent and as such, the mineralisation has had spatial sub-domaining applied, based on gold grade. A semi-soft boundary has been used for the sub-domains during the estimation allowing slight smoothing along the boundaries between high- and low-grade (the current understanding is that the subdomain boundary is somewhat diffuse).
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 Xmas deposit extends over 800m of strike at the top of the deposit (near surface) with a dip extent of 1,000m. The XMV is ~ 0.3m wide and can be up to 1m wide with a minimum width of ~ 0.1m. The XHW has a 150m strike and 80m down dip extent. XHW is ~ 0.2m wide.
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 Xmas mineralisation is comprised of the Xmas Main Vein (XMV) and Xmas hanging wall (XHW) lodes. All mineralisation domains used 1.0m composites with direct grade estimation. The Resource Estimation has been completed using Ordinary Kriging (OK), utilising a three-pass search strategy using Datamine Studio RM software. Details of the estimation parameters for each mineralisation zone are summarised below. XMV - divided into three subdomains based on grade and data density: high-grade, low-grade, and dense data sub domains. The subdomains were combined, and an influence limitation top cut selected at 150gpt Au. A lower cut grade of 15gpt was selected to create the lower cut model (this is described in grade cut strategy below). Once top cut, variography was completed on the combined composite file, indicating grade continuity in a southern plunge direction for the high-grade subdomain (likely a result of the intersection lineation between the XMV lode and the Lucifer Fault). A northern plunge direction was selected for the low-grade domain. The face subdomain is contained within the high-grade domain. This is an area of both high grade and high data-density (where development has been completed). An influence limitation top cut of 250gpt has been used for this subdomain. The face subdomain also uses a southerly plunge but is more isotropic than the lower data-density subdomains. The data had a search range of 40m- 50m in direction 1 and 30m - 45m in direction 2. Three passes were used for estimation with distances generally 66% of the variogram range (although also driven by the underlying understanding of the local Geology). XHW - top cut of 150gpt selected. Due to the low number of samples (4 in total), variography was not possible. The XHW domain borrowed variography from the XMV for the OK estimate. The data had a search range of ~200m in direction 1 and 150m in direction 2. Three passes were used for estimation with distances based on the XMV variography.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource Estimate takes appropriate account of such data.	All mineralisation zones had check estimates using Inverse Distance power of 2 (ID^2) and Nearest Neighbour (NN) completed as a comparison. Estimates using a soft and semi-soft boundary (with the Strzelecki and Xmas composites combined) have also been compared and reviewed for previous versions of the Xmas estimate.

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Criteria	JORC Code explanation	Commentary
		Estimates have been compared to the previous MRE, with any change having to be justifiable.
	The assumptions made regarding recovery of by-products.	No assumptions have been made regarding recovery of any 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 considered and therefore estimated for this deposit.
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	The data spacing varies considerably within the deposit, ranging from underground development samples (every 3m along strike x 25m down dip) to drill hole intercepts which varied from grade control spacing at 20m (along strike) x 25m (down dip) to resource definition spacing at 40m (along strike) x 50m (down dip). As such, the block sizes varied depending on sample density. In areas of high-density, a 5m x 5m x 5m block size was chosen. For lower-density drilling (where no development was present) a block size of 10m x 10m x 10m was chosen. All the varying block sizes are added together after being estimated individually. Search ellipse dimensions were derived as a ratio of the variogram range (dependent on the underlying Geology of each domain).
	Any assumptions behind modelling of selective mining units.	No selective mining units are assumed in this estimate.
	Any assumptions about correlation between variables.	No other elements other than gold have been estimated.
	Description of how the geological interpretation was used to control the resource estimates.	Hanging wall and footwall wireframe surfaces were created using sectional interpretation. These were used to define the XMV and XHW mineralised zones based on the shearing, veins, and gold grade. XMV (Xmas main vein) steeply dipping structure with quartz veining evident from drilling. XHW (Xmas hanging wall) small steeply dipping structure in the hanging wall of the XMV. For mine planning purposes a waste model is created by projecting the hanging wall and footwall surfaces 50m either side. A default grade of 0.1gpt is assigned and the same resource classification as the adjacent ore lode is applied.
	Discussion of basis for using or not using grade cutting or capping.	Top cuts were applied to the composited sample data. Top cuts were selected based on a statistical analysis of the data and vary by domain (ranging from 15gpt to 250gpt for Xmas). The top cut values are applied in several steps using influence limitation top capping. A top cut (AU) and non-top cut (*_NC) variable is created, as well as a spatial variable (*_BC) which only has values where the top cut values appear; this applies to gold top cutting only. For example, where gold requires a top cut, the following variables will be created and estimated: • AU (top cut gold) • AU_NC (non- top-cut gold)

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Criteria	JORC Code explanation	Commentary
		• AU_IL (spatial variable; values present where AU data is top cut) The top-cut and non-top cut values are estimated using search ranges based on the modelled gold variogram, and the *_BC values estimated using very small ranges (e.g., 5m x 5m x 5m). Where the *_BC values produce estimated blocks within these restricted ranges, the *_NC estimated values replace the original top cut estimated values (AU). The same principle has been applied to produce a 'lower-cut' to the composited sample data with the intention of limiting the impact of high-grade samples on genuine low-grade areas, especially where there is an order of magnitude difference in assayed grade. A spatial variable (*_LC) is created using the non-top cut (*_NC) variable which only has values where the low-cut values appear; this applies to gold low cutting only. For example, where gold requires a low cut, the following variables will be created and estimated: • AU_NC (non- cut gold) • AUIL_LC (spatial variable; values present where AU data is low-cut) The non-top cut values are estimated using search ranges based on the modelled gold variogram, and the *_LC values estimated using small ranges (e.g., 25m x 20m x 15m). Where the *_LC values produce estimated blocks within these restricted ranges, the *_LC estimated values replace the original top cut estimated values (AU). Multiple iterations are tested with different search ranges.
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	Statistical measures of Kriging error, such as Kriging Efficiency and Slope of Regression, are used to assess the quality of the estimation for each domain. Differences between the declustered, top-cut composite data set and the average model grade must be within 10%. Swath plots comparing declustered, top-cut composites to block model grades are prepared. Visually, block grades are assessed against drill hole and face data.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	The tonnes have been estimated on a dry basis.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	The Mineral Resource Estimate has been reported at a 1.63gpt cut off within 2.5m minimum mining width including no dilution MSOs using a $AUD2,250/oz gold price.
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.	No mining assumptions have been made during the resource wireframing or estimation process.
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	No metallurgical or recovery assumptions have been made during the MRE.

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Criteria	JORC Code explanation	Commentary
	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.	
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 green fields 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.	A "Licence to Operate" is held by the operation which is issued under the requirement of the "Environmental Protection Act 1986", administered by the Department of Environment (DoE). The Licence stipulates environmental conditions for the control of air quality, solid waste management, water quality, and general conditions for operation. Groundwater Licences are held for water abstraction, including production bore field water use for mineral processing, and mine dewatering, in accordance with the Rights in Water and Irrigation Act 1914. These Licences are also regulated by DoE and are renewable on a regular basis. Kanowna Operations conduct extensive environmental monitoring and management programs to ensure compliance with the requirements of the Licences and lease conditions. An Environmental Management System is in place to ensure that Northern Star employees and contractors exceed environmental compliance requirements. The Kalgoorlie operations are fully permitted including groundwater extraction and dewatering, removal of vegetation, mineral processing, and open pits. Kalgoorlie Operations have been compliant with the International Cyanide Management Code since 2008. Compliance with air quality permits is particularly important at Kanowna because of the roaster operation. Kanowna has a management program in place to minimize the impact of SO_2 on regional air quality and ensure compliance with regulatory limits.
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.	A thorough investigation into average density values for the various lithological units at Xmas has been completed. As a result, the mean densities by lithology were coded into the database (taking an average of all measurements, excluding outliers). Where there were no measurements for a specific lithology, a default of 2.77 t/m^3 was applied. Density was then estimated by Ordinary Kriging using the associated gold estimation parameters for that domain. Post estimation, default density values for the oxide and transition zones were applied, based on regional averages.
	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.	No/minimal voids are encountered in the ore zones and underground environment.
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	Assumptions on the average bulk density of individual lithologies, based on 1,854 bulk density measurements at Xmas. Assumptions were also made based on regional averages on the default densities applied to oxide (1.8 t/m^3) and transitional (2.3 t/m^3) material, due to lack of measurements in these zones.
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.	Classification is based on a series of factors including: • Geologic grade continuity • Density of available drilling • Statistical evaluation of the quality of the kriging estimate • Confidence in both recent and historical data

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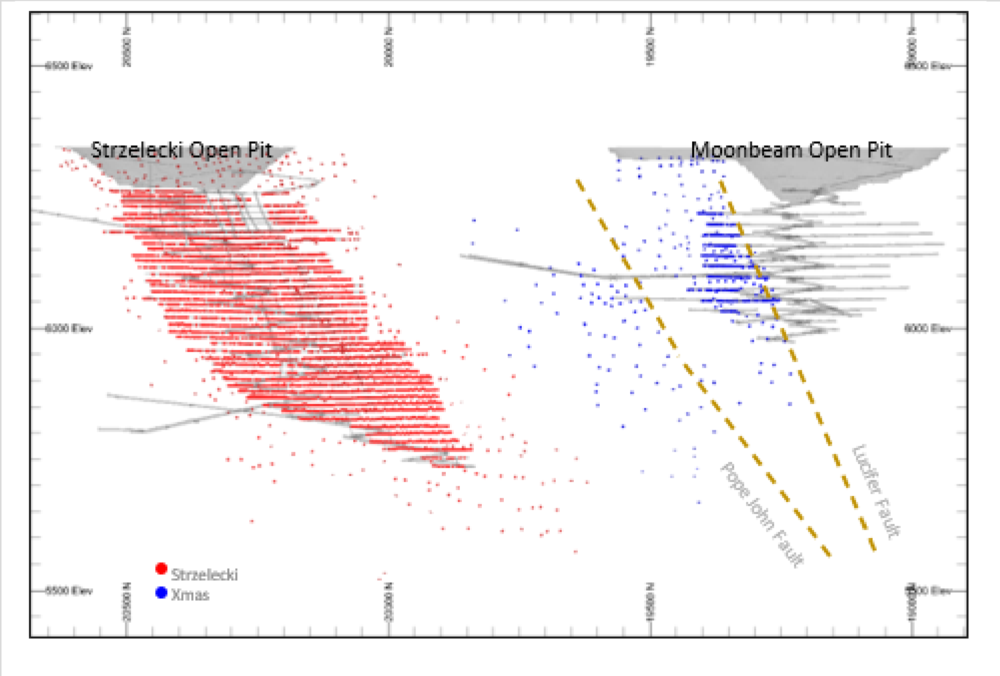
Criteria	JORC Code explanation	Commentary
	Whether appropriate account has been taken of all relevant factors (i.e., relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).	All relevant factors have been given due weighting during the classification process.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The resource model methodology is appropriate, and the estimated grades reflect the Competent Person's view of the deposit.
Audits or reviews	The results of any audits or reviews of Mineral Resource Estimates.	The Resource model has been subjected to internal peer reviews. No external audits have been undertaken on Xmas.
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 Estimate is considered robust and representative of the Xmas-Strzelecki style of mineralization. The application of geostatistical methods has helped to increase the confidence of the model and quantify the relative accuracy of the resource.
	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.	This resource report relates to the Xmas mineralization. The model will show local variability even though the global estimate reflects the total average tonnes and grade.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	No reconciliation factors are applied to the resource post-modelling.

XMAS DEPOSIT
Long section view of the Xmas deposit and data used in the Resource Estimate

Strzelecki

Xmas



Section 4: Estimation and Reporting of Ore Reserves
(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	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.	Northern Star Resources Limited March 2021 Mineral Resource
	Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	The Mineral Resources are reported inclusive of the Ore Reserve
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	Site visits have been undertaken by the Competent Person.
	If no site visits have been undertaken indicate why this is the case.	Site visits undertaken.
Study status	The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.	A minimum Pre-Feasibility level study has been completed.
	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.	Upgrade of previous Ore Reserve.
Cut-off parameters	The basis of the cut-off grade(s) or quality parameters applied.	Forward looking forecast costs and physicals form the basis of the cut-off grade calculations. • The assumed AUD gold price is at a conservative assumption of $1,750/oz

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
		• Mill recovery factors are based on test work and historical averages from the region. Various cut-off grades are calculated including a break-even cut-off grade (BCOG), Variable cut-off grade (VCOG) and Mill cut-off grade (MCOG). The VCOG is used as the basis for stope design, though any areas which are marginal or require significant development are assessed by a more detailed financial analysis to confirm their profitability.
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 optimisation or by preliminary or detailed design).	Indicated Resources were converted to Probable Ore Reserves subject to mine design physicals and an economic evaluation. Stockpiled material was considered as proved.
	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 Millennium underground mine (incorporating Millennium, Centenary, Pope John, Moonbeam, Strzelecki and Xmas) is accessed via a portal within the open pit. The ore is accessed from the footwall for Xmas from levels at 20m spacing. Top down open stoping methods are applied and the levels are broken into selectively sized stoping blocks to maximise production.
	The assumptions made regarding geotechnical parameters (e.g., pit slopes, stope sizes, etc.), grade control and pre-production drilling.	The mine design considers well established geotechnical constraints and is reviewed by geotechnical engineers prior to being finalised. Historical geological and geotechnical information is gathered from the nearby operations including Barkers, Strzelecki, Centenary and Raleigh, and still in operation, Rubicon, Hornet and Pegasus with learnings applied to the geotechnical parameters used. Grade control is carried out through resource definition drilling and face sampling of all ore drives.
	The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).	This Table 1 applies to underground mining only.
	The mining dilution factors used.	20% dilution has been applied to all stopes.
	The mining recovery factors used.	A calculated 70% recovery is applied to unfilled up hole stopes to account for pillar requirements.
	Any minimum mining widths used.	A minimum stope mining width of 2.5m has been used. This considers a minimum stope width of 1.7m +0.4m dilution in the Hangingwall and +0.4m dilution in the Footwall
	The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.	Designed stopes with greater than 50% inferred blocks are excluded from the reported Ore Reserve.
	The infrastructure requirements of the selected mining methods.	Infrastructure in place, currently an operating mine.
Metallurgical factors or assumptions	The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.	Ore from the Kundana Gold operations is treated at the Jubilee Mill, Kanowna Belle and Carosue Dam milling facilities, all owned by NSR. These facilities are designed to process more than 6.7 million tonnes per annum as a combined throughput (Jubilee – 1Mtpa, Kanowna Belle– 2Mtpa, Carosue Dam – 3.7Mtpa). All plants have the capability to treat free milling ores with additional capacity at the Kanowna Belle facility to treat refractory

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
		material. Ore is treated either using the flotation circuit and associated concentrate roaster circuit (including carbon-in-leach (CIL) gold recovery) or bypassing the flotation circuit and going directly to a CIL circuit designed to treat flotation tails. The plants campaign both refractory and free milling ores every month.
	Whether the metallurgical process is well-tested technology or novel in nature.	Plus 10 years milling experience with Kundana ores.
	The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.	Plus 10 years milling experience with Kundana ores.
	Any assumptions or allowances made for deleterious elements.	No assumptions made
	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.	Plus 10 years milling experience with Kundana ores.
	For minerals that are defined by a specification, has the ore Reserve estimation been based on the appropriate mineralogy to meet the specifications?	Not applicable
Environmental	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.	The Kundana Gold operation is currently compliant with all legal and regulatory requirements. All government permits and Licences and statutory approvals are either granted or in the process of being granted.
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.	All current site infrastructure is suitable to the proposed mining plan.
Costs	The derivation of, or assumptions made, regarding projected capital costs in the study.	Mine development capital cost based on historical performance on site and life-of-mine forward planning. Plant and equipment capital are based on site experience and the LOM plan.
	The methodology used to estimate operating costs.	All overhead costs and operational costs are projected forward on an AUD $/t based on historical data.
	Allowances made for the content of deleterious elements.	No allowances made.
	The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.	Single commodity pricing for gold only, using a long-term gold price of AUD $1,750/oz, 2.5% WA state Government Royalty, as per NSR corporate guidance

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Criteria	JORC Code explanation	Commentary
	The source of exchange rates used in the study.	All rates considered in Australian Dollars (AUD) as per NSR corporate guidance.
	Derivation of transportation charges.	Historic performance.
	The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.	Historic performance.
	The allowances made for royalties payable, both Government and private.	All State Govt. and third-party royalties are built into the cost model.
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.	All revenue based on a gold price of AUD $1,750/oz.
	The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	Corporate guidance.
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.	All product is assumed sold direct at the Corporate gold prices.
	A customer and competitor analysis along with the identification of likely market windows for the product.	Not relevant for gold.
	Price and volume forecasts and the basis for these forecasts.	Not relevant for gold.
	For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	Not relevant for gold.
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.	All costs assumptions are made based on historical performance from the mine and current economic forecast seen as representative of current market conditions.
	NPV ranges and sensitivity to variations in the significant assumptions and inputs.	Sensitivities assessed at varying gold prices.
Social	The status of agreements with key stakeholders and matters leading to social licence to operate.	Agreements are in place and are current with all key stakeholders.
Other	To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:	No issues foreseen.

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Criteria	JORC Code explanation	Commentary
	Any identified material naturally occurring risks.	No issues foreseen.
	The status of material legal agreements and marketing arrangements.	No issues foreseen.
	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.	No issues foreseen.
Classification	The basis for the classification of the Ore Reserves into varying confidence categories.	All Ore Reserves include Proved and Probable classifications. These classifications are based on Mineral Resource classifications as modified by subsequent grade control drilling and face sampling results.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The results appropriately reflect the Competent Persons view of the deposit.
	The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	None.
Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.	This Ore Reserve has been prepared and peer reviewed internally within Northern Star Resources. There have been no external reviews of this Ore Reserve estimate.
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.	Confidence in the model and Ore Reserve is considered high based on nearby Northern Star operated mines along the same ore bearing structures.
	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.	Ore Reserves are best reflected as global estimates.
	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	Other than dilution and recovery factors described above, no additional modifying factors applied. There is high confidence in these models as the areas are well known and well drilled.

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Criteria	JORC Code explanation	Commentary
	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.	Reconciliation results from past mining at Centenary, Millennium, Pope John, Strzelecki and Raleigh reflect estimates in the Ore Reserve estimates.

JORC Code, 2012 Edition – Table 1 Report

Barkers Underground Resource - 31 March 2021

Section 1: Sampling Techniques and Data
(Criteria in this section apply to all succeeding sections.)

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.	Sampling was completed using a combination of Reverse Circulation (RC) and Diamond Drilling (DD). Face samples were taken underground at the heading using a rock pick.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	RC samples were split using a rig-mounted cone splitter on 1m intervals to obtain a sample for assay. 4m composite spear samples were collected for each hole with 1m samples submitted for areas of known mineralisation or anomalism.
	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., 'reverse circulation drilling was used to obtain 1m samples from which 3kg was pulverised to produce a 30g 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.	Diamond core was transferred to core trays for logging and sampling. Half core samples were nominated by the geologist from both NQ2 and HQ2 diamond core with a minimum sample width of either 20cm (HQ2) or 30cm (NQ2). RC drilling was used to drill seven pre-collars these ranged in depths from 40m – 99m. RC samples were split using a rig-mounted cone splitter on 1m intervals to obtain a sample for assay. The RC drilling does not affect sampling of the Barkers Main Vein.
Drilling techniques	Drill type (e.g., core, reverse circulation, 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.).	Both RC and diamond drilling techniques have been used at the Barkers deposit. DD holes completed pre-2011 were predominantly NQ2 (50.5mm). All resource definition holes completed post-2011 were drilled using HQ (63.5mm) diameter core. Core was orientated using the Reflex ACT Core orientation system. RC drilling was completed using a 5.75" drill bit, downsized to 5.25" at depth. RC pre-collar depth was restricted to 180m or less if approaching known mineralisation.

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Criteria	JORC Code explanation	Commentary
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	RC drilling contractors adjust their drilling approach to specific conditions to maximise sample recovery. Moisture content and sample recovery is recorded for each RC sample. No recovery issues were identified during RC drilling. Recovery is often poor at the very beginning of each hole, as is normal for this type of drilling in overburden.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	For diamond drilling, the contractors adjust their rate of drilling and method if recovery issues arise. All recovery is recorded by the drillers on core blocks. This is checked and compared to the measurements of the core by the geological team. Any issues are communicated back to the drilling contractor.
	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.	Recovery is excellent for diamond core and no relationship between grade and recovery was observed. For RC drilling, pre-collars were ended before known zones of mineralisation and recovery was very good through any anomalous zones
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.	All diamond core is logged for regolith, lithology, veining, alteration, mineralisation, and structure. Structural measurements of specific features are also taken through oriented zones.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	All logging is quantitative where possible and qualitative elsewhere. A photograph is taken of every core tray.
	The total length and percentage of the relevant intersections logged.	RC chips are logged in 1m intervals for the entire length of each hole. Regolith, lithology, alteration, veining, and mineralisation are all recorded.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	Resource definition drill core is cut and half the core is taken for sampling. The remaining half is stored for later use. Whole core sampling may be used for production and grade control drilling.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	All RC samples are split using a rig-mounted cone splitter to collect a 1m sample 3-4kg in size. These samples were submitted to the lab from any zones approaching known mineralisation and from any areas identified as having anomalous gold. Outside of mineralised zones spear samples were taken over a 4m interval for composite sampling.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	The sample preparation is considered appropriate.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Field duplicates were taken for RC samples at a rate of 1 in 20.
	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.	Exploration sample preparation was conducted at Genalysis Kalgoorlie. Resource development sample preparation was conducted at MinAnalytical Kalgoorlie. Both facilities undertake a similar process commencing with sorting, checking, and drying at less than 110°C to prevent sulphide breakdown. Samples are jaw crushed to a nominal -6mm particle size. If the sample is greater than 3kg, a Boyd crusher with rotary splitter is used to reduce the sample size to less than 3kg (typically 1.5kg) at a nominal <3mm particle size. The entire crushed sample (if less than 3kg) or sub-sample is then pulverised to 90 % passing 75µm, using a Labtechnics LM5 bowl pulveriser. 400g pulp subsamples are then taken with an aluminium or plastic scoop and stored in labelled pulp packets.

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Criteria	JORC Code explanation	Commentary
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Grind checks are performed at both the crushing stage (3mm) and pulverising stage (75µm), requiring 90% of material to pass through a sieve of relevant size.
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.	A 50g fire assay charge is used with a lead flux in the furnace. The prill is totally digested by HCl and HNO_3 acids before Atomic Absorption Spectroscopy (AAS) determination for gold analysis.
	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 tools were used to determine any element concentrations.
	Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.	Certified reference materials (CRMs) are inserted into the sample sequence randomly at a rate of 1 per 20 samples to test the analysis process. Any values outside of three standard deviations are re-assayed with a new CRM. Blanks are inserted into the sample sequence at a rate of 1 per 20 samples. This is random, except where high grade mineralisation is expected where a blank is inserted after the high grade sample to test for contamination. Failures above 0.2gpt are followed up, and re-assayed. New pulps are prepared if failures remain. Field duplicates are taken for all RC samples (1 in 20 sample). No field duplicates are submitted for diamond core. Regular audits of laboratory facilities are undertaken by Northern Star personnel.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	All significant intersections are verified by another Northern Star geologist during the drill hole validation process, and later by a Competent Person to be signed off.
	The use of twinned holes.	No twinned holes were drilled for this data set
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Geological logging is directly entered into an AcQuire database. Assay files are received in **.cvs format and loaded directly into the database by the geologist with an AcQuire importer object. Hard copy and electronic copies of these are stored
	Discuss any adjustment to assay data.	No adjustments are made to this assay data.
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	A planned hole is pegged using a Differential GPS by the field assistants. The final collar is picked up after hole completion by Cardno Survey with a Differential GPS in the MGA 94_51 grid. During drilling single-shot surveys are every 30m to ensure the hole remains close to design. This is performed using the Reflex EZ-Trac system which measures the gravitational dip and magnetic azimuth results are uploaded directly from the Reflex software export into the AcQuire database.
	Specification of the grid system used.	The final collar position for surface holes is measured after hole completion by Differential GPS in the MGA94_51 grid.

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Criteria	JORC Code explanation	Commentary
	Quality and adequacy of topographic control.	The Differential GPS returns reliable elevation data which has been confirmed against a high resolution Digital Terrain Model survey performed by Arvista in 2015
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Drill hole spacing across the area varies. For resource definition drilling, spacing was typically 40m x 40m, generally suitable for an Indicated Resource for this style of mineralisation (although dependent on several other factors).
	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.	Based on structural and grade continuity established in the historic Barkers workings, 40m x 40m is considered sufficient data spacing for Resource and Reserve purposes.
	Whether sample compositing has been applied.	No compositing has been applied to these exploration results, although composite intersections are reported.
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.	Most of the structures in the Kundana camp dip steeply (80°) to WSW. To target these orientations, the drill hole dips of 60 - 70° towards ~060° achieve high angle intersections on all structures.
	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.	No sampling bias is considered to have been introduced by the drilling orientation.
Sample security	The measures taken to ensure sample security.	Prior to laboratory submission, samples are stored by Northern Star Resources in a secure yard. Once submitted to the laboratories they are stored in a secure fenced compound and tracked through their chain of custody and via audit trails.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits or reviews have recently been conducted on sampling techniques.

Section 2: Reporting of Exploration Results
(Criteria listed in the preceding section also apply to this section.)

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.	All holes mentioned in this report are located within Mining Lease M16/72 and M16/97 which is owned by Kundana Gold Pty Ltd, a wholly owned subsidiary of Northern Star Resources Limited. There are no private royalty agreements applicable to this tenement. The deposits lie within vacant crown land.
	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.	No known impediments exist, and the tenements are in good standing

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Criteria	JORC Code explanation	Commentary
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	All drilling and exploration of the Barkers resource was conducted by previous owners of the tenements (including Pancontinental Gold, Aurion Gold, Placer Dome Inc, Barrick Gold) prior to the acquisition by Northern Star Resources.
Geology	Deposit type, geological setting and style of mineralisation.	The Kundana camp is situated within the Norseman-Wiluna Greenstone Belt, in an area dominated by major mineralised shear zones. Barkers-style mineralisation consists of narrow vein deposits (0.20m to 1.0m thick) hosted by shear zones located along steeply-dipping overturned lithological contacts. The footwall stratigraphy of Barkers consists of several different units of the Powder Sill Gabbro, a thick stratigraphy-parallel differentiated mafic intrusive. The volcaniclastic sedimentary rocks of the hanging-wall consist of a sequence of interbedded siltstones, felspathic sandstones, felspathic-lithic wackes and felspathic-lithic rhyolites.
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: • easting and northing of the drill hole collar • elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar • dip and azimuth of the hole • down hole length and interception depth • hole length.	The collar locations are presented in plots contained in the NSR 2021 resource report. Drillholes vary in survey dip from +65° to -90°, with hole depths ranging from 5.8m to 1,700m, with an average depth of 163m. The assay data acquired from these holes are described in the NSR 2021 resource report. All validated drill hole data were used directly or indirectly for the preparation of the resource estimates described in the resource report.
	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.	Exclusion of the drill information will not detract from the understanding of the report.
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.	Assay results are length weighted to make continuous intersections with up to 2m of internal waste may be included.
	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.	No assay results have been top cut for the purpose of this report. A lower cut-off of 2gpt has been used to identify significant results.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values have been used for the reporting of these exploration results
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results:	True widths have been calculated for intersections of the known ore zones based on existing knowledge of the nature of these structures.
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	Both the downhole width and true width have been clearly specified when used.

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Criteria	JORC Code explanation	Commentary
	If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').	Downhole widths and estimated true widths are 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 drill hole collar locations and appropriate sectional views.	Appropriate plans and section have been included in this 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.	All valid drill holes within the estimated area have been reported with some holes in the area excluded. Holes were not excluded based on grade or width of the mineralised zone, only based on confidence in the data.
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 other material has been collected
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 continue to extend the Indicated Resource deeper through additional drilling. Testing extension of Barkers-style mineralisation to the south will continue.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Included below.

Section 3: Estimation and Reporting of Mineral Resources
(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

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.	Northern Star personnel have validated the database during the interpretation of the mineralisation with any drill holes containing unvalidated data excluded from the MRE.
	Data validation procedures used.	Data validation processes are in place and run upon import into the database to be used for the MRE in Datamine Studio RM v1.2 by Mining Plus (MP).

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Criteria	JORC Code explanation	Commentary
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	MP have not undertaken a site visit, although the Northern Star personnel liaised with during the MRE process and responsible for the mineralisation interpretation have been to site and reviewed the core for this deposit.
	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.	The geological interpretation is considered robust due to the nature of the mineralisation and that portions of the deposit have been developed and mined. The level plans and other maps have been used to guide the sub-domaining process.
	Nature of the data used and of any assumptions made.	Underground development mapping and sampling along with diamond drill core lithology, structure, alteration, and mineralisation logs have been used to generate the mineralisation model. The primary assumption is that the mineralisation is hosted within structurally controlled quartz veins, which is considered robust.
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	Due to the close spaced nature of the data from the historic mining and the consistency of the structure conveyed by this dataset, no alternative interpretations have been considered.
	The use of geology in guiding and controlling Mineral Resource estimation.	The mineralisation interpretation is based on a combination of logged quartz percentage or structure and assays.
	The factors affecting continuity both of grade and geology.	The structure is considered to be continuous over the length of the deposit with either quartz or the controlling structure used to guide this interpretation. The grade continuity is not as consistent and as such, the mineralisation has been sub-domained based on consistent grade zones, with these sub-domains used as hard boundaries during the estimation.
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 Barkers deposit is hosted within the one mineralised structure which strikes NW to NNW over a length of 900m and dips steeply to the W with the down-dip extents in excess of 1,100m. The Barkers North deposit is separated from the Barkers Deposit by a late-stage offsetting structure. The mineralisation for this portion of the deposit has been defined by drilling to be in excess of 500m along strike (340°) with steeply W-dipping extents of 400m. Internal HG shoots have been identified in the Barkers deposit with two main plunge orientations defined to date – the first being a steep north plunge as defined by both development mapping and sampling and drillhole intercepts and the second being a moderate to steep southerly plunge.
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.	Grade estimation of accumulated gold and true width has been completed using Ordinary Kriging (OK) deposit into six gold domains using Datamine Studio RM v1.2 software. Variogram orientations are largely controlled by the strike and dip of the mineralisation, with the plunge of the higher-grade mineralisation evident in long section being effectively replicated during the continuity analysis. Variography has been assigned to the Barkers North domain (based on the Barkers domain), due to the small data set.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource Estimate takes appropriate account of such data.	No MRE update has been completed since the last release.
	The assumptions made regarding recovery of by-products.	No assumptions have been made regarding recovery of any by-products.

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Criteria	JORC Code explanation	Commentary
	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 considered and therefore estimated for this deposit.
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	The data spacing varies considerably within the deposit, ranging from underground development samples (every 3m along strike x 25m down dip) to drill hole intercepts which varied from grade control spacing at 20m (along strike) x 25m (down dip) to resource definition spacing at 40m (along strike) x 50m (down dip). A seam model has been created which has been rotated into the strike of the mineralisation. Blocks are variable in the across-strike direction, 10m in the along strike direction and 10m in elevation. • Pass 1 estimations have been undertaken using a minimum of 5 and a maximum of 15 samples into a search ellipse set below a quarter to a third of the variogram range for all domains, with a maximum of two samples from each drillhole allowed. • Pass 2 estimations have been undertaken using a minimum of 3 and a maximum of 15 samples into a search ellipse set at the generally just below half of the variogram range for all domains with a maximum of two samples from each drillhole allowed. • Pass 3 estimations have been undertaken using a minimum of 1 and a maximum of 15 samples into a search ellipse set just below the variogram range. The seam model and intercept composites have been flattened to a mid-easting location for the purposes of estimation.
	Any assumptions behind modelling of selective mining units.	No selective mining units are assumed in this estimate.
	Any assumptions about correlation between variables.	No other elements other than gold have been estimated.
	Description of how the geological interpretation was used to control the resource estimates.	The mineralisation wireframes supplied by Northern Star have been sub-domained in consultation with Northern Star based on orientation and grade, with these sub-domains used to flag the drillhole intercepts in the database. These flagged intercepts have then been used to create intercept composites in Datamine Studio RM v1.2.
	Discussion of basis for using or not using grade cutting or capping.	The influence of extreme sample distribution outliers in the composited data has been reduced by top-cutting where required. The top-cut levels have been determined using a combination of histograms, log probability and mean variance plots. Top-cuts have been reviewed and applied for the grouped estimation domains. The application of the top-cuts has not resulted in a significant decrease in the mean grade from the un-cut to top-cut data.
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	Model validation has been carried out, including visual comparison between declustered composites and estimated blocks; check for negative or absent grades; statistical comparison against the input drillhole data and graphical plots.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	The tonnes have been estimated on a dry basis.

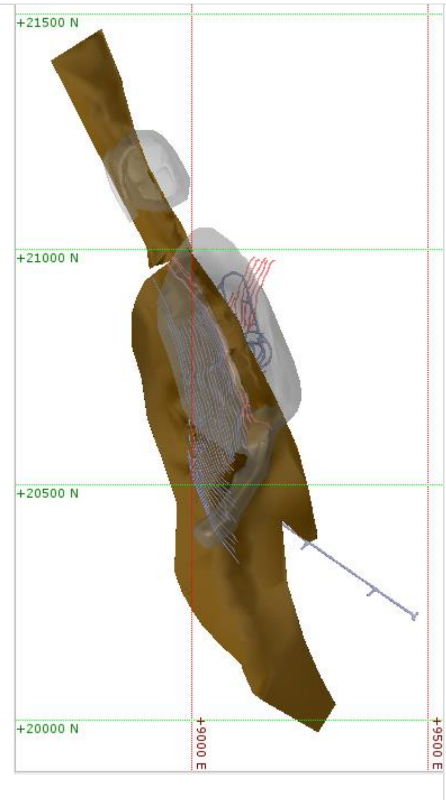
APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

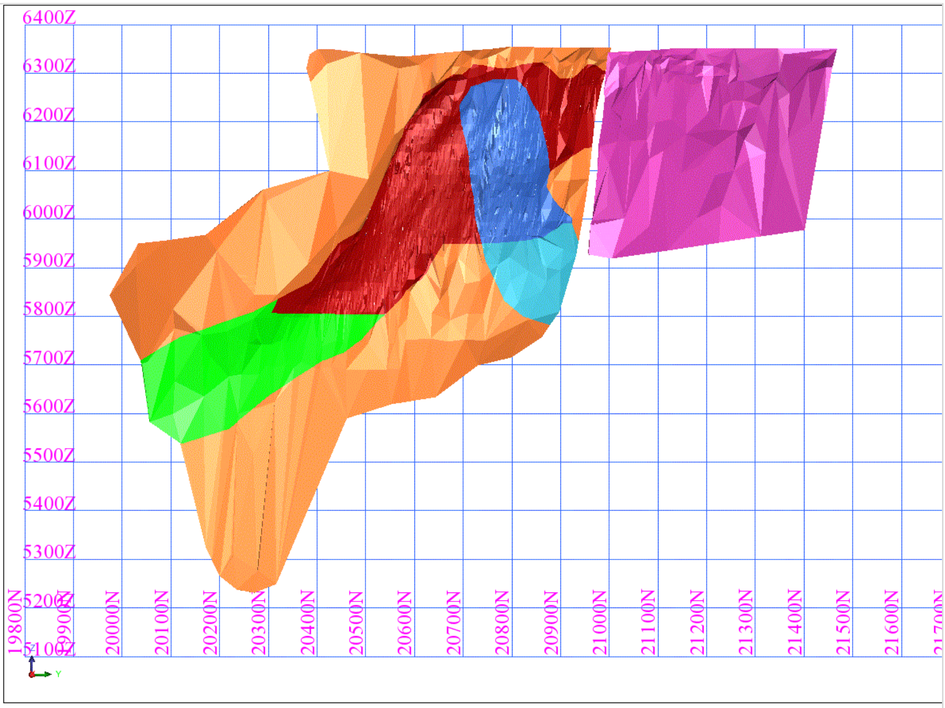
Criteria	JORC Code explanation	Commentary
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	The Mineral Resource Estimate has been reported at a 1.63gpt cut off within 2.5m minimum mining width (excluding dilution) MSO's using a $AU2,250/oz gold price.
Mining 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.	No minimum mining assumptions have been made during the resource wire framing or estimation process.
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.	No metallurgical or recovery assumptions have been made during the MRE.
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 green fields 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.	No environmental assumptions have been made during the MRE.
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 values have been applied based on the degree of weathering which has been coded into the model. The values used have been obtained from previous MRE's for the Barkers Deposit. No information has been provided on the number of measurements or method used to obtain these values.
	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.	No information has been provided on the number of measurements or method used to obtain these values.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	Assumptions on the average bulk density of individual lithologies from the regional Kundana data set based on 21,549 bulk density determinations. Default densities have been applied to oxide (1.9 t/m^3) and transitional (2.3 t/m^3) material, due to lack of data in this area. These values are in line with regional averages.
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.	The resource classification has been applied to the MR estimate based on the drilling data spacing, grade and geological continuity, and data integrity.
	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).	The classification considers the relative contributions of geological and data quality and confidence, as well as grade confidence and continuity.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The classification reflects the view of the Competent Person.
Audits or reviews	The results of any audits or reviews of Mineral Resource Estimates.	This Mineral Resource Estimate for the combined Barkers deposit has not been audited by an external party.
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 relative accuracy of the Mineral Resource Estimate is reflected in the reporting of the Mineral Resource as per the guidelines of the 2012 JORC Code.
	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 statement relates to global estimates of tonnes and grade.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	No production records have been supplied as part of the scope of works, so no comparison or reconciliation has been made.

BARKERS PLAN & LONG SECTION DIAGRAMS	
Plan view of the Barkers resource wireframe with infrastructure overlay	Longitudinal Projection looking west showing the Barkers and Barkers North domains





Section 4: Estimation and Reporting of Ore Reserves
(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	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.	Northern Star Resources Limited 2021 Mineral Resource.
	Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	The Mineral Resources are reported inclusive of the Ore Reserve.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	The Competent Person has conducted sites visits.
	If no site visits have been undertaken indicate why this is the case.	Site visits undertaken.
Study status	The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.	A minimum Pre-Feasibility level study has been completed.
	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.	Update of previous Ore Reserve.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
Cut-off parameters	The basis of the cut-off grade(s) or quality parameters applied.	Forward looking forecast costs and physicals form the basis of the cut-off grade calculations. • The assumed AUD gold price is A$1,750/oz. • Mill recovery factors are based on test work and historical averages from the region. Various cut-off grades are calculated including a fully costed cut-off grade (COG), variable cut-off grade (VCOG) and Mill cut-off grade (MCOG). The VCOG is used as the basis for stope design, though any areas which are marginal or require significant development are assessed by a more detailed financial analysis to confirm their profitability.
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 optimisation or by preliminary or detailed design).	Indicated Resources were converted to Probable Ore Reserves subject to mine design physicals and an economic evaluation.
	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.	Ore is accessed from a decline located in the footwall through levels at 20m vertical spacing. A top down, sub level open stoping method is applied. The selected mining method was evaluated during the initial Pre-Feasibility study and was deemed the most appropriate.
	The assumptions made regarding geotechnical parameters (e.g., pit slopes, stope sizes, etc.), grade control and pre-production drilling.	The mine design considers well established geotechnical constraints and is reviewed by geotechnical engineers prior to being finalised. Independent geotechnical reviews were conducted for the Barkers and Strzelecki mines to provide guidance on pillar locations and extraction sequences. Historical geological and geotechnical information is gathered from the nearby operations that operated previously, including Barkers, Strzelecki and Centenary, and still in operation, Raleigh, Rubicon, Hornet and Pegasus, and learnings from this are applied to the geotechnical parameters used.
	The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).	This Table 1 applies to underground mining only.
	The mining dilution factors used.	10% dilution is applied to unfilled up hole stopes.
	The mining recovery factors used.	90% recovery is applied to conventional up hole stopes with no pillar requirements. A calculated 50% recovery is applied to unfilled up hole stopes where geotechnical analysis has identified areas of lower mining recovery, or where pillars are required to be left behind.
	Any minimum mining widths used.	A minimum stope mining width of 3.0m has been used.
	The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.	Designed stopes with greater than 50% inferred blocks are excluded from the reported Ore Reserve.
	The infrastructure requirements of the selected mining methods.	Infrastructure in place, currently located at an operating mine.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
Metallurgical factors or assumptions	The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.	Ore from the Kundana Gold operations is treated at the Jubilee Mill, Kanowna Belle and Carosue Dam milling facilities, all owned by NSR. These facilities are designed to process more than 6.7 million tonnes per annum as a combined throughput (Jubilee – 1Mtpa, Kanowna Belle– 2Mtpa, Carosue Dam – 3.7Mtpa). All plants have the capability to treat free milling ores with additional capacity at the Kanowna Belle facility to treat refractory material. Ore is treated either using the flotation circuit and associated concentrate roaster circuit (including carbon-in-leach (CIL) gold recovery) or bypassing the flotation circuit and going directly to a CIL circuit designed to treat flotation tails. The plants campaign both refractory and free milling ores every month.
	Whether the metallurgical process is well-tested technology or novel in nature.	Plus 10 years milling experience with Kundana ores.
	The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.	Plus 10 years milling experience with Kundana ores.
	Any assumptions or allowances made for deleterious elements.	No assumptions made.
	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.	Plus 10 years milling experience with Kundana ores.
	For minerals that are defined by a specification, has the ore Reserve estimation been based on the appropriate mineralogy to meet the specifications?	Not applicable.
Environmental	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.	Kundana Gold is currently compliant with all legal and regulatory requirements. All government permits and Licences and statutory approvals are either granted or in the process of being granted. Operational expansion of Barkers is subject to new/amended applications. Based on the locations of these operations and considering historical activities, the Competent Person does not view this as presenting significant risk to the extraction of these ore bodies.
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.	All current site infrastructure is suitable to the proposed mining plan.
Costs	The derivation of, or assumptions made, regarding projected capital costs in the study.	Mine development capital cost based on historical performance on site and life-of-mine forward planning. Plant and equipment capital also based on site experience and the LOM plan.
	The methodology used to estimate operating costs.	All overhead costs and operational costs are projected forward on an AUD $/t based on the most recent budget costs and is reconciled against actual costs to ensure accuracy.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
	Allowances made for the content of deleterious elements.	No allowances made.
	The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.	Single commodity pricing for gold only, using a long-term gold price of AUD $1,750/oz., 2.5% WA state Government Royalty, as per NSR corporate guidance.
	The source of exchange rates used in the study.	All rates considered in Australian Dollars (AUD) as per NSR corporate guidance.
	Derivation of transportation charges.	Historic performance.
	The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.	Historic performance.
	The allowances made for royalties payable, both Government and private.	All State Govt. and third party royalties are built into the cost model.
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.	All revenue based on a gold price of AUD $1,750/oz.
	The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	Corporate guidance.
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.	It is assumed all gold is sold directly to market at the Corporate gold price guidance of AUD$1,750/oz.
	A customer and competitor analysis along with the identification of likely market windows for the product.	Not relevant for gold.
	Price and volume forecasts and the basis for these forecasts.	Not relevant for gold.
	For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	Not relevant for gold.
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.	All costs assumptions are made based on historical performance from the mine and current economic forecast seen as representative of current market conditions.
	NPV ranges and sensitivity to variations in the significant assumptions and inputs.	Sensitivities assessed at varying gold prices.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
Social	The status of agreements with key stakeholders and matters leading to social licence to operate.	Agreements are in place and are current with all key stakeholders.
Other	To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:	No issues foreseen.
	Any identified material naturally occurring risks.	No issues foreseen.
	The status of material legal agreements and marketing arrangements.	No issues foreseen.
	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.	No issues foreseen.
Classification	The basis for the classification of the Ore Reserves into varying confidence categories.	All Ore Reserves include Proved (if any) and Probable classifications. These classifications are based on Mineral Resource classifications as modified by subsequent grade control drilling and face sampling results.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The results appropriately reflect the Competent Persons view of the deposit.
	The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	None.
Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.	This ore Reserve has been prepared and peer reviewed internally within Northern Star Resources. There have been no external reviews of this Ore Reserve estimate.
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.	Confidence in the model and Ore Reserve is considered high based on nearby Northern Star operated mines along the same ore bearing structures.
	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	Ore Reserves are best reflected as global estimates.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
	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.	Other than dilution and recovery factors described above, no additional modifying factors applied. There is high confidence in these models as the areas is well known and well drilled.
	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.	Reconciliation results from past mining at Centenary, Millennium, Barkers and Strzelecki reflect estimates in the Ore Reserve estimates.

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Section 1 Sampling Techniques and Data
(Criteria in this section apply to all succeeding sections.)

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.	A combination of sample types was used to collect material for analysis surface diamond drilling (DD), surface reverse circulation drilling RC and surface RC drilling with diamond tails RC_DD. RAB holes were excluded from the estimate and where sufficient diamond drill holes were present, RC holes were also excluded.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	DD drilling is sampled within geological boundaries with a minimum (0.3 m) and maximum (1.0 m) sample length.
	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. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30g 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.	DD drill core was nominated for either half core or full core sampling. Core designated for half core was cut in half using an automated core saw. The mass of material collected will depend on the drill hole diameter and sampling interval selected. Core designated for full core was broken with a rock hammer if sample segments were too large to fit into sample bags. All samples were delivered to a commercial laboratory where they were dried, crushed to 95% passing 3 mm if required, at this point large samples may be split using a rotary splitter, pulverisation to 90% passing 75 µm, a 50 g charge was selected for fire assay
Drilling techniques	Drill type (e.g. core, reverse circulation, 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.).	Both RC and Diamond Drilling techniques were used to drill the Moonbeam deposit. Surface diamond drill holes were completed using HQ2 (63.5 mm) coring. Historically, core was orientated using the Reflex ACT Core orientation system. Currently, core is orientated using the Boart Longyear Trucore Core Orientation system. RC Drilling was completed using a 5.75" drill bit, downsized to 5.25" at depth. In many cases RC pre-collars were drilled followed by diamond tails. Pre-collar depth was determined in the drill design phase depending on the target been drilled and production constraints.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	For DD drilling, any core loss is recorded on the core blocks by the driller. This is then captured by the logging geologist and entered as interval into the hole log.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	For diamond drilling the contractors adjust their rate of drilling and method if recovery issues arise. All recovery is recorded by the drillers on core blocks. This is checked and compared to the measurements of the core by the geological team. Any issues are communicated back to the drilling contractor.
	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.	Recovery was excellent for diamond core and no relationship between grade and recovery was observed. Average recovery across the Kundana camp is at 99%.
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.	All diamond core is logged for lithology, veining, alteration, mineralisation and structural. Structural measurements of specific features are also taken through oriented zones. Logging is entered in Acquire using a series of drop-down menus which contain the appropriate codes for description of the rock.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	All core logging is qualitative with mineralised zones assayed for quantitative measurements. Every core tray is photographed wet.
	The total length and percentage of the relevant intersections logged.	For all drill holes, the entire length of the hole was logged.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	Diamond core is cut using an automated core saw. Depending on the type of drilling, determines the level of sampling/cutting completed. Half core is taken for Resource targeting (RT) drilling and some Resource Definition drilling (RSD). However, most RSD holes have been whole core sampled due to production pressures. Whole core samples are also utilized in areas where the ground conditions result in very broken core and cutting the core is not practical.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	For previous RC drilling, all RC samples are split using a rig-mounted cone splitter to collect a sample 3 - 4 kg in size from each 1 m interval. These samples were utilised for any zones approaching known mineralisation and from any areas identified as having anomalous gold. Outside known mineralised zones spear samples were taken over a 4 m interval for composite sampling.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Preparation of NSR resource definition samples was conducted at MinAnalytical Kalgoorlie, while surface exploration drilling was sent to Genalysis. Sample preparation commenced with sorting, checking and drying at less than 110°C to prevent sulphide breakdown. Samples are jaw crushed to a nominal -6 mm particle size. If the sample is greater than 3 kg a Boyd crusher with rotary splitter is used to reduce the sample size to less than 3 kg (typically 1.5 kg) at a nominal <3 mm particle size. The entire crushed sample (if less than 3 kg) or sub-sample is then pulverized to 90% passing 75 µm, using a Labtechnics LM5 bowl pulveriser. 400 g Pulp subsamples are then taken with an aluminium scoop and stored in labelled pulp packets. The sample preparation is considered appropriate for the deposit.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Procedures are utilised to guide the selection of sample material in the field. Standard procedures are used for all processes within the laboratory. Grind checks are performed at the pulverising stage requiring at least 90% of material to pass below 75 um.
	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.	Umpire sampling selection is conducted on all of the Kundana core samples as an entire batch. A minimum of 3% of the samples processed each month are selected to be sent to the ALS Perth check lab.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Samples sizes collected are considered appropriate for the material sampled.
Quality of assay data and	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	A 50-gm fire assay charge is used with a lead flux in the furnace. The prill is totally digested by HCl and HNO3 acids before Atomic Absorption Spectroscopy (AAS) determination for gold analysis.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
laboratory tests	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 tools were used to determine and element concentrations.
	Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	Certified reference materials (CRMs) are inserted into the sample sequence at a rate of 1 per 20 samples to ensure correct calibration. Any values outside of 3 standard deviations are re-assayed with a new CRM. Blanks are inserted into the sample sequence at a nominal rate of 1 per 20 samples. The insertion points are selected at random, except where high grade mineralisation is expected. In these cases, a Blank is inserted after the high-grade sample to test for contamination. Results greater than 0.2 g/t if received are investigated, and re-assayed if appropriate. New pulps are prepared if anomalous results cannot be resolved. Barren flushes are regularly inserted after anticipated high gold grades at the pulverising stage. No field duplicates were submitted for diamond core. Pulp duplicates are requested after any ore zone. These are indicated on the sample sheet and submission sheet. When visible gold is observed in core, a quartz flush is requested after the sample. Laboratory performance was monitored using the results from the QA samples mentioned above. This was supplemented by the internal QA samples used by the laboratories, which included pulp duplicates and CRMs The QA studies indicate that accuracy and precision are within industry accepted limits.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	All significant intersections are verified by another Northern Star geologist during the drill hole validation process, and later by a Competent person to be signed off.
	The use of twinned holes.	No twinned holes were drilled for this data set. Re-drilling of some of the drill holes has occurred due to issues downhole (e.g. bogged rods). These have been captured in the database as an 'A'. Re-drilled holes are sampled whilst the original drill hole is logged but not sampled.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Geological logging and sampling are directly recorded into AcQuire. Assay files are received in csv, pdf and sif formats. The csv's are loaded directly into the database using an AcQuire importer object. Assays are then processed through a form in AcQuire for QAQC checks. Noneditable electronic copies of these are stored.
	Discuss any adjustment to assay data.	No adjustments are made to this assay data. If there are issues with the results files received, amended versions are requested from the lab.
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	Planned holes are marked up by the mine survey department using a total station survey instrument in mine grid (Kundana 10). The actual hole position is then located by the mine survey department once drilling is completed. In some cases, drill hole collar points are measured off survey stations if a mark-up cannot be completed. This is only used for Grade Control drilling due to their frequent occurrence. Holes are lined up on the collar point using the DHS Minnovare Azimuth Aligner. Planned azimuths and dips of the holes are downloaded to the aligner which is then placed on the rod string to align the hole for drilling. During drilling, single shot surveys are conducted every 30 m to track the deviation of the hole and to ensure it stays close to design. This is performed using the Devishot camera which measures the gravitational dip and magnetic azimuth. Results are uploaded from the Devishot software into a csv format which is then imported into the Acquire database. At the completion of the hole, a Multishot Devi flex survey is completed taking measurements every 3 m to ensure accuracy of the hole. The is relative change survey which is then referenced back to the Azimuth aligner to provide an accurate, continuous nonmagnetic survey. This is also converted to csv format and imported into the Acquire database.
	Specification of the grid system used.	Collar coordinates are recorded in mine grid (Kundana 10) and transformed into MGA94_51

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
	Quality and adequacy of topographic control.	Quality topographic control has been achieved through Lidar data and survey pickups of holes over the last 15 years.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Drill hole spacing varies across the deposit. For resource targeting drilling spacing was typically a minimum of 80 m x 80 m. This allowed for infill drilling at 40 m x 40 m spacing known as resource definition. Grade control drilling was drilled on a level by level as required basis with drill spacing at 20 m x 20 m and down to 10 m x 10 m.
	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 data spacing and distribution is considered sufficient to support the resource and reserve estimates.
	Whether sample compositing has been applied.	No sample compositing has been 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.	Majority of the mineralisation in the Moonbeam deposit dips steeply (76°) to the WSW. Diamond drilling was designed to target the orebodies perpendicular to this orientation to allow for an ideal intersection angle. Instances where this was not achievable (mostly due to drill platform location), drilling was not completed or re-designed once a suitable platform became available. Drill holes with low intersection angles will be excluded from resource estimation where more suitable data is available.
	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.	No sampling bias is considered to have been introduced by the drilling orientation. Where drill holes have been particularly oblique, they have been flagged as unsuitable for resource estimation.
Sample security	The measures taken to ensure sample security.	Prior to laboratory submission samples are stored by Northern Star Resources in a secure yard. Once submitted to the laboratories they are stored in a secure fenced compound, tracked through their chain of custody and via audit trails.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits have been undertaken of the data and sampling practices at this stage.

Section 2 Reporting of Exploration Results

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

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.	All holes mentioned in this report are located within the, M15/993, M16/157, M16/309 tenements, which are owned by KUNDANA GOLD PTY LTD a wholly owned subsidiary of Northern Star Resources. There are no private royalty agreements applicable to this tenement.
	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.	No known impediments exist, and the tenements are in good standing.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Early exploration was completed in the 1980's by Kalbara Minerals with the development and operation of South Pit. Modern mining continued in late 1980's with the Kundana North and Strzelecki Open pits. Mining continued through to 1999 when the Centenary Underground ceased operations. Exploration continued over the camp through various companies including Placer Dome and Barrick Gold. Early 2014 saw Northern Star Resources purchase the Kundana camp from Barrick Gold and mining recommenced in March 2014. Millennium was discovered in the same year and commenced mining in 2015.

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Criteria	JORC Code explanation	Commentary
Geology	Deposit type, geological setting and style of mineralisation.	The Kundana camp is situated within the Norseman-Wiluna Greenstone Belt, in an area dominated by the Zuleika shear zone, which separates the Coolgardie domain from the Ora Banda domain. K2-style mineralisation consists of narrow vein deposits hosted by shear zones located along steeply dipping overturned lithological contacts. The K2 structure is present along the contact between a black shale unit (Centenary shale) and intermediate volcaniclastics (Black Flag Group). Moonbeam is a continuation of the Pope John K2 trend. The deposit starts from the Lucifer Fault which offsets Moonbeam from the Pope John deposit, by approximately 200m. The Moonbeam deposit continues to 18574n where the K2 trend becomes classified as Drake. The K2 mineralisation is typical of the area with a high-grade laminated quartz vein being the primary gold hosting unit with minor halo grade disseminated around this structure in the Centenary shale and Black Flag volcaniclastics.
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: ○ easting and northing of the drill hole collar ○ elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar ○ dip and azimuth of the hole ○ down hole length and interception depth ○ hole length.	A summary of the data present in the Moonbeam deposit can be found above. The collar locations are presented in plots contained in the NSR 2018 resource report. Drill holes vary in survey dip from +50° to -80°, with hole depths ranging from 30 m to 625 m, with an average depth of 200 m. The assay data acquired from these holes are described in the NSR 2019 resource report. All validated drill hole data were used directly or indirectly for the preparation of the resource estimates described in the resource report,
	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.	The exclusion of information is not material
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.	All reported assay results have been length weighted to provide an intersection width. A maximum of 2 m of barren material (considered < 1 g/t) between mineralised samples has been permitted in the calculation of these widths. Typically grades over 1.0 g/t are considered significant, however, where low grades are intersected in areas of known mineralisation these will be reported. No top-cutting is applied when reporting intersection results.
	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.	Where an intersection incorporates short lengths of high grade results these intersections will be reported in addition to the aggregate value. These will typically take the form of ##.#m @ ##.##g/t including ##.#m @ ##.##g/t.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values have been used for the reporting of these exploration results.
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results:	True widths have been calculated for intersections of the known ore zones, based on existing knowledge of the nature of these structures.
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	Both the downhole width and true width have been clearly specified when used.
	If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').	It is known and has been reported as such
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 drill hole collar locations and appropriate sectional views.	Appropriate plans and section have been included at the end of this Table and in the NSR 2019 resource report.

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Criteria	JORC Code explanation	Commentary
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.	Both high and low grades have been reported accurately, clearly identified with the drill hole attributes and 'From' and 'To' depths.
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 other material exploration data has been collected for this area.
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).	Drilling will continue in various parts of the mine with the intention of extending areas of known mineralisation. Areas of focus will be to extend the K2 structure both down dip and along strike to the north. Drilling will also focus on infilling areas of the resource to improve confidence. As Well as grade control drilling in certain areas to build of data collected from development face sampling and assist in production.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Appropriate diagrams accompany this release.

Section 3 Estimation and Reporting of Mineral Resources

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

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.	Sampling and logging data are either recorded on paper and manually entered into a database system or is captured digitally via a logging laptop and directly loaded into the database system. There are checks in place to avoid duplicate holes and sample numbers. Where possible, raw data is loaded directly into the database from laboratory and survey derived files. Northern Star personnel have validated the database during the interpretation of the mineralisation, with any drill holes containing dubious data excluded from the MRE. Northern Star provided a list of holes to be excluded from the MRE and the reasons behind those exclusions.

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Criteria	JORC Code explanation	Commentary
	Data validation procedures used.	The database has further checks performed to back -up those performed in section 2. The complete exported data base including drill and face samples is brought into Datamine RM and checked visually for any apparent errors i.e. holes or faces sitting between levels or not on surface DTM's. Multiple checks are then made on numerical data including: • Empty table checks to ensure all relevant fields are populated • Unique collar location check, • Distances between consecutive surveys is no more than 50 m for drill-holes • Differences in azimuth and dip between consecutive surveys of no more than 0.3 degrees • The end of hole extrapolation from the last surveyed shot is no more than 30 m • Underground face sample lines are not greater than +\- 5 degrees from horizontal Errors are corrected where possible. When not possible the data is resource flagged as "No" in the database and the database is re-exported. This data will not be used in the estimation process. In addition to being validated, drill holes are assigned a Data Class, which provides a secondary level of confidence in the quality of the data. Data Class (DC) values from 0-3 assigned, criteria summarised below: • DC 3 = Recent data; all data high quality, validated and all original data available. • DC 2 = Historic data; may or may not have all data in AcQuire or hard copy available but has proximity to recent drilling which confirms the dip, width and tenor. Used to assist in classification OR • Recent data; minor issues with data such as QAQC fail but away from the ore zone. • DC 1 = Historic data; same criteria as DC 2 but cannot be verified with recent drilling, i.e. too far away or dissimilar dip, width and/or tenor to recent drilling. Not to be used in Resource estimate. • DC 0 = Historic data; no original information or new drilling in proximity to verify. Not to be used in Resource estimate.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	The geological interpretations underpinning these resource models have been prepared by geologists working in adjacent mines and in direct, daily contact with similar ore bodies. The estimation of grades was undertaken by personnel familiar with the orebody and the general style of mineralisation encountered. The Senior Resource Geologist, a competent person for reviewing and signing off on estimations of the Moonbeam lode maintained a presence throughout the process.
	If no site visits have been undertaken indicate why this is the case.	The Competent Person has maintained a presence onsite.
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	The interpretation of the Moonbeam deposit has been carried out using a systematic approach to ensure continuity of the geology and estimated mineral resource. The confidence in the geological interpretation is high and is supported with information acquired during open pit mining as well as from drilling. The interpretation of the Moonbeam mineralisation wireframe was conducted using the sectional interpretation method. Vertical sections at approximately 30-40 m spacing were created using the drilling data. Wireframes were checked for unrealistic volumes and updated where appropriate. The oxide mineralisation lodes have been created using closed, cross-sectional interpretation strings at approximately 10 m spacing.
	Nature of the data used and of any assumptions made.	All available geological data was used in the interpretation including pit mapping, drill holes and structural data.
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	Due to the nature of the deposit, the consistency of the structure and data from the recent open pit mining, no alternative interpretations have been considered.
	The use of geology in guiding and controlling Mineral Resource estimation.	The interpretation of the main Moonbeam K2 structure is based on the presence of quartz veining and its relative position around the Centenary shale unit. Termination of these structures is controlled by the Lucifer fault in the north.

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Criteria	JORC Code explanation	Commentary
	The factors affecting continuity both of grade and geology.	The K2 structure is reasonably continuous over the length of the deposit with either quartz veining, the shear or the controlling structure used to guide this interpretation. The Lucifer fault controls the extent of mineralisation at the northern end of the deposit and is interpreted to be post mineralisation. Continuity is affected by the orientation of the K2 and K2E structures as well as the thickness of the Centenary shale unit. The Pope John K2 is the northern extension of the Moonbeam K2 offset along the Lucifer fault. The K2 composites from the Pope John deposit have been transformed to line up with the Moonbeam deposit and have been used as a soft boundary. The southern extension is the Drake K2, these composites have been used have also been used as a soft boundary for estimation. The K2E orebody is a narrow lode in the hangingwall of the K2 on the contact between the Victorious Basalt and Centenary Shale and comprises quartz veining and intense biotite alteration and is continuous. The K2E mineralisation terminates at the Lucifer fault in the north.
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 strike length of the Moonbeam K2 structure is approximately 750 m and the down dip extents up to 750 m. The K2 mineralisation occurs in a major regional shear system extending over 10s of kilometres. Moonbeam K2 is ~ 0.5-2 m wide and can be over 2 m wide with a minimum width of ~ 0.1 m. The K2E orebody has a strike length of 320 m and approx. 340 m down dip but is open in all directions. There are three flat lying oxide lodes interpreted near the surface, two in the hangingwall and one in the footwall. The hangingwall lodes have a strike length of approximately 200 m and the footwall lode 150 m, with an approximate down dip extent of 100 m. Mineralisation is known to occur from the base of cover to around 600 m below 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 Moonbeam K2, K2E and Oxide mineralisation used 1.0 m composites with direct grade estimation. The footwall (FW) and hangingwall (HW) halo zones used 1.0 m composites with direct grade estimation. The gold grade estimation has been completed using Ordinary Kriging (OK), utilising a three-pass search strategy using Datamine Studio RM v 1.4 software. Details of the estimation parameters for each mineralisation zone are summarised below. K2 - divided into two subdomains north and south, with each of these further divided based on data density; high data density (where drill spacing is less than 30 m x 30 m) and low drill data density (drill spacing greater than 30 m x 30 m). The drill hole data was analysed and top cut separately. A top cut of 80 g/t Au was applied to the north domain and no top cut applied to the south domain. Variography was completed on the composite files for both domains, indicating the greatest grade continuity to be down dip for both the north and the south domains. The north domain data had a search range of ~150 m in direction 1 and 130 m in direction 2, the south domain had a search range of 150 m in direction 1 and 150 m in direction 2. Three passes were used for estimation with distances based on variography. The first pass had a minimum of 12 samples and a maximum of 17 samples for both the north and south subdomains. The second pass doubled the ranges, decreasing the minimum number of samples to 7 and decreasing the max number of samples to 15. The third pass increased the search range by 3 times the original ranges, decreasing the minimum number of samples to 4 and kept the max number of samples at 15. Estimation was completed using a soft boundary between the north and south subdomains. Pope John K2 data was transformed and combined with the Moonbeam composites for estimation and also used as a soft boundary. The Drake K2 dataset was also combined with the Moonbeam composites for estimation and used as a soft boundary. No restrictions by drill hole or drill hole type have been applied. K2E was estimated using OK, with a three pass search strategy, using an isotropic search ellipse, 60 m by 60 m by 60 m. The composite file was analysed and top cut to 5 g/t Au. The minimum number of samples used for the first pass was 6 and the maximum number 12. The second pass was two times the original ellipse ranges with a minimum of 4 and maximum of 10 samples. The third pass was 3 times the original range, with a minimum of 10 samples and a maximum of 22 samples. No restrictions by drill hole or drill hole type have been applied. HW Halo/FW Halo were both estimated using OK and a three pass estimation strategy. The haloes were reviewed as per the same sub domaining strategy as the K2, however no discernible difference was found between the north and south subdomains, so they were combined. The drill hole data was analysed, the same top cut was applied to both subdomains (high and low density data); 12 g/t Au for the HW halo and 8 g/t Au for the FW halo. The top cut, subdomain composite files were combined for variography. For both the HW and FW halos and both subdomains (high and low density data) within them, the first search pass used an ellipse 150 m by 100 m by 50 m with a minimum of 7 samples and maximum of 12 samples. The second pass increased the search ellipse ranges by 2 times the original range and kept a minimum of 7 samples, increasing the maximum to 15. The third pass increased the search range by 3 times the original range and reduced the minimum to 4 samples with a maximum of 15. No restrictions by drill hole or drill hole type have been applied. For both FW and HW halos, estimation was completed using a soft boundary between the high and low-density subdomains. HW1OX was estimated using OK, with a three pass search strategy, using a search ellipse, 60 m by 60 m by 30 m. The composite file was analysed and a top cut of 10 g/t Au applied. Variography was completed on the composite file. The minimum number of samples used for the first pass was 6 and the maximum number 12. The second pass was two times the original ellipse ranges with a minimum of 4 and maximum of 10 samples. The third pass was 3 times the original range, with a minimum of 10 samples and a maximum of 22 samples. No restrictions by drill hole or drill hole type have been applied. HW2OX was estimated using OK, with a three pass search strategy, using a search ellipse, 60 m by 60 m by 30 m. The composite file was analysed and a top cut of 2 g/t Au applied. Variography was completed on the composite file. The minimum number of samples used for the first pass was 6 and the maximum number 12. The second pass was two times the original ellipse ranges with a minimum of 4 and maximum of 10 samples. The third pass was 3 times the original range, with a minimum of 10 samples and a maximum of 22 samples. No restrictions by drill hole or drill hole type have been applied. FW1OX was estimated using OK, with a three pass search strategy, using a search ellipse, 50 m by 50 m by 30 m. The composite file was analysed and a

Criteria	JORC Code explanation	Commentary
		top cut of 10 g/t Au applied. Variography was completed on the composite file. The minimum number of samples used for the first pass was 6 and the maximum number 12. The second pass was two times the original ellipse ranges with a minimum of 4 and maximum of 10 samples. The third pass was 3 times the original range, with a minimum of 10 samples and a maximum of 22 samples. No restrictions by drill hole or drill hole type have been 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.	All Moonbeam mineralisation zones had check estimates using Inverse Distance power of 2 (ID2) and Nearest Neighbour (NN) completed as a comparison. Estimates using a soft and semi-soft boundary (with the Pope John and Drake composites) have also been compared and reviewed. All estimates have been compared to the previous MRE.
	The assumptions made regarding recovery of by-products.	No assumptions have been made regarding recovery of any 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 considered and therefore estimated for this deposit.
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	The data spacing varies considerably within the deposit ranging from near-surface drilling at approximately 20 m x 20 m spacing to drill hole intercepts up to 80 m x 80 m along strike and down dip at depth. As such, the block sizes varied depending on sample density. In areas of comparatively high density 10 m x 10 m x 10 m block size was chosen. For lower density drilling (areas where the drill spacing was greater than 30 m x 30 m), block sizes of 20 m x 20 m x 10 m or 20 x 20 x 20 m were chosen. All the varying block sizes are added together after being estimated individually. Search ellipse dimensions were derived from the variogram model ranges.
	Any assumptions behind modelling of selective mining units.	No selective mining units are assumed in this estimate.
	Any assumptions about correlation between variables.	No other elements other than gold have been estimated.
	Description of how the geological interpretation was used to control the resource estimates.	Hangingwall and footwall wireframe surfaces were created using sectional interpretation. These were used to define the Moonbeam K2 and hangingwall and footwall halo mineralised zones based on the shearing, veins and gold grade. K2 (Moonbeam) steeply dipping structure with quartz veining evident from drilling. Footwall/Hangingwall halo (Moonbeam) - Steeply dipping sheared structure with minor quartz stringers in the hangingwall and footwall of the K2 evident from drilling. Oxide mineralisation lodes (HW1OX, HW2OX, FW1OX) have been created from closed sectional interpretation strings creating a solid wireframe representing each lode. For mine planning purposes a waste model is created by projecting the hangingwall and footwall surfaces 15 m either side or the mineralisation. A default grade of 0.1 g/t is assigned and the same resource classification as the adjacent ore lode is applied.

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Criteria	JORC Code explanation	Commentary
	Discussion of basis for using or not using grade cutting or capping.	Top cuts were applied to the composited sample data with the intention of reducing the impact of outlier values on the average grade. Top cuts were selected based on a statistical analysis of the data with a general aim of not impacting the mean by more than 5% and reducing the coefficient of variation to around 1.2, and vary by domain (ranging from 1.5 to 80 g/t for individual domains) The top cut values are applied in several steps, using a technique called influence limitation top cutting. A top cut (AU) and non-top cut (*_NC) variable is created, as well as a spatial variable (*_BC) which only has values where the top cut values appear. For example, where gold requires a top cut, the following variables will be created and estimated: • AU (top cut gold) • AU_NC (non- top cut gold) • AU_BC (populated with AU_NC value when (AU_NC > AU) The top cut and non-top cut values are estimated using search ranges based on the variogram, and the *_BC values estimated using very small ranges (5 m x 5 m x 5 m). Where the *_BC values produce estimated blocks within these restricted ranges, the *_NC estimated values replace the original top cut estimated values (AU). The application of the top cuts has not resulted in a significant decrease in the mean grade from the un-cut to top cut data.
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	Statistical measures of Kriging error, such as the Slope of Regression, are used to assess the quality of the estimation for each domain. Differences in the global grade of the declustered composite data set and the average model grade must be within 10%. Swath plots comparing composites to block model grades are prepared and reviewed. Plots are also prepared summarising the critical model parameters. Visually, block grades are assessed against drill hole data.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	The tonnes have been estimated on a dry basis.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	The mineral resource estimate has been reported at a 1.63 g/t cut off within 2.5 m minimum mining width including no dilution MSO's using a $AU2250/oz gold price.
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.	No mining assumptions have been made during the resource wireframing or estimation process.
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.	Metallurgical test work results show that the mineralisation is amendable to processing through the Kanowna Belle treatment plant. Ore processing throughput and recovery parameters were estimated based on historic performance and potential improvements available using current technologies and practices.

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Criteria	JORC Code explanation	Commentary
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 green fields 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.	A "Licence to Operate" is held by the operation which is issued under the requirement of the "Environmental Protection Act 1986", administered by the Department of Environment (DoE). The licence stipulates environmental conditions for the control of air quality, solid waste management, water quality, and general conditions for operation. Groundwater licenses are held for water abstraction, including production bore field water use for mineral processing, and mine dewatering, in accordance with the Rights in Water and Irrigation Act 1914. These licenses are also regulated by DoE and are renewable on a regular basis. Kanowna Operations conduct extensive environmental monitoring and management programs to ensure compliance with the requirements of the licences and lease conditions. An Environmental Management System is in place to ensure that Northern Star employees and contractors exceed environmental compliance requirements. The Kalgoorlie operations are fully permitted including groundwater extraction and dewatering, removal of vegetation, mineral processing, and open pits. Kalgoorlie Operations have been compliant with the International Cyanide Management Code since 2008. Compliance with air quality permits is particularly important at Kanowna because of the roaster operation and because there are three facilities in the Kalgoorlie region emitting SO2 gas. Kanowna has a management program in place to minimize the impact of SO_2 on regional air quality and ensure compliance with regulatory limits.
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.	Density values for the various lithological units at Moonbeam were reviewed, there were 8 in total, not enough for detailed evaluation. Bulk density is assumed and comparable to neighbouring deposits at Kundana. Bulk densities from neighbouring deposits were determined from surface DD holes with intervals taken from mineralised and non-mineralised zones within the project area. The bulk densities are derived from wet and dry weighting of core no greater than 30cm total length, with core samples selected by changes in lithology/alteration or every 30-40 m where no change is evident. The average density values for the various lithological units at Moonbeam were coded into the database. Where there were no measurements for a specific lithology a default of 2.8 was applied. Density was then estimated by Ordinary Kriging using the associated gold estimation parameters for that domain. Post estimation, default density values for the oxide and transition zones were applied, based on regional averages, 1.8 for Oxide material and 2.3 for Transitional material.
	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.	No/minimal voids are encountered in the ore zones and underground environment
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	Assumptions on the average bulk density of individual lithologies, based on 1399 bulk density measurements at neighbouring Kundana deposits. Assumptions were also made based on regional averages, on the default density applied to transitional (2.3) material, due to lack of data in this area.
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.	Classification is based on a series of factors including: • Geologic grade continuity • Density of available drilling • Statistical evaluation of the quality of the kriging estimate • Confidence in historical data, based on the new Data Class system
	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).	All relevant factors have been given due weighting during the classification process.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The resource model methodology is appropriate, and the estimated grades reflect the Competent Persons view of the deposit.
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	The Resource model has been subjected to internal peer reviews.

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Criteria	JORC Code explanation	Commentary
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 estimate is considered robust and representative of the Moonbeam style of the K2 mineralisation. The application of geostatistical methods has helped to increase the confidence of the model and quantify the relative accuracy of the resource.
	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.	This resource report relates to the Moonbeam ore zone. The model will show local variability even though the global estimate reflects the total average tonnes and grade.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	No reconciliation factors are applied to the resource post-modelling.

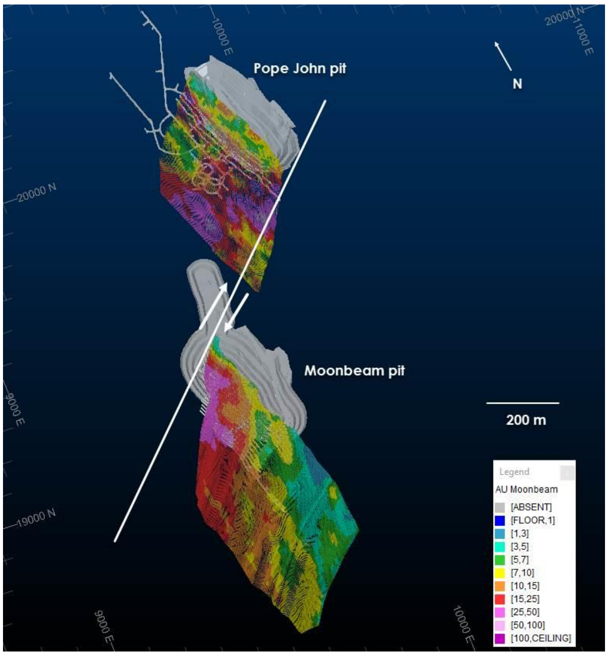

Figure 1. Overview showing the offset between Pope John K2 and Moonbeam K2 along the Lucifer fault

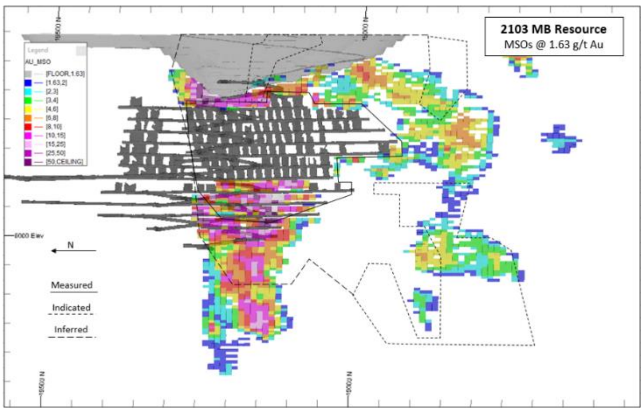

Figure 2. Long section view of 2103_RES MSOs coloured by grade (AU g/t).

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Section 4 Estimation and Reporting of Ore Reserves

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

Criteria	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.	Northern Star Resources Limited June 2021 Mineral Resource
	Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	The Mineral Resources are reported inclusive of the Ore Reserve
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	Site visits have been undertaken by the Competent Person.
	If no site visits have been undertaken indicate why this is the case.	Site visits undertaken.
Study status	The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.	A minimum Pre-Feasibility level study has been completed.
	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.	Upgrade of previous Ore Reserve
Cut-off parameters	The basis of the cut-off grade(s) or quality parameters applied.	Forward looking forecast costs and physicals form the basis of the cut-off grade calculations. • The assumed AUD gold price is at a conservative assumption of $1,750/oz • Mill recovery factors are based on test work and historical averages from the region. Various cut-off grades are calculated including a break-even cut-off grade (BCOG), Variable cut-off grade (VCOG) and Mill cut-off grade (MCOG). The VCOG is used as the basis for stope design, though any areas which are marginal or require significant development are assessed by a more detailed financial analysis to confirm their profitability.
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 optimisation or by preliminary or detailed design).	Indicated Resources were converted to Probable Ore Reserves subject to mine design physicals and an economic evaluation. Stockpiled material was considered as proven
	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 Kundana Gold Operations (incorporating Millennium, Centenary, Pope John, Moonbeam and Christmas) is accessed via a portal within the open pit. The ore is accessed from the Hanging wall from levels at 20m spacing (25m in Millennium North). Top down open stoping methods are applied, and the levels are broken into selectively sized stoping blocks to maximise production.
	The assumptions made regarding geotechnical parameters (e.g. pit slopes, stope sizes, etc.), grade control and pre-production drilling.	The mine design considers well established geotechnical constraints and is reviewed by geotechnical engineers prior to being finalised. Historical geological and geotechnical information is gathered from the nearby operations including Barkers, Strzelecki and Centenary, and still in operation, Raleigh, Rubicon, Hornet and Pegasus, and learnings from this are applied to the geotechnical parameters used. Grade control is to be carried out through resource definition drilling and face sampling of all ore drives.
	The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).	This Table 1 applies to underground mining only
	The mining dilution factors used.	20% dilution has been applied to all stopes. No additional mining dilution factor has been applied.

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Criteria	JORC Code explanation	Commentary
	The mining recovery factors used.	A calculated 70% recovery is applied to unfilled up hole stopes to account for rib pillar requirements and 65% recovery on levels where regional sill pillars are required.
	Any minimum mining widths used.	A minimum stope mining width of 3.0m has been used. This considers a minimum stope width of 2.0m +0.5m dilution in the Hangingwall and +0.5m dilution in the Footwall
	The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.	Designed stopes with greater than 50% inferred blocks are excluded from the reported Ore Reserve.
	The infrastructure requirements of the selected mining methods.	Infrastructure in place, currently an operating mine.
Metallurgical factors or assumptions	The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.	Ore from the Kundana Gold operations is treated at the Jubilee Mill, Kanowna Belle and Carosue Dam milling facilities, all owned by NSR. These facilities are designed to process more than 6.7 million tonnes per annum as a combined throughput (Jubilee – 1Mtpa, Kanowna Bell – 2Mtpa, Carosue Dam – 3.7Mtpa). All plants have the capability to treat free milling ores with additional capacity at the Kanowna Belle facility to treat refractory material. Ore is treated either using the flotation circuit and associated concentrate roaster circuit (including carbon-in-leach (CIL) gold recovery) or bypassing the flotation circuit and going directly to a CIL circuit designed to treat flotation tails. The plants campaign both refractory and free milling ores every month.
	Whether the metallurgical process is well-tested technology or novel in nature.	Plus 10 years milling experience with Kundana ores.
	The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.	Plus 10 years milling experience with Kundana ores.
	Any assumptions or allowances made for deleterious elements.	No assumptions made
	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.	Milling experience gained since 2005, 13 years' continuous operation
	For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?	Not applicable
Environmental	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.	Kundana Gold is currently compliant with all legal and regulatory requirements. All government permits and Licences and statutory approvals are either granted or in the process of being granted.
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.	All current site infrastructure is suitable to the proposed mining plan.
Costs	The derivation of, or assumptions made, regarding projected capital costs in the study.	Mine development capital cost based on historical performance on site and life-of-mine forward planning. Plant and equipment capital are based on site experience and the LOM plan
	The methodology used to estimate operating costs.	All overhead costs and operational costs are projected forward on an AUD $/t based on historical data.
	Allowances made for the content of deleterious elements.	No allowances made.

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Criteria	JORC Code explanation	Commentary
	The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.	Single commodity pricing for gold only, using a long-term gold price of AUD $1,750/oz, 2.5% WA state Government Royalty, as per NSR corporate guidance
	The source of exchange rates used in the study.	All rates considered in Australian Dollars (AUD) as per NSR corporate guidance
	Derivation of transportation charges.	Historic performance
	The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.	Historic performance
	The allowances made for royalties payable, both Government and private.	All State Govt. and third-party royalties are built into the cost model.
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.	All revenue based on a gold price of AUD $1,750/oz.
	The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	Corporate guidance.
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.	All product is sold direct at spot market prices.
	A customer and competitor analysis along with the identification of likely market windows for the product.	Not relevant for gold.
	Price and volume forecasts and the basis for these forecasts.	Not relevant for gold.
	For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	Not relevant for gold.
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.	All costs assumptions are made based on historical performance from the mine and current economic forecast seen as representative of current market conditions.
	NPV ranges and sensitivity to variations in the significant assumptions and inputs.	Sensitivities assessed at varying gold prices.
Social	The status of agreements with key stakeholders and matters leading to social licence to operate.	Agreements are in place and are current with all key stakeholders.
Other	To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:	No issues foreseen.
	Any identified material naturally occurring risks.	No issues foreseen.
	The status of material legal agreements and marketing arrangements.	No issues foreseen.

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Criteria	JORC Code explanation	Commentary
	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.	No issues foreseen.
Classification	The basis for the classification of the Ore Reserves into varying confidence categories.	All Ore Reserves include Proved and Probable classifications. These classifications are based on Mineral Resource classifications as modified by subsequent grade control drilling and face sampling results.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The results appropriately reflect the Competent Persons view of the deposit.
	The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	None.
Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.	This ore reserve has been prepared and peer reviewed internally within Northern Star Resources. There have been no external reviews of this Ore Reserve estimate.
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.	Confidence in the model and Ore Reserve is considered high based on nearby Northern Star operated mines along the same ore bearing structures and the previous 12 months development and stope performance at the Kundana Gold Operations.
	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.	Ore reserves are best reflected as global estimates.
	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.	There is high confidence in these models as the areas are well known and well drilled.
	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.	Reconciliation results from past mining at Centenary, Millennium and Pope John reflect estimates in the Ore Reserve estimates.

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Arctic: Resources and Reserves – 31 March 2021

Section 1: Sampling Techniques and Data
(Criteria in this section apply to all succeeding sections.)

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.	A combination of sample types was used to collect material for analysis including surface diamond drilling (DD) and surface Reverse Circulation drilling (RC).
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	DD drilling is sampled within geological boundaries with a minimum (0.3m) and maximum (1.0m) sample length. Face channel sampling is constrained within geological and mineralised boundaries with a minimum (0.2m) and maximum (1.0m) channel sample length.
	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., 'reverse circulation drilling was used to obtain 1m samples from which 3kg was pulverised to produce a 30g 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.	DD drill core was nominated for either half core or full core sampling. Core designated for half core was cut in half using an automated core saw. The mass of material collected will depend on the drill hole diameter and sampling interval selected. Core designated for full core was broken with a rock hammer if sample segments were too large to fit into sample bags. A sample size of at least 3kg of material was targeted for each face sample interval. All samples were delivered to a commercial laboratory where they were dried, crushed to 95% passing 3mm if required, at this point large samples may be split using a rotary splitter, pulverisation to 90% passing 75µm, a 40g charge was selected for fire assay.
Drilling techniques	Drill type (e.g., core, reverse circulation, 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.).	Both RC and Diamond Drilling techniques are used to drill the Kundana deposits. Surface diamond drill holes were completed using HQ2 (63.5mm) whilst underground diamond drill holes were completed using NQ2 (50.5mm). Historically, core was orientated using the Reflex ACT Core orientation system. Currently, core is orientated using the Boart Longyear Trucore Core Orientation system. RC Drilling was completed using a 5.75" drill bit, downsized to 5.25" at depth. In many cases, RC pre-collars were drilled followed by diamond tails. Pre-collar depth was determined in the drill design phase depending on the target been drilled and production constraints.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	For DD drilling, any core loss is recorded on the core blocks by the driller. This is then captured by the logging geologist and entered as interval into the hole log.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	For diamond drilling the contractors adjust their rate of drilling and method if recovery issues arise. All recovery is recorded by the drillers on core blocks. This is checked and compared to the measurements of the core by the geological team. Any issues are communicated back to the drilling contractor.

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Criteria	JORC Code explanation	Commentary
	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.	Recovery was excellent for diamond core and no relationship between grade and recovery was observed. Average recovery across the Kundana camp is at 99%.
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.	All diamond core is logged for lithology, veining, alteration, mineralisation and structural. Structural measurements of specific features are also taken through oriented zones. Logging is entered in AcQuire using a series of drop-down menus which contain the appropriate codes for description of the rock.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	All core logging is qualitative with mineralised zones assayed for quantitative measurements. Every core tray is photographed wet. All underground faces are logged and sampled to provide both qualitative and quantitative data. All faces are washed down and photographed before sampling is completed.
	The total length and percentage of the relevant intersections logged.	For all drillholes, the entire length of the hole was logged.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	DD drill core was nominated for either half core or full core sampling. Core designated for half core was cut in half using an automated core saw. The mass of material collected will depend on the drill hole diameter and sampling interval selected. Core designated for full core was broken with a rock hammer if sample segments were too large to fit into sample bags.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	For previous RC drilling, all RC samples are split using a rig-mounted cone splitter to collect a sample 3-4kg in size from each 1m interval. These samples were utilised for any zones approaching known mineralization and from any areas identified as having anomalous gold. Outside known mineralised zones spear samples were taken over a 4m interval for composite sampling.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Preparation of samples was conducted at Bureau Veritas Kalgoorlie and Perth preparation facilities, while surface exploration drilling was sent to Genalysis. Sample preparation commenced with sorting, checking, and drying at less than 110°C to prevent sulphide breakdown. Samples are jaw crushed to a nominal -6mm particle size. If the sample is greater than 3kg, a Boyd crusher with rotary splitter is used to reduce the sample size to less than 3kg (typically 1.5kg) at a nominal <3mm particle size. The entire crushed sample (if less than 3kg) or sub-sample is then pulverised to 90% passing 75µm, using a Labtechnics LM5 bowl pulveriser. 400g Pulp subsamples are then taken with an aluminium scoop and stored in labelled pulp packets. The sample preparation is considered appropriate for the deposit.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Procedures are utilised to guide the selection of sample material in the field. Standard procedures are used for all processes within the laboratory. Grind checks are performed at the pulverising stage requiring at least 90% of material to pass below 75µm.
	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.	Umpire sampling selection is conducted on all the Kundana core samples as an entire batch. A minimum of 3% of the samples processed each month are selected to be sent to the ALS Perth check lab.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	The sample sizes are considered appropriate for the material been sampled.

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Criteria	JORC Code explanation	Commentary
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.	A 40g fire assay charge is used with a lead flux in the furnace. The prill is totally digested by HCl and HNO_3 acids before Atomic Absorption Spectroscopy (AAS) determination for gold analysis.
	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 tools were used to determine any element concentrations.
	Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.	Certified reference materials (CRMs) are inserted into the sample sequence at a rate of 1 per 20 samples to ensure correct calibration. Any values outside of 3 standard deviations are re-assayed with a new CRM. Blanks are inserted into the sample sequence at a nominal rate of 1 per 20 samples. The insertion points are selected at random, except where high grade mineralisation is expected. In these cases, a blank is inserted after the high-grade sample to test for contamination. Results greater than 0.2gpt are investigated, and re-assayed if appropriate. New pulps are prepared if anomalous results cannot be resolved. Barren flushes are regularly inserted after anticipated high gold grades at the pulverising stage. No field duplicates were submitted for diamond core. Pulp duplicates are requested after any ore zone. These are indicated on the sample sheet and submission sheet. When visible gold is observed in core, a quartz flush is requested after the sample. Laboratory performance was monitored using the results from the QA samples mentioned above. This was supplemented by the internal QA samples used by the laboratories, which included pulp duplicates and CRMs. The QA studies indicate that accuracy and precision are within industry accepted limits.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	All significant intersections are verified by another Northern Star senior geologist during the drill hole validation process and later by a Competent Person to be signed off.
	The use of twinned holes.	No twinned holes were drilled for this data set. Re-drilling of some of the drillholes has occurred due to issues downhole (e.g., bogged rods). These have been captured in the database as an 'A'. Re-drilled holes are sampled whilst the original drillhole is logged but not sampled.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Geological logging and sampling are directly recorded into AcQuire. Assay files are received in *.cvs, *.pdf and *.sif formats. The *.cvs's are loaded directly into the database using an AcQuire importer object. Assays are then processed through a form in AcQuire for QAQC checks. Non-editable electronic copies of these are stored.
	Discuss any adjustment to assay data.	No adjustments are made to this assay data. If there are issues with the results files received, amended versions are requested from the lab.

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Criteria	JORC Code explanation	Commentary
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	Planned holes are marked up by the mine survey department using a total station survey instrument in mine grid (Kundana 10). The actual hole position is then located by the mine survey department once drilling is completed. During drilling, single shot surveys are conducted every 30m to track the deviation of the hole and to ensure it stays close to design. This is performed using the DeviShot camera which measures the gravitational dip and magnetic azimuth. Results are uploaded from the DeviShot software into a *.cvs format which is then imported into the AcQuire database. At the completion of the hole, a Multishot DeviFlex survey is completed taking measurements every 3m to ensure accuracy of the hole. The is relative change survey which is then referenced back to the Azimuth aligner to provide an accurate, continuous nonmagnetic survey. This is also converted to *.cvs format and imported into the AcQuire database.
	Specification of the grid system used.	Collar coordinates are recorded in mine grid (Kundana 10) and transformed into MGA94_51.
	Quality and adequacy of topographic control.	Quality topographic control has been achieved through Lidar data and survey pickups of holes over the last 15 years.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Drill hole spacing varies across the deposit. For resource targeting drilling, spacing was typically a minimum of 80m x 80m. This allowed for Resource Definition infill drilling at 40m x 40m spacing. Grade control drilling is drilled on a drill spacing of 20m x 20m or 10m x 10m.
	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 data spacing and distribution is considered sufficient to support the Resource estimates.
	Whether sample compositing has been applied.	No sample compositing has been 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.	Majority of the mineralisation in the Kundana area dips steeply (80°) to the WSW. Diamond drilling is designed to target the orebodies perpendicular to this orientation to allow for an ideal intersection angle. Instances where this was not achievable (mostly due to drill platform location), drilling was not completed or re-designed once a suitable platform became available. Drill holes with low intersection angles are excluded from resource estimation where more suitable data is available.
	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.	No sampling bias is considered to have been introduced by the drilling orientation. Where drillholes have been particularly oblique, they have been flagged as unsuitable for resource estimation.
Sample security	The measures taken to ensure sample security.	Prior to laboratory submission, samples are stored by Northern Star Resources in a secure yard. Once submitted to the laboratories they are stored in a secure fenced compound, tracked through their chain of custody and via audit trails.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits have been undertaken of the data and sampling practices at this stage.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Section 2: Reporting of Exploration Results
(Criteria listed in the preceding section also apply to this section.)

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.	All holes mentioned in this report are located within the M16/72 tenement, which are owned by Kundana Gold Pty Ltd a wholly owned subsidiary of Northern Star Resources. There are no private royalty agreements applicable to this tenement.
	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.	No known impediments exist, and the tenements are in good standing.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Early exploration was completed in the mid-1980s by White Flag Joint Venture with the development and operation of South Pit. Modern mining continued since late 1988 through to 1999 when the Centenary Underground ceased operations. Exploration continued over the camp through various companies including Placer Dome and Barrick Gold. Early 2014 saw Northern Star Resources purchase the Kundana camp from Barrick Gold and mining recommenced in March 2014. Arctic was discovered in 1987 and commenced open pit mining in 1991.
Geology	Deposit type, geological setting and style of mineralisation.	The Kundana camp is situated within the Norseman-Wiluna Greenstone Belt, in an area dominated by the Zuleika shear zone, which separates the Coolgardie domain from the Ora Banda domain. K2-style mineralisation consists of narrow vein deposits hosted by shear zones located along steeply dipping overturned lithological contacts. The K2 structure is present along the contact between a black shale unit (Centenary Shale) and intermediate volcaniclastics (Black Flag Group).
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: • easting and northing of the drill hole collar • elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar • dip and azimuth of the hole • down hole length and interception depth • hole length.	A summary of the data present in the Arctic deposits can be found above. The collar locations are presented in plots contained in the NSR 2021 resource report. Drillholes vary in survey dip from -60 to -90, with hole depths ranging from 15m to 750m. The assay data acquired from these holes are described in the NSR 2021 resource report. All validated drill hole data were used directly or indirectly for the preparation of the resource estimates described in the resource report.
	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.	The exclusion of drill hole information is not material and does not detract from the understanding of the report.
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.	All reported assay results have been length weighted to provide an intersection width. A maximum of 2m of barren material (considered < 1gpt) between mineralised samples has been permitted in the calculation of these widths. Typically grades over 2.0gpt are considered significant, however, where low

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
		grades are intersected in areas of known mineralisation these will be reported. No top-cutting is applied when reporting intersection results.
	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.	Where an intersection incorporates short lengths of high grade results these intersections will be reported in addition to the aggregate value. These will typically take the form of ##.#m @ ##.#gpt including ##.#m @ ##.#gpt.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values have been used.
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results:	True widths have been calculated for intersections of the known ore zones based on existing knowledge of the nature of these structures.
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	Both the downhole width and true width have been clearly specified when used.
	If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').	Both down the hole and estimated true widths have been 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 drill hole collar locations and appropriate sectional views.	Appropriate plans and section have been included at the end of this Table.
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.	Both high and low grades have been reported accurately, clearly identified with the drill hole attributes and 'From' and 'To' depths.
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 other material exploration data has been collected for this area.
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).	Drilling will continue in various parts of the mine with the intention of extending areas of known mineralisation. Areas of focus will be to extend the K2 structure both down dip and along strike to the north. Drilling will also focus on infilling areas of the resource to improve confidence.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling	Appropriate diagrams accompany this release.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
	areas, provided this information is not commercially sensitive.	

Section 3: Estimation and Reporting of Mineral Resources
(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

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.	Sampling and logging data is either recorded on paper and manually entered into the database system or captured digitally via a logging laptop and directly loaded into the database system. There are checks in place to avoid duplicate holes and sample numbers. Where possible, raw data is loaded directly into the database from laboratory and survey derived files.
	Data validation procedures used.	The complete exported data base including drill and grade control samples is brought into Datamine and checked visually for any apparent errors i.e., holes sitting between levels or not on surface DTM's. Multiple checks are then made on numerical data. This includes: • Empty table checks to ensure all relevant fields are populated • Unique collar location check, • Distances between consecutive surveys is no more than 60m for drill-holes • Differences in azimuth and dip between consecutive surveys of no more than 0.3 degrees • The end of hole extrapolation from the last surveyed shot is no more than 30m Errors are corrected where possible. When not possible the data is resource flagged as "No" in the database and the database is re-exported. This data is not used in the estimation process. Several drilling programs completed between 2014 and 2017 had erroneous metre depths recorded, these drill-holes have been omitted from the ore wireframe interpretations and flagged as invalid. Where there were no QAQC issue with the assays, the correct intervals were recorded, the translation to the 'correct' location (based on development above and below) applied and these intervals were appended to the data set before compositing. In addition to being Resource Flagged as "Yes" or "No", drill holes are assigned a Data Class which provides a secondary level of confidence in the data quality. Data Class (DC) values range from 0 to 3, with criteria summarised below: • DC 3 = Recent data; all data high quality, validated and all original data available. • DC 2 = Historic data; may or may not have all data in AcQuire or hard copy available but has proximity to recent drilling which confirms the dip, width, and tenor. Used to assist in classification. • DC 1 = Historic data; same criteria as DC 2 but cannot be verified with recent drilling, i.e., too far away, or dissimilar dip, width and/or tenor to recent drilling. Not used in Resource estimate. • DC 0 = Historic data; no original information or new drilling in proximity to verify. Not used in Resource estimate.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	The geological interpretations underpinning these resource models were prepared by geologists working in the mine and in direct, daily contact with the ore body. The estimation of grades was undertaken by personnel familiar with the ore body and the general style of mineralisation encountered. The Senior Resource Geologist, a Competent Person for reviewing and signing off on estimations of the Arctic/ Millennium/Centenary lodes maintained a site presence throughout the process.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
	If no site visits have been undertaken indicate why this is the case.	The Competent Person has maintained a presence onsite.
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	The interpretation of the Arctic deposit was carried out using a systematic approach to ensure continuity of the geology and estimated mineral resource. The confidence in the geological interpretation is high and is supported with information acquired during ore development as well as from drilling. The interpretation of all the Arctic mineralisation wireframes was conducted using the sectional interpretation method. Where development levels were present sectional interpretation was completed in plan-view at approximately 5m spacing to allow for a better constrained and geologically realistic wireframe. Where only drilling data was present, sectional interpretation was completed at approximately 10 - 20m spacing. Wireframes were checked for unrealistic volumes and updated where appropriate.
	Nature of the data used and of any assumptions made.	All available geological data was used in the interpretation including mapping, drill holes, pit grade control data and structural models.
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	No other interpretations have been tested.
	The use of geology in guiding and controlling Mineral Resource estimation.	The interpretation of the main Arctic structures is based on the presence of quartz veining/shearing and continuity between sections of these structures and adjacent mineralised structures.
	The factors affecting continuity both of grade and geology.	Within the Main Vein (K2) structure at Arctic, grade continuity is affected when the percentage of quartz decreases and only a sheared structure remains. This results in lower grade in areas where only the shear is present and higher grade where quartz is evident. In the presence of cross-cutting features, the shear increases in width and the mineralisation is present as stockwork veins within the shear. Overall metal content is broadly preserved but is diluted over a greater width. Significant dextral offsetting fault structures affect the continuity of the K2 and K2A structures at Arctic. These faults are interpreted to be post mineralisation and offset the ore between 1 and 20m. The dilation and silicification of shale in the hanging-wall halo zone of the K2 structure controls grade immediately adjacent to the K2.
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 strike length of the Arctic K2 structure is approximately 550m. The individual ore bodies occur in a major regional Zuleika shear system extending over tens of kilometres. Arctic K2 structure is 1.2m wide on average and can be up to 4.0 wide., while Arctic K2A averages 0.6m wide and can be up to 1.5m wide. Both have a minimum width of ~ 0.1m. Mineralisation is known to occur from the base of cover to around 400m below 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 Arctic K2 and K2A used 1m composites with direct grade estimation unless stated otherwise. **K2** (Arctic) - divided into two grade subdomains based on data density: high density around the existing open pit development and lower density at depth. Each subdomain was analysed separately for top cuts. Variography was completed on both subdomains combined. Both subdomains have a search range of ~80m in direction 1 and 50m in direction 2. Three passes were used

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
		for estimation with distances for pass 1 generally 66% of the variogram range (although also driven by the underlying understanding of the local Geology). **K2A** - divided into two grade subdomains based on data density: high density around the existing open pit development and lower density at depth. Each subdomain was analysed separately for top cuts. Variography was completed on both subdomains combined. Both subdomains have a search range of ~80m in direction 1 and 50m in direction 2. Three passes were used for estimation with distances for pass 1 generally 66% of the variogram range (although also driven by the underlying understanding of the local Geology).
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource Estimate takes appropriate account of such data.	An Inverse Distance Squared and Nearest Neighbour estimate is run for comparison.
	The assumptions made regarding recovery of by-products.	No assumptions are made and only gold is defined for estimation.
	Estimation of deleterious elements or other non-grade variables of economic significance (e.g., sulphur for acid mine drainage characterisation).	No deleterious elements estimated in the model.
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	Block sizes varied depending on sample density. In areas of high density (20m x 20m spacing) sampling, a 5m x 5m x 5m block size was chosen. Lower data density is defined as drill spacing at approximately 30m - 40m, with a 10m x 10m x 10m block size chosen for these areas. All the varying block sizes are added together after being estimated individually. Search ellipse dimensions were derived from the variogram model ranges.
	Any assumptions behind modelling of selective mining units.	Selective mining units were not used during the estimation process.
	Any assumptions about correlation between variables.	No assumptions have been made.
	Description of how the geological interpretation was used to control the resource estimates.	Hanging wall and foot wall wire frame surfaces were created using sectional interpretation. These were used to define the Arctic K2, K2A, K2B and hanging wall and footwall halo mineralised zones based on the shearing, veins, and gold grade. K2, K2A, K2B - steeply dipping structure with quartz veining evident from drilling and development. Footwall/Hanging wall halo - Steeply dipping sheared structure with minor quartz stringers in the hanging-wall and footwall of the K2 evident from drilling and pit mapping. Aurora - flat dipping structure (Pode orientation) with quartz veining evident from drilling. For estimation purposes, a waste model is created by projecting the hanging wall and footwall surfaces 15m either side. A default grade of 0.1gpt is

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
		assigned and the same resource classification as the adjacent ore lode is applied.
	Discussion of basis for using or not using grade cutting or capping.	Top cuts were applied to the composited sample data. Top cuts were selected based on a statistical analysis of the data and vary by domain (ranging from 20gpt to 50gpt for individual domains and deposits) The top cut values are applied in several steps, using influence limitation top cutting. A top cut (AU) and non-top cut (*_NC) variable is created, as well as a spatial variable (*_IL) which only has values where the top cut values appear; this applies to both gold and true thickness (TT) top cutting (where indirect estimation is used). For example, where true thickness and gold both require a top cut, the following variables will be created and estimated: • AU (top cut gold) • AU_NC (non- top-cut gold) The top-cut and non-top cut values are estimated using search ranges based on the variogram, and the *_IL values estimated using very small ranges (e.g., 5m x 5m x 5m). Where the *_IL values produce estimated blocks within these restricted ranges, the *_NC estimated values replace the original top cut estimated values (AU).
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	Statistical measures of Kriging error, such as Kriging Efficiency and Slope of Regression, are used to assess the quality of the estimation for each domain. Differences between the declustered, top-cut composite data set and the average model grade must be within 10%. Swath plots comparing declustered, top-cut composites to block model grades are prepared and plots are prepared summarising the critical model parameters. Visually, block grades are assessed against drill hole and face data.
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 Estimate has been reported at a 1.64gpt cut off within 2.5m minimum mining width (excluding dilution) MSOs using a $A2,250/oz gold price.
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.	No mining assumptions have been made during the resource wireframing or estimation process.
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	All metallurgy assumptions are based on extensive operating history for the K2 ore materials through the Kanowna Belle and HBJ processing facilities.

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Criteria	JORC Code explanation	Commentary
	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.	
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 green fields 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.	A "Licence to Operate" is held by the operation which is issued under the requirement of the "Environmental Protection Act 1986", administered by the Department of Environment (DoE). The licence stipulates environmental conditions for the control of air quality, solid waste management, water quality, and general conditions for operation. Groundwater Licences are held for water abstraction, including production bore field water use for mineral processing, and mine dewatering, in accordance with the Rights in Water and Irrigation Act 1914. These Licences are also regulated by DoE and are renewable on a regular basis. Kanowna Operations conduct extensive environmental monitoring and management programs to ensure compliance with the requirements of the licences and lease conditions. An Environmental Management System is in place to ensure that Northern Star employees and contractors meet or exceed environmental compliance requirements. The Kalgoorlie operations are fully permitted including groundwater extraction and dewatering, removal of vegetation, mineral processing, and open pits. Kalgoorlie Operations have been compliant with the International Cyanide Management Code since 2008. Compliance with air quality permits is particularly important at Kanowna because of the roaster operation and because there are three facilities in the Kalgoorlie region emitting SO_2 gas. Kanowna has a management program in place to minimize the impact of SO_2 on regional air quality and ensure compliance with regulatory limits.
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.	A thorough investigation into average density values for the various lithological units at Arctic was completed and the mean densities by lithology were coded into the database. Where there were no measurements for a specific lithology, a default of 2.8 t/m^3 was applied. Density was then estimated by Ordinary Kriging using the associated gold estimation parameters for that domain. Post estimation, default density values for the oxide and transitional zones were applied, based on regional averages.
	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.	No/minimal voids are encountered in the ore zones and underground environment.
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	Assumptions on the average bulk density of individual lithologies, based on bulk density measurements at Millennium/Centenary. Assumptions were also made based on regional averages, on the default densities applied to oxide (1.9 t/m^3) and transitional (2.3 t/m^3) material. Back-fill material in the Arctic open pit has been coded to 2.1 t/m^3.
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.	Classification is based on a series of factors including: • Geologic grade continuity • Density of available drilling • Statistical evaluation of the quality of the kriging estimate • Confidence in historical data

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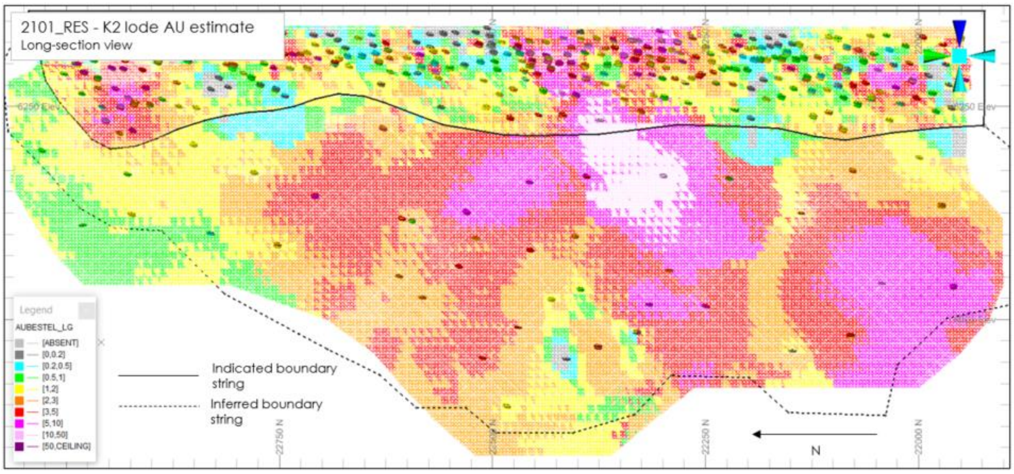
Criteria	JORC Code explanation	Commentary
	Whether appropriate account has been taken of all relevant factors (i.e., relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).	All relevant factors have been given due weighting during the classification process.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The resource model methodology is appropriate and reflects the Competent Persons view of the deposit.
Audits or reviews	The results of any audits or reviews of Mineral Resource Estimates.	All resource models have been subjected to internal peer reviews.
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.	These Mineral Resource Estimates are considered robust and representative of the Arctic style of mineralisation. The application of geostatistical methods has helped to increase the confidence of the model and quantify the relative accuracy of the resource.
	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.	This resource report relates to the Arctic deposit. It is a global estimate reflecting the total average tonnes and grade.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	No reconciliation factors are applied to the resource post-modelling.

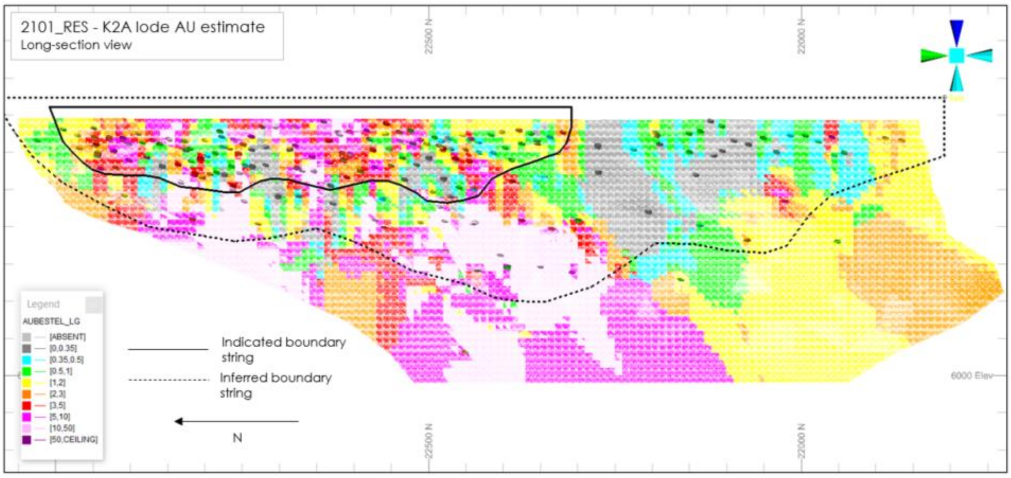
APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Arctic

Long section view of the Arctic K2deposit and the data used in each resource estimate.



Long section view of the Arctic K2A deposit and the data used in the resource estimate.



APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

EKJV: JORC Code, 2012 Edition – Table 1 Report

Falcon: Resources and Reserves – 31 March 2021

Section 1: Sampling Techniques and Data

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td rowspan="3">Sampling techniques</td><td>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.</td><td>A combination of underground and surface diamond drilling (DD), surface reverse circulation drilling (RC) and surface RC drilling with diamond tail (RC_DD) were used to collect material for analysis.
<table><tr><th></th><th colspan="3">Falcon</th></tr><tr><th></th><th># of Holes</th><th>Total m's</th><th># of Samples</th></tr><tr><td>DD</td><td>154</td><td>49,755</td><td>46,693</td></tr><tr><td>FS</td><td>-</td><td>-</td><td>-</td></tr><tr><td>RC</td><td>-</td><td>-</td><td>-</td></tr><tr><td>RC_DD</td><td>1</td><td>672</td><td>417</td></tr><tr><td>Total</td><td>155</td><td>50,427</td><td>47,110</td></tr></table></td></tr>
<tr><td>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</td><td>DD drilling is sampled within geological boundaries with a minimum (0.3m) and maximum (1.0m) sample length.</td></tr>
<tr><td>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., ‘reverse circulation drilling was used to obtain 1m samples from which 3kg was pulverised to produce a 30g 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.</td><td>DD drill core was nominated for either half core or full core sampling. Samples designated for half core were cut using an automated core saw. The mass of material collected was dependent on the drill hole diameter and sampling interval selected.

A sample size of at least 3kg of material was targeted for each face sample interval.

All samples were delivered to a commercial laboratory where they were dried and crushed to 90% of material ≤3mm. At this point, samples greater than 3kg were split using a rotary splitter, then pulverised to 90% ≤75µm. A 40g charge was selected for fire assay of diamond drill hole samples.</td></tr>
<tr><td>Drilling techniques</td><td>Drill type (e.g., core, reverse circulation, 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.).</td><td>Surface diamond drill holes were completed using HQ2 (63.5mm) whilst underground diamond drill holes used NQ2 (50.5mm).

Historically, core was orientated using the Reflex ACT Core orientation system. Currently, core is orientated using the Boart Longyear Trucore Core Orientation system.

In one case, an RC pre-collar has been drilled, followed by a diamond tail.</td></tr>
<tr><td rowspan="3">Drill sample recovery</td><td>Method of recording and assessing core and chip sample recoveries and results assessed.</td><td>For DD drilling, any core loss is recorded on the core block by the driller. This is then captured by the logging geologist and entered as an interval into the hole log.</td></tr>
<tr><td>Measures taken to maximise sample recovery and ensure representative nature of the samples.</td><td>Contractors adjust the rate and method off drilling if recovery issues arise. All recovery is recorded by the drillers on core blocks. This is checked and compared to the measurements of the core by the geological team. Any issues are communicated back to the drilling contractor.</td></tr>
<tr><td>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.</td><td>Recovery was excellent for diamond core and no relationship between grade and recovery was observed. Average recovery across the Kundana camp is at 99%. No specific areas within the Falcon model area had issues with recovery.</td></tr>
</table>

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
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.	All diamond core is logged for lithology, veining, alteration, mineralisation, and structural data. Structural measurements of specific features are also taken through oriented zones. Logging is entered in AcQuire using a series of drop-down menus which contain the appropriate codes for description of the rock.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	All core logging is qualitative with mineralised zones assayed for quantitative measurements. Every core tray is photographed wet.
	The total length and percentage of the relevant intersections logged.	For all drill holes, the entire length of the hole is logged.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	The regolith in all drill holes was sampled as full core. Fresh rock was sampled as either full core or half core. Core cutting was completed using an automated core saw. Where drill core has been half core sampled, the remaining core has been retained.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	No RC samples have been used to inform the Falcon Resource model.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Preparation of NSR samples was conducted at Bureau Veritas' Kalgoorlie or Perth facilities; commencing with sorting, then checking and drying samples at less than 110°C to prevent sulphide breakdown. Samples are jaw crushed to a nominal -6mm particle size. If the sample is greater than 3kg, a Boyd crusher with rotary splitter is used to reduce the sample size to less than 3kg (typically 1.5kg) at a nominal <3mm particle size. The entire crushed sample (if less than 3kg) or sub-sample is then pulverised to 90% ≤75µm, using a Labtechnics LM5 bowl pulveriser. 400g pulp subsamples are then taken with an aluminium scoop and stored in labelled pulp packets. The sample preparation is considered appropriate for the deposit.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Standard procedures are used for all processes within the laboratory. Grind checks are performed at both the crushing stage (3mm) and pulverising stage (75µm), requiring 90% of material to pass through the relevant size.
	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.	Umpire sampling is performed monthly where 3% of the samples are sent to the umpire laboratory for processing.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	The sample sizes are considered appropriate for 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.	A 40g fire assay charge for diamond drill holes is used with a lead flux in the furnace. The prill is totally digested by HCl and HNO_3 acids before Atomic Absorption Spectroscopy (AAS) determination for gold analysis. For areas around the target zone and of prospective high-grade mineralisation, a fire assay to extinction method may be used. For the assay to extinction, a total of five 40g charges go through the above fire assay process. The average of these five charges is then taken and used as the primary assay value. These extent and selection of which zones are fire assayed to extinction is decided upon by the logging geologist at the sample selection stage.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
	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 tools were used to determine any element concentrations.
	Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.	Certified reference materials (CRMs) are inserted into the sample sequence at a rate of 1 per 20 samples to ensure correct calibration. Any values outside of three standard deviations are re-assayed with a new CRM. Blanks are inserted into the sample sequence at a rate of 1 per 20 samples. The insertion points are selected at random, except where high grade mineralisation is expected. In these cases, a blank is inserted after the high-grade sample to test for contamination. Results greater than 0.2gpt if received are investigated, and re-assayed if appropriate. New pulps are prepared if anomalous results cannot be resolved. Barren flushes are regularly inserted after anticipated high gold grades at the pulverising stage. No field duplicates were submitted for diamond core. Pulp duplicates are requested after any ore zone. These are indicated on the sample sheet and the submission sheet. When visible gold is observed in core, a quartz flush is requested after the sample. Laboratory performance was monitored using the results from the QA samples mentioned above. This was supplemented by the internal QA samples used by the laboratories, which included pulp duplicates and CRMs. The QA studies indicate that accuracy and precision are within industry accepted limits.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	All significant intersections are verified by a Northern Star geologist during the drill hole validation process, and later by a Competent Person to be signed off.
	The use of twinned holes.	No twinned holes were drilled into the Falcon deposit. Re-drilling of some drill holes has occurred due to issues downhole (e.g., bogged rods). These have been captured in the database with an 'A' suffix. Re-drilled holes are sampled, whilst the original drill hole is logged, but not sampled.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Geological logging and sampling are directly recorded into AcQuire. Assay files are received in *.cvs format and loaded directly into the database using an AcQuire importer object. Assays are then processed through a form in AcQuire for QAQC checks. Hardcopy and non-editable electronic copies of these are stored.
	Discuss any adjustment to assay data.	No adjustments have been made to the assay data.
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	Planned holes are marked up by the mine survey department using a total station survey instrument in mine grid (Kundana 10). The actual hole position is then located by the mine survey department once drilling is completed. Holes are lined up on the collar point using the DHS Minnovare Azimuth Aligner. Planned azimuths and dips of the holes are downloaded to the aligner which is then placed on the rod string to align the hole for drilling.

Criteria	JORC Code explanation	Commentary
		During drilling, single shot surveys are conducted at the 30m mark to check azimuth aligner set up and track off collar deviation. The DeviFlex tool is used at 50m intervals to track the deviation of the hole and to ensure it stays close to design. This is a relative change tool which measures the change in orientation along the path of the hole at 3m intervals. The DeviFlex tool is referenced back to the azimuth aligner measurement to provide a non-magnetic survey in true North. At the completion of the hole, a final DeviFlex survey is completed taking measurements for the entire hole. Results are uploaded from the DeviFlex software into cloud service. This data is then reviewed, downloaded, and imported into the AcQuire database. The download from the DeviFlex service utilises an average of all the DeviFlex surveys taken over the entire hole. These are review and validated and erroneous surveys discarded. Prior to the overshot mounted DeviFlex tool being available, a combination of magnetic and DeviFlex single shot surveys were used and 30m intervals whilst drilling. A final end of hole multi shot DeviFlex survey was taken to provide a continuous non-magnetic survey of the entire hole trace.
	Specification of the grid system used.	Collar coordinates are recorded in mine grid (Kundana 10) and transformed into MGA94_51.
	Quality and adequacy of topographic control.	Quality topographic control has been achieved through Lidar data and survey pickups of holes over the last 15 years.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Drill hole spacing varies across the deposit, with most of the drilling between 120m x 120m and 40m x 40m spacing. Some areas proximal to development have been drilled at a 20m x 20m drill spacing.
	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 data spacing and distribution is considered sufficient to support the current resource estimate.
	Whether sample compositing has been applied.	No sample compositing has been 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.	The Falcon deposit is interpreted as a series of NNE-SSW trending structures that dip moderately (70°) to the west (local grid). Diamond drilling was designed to target the mineralisation as close to perpendicular as practical. Due to the collar locations available, much of the drilling was completed from footwall to hanging wall.
	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.	No sampling bias is considered to have been introduced by the drilling orientation.
Sample security	The measures taken to ensure sample security.	Prior to laboratory submission, samples are stored by Northern Star Resources in a secure yard. Once submitted to the laboratories they are stored in a secure fenced compound, tracked through their chain of custody and via audit trails.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No independent audits have been undertaken of the data and sampling practices.

Section 2: Reporting of Exploration Results

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

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.	All holes are located within the M16/309 and M15/993 Mining leases held by The East Kundana Joint Venture (EKJV). The EKJV is majority owned and managed by Northern Star Resources Limited (51%). The minority holding in the EKJV is held by Tribune Resources Ltd (36.75%) and Rand Mining Ltd (12.25%). The tenement on which the Falcon deposit is hosted (M16/309) is subject to three royalty agreements. The agreements that are on M16/309 are the Kundana- Hornet Central Royalty, the Lake Grace Royalty and the Kundana Pope John Agreement No. 2602-13.
	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.	No known impediments exist, and the tenements are in good standing.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The first reference to the mineralisation encountered at the Kundana project was the Mines Department report on the area produced by Dr. I. Martin (1987). He reviewed work completed in 1983 – 1984 by a company called Southern Resources who identified two geochemical anomalies, creatively named Kundana #1 and Kundana #2. The Kundana #2 prospect was subdivided into a further two prospects, dubbed K2 and K2A. Between 1987 and 1997, limited work was completed. Between 1997 and 2006, the East Kundana Joint Venture (Tern Minerals (subsequently Rand Mining and Tribune Resources) and Gilt-Edge Mining) (EKJV) focused on shallow open pit potential. The Rubicon open pit was considered economic and production commenced in 2002. In 2011, Pegasus was highlighted by an operational review team and follow-up drilling commenced in 2012. Following the acquisition of the EKJV by Northern Star from Barrick in 2014, production commenced in 2015.
Geology	Deposit type, geological setting and style of mineralisation.	The Kundana camp is situated within the Norseman-Wiluna Greenstone Belt, in an area dominated by the Zuleika shear zone, which separates the Coolgardie domain from the Ora Banda domain. The Falcon deposit is interpreted as a series of mineralised splays off low angle structures that persist through lithological contacts from the K2B (Victorious Basalt - Bent Tree Basalt contact) across the K2A (Bent Tree Basalt- upper felsic and volcaniclastic/sedimentary rocks of the Black Flag Group). The Falcon mineralisation sits in the hangingwall of the regional 'K2' structure, west of the Pode deposit. The Pode lodes have been used as a proxy when interpreting the Falcon structures as similar trends are present, although continuity does not appear to be as high on the Falcon lodes as that displayed at Pode. Falcon mineralisation is comprised of laminated to brecciated to extensional-style quartz veining internal to a sheared biotite-sericite-ankerite altered siltstone/sandstone unit and an intermediate volcaniclastic unit. Mineralisation is present within veins, on vein selvedges, and within the altered host rock, with coarse gold often observed. There is a strong visual correlation between arsenopyrite and gold mineralisation. Vein orientation is varied as supported by structural measurements taken from drill core.
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: • easting and northing of the drill hole collar	A summary of the data present in the Falcon deposit can be found above. The collar locations are presented in plots contained in the NSR 2021 resource report.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

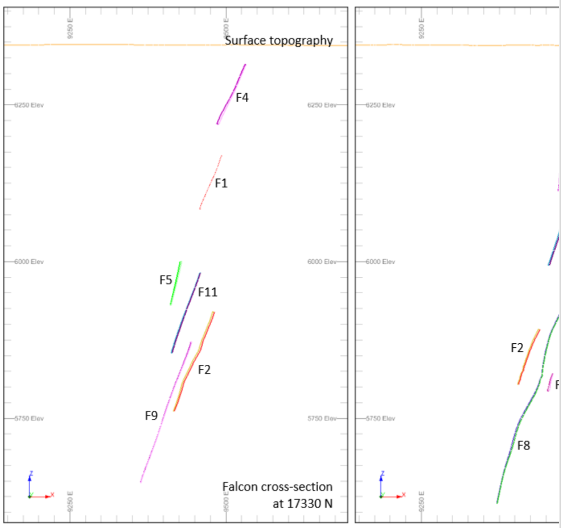
Criteria	JORC Code explanation	Commentary
	• elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar • dip and azimuth of the hole • down hole length and interception depth • hole length.	Drill holes vary in survey dip from +30 to -72 degrees, with hole depths ranging from 42m to 951m, with an average depth of 379m. The assay data acquired from these holes are described in the NSR 2021 resource report. All validated drill hole data was used directly or indirectly for the preparation of the resource estimates described in the resource report.
	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.	The exclusion of information is not material.
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.	All reported assay results have been length weighted to provide an intersection width. A maximum of 2m of barren material (considered < 2gpt) between mineralised samples has been permitted in the calculation of these widths. Typically grades over 2gpt are considered significant, however, where low grades are intersected in areas of known mineralisation these will be reported. No top-cutting is applied when reporting intersection results.
	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.	Where an intersection incorporates short lengths of high grade results these intersections will be reported in addition to the aggregate value. These will typically take the form of ##.#m @ ##.##gpt including ##.#m @ ##.##gpt.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values have been used for the reporting of these exploration results
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results:	True widths have been calculated for intersections of the known ore zones, based on existing knowledge of the nature of these structures. This can be difficult due to the multiple orientations of mineralisation at Falcon.
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	Both the downhole width and true width have been clearly specified when used.
	If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').	Not applicable.
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 drill hole collar locations and appropriate sectional views.	Appropriate plans and section have been included at the end of this table.
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.	Both high and low grades have been reported accurately, clearly identified with the drill hole attributes and 'From' and 'To' depths.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

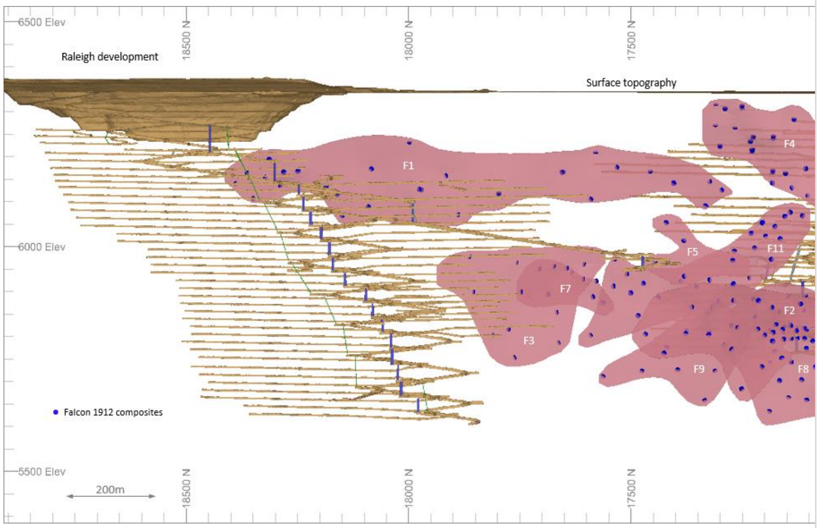
Criteria	JORC Code explanation	Commentary
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	Petrology samples were selected for key lithologies and sent for thin section preparation and petrographic investigation.
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).	Wide spaced drilling will continue to test continuity of the mineralised trend along strike and at depth, utilising drill platforms at RHP and Raleigh mines. Tighter spaced drilling will also be conducted in specific areas to better define the future drill density requirement of the deposit.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Appropriate diagrams accompany this release.

FALCON DEPOSIT

Cross section views of Falcon ore lodes



Long section view looking east of the Falcon deposit and data used for estimation



Section 3: Estimation and Reporting of Mineral Resources

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	Sampling and logging data is either recorded on paper and manually entered into a database system or captured digitally via a logging laptop and directly loaded into the database system. There are checks in place to avoid duplicate holes and sample numbers. Where possible, raw data is

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
	its initial collection and its use for Mineral Resource estimation purposes.	loaded directly into the database from laboratory and survey-tool derived files.
	Data validation procedures used.	The complete exported data base including drill and face samples is brought into Datamine RM and checked visually for any apparent errors i.e., holes or faces sitting between levels or not on surface DTM's. Multiple checks are then made on numerical data including: • Empty table checks to ensure all relevant fields are populated. • Unique collar location check • Distances between consecutive surveys is no more than 50m for drill holes • Differences in azimuth and dip between consecutive surveys of no more than 0.3 degrees • The end of hole extrapolation from the last surveyed shot is no more than 30m • Underground face sample lines are not greater than +\- 5 degrees from horizontal Errors are corrected where possible. When not possible, the data is resource flagged as "No" in the database and the database is re-exported. This data is not used in the estimation process. In addition to being validated, drill holes are assigned a Data Class, which provides a secondary level of confidence in the quality of the data. A review of all the historic data for Falcon was undertaken in 2019 and Data Class (DC) values from 0 - 3 assigned, criteria summarised below: • DC 3 = Recent data; all data high quality, validated and all original data available. • DC 2 = Historic data; may or may not have all data in AcQuire or hard copy available but has proximity to recent drilling which confirms the dip, width and tenor. Used to assist in classification. • DC 1 = Historic data; same criteria as DC 2 but cannot be verified with recent drilling. Not used in Resource estimate. • DC 0 = Historic data; no original information or new drilling in proximity to verify. Not used in Resource estimate.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	The geological interpretations underpinning these resource models have been prepared by geologists working in adjacent mines and in direct, daily contact with similar ore bodies. The estimation of grades was undertaken by personnel familiar with the orebody and the general style of mineralisation encountered. The Senior Resource Geologist, a Competent Person for reviewing and signing off on estimations of the Falcon lode maintained a presence throughout the process.
	If no site visits have been undertaken indicate why this is the case.	The Competent Person has maintained a presence onsite.
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	The interpretation of the Falcon deposit has been carried out using a systematic approach to ensure continuity of the geology and estimated mineral resource. The confidence in the geological interpretation is reasonable given the current density of data present. Interpretation of the Falcon mineralised envelopes were conducted using the sectional interpretation method in Datamine RM software. Sectional interpretation was completed at approximately 20m spacing in cross-section. Wireframes were checked for unrealistic volumes and updated where appropriate.
	Nature of the data used and of any assumptions made.	All available geological data was used in the interpretation including drill holes (lithology, assay, and structure), regional structural models and adjacent analogous deposits.

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Criteria	JORC Code explanation	Commentary
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	Due to the wide data spacing, alternative interpretations have been considered. This includes a single steep mineralised trend (as opposed to the current 'stacked' moderately dipping lodes) aligned with regional foliations. Shorter strike-length 'pods' have also been considered a possibility and development completed on the Falcon lodes to date suggests this may be the case. The potential for alternative interpretations has been considered when applying Resource Classification to the MRE.
	The use of geology in guiding and controlling Mineral Resource estimation.	The interpretation of the main Falcon structures is based predominantly on moderate to steep dipping mineralised shears within the host unit. Current understanding is that interbedded sediments form a rheological and stratigraphic control to mineralisation. Continuity of structure and mineralisation style along-strike and down-dip is required for at least three consecutive holes along the expected orientation of the mineralised trend in order for a mineralised envelope to be created for estimation.
	The factors affecting continuity both of grade and geology.	Offsetting structures are not present in the adjacent Pode deposits although significant undulations exist which may have some impact on continuity of the mineralised trends. Mineralised envelopes for Falcon are confined to the interbedded sediment (SASL) lithological unit. Contacts to the east with Bent Tree basalt and to west with Black Flags intermediate volcaniclastic form the bounding structures for the Falcon mineralisation.
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.	Mineralisation has been modelled at Falcon over a strike length of 1,500m. Individual mineralised envelopes range from 200m to 1000m along strike and from 50m to 300m down dip. Mineralised envelope true widths range from 0.5m to 8.0m. Mineralisation is known to occur from the base of cover to around 750m below 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.	Multiple estimation methodologies have been tested to ascertain the sensitivity of the estimate to various input parameters, including top-cut, influence limitation model block size and kriging neighbourhood. This test work was completed on the Falc4 lode which has the highest data density. To reflect the geological variability, a two-dimensional approach has been used for sample selection. Samples and blocks are transformed into two-dimensional space (a single plane in the Y-Z orientation), the estimate is completed, then samples and blocks are back-transformed to their original position. This back-transformation is checked to ensure it agrees with the original position of the wireframe. This methodology negates the requirement for dynamic anisotropy and allows the variogram to be used to estimate grade in the major (down plunge) and semi-major (down dip) orientations. Firstly, a 'categorical estimate' is completed on a grade cut-off of 0.30gpt (0.75gpt for the Falc4 lode). This cut-off grade has been determined by looking for a break in the grade distribution. Blocks above 0.30gpt are coded with '1' and blocks below with '0'. An estimate is completed on the binary values to ascertain the probability of the block being above the grade cut-off. For instance, if the block estimate returned 0.65, the assumption would be that 65% of that block volume would be above the 0.30gpt cut-off grade. Following this, two separate data sets are created: all samples above 0.30gpt and all samples below 0.30gpt. These two data sets are used individually to estimate a high-grade and low-grade model. For lodes with

Criteria	JORC Code explanation	Commentary
		limited sample points where a coherent variogram model is not possible, Inverse Distance was used for both the proportional and grade estimates. For all other areas, Ordinary Kriging was used. The final model is created by summing the products of the block proportion estimate and high and low-grade estimates which is a weighted combination of the two models returning a single gold grade for the original block. All estimation uses a three-pass search strategy completed in Datamine RM v 1.4 software. As all estimates use data transformed into two-dimensional space, the direction 3 search has been manipulated to equal the direction 1 search. Shape specific estimation parameters are outlined below. **Falc1** – Data is top cut to 20gpt using the influence limitation approach. Variography was completed on the composited data file. For categorical estimate, search ranges of 200m in directions 1 and 3 and 150m in direction 2 were used. Three passes were used for estimation with distances based on variography. LG and HG data set estimates use the same search ranges as the categorical estimate. **Falc2** – Data was top cut to 20gpt using the influence limitation approach. A hard, top cut of 40gpt was also applied to remove any genuinely anomalous results. Variography was completed on the composited data file. For categorical estimate, search ranges of 120m in direction 1, 80m in direction 2 and 40m in direction 3. Three passes were used for estimation with distances based on variography. For both the LG and HG estimates, a generic variogram has been used to estimate the HG and LG models. **Falc3** – Data was top cut to 30gpt using the influence limitation approach. Variography was completed on the composited data file. For categorical estimate, search ranges of 190m in direction 1, 130m in direction 2 and 50m in direction 3. Three passes were used for estimation with distances based on variography. LG and HG data set estimates use the same search ranges as the categorical estimate above. A generic variogram has been used to estimate the HG and LG models. **Falc4** – Data was top cut to 15gpt using the influence limitation approach. In addition, a hard, top cut of 40gpt has been applied to limit impact of genuine outliers on the influence limitation model. Variography was completed on the composited data file. For categorical estimate, search ranges of 110m in direction 1, 70m in direction 2 and 50m in direction 3 were used. A generic variogram has been used to estimate the HG and LG models. **Falc5** – Data was top cut to 40gpt using the influence limitation approach. No variography was completed for the Falc5 lode as not enough sets of data points were available for realistic variogram calculation. An ID^2 model was used to inform all Falc5 block estimates with grade continuity inferred from adjacent shapes. For categorical estimate, search ranges of 70m in direction 1, 50m in direction 2 and 30m in direction 3 were used. LG and HG data set estimates use the same search ranges as the categorical estimate above. **Falc6** – No top cuts were applied due the low coefficient of variance and lack of genuine outliers. No variography was completed for the Falc6 lode as not enough sets of data points were available for realistic variogram calculation. An ID^2 model was used to inform all Falc6 block estimates. Grade continuity trend has been inferred from nearby shapes. For categorical estimate, search ranges of 70m in direction 1, 50m in direction 2 and 30m in direction 3 were used. Three passes were used for estimation with distances based on adjacent lodes. LG and HG data set estimates use the same search ranges as the categorical estimate above. **Falc7** – Data was top cut to 15gpt using the influence limitation approach. No variography was completed for the Falc7 lode as not enough sets of data points were available for realistic variogram calculation. An ID^2

Criteria	JORC Code explanation	Commentary
		model was used to inform all Falc7 block estimates. Grade continuity trend has been inferred from nearby shapes. For categorical estimate, search ranges of 70m in direction 1, 50m in direction 2 and 30m in direction 3 were used. Three passes were used for estimation with distances based on adjacent lodes. LG and HG data set estimates use the same search ranges as the categorical estimate above. **Falc8** – Data was top cut to 35gpt using the influence limitation approach. In addition to this, a hard top cut of 50gpt has been applied to limit impact of genuine outliers on the influence limitation model. For categorical estimate, search ranges of 110m in direction 1, 90m in direction 2 and 50m in direction 3 were used. A generic variogram has been used to estimate the HG and LG models. **Falc9** – No top cuts were applied due the low coefficient of variance and lack of genuine outliers. No variography was completed for the Falc9 lode as not enough sets of data points were available for realistic variogram calculation. An ID^2 model was used to inform all Falc9 block estimates. Grade continuity trend has been inferred from nearby shapes. For categorical estimate, search ranges of 70m in direction 1, 50m in direction 2 and 30m in direction 3 were used. LG and HG data set estimates use the same search ranges as the categorical estimate above. **Falc11** – Data was top cut to 30gpt using the influence limitation approach. For categorical estimate, search ranges of 190m in direction 1, 130m in direction 2 and 50m in direction 3 were used. LG and HG data set estimates use the same search ranges as the categorical estimate above. A generic variogram has been used to estimate the HG and LG models
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource Estimate takes appropriate account of such data.	Check estimates have been completed for all lodes. These include conventional Ordinary Kriging (OK) in three-dimensional space (with and without dynamic anisotropy applied), conventional Ordinary Kriging (OK) with data and model transformed into two-dimensional space, OK with a generic variogram and isotropic search, Inverse Distance (ID) and Nearest Neighbour (NN) estimates.
	The assumptions made regarding recovery of by-products.	No assumptions have been made regarding recovery of any 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 considered or estimated for this deposit.
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	Data spacing for the Falcon deposit varies from 20m x 20m to 120m x 120m. For all lodes, a block size of 10m x 10m x 10m has been chosen. Search ellipse dimensions were derived from the variogram model ranges (generally the distance corresponding to 80% of the total semivariance is used for pass 1, and the range of the variogram used for pass 2), or isotropic ranges based on data density where insufficient data was present for variographic analysis.
	Any assumptions behind modelling of selective mining units.	No selective mining units are assumed in this estimate.
	Any assumptions about correlation between variables.	No other elements other than gold have been estimated.

Criteria	JORC Code explanation	Commentary
	Description of how the geological interpretation was used to control the resource estimates.	Hanging wall and foot wall wireframe surfaces were created using sectional interpretation for each of the Falcon mineralised envelopes. These wireframes are then combined and closed to make a solid which is in turn used to control the volume and samples used to estimate each lode. For mine planning purposes a waste model is created by projecting the hangingwall and footwall surfaces 15m either side. A default grade of 0.1gpt is assigned and the same resource classification as the adjacent ore lode is applied to ensure consistency in MSO Resource Classification reporting.
	Discussion of basis for using or not using grade cutting or capping.	Top cuts were applied to the composited sample data to reduce the impact of outlier values on the average grade. Top cuts were selected based on a statistical analysis of the data. The top cut values are applied in several steps, using influence limitation top cutting. A top cut (AU) and non-top cut (*_NC) variable is created, as well as a spatial variable (*_IL) which only has values where the top cut values appear. For example, where gold requires a topcut, the following variables will be created and estimated: • AU (top cut gold) • AU_NC (non- top-cut gold) • AU_IL (spatial variable; values present where AU data is top cut) The top-cut and non-top cut values are estimated using search ranges based on the variogram, and the *_IL values estimated using very small ranges (e.g., 5m x 5m x 5m). Where the *_IL values produce estimated blocks within these restricted ranges, the *_NC estimated values replace the original top cut estimated values (AU).
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	Statistical measures of estimation performance, such as the Slope of Regression, are used to assess the quality of the estimation for each domain. Differences in the global grade of the declustered, top-cut composite data set and the average model grade were within 10%, or justification for a difference outside 10% was explicable. Swath plots comparing declustered, top-cut composites to block model grades are prepared and reviewed. Plots are also prepared summarising the critical model parameters. Visually, block grades are assessed against drill hole and face data.
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 Estimate has been reported at a 2.1gpt cut off within 2.5m minimum mining width (excluding dilution) MSOs using a $A2,250/oz gold price.
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	No mining assumptions have been made during the resource wireframing or estimation process.

Criteria	JORC Code explanation	Commentary
	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.	
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.	No metallurgical assumptions have been made during the resource wireframing or estimation process.
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 green fields 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.	A "Licence to Operate" is held by the operation which is issued under the requirement of the "Environmental Protection Act 1986", administered by the Department of Environment (DoE). The licence stipulates environmental conditions for the control of air quality, solid waste management, water quality, and general conditions for operation. Groundwater Licences are held for water abstraction, including production bore field water use for mineral processing, and mine dewatering, in accordance with the Rights in Water and Irrigation Act 1914. These Licences are also regulated by DoE and are renewable on a regular basis. Kanowna Operations conduct extensive environmental monitoring and management programs to ensure compliance with the requirements of the licences and lease conditions. An Environmental Management System is in place to ensure that Northern Star employees and contractors exceed environmental compliance requirements. The Kalgoorlie operations are fully permitted including groundwater extraction and dewatering, removal of vegetation, mineral processing, and open pits. Kalgoorlie Operations have been compliant with the International Cyanide Management Code since 2008. Compliance with air quality permits is particularly important at Kanowna because of the roaster operation and because there are three facilities in the Kalgoorlie region emitting SO_2 gas. Kanowna has a management program in place to minimize the impact of SO_2 on regional air quality and ensure compliance with regulatory limits.
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.	A thorough investigation into average density values for the various lithological units at Falcon was completed and the mean densities by lithology were coded into the database. Where there were no measurements for a specific lithology, a default of value 2.8 t/m^3 was applied. Density was then estimated by Ordinary Kriging or Inverse Distance Squared, using the associated gold estimation parameters for that domain. Post estimation, default density values for the oxide and transition zones were applied, based on regional averages.
	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.	No significant voids are encountered in the ore zones for Falcon.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	Assumptions on the average bulk density of individual lithologies from the regional data set. 21,549 bulk density samples have been used. Results are in line with regional expectations. Default densities have been applied to oxide (1.9 t/m^3) and transitional (2.3 t/m^3) material, due to lack of data in this area. These values are in line with regional averages.
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.	Classification is based on a series of factors including: • Geologic grade continuity • Confidence in current interpretation • Density of available drilling • Statistical evaluation of the quality of the kriging estimate • Confidence in historical data, based on the new Data Class system No blocks at Falcon have been assigned a classification above Inferred due to uncertainty around the continuity of mineralised structure at Falcon.
	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).	All relevant factors have been given due weighting during the classification process.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The resource model methodology is appropriate and reflects the Competent Persons view of the deposit.
Audits or reviews	The results of any audits or reviews of Mineral Resource Estimates.	The Resource model has been subjected to internal peer reviews.
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.	These Mineral Resource Estimates are considered representative of the Falcon style of mineralisation. The relative accuracy of the Mineral Resource Estimate is reflected in the reporting of the Mineral Resource as per the guidelines of the 2012 JORC Code.
	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.	This resource report relates to the Falcon deposit. The model will show local variability even though the global estimate reflects the total average tonnes and grade.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	No reconciliation factors are applied to the resource post-modelling.

Evolution MINING

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

JORC Code, 2012 Edition – Table 1 Report

Golden Hind: Resources and Reserves – 31 March 2021

Section 1: Sampling Techniques and Data
(Criteria in this section apply to all succeeding sections.)

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td>Sampling techniques</td><td>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.</td><td>Sampling was completed using a combination of Reverse Circulation (RC),
<table>
<tr><th></th><th colspan="3">Golden Hind</th></tr>
<tr><th></th><th>Number of Holes</th><th>Total metres</th><th>Number of Samples</th></tr>
<tr><td>DD</td><td>30</td><td>7976</td><td>3349</td></tr>
<tr><td>RC</td><td>111</td><td>10038</td><td>9450</td></tr>
<tr><td>RC_DD</td><td>18</td><td>6034</td><td>1546</td></tr>
<tr><td>TOTAL</td><td>159</td><td>24047</td><td>14345</td></tr>
</table>
Rotary Air Blast (RAB) and Diamond (DD) drilling. RAB drilling was excluded for resource estimation work.</td></tr>
<tr><td></td><td>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</td><td>RC samples were split using a rig-mounted cone splitter on 1m intervals to obtain a sample for assay.

Diamond core was placed in core trays for logging and sampling. Half core samples were nominated by the geologist from diamond core with a minimum sample width of either 20cm (HQ) or 30cm (NQ2).</td></tr>
<tr><td></td><td>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., ‘reverse circulation drilling was used to obtain 1m samples from which 3kg was pulverised to produce a 30g 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.</td><td>RC sampling was split using a rig mounted cone splitter to deliver a sample of approximately 3kg.

DD drill core was cut in half using an automated core saw, where the mass of material collected will vary on the hole diameter and sampling interval.

All samples were delivered to a commercial laboratory where they were dried, crushed to 90% passing 3mm if required, at this point large samples may be split using a rotary splitter, pulverisation to 90% passing 75µm, a 40g charge was selected for fire assay.</td></tr>
<tr><td>Drilling techniques</td><td>Drill type (e.g., core, reverse circulation, 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.).</td><td>Both Reverse Circulation and Diamond Drilling techniques were used to drill the Golden Hind deposit.

Surface diamond drillholes were predominantly completed using HQ2 (63.5mm) coring.

Historically, core was orientated using the Reflex ACT Core orientation system.

RC Drilling was completed using a 5.75” drill bit, downsized to 5.25” at depth.

In limited cases, RC pre-collars were drilled, followed by diamond tails. Pre-collar depth was determined in the drill design phase.</td></tr>
<tr><td>Drill sample recovery</td><td>Method of recording and assessing core and chip sample recoveries and results assessed.</td><td>Any core loss in diamond drilling is recorded on the core block by the driller. This is captured by the logging geologist and entered as an interval into the hole log.

Moisture content and sample recovery is recorded for each RC sample</td></tr>
<tr><td></td><td>Measures taken to maximise sample recovery and ensure representative nature of the samples.</td><td>For diamond drilling, the contractors adjust their rate of drilling and method if recovery issues arise. All recovery is recorded by the drillers on core blocks.</td></tr>
</table>

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Criteria	JORC Code explanation	Commentary
		This is checked and compared to the measurements of the core by the geological team. Any issues are communicated back to the drilling contractor.
	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.	Recovery of the ore lode is challenging at Golden Hind. Triple-tube drilling techniques have been employed by the drilling contractor in order to alleviate reduced recovery, due in part to the nature of the material being drilled and to the drill orientation oblique to the target structure. In order to mitigate the impacts on the estimate, samples which have logged core loss through the ore zone are excluded.
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.	All diamond core is logged for regolith, lithology, veining, alteration, mineralisation, and structure. Structural measurements of specific features are also taken through oriented zones. RC sample chips are logged in 1m intervals for the entire length of each hole. Regolith, lithology, alteration, veining, and mineralisation are all recorded. All logging codes for regolith, lithology, veining, alteration, mineralisation, and structure is entered into the AcQuire database using suitable pre-set dropdown codes to remove the likelihood of human error.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	All core logging is qualitative with mineralised zones assayed for quantitative measurements. Every core tray is photographed wet.
	The total length and percentage of the relevant intersections logged.	In all instances, the entire drill hole is logged.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	Diamond core is cut using an automated core saw. In most cases, half the core is taken for sampling with the remaining half being stored for later reference. Full core sampling is taken where data density of half core stored is sufficient for auditing purposes.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	For recent RC drilling (2015 onwards), RC samples were split using a rig-mounted cone splitter to collect a sample 3 - 4kg in size from each 1m interval. These samples were utilised for any zones approaching known mineralisation and from any areas identified as having anomalous gold. Outside known mineralised zones, spear samples were taken over a 4m interval for composite sampling.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	For recent data (2015 onwards), preparation of samples was conducted at Bureau Veritas' Kalgoorlie facilities. Sample preparation commences with sorting, checking, and drying at less than 110°C to prevent sulphide breakdown. Samples are jaw crushed to a nominal -6mm particle size. If the sample is greater than 3kg a Boyd crusher with rotary splitter is used to reduce the sample size to less than 3kg (typically 1.5kg) at a nominal <3mm particle size. The entire crushed sample (if less than 3kg) or sub-sample is then pulverised to 90% passing 75µm, using a Labtechnics LM5 bowl pulveriser. 300g pulp subsamples are then taken with an aluminium scoop and stored in labelled pulp packets. The sample preparation is considered appropriate for the deposit.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	For recent data (2015 onwards), procedures are utilised to guide the selection of sample material in the field. Standard procedures are used for all processes within the laboratory. Grind checks are performed at both the crushing stage (3mm) and pulverising stage (75µm), requiring 90% of material to pass through the relevant size.

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Criteria	JORC Code explanation	Commentary
	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.	No umpire assays have been completed in this reporting period.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	The sample sizes are considered appropriate for 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.	For recent data, a 40g fire assay charge for is used with a lead flux in the furnace. The prill is totally digested by HCl and HNO_3 acids before Atomic Absorption Spectroscopy (AAS) determination for gold analysis.
	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 tools were used to determine any element concentrations.
	Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.	For recent data (2015 onwards), certified reference materials (CRMs) are inserted into the sample sequence randomly at a rate of 1 per 20 samples to ensure correct calibration. Any values outside of three standard deviations are re-assayed with a new CRM. Blanks are inserted into the sample sequence at a rate of 1 per 20 samples. The insertion points are selected at random, except where high grade mineralisation is expected. In these cases, a Blank is inserted after the high-grade sample to test for contamination. Results greater than 0.2gpt are investigated, and re-assayed if appropriate. New pulps are prepared if anomalous results cannot be resolved. Barren flushes are regularly inserted after anticipated high gold grades at the pulverising stage. No field duplicates were submitted for diamond core. Pulp duplicates are requested after any ore zone. These are indicated on the sample sheet and the submission sheet. When visible gold is observed in core, a quartz flush is requested after the sample. Laboratory performance was monitored using the results from the QA samples mentioned above. This was supplemented by the internal QA samples used by the laboratories, which included pulp duplicates and CRMs. The QA studies indicate that accuracy and precision are within industry accepted limits.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	All significant intersections are verified by another Northern Star geologist during the drill hole validation process, and later by a Competent Person to be signed off.
	The use of twinned holes.	No twinned holes were drilled for this data set. Re-drilling of some drillholes has occurred due to issues downhole (e.g., bogged rods). These have been captured in the database as an 'A' suffix. Re-drilled holes are sampled whilst the original drillhole is logged but not sampled.

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Criteria	JORC Code explanation	Commentary
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Geological logging and sampling are directly recorded into AcQuire. Assay files are received in *.cvs format and loaded directly into the database using an AcQuire importer object. Assays are then processed through a form in AcQuire for QAQC checks. Hardcopy and non-editable electronic copies of these are stored.
	Discuss any adjustment to assay data.	No adjustments are made to this assay data.
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	As a majority of the data in the Golden Hind data set is historic, it is unknown what QC procedures have been used. For more recent data (2015 onwards), planned hole collars are pegged using a Differential GPS by the field assistants. The final collar is picked up after hole completion by Cardno Survey with a Real Time Kinematic Differential Global Positioning System (RTKDGPS) in the MGA 94_51 grid. During drilling single-shot surveys are conducted every 30m to ensure the hole remains close to design. This is performed using the Reflex EZ-Trac system which measures the gravitational dip and magnetic azimuth results are uploaded directly from the Reflex software export into the AcQuire database. At the completion of diamond drilling the DeviFlex RAPID continuous in-rod survey instrument taking readings every 2 seconds, In and Out runs and reported in 3m intervals was also used along with DeviSight GPS compass for surface alignment application True North Azimuth, DIP, latitude and longitude coordinates for set up.
	Specification of the grid system used.	Collar coordinates are recorded in mine grid (Kundana 10) and transformed into MGA94_51.
	Quality and adequacy of topographic control.	Quality topographic control has been achieved through Lidar data and survey pickups of holes over the last 15 years.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Drill hole spacing varies across the deposit, with majority of drilling between 120m x 120m down to 20m x 20m within the planned Golden Hind Open Pit.
	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 data spacing and distribution is considered sufficient to support the resource estimate.
	Whether sample compositing has been applied.	No sample compositing has been 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.	Most of the structures in the Kundana area dip steeply (80°) to the west (local grid). Golden Hind dips at a shallower angle of 55° to the west. Diamond drilling was designed to target the ore bodies perpendicular to this orientation to allow for a favourable intersection angle.
	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.	No sampling bias is considered to have been introduced by the drilling orientation. Where drillholes have been particularly oblique, they have been flagged as unsuitable for resource estimation.

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Criteria	JORC Code explanation	Commentary
Sample security	The measures taken to ensure sample security.	Prior to laboratory submission, samples are stored by Northern Star Resources in a secure yard. Once submitted to the laboratories they are stored in a secure fenced compound, tracked through their chain of custody and via audit trails.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No independent audits have been undertaken of the data and sampling practices.

Section 2: Reporting of Exploration Results
(Criteria listed in the preceding section also apply to this section.)

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.	All information in this report is located within M16/309 which is held by The East Kundana Joint Venture (EKJV). The EKJV is majority owned and managed by Northern Star Resources Limited (51%). The minority holding in the EKJV is held by Tribune Resources Ltd (36.75%) and Rand Mining Ltd (12.25%). The tenement on which the Golden Hind deposit is hosted is subject to three royalty agreements. The agreements are the Kundana- Hornet Central Royalty, the Lake Grace Royalty and the Kundana Pope John Agreement No. 2602-13.
	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.	No known impediments exist, and the tenements are in good standing.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	No other parties performed exploration work at Golden Hind during the reporting period. Previous exploration by other parties is summarised in open file annual reports which are available from the DMIRS.
Geology	Deposit type, geological setting and style of mineralisation.	The Kundana gold camp is situated within the Norseman-Wiluna Greenstone Belt, in an area dominated by the Zuleika shear zone, which separates the Coolgardie domain from the Ora Banda domain. Golden Hind mineralisation is located along the Strzelecki-Raleigh structure. The majority of mineralisation consists of narrow, laminated quartz veining on the contact between volcanogenic sedimentary rock unit and andesite/gabbro (RMV).
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: • easting and northing of the drill hole collar • elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar • dip and azimuth of the hole • down hole length and interception depth • hole length.	A summary of the data present in the Golden Hind deposit can be found above. The collar locations are presented in plots contained in the NSR 2021 resource report. Drill holes vary in survey dip from -73 degrees to +18 degrees with hole depths ranging from 18m to 537m and having an average depth of 151m. The assay data acquired from these holes are described in the NSR 2021 resource report. All of the drill hole data were used directly or indirectly for the preparation of the resource estimates described in the resource report.
	If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract	No material information has been excluded from this report.

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Criteria	JORC Code explanation	Commentary
	from the understanding of the report, the Competent Person should clearly explain why this is the case.	
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.	All reported assay results have been length weighted to provide an intersection width. A maximum of 2m of low-grade material (considered < 2.0gpt) between mineralised samples has been permitted in the calculation of these widths. Typically grades over 2.0gpt are considered significant, however, where wide zones of low grade are intersected in areas of known mineralisation these will be reported. No top-cutting is applied when reporting intersection results.
	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.	Where an intersection incorporates short lengths of high grade results these intersections will be reported in addition to the aggregate value. These will typically take the form of ##.#m @ ##.##gpt including ##.#m @ ##.##gpt.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values have been used for the reporting of these exploration results.
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results:	True widths have been calculated for intersections of the known ore zones based on existing knowledge of the nature of these structures.
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	Both the downhole width and true width have been clearly specified when used.
	If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').	Where true widths cannot be estimated, the intercepts are clearly labelled as down hole thickness.
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 drill hole collar locations and appropriate sectional views.	Appropriate plans and section have been included at the end of this Table and in the body of the NSR 2021 resource 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.	Both high and low grades have been reported accurately, clearly identified with the drill hole attributes and 'From' and 'To' depths.
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 other material exploration data has been collected for this area.

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Criteria	JORC Code explanation	Commentary
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).	There are plans for further drilling at Golden Hind to extend the Indicated Resource to the north and investigate the potential for Underground mining below the current planned open Pit.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Appropriate diagrams accompany this release.

Section 3: Estimation and Reporting of Mineral Resources
(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

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.	Sampling and logging data is either recorded on paper and manually entered into a database system or captured digitally via a logging laptop and directly loaded into the database system. There are checks in place to avoid duplicate holes and sample numbers. Where possible, raw data is loaded directly into the database from laboratory and survey-tool derived files.
	Data validation procedures used.	The complete exported data base including drill and face samples is brought into Datamine RM and checked visually for any apparent errors i.e., holes or faces sitting between levels or not on surface DTM's. Multiple checks are then made on numerical data including: • Empty table checks to ensure all relevant fields are populated • Unique collar location check, • Distances between consecutive surveys is no more than 50m for drill-holes • Differences in azimuth and dip between consecutive surveys of no more than 0.3 degrees • The end of hole extrapolation from the last surveyed shot is no more than 30m Errors are corrected where possible. When not possible the data is resource flagged as "No" in the database and the database is re-exported. This data is not used in the estimation process. In addition to being validated, drill holes are assigned a Data Class, which provides a secondary level of confidence in the quality of the data. A review of all the historic data for Golden Hind was undertaken in 2019 and Data Class (DC) values from 0 - 3 assigned, criteria summarised below: • DC 3 = Recent data; all data high quality, validated and all original data available. • DC 2 = Historic data; may or may not have all data in AcQuire or hard copy available but has proximity to recent drilling which confirms the dip, width and tenor. Used to assist in classification OR Recent data; minor issues with data such as QAQC fail but not proximal to the ore zone. • DC 1 = Historic data; same criteria as DC 2 but cannot be verified with recent drilling, i.e., too far away or too dissimilar dip, width and/or tenor to recent drilling. Not to be used in Resource estimate. • DC 0 = Historic data; no original information or new drilling in proximity to verify. Not to be used in Resource estimate.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	The geological interpretations underpinning these Resource models have been prepared by geologists working in adjacent mines and in direct, daily contact with similar ore bodies. The estimation of grades was undertaken by personnel familiar with the orebody and the general style of mineralisation encountered. The Senior Resource Geologist, a Competent Person for

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Criteria	JORC Code explanation	Commentary
		reviewing and signing off on estimations of the Golden Hind lode maintained a presence throughout the process.
	If no site visits have been undertaken indicate why this is the case.	Site visits have been undertaken.
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	The interpretation of the Golden Hind deposit has been carried out using a systematic approach to ensure continuity of the geology and estimated mineral resource. The confidence in the geological interpretation is high and is supported with information acquired from drilling. Towards the northern end of the mineralisation, the structure between Raleigh and Golden Hind is not as well defined. This will be accounted for in MRE classifications applied. The interpretation of the Golden Hind mineralisation wireframe was conducted using the sectional interpretation method in Vulcan software. Sectional interpretation was completed in vertical east-west sections at approximately 10m spacing where the drill density was good, and at approximately 40m spacing in the North where the drill density data was sparser. Wireframes were checked for unrealistic volumes and updated where appropriate.
	Nature of the data used and of any assumptions made.	All available geological data was used in the interpretation including drill holes and regional structural models.
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	Due to the consistency of the structure conveyed by this dataset and knowledge from the adjacent Raleigh deposit, no alternative interpretations have been considered.
	The use of geology in guiding and controlling Mineral Resource estimation.	Golden Hind is an extension of the Raleigh Main Vein (RMV) hosted in the Strzelecki Structure and located to the south of the Raleigh mining area. The continuity of the RMV from Raleigh to Golden Hind is not well understood and the northern extent. The interpretation of the Raleigh Main Vein (RMV) is based on the presence of quartz veining and continuity between sections on the main Raleigh structure. The RMV was constrained to high-grade intercepts with all holes with available photography reviewed for lithology logging. The RMS was identified as a lower-grade halo surrounding the RMV, usually hosted in brecciated volcaniclastics or andesite. The RMS is not always present and is modelled as coincident with the RMV when halo grades were absent, to eliminate overestimation of the volume.
	The factors affecting continuity both of grade and geology.	Grade continuity is affected when the percentage of quartz decreases within the main Raleigh structure and only a sheared structure remains. This results in lower grade in areas where only shear is present and higher grade where quartz veining is developed.
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 Golden Hind structure is approximately 1500m long and is limited by limited drilling to the north and diamond drilling at depth. The Golden Hind mineralisation occurs in a major regional shear system, the Strzelecki structure that extends over tens of kilometres. The Golden Hind RMV varies in width but is typically in the range of 0.1m to 1m. Mineralisation is known to occur from the base of cover to around 900m below surface in the region.
	The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme	All Golden Hind mineralisation used 1.0m composites with direct grade estimation of gold. The primary method of estimation was by categorical indicated kriging (CIK) (unless otherwise stated), utilising a three pass search

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Criteria	JORC Code explanation	Commentary
Estimation and modelling techniques	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.	strategy using Datamine Studio RM software. Details of the estimation parameters for each mineralisation zone are summarised below. RMV divided into two data density subdomains based on near-surface, high-density RC drilling and sparser RC and DD drilling at depth. A binary estimate is completed on composited data set with indicators (0 or 1) applied based on grade cut-off (> 0.8gpt). Estimate returns result between 0 and 1. Cut-off of 0.70 chosen to ascertain two grade subdomains (high grade and low grade) for final gold estimate. Data sets top cut to 30gpt and 25gpt (high grade subdomain, high- and low-density subdomains respectively) or 2gpt and 0.8gpt (low grade subdomain, high- and low-density subdomains respectively) using the hard top-cut approach. Same variogram and search parameters used for both high- and low-grade subdomains. Variograms indicate grade continuity plunging steeply to the north. Searches were completed in three passes. Search ranges of 180m in dir1, 100m in dir2 and 25m in dir3 were used for the high data density subdomain and 280m in dir1, 160m in dir2 and 40m in dir3 for the low data density subdomain. RMS divided into two data density subdomains based on near-surface, high-density RC drilling and sparser RC and DD drilling at depth. Variography attempted for the RMS lode, but completed with low confidence. ID^2 has been used for grade interpolation, with no top-cutting required due to low coefficients of variance within the RMS lode. Searches were completed in three passes. Search ranges of 60m in dir1, 40m in dir2 and 20m in dir3 were used for the high data density subdomain and 80m in dir1, 40m in dir2 and 30m in dir3 for the low data density subdomain
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource Estimate takes appropriate account of such data.	All mineralisation zones had check estimates using ID^2 and Nearest Neighbour completed as a comparison.
	The assumptions made regarding recovery of by-products.	No assumptions have been made regarding recovery of any 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 considered and therefore estimated for this deposit.
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	The data spacing varies considerably within the deposit ranging from closed spaced drilling 20m (along strike) and 20m (down dip) through to more widely spaced intercepts at over 80m (along strike) and 80m (down dip). As such, the block sizes varied depending on sample density. In areas of where the close spaced data existed, a 10m x 10m x 10m block size was chosen. For lower density drilling with wider spacing a block size of 20m x 20m x 20m was selected. All the varying block sizes are added together after being estimated individually. Search ellipse dimensions were derived from the variogram model ranges.
	Any assumptions behind modelling of selective mining units.	No selective mining units are assumed in this estimate.
	Any assumptions about correlation between variables.	No other elements other than gold have been estimated.

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Criteria	JORC Code explanation	Commentary
	Description of how the geological interpretation was used to control the resource estimates.	Closed volume wireframes have been created using sectional interpretation. These were used to define the RMV, and RMS mineralised zones based on the shearing intensity, veins and gold grade. RMV (Golden Hind) is a steeply dipping structure with quartz veining evident from drilling. RMS (Golden Hind) is a steeply dipping sheared lower grade structure usually hosted in brecciated volcaniclastics. For mine planning purposes a waste model is created by making a waste solid wireframe approximately 30m either side of the mineralisation. A default grade of 0.1gpt is assigned and the same resource classification as the adjacent ore lode is applied to ensure consistency in MSO Resource Classification reporting.
	Discussion of basis for using or not using grade cutting or capping.	Top cuts were applied to the composited sample data with the intention of reducing the impact of outlier values on the average grade. The top cut values are applied in several steps, using a technique called influence limitation top cutting. A top cut (AU) and non-top cut (*_NC) variable is created, as well as a spatial variable (*_IL) which only has values where the top cut values appear. For example, where gold requires a topcut, the following variables will be created and estimated: • AU (top cut gold) • AU_NC (non- top-cut gold) • AU_IL (spatial variable; values present where AU data is top cut) The top-cut and non-top cut values are estimated using search ranges based on the variogram, and the *_IL values estimated using very small ranges (e.g., 5m x 5m x 5m). Where the *_IL values produce estimated blocks within these restricted ranges, the *_NC estimated values replace the original top cut estimated values (AU).
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	Statistical measures of estimation performance, such as the Slope of Regression have been used to assess the quality of the estimation for each domain. Differences in the global grade of the declustered, top-cut composite data set and the average model grade were within 10%, or justification for a difference outside 10% was explicable. Swath plots comparing declustered, top-cut composites to block model grades are prepared and reviewed. Plots are also prepared summarising the critical model parameters. Visually, block grades are assessed against drill hole data.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	The tonnes have been estimated on a dry basis.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	The Mineral Resource Estimate has been split into an Underground and Open Pit Resource model. The Open Pit Resource is reported above a $AUD2,250/oz optimised pit shell within SMUs of 2.5m x 2.5m x 2.5m. Cut-off grade used for Open Pit reporting is 1.08gpt.

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Criteria	JORC Code explanation	Commentary
		The Underground Resource is reported below the $AUD2,250/oz optimised pit shell at a 2.13gpt cut off within 2.5m minimum mining width (excluding dilution) MSOs.
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.	No mining assumptions have been made during the resource wireframing or estimation process.
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.	No metallurgical assumptions have been made during the resource wireframing or estimation process.
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 green fields 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.	A "Licence to Operate" is held by the operation which is issued under the requirement of the "Environmental Protection Act 1986", administered by the Department of Environment (DoE). The licence stipulates environmental conditions for the control of air quality, solid waste management, water quality, and general conditions for operation. Groundwater Licences are held for water abstraction, including production bore field water use for mineral processing, and mine dewatering, in accordance with the Rights in Water and Irrigation Act 1914. These Licences are also regulated by DoE and are renewable on a regular basis. Kanowna Operations conduct extensive environmental monitoring and management programs to ensure compliance with the requirements of the licences and lease conditions. An Environmental Management System is in place to ensure that Northern Star employees and contractors exceed environmental compliance requirements. The Kalgoorlie operations are fully permitted including groundwater extraction and dewatering, removal of vegetation, mineral processing, and open pits. Kalgoorlie Operations have been compliant with the International Cyanide Management Code since 2008.
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.	A thorough investigation into density values for the various lithological units at Golden Hind was completed and the mean densities by lithology were coded into the database. Where there were no measurements for a specific lithology, a default value of 2.7 t/m³ was applied. Density was then estimated by Ordinary Kriging or ID^2, using the associated gold estimation parameters for that domain. Post estimation, default density values for the oxide and transition zones were applied, based on regional averages.
	The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity,	No voids are encountered in the ore zones and underground environment as Golden Hind is unmined.

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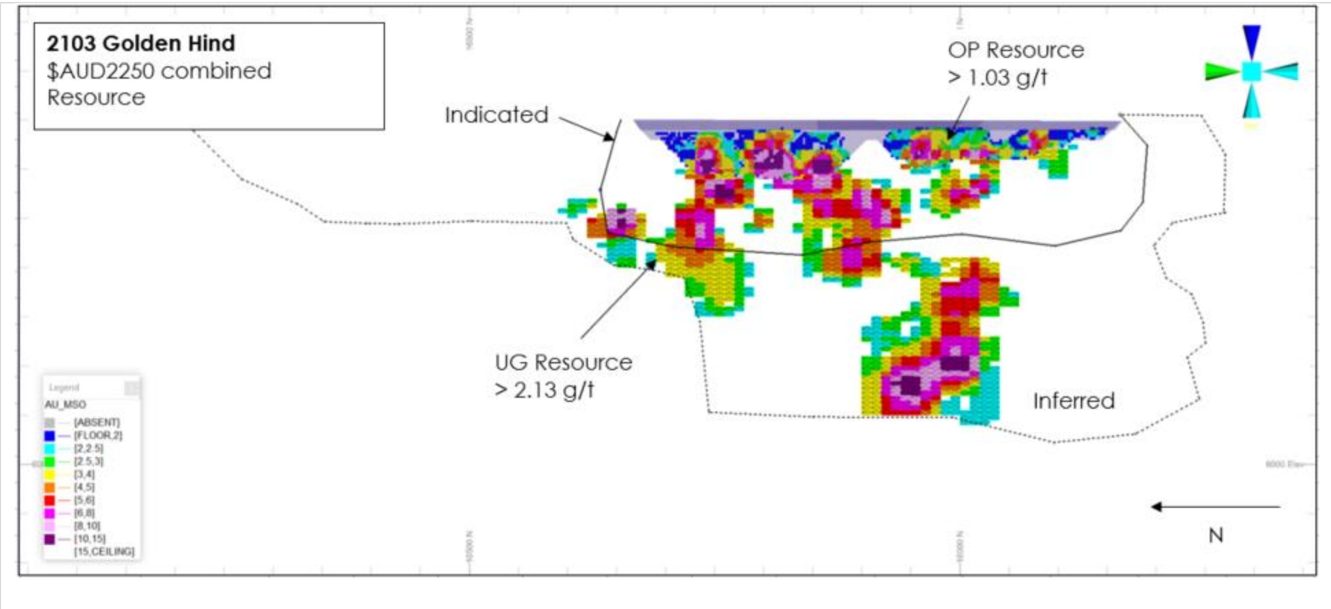
Criteria	JORC Code explanation	Commentary
	etc.), moisture and differences between rock and alteration zones within the deposit.	
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	The average bulk density of individual lithologies is based on 502 bulk density measurements at the Golden Hind deposit. Assumptions were based on regional averages for the default density applied to oxide (1.8 t/m³) and transitional (2.3 t/m³) material, due to lack of data in this area.
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.	Classification is based on a series of factors including: • Geologic grade continuity • Density of available drilling • Statistical evaluation of the quality of the kriging estimate • Confidence in historical data, based on the new Data Class system
	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).	All relevant factors have been given due weighting during the classification process.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The resource model methodology is appropriate, and the estimated grades reflect the Competent Persons view of the deposit.
Audits or reviews	The results of any audits or reviews of Mineral Resource Estimates.	The Resource model has been subjected to internal peer reviews.
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 Estimate is considered robust and representative of the Golden Hind style of the RMV mineralisation. The application of geostatistical methods has helped to increase the confidence of the model and quantify the relative accuracy of the resource.
	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.	This resource report relates to the Golden Hind deposit. The model will show local variability even though the global estimate reflects the total average tonnes and grade.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	No reconciliation factors are applied to the resource post-modelling.

GOLDEN HIND DEPOSIT
Long section view of the Golden Hind deposit



Section 4: Estimation and Reporting of Ore Reserves

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

Criteria	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.	Northern Star 2021MY Resource.
	Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	The Mineral Resources are reported inclusive of the Ore Reserve.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	Site visits have been undertaken by the competent person.
	If no site visits have been undertaken indicate why this is the case.	Site visits are undertaken.
Study status	The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.	A minimum Pre-Feasibility level study is completed prior to converting an ore zone into ore Reserve.
	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.	Ore Reserves have been calculated by generating detailed mining shapes for the proposed Golden Hind pit. A series of nested optimised pit shells were generated using Whittle software, an analysis of the shells was completed to select one which was then used to complete a detailed pit design to closely resemble the selected whittle shell. The Whittle optimisation used parameters generated from NSR technical personnel and technical consultants. A detailed mine schedule and cost model has been generated and appropriate ore dilution and recoveries have been applied within the model.
Cut-off parameters	The basis of the cut-off grade(s) or quality parameters applied.	The pit cut-off grade has been calculated based on the key input components (processing, recovery and administration).

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Criteria	JORC Code explanation	Commentary
		Forward looking forecast costs and physicals form the basis of the cut-off grade calculations. The AUD gold price as per corporate guidance. Mill recovery factors are based on historical data and metallurgical test work.
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 optimisation or by preliminary or detailed design).	Ore Reserves have been calculated by generating detailed mining shapes for the proposed open pit. All open pit mining shapes include planned and unplanned dilution, being waste material that is located within the minable shape. Open pit unplanned dilution has been modelled within the mining shapes as a skin of material likely to be taken additional to material considered to be the smallest mining unit (SMU). This method is considered to be appropriate given the expected ground conditions, orebody width and proposed mining style.
	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 proposed open pit is to be mined using conventional open pit mining methods (drill, blast, load and haul) by a mining contractor utilising 120 t class excavators and 90 t trucks. This method is used widely in mines across Western Australia and is deemed appropriate given the nature of the ore body.
	The assumptions made regarding geotechnical parameters (e.g., pit slopes, stope sizes, etc.), grade control and pre-production drilling.	Pit slope design parameters are defined by considering expected rock type, weathering profile and depth below surface.
	The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).	This Table 1 applies to open pit mining.
	The mining dilution factors used.	Physicals are reported within the generated mining shapes for the open pit Ore Reserve. SMU shapes have been generated for the reporting of Ore Reserve physicals. Dilution accounted for within the SMU is 75%; that is waste material carried within the mining shape.
	The mining recovery factors used.	No recovery factors were applied for the reporting of Open pit Reserve physicals. Mining recovery is considered to be 100% of the SMU.
	Any minimum mining widths used.	The minimum minable selective mining unit (SMU) dimensions for the Open pit Reserve Estimate are 3.5m Wide x 2.5m High x 4.0m Long.
	The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.	Inferred material has not been included within the Open pit Ore Reserve estimate (treated as waste) but has been considered in LOM planning. The amount of inferred material has no impact on the sensitivity of the project.
	The infrastructure requirements of the selected mining methods.	Infrastructure required for the proposed Golden Hind Project has been accounted for and included in all work leading to the generation of the Ore Reserve estimate. Ore from the Golden Hind Project will be processed through the Kanowna Belle Gold Mine Processing Plant at the Kanowna Belle operation; hence no processing infrastructure is required. The Golden Hind Project is connected by internal private haul roads to Kanowna Belle. Infrastructure will be shared with the Rubicon and Raleigh projects and includes offices, workshops and associated facilities, dewatering pipeline, and ROM Pad. New infrastructure includes a waste rock storage dump.

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Criteria	JORC Code explanation	Commentary
Metallurgical factors or assumptions	The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.	Golden Hind ore will be treated at the Kanowna Belle milling facilities or additional ore to toll treatment facilities as required. The Kanowna Belle Mill is designed to handle approximately 2.0 million tonnes of feed per annum. The plant has the capability to treat both refractory and free milling ores, through either using the flotation circuit and associated concentrate roaster circuit, including carbon-in-leach (CIL) gold recovery, or bypassing the flotation circuit and going directly to a CIL circuit designed to treat flotation tails. The plant campaigns both refractory and free milling ores every month. Between campaigns, the circuit is “cleaned out” using mineralised waste. The plant is made up of crushing, grinding, gravity gold recovery, flotation, roasting, CIL, elution and gold recovery circuits. Ore Reserves are calculated using processing plant recovery factors that are based on test work and historical performance.
	Whether the metallurgical process is well-tested technology or novel in nature.	Milling experience gained over plus 10 years operation.
	The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.	Milling experience gained over plus 10 years operation.
	Any assumptions or allowances made for deleterious elements.	No assumption made.
	The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody.	Milling experience gained over plus 10 years operation.
	For minerals that are defined by a specification, has the ore Reserve estimation been based on the appropriate mineralogy to meet the specifications?	Not applicable.
Environmental	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.	Environmental impacts and hazards are being considered as part of the DMIRS application process. Waste rock characterisation and hydrogeological investigations indicates the rock mass is considered non-acid forming. Tailings from the open pit operation are proposed to be stored within the existing Tailings Storage Facility (TSF) at Kanowna Belle.
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.	All current site infrastructure is suitable to the proposed underground operations mining plan. Additional infrastructure is planned for the Golden Hind Open pit and has been allowed for in the financial model.
Costs	The derivation of, or assumptions made, regarding projected capital costs in the study.	Mining costs based on mining contract rates supplied by a reputable WA based mining contractor. Mining costs were built up from first principals on mine designs supplied by NSR.
	The methodology used to estimate operating costs.	The estimation of Open pit mine operating costs was based on a contractor mining and maintenance operation using first principles to determine equipment productivities and associated operating hours to generate mine schedules.

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Criteria	JORC Code explanation	Commentary
		Provided contract pricing were than applied to the schedule to calculate all unit costs.
	Allowances made for the content of deleterious elements.	No allowances made.
	The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.	Corporate guidance.
	The source of exchange rates used in the study.	Corporate guidance.
	Derivation of transportation charges.	Historic performance.
	The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.	Historic performance.
	The allowances made for royalties payable, both Government and private.	All royalties are built into the cost model.
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.	A$1,750/oz gold.
	The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	Corporate guidance.
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.	All gold is assumed sold directly to market at the nominated Corporate gold price.
	A customer and competitor analysis along with the identification of likely market windows for the product.	Not Applicable.
	Price and volume forecasts and the basis for these forecasts.	Corporate guidance.
	For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	Not Applicable.
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.	The Open pit Ore Reserve estimate is based on a financial model for that has been prepared at a "pre-feasibility study" level of accuracy economic modelling. All inputs from mining operations, processing, transportation, and capital have been scheduled and evaluated to generate a full life of mine cost model.

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Criteria	JORC Code explanation	Commentary
	NPV ranges and sensitivity to variations in the significant assumptions and inputs.	Sensitivities have been used with gold price ranges of A$1,500 to A$2,000 per ounce.
Social	The status of agreements with key stakeholders and matters leading to social Licence to operate.	Agreements are in place and are current with all key stakeholders.
Other	To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:	No Issues.
	Any identified material naturally occurring risks.	No Issues.
	The status of material legal agreements and marketing arrangements.	No Issues.
	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.	No Issues.
Classification	The basis for the classification of the Ore Reserves into varying confidence categories.	Ore Reserves classifications are derived from the underlying resource model classifications – i.e., Measured Resource material is converted to either Proved or Probable Reserves, with Indicated Resource material converting to Probable Reserve.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The results accurately reflect the competent persons view of the deposit.
	The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	Nil.
Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.	The Ore Reserve has been internally reviewed in line with Northern Star Resource governance standard for Reserves and Resources. There have been no external reviews of this Ore Reserve estimate.
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.	Confidence in the model and Ore Reserve Estimate is considered high.

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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.	Estimates are global but will be reasonably accurate on a local scale.
	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.	Not applicable.
	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.	Not applicable.

JORC Code, 2012 Edition – Table 1 Report

Kundana Area Deposits (Drake, Pegasus, Rubicon and Hornet): Resources and Reserves – 31 March 2021

Section 1: Sampling Techniques and Data
(Criteria in this section apply to all succeeding sections.)

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.	Several sample types were used to collect material for analysis: underground and surface diamond drilling (DD), surface reverse circulation drilling (RC) and face channel (FC) sampling. Rotary air blast (RAB) holes were excluded from the estimate. Where sufficient DD holes were present, RC holes were also excluded. Tabulated statistics below include the Pode and Hera trend. A more detailed breakdown will be made available in the Drake, Pegasus, Rubicon and Hornet 2021 Resource Report.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	DD drilling is sampled within geological boundaries with a minimum (0.3m) and maximum (1.0m) sample length. Face channel sampling is constrained within geological and mineralised boundaries with a minimum (0.2m) and maximum (1.0m) channel sample length. In some cases, smaller samples (0.1m – 0.2m) have been taken to account for smaller structures in the face.
	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., 'reverse circulation drilling was used to obtain 1m samples from which 3kg was pulverised to produce a 30g charge for fire	DD drill core was nominated for either half core or full core sampling. Core designated for half core was cut using an automated core saw. The mass of material collected was dependent on the drillhole diameter and sampling interval selected. Core designated for full core was broken with a rock hammer if sample segments were too large to fit into sample bags.

	Hornet, Rubicon, Pegasus, Drake (inc. Pode and Hera)		
	Number of Holes	Total metres	Number of Samples
DD	3288	593670	485299
FS	11130	53668	91083
RC	230	21600	15348
RC_DD	49	15414	12000
TOTAL	**14697**	**684352**	**603730**

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Criteria	JORC Code explanation	Commentary
	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.	A sample size of at least 3kg of material was targeted for each face sample interval. All samples were delivered to a commercial laboratory where they were dried and crushed to 90% of material ≤3mm. At this point large samples were split using a rotary splitter, then pulverised to 90% ≤75µm. A 40g charge was selected for fire assay for all recent samples. Historically, charge weights of 50g have also been used.
Drilling techniques	Drill type (e.g., core, reverse circulation, 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.).	Both Reverse Circulation and Diamond Drilling techniques were used to drill the Kundana deposits. Surface diamond drill holes were completed using HQ2 (63.5mm) core, whilst underground diamond drill holes were completed using NQ2 (50.5mm) core. Historically, core was orientated using the Reflex ACT Core orientation system. Currently, core is oriented using the Boart Longyear Trucore Core Orientation system. RC Drilling was completed using a 5.75" drill bit, downsized to 5.25" at depth. In many cases, RC pre-collars were drilled, followed by diamond tails. Pre-collar depth was determined in the drill design phase depending on the target being drilled and production constraints.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	For DD drilling, any core loss is recorded on the core block by the driller. This is captured by the logging geologist and entered as an interval into the hole log.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	Contractors adjust the rate and method of drilling if recovery issues arise. All recovery is recorded by the drillers on core blocks. This is checked and compared to the measurements of the core by the geological team. Any issues are communicated back to the drilling contractor.
	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.	Recovery was excellent for diamond core and no relationship between grade and recovery is observed. Average recovery across the Kundana camp is at 99%.
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.	All diamond core is logged for lithology, veining, alteration, mineralisation, and structural data. Structural measurements of specific features are also taken through oriented zones. Logging is entered in AcQuire using a series of drop-down menus which contain the appropriate codes for description of the rock. All underground faces are logged for lithology and mineralisation. Logging is captured on a face sample sheet underground which is then transferred to AcQuire. Faces are then input into AcQuire using a series of drop-down menus which contain appropriate codes for description of the rock.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	All core logging is qualitative with mineralised zones assayed for quantitative measurements. Every core tray is photographed wet. All underground faces are logged and sampled to provide both qualitative and quantitative data. Faces are washed down and photographed before sampling is completed.
	The total length and percentage of the relevant intersections logged.	For all drill holes, the entire length of the hole is logged.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	Diamond core is cut using an automated core saw. Sampling and cutting methodology is dependent on the type of drilling completed. Half core is utilised for exploration drilling. Some exploration drill holes have been whole core sampled and all Grade Control drilling is whole core sampled.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	RC samples are split using a rig-mounted cone splitter to collect a sample 3 - 4kg in size from each 1m interval. These samples were from any zone approaching known mineralisation and from any areas identified as having anomalous gold. Outside known mineralised zones spear samples were taken over a 4m interval for composite sampling.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Preparation of NSR samples was conducted at Bureau Veritas' Kalgoorlie facilities; commencing with sorting, checking, and drying at less than 110°C to prevent sulphide breakdown. Samples are jaw crushed to a nominal -6mm particle size. If the sample is greater than 3kg a Boyd crusher with rotary splitter is used to reduce the sample size to less than 3kg (typically 1.5kg) at a nominal <3mm particle size. The entire crushed sample (if less than 3kg) or sub-sample is then pulverised to 90% ≤75µm, using a Labtechnics LM5 bowl pulveriser. 400g Pulp subsamples are then taken with an aluminium scoop and stored in labelled pulp packets. The sample preparation is considered appropriate for the deposit.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Standard procedures are used for all processes within the laboratory. Grind checks are performed at both the crushing stage (3mm) and pulverising stage (75µm), requiring 90% of material to pass through a sieve of relevant size.
	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.	Umpire sampling is performed monthly, where 3% of the samples are sent to the umpire laboratory for processing. Umpire samples of faces were analysed using a 40g charge weight.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	The sample sizes are considered appropriate for 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.	A 40g fire assay charge for diamond drillholes and a 40g charge for face samples is used with a lead flux in the furnace. The prill is totally digested by HCl and HNO_3 acids before Atomic Absorption Spectroscopy (AAS) determination for gold analysis.
	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 tools were used to determine any element concentrations
	Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.	Certified reference materials (CRMs) are inserted into the sample sequence at a rate of 1 per 20 samples to ensure correct calibration. Any values outside of 3 standard deviations are re-assayed with a new CRM. Blanks are inserted into the sample sequence at a rate of 1 per 20 samples. The insertion points are selected at random, except where high grade mineralisation is expected. In these cases, a Blank is inserted after the high-grade sample to test for contamination. Results greater than 0.2gpt if received are investigated, and re-assayed if appropriate. New pulps are prepared if anomalous results cannot be resolved.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
		Barren flushes are regularly inserted after anticipated high gold grades at the pulverising stage. No field duplicates were submitted for diamond core. Pulp duplicates are requested after any ore zone. These are indicated on the sample sheet and the submission sheet. When visible gold is observed in core, a quartz flush is requested after the sample. Laboratory performance was monitored using the results from the QA samples mentioned above. This was supplemented by the internal QA samples used by the laboratories, which included pulp duplicates and CRMs. The QA studies indicate that accuracy and precision are within industry accepted limits.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	All significant intersections are verified by another Northern Star geologist during the drill hole validation process, and later by a Competent Person to be signed off.
	The use of twinned holes.	No specific twinned holes were drilled. Re-drilling of some drillholes has occurred due to issues downhole (e.g., bogged rods). These have been captured in the database with an 'A' suffix. Re-drilled holes are sampled, whilst the original drillhole is logged but not sampled.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Geological logging and sampling are directly recorded into AcQuire. Assay files are received in *.cvs format and loaded directly into the database using an AcQuire importer object. Assays are then processed through a form in AcQuire for QAQC checks. Hardcopy and non-editable electronic copies of these are stored.
	Discuss any adjustment to assay data.	No adjustments have been made to this assay data.
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	Planned holes are marked up by the mine survey department using a total station survey instrument in mine grid (Kundana 10). The actual hole position is then located by the mine survey department once drilling is completed. Holes are lined up on the collar point using the DHS Minnovare Azimuth Aligner. Planned azimuths and dips of the holes are downloaded to the aligner which is then placed on the rod string to align the hole for drilling. During drilling, single shot surveys are conducted at the 30m mark to check azimuth aligner set up and track off collar deviation. The DeviFlex tool is used at 50m intervals to track the deviation of the hole and to ensure it stays close to design. This is a relative change tool which measures the change in orientation along the path of the hole at 3m intervals. The DeviFlex tool is referenced back to the azimuth aligner measurement to provide a non-magnetic survey in true North. At the completion of the hole, a final DeviFlex survey is completed taking measurements for the entire hole. Results are uploaded from the DeviFlex software into cloud service. This data is then reviewed, downloaded, and imported into the AcQuire database. The download from the DeviFlex service utilises an average of all the DeviFlex surveys taken over the entire hole. These are review and validated and erroneous surveys discarded. Prior to the overshot mounted DeviFlex tool being available, a combination of magnetic and DeviFlex single shot surveys were used and 30m intervals whilst drilling. A final end of hole multi shot DeviFlex survey was taken to provide a continuous non-magnetic survey of the entire hole trace.

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Criteria	JORC Code explanation	Commentary
	Specification of the grid system used.	Collar coordinates are recorded in mine grid (Kundana 10) and transformed into MGA94_51.
	Quality and adequacy of topographic control.	Quality topographic control has been achieved through Lidar data and survey pickups of holes over the last 15 years.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Drill hole spacing varies across the deposit. Resource Targeting drilling at an 80m x 80m nominal spacing is infilled during Resource Definition down to an average of 30m x 30m. Grade control drilling follows development and is generally comprised of stab drilling from the development drive at 10m to 15m spaced centres.
	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 data spacing and distribution is considered sufficient to support the Resource and Reserve estimates.
	Whether sample compositing has been applied.	No sample compositing has been 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.	Most of the structures in the Kundana area dip steeply (80°) to the west (local grid). Diamond drilling was designed to target the ore bodies perpendicular to this orientation to allow for a favourable intersection angle. Instances where this was not achievable (primarily due to drill platform location), drilling was not completed, or re-designed once a more suitable platform became available. Drill holes with low intersection angles are excluded from resource estimation where more suitable data is available.
	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.	No sampling bias is considered to have been introduced by the drilling orientation. Where drillholes have been particularly oblique, they have been flagged as unsuitable for resource estimation.
Sample security	The measures taken to ensure sample security.	Prior to laboratory submission samples are stored by Northern Star Resources in a secure yard. Once submitted to the laboratories they are stored in a secure fenced compound, tracked through their chain of custody and via audit trails.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No recent audits have been undertaken of the data and sampling practices.

Section 2: Reporting of Exploration Results
(Criteria listed in the preceding section also apply to this section.)

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,	All holes mentioned in this report are located on the M16/309 Mining lease held by the East Kundana Joint Venture (EKJV). The EKJV is majority owned and managed by Northern Star Resources Limited (51%). The minority holding in the EKJV is held by Tribune Resources Ltd (36.75%) and Rand Mining Ltd (12.25%).

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Criteria	JORC Code explanation	Commentary
	wilderness or national park and environmental settings.	The tenement on which the Rubicon, Hornet, Pegasus, and Drake deposits are hosted (M16/309) is subject to three royalty agreements. The agreements that are on M16/309 are the Kundana- Hornet Central Royalty, the Lake Grace Royalty and the Kundana Pope John Agreement No. 2602-13.
	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.	No known impediments exist, and the tenements are in good standing.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The first reference to the mineralisation style encountered at the Kundana project was the mines department report on the area produced by Dr. I. Martin (1987). He reviewed work completed in 1983 – 1984 by a company called Southern Resources, who identified two geochemical anomalies, creatively named Kundana #1 and Kundana #2. The Kundana #2 prospect was subdivided into a further two prospects, dubbed K2 and K2A. Between 1987 and 1997, limited work was completed. Between 1997 and 2006, Tern Minerals (subsequently Rand Mining and Tribune Resources) and Gilt-Edge Mining focused on shallow open pit potential with production from the Rubicon open pit commenced in 2002. In 2011, Pegasus was highlighted by an operational review team and follow-up drilling was planned through 2012.
Geology	Deposit type, geological setting and style of mineralisation.	The Kundana camp is situated within the Norseman-Wiluna Greenstone Belt, in an area dominated by the Zuleika shear zone, which separates the Coolgardie domain from the Ora Banda domain. K2-style mineralisation (Pegasus, Rubicon, Hornet, Drake) consists of narrow vein deposits hosted by shear zones located along steeply dipping overturned lithological contacts. The K2 structure is present along the contact between a black shale unit (Centenary Shale) and intermediate volcaniclastics (Black Flag Group). Minor mineralisation, termed K2B, also occurs further west, on the contact between the Victorious basalt and Bent Tree Basalt (both part of the regional upper Basalt Sequence). Additional mineralised structures include the K2E and K2A veins, Polaris/Rubicon Breccia (Silicified and mineralised Shale) and several other HW lodes adjacent to the main K2 structure. A 60° W dipping fault offsets the K2B contact and exists as a zone of vein-filled brecciated material hosting the Pode-style mineralisation in the Nugget lode at Rubicon.
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: • easting and northing of the drill hole collar • elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar • dip and azimuth of the hole • down hole length and interception depth • hole length.	A summary of the data present in the RHP deposits can be found above. The collar locations are presented in plots contained in the NSR 2021 resource report. Drill holes vary in survey dip from +44 to -89 degrees, with hole depths ranging from 10m to 1,413m with an average depth of 233m. The assay data acquired from these holes are described in the NSR 2021 resource report. All validated drill hole data was used directly or indirectly for the preparation of the resource estimates described in the resource report.
	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	The exclusion of any drill hole data is not material to this report.

APPENDIX 4: ACQUISITION ASSETS JORC CODE 2012 TABLE 1s

Criteria	JORC Code explanation	Commentary
	Competent Person should clearly explain why this is the case.	
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.	All reported assay results have been length weighted to provide an intersection width. A maximum of 2m of barren material (considered <2gpt) between mineralised samples has been permitted in the calculation of these widths. Typically grades over 2gpt are considered significant, however where low grades are intersected in areas of known mineralisation, these will be reported. No top-cutting is applied when reporting intersection results.
	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.	Where an intersection incorporates short lengths of high grade results these intersections will be reported in addition to the aggregate value. These will typically take the form of ##.#m @ ##.#gpt including ##.#m @ ##.#gpt.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values have been used for the reporting of these exploration results.
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results:	True widths have been calculated for intersections of the known ore zones, based on existing knowledge of the nature of these structures.
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	Both the downhole width and true width have been clearly specified when used.
	If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').	Both the downhole width and true width have been clearly specified when used.
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 drill hole collar locations and appropriate sectional views.	Appropriate plans and section have been included at the end of this table and in the NSR 2021 resource 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.	Both high and low grades have been reported accurately, clearly identified with the drill hole attributes and 'From' and 'To' depths.
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.	Fifteen geotechnical holes were drilled targeting several different areas through lower Rubicon and Pegasus. Holes have been designed for seismic monitoring. Holes were geologically logged to ensure no mineralisation was intersected. Where mineralisation was intersected, appropriate sampling was completed.

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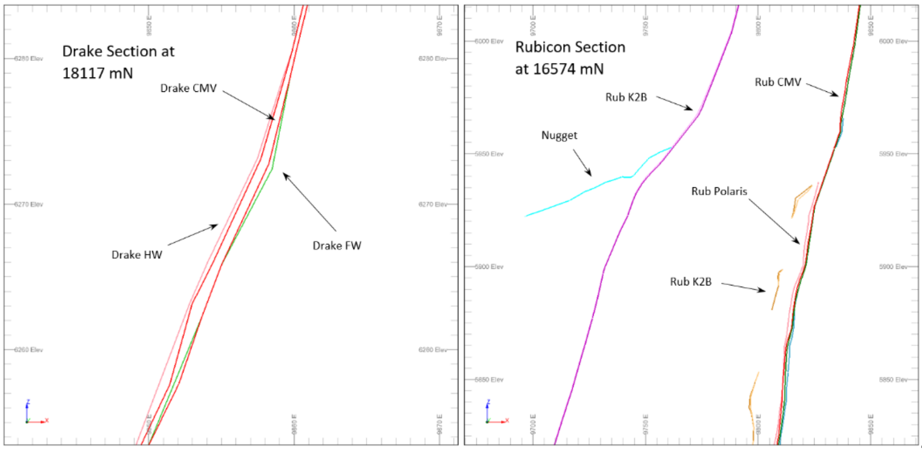
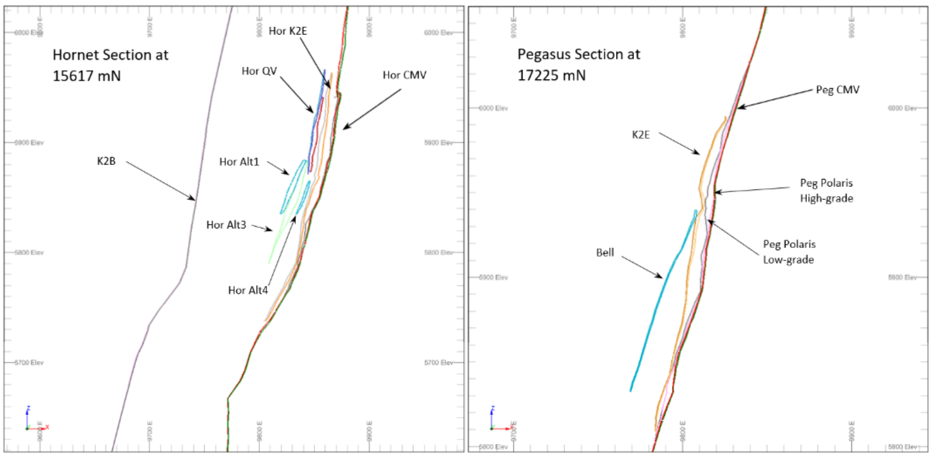
Criteria	JORC Code explanation	Commentary
Further work	The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).	Drilling will continue in various parts of the mine with the intention of extending areas of known mineralisation. Areas of focus across RHP will be those down dip of current high-grade trends on the K2 ahead of development. GC drilling will also be conducted as required on a level-by-level basis.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Appropriate diagrams accompany this release and are detailed in the NSR 2021 resource report.

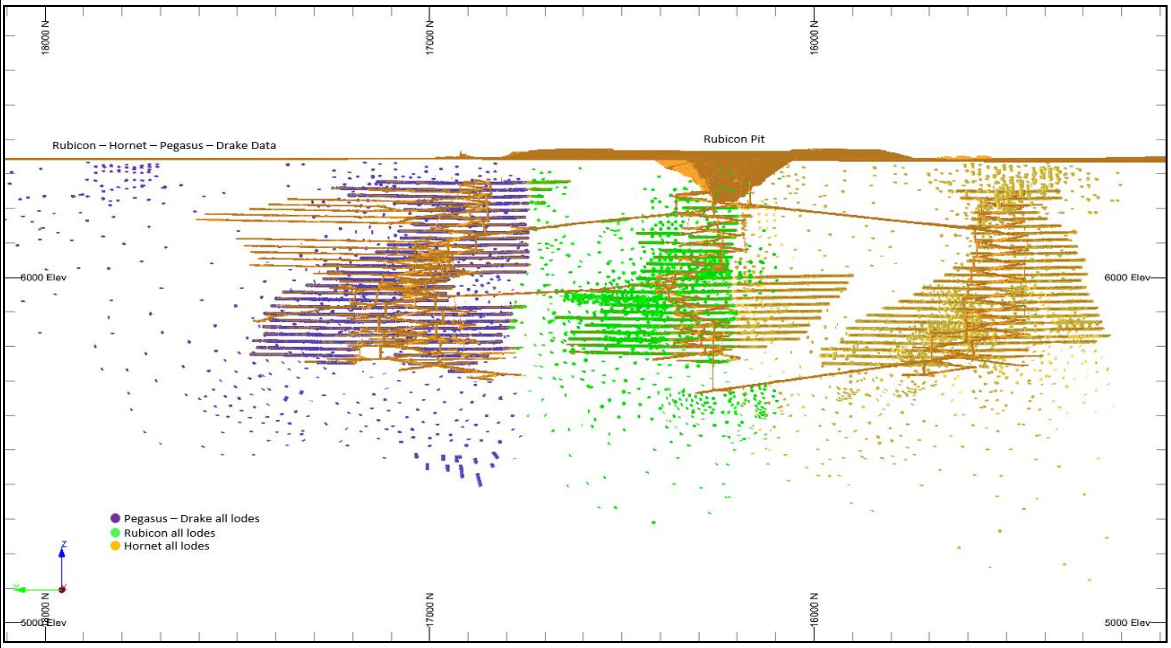
DRAKE & RUBICON ORE LODES
Cross section views of Drake and Rubicon ore lodes



Cross section views of Pegasus and Hornet ore lodes



DRAKE RUBICON AND HORNET ORE LODES
Long section views of Drake, Pegasus, Rubicon and Hornet ore lodes and data used in resource estimations



Section 3: Estimation and Reporting of Mineral Resources
(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

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.	Sampling and logging data are either recorded on paper and manually entered into a database system or captured digitally via a logging laptop and directly loaded into the database system. There are checks in place to avoid duplicate holes and sample numbers. Where possible, raw data is loaded directly into the database from laboratory and survey-tool derived files.
	Data validation procedures used.	The complete exported data base including drill and face samples is brought into Datamine and checked visually for any apparent errors i.e., holes or faces sitting between levels or not on surface DTM's. Multiple checks are then made on numerical data. This includes: • Empty table checks to ensure all relevant fields are populated • Unique collar location check • Distances between consecutive surveys is no more than 60m for drill-holes • Differences in azimuth and dip between consecutive surveys of no more than 0.3 degrees • The end of hole extrapolation from the last surveyed shot is no more than 30m • Underground face sample lines are not greater than +\- 5 degrees from horizontal

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
		Errors are corrected where possible. When not possible the data is resource flagged as "No" in the database and the database is re-exported. This data will not be used in the estimation process. Several drilling programs completed between 2014 and 2016 had erroneous metre depths recorded by the drillers, therefore these drill holes have been omitted from the ore wireframe interpretations and flagged as invalid. However, where there were no QAQC issue with the assays, the correct intervals have been recorded, the translation in the easting direction required for them to be in the 'correct' location (based on development above and below) applied and these intervals were appended to the data set before compositing. The sample translation method has been applied to surface drilling in between development levels which are deemed to cause an unrealistic kink in the wireframe interpretation. This is only done after a thorough investigation of the surrounding data to ensure that no secondary veining is present in the footwall or hanging wall and that no separate lodes are missed. In addition to being Resource Flagged as "Yes" or "No", drill holes are assigned a Data Class, which provides a secondary level of confidence in the data quality. Data Class (DC) values range from 0 to 3, with criteria summarised below: • DC 3 = Recent data - all data high quality, validated and all original data available. • DC 2 = Historic data - may or may not have all data in AcQuire or hard copy available but has proximity to recent drilling which confirms the dip, width and tenor which is used to assist in classification Or Recent data - minor issues with data but away from the ore zone. • DC 1 = Historic data - same criteria as DC 2 but cannot be verified with recent drilling, i.e., too far away, or dissimilar dip, width and/or tenor to recent drilling. Not used in Resource estimate. • DC 0 = Historic data - no original information or new drilling in proximity to verify. Not used in Resource estimate.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	The geological interpretations underpinning these resource models were prepared by geologists working in the mine who were in direct, daily contact with the ore body. The estimation of grades was undertaken by personnel familiar with the ore body and the general style of mineralisation encountered. The Senior Resource Geologist, a Competent Person for reviewing and signing off on the RHP and Drake estimates, maintained a site presence throughout the process.
	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.	The interpretation of the RHP and Drake deposits were carried out using a systematic approach to ensure continuity of the geology and estimated mineral resource. The confidence in the geological interpretation is high and is supported with information acquired during ore development as well as from underground and surface diamond drilling. The interpretation of all RHP and Drake mineralised wireframes was conducted using the sectional interpretation method in Datamine RM software. All lodes have been interpreted in plan-view section. Where development levels were present, sectional interpretation was completed at approximately 5m spacing. Where only drilling data was present, sectional interpretation was completed at approximately 10m - 20m spacing. Checks were made to ensure that the wireframed volume agreed with the true ore widths of drill hole intersections. As a rule, wireframe extrapolation was limited to one half of the average drill spacing.

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
	Nature of the data used and of any assumptions made.	All available geological data was used in the interpretation including mapping, drill holes, underground face channel data, 3D photogrammetry and structural models.
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	Alternative interpretations are not considered, the mineralisation is well defined and understood from underground exposures.
	The use of geology in guiding and controlling Mineral Resource estimation.	The interpretation of the RHP and Drake mineralisation is based on the presence of mineralised structure (veining and shear), ore-bearing mineralogy (gold and associated sulphides), assayed samples and continuity between sections.
	The factors affecting continuity both of grade and geology.	Individual RHP and Drake mineralised structures are thought to be reasonably continuous at the current drill spacing, as similar mineralisation styles, structures and grade tenor exists between adjacent drillholes. Post-mineralisation dextral offsetting faults (locally called D4 structures) affect the continuity of the K2 structure. These structures are steep-dipping, and the general trend is NNW-SSE. The largest is the Mary fault with a ~600m offset. The White Foil and Poseidon faults form the bounding structures between the Hornet/Rubicon and Rubicon/Pegasus mine areas, respectively. Offset on these structures varies between 1 and 10m. Many smaller scale faults exist within the mining areas (especially at the southern end of Hornet) although none have a material impact on the Resource model.
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 strike length of the different ore systems varies from ~100m to 600m, with the individual Rubicon Hornet, Pegasus, and Drake cmV structures having the longest strike lengths. The individual ore bodies occur in a major regional Zuleika shear system extending over tens of kilometres. Ore body widths are typically in the range of 0.2 – 3.0m. The widest orebody is Rubicon Nugget at approximately 7m. The narrowest is the K2B (present at Rubicon, Hornet and Pegasus) at approximately 0.5m. The main cmV structure has an average thickness of 0.65m. Mineralisation is known to occur from the base of cover to ~1,000m below surface. The structure is open at depth.
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.	RHP and Drake mineralised zones with high data-density use direct grade estimation by Ordinary Kriging (unless otherwise stated) supported by composited sample data. Composite lengths of 1m were used for all lodes, determined from statistical analysis of all sample lengths in the estimation dataset. In smaller mineralised zones where construction of a coherent variogram was not possible, Inverse Distance has been used. All estimation was completed using Datamine RM software. Details of estimation by ore lode is summarised below: **CMV** (Rubicon, Hornet and Pegasus) - divided into two grade subdomains based on data density: high density around development levels and lower density for the remainder. Each domain was analysed for top cuts and had variography completed separately. The high-density domain has search ranges between 30m - 90m in direction 1, 20m - 65m in direction 2 and 15m - 30m in direction 3. The low-density domain has search ranges between 50m – 200m for direction 1 and 30m – 150m for direction 2 and 18m - 100m in direction 3, Three passes were used for estimation with distances based on variography. Estimation was completed using a soft boundary between the high and low-density domains and between adjacent cmV domains. Restrictions by drill hole have been applied to the high-density domain and restrictions by drill hole type have been applied to the low-density domain. Rubicon cmV utilised a lower cut estimation (outline below) and was restricted on a high-grade low-grade flag. This low cut estimation was

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
		applied to samples < 3gpt and using a search of 30m in direction 1 and 20m in direction 2. **Hornet cmV** contains two additional subdomains, one based on grade and the other on the weathering profile. The low-grade domain that was analysed for top cuts and had variography completed separately. It indicates grade continuity with search ranges of 90m in direction 1 and 60m in direction 2. Three search passes were used. Restrictions by drill hole have been applied. A semi-soft boundary has been applied between the fresh and weathered domains of the Hornet cmV as boundary analysis suggested neither a completely hard nor completely soft boundary. The weathering domain was analysed for top cuts and had variography completed separately, there was insufficient data for variographic analysis therefore ID^2 was used for estimation. Three search passes were used. Restriction by drill hole was applied. **Polaris** (RHP) - Rubicon Polaris is divided into two subdomains based on data density: high density around development levels and lower density distant to development. For high density and low density domains in Rubicon polaris has search distances of 45m & 50m in direction 1, 25m & 35m in direction 2 and 15m in direction 3. Pegasus Polaris is divided into an additional two subdomains based on grade. These separate domains have separate variography and topcuts. The high grade domain uses search distances of 30m for direction 1, 30m for direction 2 and 15m for direction 3. The low grade domain uses search distances of 20m for direction 1, 15m for direction 2 and 10m for direction 3. Hornet Polaris comprises two domains; Polaris North situated proximal to northern Hornet development and Polaris situated proximal to southern Hornet development. Each domain was analysed for top cuts and had variography completed separately. Rubicon Polaris is a singular lode and has search distances of 40m for direction 1 and 30m for direction 2 in the high data density domain and 110m for direction 1 and 90m for direction 2 in the low data density domain. Pegasus Polaris has search distances of 50m for direction 1 and 35m for direction 2 in the high grade domain and search distances of 40m for direction 1 and 30m for direction 2 in the low-grade domain. Hornet Polaris has search distances of 45m for direction 1 and 30m for direction 2 in Polaris North and 45m for direction 1 and 40m for direction 2 in Polaris. Three search passes were used in all domains. Restrictions by drill hole were applied to both Hornet Polaris domains. No restrictions were applied to Pegasus Polaris domains. **K2E** (RHP) - Rubicon K2E is divided into two subdomains based on data density: high density around development levels and lower density distant to development. Pegasus K2E is divided into two domains (K2E and K2E Lower) based on two spatially separate areas of similar data density. Hornet K2E comprises two domains: A northern Hornet K2E proximal to northern Hornet development and a Hornet K2E proximal to southern Hornet development. Each domain was analysed for top cuts and had variography completed separately. Rubicon K2E has search distances of 35m for direction 1 and 35m for direction 2 in the high data density domain and 165m for direction 1 and 85m for direction 2 in the low data density domain. Pegasus K2E has search distances of 50m for direction 1 and 30m for direction 2 for both the upper and lower domains. Hornet K2E domains have search distances of 40m for direction 1 and 20m for direction 2 for the high data density domain and 65m for direction 1 and 40m for direction 2 in the low density domain. Three search passes were used in all domains. Restrictions by drill hole type were applied to both domains in the Rubicon K2E. Restrictions by drill hole were applied to Pegasus and Hornet K2E. **K2B** (Rubicon and Hornet) - Rubicon and Hornet K2B divided into two subdomains based on data density. Each domain was analysed for top cuts and had variography completed separately. All Rubicon K2B domains have search distances of 70m for direction 1 and 40m for direction 2. Hornet K2B has search distances of 80m for direction 1 and 60m for direction 2 for the high-density subdomain and 250m for direction 1 and 200m for direction 2 for the low-density subdomain. Three search passes were used in all domains. Estimation was completed using a soft boundary between the high and low-density subdomains. No restrictions by drill hole or drill hole type have been applied.

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
		Nugget (Rubicon)- includes one domain which was top cut and had variography analysis completed with ranges of 80m in direction 1 and 40m in direction 2. Restriction by drill hole was applied. **Footwall** (Rubicon and Hornet) – Rubicon footwall is divided into two subdomains based on data density: high density around development levels and lower density for the remainder. High data density uses search directions of 20m for direction 1 and 2. The lower data density domain has search distances of 60m for direction 1 and 55m for direction 2. Each domain was analysed for top cuts and had variography completed separately. Hornet footwall comprises two domains in upper and lower levels – Hornet foot wall and hornet footwall upper. Hornet footwall domain has a search distance of 40m for direction 1 and 30m for direction 2. Hornet Footwall upper had uses search distances of 40m in direction 1 and 20m in direction 2. Three search passes were used in all domains. Estimation was completed using a soft boundary between the Rubicon footwall high and low-density subdomains. Restriction by drill hole type was applied to both Rubicon and Hornet footwall restriction by drillhole ID was used for Hornet footwall upper. **Belle**(Pegasus) – includes one domain which was not top cut and had variography analysis with ranges of 50m in direction 1 and 15m in direction 2. Three search passes were used. Restriction by drill hole was applied. **FWVN** (Pegasus) – includes one domain which was not top cut. There was insufficient data for variographic analysis therefore ID^2 was used for estimation. Pegasus cmV variography with NNW plunge direction was used for rotation angles in the ID^2 estimate. Three search passes were used. Restriction by drill hole was applied. **INTW** (Pegasus) – includes one domain which was top cut. There was insufficient data for variographic analysis therefore isotropic search was used for estimation. Three search passes were used. Restriction by drill hole was applied. **CMV** (Drake)- divided into two subdomains based on data density: high density near surface and lower density at depth. Both domains were analysed for top cuts and had variography completed. Each domain has a search distance of 200m for direction 1 and 150m for direction 2. Three search passes were used. Estimation was completed using a soft boundary between the high and low-density domains and between adjacent cmV domains (Moonbeam to the north and Pegasus to the south). No restrictions by drill hole or drill hole type have been applied. **Halo** (Drake) – divided into the Hanging wall (HW) and Footwall (FW) domains either side of the Drake cmV. Both domains were analysed for top cuts separately. Drake cmV variography was used. Three search passes were used. No restrictions by drill hole or drill hole type have been applied. **HORVQ, ALT1, ALT2, ALT3, ALT4, ALT5, LEAF, HONEY** (Hornet) – all comprised single estimation domains and had variographic analysis completed. All domains used ranges of 20m – 80m in direction 1 and 20m – 50m in direction 2. Three search passes were used. All lodes were restricted by drillhole. **Caesar** (Rubicon) comprised of one estimation domain and had variographic analysis completed. This domain used ranges of 130m for direction 1 and 80m for direction 2. **RK2BFW** (Rubicon) comprised of one estimation domain. There was insufficient data for variographic analysis therefore ID2 search was used. This domain used ranges of 15m for direction 1 and 7.5m for direction 2. This estimate was restricted by drillhole. **Hophw & hopfw** (Hornet) Hornet open pit foot wall and Hornet open pit hanging wall each consisted of a single estimation domain. These has

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
		separate top cut and variographic analysis. Both HOPFW and HOPHW used search ranges of 70m for direction 1 and 40m for direction 2. **SPGN** (Hornet) comprised of one estimation domain, which was top cut and had variography analysis completed with ranges of 50m in direction 1 and 30m in direction 2. **F18** (Hornet) comprised of one estimation domain, which was top cut, there was insufficient data for variographic analysis therefore ID^2 was used for estimation. Three search passes were used. No restrictions by drill hole or drill hole type have been applied. **MFZ** (Hornet) comprised of one estimation domain, which was top cut. There was insufficient data for variographic analysis therefore ID^2 was used for estimation. Hornet cmV variography orientation was used for rotation angles in the ID^2 estimate. Estimation was completed using a soft boundary between adjacent cmV domains. This estimate was restricted by drillhole.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource Estimate takes appropriate account of such data.	Check estimates have been completed for all lodes. These include Inverse Distance (ID) and Nearest Neighbour (NN) estimates. Isotropic searches have also been tested to corroborate chosen search orientations. All mineralised zones at RHP and Drake for the current estimate were compared with previous grade and resource models. This allowed a comparison of tonnes and gold grade for each zone and an overall global comparison.
	The assumptions made regarding recovery of by-products.	No assumptions have been made.
	Estimation of deleterious elements or other non-grade variables of economic significance (e.g., sulphur for acid mine drainage characterisation).	No deleterious elements were estimated in these models.
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	Block sizes varied depending on sample density. In areas of high data density (underground face samples with average spacing of 3m – 4m) a 5m x 5m x 5m block size was chosen. Low density drill spacing is defined as approximately 30m or greater and a 10m x 10m x 10m block size was chosen. Estimates were completed with soft boundaries between varying block size estimates unless a geological feature and contact analysis indicated a hard boundary was required and added together following individual estimation for final validations. Search ellipse dimensions were derived from the variogram model ranges, or isotropic ranges based on data density where insufficient data was present for variography analysis.
	Any assumptions behind modelling of selective mining units.	Selective mining units were not used during the estimation process.
	Any assumptions about correlation between variables.	All variables were estimated independently of each other. Density has used estimation parameters based on the equivalent gold estimation for that domain.
	Description of how the geological interpretation was used to control the resource estimates.	Hanging wall and footwall wireframe surfaces were created using sectional interpretation. These were used to define the RHP and Drake mineralised zones based on the geology (usually a quartz vein) and gold grade.

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Criteria	JORC Code explanation	Commentary
		CMV (RHP and Drake) - Steeply dipping structure with quartz veining evident from drilling and development. MFZ (Hornet) – Faulted and stepped cmV-style mineralisation in the Mary Fault Zone. Laminated quartz-vein present but fractured by late-stage faulting. Polaris (RHP)- Steeply dipping silicified shale structure in the hanging-wall of the cmV with quartz stringers evident from drilling and underground development. K2E (RHP)- Steeply dipping hangingwall structure with quartz veining evident from drilling and underground development. K2B (Rubicon/Hornet)- Steeply dipping hangingwall structure with quartz veining evident from drilling and underground development. Bell/Nugget/Nugget3 (Pegasus/Rubicon) – Low angled dilatational fault zones with quartz veining evident from drilling and underground development. Honey, Alteration 1/2/3/4/5, HORVQ/Caesar/F18/SPGN (Hornet hangingwall mineralised zones) - Sheared and silicified shale with quartz stringers evident from drilling and underground development. Halo (Drake)- Steeply dipping hangingwall and footwall brecciated veining and shearing directly adjacent to the Drake cmV. For mine planning purposes a waste model is created by projecting the hanging wall and footwall surfaces 15m either side. A default grade of 0.1gpt is assigned and the same resource classification as the adjacent ore lode is applied.
	Discussion of basis for using or not using grade cutting or capping.	Top cuts were applied to the composited sample data with the intention of reducing the impact of outlier values on the average grade. Top cuts vary by domain (ranging from 4gpt to 250gpt for individual domains). The top cut values are applied in several steps, using influence limitation top capping. A top cut (AU) and non-top cut (*_NC) variable is created, as well as a spatial variable (*_IL) which only has values where the top cut values appear; this applies to gold top cutting only. For example, where gold requires a top cut, the following variables will be created and estimated: • AU (top cut gold) • AU_NC (non- top-cut gold) • AU_IL (spatial variable; values present where AU data is top cut) The top-cut and non-top cut values are estimated using search ranges based on the modelled gold variogram, and the *_IL values estimated using very small ranges (e.g., 5m x 5m x 5m). Where the *_IL values produce estimated blocks within these restricted ranges, the *_NC estimated values replace the original top cut estimated values (AU). The same principle has been applied to produce a 'lower-cut' to the composited sample data with the intention of limiting the impact of high-grade samples on genuine low-grade areas, especially where there is an order of magnitude difference in assayed grade. A spatial variable (*_LC) is created using the non-top cut (*_NC) variable which only has values where the low-cut values appear; this applies to gold low cutting only. For example, where gold requires a low cut, the following variables will be created and estimated: • AU_NC (non- cut gold) • AU_LC (spatial variable; values present where AU data is low-cut) The non-top cut values are estimated using search ranges based on the modelled gold variogram, and the *_LC values estimated using small

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
		ranges (e.g., 30m x 20m x 15m). Where the *_LC values produce estimated blocks within these restricted ranges, the *_LC estimated values replace the original top cut estimated values (AU). Multiple iterations are tested with different search distance and minimum sample fulfillments applied. A hard top cut is applied instead of/as well in the following situations: • If there are extreme outliers within an ore domain • If the area has a history of poor reconciliation (i.e., overcalling)
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	Statistical measures of Kriging error, such as Kriging Efficiency and Slope of Regression, are used to assess the quality of the estimation for each domain. Differences between the declustered, top-cut composite data set and the average model grade must be within 10%. Swath plots comparing declustered, top-cut composites to block model grades are created and visual plots are prepared summarising the critical model parameters. Visually, block grades are assessed against drill hole and face data.
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.	Drake and Rubicon comprise only an Underground Resource. This has been reported at a 2.13gpt cut off within 2.5m minimum mining width MSOs using a $AUD2,250/oz gold price. Hornet and Pegasus have Open Pit and Underground Resources reported. The Open Pit Hornet and Pegasus Resources are reported above a $AUD2,250/oz optimised pit shell within SMUs of 2.5m x 2.5m x 2.5m. Cut-off grade used for Open Pit reporting is 1.08gpt. The Underground Hornet and Pegasus Resources are reported beneath the $AUD2,250/oz optimised pit shell, at a 2.13 /pt cut off within 2.5m minimum mining width MSOs.
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.	No mining assumptions have been made during the resource wireframing or estimation process.
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	Metallurgical test work results show that the mineralisation is amendable to processing through the Kanowna Belle treatment plant. Ore processing throughput and recovery parameters were estimated based on historic and current performance and potential improvements available using current technologies and practices.

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Criteria	JORC Code explanation	Commentary
	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.	
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 green fields 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.	A "Licence to Operate" is held by the operation which is issued under the requirement of the "Environmental Protection Act 1986", administered by the Department of Environment (DoE). The licence stipulates environmental conditions for the control of air quality, solid waste management, water quality, and general conditions for operation. Groundwater Licences are held for water abstraction, including production bore field water use for mineral processing, and mine dewatering, in accordance with the Rights in Water and Irrigation Act 1914. These Licences are also regulated by DoE and are renewable on a regular basis. Kanowna Operations conduct extensive environmental monitoring and management programs to ensure compliance with the requirements of the licences and lease conditions. An Environmental Management System is in place to ensure that Northern Star employees and contractors meet or exceed environmental compliance requirements. The Kalgoorlie operations are fully permitted including groundwater extraction and dewatering, removal of vegetation, mineral processing, and open pits. Kalgoorlie Operations have been compliant with the International Cyanide Management Code since 2008. Compliance with air quality permits is particularly important at Kanowna because of the roaster operation. Kanowna has a management program in place to minimize the impact of SO_2 on regional air quality and ensure compliance with regulatory limits.
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.	A thorough investigation into average density values for the various lithological units at RHP and Drake was completed and the mean densities by lithology were coded into the database. Where there were no measurements for a specific lithology and default of 2.8 t/m^3 was applied. Density was then estimated by Ordinary Kriging using the associated gold estimation parameters for that domain. Post estimation, default density values for the oxide and transitional zones were applied, based on regional averages.
	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.	No significant voids are encountered in the ore zones and underground environment
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	Assumptions on the average bulk density of individual lithologies, based on 7,543 bulk density measurements at RHP and Drake. Assumptions were also made based on regional averages, on the default densities applied to oxide (1.8 t/m^3) and transitional (2.3 t/m^3) material, due to a lack of data in these zones.
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.	Classification is based on a series of factors including: • Geologic grade continuity • Density of available drilling • Statistical evaluation of the quality of the kriged estimate • Confidence in historical data, based on the new Data Class system
	Whether appropriate account has been taken of all relevant factors (i.e., relative confidence in tonnage/grade estimations,	All relevant factors have been given due weighting during the classification process.

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Criteria	JORC Code explanation	Commentary
	reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).	
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The resource estimation methodology is considered appropriate, and the estimated grades reflect the Competent Persons view of the deposit.
Audits or reviews	The results of any audits or reviews of Mineral Resource Estimates.	All resource models have been subjected to internal peer review.
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.	These Mineral Resource Estimates are considered as robust and representative of the RHP and Drake styles of mineralisation. The relative accuracy of the Mineral Resource Estimate is reflected in the reporting of the Mineral Resource as per the guidelines of the 2012 JORC Code.
	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 statement relates to global estimates of tonnes and grade.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	No reconciliation factors are applied to the resource post-modelling.

Section 4: Estimation and Reporting of Ore Reserves
(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	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.	Northern Star 2021MY Resource.
	Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	The Mineral Resources are reported inclusive of the Ore Reserve.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	Site visits have been undertaken by the competent person.

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Criteria	JORC Code explanation	Commentary
	If no site visits have been undertaken indicate why this is the case.	Site visits are undertaken.
Study status	The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.	Feasibility Study.
	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.	Upgrade of previous Ore Reserve.
Cut-off parameters	The basis of the cut-off grade(s) or quality parameters applied.	Underground Budget costs and physicals form the basis for Cut Off Grade calculations. Mill recovery is calculated based on historical recoveries achieved. Various cut off grades are calculated including a break-even cut-off grade (BCOG), variable cut-off grade (VCOG) and Mill cut-off grade (MCOG). The VCOG is used as the basis for stope design, with areas requiring significant development assessed by detailed financial analysis to confirm their profitability. Open Pit The pit cut-off grade has been calculated based on the key input components (processing, recovery and administration). Forward looking forecast costs and physicals form the basis of the cut-off grade calculations. The AUD gold price as per corporate guidance. Mill recovery factors are based on historical data and metallurgical test work.
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 optimisation or by preliminary or detailed design).	Underground Mineral Resource is converted to Ore Reserve after completing a detailed mine design and associated financial assessment. Open Pit Ore Reserves have been calculated by generating detailed mining shapes for the proposed open pit. All open pit mining shapes include planned and unplanned dilution, being waste material that is located within the minable shape. Open pit unplanned dilution has been modelled within the mining shapes as a skin of material likely to be taken additional to material considered to be the smallest mining unit (SMU). This method is considered to be appropriate given the expected ground conditions, orebody width and proposed mining style.
	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.	Underground Selected mining method deemed appropriate as it has been used at Raleigh since 2005 & Rubicon / Hornet / Pegasus since 2012. Open Pit

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Criteria	JORC Code explanation	Commentary
		The proposed open pit is to be mined using conventional open pit mining methods (drill, blast, load and haul) by a mining contractor utilising 120 t class excavators and 90 t trucks. This method is used widely in mines across Western Australia and is deemed appropriate given the nature of the ore body.
	The assumptions made regarding geotechnical parameters (e.g., pit slopes, stope sizes, etc.), grade control and pre-production drilling.	Underground Design parameters include a 20m to 25m level spacing with a stope strike length of 15m to 20m for dilution control purposes. This correlates to a Hydraulic Radius of 4.3 to 4.9. Open Pit Pit slope design parameters are based on recommendations provided from geotechnical reviews and defined considering expected rock type, weathering profile and depth below surface.
	The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).	This Table 1 applies to both underground and open pit mining. A detailed interface review was conducted to ensure separation between underground and open pit Reserve material.
	The mining dilution factors used.	Underground For the reporting of Underground Reserve physicals, a mining recovery factor of 97.5% is applied to Pegasus, 92.5% applied Hornet, 95% is applied to Rubicon based on historical data. A recovery of 90% was applied to future Trans-cad and 80% applied to Retrofit Trans-cad Open Pit Physicals are reported within the generated mining shapes for the open pit Ore Reserve. SMU shapes have been generated for the reporting of Ore Reserve physicals. Dilution accounted for within the SMU is 75%; that is waste material carried within the mining shape.
	The mining recovery factors used.	For the reporting of Underground Reserve physicals, a mining recovery factor of 98.5% is applied to Pegasus and Hornet, 94% is applied to Rubicon based on historical data. No recovery factors were applied for the reporting of Open pit Reserve physicals. Mining recovery is considered to be 100% of the SMU.
	Any minimum mining widths used.	At Rubicon, Hornet, and Pegasus: Minimum stope width of 3.0m where the vein is less than 2m wide. 1m additional to vein width when greater than 2m wide. The minimum minable selective mining unit (SMU) dimensions for the Open pit Reserve Estimate are 3.5m Wide x 2.5m High x 4.0m Long.
	The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.	Designed stopes with greater than 50% inferred blocks are excluded from the reported Reserve. Inferred material has not been included within the Open pit Ore Reserve estimate (treated as waste) but has been considered in LOM planning. The amount of inferred material has no impact on the sensitivity of the project.
	The infrastructure requirements of the selected mining methods.	Infrastructure in place, currently an operating mine.

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Criteria	JORC Code explanation	Commentary
Metallurgical factors or assumptions	The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.	EKJV ore is treated at the Kanowna Belle milling facilities or additional ore to toll treatment facilities as required. The Kanowna Belle Mill is designed to handle approximately 2.0 million tonnes of feed per annum. The plant has the capability to treat both refractory and free milling ores, through either using the flotation circuit and associated concentrate roaster circuit, including carbon-in-leach (CIL) gold recovery, or bypassing the flotation circuit and going directly to a CIL circuit designed to treat flotation tails. The plant campaigns both refractory and free milling ores every month. Between campaigns, the circuit is "cleaned out" using mineralised waste. The plant is made up of crushing, grinding, gravity gold recovery, flotation, roasting, CIL, elution and gold recovery circuits. Ore Reserves are calculated using processing plant recovery factors that are based on test work and historical performance.
	Whether the metallurgical process is well-tested technology or novel in nature.	Milling experience gained over plus 10 years operation.
	The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.	Milling experience gained over plus 10 years operation.
	Any assumptions or allowances made for deleterious elements.	No assumption made.
	The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody.	Milling experience gained over plus 10 years operation.
	For minerals that are defined by a specification, has the ore Reserve estimation been based on the appropriate mineralogy to meet the specifications?	Not applicable.
Environmental	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.	Underground Rubicon, Hornet, Pegasus operations are currently compliant with all legal and regulatory requirements. All government permits and Licences and statutory approvals are granted. Open Pit Environmental impacts and hazards are being considered as part of the DMIRS application process. Waste rock characterisation and hydrogeological investigations indicates the rock mass is considered non-acid forming. Tailings from the open pit operation are proposed to be stored within the existing Tailings Storage Facility (TSF) at Kanowna Belle. A previously granted clearing permit has expired. This will be re-applied for and expected to be granted closer to expected start of the pit.
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	All current site infrastructure is suitable to the proposed underground operations mining plan. Additional infrastructure is planned for the Hornet Open pit and has been allowed for in the financial model.

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
	the infrastructure can be provided or accessed.	
Costs	The derivation of, or assumptions made, regarding projected capital costs in the study.	Mine development capital cost based on historical performance on site and life-of-mine forward planning. Plant and equipment capital are based on site experience and the LOM plan.
	The methodology used to estimate operating costs.	Underground overhead costs and operational costs are projected forward on a first principles modelling basis. The estimation of Open pit mine operating costs was based on a contractor mining and maintenance operation using first principles to determine equipment productivities and associated operating hours to generate mine schedules. Provided contract pricing were than applied to the schedule to calculate all unit costs.
	Allowances made for the content of deleterious elements.	No allowances made.
	The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.	Corporate guidance.
	The source of exchange rates used in the study.	Corporate guidance.
	Derivation of transportation charges.	Historic performance.
	The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.	Historic performance.
	The allowances made for royalties payable, both Government and private.	All royalties are built into the cost model.
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.	A$1,750/oz gold.
	The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	Corporate guidance.
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.	All gold is assumed sold directly to market at the nominated Corporate gold price.
	A customer and competitor analysis along with the identification of likely market windows for the product.	Not Applicable.

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Criteria	JORC Code explanation	Commentary
	Price and volume forecasts and the basis for these forecasts.	Corporate guidance.
	For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	Not Applicable.
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.	All costs assumptions are made based on historical performance from the mine and current economic forecast seen as representative of current market conditions. The Open pit Ore Reserve estimate is based on a financial model for that has been prepared at a "pre-feasibility study" level of accuracy economic modelling. All inputs from mining operations, processing, transportation, and capital have been scheduled and evaluated to generate a full life of mine cost model.
	NPV ranges and sensitivity to variations in the significant assumptions and inputs.	Sensitivities have been used with gold price ranges of A$1,500 to A$2,000 per ounce.
Social	The status of agreements with key stakeholders and matters leading to social Licence to operate.	Agreements are in place and are current with all key stakeholders.
Other	To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:	No Issues.
	Any identified material naturally occurring risks.	No Issues.
	The status of material legal agreements and marketing arrangements.	No Issues.
	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.	No Issues. All Open pit permitting was in place, but the clearing permit has expired. This will be re-applied for and expected to be granted closer to expected start of the pit.
Classification	The basis for the classification of the Ore Reserves into varying confidence categories.	Ore Reserves classifications are derived from the underlying resource model classifications – i.e., Measured Resource material is converted to either Proved or Probable Reserves, with Indicated Resource material converting to Probable Reserve.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The results accurately reflect the competent persons view of the deposit.

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Criteria	JORC Code explanation	Commentary
	The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	Nil.
Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.	The Ore Reserve has been internally reviewed in line with Northern Star Resource governance standard for Reserves and Resources. There have been no external reviews of this Ore Reserve estimate.
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.	Confidence in the model and Ore Reserve Estimate is considered high based on current mine and reconciliation performance.
	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.	Estimates are global but will be reasonably accurate on a local scale.
	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.	Not applicable.
	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.	Historical reconciliation of Rubicon, Hornet and Pegasus mine production has been used in the generation both the underlying Mineral Resource Estimate and subsequent modifying factors applied to develop an Ore Reserve.

JORC Code, 2012 Edition – Table 1 Report

Kundana Area Deposits (Pode and Hera): Resources and Reserves – 31 March 2021

Section 1: Sampling Techniques and Data
(Criteria in this section apply to all succeeding sections.)

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	A combination of sample types were used to collect material for analysis; underground and surface diamond drilling (DD), surface Reverse Circulation drilling (RC) and face channel (FC) sampling. Tabulated statistics below

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<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td></td><td>sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.</td><td>include the Hornet, Rubicon, Pegasus, Drake trend. A more detailed breakdown will be made available in the Pode/Hera 2021 Resource Report.

<table>
<tr><th></th><th colspan="3">Pode and Hera (inc. Hornet, Rubicon, Pegasus, Drake</th></tr>
<tr><th></th><th>Number of Holes</th><th>Total metres</th><th>Number of Samples</th></tr>
<tr><td>DD</td><td>3288</td><td>593670</td><td>485299</td></tr>
<tr><td>FS</td><td>11130</td><td>53668</td><td>91083</td></tr>
<tr><td>RC</td><td>230</td><td>21600</td><td>15348</td></tr>
<tr><td>RC_DD</td><td>49</td><td>15414</td><td>12000</td></tr>
<tr><td>TOTAL</td><td>14697</td><td>684352</td><td>603730</td></tr>
</table></td></tr>
<tr><td></td><td>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</td><td>DD drilling is sampled within geological boundaries with a minimum (0.3m) and maximum (1.0m) sample length. Face channel sampling is constrained within geological and mineralised boundaries with a minimum (0.2m) and maximum (1.0m) channel sample length. In some cases, smaller samples (0.1m – 0.2m) have been taken to account for narrower structures in the face. Where possible, face sampling is conducted from channels perpendicular to the vein structure.</td></tr>
<tr><td></td><td>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., ‘reverse circulation drilling was used to obtain 1m samples from which 3kg was pulverised to produce a 30g 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.</td><td>DD drill core was nominated for either half core or full core sampling. Samples designated for half core were cut using an automated core saw. The mass of material collected was dependent on the drillhole diameter and sampling interval selected.

A sample size of at least 3kg of material was targeted for each face sample interval.

All samples were delivered to a commercial laboratory where they were dried and crushed to 90% of material ≤3mm. At this point, samples greater than 3kg were split using a rotary splitter, then pulverised to 90% ≤75µm.

A 40g charge was selected for fire assay for all recent samples. Historically, charge weights of 50g have also been used.</td></tr>
<tr><td>Drilling techniques</td><td>Drill type (e.g., core, reverse circulation, 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.).</td><td>Both Reverse Circulation and Diamond Drilling techniques are used to drill the Kundana deposits.

Surface diamond drillholes were completed using HQ2 (63.5mm), whilst underground diamond drillholes were completed using NQ2 (50.5mm).

Historically, core was orientated using the Reflex ACT Core orientation system. Currently, core is orientated using the Boart Longyear Trucore Core Orientation system.

RC Drilling was completed using a 5.75” drill bit, downsized to 5.25” at depth.

In many cases RC pre-collars were drilled, followed by diamond tails. Pre-collar depth was determined in the drill design phase.</td></tr>
<tr><td>Drill sample recovery</td><td>Method of recording and assessing core and chip sample recoveries and results assessed.</td><td>For DD drilling, any core loss is recorded on the core block by the driller. This is then captured by the logging geologist and entered as an interval into the hole log.</td></tr>
<tr><td></td><td>Measures taken to maximise sample recovery and ensure representative nature of the samples.</td><td>Contractors adjust the rate and method of drilling if recovery issues arise. All recovery is recorded by the drillers on core blocks. This is checked and compared to the measurements of the core by the geological team. Any issues are communicated back to the drilling contractor.</td></tr>
<tr><td></td><td>Whether a relationship exists between sample recovery and grade and whether</td><td>Recovery was excellent for diamond core and no relationship between grade and recovery was observed. Average recovery across the Kundana camp is at 99%. No specific areas within Pode had issues with recovery.</td></tr>
</table>

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
	sample bias may have occurred due to preferential loss/gain of fine/coarse material.	
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.	All diamond core is logged for lithology, veining, alteration, mineralisation, and structural data. Structural measurements of specific features are also taken through oriented zones. Logging is entered in AcQuire using a series of drop-down menus which contain the appropriate codes for description of the rock. All underground faces are logged for lithology and mineralisation. Logging is captured on a face sample sheet underground which is then transferred to AcQuire. Faces are then input into AcQuire using a series of drop-down menus which contain appropriate codes for description of the rock.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	All core logging is qualitative with mineralised zones assayed for quantitative measurements. Every core tray is photographed wet. All underground faces are logged and sampled to provide both qualitative and quantitative data. Faces are washed down and photographed before sampling is completed.
	The total length and percentage of the relevant intersections logged.	For all drillholes, the entire length of the hole is logged.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	Diamond core is cut using an automated core saw. Sampling and cutting methodology is dependent on the type of drilling completed. Half core is utilised for exploration drilling and Resource Definition drilling. Grade Control and rare Resource Definition drill holes are whole core sampled.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	RC samples are split using a rig-mounted cone splitter to collect a sample 3 - 4kg in size from each 1m interval. These samples were utilised for any zones approaching known mineralization and from any areas identified as having anomalous gold. Outside known mineralised zones spear samples were taken over a 4m interval for composite sampling.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Preparation of samples was conducted at Bureau Veritas' Kalgoorlie facilities; commencing with sorting, checking, and drying at less than 110°C to prevent sulphide breakdown. Samples are jaw crushed to a nominal -6mm particle size. If the sample is greater than 3kg a Boyd crusher with rotary splitter is used to reduce the sample size to less than 3kg (typically 1.5kg) at a nominal <3mm particle size. The entire crushed sample (if less than 3kg) or sub-sample is then pulverised to 90% ≤75µm, using a Labtechnics LM5 bowl pulveriser. 400g pulp subsamples are then taken with an aluminium scoop and stored in labelled pulp packets. The sample preparation is considered appropriate for the deposit.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Standard procedures are used for all processes within the laboratory. Grind checks are performed at both the crushing stage (3mm) and pulverising stage (75µm), requiring 90% of material to pass through the relevant size.
	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.	Umpire sampling is performed monthly, where 3% of the samples are sent to the umpire laboratory for processing. Umpire samples of faces were analysed using a 40g charge weight.

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
	Whether sample sizes are appropriate to the grain size of the material being sampled.	The sample sizes are considered appropriate for 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.	A 40g fire assay charge for diamond drillholes and a 40g charge for face samples is used with a lead flux in the furnace. The prill is totally digested by HCl and HNO_3 acids before Atomic Absorption Spectroscopy (AAS) determination for gold analysis.
	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 tools were used to determine element concentrations.
	Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.	Certified reference materials (CRMs) are inserted into the sample sequence randomly at a rate of 1 per 20 samples to ensure correct calibration. Any values outside of 3 standard deviations are re-assayed with a new CRM. Blanks are inserted into the sample sequence at a rate of 1 per 20 samples. The insertion points are selected at random, except where high grade mineralisation is expected. In these cases, a Blank is inserted after the high-grade sample to test for contamination. Results greater than 0.2gpt if received are investigated, and re-assayed if appropriate. New pulps are prepared if anomalous results cannot be resolved. Barren flushes are regularly inserted after anticipated high gold grades at the pulverising stage. No field duplicates were submitted for diamond core or face samples. Pulp duplicates are requested after any ore zone. These are indicated on the sample sheet and the submission sheet. When visible gold is observed in core, a quartz flush is requested after the sample. Laboratory performance was monitored using the results from the QA samples mentioned above. This was supplemented by the internal QA samples used by the laboratories, which included pulp duplicates and CRMs. The QA studies indicate that accuracy and precision are within industry accepted limits.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	All significant intersections are verified by another Northern Star geologist during the drill hole validation process, and later by a Competent Person to be signed off.
	The use of twinned holes.	No twinned holes were drilled at Pode. Re-drilling of some drillholes has occurred due to issues downhole (e.g., bogged rods). These have been captured in the database with an ‘A’ suffix. Re-drilled holes are logged and sampled, whilst the original drillhole is logged, but not sampled.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Geological logging and sampling are recorded directly into AcQuire. Assay files are received in *.cvs format and loaded directly into the database using an AcQuire importer object. Assays are then processed through a form in AcQuire for QAQC checks. Hardcopy and noneditable electronic copies are stored.
	Discuss any adjustment to assay data.	No adjustments have been made to this assay data.

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Criteria	JORC Code explanation	Commentary
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	Planned holes are marked up by the mine survey department using a total station survey instrument in mine grid (Kundana 10). The actual hole position is then located by the mine survey department once drilling is completed. In some cases, drillhole collar points are measured off survey stations if a mark-up cannot be completed. Holes are lined up on the collar point using the DHS Azimuth Aligner. Planned azimuths and dips of the holes are downloaded to the aligner which is then placed on the rod string to align the hole for drilling. During drilling, single shot surveys are conducted every 30m to track the deviation of the hole and to ensure it stays close to design. This is performed using the DeviShot camera which measures the gravitational dip and magnetic azimuth. Results are uploaded from the DeviShot software into a *.cvs format which is then imported into the AcQuire database. At the completion of the hole, a Multishot (using the DeviFlex non-magnetic strain gauge instrument) survey is completed, taking measurements every 3m to ensure accuracy of the hole. This is converted to csv format and imported into the AcQuire database.
	Specification of the grid system used.	Collar coordinates are recorded in mine grid (Kundana 10) and transformed into MGA94_51.
	Quality and adequacy of topographic control.	Quality topographic control has been achieved through Lidar data and survey pickups of holes over the last 15 years.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Drillhole spacing varies across the deposit. Resource Targeting drilling at an 80m x 80m nominal spacing is infilled during Resource Definition drilling down to an average of 30m x 30m. Grade Control drilling follows development and is generally comprised of stab drilling from the development drive at 10m to 15m drill centres.
	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 data spacing and distribution is considered sufficient to support the resource and reserve estimates.
	Whether sample compositing has been applied.	No sample compositing has been 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.	Pode structures in the Kundana area dip on average (50°) to the west (local grid). Diamond drilling was designed to target the orebodies perpendicular to this orientation to allow for a favourable intersection angle. In instances where this was not possible (primarily due to drill platform location), drilling was not completed, or re-designed once a more suitable platform became available. Drillholes with extremely poor intersection angles are excluded from resource estimation.
	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.	No sampling bias is considered to have been introduced by the drilling orientation.
Sample security	The measures taken to ensure sample security.	Prior to laboratory submission samples are stored by Northern Star Resources in a secure yard. Once submitted to the laboratories they are

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
		stored in a secure fenced compound, tracked through their chain of custody and via audit trails.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits have been undertaken of the data and sampling practices.

Section 2: Reporting of Exploration Results
(Criteria listed in the preceding section also apply to this section.)

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 Pode deposit is located within the M16/309 and M16/326 mining leases held by the East Kundana Joint Venture (EKJV). The EKJV is majority owned and managed by Northern Star Resources Limited (51%). The minority holding in the EKJV is held by Tribune Resources Ltd (36.75%) and Rand Mining Ltd (12.25%). The tenement on which the Pode deposits are hosted (M16/309) is subject to three royalty agreements. The agreements that are on M16/309 are the Kundana-Hornet Central Royalty, the Lake Grace Royalty and the Kundana Pope John Agreement No. 2602-13.
	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.	No known impediments exist, and the tenements are in good standing.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The first reference to the mineralization style encountered at the Kundana project was the mines department report on the area produced by Dr. I. Martin (1987). He reviewed work completed in 1983 – 1984 by a company called Southern Resources, who identified two geochemical anomalies, creatively named Kundana #1 and Kundana #2. The Kundana #2 prospect was subdivided into a further two prospects, dubbed K2 and K2A. Between 1987 and 1997, limited work was completed. Between 1997 and 2006 Tern Resources (subsequently Rand Mining and Tribune Resources), and Gilt-Edged Mining focused on shallow open pit potential, which was not considered viable for Pegasus, however the Rubicon open pit was considered economic, and production commenced in 2002. In 2011, Pegasus was highlighted by an operational review team and follow-up drilling was planned through 2012.
Geology	Deposit type, geological setting and style of mineralisation.	The Kundana camp is situated within the Norseman-Wiluna Greenstone Belt, in an area dominated by the Zuleika shear zone, which separates the Coolgardie domain from the Ora Banda domain. K2-style mineralisation (Pegasus, Rubicon, Hornet, Drake) consists of narrow vein deposits hosted by shear zones located along steeply dipping overturned lithological contacts. The K2 structure is present along the contact between a black shale unit (Centenary Shale) and intermediate volcaniclastics (Black Flag Group). Minor mineralisation, termed K2B, also occurs further west, on the contact between the Victorious basalt and Bent Tree Basalt (both part of the regional upper Basalt Sequence). Additional mineralisation includes the

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
		K2E and K2A veins, Polaris/Rubicon Breccia (Silicified and mineralised Shale) and several other HW lodes adjacent to the main K2 structure. A 60° W dipping fault, offsets this contact and exists as a zone of vein-filled brecciated material hosting the Pode-style mineralisation at Pegasus and the Nugget lode at Rubicon.
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: • easting and northing of the drill hole collar • elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar • dip and azimuth of the hole • down hole length and interception depth • hole length.	A summary of the data present in the Pode deposits can be found above. The collar locations are presented in plots contained in the NSR 2021 resource report. Drillholes vary in survey dip from +53 to -84 degrees, with hole depths ranging from 8m to 1,413m. Average hole depth is 248m. The assay data acquired from these holes are described in the NSR 2021 resource report. All validated drill hole data was used directly or indirectly for the preparation of the resource estimates described in the resource report.
	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.	The exclusion of the drill hole information does not materially detract from the understanding of this report.
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.	All reported assay results have been length weighted to provide an intersection width. A maximum of 2m of barren material (considered < 2gpt) between mineralised samples has been permitted in the calculation of these widths. Typically grades over 2.0gpt are considered significant, however, where low grades are intersected in areas of known mineralisation these will be reported. No top-cutting is applied when reporting intersection results.
	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.	Where an intersection incorporates short lengths of high grade results these intersections will be reported in addition to the aggregate value. These will typically take the form of ##.#m @ ##.##gpt including ##.#m @ ##.##gpt.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values have been used for the reporting of these exploration results.
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results:	True widths have been calculated for intersections of the known ore zones based on existing knowledge of these structures.
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	Both the downhole width and true width have been clearly specified when used.
	If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').	Not applicable.

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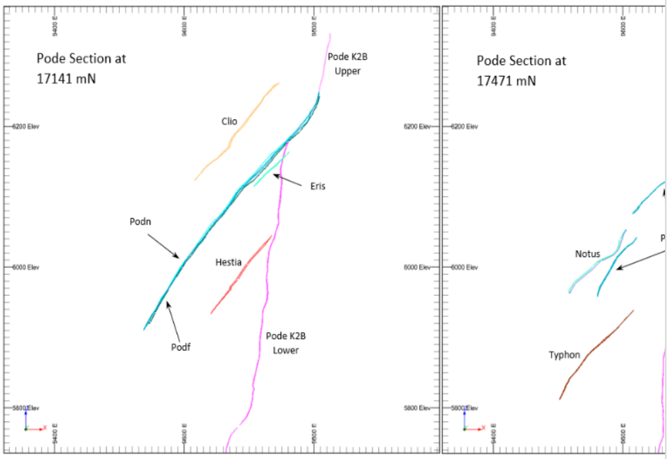
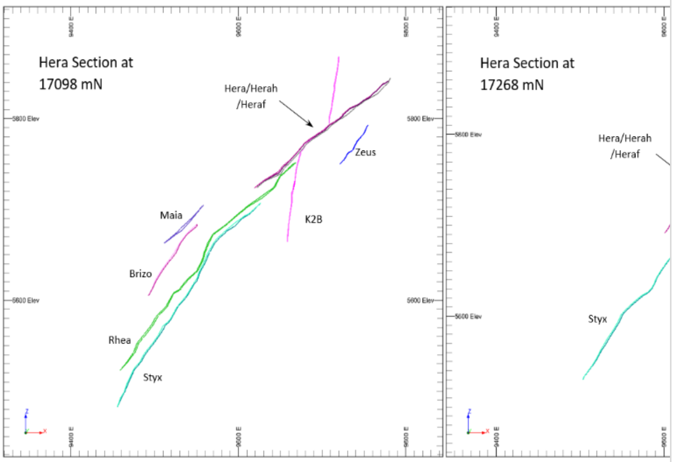
Criteria	JORC Code explanation	Commentary
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	Appropriate plans and section have been included at the end of this table and in the NSR 2021 resource 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.	Both high and low grades have been reported accurately, clearly identified with the drill hole attributes and 'From' and 'To' depths.
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 other material exploration data has been collected for this area.
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 drilling will continue to define the extents of the Pode-style mineralisation.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Appropriate diagrams accompany this release.

PODE & HERA ORE LODES

.Cross section views of Pode ore lodes



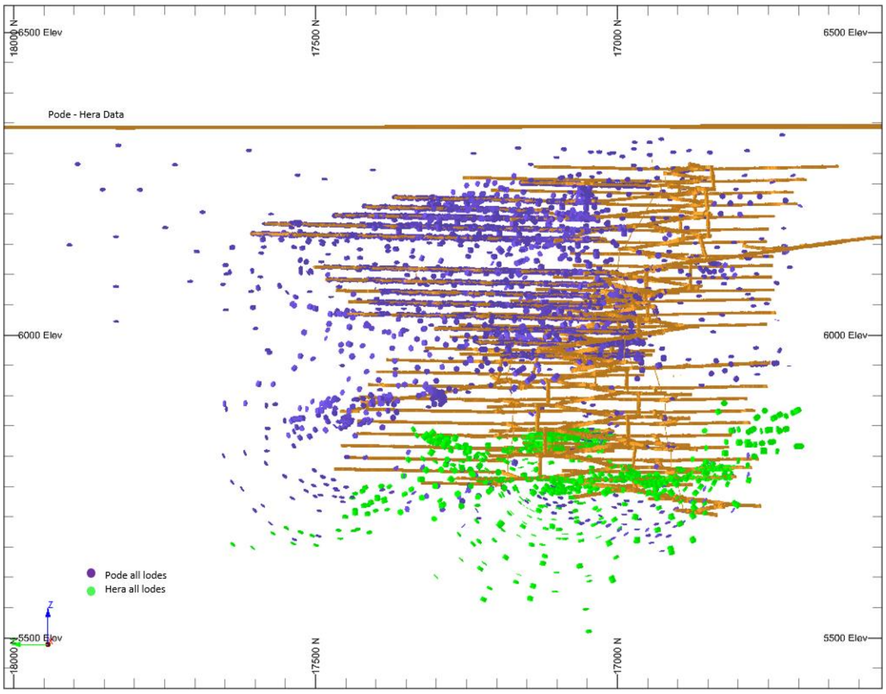
. Cross section views of Hera ore lodes



APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

PODE & HERA ORE LODES

Long section view of Pode and Hera ore lodes and data used in resource estimations



Section 3: Estimation and Reporting of Mineral Resources
(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

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.	Sampling and logging data are either recorded on paper and manually entered into a database system or is captured digitally via a logging laptop and directly loaded into the database system. There are checks in place to avoid duplicate holes and sample numbers. Where possible, raw data is loaded directly into the database from laboratory and survey-tool derived files.
	Data validation procedures used.	The complete exported database (including drill and face samples) is imported into Datamine and checked visually for any apparent errors i.e., holes or faces sitting between levels or not on surface DTM's. Multiple checks are then made on numerical data. These include: • Empty table checks to ensure all relevant fields are populated. • Unique collar location check. • Distances between consecutive surveys is no more than 60m for drill-holes. • Differences in azimuth and dip between consecutive surveys of no more than 0.3 degrees. • The end of hole extrapolation from the last surveyed shot is no more than 30m. • Underground face sample lines are not greater than +\- 5 degrees from horizontal.

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
		Errors are corrected where possible. When not possible the data is resource flagged as "No" in the database and the database is re-exported. This data will not be used in the estimation process. Several drilling programs completed between 2014 and 2016 had erroneous meter depths recorded therefore these drill holes have been omitted from the ore wireframe interpretations and flagged as invalid. However, where there were no QAQC issue with the assays, the correct intervals have been recorded, the translation in the easting direction required for them to be in the 'correct' location (based on development above and below) applied and these intervals were appended to the data set before compositing. In addition to being Resource Flagged as "Yes" or "No", drill holes are assigned a Data Class, which provides a secondary level of confidence in the data quality. Data Class (DC) values range from 0 to 3, with criteria summarised below: • DC 3 = Recent data; all data high quality, validated and all original data available. • DC 2 = Historic data; may or may not have all data in AcQuire or hard copy available but has proximity to recent drilling which confirms the dip, width and tenor. Used to assist in classification • DC 1 = Historic data; same criteria as DC 2 but cannot be verified with recent drilling, i.e., too far away, or dissimilar dip, width and/or tenor to recent drilling. Not used in Resource estimate. • DC 0 = Historic data; no original information or new drilling in proximity to verify. Not used in Resource estimate.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	The geological interpretations underpinning these resource models were prepared by geologists working in the mine who were in direct, daily contact with the ore body. The estimation of grades was undertaken by personnel familiar with the ore body and the general style of mineralisation encountered. The Senior Resource Geologist, a Competent Person for reviewing and signing off on the Pode estimate maintained a site presence throughout the process.
	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.	The interpretation of the Pode deposits were carried out using a systematic approach to ensure continuity of the geology and estimated mineral resource. The confidence in the geological interpretation is high and is supported with information acquired during ore development as well as from underground and surface diamond drilling. The interpretation of all Pode mineralised wireframes was conducted using the sectional interpretation method in Datamine RM software. Most Pode lodes have been interpreted in plan-view section (with the remainder in cross-section view). Where development levels were present, sectional interpretation was completed at approximately 5m spacing. Where only drilling data was present, sectional interpretation was completed at approximately 10m- 20m spacing. Checks were made to ensure that the wireframed volume agreed with the true ore widths of drillhole intersections. As a rule, wireframe extrapolation was limited to one half of the average drill spacing.
	Nature of the data used and of any assumptions made.	All available geological data was used in the interpretation including surface mapping, DD and RC drill holes, underground face channel data, 3D photogrammetry and regional and local structural models.
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	No alternative interpretations have been proposed.

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
	The use of geology in guiding and controlling Mineral Resource estimation.	The interpretation of the Pode mineralisation is based on the presence of mineralised structure (veining and shear), ore-bearing mineralogy (gold and associated sulphides), assayed samples and continuity between sections.
	The factors affecting continuity both of grade and geology.	Individual Pode mineralised envelopes are reasonably continuous at the current drill spacing, as similar mineralisation styles, structures and grade tenor exists between adjacent drill holes. Offsetting structures are not known to be present in Pode although significant undulations exist which may have some impact on continuity of the mineralised trends and metal estimated within. Mineralised envelopes for Pode are confined to the Victorious (porphyritic) and Bent Tree (fine-grained) basalt lithological units.
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 strike length of the different ore systems varies from ~200m to ~1,200m. The individual ore bodies occur in a major regional Zuleika shear system extending over tens of kilometres. Ore body widths are typically in the range of 0.4m - 2m. The widest orebody is Hera Halo at approximately 2m. The narrowest is Zeus at approximately 0.4m. The PodN structure has an average thickness of 1.5m. Mineralisation is known to occur from the base of cover to ~800m below surface and is open in all directions.
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.	Pode mineralised zones used direct grade estimation by Ordinary Kriging (unless otherwise stated) supported by composited sample data. Composite lengths of 1m were used for most lodes (except Maia and Athena lodes, which used 0.5m composite lengths), determined from statistical analysis of all sample lengths in the estimation dataset. In smaller mineralised zones where construction of a coherent variogram was not possible, Inverse Distance has been used. All estimation was completed using Datamine RM software. Details of estimation by Pode ore lode is summarised below: **PodN** (Pode) – Divided into two subdomains based on data density. Data was top cut to 190gpt using the influence limitation approach. In addition to this a hard topcut of 400gpt was used to limit the impact of genuinely anomalous data points. Variography was completed on the composited data file with searches completed in three passes. For the high data-density estimate, search ranges of 50m in direction 1 (dir1), 30m in direction 2 (dir2) and 25m in direction 3 (dir3) were used. For the low data-density estimate, search ranges of 100m in dir1, 80m in dir2 and 50m in dir3 were used. Dynamic anisotropy has been used for the estimate, with the plunge component hard coded to 40° based on the variogram-derived search orientation. **PodH** (Pode) – Divided into two subdomains based on data density. A hard topcut of 25gpt was used to limit the impact of anomalous data points. Variography was completed on the composited data file with searches completed in three passes. For the high data-density estimate, search ranges of 15m in dir1, 15m in dir2 and 10m in dir3 were used. For the low data-density estimate, search ranges of 80m in dir1, 70m in dir2 and 20m in dir3 were used. Dynamic anisotropy has been used for the estimate, with the plunge component hard coded to 40° based on the variogram-derived search orientation. **PodF** (Pode) – Divided into two subdomains based on data density. A hard topcut of 20gpt was used to limit the impact of anomalous data points. Variography was completed on the composited data file with searches were completed in three passes. For the high data-density estimate, search ranges of 15m in dir1/dir2 and 10m in dir3 were used. For the low data-

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
		density estimate, search ranges of 80m in dir1, 70m in dir2 and 20m in dir3 were used. Dynamic anisotropy has been used for the estimate, with the plunge component hard coded to 40° based on the variogram-derived search orientation. **Splay2B** (Pode) – Estimated as a single domain. A hard topcut of 30gpt was used to limit the impact of anomalous data points. No variography completed due to lack of data pairs in domain. Searches were completed in three passes. Search ranges of 30m in dir1, 30m in dir2 and 30m in dir3 were used. **K2B** (Pode and Hera) – Divided into two subdomains based on grade. Top cutting was completed separately on the high-grade and low-grade subdomains (60gpt and 15gpt respectively). Variography was completed on the composited data files separately with searches completed in three passes. For the high-grade estimate, search ranges of 90m in dir1, 50m in dir2 and 30m in dir3 were used. For the low-grade estimate, search ranges of 50m in dir1/2/3 (isotropic) were used. ID was used for both subdomains. **Hestia** (Pode) – Estimated as a single domain. Data was top cut to 30gpt using the influence limitation approach. Variography was completed on the composited data file with searches completed in three passes. Search ranges of 50m in dir1, 30m in dir2 and 15m in dir3 were used. **Ceto** (Pode) – Estimated as a single domain. Data was top cut to 10gpt using the influence limitation approach. Variography was completed on the composited data file with searches completed in three passes. Search ranges of 60m in dir1, 40m in dir2 and 30m in dir3 were used. **Eris** (Pode) – Estimated as a single domain. Data was top cut to 8gpt using the influence limitation approach. No variography completed due to lack of data pairs in domain. Continuity fans analysed to ascertain search orientation and anisotropy. Searches were completed in three passes. Search ranges of 75m in dir1, 35m in dir2 and 15m in dir3 were used. **Clio** (Pode) – Estimated as a single domain. Data was top cut to 12gpt using the influence limitation approach. No variography completed due to lack of data pairs in domain. Continuity fans analysed to ascertain search orientation and anisotropy. Searches were completed in three passes. Search ranges of 80m in dir1, 50m in dir2 and 30m in dir3 were used. **Notus** (Pode) – Estimated as a single domain, no top-cut applied as no anomalous samples present and coefficient of variance within acceptable range. No variography completed due to lack of data pairs in domain. Searches were completed in three passes. Search ranges of 70m in dir1, 40m in dir2 and 15m in dir3 were used. **Kratos** (Pode) – Estimated as a single domain. Data was top cut to 10gpt using the influence limitation approach. No variography completed due to lack of data pairs in domain. Continuity fans analysed to ascertain search orientation and anisotropy. Searches were completed in three passes. Search ranges of 80m in dir1, 50m in dir2 and 30m in dir3 were used. **Ares** (Pode) – Estimated as a single domain. No top-cut applied as no anomalous samples present and coefficient of variance within acceptable range. No variography completed due to lack of data pairs in domain. Continuity fans analysed to ascertain search orientation and anisotropy. Searches were completed in three passes. Search ranges of 60m in dir1/3 and 3 were used. **Athena** (Pode) – Estimated as a single domain. Data was top cut to 28gpt using the influence limitation approach. No variography completed due to lack of data pairs in domain. Continuity fans analysed to ascertain search orientation and isotropy. Searches were completed in three passes. Search ranges of 30m in dir1, 30m in dir2 and 30m in dir3 were used. **Apollo** (Pode) – Estimated as a single domain. Data was top cut to 8gpt using the influence limitation approach. Variography was completed on the

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
		composited data file, indicating grade continuity plunging moderately to the north. Searches were completed in three passes. Search ranges of 40m in dir1, 20m in dir2 and 20m in dir3 were used. **PodS** (Pode) – Estimated as a single domain. No top cutting required. No variography completed due to lack of data pairs in domain. Continuity fans analysed to ascertain search orientation and anisotropy. Searches were completed in three passes. Search ranges of 40m in dir1, 40m in dir2 and 40m in dir3 were used. **Typhon** (Pode) – Estimated as a single domain. Data was top cut to 12gpt using the influence limitation approach. No variography completed due to lack of data pairs in domain. Continuity fans analysed to ascertain search orientation and anisotropy. Searches were completed in three passes. Search ranges of 60m in dir1, 40m in dir2 and 30m in dir3 were used. **Hera** (Hera) – Divided into two subdomains based on data density. Data was top cut to 400gpt for the high-grade subdomain and 35gpt for the low-grade subdomain using the influence limitation approach. Variography was completed on the composited data file with searches were completed in three passes. For the high data-density estimate, search ranges of 20m in dir1/dir2 and 15m in dir3 were used. For the low data-density estimate, search ranges of 35m in dir1, 25m in dir2 and 15m in dir3 were used. Categorical Indicated Kriging has been used for the estimate using dynamic anisotropy with the plunge component hard coded to 40° based on the variogram-derived search orientation. **Hera Footwall Halo** (Hera) **–** Divided into two subdomains based on data density. Hard top cuts were applied to the data of 25gpt for the high-grade subdomain and 8gpt for the low-grade subdomain. Search ranges of 30m in dir1/dir2 and 15m in dir3 were used. **Hera Hangingwall Halo** (Hera) – Divided into two subdomains based on data density. Hard top cuts were applied to the data of 30gpt for the high-grade subdomain and 6gpt for the low-grade subdomain. For the high data-density estimate, search ranges of 30m in dir1, 20m in dir2 and 10m in dir3 were used. For the low data-density estimate, search ranges of 30m in dir1, 20m in dir2 and 15m in dir3 were used. **Hera Breccia lode** (Hera) – Estimated as a single domain. A hard top cut of 7gpt has been applied to the data. Searches were completed in three passes. Search ranges of 30m in dir1, 15m in dir2 and 10m in dir3 were used. **Rhea** (Hera) – Divided into two subdomains based on data density. Data was top cut to 6gpt for the low-grade subdomain using the influence limitation approach. No top cut was required for the high-grade subdomain. No variography completed due to lack of data pairs in domain. Continuity fans analysed to ascertain search orientation and anisotropy. Searches were completed in three passes. Search ranges of 60m in dir1, 40m in dir2 and 30m in dir3 were used. **Styx** (Hera) – Estimated as a single domain. Data was top cut to 16gpt using the influence limitation approach. No variography completed due to lack of data pairs in domain. Continuity fans analysed to ascertain search orientation and anisotropy. Searches were completed in three passes. Search ranges of 60m in dir1, 40m in dir2 and 30m in dir3 were used. **Brizo** (Hera) – Estimated as a single domain. Data was top cut to 6gpt using the influence limitation approach. No variography completed due to lack of data pairs in domain. Continuity fans analysed to ascertain search orientation and anisotropy. Searches were completed in three passes. Search ranges of 60m in dir1, 40m in dir2 and 30m in dir3 were used. **Maia** (Hera) – Estimated as a single domain. No top cutting required. No variography completed due to lack of data pairs in domain. Continuity fans analysed to ascertain search orientation and anisotropy. Searches were

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
		completed in three passes. Search ranges of 40m in dir1, 30m in dir2 and 15m in dir3 were used. **Thalia** (Hera) – Estimated as a single domain. Data was top cut to 5gpt using the influence limitation approach. No variography completed due to lack of data pairs in domain. Continuity fans analysed to ascertain search orientation and anisotropy. Searches were completed in three passes. Search ranges of 30m in dir1, 20m in dir2 and 10m in dir3 were used. **Selene** (Hera) – Estimated as a single domain. Data was top cut to 25gpt using the influence limitation approach. No variography completed due to lack of data pairs in domain. Continuity fans analysed to ascertain search orientation and anisotropy. Searches were completed in three passes. Search ranges of 60m in dir1, 40m in dir2 and 30m in dir3 were used. **Zeus** (Hera) – Estimated as a single domain. Data was top cut to 80gpt using the influence limitation approach. No variography completed due to lack of data pairs in domain. Continuity fans analysed to ascertain search orientation and anisotropy. Searches were completed in three passes. Search ranges of 75m in dir1, 35m in dir2 and 15m in dir3 were used.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource Estimate takes appropriate account of such data.	Check estimates have been completed for all lodes. These include Inverse Distance (ID) and Nearest Neighbour (NN) estimates. Isotropic searches have also been tested to corroborate chosen variogram angles.
	The assumptions made regarding recovery of by-products.	No assumptions have been made
	Estimation of deleterious elements or other non-grade variables of economic significance (e.g., sulphur for acid mine drainage characterisation).	No deleterious elements were estimated in these models.
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	Block sizes varied depending on sample density. In areas of high data-density (underground face samples with average spacing of 3m – 4m) a 5m x 5m x 5m block size was chosen. Low density drill spacing is defined as approximately 30m or greater and a 10m x 10m x 10m block size was chosen. Estimates were completed with soft boundaries between varying block size estimates (unless a geological feature and contact analysis indicated a hard boundary was required) and added together following individual estimation for final validations. Search ellipse dimensions were derived from the variogram model ranges, or isotropic ranges based on data density where insufficient data was present for variographic analysis.
	Any assumptions behind modelling of selective mining units.	Selective mining units were not used during the estimation process.
	Any assumptions about correlation between variables.	All variables were estimated independently of each other. Density has used estimation parameters based on the equivalent gold estimation for that domain.
	Description of how the geological interpretation was used to control the resource estimates.	Hanging-wall and foot-wall wireframe surfaces were created using sectional interpretation. These were used to define the Pode/Hera mineralised zones based on the geology (usually a quartz vein) and gold grade. Pode/Hera mineralised zones are predominantly low angled dilatational fault zones

Criteria	JORC Code explanation	Commentary
		with quartz veining evident from drilling (all lodes) and development (PodN, PodF, PodH, Hera and Hera Halo only). For mine planning purposes a waste model is created by projecting the hanging wall and footwall surfaces 15m either side. A default grade of 0.1gpt is assigned and the same resource classification as the adjacent ore lode is applied.
	Discussion of basis for using or not using grade cutting or capping.	Topcuts were applied to the composited sample data with the intention of reducing the impact of outlier values on the average grade. Top cuts were selected based on a statistical analysis of the data with a general aim of not impacting the mean by more than 5% and reducing the coefficient of variation to around 1.2. Topcuts vary by domain and range from 8 to 400gpt. The top cut values are applied in several steps, using a technique called influence limitation top cutting. A top cut (AU) and non-top cut (*_NC) variable is created, as well as a spatial variable (*_IL) which only has values where the top cut values appear. For example, where gold requires a top cut, the following variables will be created and estimated: • AU (top cut gold) • AU_NC (non- top-cut gold) • AU_IL (spatial variable; values present where AU data is top cut) The top-cut and non-top cut values are estimated using search ranges based on the modelled gold variogram, and the *_IL values estimated using very small ranges (e.g., 5m x 5m x5m). Where the *_IL values produce estimated blocks within these restricted ranges, the *_NC estimated values replace the original top cut estimated values (AU).
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	Statistical measures of Kriging error, such as Kriging Efficiency and Slope of Regression, are used to assess the quality of the estimation for each domain. Differences in the global grade of the declustered, top-cut composite data set and the average model grade were within 10%, or justification for a difference outside 10% was explicable. Swath plots comparing declustered, top-cut composites to block model grades are created and visual plots are prepared summarising the critical model parameters. Visually, block grades are assessed against drill hole and face data.
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 Estimate has been reported at a 2.13gpt cut off within 2.5m minimum mining width (no dilution) MSOs using a $AS2,250/oz gold price.
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	No mining assumptions have been made during the resource wireframing or estimation process.

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Criteria	JORC Code explanation	Commentary
	rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	
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.	Metallurgical test work results show that the mineralisation is amendable to processing through the existing Kanowna Belle treatment plant. Ore processing throughput and recovery parameters were estimated based on historic performance and potential improvements available using current technologies and practices.
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 green fields 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.	A "Licence to Operate" is held by the operation which is issued under the requirement of the "Environmental Protection Act 1986", administered by the Department of Environment (DoE). The licence stipulates environmental conditions for the control of air quality, solid waste management, water quality, and general conditions for operation. Groundwater Licences are held for water abstraction, including production bore field water use for mineral processing, and mine dewatering, in accordance with the Rights in Water and Irrigation Act 1914. These Licences are also regulated by DoE and are renewable on a regular basis. Kanowna Operations conduct extensive environmental monitoring and management programs to ensure compliance with the requirements of the licences and lease conditions. An Environmental Management System is in place to ensure that Northern Star employees and contractors exceed environmental compliance requirements. The Kalgoorlie operations are fully permitted including groundwater extraction and dewatering, removal of vegetation, mineral processing, and open pits. Kalgoorlie Operations have been compliant with the International Cyanide Management Code since 2008. Compliance with air quality permits is particularly important at Kanowna because of the roaster operation and because there are three facilities in the Kalgoorlie region emitting SO_2 gas. Kanowna has a management program in place to minimize the impact of SO_2 on regional air quality and ensure compliance with regulatory limits.
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.	A thorough investigation into average density values for the various lithological units at Pode was completed and the mean densities by lithology were coded into the database. Where there were no measurements for a specific lithology and default of 2.8 t/m^3 was applied. Density was then estimated by Ordinary Kriging using the associated gold estimation parameters for that domain. Post estimation, default density values for the oxide and transition zones were applied, based on regional averages.
	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.	Bulk density measurements adequately account for any voids within the measured material.

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Criteria	JORC Code explanation	Commentary
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	Assumptions on the average bulk density of individual lithologies, based on 14,613 bulk density measurements at Pode and RHP. Assumptions were also made based on regional averages, on the default densities applied to oxide (1.80 t/m^3) and transitional (2.30 t/m^3) material, due to a lack of data in these zones.
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.	Classification is based on a series of factors including: • Geologic grade continuity • Density of available drilling • Statistical evaluation of the quality of the kriging estimate • Confidence in historical data, based on the new Data Class system
	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).	All relevant factors have been given due weighting during the classification process.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The resource estimation methodology is considered appropriate and reflects the Competent Persons view of the deposit.
Audits or reviews	The results of any audits or reviews of Mineral Resource Estimates.	All resource models have been subjected to internal peer review.
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.	These Mineral Resource Estimates are considered as robust and representative of the Pode style of mineralisation. The relative accuracy of the Mineral Resource Estimate is reflected in the reporting of the Mineral Resource as per the guidelines of the 2012 JORC Code.
	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 statement relates to global estimates of tonnes and grade.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	No reconciliation factors are applied to the resource post-modelling.

Section 4: Estimation and Reporting of Ore Reserves
(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

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.	Northern Star 2021MY Resource.
	Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	The Mineral Resources are reported inclusive of the Ore Reserve.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	Site visits have been undertaken by the Competent Person.
	If no site visits have been undertaken indicate why this is the case.	Site visits are undertaken.
Study status	The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.	Feasibility Study.
	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.	Upgrade of previous Ore Reserve.
Cut-off parameters	The basis of the cut-off grade(s) or quality parameters applied.	Budget costs and physicals form the basis for Cut Off Grade calculations. Mill recovery is calculated based on historical recoveries achieved. Various cut off grades are calculated including a break-even cut-off grade (BCOG), variable cut-off grade (VCOG) and Mill cut-off grade (MCOG). The VCOG is used as the basis for stope design, with areas requiring significant development assessed by detailed financial analysis to confirm their profitability.
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 optimisation or by preliminary or detailed design).	Mineral Resource is converted to Ore Reserve after completing a detailed mine design and associated financial assessment.
	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.	Selected mining method deemed appropriate as it has been used at Raleigh since 2005 & Rubicon / Hornet / Pegasus since 2011.
	The assumptions made regarding geotechnical parameters (e.g., pit slopes, stope sizes, etc.), grade control and pre-production drilling.	Design parameters include a 20m to 25m level spacing with a stope strike length of 15m for dilution control purposes. This correlates to a Hydraulic Radius of 4.3 to 4.6
	The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).	Not applicable - this Table 1 applies to underground mining only.

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Criteria	JORC Code explanation	Commentary
	The mining dilution factors used.	Based on historical mine performance, mining dilution of 20% Rock and 10% Paste dilution (10 -30% total) for stoping additional to minimum mining width is applied, as well as 10% dilution for Ore development.
	The mining recovery factors used.	Mining recovery factor of 92.5% is applied based on historical data.
	Any minimum mining widths used.	Minimum stope width of 3.0m where the vein is less than 2m wide. 1m additional to vein width when greater than 2m wide.
	The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.	Designed stopes with greater than 50% inferred blocks are excluded from the reported Reserve.
	The infrastructure requirements of the selected mining methods.	Infrastructure in place, currently an operating mine.
Metallurgical factors or assumptions	The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.	EKJV ore is treated at the Kanowna Belle milling facilities or additional ore to toll treatment facilities as required. The Kanowna Belle Mill is designed to handle approximately 2.0m million tonnes of feed per annum. The plant has the capability to treat both refractory and free milling ores, through either using the flotation circuit and associated concentrate roaster circuit, including carbon-in-leach (CIL) gold recovery, or bypassing the flotation circuit and going directly to a CIL circuit designed to treat flotation tails. The plant campaigns both refractory and free milling ores every month. Between campaigns, the circuit is “cleaned out” using mineralised waste. The plant is made up of crushing, grinding, gravity gold recovery, flotation, roasting, CIL, elution and gold recovery circuits. Ore Reserves are calculated using processing plant recovery factors that are based on test work and historical performance.
	Whether the metallurgical process is well-tested technology or novel in nature.	Milling experience gained over plus 10 years operation.
	The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.	Milling experience gained over plus 10 years operation.
	Any assumptions or allowances made for deleterious elements.	No assumption made.
	The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody.	Milling experience gained over plus 10 years operation.
	For minerals that are defined by a specification, has the ore Reserve estimation been based on the appropriate mineralogy to meet the specifications?	Not applicable.
Environmental	The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of	Rubicon, Hornet, Pegasus operations are currently compliant with all legal and regulatory requirements. All government permits, licences and statutory approvals are granted.

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Criteria	JORC Code explanation	Commentary
	potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.	
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.	All current site infrastructure is suitable to the proposed mining plan.
Costs	The derivation of, or assumptions made, regarding projected capital costs in the study.	Mine development capital cost based on historical performance on site and life-of-mine forward planning. Plant and equipment capital are based on site experience and the LOM plan.
	The methodology used to estimate operating costs.	All overhead costs and operational costs are projected forward on a first principals modelling basis.
	Allowances made for the content of deleterious elements.	No allowances made.
	The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.	Corporate guidance.
	The source of exchange rates used in the study.	Corporate guidance.
	Derivation of transportation charges.	Historic performance.
	The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.	Historic performance.
	The allowances made for royalties payable, both Government and private.	All royalties are built into the cost model.
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.	A$1,750/oz gold.
	The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	Corporate guidance.
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.	It is assumed all gold is sold directly to market at the Corporate gold price guidance of A$1,750/oz.

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Criteria	JORC Code explanation	Commentary
	A customer and competitor analysis along with the identification of likely market windows for the product.	Not Applicable.
	Price and volume forecasts and the basis for these forecasts.	Corporate guidance.
	For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	Not Applicable.
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.	All costs assumptions are made based on historical performance from the mine and current economic forecast seen as representative of current market conditions.
	NPV ranges and sensitivity to variations in the significant assumptions and inputs.	Sensitivities have been used with gold price ranges of A$1,500 to A$2,000 per ounce.
Social	The status of agreements with key stakeholders and matters leading to social licence to operate.	Agreements are in place and are current with all key stakeholders.
Other	To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:	No Issues.
	Any identified material naturally occurring risks.	No Issues.
	The status of material legal agreements and marketing arrangements.	No Issues.
	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.	No Issues.
Classification	The basis for the classification of the Ore Reserves into varying confidence categories.	Ore Reserves classifications are derived from the underlying resource model classifications – i.e., Measured Resource material is converted to either Proved or Probable Reserves, with Indicated Resource material converting to Probable Reserve.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The results accurately reflect the Competent Person's view of the deposit.

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Criteria	JORC Code explanation	Commentary
	The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	Nil.
Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.	The Reserve has been internally reviewed in line with Northern Star Resource governance standard for Reserves and Resources. There have been no external reviews of this Ore Reserve estimate.
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.	Confidence in the model and Ore Reserve Estimate is considered high based on current mine and reconciliation performance.
	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.	Estimates are global but will be reasonably accurate on a local scale.
	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.	Not applicable.
	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.	Historical reconciliation of mine production has been used in the generation both the underlying Mineral Resource Estimate and subsequent modifying factors applied to develop an Ore Reserve.

JORC Code, 2012 Edition – Table 1 Report

Raleigh-Sadler: Resources and Reserves –31 March 2021

Section 1: Sampling Techniques and Data
(Criteria in this section apply to all succeeding sections.)

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<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td rowspan="3">Sampling techniques</td><td>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.</td><td>A combination of sample types was used to collect material for analysis,
<table>
<tr><th></th><th colspan="3">Raleigh</th></tr>
<tr><th></th><th># of Holes</th><th>Total m's</th><th># of Samples</th></tr>
<tr><td>DD</td><td>620</td><td>110,625</td><td>42,370</td></tr>
<tr><td>FS</td><td>7,272</td><td>28,106</td><td>44,396</td></tr>
<tr><td>RC</td><td>5</td><td>672</td><td>396</td></tr>
<tr><td>RC_DD</td><td>33</td><td>9,800</td><td>2,387</td></tr>
<tr><td>Total</td><td>7,930</td><td>149,204</td><td>89,549</td></tr>
</table>
including surface and underground diamond drilling (DD), surface reverse circulation drilling (RC) and face channel (FC) sampling. RAB holes were excluded from the estimate. Where sufficient diamond drill holes were present, RC holes were also excluded.</td></tr>
<tr><td>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</td><td>DD drilling is sampled within geological boundaries with a minimum (0.3m) and maximum (1.0m) sample length. Face channel sampling is constrained within geological and mineralised boundaries with a minimum (0.2m) and maximum (1.0m) channel sample length. In some cases, smaller samples (0.1m – 0.2m) have been taken to account for narrower structures in the face.</td></tr>
<tr><td>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., ‘reverse circulation drilling was used to obtain 1m samples from which 3kg was pulverised to produce a 30g 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.</td><td>DD drill core is either half core or full core sampled. Half core samples were cut using an automated core saw. The mass of material collected was dependent on the drill hole diameter and sampling interval selected.

A sample size of at least 3kg of material was targeted for each face sample interval.

All samples were delivered to a commercial laboratory where they were dried and crushed to 90% of material ≤3mm. At this point, samples greater than 3kg were split using a rotary splitter, then pulverised to 90% ≤75µm.

A 40g charge was selected for fire assay for all recent samples. Historically, charge weights of 50g have also been used.</td></tr>
<tr><td>Drilling techniques</td><td>Drill type (e.g., core, reverse circulation, 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.).</td><td>Both RC and DD techniques were used to drill the Raleigh deposit.

Surface diamond drill holes were completed using HQ2 (63.5mm) core whilst underground diamond drill holes were completed using both NQ2 (50.5mm) and NQ3 (43mm) core.

Historically, core was oriented using the Reflex ACT Core orientation system. Currently, core is oriented using the Boart Longyear Trucore Core Orientation system.

RC Drilling was completed using a 5.75” drill bit, downsized to 5.25” at depth.

In many cases, RC pre-collars were drilled, followed by diamond tails. Pre-collar depth was determined in the drill design phase.</td></tr>
<tr><td rowspan="3">Drill sample recovery</td><td>Method of recording and assessing core and chip sample recoveries and results assessed.</td><td>Any core loss in diamond drilling is recorded on the core block by the driller. This is then captured by the logging geologist and entered as an interval into the hole log.</td></tr>
<tr><td>Measures taken to maximise sample recovery and ensure representative nature of the samples.</td><td>For diamond drilling, the contractors adjust their rate of drilling and method if recovery issues arise. All recovery is recorded by the drillers on core blocks. This is checked and compared to the measurements of the core by the geological team. Any issues are communicated back to the drilling contractor.</td></tr>
<tr><td>Whether a relationship exists between sample recovery and grade and whether</td><td>Sample recovery of the ore is challenging at Raleigh with the brittle quartz vein RMV lode adjacent to the much softer RMS lode. Triple tubing has been employed by the drilling contractor in order to minimise core loss. Samples</td></tr>
</table>

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
	sample bias may have occurred due to preferential loss/gain of fine/coarse material.	which have logged core loss through the ore zone are excluded. No relationship between sample recovery and grade has been discerned.
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.	All diamond core is logged for lithology, veining, alteration, mineralisation, and structural data. Structural measurements of specific features are also taken through oriented zones. Logging is entered in AcQuire using a series of drop-down menus which contain the appropriate codes for description of the rock. All underground faces are logged for lithology and mineralisation. Logging is captured on a face sample sheet underground which is then transferred to AcQuire. Faces are then entered into AcQuire using a series of drop-down menus which contain appropriate codes for description of the rock.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	All core logging is qualitative with mineralised zones assayed for quantitative measurements. Every core tray is photographed wet. All underground faces are logged and sampled to provide both qualitative and quantitative data. All faces are washed down and photographed before sampling is completed.
	The total length and percentage of the relevant intersections logged.	For all drill holes, the entire length of the hole was logged.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	Diamond core is cut using an automated core saw. Sampling and cutting methodology are dependent on the type of drilling completed. Half core is generally utilised for exploration drilling. Some exploration and all Grade Control drilling (GC) is whole core sampled.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	RC samples are split using a rig-mounted cone splitter to collect a sample 3-4kg in size from each 1m interval. These samples were utilised for any zones approaching known mineralization and from any areas identified as having anomalous gold. Outside known mineralised zones spear samples were taken over a 4m interval for composite sampling.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Preparation of samples was conducted at Bureau Veritas' Kalgoorlie facilities commencing with sorting, checking and drying at less than 110°C to prevent sulphide breakdown. Samples are jaw crushed to a nominal -6mm particle size. If the sample is greater than 3kg a Boyd crusher with rotary splitter is used to reduce the sample size to less than 3kg (typically 1.5kg) at a nominal <3mm particle size. The entire crushed sample (if less than 3kg) or sub-sample is then pulverised to 90% ≤75µm, using a Labtechnics LM5 bowl pulveriser. 400g Pulp subsamples are then taken with an aluminium scoop and stored in labelled pulp packets. The sample preparation is considered appropriate for the deposit.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Procedures are utilised to guide the selection of sample material in the field. Standard procedures are used for all processes within the laboratory. Grind checks are performed at both the crushing stage (3mm) and pulverising stage (75µm), requiring 90% of material to pass through the relevant size.
	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.	Umpire sampling is performed monthly, where 3% of the samples are sent to the umpire lab for processing. Umpire samples of faces were analysed using a 40g charge weight.

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
	Whether sample sizes are appropriate to the grain size of the material being sampled.	The sample sizes are considered appropriate for 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.	A 40g fire assay charge for diamond drill holes and a 40g charge for face samples is used with a lead flux in the furnace. The prill is totally digested by HCl and HNO_3 acids before Atomic Absorption Spectroscopy (AAS) determination for gold analysis.
	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 tools were used to determine any element concentrations.
	Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.	Certified reference materials (CRMs) are inserted into the sample sequence at a rate of 1 per 20 samples to ensure correct calibration. Any values outside of 3 standard deviations are re-assayed with a new CRM. Blanks are inserted into the sample sequence at a rate of 1 per 20 samples. The insertion points are selected at random, except where high grade mineralisation is expected. In these cases, a Blank is inserted after the high-grade sample to test for contamination. Results greater than 0.2gpt if received are investigated, and re-assayed if appropriate. New pulps are prepared if anomalous results cannot be resolved. Barren flushes are regularly inserted after anticipated high gold grades at the pulverising stage. No field duplicates were submitted for diamond core. Pulp duplicates are requested after any ore zone. These are indicated on the sample sheet and the submission sheet. When visible gold is observed in core, a quartz flush is requested after the sample. Laboratory performance was monitored using the results from the QA samples mentioned above. This was supplemented by the internal QA samples used by the laboratories, which included pulp duplicates and CRMs. The QA studies indicate that accuracy and precision are within industry accepted limits.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	All significant intersections are verified by another Northern Star geologist during the drill hole validation process, and later by a Competent Person to be signed off.
	The use of twinned holes.	No twinned holes were drilled for Raleigh. Re-drilling of some drill holes has occurred due to issues downhole (e.g., bogged rods). These have been captured in the database with an 'A' suffix. Re-drilled holes are sampled whilst the original drill hole is logged but not sampled.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Geological logging and sampling are directly recorded into AcQuire. Assay files are received in csv format and loaded directly into the database using an AcQuire importer object. Assays are then processed through a form in AcQuire for QAQC checks. Hardcopy and non-editable electronic copies of these are stored.
	Discuss any adjustment to assay data.	No adjustments are made to this assay data.

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Criteria	JORC Code explanation	Commentary
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	Planned holes are marked up by the mine survey department using a total station survey instrument in mine grid (Kundana 10). The actual hole position is then located by the mine survey department once drilling is completed. In some cases, drill hole collar points are measured off survey stations if a mark-up cannot be completed. Holes are lined up on the collar point using the DHS Azimuth Aligner. Planned azimuths and dips of the holes are downloaded to the aligner which is then placed on the rod string to align the hole for drilling. During drilling, single shot surveys are conducted every 30m to track the deviation of the hole and to ensure it stays close to design. This is performed using the DeviShot camera which measures the gravitational dip and magnetic azimuth. Results are uploaded from the DeviShot software into a csv format which is then imported into the AcQuire database. At the completion of the hole, a Multishot (using the DeviFlex non-magnetic strain gauge instrument) survey is completed, taking measurements every 3m to ensure accuracy of the hole. This is converted to *.cvs format and imported into the AcQuire database.
	Specification of the grid system used.	Collar coordinates are recorded in mine grid (Kundana 10) and transformed into MGA94_51.
	Quality and adequacy of topographic control.	Quality topographic control has been achieved through Lidar data and survey pickups of holes over the last 15 years.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Drill hole spacing varies across the deposit. For resource targeting drill spacing was typically 60m x 60m. This allowed for infill drilling at 30m x 30m spacing known as resource definition. Grade control drilling was drilled on a level by level basis with drill spacing between 10m to 15m.
	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 data spacing and distribution is considered sufficient to support the Resource and Reserve estimates.
	Whether sample compositing has been applied.	No sample compositing has been 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.	The major Raleigh structures dip steeply (80°) to the west (local grid). Diamond drilling was designed to target the ore bodies as close to perpendicular as possible, allowing for a favourable intersection angle. In instances where this was not achievable (mostly due to drill platform location), drilling was not completed or re-designed once a suitable platform became available. Drill holes with low intersection angles are excluded from resource estimation where more suitable data is available.
	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.	Robust data validation has been completed to ensure no sample bias is introduced by including these holes. Where drill holes have been particularly oblique, they have been flagged as unsuitable for resource estimation.
Sample security	The measures taken to ensure sample security.	Prior to laboratory submission samples are stored by Northern Star Resources in a secure yard. Once submitted to the laboratories they are

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
		stored in a secure fenced compound, tracked through their chain of custody and via audit trails.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits have been undertaken of the data and sampling practices at this stage.

Section 2: Reporting of Exploration Results
(Criteria listed in the preceding section also apply to this section.)

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.	All holes mentioned in this report are located within either the M15/993 or M16/157 Mining leases. M15/993 which is held by the East Kundana Joint Venture (EKJV). The EKJV is majority owned (51%) and managed by Northern Star Resources Limited. The minority holding in the EKJV is held by Tribune Resources Ltd and Rand Mining Ltd. M16/157 is fully owned by Northern Star Resources Limited. The tenements on which the Raleigh and Sadler deposit is hosted is subject to three royalty agreements. The agreements are the Kundana-Hornet Central Royalty, the Lake Grace Royalty and the Kundana Pope John Agreement No. 2602-13.
	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.	No known impediments exist, and the tenements are in good standing.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	No other parties performed exploration work at Raleigh during the reporting period. All previous exploration by other parties is summarised in open file annual reports which are available from the DMIRS.
Geology	Deposit type, geological setting and style of mineralisation.	The Kundana gold camp is situated within the Norseman-Wiluna Greenstone Belt, in an area dominated by the Zuleika shear zone, which separates the Coolgardie domain from the Ora Banda domain. Raleigh ore lodes are located along the Strzelecki structure, with mining commencing in 2000. The Raleigh mineralisation consists of narrow, laminated quartz veining on the contact between volcanogenic sedimentary rock unit and andesite/gabbro (RMV). Sadler is the southern extent of Raleigh with no clear geological boundary distinguishing them. Underground mining began in Sadler in FY19.
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: • easting and northing of the drill hole collar • elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar • dip and azimuth of the hole • down hole length and interception depth • hole length.	No new information released in this report. The collar locations are presented in plots contained in the NSR 2021 resource report. Drill holes vary in survey dip from +48 to -83, with hole depths ranging from 15m to 950m, and having an average depth of 180m. The assay data acquired from these holes are described in the NSR 2021 resource report. All the drill hole data were used directly or indirectly for the preparation of the resource estimates described in the resource report.

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Criteria	JORC Code explanation	Commentary
	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.	No new information released in this report. Excluded information is not thought material to this release.
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.	No new information released in this report. All reported assay results have been length weighted to provide an intersection width. A maximum of 2m of low-grade material (considered < 2.0gpt) between mineralised samples has been permitted in the calculation of these widths. Typically grades over 2.0gpt are considered significant, however, where wide zones of low grade are intersected in areas of known mineralisation these will be reported. No top-cutting is applied when reporting intersection results.
	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.	Where an intersection incorporates short lengths of high grade results these intersections will be reported in addition to the aggregate value. These will typically take the form of ##.#m @ ##.##gpt including ##.#m @ ##.##gpt.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values have been used for the reporting of these exploration results.
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results:	True widths have been calculated for intersections of the known ore zones, based on existing knowledge of the nature of these structures.
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	Both the downhole width and true width have been clearly specified when used.
	If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').	Generally estimated true width is reported. Down hole lengths are noted where used.
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 drill hole collar locations and appropriate sectional views.	Appropriate plans and section have been included at the end of this Table.
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.	Both high and low grades have been reported accurately, clearly identified with the drill hole attributes and 'From' and 'To' depths.
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	No other material exploration data has been collected for this area.

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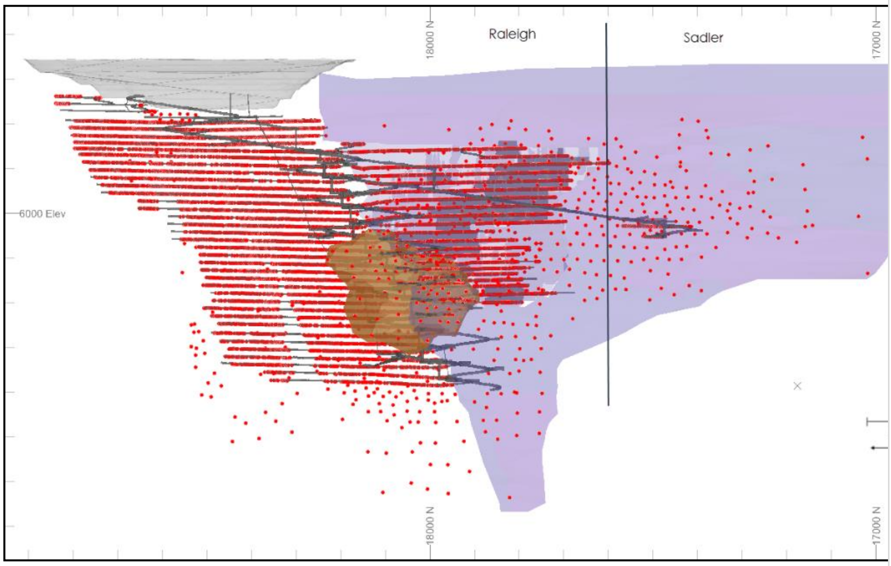
Criteria	JORC Code explanation	Commentary
	results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	
Further work	The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).	There are no plans for drilling at Raleigh-Sadler in the coming year, although this does not preclude future drilling to extend Raleigh-Sadler.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Appropriate diagrams accompany this release.

		RALEIGH & SADLER DEPOSITS
		Long section view of the Raleigh and Sadler deposits and data used for estimation 

Section 3: Estimation and Reporting of Mineral Resources
(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

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.	Sampling and logging data is either recorded on paper and manually entered into a database system or is captured digitally via a logging laptop and directly loaded into the database system. There are checks in place to avoid duplicate holes and sample numbers. Where possible, raw data is loaded directly into the database from laboratory and survey derived files.
	Data validation procedures used.	The database has further checks performed prior to estimation to confirm data validity. The complete exported database (including drill and face samples) is imported into Datamine and checked visually for any apparent errors i.e., holes or faces sitting between levels or not on surface DTM's. Multiple checks are then made on numerical data. These include: • Empty table checks to ensure all relevant fields are populated • Unique collar location check • Distances between consecutive surveys is no more than 60m for drill-holes • Differences in azimuth and dip between consecutive surveys of no more than 0.3 degrees • The end of hole extrapolation from the last surveyed shot is no more than 30m • Underground face sample lines are not greater than +\- 5 degrees from horizontal Errors are corrected where possible. When not possible the data is resource flagged as "No" in the database and the database is re-exported. This data will not be used in the estimation process. Several drilling programs completed between 2015 and 2016 had erroneous meter depths recorded therefore these drill-holes have been omitted from the ore wireframe interpretations and flagged as invalid. However, where there were no QAQC issue with the assays, the correct intervals have been recorded, the translation in the easting direction required for them to be in the 'correct' location (based on development

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
		above and below) applied, and these intervals were appended to the data set before compositing. In addition to being Resource Flagged as "Yes" or "No", drill holes are assigned a Data Class, which provides a secondary level of confidence in the data quality. Data Class (DC) values range from 0 to 3, with criteria summarised below: • DC 3 = Recent data; all data high quality, validated and all original data available. • DC 2 = Historic data; may or may not have all data in AcQuire or hard copy available but has proximity to recent drilling which confirms the dip, width and tenor OR recent data with minor issues but away from the ore zone. • DC 1 = Historic data; same criteria as DC 2 but cannot be verified with recent drilling, i.e., too far away, or dissimilar dip, width and/or tenor to recent drilling. Not to be used in Resource estimate. • DC 0 = Historic data; no original information or new drilling in proximity to verify. Not to be used in Resource estimate.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	The geological interpretations underpinning these resource models were prepared by geologists working in the mine and in direct, daily contact with the ore body. The estimation of grades was undertaken by personnel familiar with the ore body and the general style of mineralisation encountered. The Senior Resource Geologist, a competent person for reviewing and signing off the Raleigh estimate maintained a site presence throughout the process.
	If no site visits have been undertaken indicate why this is the case.	Site visits undertaken.
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	The interpretation of the Raleigh and Sadler deposit was carried out using a systematic approach to ensure continuity of the geology and estimated mineral resource. The confidence in the geological interpretation is high and is supported with information acquired during ore development as well as from drilling.
	Nature of the data used and of any assumptions made.	All available geological data was used in the interpretation including mapping, drill holes, underground face channel data, 3D photogrammetry and structural models.
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	No alternative interpretations have been proposed.
	The use of geology in guiding and controlling Mineral Resource estimation.	The interpretation of Raleigh and Sadler mineralisation is based on the presence of mineralised structure (veining and shear), ore-bearing mineralogy (gold and associated sulphides), assayed samples and continuity between sections. The Raleigh Main Vein (RMV) is based on a high-grade laminated quartz vein. Pinch-outs are common and significant time has been invested into ensuring a wireframe model is created that best represents the variable width of the lode. Volume considerations are of importance for the RMV as the average ore width is < 0.3m. The Raleigh Main Shear (RMS) is located adjacent to the RMV and migrates between the hangingwall and footwall along the contact between the quartz arenite (SAQ) and intermediate andesite (IA). It presents as a zone of increased shearing and, on rare occasions, some minor veining can also be present. A halo lode has been used to estimate grade between the RMV and RMS.

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Criteria	JORC Code explanation	Commentary
		Skinners Lode (SKV) is in the hanging wall of the RMV and presents as a chalky-white vein (as opposed to the laminated grey-white RMV). Pinch-outs are less common, and width is more consistent than the RMV. Skinners Lode truncates against the RMV at its southern extent. The ZZ and ZZ2 are hanging wall lodes comprised of stockwork-style vein arrays which dips shallowly to the west. They are truncated at the east by the RMV and at the west by the SKV. The RMVS lode includes both the Raleigh vein and shear structures where data density is not sufficient to confidently separate the two mineralisation types. This has been extended from Raleigh to Sadler and constitutes much of the Sadler ore body where the RMV has not been delineated from ore development.
	The factors affecting continuity both of grade and geology.	Grade continuity is affected when the percentage of quartz decreases within the main Raleigh structure and only a sheared structure remains. This results in lower grade in areas where only shear is present and higher grade where quartz is evident.
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 strike length of the different ore systems varies from ~100m to 600m, the Raleigh Main Vein and Shear (RMVS) being the most extensive. The individual ore bodies occur in a major regional Zuleika shear system extending over 10s of kilometres. Ore body widths are typically in the range of 0.1 - 1.1m. RMV records the narrowest at 0.1m and SKV the widest at 1.1m. RMV has an average width of 0.3m Mineralisation is known to occur from the base of cover to around 900m below 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.	Raleigh mineralisation zones, except for the Raleigh Main Shear (RMS), used direct grade estimation by Ordinary Kriging. The RMS was estimated using Categorical Indicator Kriging. Typically, full length composites were used, determined from statistical analysis of all sample lengths in the domain dataset. All estimation was completed using Datamine RM software. Details on the estimation by ore lode is summarised below: **RMV** – Estimated as a single domain. Data was top cut to 1,000gpt using the influence limitation approach. Variography was completed on the composited data file, indicating grade continuity plunging moderately to the north. Searches were completed in three passes. Search ranges of 100m in direction 1 (dir1), 75m in direction 2 (dir2) and 50m in direction 3 (dir3) were used. **RMS** – divided into two grade subdomains. Binary estimate completed on composited data set with indicators (0 or 1) applied based on grade cut-off (> 2.5gpt) and quartz vein presence (vein logged in LITH1 field). Estimate returns result between 0 and 1. Cut-off of 0.45 chosen to ascertain two grade subdomains (high grade and low grade) for final gold estimate. Data sets top cut to 150gpt (high grade subdomain) or 50gpt (low grade subdomain) using the influence limitation approach. Same variogram and search parameters used for both high- and low-grade subdomains. Variograms indicate grade continuity plunging moderately to the north. Searches were completed in three passes. Search ranges of 100m in dir1, 80m in dir2 and 40m in dir3 were used. **RMVN** – Divided into two subdomains based on data density. Data was top cut to 500gpt and 100gpt (for high-density and low-density subdomains respectively) using the influence limitation approach. Variography was completed on the composited data file, indicating grade continuity plunging steeply to the north. Searches were completed in three passes. For the high data-density estimate, search ranges of 100m in dir1, 50m in dir2 and 100m in dir3 were used. For the low data-density estimate, search ranges of 190m in dir1, 140m in dir2 and 70m in dir3 were used. Estimation was

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
		completed using a soft boundary between the high and low-density subdomains and between adjacent Raleigh domains (RMV, RMS and RMVS). **RMVS** – Divided into two subdomains based on grade. Data was top cut to 200gpt and 10gpt (for high-grade and low-grade subdomains respectively) using the influence limitation approach. Variography was completed on the composited data file, indicating grade continuity plunging moderately to the south. Searches were completed in three passes. For the high-grade estimate, search ranges of 150m in dir1, 80m in dir2 and 50m in dir3 were used. For the low-grade estimate, search ranges of 250m in dir1, 150m in dir2 and 100m in dir3 were used. Estimation was completed using a soft boundary between the high and low-density subdomains and between adjacent Raleigh domains (RMV, RMS and RMVN). **RMV/RMS Halo** (halo) - Estimated as a single domain. Data was top cut to 10gpt using the influence limitation approach. Variography borrowed from the RMV estimate, as not enough sample pairs were available to construct a coherent variogram. Searches were completed in three passes. Search ranges of 100m in dir1, 75m in dir2 and 50m in dir3 were used. **SKV** – Divided into two subdomains based on grade. Data was top cut to 600gpt and 30gpt (for high-grade and low-grade subdomains respectively) using the influence limitation approach. Variography was completed on the composited data file, indicating grade continuity plunging moderately to the north. Searches were completed in three passes. For the high-grade estimate, search ranges of 100m in dir1, 60m in dir2 and 40m in dir3 were used. For the low-grade estimate, search ranges of 100m in dir1, 50m in dir2 and 30m in dir3 were used. **ZZ** - Estimated as a single domain. Data was top cut to 60gpt using the influence limitation approach. Variography was completed on the composited data file, indicating grade continuity plunging shallowly to the south. Searches were completed in three passes. Search ranges of 30m in dir1, 15m in dir2 and 10m in dir3 were used. **ZZ2** - Estimated as a single domain. Data was top cut to 40gpt using the influence limitation approach. Variography was completed on the composited data file, indicating grade continuity plunging moderately to the north. Searches were completed in three passes. Search ranges of 25m in dir1, 15m in dir2 and 10m in dir3 were used.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource Estimate takes appropriate account of such data.	Check estimates have been completed for all lodes. These include Inverse Distance (ID^3) and Nearest Neighbour (NN) estimates.
	The assumptions made regarding recovery of by-products.	No assumptions are made, and gold is the only metal defined for estimation.
	Estimation of deleterious elements or other non-grade variables of economic significance (e.g., sulphur for acid mine drainage characterisation).	No deleterious elements were estimated in the model.
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	Block sizes varied depending on sample density. In areas of high data-density (underground face samples with average spacing of 3 – 4m) a 5 x 5 x 5m block size was chosen. Low density drill spacing is defined as approximately 30m or greater and a 10 x 10 x 10m block size was chosen. Estimates were completed with soft boundaries between varying block size estimates (unless a geological feature and contact analysis indicated a hard

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
		boundary was required) and added together following individual estimation for final validations. Search ellipse dimensions were derived from the variogram model ranges, or isotropic ranges based on data density where insufficient data was present for variography analysis.
	Any assumptions behind modelling of selective mining units.	Selective mining units were not used during the estimation process.
	Any assumptions about correlation between variables.	All variables were estimated independently of each other. Density has used estimation parameters based on gold.
	Description of how the geological interpretation was used to control the resource estimates.	Hangingwall and footwall wireframe surfaces were created using sectional interpretation. These were used to define the Raleigh mineralised zones based on the geology and gold grade. Raleigh Main Vein (RMV) - Steeply dipping structure with smoky quartz veining evident from drilling and development. Raleigh Main Vein South (RMVS) - Steeply dipping structure with smoky quartz veining and shearing evident from drilling and development. Raleigh Main Vein North (RMVN) - Steeply dipping structure with smoky quartz veining evident from drilling and development. Raleigh Main Shear (RMS) - Steeply dipping shear structure sitting in the footwall of the RMV with occasional quartz vein strings, evident from development. Skinners Vein (SKV) - Steeply dipping structure with chalky-white quartz veining sitting in the hanging wall of the RMV. ZZ/ZZ2 - Low angled narrow stacked quartz veining, sitting between the RMV and SKV, evident from drilling and development in the 5880 level. For mine planning purposes a waste model is created by projecting the hanging wall and footwall surfaces 15m either side. A default grade of 0.1gpt is assigned and the same resource classification as the adjacent ore lode is applied.
	Discussion of basis for using or not using grade cutting or capping.	Top cuts were applied to the composited sample data. Top cuts were selected based on a statistical analysis of the data. Top cuts vary by domain and range from 10gpt to 1,000gpt. The top cut values are applied using technique called influence limitation top cutting. A top cut (AU) and non-top cut (*_NC) variable is created, as well as a spatial variable (*_BC) which only has values where the top cut values appear. For example, where gold requires a top cut, the following variables will be created and estimated: • AU (top cut gold) • AU_NC (non- top-cut gold) • AU_BC (spatial variable; values present where AU data is top cut) The top-cut and non-top cut values are estimated using search ranges based on the modelled gold variogram, and the *_BC values estimated using very small ranges (e.g., 5m x 5m x5m). Where the *_BC values produce estimated blocks within these restricted ranges, the *_NC estimated values replace the original top cut estimated values (AU). A hard top cut is applied instead of/as well in the following situations: • If there are extreme outliers within an ore domain

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
		• If the area has a history of poor reconciliation (i.e., overcalling)
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	Statistical measures of Kriging error, such as Kriging Efficiency and Slope of Regression, are used to assess the quality of the estimation for each domain. Differences in the global grade of the top-cut, declustered composite data set and the average model grade were within 10%, or justification for a difference outside 10% was explicable. Swath plots comparing top-cut, declustered composites to block model grades are created and visual plots are prepared summarising the critical model parameters. Visually, block grades are assessed against drill hole and face data.
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 Estimate has been reported at a 2.11gpt cut off within 2.5m minimum mining width (no dilution applied) MSOs using a $AUD2,250/oz gold price
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.	No mining assumptions have been made during the resource wireframing or estimation process.
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.	Metallurgical test work results show that the mineralisation is amendable to processing through the Kanowna Belle treatment plant. Ore processing throughput and recovery parameters were estimated based on historic performance and potential improvements available using current technologies and practices.
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 green fields project, may not always be well advanced, the status of early consideration of these	A "Licence to Operate" is held by the operation which is issued under the requirement of the "Environmental Protection Act 1986", administered by the Department of Environment (DoE). The licence stipulates environmental conditions for the control of air quality, solid waste management, water quality, and general conditions for operation. Groundwater Licences are held for water abstraction, including production bore field water use for mineral processing, and mine dewatering, in accordance with the Rights in Water and Irrigation Act 1914. These Licences are also regulated by DoE and are renewable on a regular basis. Kanowna Operations conduct extensive environmental monitoring and management programs to ensure compliance with the requirements of the licences and lease conditions. An Environmental Management System is in place to ensure that Northern Star

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
	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.	employees and contractors meet or exceed environmental compliance requirements. The Kalgoorlie operations are fully permitted including groundwater extraction and dewatering, removal of vegetation, mineral processing, and open pits. Kalgoorlie Operations have been compliant with the International Cyanide Management Code since 2008. Compliance with air quality permits at Kanowna because of the roaster operation. Kanowna has a management program in place to minimize the impact of SO_2 on regional air quality and ensure compliance with regulatory limits.
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.	A thorough investigation into average density values for the various lithological units at Raleigh-Sadler was completed and the mean densities by lithology were coded into the database. Where there were no measurements for a specific lithology and default of 2.7 t/m^3 was applied. Density was then estimated by Ordinary Kriging using the associated gold estimation parameters for that domain. Post estimation, default density values for the oxide and transition zones were applied, based on regional averages.
	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.	No/minimal voids are encountered in the ore zones and underground environment.
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	Assumptions on the average bulk density of individual lithologies, based on 2,920 bulk density measurements at Raleigh. Assumptions were also made based on regional averages, on the default densities applied to oxide (1.8 t/m^3) and transitional (2.3 t/m^3) material, due to lack of measurements in these zones.
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.	Classification is based on a series of factors including: • Geologic grade continuity • Density of available drilling • Statistical evaluation of the quality of the kriging estimate • Confidence in historical data, based on the new Data Class system
	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).	All relevant factors have been given due weighting during the classification process.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The resource model methodology is appropriate, and the estimated grades reflect the Competent Persons' view of the deposit.
Audits or reviews	The results of any audits or reviews of Mineral Resource Estimates.	All resource models have been subjected to internal peer reviews.
Discussion of relative	Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource Estimate using an approach or procedure deemed	These Mineral Resource Estimates are considered as robust and representative of the Strzelecki style of mineralisation. The relative

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
accuracy/ confidence	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.	accuracy of the Mineral Resource Estimate is reflected in the reporting of the Mineral Resource as per the guidelines of the 2012 JORC Code.
	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 statement relates to global estimates of tonnes and grade.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	No reconciliation factors are applied to the resource post-modelling.

Section 4: Estimation and Reporting of Ore Reserves
(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	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.	Northern Star 2021MY Resource.
	Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	The Mineral Resources are reported inclusive of the Ore Reserve.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	Site visits have been undertaken by the Competent Person.
	If no site visits have been undertaken indicate why this is the case.	Site visits undertaken.
Study status	The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.	Feasibility Study.
	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.	Upgrade of previous Ore Reserve.

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
Cut-off parameters	The basis of the cut-off grade(s) or quality parameters applied.	Budget costs and physicals form the basis for Cut Off Grade calculations. Mill recovery is calculated based on historical recoveries achieved. Various cut off grades are calculated including a break-even cut-off grade (BCOG), variable cut-off grade (VCOG) and Mill cut-off grade (MCOG). The VCOG is used as the basis for stope design, and then final designs assessed by detailed financial analysis to confirm their profitability.
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 optimisation or by preliminary or detailed design).	Mineral Resource is converted to Ore Reserve after completing a detailed mine design and associated financial assessment.
	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.	Selected mining method deemed appropriate as it has been used at Raleigh since 2005.
	The assumptions made regarding geotechnical parameters (e.g., pit slopes, stope sizes, etc.), grade control and pre-production drilling.	Design parameters include a 22m level spacing with a stope strike length of 15m for dilution control purposes. This correlates to a Hydraulic Radius of 4.5m.
	The major assumptions made, and Mineral Resource model used for pit and stope optimisation (if appropriate).	Not applicable - this table one applies to underground mining only.
	The mining dilution factors used.	Based on historical mine performance, mining dilution of 20% rock plus 10% paste for stoping additional to minimum mining width is applied, as well as 10% dilution for Ore development.
	The mining recovery factors used.	Mining recovery factor of 98% is applied based on historical data.
	Any minimum mining widths used.	A minimum stope width of 3.0m where the vein is less than 2m wide. An additional 1m is applied where the vein width is greater than 2m wide.
	The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.	Designed stopes with greater than 50% inferred blocks are excluded from the reported Reserve.
	The infrastructure requirements of the selected mining methods.	Infrastructure in place, currently an operating mine.
Metallurgical factors or assumptions	The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.	EKJV ore is treated at the Kanowna Belle milling facilities or additional ore to toll treatment facilities as required. The Kanowna Belle Mill is designed to handle approximately 2.0 million tonnes of feed per annum. The plant has the capability to treat both refractory and free milling ores, through either using the flotation circuit and associated concentrate roaster circuit, including carbon-in-leach (CIL) gold recovery, or bypassing the flotation circuit and going directly to a CIL circuit designed to treat flotation tails. The plant campaigns both refractory and free milling ores every month. Between campaigns, the circuit is "cleaned out" using mineralised waste. The plant is made up of crushing, grinding, gravity gold recovery, flotation, roasting, CIL, elution and gold recovery circuits.

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
	Whether the metallurgical process is well-tested technology or novel in nature.	Milling experience gained over plus 10 years operation.
	The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.	Milling experience gained over plus 10 years operation.
	Any assumptions or allowances made for deleterious elements.	No assumption made.
	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.	Milling experience gained over plus 10 years operation.
	For minerals that are defined by a specification, has the ore Reserve estimation been based on the appropriate mineralogy to meet the specifications?	Not applicable.
Environmental	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.	Raleigh is currently compliant with all legal and regulatory requirements. All government permits and Licences and statutory approvals are granted.
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.	All current site infrastructure is suitable to the proposed mining plan.
Costs	The derivation of, or assumptions made, regarding projected capital costs in the study.	Mine development capital cost based on historical performance on site and life-of-mine forward planning. Plant and equipment capital are based on site experience and the LOM plan.
	The methodology used to estimate operating costs.	All overhead costs and operational costs are projected forward on a first principals modelling basis.
	Allowances made for the content of deleterious elements.	No allowances made.
	The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.	Corporate guidance.
	The source of exchange rates used in the study.	Corporate guidance.

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
	Derivation of transportation charges.	Historic performance.
	The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.	Historic performance.
	The allowances made for royalties payable, both Government and private.	All royalties are built into the cost model.
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.	AUD$ 1,750/oz gold.
	The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	Corporate guidance.
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.	It is assumed all gold is sold directly to market at the Corporate gold price guidance of AUD$1,750/oz.
	A customer and competitor analysis along with the identification of likely market windows for the product.	Not Applicable.
	Price and volume forecasts and the basis for these forecasts.	Corporate guidance.
	For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	Not Applicable.
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.	All costs assumptions are made based on historical performance from the mine and current economic forecast seen as representative of current market conditions.
	NPV ranges and sensitivity to variations in the significant assumptions and inputs.	Sensitivities have been used with gold price ranges of AUD$1,500 to AUD$2,000 per ounce.
Social	The status of agreements with key stakeholders and matters leading to social licence to operate.	Agreements are in place and are current with all key stakeholders.
Other	To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:	No Issues.
	Any identified material naturally occurring risks.	No Issues.

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Criteria	JORC Code explanation	Commentary
	The status of material legal agreements and marketing arrangements.	No Issues.
	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.	No Issues.
Classification	The basis for the classification of the Ore Reserves into varying confidence categories.	Ore Reserves classifications are derived from the underlying resource model classifications – i.e., Measure Resource material is converted to either Proved or Probable Reserves, with Indicated Resource material converting to Probable Reserve.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The results accurately reflect the competent persons view of the deposit.
	The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	Nil.
Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.	The Ore Reserve has been internally reviewed in line with Northern Star Resource governance standard for Reserves and Resources. There have been no external reviews of this Ore Reserve estimate.
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.	Confidence in the model and Ore Reserve Estimate is considered high based on current mine and reconciliation performance.
	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.	Estimates are global but will be reasonably accurate on a local scale.
	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	Not applicable.

Criteria	JORC Code explanation	Commentary
	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.	Historical reconciliation of Raleigh Mine production has been used in the generation both the underlying Mineral Resource Estimate and subsequent modifying factors applied to develop an Ore Reserve.

Evolution MINING

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Carbine: JORC Code, 2012 Edition – Table 1 Report

Paradigm: Resources and Reserves – 31 March 2021

Section 1: Sampling Techniques and Data
(Criteria in this section apply to all succeeding sections.)

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td rowspan="3">Sampling techniques</td><td>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.</td><td><table>
<tr><th></th><th colspan="3">Paradigm</th></tr>
<tr><th></th><th># of Holes</th><th>Total m's</th><th># of Samples</th></tr>
<tr><td>DD</td><td>179</td><td>43,932</td><td>44,337</td></tr>
<tr><td>FS</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>RC</td><td>262</td><td>36,258</td><td>33,249</td></tr>
<tr><td>RC_DD</td><td>5</td><td>1,497</td><td>1,550</td></tr>
<tr><td>Total</td><td>446</td><td>81,687</td><td>79,136</td></tr>
</table>
Sampling was completed using a combination of Reverse Circulation (RC) and Diamond (DD) drilling.</td></tr>
<tr><td>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</td><td>RC samples were split using a rig-mounted cone splitter on 1m intervals to obtain a sample for assay.

Diamond core was placed in core trays for logging and sampling. Half core samples were nominated by the geologist from diamond core with a minimum sample width of either 20cm (HQ) or 30cm (NQ2).</td></tr>
<tr><td>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., 'reverse circulation drilling was used to obtain 1m samples from which 3kg was pulverised to produce a 30g 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.</td><td>RC sampling was split using a rig mounted cone splitter to deliver a sample of approximately 3kg.

DD drill core was cut in half using an automated core saw, the mass of material collected will varies on the hole diameter and sampling interval

All samples were delivered to a commercial laboratory where they were dried, crushed to 95% passing 3mm if required, at this point large samples may be split using a rotary splitter, pulverisation to 95% passing 75µm, a 50g charge was selected for fire assay</td></tr>
<tr><td>Drilling techniques</td><td>Drill type (e.g., core, reverse circulation, 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.).</td><td>Both RC and Diamond Drilling techniques were used at the Paradigm project

Diamond drill holes completed pre-2014 were predominantly NQ2 (50.5mm). All resource definition holes completed post 2014 up to 2016 were drilled using HQ (63.5mm) diameter core. Post-2017 drill holes have been predominately HQ from surface with NQ tails.

Core was orientated using the Reflex ACT Core orientation system

RC Drilling was completed using a 5.75” drill bit, downsized to 5.25” at depth.

In limited cases, RC pre-collars were drilled followed by diamond tails. Pre-collar depth was to 180m or less if approaching known mineralization</td></tr>
<tr><td rowspan="2">Drill sample recovery</td><td>Method of recording and assessing core and chip sample recoveries and results assessed.</td><td>Moisture content and sample recovery is recorded for each RC sample.</td></tr>
<tr><td>Measures taken to maximise sample recovery and ensure representative nature of the samples.</td><td>RC drilling contractors adjust their drilling approach to specific conditions to maximise sample recovery. No recovery issues were identified during 2014-</td></tr>
</table>

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
		2017 RC drilling. Recovery was poor at the very beginning of each hole, as is normal for this type of drilling in overburden For diamond drilling, the contractors adjust their rate of drilling and method if recovery issues arise. All recovery is recorded by the drillers on core blocks. This is checked and compared to the measurements of the core by the geological team. Any issues are communicated back to the drilling contractor.
	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 or bias has been identified between grade and sample recovery.
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.	All diamond core is logged for regolith, lithology, veining, alteration, mineralisation and structure. Structural measurements of specific features are also taken through oriented zones. RC sample chips are logged in 1m intervals for the entire length of each hole. Regolith, lithology, alteration, veining and mineralisation are all recorded.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	All logging is quantitative where possible and qualitative elsewhere. A photograph is taken of every core tray.
	The total length and percentage of the relevant intersections logged.	In all instances, the entire drill hole is logged.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	Diamond core is cut using an automated core saw. In most cases, half the core is taken for sampling with the remaining half being stored for later reference.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	All RC samples are split using a rig-mounted cone splitter to collect a 1m sample 3-4kg in size. All samples were intended and assumed to be dry, moisture content was recorded for every sample.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Preparation of NSR samples was conducted at Genalysis and MinAnalytical preparation facilities, commencing with sorting, checking and drying at less than 110°C to prevent sulphide breakdown. Samples are jaw crushed to a nominal -6mm particle size. If the sample is greater than 3kg a Boyd crusher with rotary splitter is used to reduce the sample size to less than 3kg (typically 1.5kg) at a nominal <3mm particle size. The entire crushed sample (if less than 3kg) or sub-sample is then pulverised to 90% passing 75µm, using a Labtechnics LM5 bowl pulveriser. 300g Pulp subsamples are then taken with an aluminium scoop and stored in labelled pulp packets. The sample preparation is considered appropriate for the deposit.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Procedures are utilised to guide the selection of sample material in the field. Standard procedures are used for all process within the laboratory. Grind checks are performed at both the crushing stage (3mm) and pulverising stage (75µm), requiring 90% of material to pass through the relevant size.
	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.	Field duplicates were taken for RC samples on a ratio of 1 in 20. Umpire sampling programs are carried out on an ad-hoc basis.

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
	Whether sample sizes are appropriate to the grain size of the material being sampled.	The sample sizes are considered appropriate for 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.	A 50 gm fire assay charge is used with a lead flux in the furnace. The prill is totally digested by HCl and HNO_3 acids before Atomic Absorption Spectroscopy (AAS) determination for gold analysis.
	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 tools were used to determine any element concentrations
	Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.	Certified reference materials (CRMs) are inserted into the sample sequence randomly at a rate of 1 per 20 samples to ensure correct calibration. Any values outside of 3 standard deviations are re-assayed with a new CRM. Blanks are inserted into the sample sequence at a rate of 1 per 20 samples. The insertion points are selected at random, except where high grade mineralisation is expected. In these cases, a Blank is inserted after the high grade sample to test for contamination. Results greater than 0.2gpt if received are investigated, and re-assayed if appropriate. New pulps are prepared if anomalous results cannot be resolved. Barren flushes are regularly inserted after anticipated high gold grades at the pulverising stage. Field Duplicates are taken for all RC samples and submitted for analysis based on a range of primary assay results skewed towards anomalous gold grades. No Field duplicates are submitted for diamond core. No bias has been established through the use of these procedures.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	All significant intersections are verified by another Northern Star geologist during the drill hole validation process, and later by a Competent person to be signed off
	The use of twinned holes.	No twinned holes were drilled for this data set
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Geological logging is directly entered into an AcQuire database. Assay files are received in *.csv format and loaded directly into the database by the project's responsible geologist with an AcQuire importer object. Hardcopy and electronic copies of these are stored
	Discuss any adjustment to assay data.	No adjustments are made to this assay data.
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	A planned hole is pegged using a Differential GPS by the field assistants. The final collar is picked up after hole completion by Cardno Survey with a Differential GPS in the MGA 94_51 grid. During drilling single-shot surveys are every 30m to ensure the hole remains close to design. This is performed using the Reflex EZ-Trac system which measures the gravitational dip and magnetic azimuth results are uploaded directly from the Reflex software export into the AcQuire database.

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
	Specification of the grid system used.	Collar coordinates are recorded in MGA94 Zone 51
	Quality and adequacy of topographic control.	The Differential GPS returns reliable elevation data which has been confirmed against a high resolution Digital Terrain Model survey performed by Arvista in 2015
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Drill hole spacing across the area varies from approximately 20m to 100m spacing.
	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.	Resource definition drilling spacing was typically 40m x 40m, to allow the resource to be upgraded to indicated. Surrounding exploration drilling can be spaced up to 200m apart.
	Whether sample compositing has been applied.	Sample data is composited before grade estimation is undertaken.
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.	The orientation of the historically mined ore bodies is well known and suggests drilling direction is perpendicular to the orientation of mineralisation. The unexploited ore body has been extensively drilled, confirming a perpendicular drill direction.
	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.	No sampling bias is considered to have been introduced by the drilling orientation
Sample security	The measures taken to ensure sample security.	Prior to laboratory submission samples are stored by Northern Star Resources in a secure yard. Once submitted to the laboratories they are stored in a secure fenced compound, and tracked through their chain of custody and via audit trails
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits have been undertaken for the drill holes at this stage.

Section 2: Reporting of Exploration Results
(Criteria listed in the preceding section also apply to this section.)

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.	All drilling in this report is located within Mining Lease M16/548 which is owned by Kundana Gold Pty Ltd, a wholly owned subsidiary of Northern Star Resources. There are no private royalty agreements applicable to this tenement.
	The security of the tenure held at the time of reporting along with any known	No known impediments exist, and the tenements are in good standing

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
	impediments to obtaining a licence to operate in the area.	
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The Carbine - Paradigm area has been explored since the late 1800s. Numerous companies, including BHP, Newcrest, Centaur Mining, Goldfields Exploration, Placer Dome and Barrick have been active in the area.
Geology	Deposit type, geological setting and style of mineralisation.	The Carbine Paradigm area is considered to be northern extension of the regionally significant Zuleika Shear Zone. The tenements are located in the Norseman-Wiluna Archaean greenstone belt in the Eastern Goldfields province of the Yilgarn Craton, Western Australia. Lithologies at Paradigm consist of a series of feldspathic volcanoclastic wackes intercalated with shales, siltstones and conglomerates and form part of the Black Flag Group. Gold mineralisation in the Zuleika Shear Zone and adjacent greenstone sequences occurs in all rock types, although historical and recent production is dominated by two predominant styles: • Brittle D2 faults with laminated (multiple crack-seal) quartz veining containing gold and trace base metal sulphides (galena, sphalerite, chalcopyrite, scheelite), • Brittle quartz vein stockworks developed within granophyric gabbro within the Powder Sill At the Paradigm deposit, gold is hosted in veins and disseminated sulphides associated with shearing along the large scale Lincancunbur fault and adjacent fine-grained stratigraphic horizons
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: • easting and northing of the drill hole collar • elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar • dip and azimuth of the hole • down hole length and interception depth • hole length.	A summary of the data present in the Paradigm deposit can be found above. The collar locations are presented in plots contained in the NSR 2020 resource report. Drillholes vary in survey dip from -8 to -90 degrees, with hole depths ranging from 44m to 727m, with an average depth of 168m. The assay data acquired from these holes are described in the NSR 2021 resource report. All validated drill hole data was used directly or indirectly for the preparation of the resource estimates described in the resource report.
	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.	Exclusion of the drill information will not detract from the understanding of the report.
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.	All reported assay results have been length weighted to provide an intersection width. A maximum of 2m of barren material between mineralised samples has been permitted in the calculation of these widths. Typically grades over 1.0gpt are considered significant, however, where low grades are intersected in areas of known mineralisation these will be reported. No top-cutting is applied when reporting intersection results.
	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	Where an intersection incorporates short lengths of high grade results these intersections will be reported in addition to the aggregate value. These will typically take the form of ##.#m @ ##.##gpt including ##.#m @ ##.##gpt.

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
	examples of such aggregations should be shown in detail.	
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values have been used for the reporting of these exploration results
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results:	True widths have been calculated for intersections of the known ore zones, based on existing knowledge of the nature of these structures.
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	Both the downhole width and true width have been clearly specified when used.
	If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').	Not applicable
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 drill hole collar locations and appropriate sectional views.	Appropriate plans and section have been included in the body of this release.
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.	Both high and low grades have been reported accurately, clearly identified with the drillhole attributes and 'From' and 'To' depths.
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 other material exploration data has been collected for this area.
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).	A small drill campaign will be completed to target high-risk areas prior to any commencement of open pit operations. Drilling targeting a potential Underground resource will continue in coming years.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Appropriate diagrams accompany this release.

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Section 3: Estimation and Reporting of Mineral Resources
(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

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.	Northern Star personnel have validated the database during the interpretation of the mineralisation with any drill holes containing dubious data excluded from the Mineral Resource Estimate.
	Data validation procedures used.	Data validation processes are in place and run upon import into the database.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	The Competent Person has visited the Paradigm model area.
	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.	The geological interpretation is considered robust due to the nature of the mineralisation and that portions of the deposit have been developed along and mined. The interpretation was completed using sectional interpretation strings in Datamine RM software.
	Nature of the data used and of any assumptions made.	Diamond drill core lithology, structure, alteration and mineralisation logs have been used to generate the mineralisation model. The primary assumption is that the mineralisation is hosted within structurally controlled quartz veins, which is considered robust.
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	Although Paradigm is a structurally complex gold system, a majority of the economic mineralisation is hosted in the Arina Core and Supergene lodes. Both of these lodes have a reasonable density of drilling, with logged lithology, structural measurements and the broader structural model being used for the current interpretation. These lodes are interpreted at a moderate to high confidence and have had Resource Classifications applied based on this confidence. With any structurally complex system, however, an alternative interpretation cannot be completely discounted.
	The use of geology in guiding and controlling Mineral Resource estimation.	The mineralisation interpretation is based on a combination of logged quartz percentage, structure and assays.
	The factors affecting continuity both of grade and geology.	The structure is considered to be continuous over the length of the deposit with either quartz or the controlling structure used to guide the interpretation. Grade between drillholes can be inconsistent and as a result, an estimation methodology has been chosen to best represent this lack of continuity (non-linear approach).
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 Paradigm deposit extends 800m along strike and 600m down-dip. Paradigm consists of a Supergene lode, Arina, Natasha and Mishka lodes and various smaller-scale hanging- and footwall lodes.
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	Grade estimation of gold has been completed using Datamine Studio RM software. Geostatistical analysis and variography were completed using Snowden's Supervisor v9 software.

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
	distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.	Each ore lode interpretation is considered as being a separate estimation domain. All estimations use hard domain boundaries. Grade estimations for gold used Categorical Indicator Kriging (with Ordinary Kriging used to estimate both probability and grade), unless otherwise stated. Estimations use 1m composites with top-cutting applied to gold outlier values. Histograms, log probability plots, mean and variance plots and change in CV of the 1m composites were used to determine top-cut values on a domain by domain basis. A multiple-pass estimation strategy was applied for estimations. The search distance for each lode is calculated at calculated at ~66% of the variogram range. Minimum and maximum samples are generally 8 and 14, however each ore lode is optimised individually which may result in a different minimum and maximum selected.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource Estimate takes appropriate account of such data.	Comparison estimations were carried out by Inverse Distance Squared and Nearest Neighbour methods for each model domain alongside the Ordinary Kriged estimates. The final Ordinary Kriged estimates are compared to the previous model estimates.
	The assumptions made regarding recovery of by-products.	No assumptions have been made regarding recovery of any 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 considered and therefore estimated for this deposit.
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	A 10m x 10m x 10m block size has been used for all lodes. Search distances are based on the variogram for the respective lodes, with a value 66% of the variogram range used for most of the lodes. Where this value was not suitable, it has been adjusted to a more appropriate values.
	Any assumptions behind modelling of selective mining units.	No selective mining units are assumed in this estimate.
	Any assumptions about correlation between variables.	No other elements other than gold have been estimated.
	Description of how the geological interpretation was used to control the resource estimates.	The ore wireframes were created using sectional interpretation in Datamine RM software. Tag strings and additional interpretation points were used to control ore body volume and orientation. Data has been selected using the Datamine SELWF command, which selects samples inside of a solid. Intersections used in the estimate have been validated to ensure they agree spatially with the interpretation and encompass all the drillholes to be used in the estimate.
	Discussion of basis for using or not using grade cutting or capping.	Top-cuts were applied to the composited sample data. Top cuts were selected based on a statistical analysis of the data to not impact the mean by more than 5% and reduce the coefficient of variation to around 1.2 and vary by domain. The top cut values are applied in several steps using influence limitation top capping. A top cut (AU) and non-top cut (*_NC) variable is created, as well as a spatial variable (*_BC) which only has values where the top cut values appear; this applies to both gold and true thickness (TT) top cutting. For example, where gold requires a top cut, the following variables will be created and estimated: • AU (top cut gold) • AU_NC (non- top-cut gold) • AU_BC (spatial variable; values present where AU data is top cut)

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Criteria	JORC Code explanation	Commentary
		The top cut and non top cut values are estimated using search ranges based on the modelled gold variogram and the *_BC values estimated using very small ranges (e.g., 7 x 7 x 7m). Where the *_BC values produce estimated blocks within these restricted ranges, the *_NC estimated values replace the original top cut estimated values (AU). A hard topcut is applied instead of/as well in the following situations: • If there are extreme outliers within an ore domain (i.e., coefficient of variation greater than 1.9) • If the area has a history of poor reconciliation
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	After compositing and top-cutting, a series of length and metal checks are completed to ensure the total length of the sample file is maintained and the metal loss due to top-cutting can be quantified. Statistics are generated and analysed using Snowden Supervisor software for the raw, composited, and top-cut and composited drill hole files to ensure the nature of the population has not been adversely affected by these processes. Statistical measures of Kriging error, such as Kriging Efficiency and Slope of Regression, are used to assess the quality of the estimation for each domain. Differences between the declustered composite data set and the average model grade must be within 10%. Swath plots comparing declustered composites to block model grades are prepared and visual checks summarising the critical model parameters. Visually, block grades are assessed against drill hole and face data.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	The tonnes have been estimated on a dry basis.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	Paradigm has Open Pit and Underground Mineral Resources reported. The Open Pit Paradigm Mineral Resource is reported above the $AUD2,250/oz optimised pit shell at a 0.65gpt cut off within 2.5m minimum mining width (excluding dilution) MSOs. The Underground Paradigm Mineral Resource is reported below the $AUD2,250/oz optimised pit shell at a 1.63gpt cut off within 2.5m minimum mining width (excluding dilution) MSOs.
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.	Minimum mining width has been considered when reporting both the Open Pit and Underground Mineral Resources. For the Underground Resource, a SMU of 10m (along strike) and 5m (across strike) has been used in addition to the minimum width described above. For the Open Pit Resource, a SMU of 2.5m (along strike) and 2.5m (across strike) has been used in addition to the minimum width described above. For both Open Pit and Underground Resources, no dilution or ore loss factors have been applied.

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
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.	No metallurgical or recovery assumptions have been made during the Mineral Resource Estimate.
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 green fields 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.	No environmental assumptions have been made during the Mineral Resource Estimate.
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.	A thorough investigation into average density values for the various lithological units at Paradigm was completed and the mean densities by lithology were coded into the database. Where there were no measurements for a specific lithology and default of 2.8 t/m^3 was applied. Density was then estimated by Ordinary Kriging using the associated gold estimation parameters for that domain. Post estimation, default density values for the oxide (1.8 t/m^3) and transitional (2.1 t/m^3) zones were applied, based on regional averages.
	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.	No information has been provided on the number of measurements or method used to obtain these values.
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.	Classification is based on a series of factors including: • Grade continuity • Geological confidence • Density of available drilling • Statistical evaluation of the quality of the kriging estimate • Confidence in historical data • The presence of face channel data • DataClass of the drillholes
	Whether appropriate account has been taken of all relevant factors (i.e., relative confidence in tonnage/grade estimations, reliability of input data, confidence in	The classification considers the relative contributions of geological and data quality and confidence, as well as grade confidence and continuity.

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
	continuity of geology and metal values, quality, quantity and distribution of the data).	
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The resource model methodology is appropriate and reflects the Competent Persons' view of the deposit.
Audits or reviews	The results of any audits or reviews of Mineral Resource Estimates.	All resource models have been subjected to internal peer reviews.
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 relative accuracy of the Mineral Resource Estimate is reflected in the reporting of the Mineral Resource as per the guidelines of the 2012 JORC code
	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 statement relates to global estimates of tonnes and grade.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	Historic production records are incomplete, so no comparison or reconciliation has been made.

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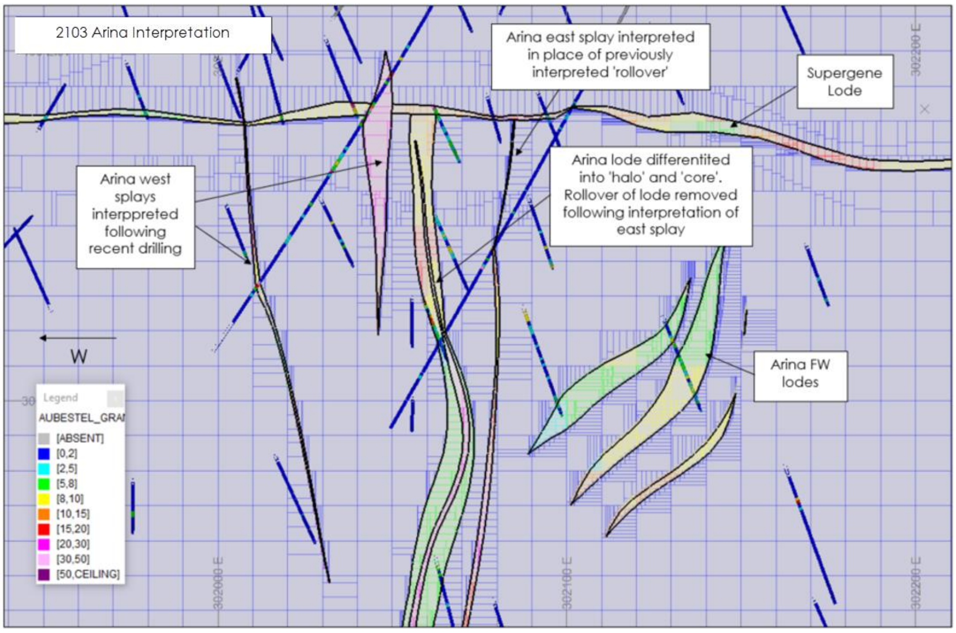
ARINA LODES

Cross-section view at 6,627,090m N showing the updated Arina core, halo and splay interpretations.



Section 4: Estimation and Reporting of Ore Reserves
(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	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.	Northern Star 2021 Resource.
	Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	The Mineral Resources are reported inclusive of the Ore Reserve.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	Site visits have been undertaken by the competent person.
	If no site visits have been undertaken indicate why this is the case.	Site visits undertaken.
Study status	The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.	A minimum Pre-Feasibility level study is completed prior to converting an ore zone into ore Reserve.
	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	Ore Reserves have been calculated by generating detailed mining shapes for the proposed Paradigm open pit cutback. A series of nested optimised pit shells were generated using Whittle software, an analysis of the shells

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
	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.	was completed to select one which was then used to complete a detailed pit design to closely resemble the selected whittle shell. The Whittle optimisation used parameters generated from NSR technical personnel and technical consultants. A detailed mine schedule and cost model has been generated and appropriate ore dilution and recoveries have been applied within the model.
Cut-off parameters	The basis of the cut-off grade(s) or quality parameters applied.	The pit cut-off grade has been calculated based on the key input components (processing, recovery, and administration) Forward looking forecast costs and physicals form the basis of the cut-off grade calculations. The AUD gold price as per corporate guidance. Mill recovery factors are based on historical data and metallurgical test work. Variable treatment costs to open pit mining for processing is a fundamental premise in the evaluation of open pit projects. Variable cut-off grade is used in the evaluation of open pit projects.
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 optimisation or by preliminary or detailed design).	Mineral Resource is converted to Ore Reserve after completing a detailed mine design complete with a detailed financial assessment. The Mineral Resource block model is used. Ore Reserves have been calculated by generating detailed mining shapes for the proposed open pit. All open pit mining shapes include planned and unplanned dilution, being waste material that is located within the minable shape. Open pit unplanned dilution has been modelled within the mining shapes as a skin of material likely to be taken additional to material considered to be the smallest mining unit (SMU). This method is considered to be appropriate given the expected ground conditions, orebody width and proposed mining style.
	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 selected mining method for the Paradigm deposit is a bench mining open pit method. The proposed open pit would be mined using conventional open pit mining methods (drill, blast, load and haul) by a mining contractor utilising 120 t class excavators and 90t trucks. This method is used widely in mines across Western Australia and is deemed appropriate given the nature of the ore body.
	The assumptions made regarding geotechnical parameters (e.g., pit slopes, stope sizes, etc.), grade control and pre-production drilling.	Independent Geotechnical Consultants Dempers & Seymour Pty Ltd completed a geotechnical study for the Paradigm project. Recommended wall angles were applied to the Whittle optimisation and subsequent detailed pit designs.
	The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).	
	The mining dilution factors used.	Physicals are reported within the generated mining shapes for the open pit Ore Reserve. SMU shapes have been generated for the reporting of Ore Reserve physicals. Dilution accounted for within the SMU is 12%; that is waste material carried within the mining shape.

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Criteria	JORC Code explanation	Commentary
	The mining recovery factors used.	No recovery factors were applied for the reporting of Open pit Reserve physicals. Mining recovery is considered to be 100% of the SMU.
	Any minimum mining widths used.	The minimum minable selective mining unit (SMU) dimensions for the Open pit Reserve Estimate are 3.5m Wide x 2.5m High x 4.0m Long. A minimum mining width down to 20m for final pit extraction from the base of pit has been used.
	The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.	Inferred material has not been included within the Open pit Ore Reserve estimate (treated as waste) but has been considered in LOM planning. The amount of inferred material has no impact on the sensitivity of the project.
	The infrastructure requirements of the selected mining methods.	Infrastructure required for the proposed Paradigm Project has been accounted for and included in all work leading to the generation of the Ore Reserve estimate. Ore from the Paradigm Project will be processed through the Kanowna Belle Gold Mine Processing Plant at the Kanowna Belle operation; hence no processing infrastructure is required. The Paradigm Project is connected by internal private haul roads to Kanowna Belle. Required infrastructure will be established at Paradigm and will include Offices, workshops and associated facilities, dewatering pipeline, Waste Rock Storage Dump; and ROM Pad.
Metallurgical factors or assumptions	The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.	The Kanowna Belle plant is made up of crushing, grinding, gravity gold recovery, flotation, roasting, CIL, elution and gold recovery circuits. The Kanowna Belle Mill is designed to handle approximately 2.0m illion tonnes of feed per annum. The plant has the capability to treat both refractory and free milling ores, through either using the flotation circuit and associated concentrate roaster circuit, including carbon-in-leach (CIL) gold recovery, or bypassing the flotation circuit and going directly to a CIL circuit designed to treat flotation tails. The plant campaigns both refractory and free milling ores every month. Between campaigns, the circuit is "cleaned out" using mineralised waste. The plant is made up of crushing, grinding, gravity gold recovery, flotation, roasting, CIL, elution and gold recovery circuits. Ore Reserves are calculated using processing plant recovery factors that are based on test work and historical performance.
	Whether the metallurgical process is well-tested technology or novel in nature.	Well tested, standard CIL extraction process utilising the existing Kanowna Belle processing facility.
	The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.	Based on metallurgical test work carried out and milling experience gained through processing similar ore material through the Kanowna Belle processing facility. The metallurgical recoveries for the project were set at 93% for oxide, 93% for transitional, 93% for fresh rock.
	Any assumptions or allowances made for deleterious elements.	Metallurgical test work carried out indicates no deleterious elements. No assumption made.

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Criteria	JORC Code explanation	Commentary
	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.	Based on metallurgical test work carried out and milling experience gained through processing similar material through the Kanowna Belle processing facility.
	For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?	Not applicable.
Environmental	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.	All ore from the Paradigm Project will be trucked to the Kanowna Belle Processing Plant for processing. The Kanowna Belle Mine is operated subject to the requirements of the Western Australian Mining Act 1978 and the Mines (Safety) Act, regulated by the Department of Mines, Industry Regulation and Safety. The Mining Leases covering the Kanowna Belle operation stipulate environmental conditions for operation, rehabilitation and reporting. A “Licence to Operate” is held by the operation which is issued under the requirements of the “Environmental Protection Act 1986”. The Paradigm Project has been granted a dewatering licence from DWER for mining tenement M16/548. Licence number L9099/2017/1. Paradigm has been issued groundwater licence GWL 104053(8) for 1,500,000kl. Dempers and Seymour Geotechnical Consultants completed a comprehensive geotechnical study for recommended wall angles and regulatory approval. There are no native title issues. Heritage surveys have been completed for the Paradigm Project. There are no heritage sites identified that impact on the pit or associated infrastructure. The heritage surveys conducted were to full clearance for mining. Flora & Fauna and hydrogeological studies have been completed. Waste rock geochemical studies have been completed. Soil characteristics studies have been completed. The Mining Proposal and Mine Closure Plan (reg ID 77054) for the Paradigm project has been approved by DMIRS.
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.	The Paradigm Project is located 67km north west of Kanowna Belle. Paradigm is connected to the Kanowna Belle Processing Plant via internal private haul roads. All haul roads are on secured Northern Star tenure. Infrastructure to support mining will be established at Paradigm. Access to Paradigm and the Kanowna Belle operation is provided by well-maintained public and private roads. Employees reside in Kalgoorlie and commute to site daily.
Costs	The derivation of, or assumptions made, regarding projected capital costs in the study.	Mining costs based on mining contract rates supplied by a reputable WA based mining contractor. Mining costs were built up from first principals on mine designs supplied by NSR.

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
		Capital costs were not included in the optimised parameter inputs. Capital costs based on quotes supplied and have been included in the Paradigm economic cost model.
	The methodology used to estimate operating costs.	The estimation of Open pit mine operating costs was based on a contractor mining and maintenance operation using first principles to determine equipment productivities and associated operating hours to generate mine schedules. Provided contract pricing were than applied to the schedule to calculate all unit costs.
	Allowances made for the content of deleterious elements.	No allowances made, none expected.
	The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.	Single commodity pricing for gold only, using gold price of AUD $1,750 per ounce as per corporate guidance.
	The source of exchange rates used in the study.	Corporate guidance.
	Derivation of transportation charges.	Transportation costs for ore haulage from Paradigm to Kanowna Belle are based on current NSR contractor schedule of rates. Transportation costs also include an allowance for adequate haul road maintenance and dust suppression.
	The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.	Historic performance.
	The allowances made for royalties payable, both Government and private.	WA State Government royalty of 2.5%.
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.	All financial analysis and gold price have been expressed in Australian dollars and no direct exchange rates have been applied. Revenue factors within the whittle optimisation process were used. A revenue factor shell was selected and used to complete a detailed pit design. A gold price of AUD $1,750 per ounce has been used in the optimisation of the Paradigm Project.
	The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	Corporate guidance.
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.	It is assumed all gold is sold directly to market at the Corporate gold price guidance of AUD$1,750/oz.
	A customer and competitor analysis along with the identification of likely market windows for the product.	Not applicable.
	Price and volume forecasts and the basis for these forecasts.	Corporate guidance.

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
	For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	Not applicable.
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.	The Ore Reserve estimate is based on a financial model for that has been prepared at a "pre-feasibility study" level of accuracy economic modelling. All inputs from mining operations, processing, transportation and sustaining capital as well as contingencies have been scheduled and evaluated to generate a full life of mine cost model. Economic inputs have been sourced from suppliers or generated from database information relating to the relevant area of discipline. A discount rate of 6.2% has been applied. The NPV of the project is positive at the assumed commodity prices.
	NPV ranges and sensitivity to variations in the significant assumptions and inputs.	Sensitivities were conducted on metal price fluctuations of A$1,750 ± $250 per ounce.
Social	The status of agreements with key stakeholders and matters leading to social licence to operate.	Agreements are in place and are current with all key stakeholders.
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 Issues.
	The status of material legal agreements and marketing arrangements.	No Issues.
	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.	No Issues.
Classification	The basis for the classification of the Ore Reserves into varying confidence categories.	Classifications of Measured, Indicated and Inferred have been assigned based on the mineral Resource classifications within the underlying Resource model.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The results accurately reflect the Competent Persons view of the deposit.

Criteria	JORC Code explanation	Commentary
	The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	Nil.
Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.	The Reserve has been internally reviewed in line with Northern Star Resources governance standard for Reserves and Resources. There have been no external reviews of this Ore Reserve estimate.
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.	The design, schedule and financial model on which the Ore Reserve is based has been completed to a "pre-feasibility study" standard, with a corresponding level of confidence.
	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.	Estimates are global but will be reasonable accurate on a local scale.
	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.	Not applicable.
	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.	Not applicable.

JORC Code, 2012 Edition – Table 1 Report

Carbine-Phantom – 31 March 2021

Section 1: Sampling Techniques and Data

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

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td rowspan="3">Sampling techniques</td><td>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.</td><td>Sampling was completed using a combination of Reverse Circulation (RC), Rotary Air Blast (RAB) and Diamond (DD) drilling. RAB drilling was excluded in resource estimation work. The database is predominantly historic (pre NSR 2014) drilling and had been validated where possible.

The database compiled by NSR for resource estimation contains the following drill quantities per ore lode and screen captures at the end of the table display the data density in plan-view:

<table>
<tr><th></th><th colspan="3">Carbine</th></tr>
<tr><th></th><th># of Holes</th><th>Total m's</th><th># of Samples</th></tr>
<tr><td>DD</td><td>12</td><td>3,516</td><td>3,372</td></tr>
<tr><td>RC</td><td>184</td><td>25,347</td><td>19,319</td></tr>
<tr><td>RC_DD</td><td>5</td><td>1,649</td><td>1,941</td></tr>
<tr><td>Total</td><td>201</td><td>30,512</td><td>24,632</td></tr>
</table>
</td></tr>
<tr><td>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</td><td>RC samples were split using a rig-mounted cone splitter on 1m intervals to obtain a sample for assay.

RC drill holes completed pre-2014 were split using a rig-mounted cone splitter in 1m intervals. Samples were composited to 2m or 4m intervals for assay. Elevated Au values were re-split into 1m intervals.

Diamond core was placed in core trays for logging and sampling. Half core samples were nominated by the geologist from diamond core with a minimum sample width of either 20cm (HQ) or 30cm (NQ2).</td></tr>
<tr><td>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., ‘reverse circulation drilling was used to obtain 1m samples from which 3kg was pulverised to produce a 30g 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.</td><td>RC sampling was split using a rig mounted cone splitter to deliver a sample of approximately 3kg.

DD drill core was cut in half using an automated core saw, the mass of material collected varies on the hole diameter and sampling interval

All samples were delivered to a commercial laboratory where they were dried, crushed to 95% passing 3mm if required, at this point large samples may be split using a rotary splitter, pulverisation to 95% passing 75µm, a 50g charge was selected for fire assay.</td></tr>
<tr><td>Drilling techniques</td><td>Drill type (e.g., core, reverse circulation, 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.).</td><td>Both RC and Diamond Drilling techniques were used at the Carbine-Phantom project.

Diamond drill holes completed pre-2014 were predominantly NQ2 (50.5mm). All resource definition holes completed post 2014 were drilled using HQ (63.5mm) diameter core.

Core was orientated using the Reflex ACT Core orientation system.

RC Drilling was completed using a 5.5” drill bit.

In limited cases RC pre-collars were drilled followed by diamond tails. Pre-collar depth was to 160m or less if approaching known mineralization.</td></tr>
<tr><td>Drill sample recovery</td><td>Method of recording and assessing core and chip sample recoveries and results assessed.</td><td>Moisture content and sample recovery is recorded for each RC sample. Sample recovery is recorded for DD sampling.</td></tr>
</table>

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	RC drilling contractors adjust their drilling approach to specific conditions to maximise sample recovery. No recovery issues were identified during 2014 - 2020 RC drilling. Recovery was poor at the very beginning of each hole, as is normal for this type of drilling in overburden. For diamond drilling, the contractors adjust their rate of drilling and method if recovery issues arise. All recovery is recorded by the drillers on core blocks. This is checked and compared to the measurements of the core by the geological team. Any issues are communicated back to the drilling contractor.
	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 or bias has identified between grade and sample recovery. Average recovery for DD from 2014 – 2018 is 95.3% and average recovery for RC from 2014 to present is 96%. Sample loss in diamond core occurred predominantly in the saprolite profile.
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.	All diamond core is logged for regolith, lithology, veining, alteration, mineralisation and structure. Structural measurements of specific features are also taken through oriented zones. RC sample chips are logged in 1m intervals for the entire length of each hole. Regolith, lithology, alteration, veining and mineralisation are all recorded. All logging codes for regolith, lithology, veining, alteration, mineralisation and structure is entered into the AcQuire database using suitable pre-set dropdown codes to remove the likelihood of human error.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	All logging is primarily qualitative. A wet and dry photograph is taken of every core tray.
	The total length and percentage of the relevant intersections logged.	In all instances, the entire drill hole is logged.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	Diamond core is cut using an automated core saw. In most cases, half the core is taken for sampling with the remaining half being stored for later reference. Full core sampling is taken where data density of half core stored is sufficient for auditing purposes.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	All RC samples are split using a rig-mounted cone splitter to collect a 1m sample weighing 3-4kg. All samples were intended and assumed to be dry and moisture content was recorded for every sample.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Preparation of NSR samples was conducted primarily at Genalysis Kalgoorlie preparation facilities, commencing with sorting, checking and drying at less than 110°C to prevent sulphide breakdown. Samples are jaw crushed to a nominal -6mm particle size. If the sample is greater than 3kg a Boyd crusher with rotary splitter is used to reduce the sample size to less than 3kg (typically 1.5g) at a nominal <3mm particle size. The entire crushed sample (if less than 3kg) or sub-sample is then pulverised to 90% passing 75µm, using a Labtechnics LM5 bowl pulveriser. 300g pulp sub samples are then taken with an aluminium scoop and stored in labelled pulp packets. Occasional samples were sent to MinAnalytical for Screen Fire Assay

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Procedures are utilised to guide the selection of sample material in the field. Standard procedures are used for all processes within the laboratory. Grind checks are performed at both the crushing stage (3mm) and pulverising stage (75µm), requiring 90% of material to pass through the relevant size.
	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.	Field duplicates were taken for RC samples on a ratio of 1 in 20. Umpire sampling programs are carried out on an ad-hoc basis. A duplicate repeatability issue has been identified and a deportment study has been recommended.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	No recent test work had been conducted for the Carbine project area.
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.	A 50g fire assay charge is used with a lead flux in the furnace. The prill is totally digested by HCl and HNO_3 acids before Atomic Absorption Spectroscopy (AAS) determination for gold analysis.
	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 tools were used to determine any element concentrations.
	Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.	Certified reference materials (CRMs) are inserted into the sample sequence at a rate of 1 per 20 samples to ensure correct calibration. Any values outside of 3 standard deviations are re-assayed with a new CRM. Blanks are inserted into the sample sequence at a rate of 1 per 20 samples. The insertion points are selected at random, except where high grade mineralisation is expected. In these cases, a Blank is inserted after the high-grade sample to test for contamination. Results greater than 0.2gpt if received are investigated and re-assayed if appropriate. New pulps are prepared if anomalous results cannot be resolved. Barren flushes are regularly inserted after anticipated high gold grades at the pulverising stage. Field Duplicates are taken at a ratio of 1 per 20 holes and submitted for analysis based on a range of primary assay results skewed towards anomalous gold grades. No Field duplicates are submitted for diamond core. Pulp duplicates are taken at a ratio of 1 per 20 samples. No bias has been established through the use of these procedures. 2 Independent laboratory checks of MinAnalytical and Genalysis have been completed in the last year. Laboratory performance was monitored using the results from the QA samples mentioned above. This was supplemented by the internal QA samples used by the laboratories, which included pulp duplicates and CRMs. The QA studies indicate that accuracy is within industry accepted limits, but precision will be investigated further via a deportment study.

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	All significant intersections are verified by another Northern Star geologist during the drill hole validation process, and later by a Competent Person to be signed off.
	The use of twinned holes.	Twinned holes have not been drilled to test the historic data validity to date.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Geological logging is directly entered into an AcQuire database. Assay files are received in *.csv format and loaded directly into the database by the Project's responsible geologist with an AcQuire importer object. Hardcopy and un-editable electronic copies of these are stored.
	Discuss any adjustment to assay data.	No adjustments are made to this assay data.
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	A planned hole is pegged using a Differential GPS by the field assistants. The final collar is picked up after hole completion by a trained field assistant with a Differential GPS in the MGA 94_51 grid. During drilling single-shot surveys are conducted every 30m to ensure the hole remains close to design. This is performed using the Reflex EZ-Trac system which measures the gravitational dip and magnetic azimuth results are uploaded directly from the Reflex software export into the AcQuire database. At the completion of diamond drilling in 2018, the Reflex Sprint IQ system continuous survey instrument was completed and reported in 3m intervals. ABIM Solutions completed North Seeking Gyroscope Surveys reported in 5m intervals in 2016. No continuous survey records were found for 2014 drilling.
	Specification of the grid system used.	Collar coordinates are recorded in MGA94 Zone 51.
	Quality and adequacy of topographic control.	The Differential GPS returns reliable elevation data which has been confirmed against a high-resolution Digital Terrain Model survey performed by Aerometrex in 2019.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Drill hole spacing across the area varies from approximately 20m to 100m spacing.
	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.	Historic resource definition drill spacing was typically 20m x 20m through the Carbine and Phantom Pits. 53 drill holes have been completed by NSR across the Carbine area from 2014-2018 covering 2.2km of strike. The spatial distribution of recent drilling could not be used to validate all the historic drilling. As a result, the majority of the estimate is Unclassified, with some areas containing NSR drilling resulting in an inferred classification. Surrounding exploration drilling is sparse (500m – 1000m apart).
	Whether sample compositing has been applied.	4m or 2m RC composites have been used for initial Resource targeting pre-2000. 1m RC splits were collected and sent to the laboratory dependent on composite results. The dataset contains 4m composites that carry grade. It is unknown if 1m resplits were assayed at the time, and the resplit assay data lost as a result of database migrations through different Companies. From 2015, NSR sampled entire holes using 1m RC splits in the Carbine project area.
Orientation of data in	Whether the orientation of sampling achieves unbiased sampling of possible	The orientation of the historically mined ore bodies (Carbine and Phantom via both open pit and historic underground mining at Carbine) is well known

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
relation to geological structure	structures and the extent to which this is known, considering the deposit type.	and suggests the drilling direction undertaken by NSR was perpendicular to the orientation of mineralisation for the Carbine-Phantom Main Lodes.
	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.	No sampling bias is considered to have been introduced by the drilling orientation. Drillholes which are considered too oblique have been flagged as unsuitable for resource estimation.
Sample security	The measures taken to ensure sample security.	Prior to laboratory submission samples are stored by Northern Star Resources in a secure yard. Once submitted to the laboratories they are stored in a secure fenced compound, tracked through their chain of custody and via audit trails.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits have been undertaken of the data and sampling practices at this stage.

Section 2: Reporting of Exploration Results
(Criteria listed in the preceding section also apply to this section.)

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.	All drilling in this report is located within Mining Lease M16/548 which is owned by Northern Star Pty Ltd, a wholly owned subsidiary of Northern Star Resources. There are no private royalty agreements applicable to this tenement.
	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.	No known impediments exist and the tenements are in good standing.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The Carbine - Paradigm area has been explored since the late 1800s. Numerous companies, including BHP, Newcrest, Centaur Mining, Goldfields Exploration, Placer Dome and Barrick have been active in the area.
Geology	Deposit type, geological setting and style of mineralisation.	The Carbine-Phantom model area is considered the northern extension of the regionally significant Zuleika Shear Zone. The tenements are in the Norseman-Wiluna Archaean greenstone belt in the Eastern Goldfields province of the Yilgarn Craton, Western Australia. Gold mineralisation in the Zuleika Shear Zone and adjacent greenstone sequences occurs in all rock types, although historical and recent production is dominated by two predominant styles: • Brittle D2 faults with laminated (multiple crack-seal) quartz veining containing gold and trace base metal sulphides (galena, sphalerite, chalcopyrite, scheelite), • Brittle quartz vein stockworks developed within granophyric gabbro within the Powder Sill At the Carbine-Phantom deposit, there are multiple mineralisation events associated with the Carbine Thrust, which are poorly understood: • Gold is hosted in quartz veins with moderate sericite-albite alteration and disseminated sulphides

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

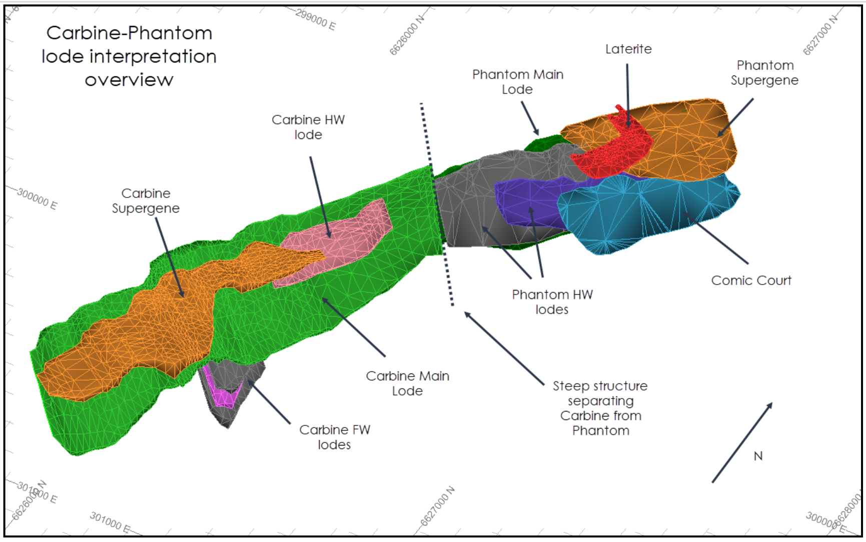
Criteria	JORC Code explanation	Commentary
		• Gold is hosted in thin quartz veinlets with disseminated arsenopyrite in sediments • Gold is hosted in quartz vein stockworks in sediments Gold mineralisation observed is predominately coarse in nature. Gold mineralisation may occur in multiple orientations. Sparse diamond drilling throughout the project area limits the amount of structural data available for interpretation. A geology model of the Carbine-Phantom area was created in 2019 using multi-element, logging and limited structural data. This included defining key lithological boundaries and a large scale local deformation. This has aided the interpretation of the Carbine-Phantom Main Lodes.
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: • easting and northing of the drill hole collar • elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar • dip and azimuth of the hole • down hole length and interception depth • hole length.	A summary of the holes made available for resource estimation is included above. The collar locations are presented in plots contained in the NSR 2020 resource report. Drillholes vary in survey dip from -40 to -90, with hole depths ranging from 6m to 600m and having an average depth of 110m. The assay data acquired from these holes are described in the NSR 2020 resource report. All of the drill hole data were used directly or indirectly for the preparation of the resource estimates described in the resource report. The Carbine-Phantom resource is based predominantly on historic validated drilling with the addition of recent drilling to validate, infill and extend. The Carbine-Phantom resource contains 86% historic drilling pre-2000s (1992-1999), 2% historic drilling (2000-2012) and 11% recent NSR drilling (2014-2020).
	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.	The exclusion of information is not material.
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.	All reported assay results have been length weighted to provide an intersection width. A maximum of 1m of internal dilution (considered < 0.5gpt) between mineralised samples has been permitted in the calculation of these widths. Typically grades over 1.0gpt are considered significant, however, where low grades are intersected in areas of known mineralisation these will be reported. No top-cutting is applied when reporting intersection results.
	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.	Where an intersection incorporates short lengths of high grade results these intersections will be reported in addition to the aggregate value. These will typically take the form of ##.#m @ ##.##gpt including ##.#m @ ##. ##gpt.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values have been used for the reporting of these exploration results.

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results:	True widths have been calculated for intersections of the known ore zones, based on existing knowledge of the nature of these structures.
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	Both the downhole width and true width have been clearly specified when used.
	If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').	It is known and has been reported as such.
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 drill hole collar locations and appropriate sectional views.	Appropriate plans and section have been included in the body of this report. The drill hole plans in the report illustrates the distribution of the drilling over the Mineral Resource areas.
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.	Both high and low grades have been reported accurately, clearly identified with the drill hole attributes and 'From' and 'To' depths.
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 other material exploration data has been collected for this area.
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 drilling is planned to target extensions and at depth. A twinning program is proposed to increase confidence in the historic drilling.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Appropriate diagrams accompany this release.

CARBINE PHANTOM LODES
. Overview of Carbine-Phantom interpreted ore lodes

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s



Section 3: Estimation and Reporting of Mineral Resources
(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

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.	Northern Star personnel have validated the database during the interpretation of the mineralisation with any drillholes containing unvalidated data excluded from the Mineral Resource Estimate.
	Data validation procedures used.	Data validation procedures involve several steps. First a check of the individual collar, survey, geology and assay data was performed by a geologist, then a project geologist validated all data based on suitability for use in estimation, assigning either a "Res_Flag" Yes or No and a data class in AcQuire. This resource used a data class system to indicate the confidence in the historic data, rather than a straight "Res_Flag" Yes or No. • Data class 3 drill holes passed audits of original data (recent drilling). • Data class 2 holes passed spatial validation, were within 100m of recent drilling, and could not be completely verified by original data. Data class 1 holes passed spatial validation, were >100m away from recent drilling, and could not be verified by original data. • Data class 1 drill holes (usually "Res_Flag" No) were included due to the amount of historic drilling with no recent drilling proximal to upgrade the data class. • Data class 0 holes failed spatial validation, could not be verified by original data or contained 4m composite assays that were removed due to excessive dilution and smearing of grade. Holes assigned "Res-Flag" No Data class 0 have been excluded from the data using exclude tables. All historical RC, RCD and DD data has been assigned a Data class and Res_Flag in AcQuire in the project area.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	The Competent Person has not visited this site.
	If no site visits have been undertaken indicate why this is the case.	Carbine Project has been lower priority.

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	The geological interpretation included a first pass lithological model used as a guide for the mineralisation model. Due to the historic logging being highly variable between drilling generations within an oxidised pit, the exact location of the sediment-mafic contact location is uncertain (+/- 20m). The ultramafic-sediment contact marking the Carbine Thrust has been identified consistently resulting in confidence in the modelled contact. This determined the type of estimation completed and the Resource Classifications applied. There are several known structural offsets in the Carbine ore body, however, detailed information on the localised impact of the structural controls is not fully understood. The orientation of Fault 1 is ENE resulting in an approximately 50m dextral offset observed in the geology. The impact on a local scale of the orebody cannot be identified in the historical RC Drilling. The geological model was developed by NSR geologists and subsequently led to interpretation of ore domains. The Carbine and Phantom Main Lodes are located proximal to the Carbine Thrust and exhibit the similar folding geometry observed in the ultramafic-sediment contact. Ore domains were statistically tested before completion to determine their suitability for estimation. The geology model was used as a guide for sub-domaining following analysis which has resulted in moderate confidence in the geological interpretation used for Carbine. This has been reflected in the Resource Classification.
	Nature of the data used and of any assumptions made.	Open pit mapping along with limited diamond drill core lithology, structure, alteration and mineralisation logs have been used to generate the mineralisation model. The primary assumption is that the mineralisation is hosted within structurally controlled stockwork quartz veins with multiple mineralisation styles observed in the Carbine main lode, which is considered robust. This assumption was tested extensively using non-linear estimation and proven to be robust. The hanging wall lodes have been modelled as a parallel structure to the Carbine Main Lode, hosted predominantly in the sediments. This assumption was tested extensively using non-linear and linear estimations and proven to be moderately robust. The foot wall lodes are interpreted as shallow dipping stacked lodes from limited historic deep diamond drilling data which indicated multiple vein orientations. This assumption was tested using linear estimation and proven to be weak. The footwall lodes are hosted primarily in the sediments and are named based on the relative position of the Main Carbine and Phantom Lodes.
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	Data validation highlighted the limited diamond drilling and high confidence data in the project. Limited structural information was available for interpretation, so wider zones of mineralisation were interpreted. This has resulted in the inclusion of unverified assay data from drill holes within the wireframes, but these values have been removed from the models.
	The use of geology in guiding and controlling Mineral Resource estimation.	The updated geology model guided the ore domains as well as subdomaining based on grade; this includes lithology contacts and fault structures.
	The factors affecting continuity both of grade and geology.	The Carbine Thrust is continuous over the length of the deposit, based on previous mining and drilling and is currently still open to the north west and the south east. This structure is interpreted to be the fluid pathway feeding the Carbine project area. Sub parallel structures are thought to be mineralised due to dilational areas being created in folded ultramafic

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
		footwall which coincide with high grade shoots. Grade tenor tends to decrease in areas where the ultramafic footwall steepens.
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 Carbine-Phantom Deposit orientation is NNW. There may be other local orientations present which were not identified due to a lack of structural data and diamond drilling in the project area. The Carbine-Phantom Main Lodes (CML and PML) appears to extend for approximately 2,200m along strike, 300m down-dip with a width ranging from 1.0m to 4.0m. The Carbine supergene extends above the Carbine Main Lode within the transition and oxide zones. It covers the Carbine Main Lode around the Carbine Pit, extending approximately 925m along strike, 125m down dip and ranging in thickness from 5m to 50m. The Phantom supergene covers the Phantom Pit area, extending approximately 450m along strike, 350m down dip and ranging in thickness from 1m to 10m. A narrow laterite body has also been interpreted in the Phantom model area, although this has been largely depleted by previous mining activity. The hanging wall lodes are parallel to the Carbine and Phantom Main Lodes and are generally hosted in the sediments. Strike lengths range from 400m to 700m, with down dip extents between 100m and 400m. One hanging wall lode has been modelled in the Carbine model area and three in the Phantom model area. The Carbine footwall lodes are interpreted as shallow dipping (~45^{o}) stacked parallel structures underneath the Carbine Pit. These may be conjugate structures between the Carbine Thrust and the Ol'Rowley Thrust (parallel thrust to Carbine).
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.	Grade estimation of gold has been completed using Ordinary Kriging (OK) unless otherwise stated. The Carbine Main Lode used Categorical Indicator Kriging. All estimation was completed using Datamine RM software. The Carbine Main lode used a three grade domain indicator estimation which created a waste, low and high grade subdomains. Three different subdomains were also created based on data density in order to use different blocks sizes within the grade domains. Semi soft boundaries were used between the data density subdomains. The most populated domain (1) used both hard and soft topcuts across the grade subdomains (except for a hard only topcut in the Waste subdomain). The second most populated domain (2) used hard topcuts in the waste, soft and hard in the low grade and soft topcut in the high grade subdomain. The least populated domain (3) used only hard topcuts in the waste and low grade subdomain. Dynamic Anisotropy was used for estimation, following review of the variography. Three passes were run with a minimum of 5 samples and max of 10 in the first and second pass, and min 1 and max 20 in the third pass. The ranges were guided by the variography. In domain 1 the low grade subdomain used ID^2 and the high grade subdomain used ID^3. In domain 2 and 3 the high grade subdomains used ID^3. Of the three Carbine FW lodes, lodes 1 and 2 used both hard and soft topcuts while lode 3 used only soft topcuts. Variography was only possible for FW lodes 1 and 2. Search rotations and ranges are based on the variography for lodes 1 and 2; an isotropic search was used for lode 3. A minimum of 4-6 samples and max of 10 were used in the first pass, three passes were used in total for all three lodes. A declustering technique was used for all three lodes (min 3 samples per drillhole). FW2 and 3 both used Inverse Distance Squared estimation. The CFW lodes used Ordinary Kriging.

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
		The Carbine HW lode used both hard and soft topcuts. Variography was possible for the lode and search rotations and ranges are based on the variography. A minimum of 5 samples and max of 10 were used in the first pass, three passes were used in total for all three lodes. A declustering technique was used (min 2 samples per drillhole). The CHW lode used Ordinary Kriging. For the Carbine supergene lode, both hard and soft topcuts were used. Variography was possible and search rotations and ranges are based on the variography. A minimum of 4 or 5 samples and max of 10 were used in the first pass, three passes were used in total. A declustering technique was used (min 3 samples per drill hole). The Carbine supergene lode used Ordinary Kriging. The Phantom Main lode had no top cut applied as no genuinely anomalous data points exist in the set. Variography was completed on the composited data file and search rotations and ranges are based on this. A minimum of 8 samples and max of 24 were used in the first pass and three passes were used in total. A declustering technique was used for all three lodes (min 4 samples per drillhole). The Phantom Main Lode used Ordinary Kriging. For the Phantom supergene lode, a hard topcut was used. Variography was possible and search rotations and ranges are based on the variography. A minimum of 10 samples and max of 24 were used in the first pass, three passes were used in total. A declustering technique was used (min 4 samples per drillhole). The Phantom supergene used Ordinary Kriging. The Phantom HWs lodes used hard topcuts. Variography was only possible for PHW1. The lodes and search rotations and ranges for all the Phantom HW lodes are based on the variography from PHW1. A minimum of 8 samples and max of 24 were used in the first pass, three passes were used in total for all three lodes. A declustering technique was used (min 2 - 4 samples per drillhole, depending on the lode). PHW1 used Ordinary Kriging, while PHW2 and CMCR used ID2. The Phantom laterite had no top cut applied as no genuinely anomalous data points exist in the set. Variography was completed on the composited data file and search rotations and ranges are based on this. A minimum of 10 samples and max of 20 were used in the first pass and three passes were used in total. A declustering technique was used for all three lodes (min 4 samples per drillhole). The Phantom laterite used Ordinary Kriging.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource Estimate takes appropriate account of such data.	Inverse Distance Squared, Cubed and Nearest Neighbour estimations were completed as check estimations for all ore lodes.
	The assumptions made regarding recovery of by-products.	No assumptions have been made regarding recovery of any 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 considered and therefore estimated for this deposit.
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	Data spacing varies considerably within the deposit, ranging from close spaced 10m (along strike) to 15m (down dip) spacing through to 100m (along strike) to 100m (down dip) spacing and greater. Gold grades are estimated at the parent block scale and multiple volume models were created to reflect the data spacing (see table below).

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
		Search ellipse dimensions were derived from the variogram model ranges, or isotropic ranges based on data density where insufficient data was present for variography analysis.
	Any assumptions behind modelling of selective mining units.	No selective mining units are assumed in this estimate.
	Any assumptions about correlation between variables.	No other elements other than gold have been estimated.
	Description of how the geological interpretation was used to control the resource estimates.	Ore wireframes were created as solids in Maptek Vulcan v9.1 and Datamine Version 1.6 software packages. The geology model was used as a guide for the creation of the ore lodes: • Deformation was used as guide for the location of the Carbine Main Lode • All lodes except the Supergene used the presence of veining and grade as an indicator of an ore lode. The Supergene used predominantly grade located above the top of fresh boundary. • The geology model as used as a guide for sub domaining which has resulted in confidence in the geological interpretation.
	Discussion of basis for using or not using grade cutting or capping.	The influence of extreme sample distribution outliers in the composited data has been reduced by top-cutting where required. Top-cut analysis was carried out on the composite gold values, by ascertaining where a break in the grade population occurred in the upper percentiles of each ore lode or domain. Where the high grades were deemed to be significantly anomalous for that grade population, a top-cut was applied using the method outlined below. The top cut values are applied in several steps, using influence limitation top cupping. A top cut (AU) and non-top cut (*_NC) variable is created, as well as a spatial variable (*_BC) which only has values where the top cut values appear. For example, the following variables were created and estimated: • AU (top cut gold) • AU_NC (non- top-cut gold) • AU_BC (spatial variable to determine where non-top cut estimate occurred) The top-cut and non-top cut values are estimated using search ranges based on the variogram, and the *_BC values estimated using very small ranges (e.g., 5m x 5m x 5m). Where the *_BC values produce estimated blocks within these restricted ranges, the *_NC estimated values replace the original top cut estimated values (AU). This process allows blocks close to high grade samples to be estimated with the full uncut dataset but blocks outside this restricted range are estimated using the top cut dataset. This limits the spread of very high grades but retains the high local value in these blocks, which more closely reflects the style of mineralisation. Supergene 1, Hanging Wall 1 & 2, Footwall 1 & 2 ore lodes had both a “hard” top cut and influence limitation top cuts applied, due to extreme outliers present, likely due to both limited data in each domain and the inherent variability present in the mineralisation.
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	Model validation has been carried out including visual comparison of the composites and block model, swath plots of the declustered composites and estimated blocks, global statistics and check for negative or absent grades.

Evolution MINING

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	The tonnes have been estimated on a dry basis.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	The Mineral Resource Estimate has been reported at a 1.64gpt cut off within 2.5m minimum mining width (excluding dilution) MSO's using a $AUD2,250/oz gold price.
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.	Minimum mining width has been considered when reporting the Underground Resource. A SMU of 10m (along strike) and 10m (across strike) has been used in addition to the minimum width described above. No dilution or ore loss factors have been applied for reporting of Carbine/Phantom.
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.	No metallurgical or recovery assumptions have been made during the Mineral Resource Estimate.
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 green fields 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.	No environmental assumptions have been made during the Mineral Resource Estimate.
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 applied following statistical analysis of the measurements from the validated diamond drilling data. In the supergene domain, which was interpreted above the top of fresh boundary, there were no bulk density measurements taken. As a result, the bulk density from oxide and transition were assigned a default value of 2.1 t/m^3 and 2.4 t/m^3 respectively. Because the total mean bulk density values were skewed by the majority of fresh measurements, the few values from

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
		the were used as a default where lithologies did not have any measurements. i.e., the default of 2.55 t/m^3 was used rather than 2.7 t/m^3. In the fresh domains (all other ore lode), the major lithologies were determined and the equivalent mean bulk densities values applied (Mafic, Sediment and ultramafic). Where a lithology was rare, the default mean bulk density of 2.8t/m^3 was applied. The bulk density was then estimated using the equivalent gold estimation parameters or that domain and validated visually and statistically.
	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.	Bulk density measurements were taken using the Archimedes technique onsite; 132 measurements were taken.
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	There have been assumptions made based on the consistency of bulk density values within lithologies logged at Carbine.
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.	The resource classification has been applied to the Mineral Resource Estimate based on the drilling data spacing, grade and geological continuity, data integrity, and kriging confidence (slope of regression).
	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).	The classification considers the relative contributions of geological and data quality and confidence, as well as grade confidence and continuity.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The classification reflects the view of the Competent Person.
Audits or reviews	The results of any audits or reviews of Mineral Resource Estimates.	An audit has not been completed.
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 relative accuracy of the Mineral Resource Estimate is reflected in the reporting of the Mineral Resource as per the guidelines of the 2012 JORC code
	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	The statement relates to global estimates of tonnes and grade.

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Criteria	JORC Code explanation	Commentary
	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.	Historic production records are incomplete, so no comparison or reconciliation has been made.

JORC Code, 2012 Edition – Table 1 Report

Anthill: Resources and Reserves – 31 March 2021

Section 1: Sampling Techniques and Data
(Criteria in this section apply to all succeeding sections.)

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td>Sampling techniques</td><td>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.</td><td>Most of the dataset at Anthill is comprised of Reverse Circulation drilling. Neither of the two Air Core holes erroneously included in the Resource dataset were used to inform a classified Resource as they sit outside of the mineralised domain wireframes.
<table><tr><th></th><th colspan="3">Ant Hill</th></tr><tr><th></th><th>Number of Holes</th><th>Total metres (m)</th><th>Number of samples</th></tr><tr><td>AC</td><td>2</td><td>90</td><td>48</td></tr><tr><td>DD</td><td>2</td><td>529</td><td>715</td></tr><tr><td>MR_DD</td><td>1</td><td>180</td><td>107</td></tr><tr><td>RC</td><td>135</td><td>19074</td><td>14581</td></tr></table></td></tr>
<tr><td></td><td>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</td><td>RC samples were split using a rig-mounted cone splitter on 1m intervals to obtain a sample for assay.

Diamond core was placed in core trays for logging and sampling. Half core samples were nominated by the geologist from diamond core with a minimum sample width of or 30 cm.

Sample procedures followed by historic operators are assumed to be in line with industry standards at the time.</td></tr>
<tr><td></td><td>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., ‘reverse circulation drilling was used to obtain 1m samples from which 3kg was pulverised to produce a 30g 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.</td><td>RC sampling was split using a rig mounted cone splitter to deliver a sample of approximately 3kg.

DD drill core was cut in half using an automated core saw, the mass of material collected will varies on the hole diameter and sampling interval.

All samples were delivered to a commercial laboratory where they were dried, crushed to 95% passing 3mm if required, at this point large samples may be split using a rotary splitter, pulverisation to 95% passing 75µm, a 50g charge was selected for fire assay</td></tr>
<tr><td>Drilling techniques</td><td>Drill type (e.g., core, reverse circulation, 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</td><td>Most of the data used in the Anthill Resource was derived from RC drilling.

RC Drilling was completed using a 5.25” drill bit.

Diamond holes in the data set used an HQ bit (63.5mm)</td></tr>
</table>

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
	type, whether core is oriented and if so, by what method, etc.).	
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	RC recovery and meterage was assessed by comparing drill chip volumes (sample bags) for individual metres. Estimates of sample recoveries were recorded. Routine check for correct sample depths are undertaken every rod (6m).
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	RC drilling contractors adjust their drilling approach to specific conditions to maximise sample recovery. No recovery issues were identified during RC drilling.
	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 or bias has been identified between grade and sample recovery.
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.	RC sample chips are logged in 1m intervals for the entire length of each hole. Regolith, lithology, alteration, veining and mineralisation are all recorded.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	All logging is quantitative where possible and qualitative elsewhere.
	The total length and percentage of the relevant intersections logged.	In all instances, the entire drill hole is logged.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	Diamond core is cut using an automated core saw. In most cases, half the core is taken for sampling with the remaining half being stored for later reference.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	All RC samples are split using a rig-mounted cone splitter to collect a 1m sample 3-4kg in size. All samples were intended and assumed to be dry, moisture content was recorded for every sample.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Preparation of samples prior to NSR ownership Preparation of NSR samples was conducted at Genalysis and MinAnalytical preparation facilities, commencing with sorting, checking and drying at less than 110°C to prevent sulphide breakdown. Samples are jaw crushed to a nominal -6mm particle size. If the sample is greater than 3kg a Boyd crusher with rotary splitter is used to reduce the sample size to less than 3kg (typically 1.5kg) at a nominal <3mm particle size. The entire crushed sample (if less than 3kg) or sub-sample is then pulverised to 90% passing 75µm, using a Labtechnics LM5 bowl pulveriser. 300g pulp subsamples are then taken with an aluminium scoop and stored in labelled pulp packets. The sample preparation is considered appropriate for the deposit.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Procedures are utilised to guide the selection of sample material in the field. Standard procedures are used for all process within the laboratory. Grind checks are performed at both the crushing stage (3mm) and pulverising stage (75µm), requiring 90% of material to pass through the relevant size.

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
	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.	No specific information is available on field duplicates ratios for drillholes prior to 2019, although previous the previous Table 1 states that they were completed. For recent drilling (completed since 2019) field duplicates were taken for RC samples on a ratio of 1 in 20.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	The sample sizes are considered appropriate for 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.	A 50g fire assay charge is used with a lead flux in the furnace. The prill is totally digested by HCl and HNO_3 acids before Atomic Absorption Spectroscopy (AAS) determination for gold analysis.
	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 tools were used to determine any element concentrations
	Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.	Certified reference materials (CRMs), blanks and field duplicates have been used for Laboratory QAQC. Insertion rates have not been stated in Table 1s, but it is believed that they are aligned with the accepted industry standards at the time of data collections.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	All significant intersections are verified by another Northern Star geologist during the drill hole validation process, and later by a Competent person to be signed off
	The use of twinned holes.	No twinned holes were drilled for this data set
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Assay files are received in *.csv format and loaded directly into the database by the geologist with an AcQuire importer object. Hardcopy and electronic copies of these are stored.
	Discuss any adjustment to assay data.	No adjustments are made to this assay data.
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	All drill hole collars are surveyed using handheld Garmin GPS (accurate to 2 – 4 metres). These holes are later picked up by an Independent Contractor using RTK-GPS for use in the Mineral Resource Estimate. Holes drilled prior to 2019 had downhole gyroscopic surveys completed at distance between 40 and 80m etres downhole, and again at end of hole. Hole drilled post 2019 had downhole gyroscopic surveys completed at an average of 10m spacing downhole.
	Specification of the grid system used.	Collar coordinates are recorded in MGA94 Zone 51
	Quality and adequacy of topographic control.	The Differential GPS returns reliable elevation data which has been confirmed against a high resolution Digital Terrain Model survey performed by Arvista in November 2020.

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Drill hole spacing across the area varies from approximately 20m to 100m spacing.
	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.	Resource definition drilling spacing was typically 20m x 20m, to allow for classification as Indicated Resource. Outside of the Indicated Resource, drill spacing is highly variable with Resource classifications applied appropriately.
	Whether sample compositing has been applied.	Sample data is composited before grade estimation is undertaken.
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.	Drill holes have been oriented at an angle of -60 degrees which is deemed sufficient to intersect mineralisation (both flat supergene and steeper fresh-rock lodes) at an appropriate angle based on the current understanding of Anthill.
	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.	No sampling bias is considered to have been introduced by the drilling orientation
Sample security	The measures taken to ensure sample security.	Samples were collected onsite under the supervision of a responsible geologist. The worksite is on a destocked pastoral station and visitors need approval to enter the site. Samples are transported to the assay laboratory and kept in a secure yard while awaiting processing.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits have been undertaken for the drill holes at this stage.

Section 2: Reporting of Exploration Results
(Criteria listed in the preceding section also apply to this section.)

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.	All drilling in this report is located within Mining Lease M16/531. There are no private royalty agreements applicable to this tenement.
	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.	No known impediments exist, and the tenements are in good standing.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Previous workers in the area include Noranda (1987), Pioneer (1989), Plutonic (1996), Homestake (1998), Heron (2009) and Metaliko (2014).

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
Geology	Deposit type, geological setting and style of mineralisation.	Anthill is located adjacent to the highly endowed Zuleika shear zone. The geology is dominated by a variolitic basalt with lesser amounts of porphyry and ultramafic rocks observed. At least two mineralised trends are evident and add to the geological complexity at Anthill. The gold mineralisation is pervasive and occurs in a number of settings, the most important being a quartz stock work of thin veins with carbonate-sericite-silica-sulphide alteration.
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: • easting and northing of the drill hole collar • elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar • dip and azimuth of the hole • down hole length and interception depth • hole length.	A summary of the data present in the Anthill deposit can be found above. The collar locations are presented in plots contained in the NSR 2021 resource report. Drill holes vary in survey dip from -43 to -90 degrees, with hole depths ranging from 36m to 384m, with an average depth of 104m. The assay data acquired from these holes are described in the NSR 2021 resource report. All validated drill hole data was used directly or indirectly for the preparation of the resource estimates described in the resource report.
	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.	Exclusion of the drill information will not detract from the understanding of the report.
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.	All reported assay results have been length weighted to provide an intersection width. A maximum of 2m of barren material between mineralised samples has been permitted in the calculation of these widths. Typically grades over 1.0gpt are considered significant, however, where low grades are intersected in areas of known mineralisation these will be reported. No top-cutting is applied when reporting intersection results.
	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.	Where an intersection incorporates short lengths of high grade results these intersections will be reported in addition to the aggregate value. These will typically take the form of ##.#m @ ##.##gpt including ##.#m @ ##.##gpt.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values have been used for the reporting of these exploration results
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results:	True widths have been calculated for intersections of the known ore zones, based on existing knowledge of the nature of these structures.
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	Both the downhole width and true width have been clearly specified when used.
	If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').	Not applicable

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
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 drill hole collar locations and appropriate sectional views.	Appropriate plans and section have been included in the body of this release.
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.	Both high and low grades have been reported accurately, clearly identified with the drillhole attributes and 'From' and 'To' depths.
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 other material exploration data has been collected for this area.
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).	Follow up drilling will be based on results from open pit optimisation studies, with high-risk areas infilled before any commencement of open pit mining. Drilling for underground resource is likely to continue, which will include both infill of current Mineral Resource and extension of the Mineral Resource.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Appropriate diagrams accompany this release.

Section 3: Estimation and Reporting of Mineral Resources
(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

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.	Northern Star personnel have validated the database during the interpretation of the mineralisation with any drillholes containing dubious data excluded from the Mineral Resource Estimate.
	Data validation procedures used.	Data validation processes are in place and run upon import into the database.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	The Competent Person has visited the Anthill model area.

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
	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.	Infill drilling has supported and refined the historical model and the current interpretation is considered robust. Widespread drilling and geological mapping of old drill chips have supported the estimate. Infill drilling has confirmed geological and grade continuity. The interpretation was completed using sectional strings in Datamine RM software.
	Nature of the data used and of any assumptions made.	RC chip lithology, alteration and mineralisation logs have been used to generate the mineralisation model. Limited structural data is available for use due to the small amount of diamond drilling completed.
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	While the current interpretation is considered to be robust, with a structurally complex system such as Anthill, an alternative interpretation cannot be completely discounted. Any significant interpretation change has the potential to impact (detrimentally or otherwise) the reported Resource for Anthill. This has been accounted for when applying Resource Classifications to the Anthill Mineral Resource, especially in areas where data density is sparse or continuity is limited.
	The use of geology in guiding and controlling Mineral Resource estimation.	The mineralisation interpretation is based on a combination of logged quartz percentage, structure, and assays.
	The factors affecting continuity both of grade and geology.	The structure is considered to be continuous over the length of the deposit with either quartz or the controlling structure used to guide the interpretation. Grade between drillholes can be inconsistent and as a result, estimation parameters have been chosen to best represent this lack of continuity.
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 Anthill deposit extends 450m along strike and 240m down-dip. It consists of a Supergene lode, three 'Main' lodes and four smaller-scale 'south' lodes.
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.	Grade estimation of gold has been completed using Datamine Studio RM software. Geostatistical analysis and variography were completed using Snowden's Supervisor v9 software. Each ore lode interpretation is considered as being a separate estimation domain. All estimations use hard domain boundaries. Grade estimations for gold used Ordinary Kriging, unless otherwise stated. Estimations use 1m composites with top-cutting applied to gold outlier values. Histograms, log probability plots, mean and variance plots and change in CV of the 1m composites were used to determine top-cut values on a domain by domain basis. A multiple-pass estimation strategy was applied for estimations. The search distance for each lode is calculated at ~66% of the variogram range. Minimum and maximum samples are generally 8 and 14, however each ore lode is optimised individually which may result in a different minimum and maximum selected.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource	Comparison estimations were carried out by Inverse Distance Squared and Nearest Neighbour methods for each model domain alongside the Ordinary

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
	Estimate takes appropriate account of such data.	Kriged estimates. The final Ordinary Kriged estimates are compared to the previous model estimates.
	The assumptions made regarding recovery of by-products.	No assumptions have been made regarding recovery of any 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 considered and therefore estimated for this deposit.
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	A 10m x 10m x 5m block size has been used for all lodes. Search distances are based on the variogram for the respective lodes, with a value 66% of the variogram range used for most of the lodes. Where this value was not suitable, it has been adjusted to a more appropriate values.
	Any assumptions behind modelling of selective mining units.	No selective mining units are assumed in this estimate.
	Any assumptions about correlation between variables.	No other elements other than gold have been estimated.
	Description of how the geological interpretation was used to control the resource estimates.	The ore wireframes were created using in Leapfrog software. Tag strings and additional interpretation points were used to control ore body volume and orientation. Data has been selected using intersection tables exported form Leapfrog, with samples flagged for use in the estimate within the Datamine estimation macro. Intersections used in the estimate have been validated to ensure they agree spatially with the interpretation and encompass all the drillholes to be used in the estimate.
	Discussion of basis for using or not using grade cutting or capping.	Top-cuts were applied to the composited sample data. Top cuts were selected based on a statistical analysis of the data to not impact the mean by more than 5% and reduce the coefficient of variation to around 1.2 and vary by domain.
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	After compositing and top-cutting, a series of length and metal checks are completed to ensure the total length of the sample file is maintained and the metal loss due to top-cutting can be quantified. Statistics are generated and analysed using Snowden Supervisor software for the raw, composited, and top-cut and composited drill hole files to ensure the nature of the population has not been adversely affected by these processes. Statistical measures of Kriging error, such as Kriging Efficiency and Slope of Regression, are used to assess the quality of the estimation for each domain. Differences between the declustered composite data set and the average model grade must be within 10%. Swath plots comparing declustered composites to block model grades are prepared and visual checks summarising the critical model parameters. Visually, block grades are assessed against drill hole and face data.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	The tonnes have been estimated on a dry basis.

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Criteria	JORC Code explanation	Commentary
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	The Anthill Open Pit Resource is reported above the $AUD2,250/oz optimised pit shell at a 0.57gpt cut off within 2.5m minimum mining width (excluding dilution) MSOs. No underground Resource has been reported for Anthill.
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.	Minimum mining width has been considered when reporting the Open Pit Resource. For the Open Pit Resource, a SMU of 5.0m (along strike) and 5.0m (across strike) has been used in addition to the minimum width described above. No dilution or ore loss factors have been applied.
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.	No metallurgical or recovery assumptions have been made during the Mineral Resource Estimate.
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 green fields 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.	No environmental assumptions have been made during the Mineral Resource Estimate.
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.	A thorough investigation was completed into average density values for the various lithological units at Anthill. Due to the extremely low variance in measured density by lithology, a value of 2.76 t/m^3 was applied to all fresh-rock blocks. Oxide (1.8 t/m^3) and transitional (2.1 t/m^3) zones had densities applied based on regional averages for the Carbine/Zuleika belt.
	The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.), moisture and differences	No information has been provided on the number of measurements or method used to obtain these values.

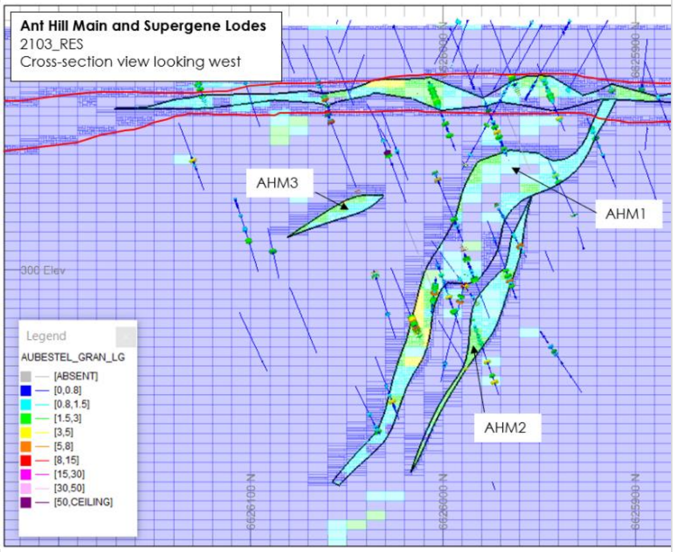
APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
	between rock and alteration zones within the deposit.	
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.	Classification is based on a series of factors including: • Grade continuity • Geological confidence • Density of available drilling • Statistical evaluation of the quality of the kriging estimate • Confidence in historical data • The presence of face channel data • DataClass of the drillholes
	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).	The classification considers the relative contributions of geological and data quality and confidence, as well as grade confidence and continuity.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The resource model methodology is appropriate and reflects the Competent Persons' view of the deposit.
Audits or reviews	The results of any audits or reviews of Mineral Resource Estimates.	All resource models have been subjected to internal peer reviews.
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 relative accuracy of the Mineral Resource Estimate is reflected in the reporting of the Mineral Resource as per the guidelines of the 2012 JORC code
	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 statement relates to global estimates of tonnes and grade.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	There has been no history of mining at Anthill.

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

ANT HILL MAIN & SUPERGENE LODES

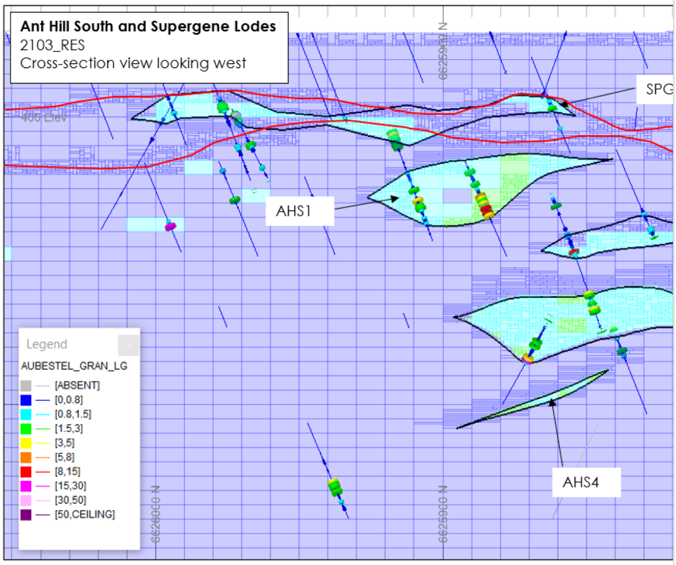
Cross-section view at 6,625,870m N showing the updated Anthill



Supergene and Main Lode interpretations

ANT HILL SOUTH & SUPERGENE LODES

Cross-section view at 6,625,880m N showing the updated Anthill South and Supergene interpretations



Section 4: Estimation and Reporting of Ore Reserves
(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	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.	Northern Star 2021 Resource.
	Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	The Mineral Resources are reported inclusive of the Ore Reserve.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	Site visits have been undertaken by the competent person.
	If no site visits have been undertaken indicate why this is the case.	Site visits undertaken.
Study status	The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.	A minimum Pre-Feasibility level study is completed prior to converting an ore zone into ore Reserve.
	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	Ore Reserves have been calculated by generating detailed mining shapes for the proposed Anthill pit. A series of nested optimised pit shells were generated using Whittle software, an analysis of the shells was completed to select one which was then used to complete a detailed pit design to closely resemble the selected whittle shell.

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
	and economically viable, and that material Modifying Factors have been considered.	The Whittle optimisation used parameters generated from NSR technical personnel and technical consultants. A detailed mine schedule and cost model has been generated and appropriate ore dilution and recoveries have been applied within the model.
Cut-off parameters	The basis of the cut-off grade(s) or quality parameters applied.	The pit cut-off grade has been calculated based on the key input components (processing, recovery and administration) Forward looking forecast costs and physicals form the basis of the cut-off grade calculations. The AUD gold price as per corporate guidance. Mill recovery factors are based on historical data and metallurgical test work. Variable treatment costs to open pit mining for processing is a fundamental premise in the evaluation of open pit projects. Variable cut-off grade is used in the evaluation of open pit projects.
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 optimisation or by preliminary or detailed design).	Mineral Resource is converted to Ore Reserve after completing a detailed mine design complete with a detailed financial assessment. The Mineral Resource block model is used. Ore Reserves have been calculated by generating detailed mining shapes for the proposed open pit. All open pit mining shapes include planned and unplanned dilution, being waste material that is located within the minable shape. Open pit unplanned dilution has been modelled within the mining shapes as a skin of material likely to be taken additional to material considered to be the smallest mining unit (SMU). This method is considered to be appropriate given the expected ground conditions, orebody width and proposed mining style.
	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 selected mining method for the Anthill deposit is a bench mining open pit method. The proposed open pit would be mined using conventional open pit mining methods (drill, blast, load and haul) by a mining contractor utilising 120t class excavators and 90t trucks. This method is used widely in mines across Western Australia and is deemed appropriate given the nature of the ore body.
	The assumptions made regarding geotechnical parameters (e.g., pit slopes, stope sizes, etc.), grade control and pre-production drilling.	Independent Geotechnical Consultants Dempers & Seymour Pty Ltd completed a geotechnical study for the Paradigm project. Recommended wall angles were applied to the Whittle optimisation and subsequent detailed pit designs.
	The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).	
	The mining dilution factors used.	Physicals are reported within the generated mining shapes for the open pit Ore Reserve. SMU shapes have been generated for the reporting of Ore Reserve physicals. Dilution accounted for within the SMU is 12%; that is waste material carried within the mining shape.

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
	The mining recovery factors used.	No recovery factors were applied for the reporting of Open pit Reserve physicals. Mining recovery is considered to be 100% of the SMU.
	Any minimum mining widths used.	The minimum minable selective mining unit (SMU) dimensions for the Open pit Reserve Estimate are 3.5m Wide x 2.5m High x 4.0m Long. A minimum mining width down to 20m for final pit extraction from the base of pit has been used.
	The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.	Inferred material has not been included within the open pit Ore Reserve estimate (treated as waste) but has been considered in LOM planning. The amount of inferred material has no impact on the sensitivity of the project.
	The infrastructure requirements of the selected mining methods.	Infrastructure required for the proposed Anthill Project has been accounted for and included in all work leading to the generation of the Ore Reserve estimate. Ore from the Anthill Project will be processed through the Kanowna Belle Gold Mine Processing Plant at the Kanowna Belle operation; hence no processing infrastructure is required. The Anthill Project is connected by internal private haul roads to Kanowna Belle. Required infrastructure will be shared with the Paradigm pit and will include Offices, workshops and associated facilities, dewatering pipeline, Waste Rock Storage Dump; and ROM Pad.
Metallurgical factors or assumptions	The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.	The Kanowna Belle plant is made up of crushing, grinding, gravity gold recovery, flotation, roasting, CIL, elution and gold recovery circuits. The Kanowna Belle Mill is designed to handle approximately 2.0m illion tonnes of feed per annum. The plant has the capability to treat both refractory and free milling ores, through either using the flotation circuit and associated concentrate roaster circuit, including carbon-in-leach (CIL) gold recovery, or bypassing the flotation circuit and going directly to a CIL circuit designed to treat flotation tails. The plant campaigns both refractory and free milling ores every month. Between campaigns, the circuit is “cleaned out” using mineralised waste. The plant is made up of crushing, grinding, gravity gold recovery, flotation, roasting, CIL, elution and gold recovery circuits. Ore Reserves are calculated using processing plant recovery factors that are based on test work and historical performance.
	Whether the metallurgical process is well-tested technology or novel in nature.	Well tested, standard CIL extraction process utilising the existing Kanowna Belle processing facility.
	The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.	Based on metallurgical test work carried out and milling experience gained through processing similar ore material through the Kanowna Belle processing facility. The metallurgical recoveries for the project were set at 93% for oxide, 93% for transitional, 93% for fresh rock.
	Any assumptions or allowances made for deleterious elements.	Metallurgical test work carried out indicates no deleterious elements. No assumption made.

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
	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.	Based on metallurgical test work carried out and milling experience gained through processing similar material through the Kanowna Belle processing facility.
	For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?	Not applicable.
Environmental	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.	All ore from the Anthill Project will be trucked to the Kanowna Belle Processing Plant for processing. The Kanowna Belle Mine is operated subject to the requirements of the Western Australian Mining Act 1978 and the Mines (Safety) Act, regulated by the Department of Mines, Industry Regulation and Safety. The Mining Leases covering the Kanowna Belle operation stipulate environmental conditions for operation, rehabilitation and reporting. A “Licence to Operate” is held by the operation which is issued under the requirements of the “Environmental Protection Act 1986”. Dempers and Seymour Geotechnical Consultants completed a comprehensive geotechnical study for recommended wall angles and regulatory approval. There are no native title issues. Heritage surveys have been completed for the Anthill Project. There are no heritage sites identified that impact on the pit or associated infrastructure. The heritage surveys conducted were to full clearance for mining. Flora & Fauna and hydrogeological studies have been completed.
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.	The Anthill Project is located 67km north west of Kanowna Belle. Anthill is connected to the Kanowna Belle Processing Plant via internal private haul roads. All haul roads are on secured Northern Star tenure. Infrastructure to support mining will be established at Paradigm. Access to Anthill and the Kanowna Belle operation is provided by well-maintained public and private roads. Employees reside in Kalgoorlie and commute to site daily.
Costs	The derivation of, or assumptions made, regarding projected capital costs in the study.	Mining costs based on mining contract rates supplied by a reputable WA based mining contractor. Mining costs were built up from first principals on mine designs supplied by NSR. Capital costs were not included in the optimised parameter inputs. Capital costs based on quotes supplied and have been included in the Paradigm economic cost model.
	The methodology used to estimate operating costs.	The estimation of Open pit mine operating costs was based on a contractor mining and maintenance operation using first principles to determine equipment productivities and associated operating hours to generate mine schedules. Provided contract pricing were than applied to the schedule to calculate all unit costs.
	Allowances made for the content of deleterious elements.	No allowances made, none expected.

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
	The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.	Single commodity pricing for gold only, using gold price of AUD $1,750 per ounce as per corporate guidance.
	The source of exchange rates used in the study.	Corporate guidance.
	Derivation of transportation charges.	Transportation costs for ore haulage from Anthill to Kanowna Belle are based on current NSR contractor schedule of rates. Transportation costs also include an allowance for adequate haul road maintenance and dust suppression.
	The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.	Historic performance.
	The allowances made for royalties payable, both Government and private.	WA State Government royalty of 2.5%.
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.	All financial analysis and gold price have been expressed in Australian dollars and no direct exchange rates have been applied. Revenue factors within the whittle optimisation process were used. A revenue factor shell was selected and used to complete a detailed pit design. A gold price of AUD $1,750 per ounce has been used in the optimisation of the Paradigm Project.
	The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	Corporate guidance.
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.	It is assumed all gold is sold directly to market at the Corporate gold price guidance of AUD$1,750/oz.
	A customer and competitor analysis along with the identification of likely market windows for the product.	Not applicable.
	Price and volume forecasts and the basis for these forecasts.	Corporate guidance.
	For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	Not applicable.
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.	The Ore Reserve estimate is based on a financial model for that has been prepared at a “pre-feasibility study” level of accuracy economic modelling. All inputs from mining operations, processing, transportation and sustaining capital as well as contingencies have been scheduled and evaluated to generate a full life of mine cost model. Economic inputs have been sourced from suppliers or generated from database information relating to the relevant area of discipline. A discount rate of 6.2% has been applied.

APPENDIX 4: ACQUISITION ASSETS JORC CODE TABLE 1s

Criteria	JORC Code explanation	Commentary
		The NPV of the project is positive at the assumed commodity prices.
	NPV ranges and sensitivity to variations in the significant assumptions and inputs.	Sensitivities were conducted on metal price fluctuations of A$1,750 ± $250 per ounce.
Social	The status of agreements with key stakeholders and matters leading to social licence to operate.	Agreements are in place and are current with all key stakeholders.
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 Issues.
	The status of material legal agreements and marketing arrangements.	No Issues.
	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.	No Issues.
Classification	The basis for the classification of the Ore Reserves into varying confidence categories.	Classifications of Measured, Indicated and Inferred have been assigned based on the mineral Resource classifications within the underlying Resource model.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The results accurately reflect the Competent Persons view of the deposit.
	The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	Nil.
Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.	The Reserve has been internally reviewed in line with Northern Star Resources governance standard for Reserves and Resources. There have been no external reviews of this Ore Reserve estimate.
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	The design, schedule and financial model on which the Ore Reserve is based has been completed to a "pre-feasibility study" standard, with a corresponding level of confidence.

Criteria	JORC Code explanation	Commentary
	qualitative discussion of the factors which could affect the relative accuracy and confidence of the 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.	Estimates are global but will be reasonable accurate on a local scale.
	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.	Not applicable.
	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.	Not applicable.