

ASX Announcement
 21 November 2023

EXPLORATION UPDATE

More than 130,000m of drilling in FY24 to date has extended organic growth optionality across all three production centres

KEY POINTS

- Consistent in-mine and near-mine exploration success supports potential long-term growth strategies beyond Northern Star's 10+ year Group Ore Reserves
- At KCGM, drilling from underground drives generated strong results that may provide future potential mill feed sources outside of the current Mineral Resource
- Elsewhere at Kalgoorlie, significant progress at Red Hill, Mt Percy and Hercules may provide meaningful optionality and highlights the potential across the broader region
- At Yandal, drilling has continued across operational, growth and discovery projects with high-grade intercepts highlighting future potential growth opportunities along this highly prospective belt
- At Pogo, exploration has extended the mineralised footprint of the Star discovery – just 1.3km south of the mine
- FY24 exploration spend of A\$28M to date is in line with FY24 budget of A\$150M

Northern Star Resources Limited (ASX: NST) is pleased to announce positive progress in its FY24 exploration program, which is designed to identify opportunities to further enhance the value of the Company's future growth strategy.

Northern Star will provide an Annual Mineral Resource and Ore Reserves Statement for the 12 months ended 31 March 2024 in 2H24.

Commenting on today's exploration update, Northern Star Managing Director Stuart Tonkin said:

"Our team has made excellent exploration progress this financial year to advance operational, growth and discovery projects that aims to support long-term, value-creating strategies across our global portfolio. With more than 10 years of a Reserve-backed production profile, Northern Star continues to seek opportunities to further improve margins and extend mine lives.

"Exploration and capital investment in our largest asset, KCGM, is generating and enhancing returns for our shareholders. We are rapidly growing near-mine opportunities close to underground infrastructure, which has the potential to add higher-margin ounces to the existing Reserve profile that underpins strong economic returns for our Mill Expansion. Dedicated exploration efforts by Northern Star at this global-scale asset have delivered excellent results so far, which highlight the growth potential that exists at KCGM and across the broader Kalgoorlie region.

"At Yandal, we are seeing encouraging results at key deposits and other prospects to potentially support mine-life extensions and further enhance value from the recently expanded Thunderbox processing plant. At Pogo, drilling results continue to impress with near-mine opportunities underpinning the mine life and investment thesis for this Operation.

"The disciplined and returns-based approach we take to exploration continues to yield results. Importantly, the continued success demonstrates the significant organic optionality at all stages across our portfolio."

EXPLORATION HIGHLIGHTS

KALGOORLIE, WESTERN AUSTRALIA

- At **KCGM**
 - **Fimiston Underground** drilling, within 300m of the underground drill drive, has delivered exceptional results including 4.3m @ 25.8g/t and 6.6m @ 9.5 g/t.
 - **Mt Charlotte underground** drilling at Duke and Little Wonder, both readily accessible from the existing Mt Charlotte infrastructure, continue to generate early encouraging results.
- Drilling at **Red Hill** continues to improve resource confidence within the open pit resource.
- At **HBJ**, a new resource area has been identified at Mutooroo West with production expected to commence 2H24.
- Understanding of the recent **Hercules** discovery, less than 30km from KCGM's Fimiston Plant, has progressed considerably over the past six months, extending the strike length to 500m and depth to 350m.

YANDAL, WESTERN AUSTRALIA

- Extensions within the **Jundee underground** mine show promising results with exceptionally high grades including 1.5m at 69g/t and 0.3m at 660.4g/t.
- Infill drilling at **Ramone**, 35km south-east of the Jundee processing plant, has delivered excellent results with the potential to increase the life of the existing underground mine.
- Drilling at the satellite projects of **Bannockburn North** and the **Wonder** complex continue to provide potential additional ore feed to the recently expanded Thunderbox processing plant.
- Exploration drilling at **Sundowner**, within economic trucking distance to Thunderbox, has identified primary gold mineralisation beneath the high-grade supergene enrichment layer. Recent results include 7.2m @ 10.3g/t and 8.9m at 10.9g/t.

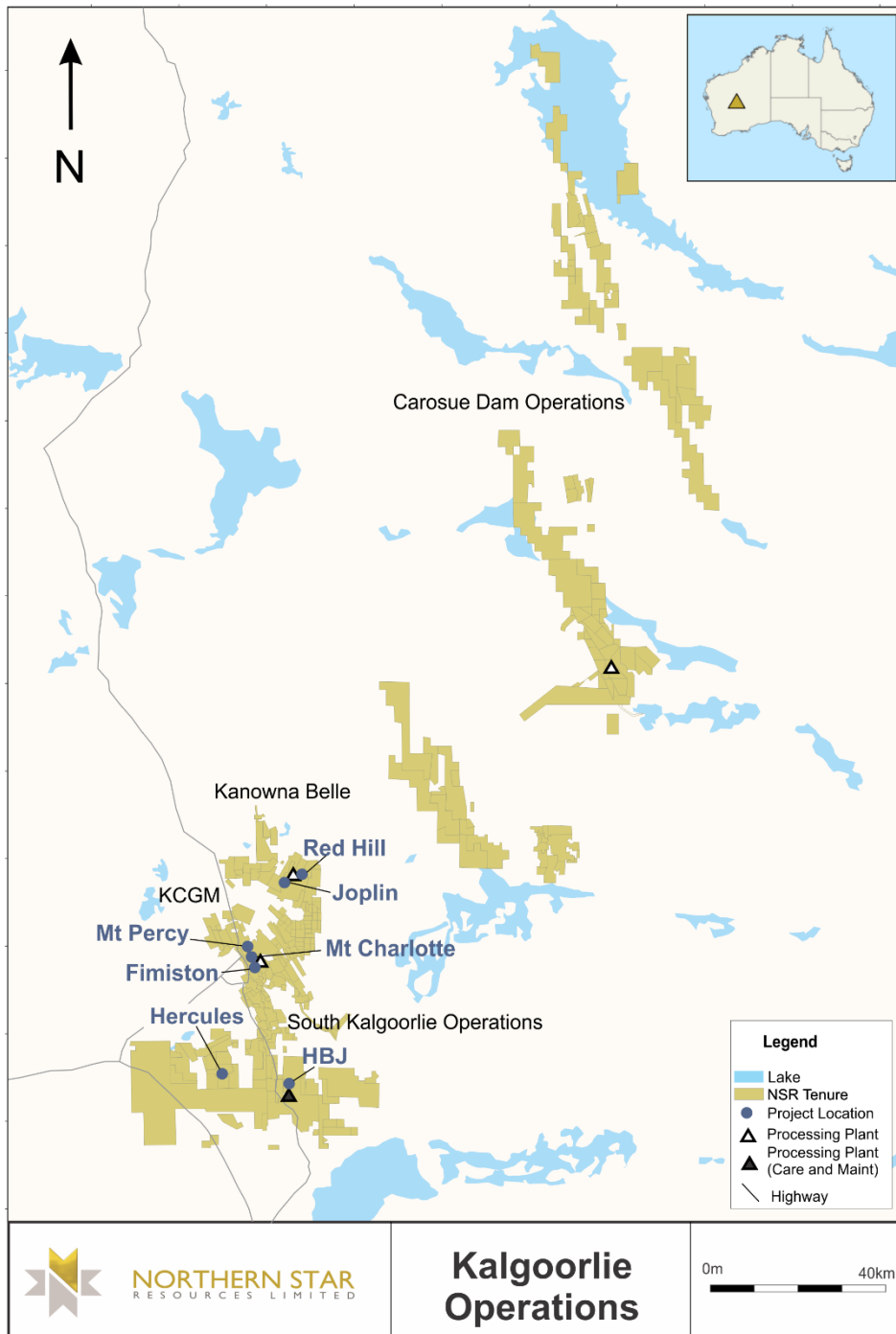
POGO, ALASKA (USA)

- Recent discovery **Star**, within 1.3km of the Pogo mine infrastructure, significantly expands its mineralised footprint following further drilling and remains open.
- Current drilling activities in the Pogo underground mine have been focused on near-term production opportunities, with additional resource drilling planned for 2H24.

KALGOORLIE OPERATIONS

Northern Star has a significant tenement portfolio across the Kalgoorlie Goldfields region of Western Australia, one of the world's leading gold producing areas. The Company's ongoing exploration investment in this highly prospective region continues to deliver strong drilling results, driving growth in-mine production profiles at KCGM and at the assets that make up the broader Kalgoorlie Production Centre.

Figure 1 - Kalgoorlie Production Centre Location Map



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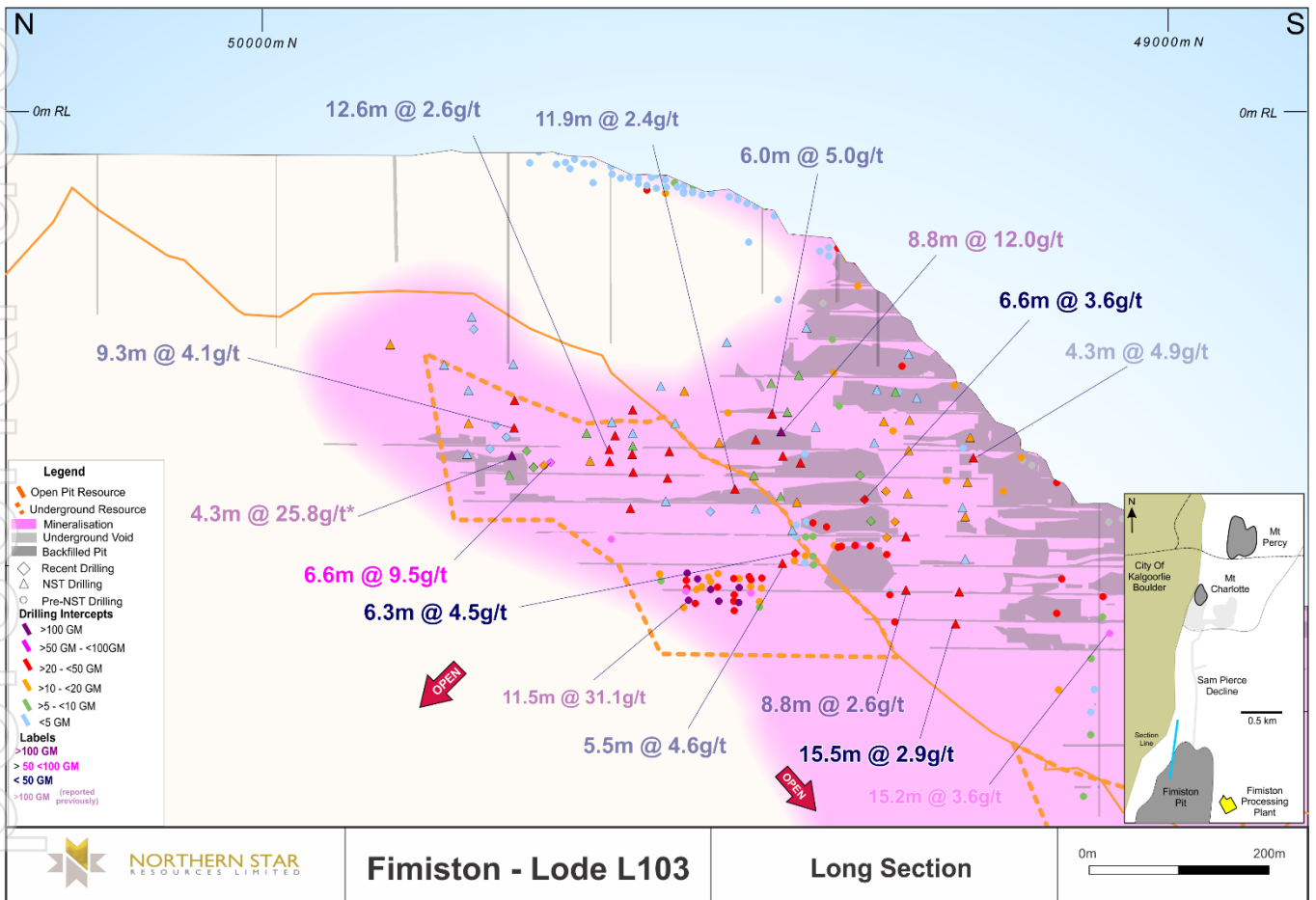
KCGM Operations

Fimiston Underground

In FY24, drilling from the Fimiston underground drive continued with two underground diamond drill rigs. Initial framework drilling successfully tested the northern extensions of the mineralisation while navigating historical voids. The current phase of drilling is designed to improve the understanding across multiple lodes at a localised scale of 100m x 100m spacing. This includes Lode 103, a Fimiston-style lode characterised by quartz veinlets associated with tellurides and strong shearing.

While historical workings are present in this area, significant zones of unmined high-grade mineralisation remain in situ to present an excellent opportunity to define large volumes of high-grade material.

Figure 2 - Fimiston North Lode 103 long section



Future mining options are being evaluated with these new drill results being incorporated into the Mineral Resource. With drilling ongoing, Fimiston underground is well positioned to contribute as a future mill feed source.

Significant Fimiston North underground drill results include:

All widths are estimated true width

FNUD0168	6.6m @ 9.5g/t
FNUD0140A	6.3m @ 4.4g/t
FNUD0065	4.3m @ 25.8g/t
FNUD0098	8.8m @ 12.0g/t



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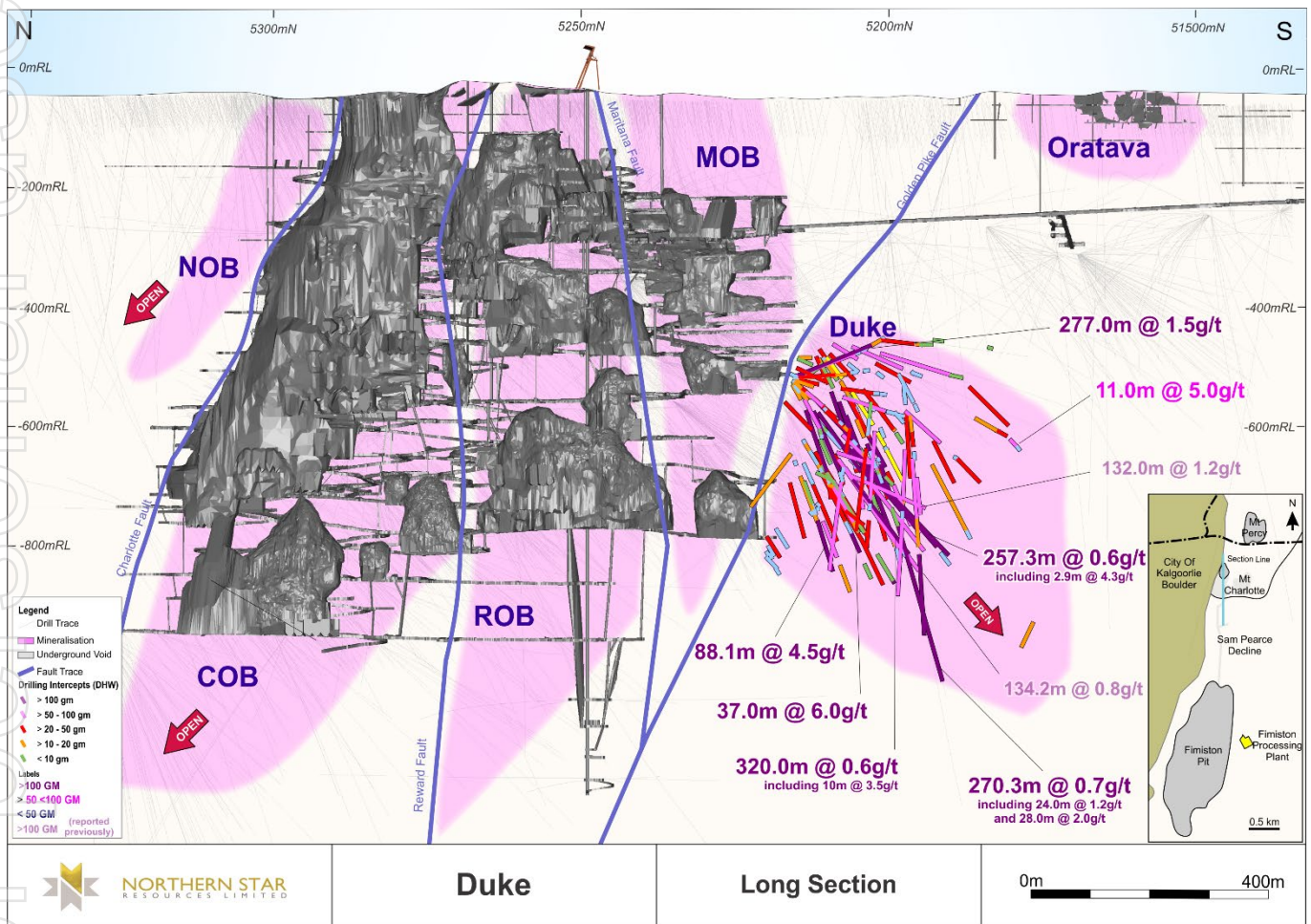
Mt Charlotte - Duke

The recently defined Duke mineralisation, located immediately south of the Mt Charlotte underground operation, is currently outside the Mineral Resource and Ore Reserve for Mt Charlotte. Duke is separated from the Maritana Orebody (MOB) to the north by the Golden Pike Fault and remains open to the south.

The Duke area comprises of elements of shear-hosted, Fimiston-style and late-extensional veining related to the Mt Charlotte stockwork-style mineralisation. The mineralisation is located within a southerly plunging anticline. Stockwork mineralisation is best developed in the Williamstown Dolerite and shear-hosted Fimiston-style mineralisation located in the adjacent Devons Consols Basalt.

Recent underground drilling targeting both styles of mineralisation has returned highly encouraging results.

Figure 3 - Duke long section, Mt Charlotte underground mine



Drilling from existing drill locations to further define the stockwork mineralisation with a dedicated drill drive to be developed in late FY24 to assist with further defining the shear-hosted mineralisation.

Significant Duke drill results include:

All widths are downhole widths due to the stockwork nature of mineralisation

DKUD033	88.1m @ 4.5g/t including 11.8m @ 31.0g/t
DKUD038	164m @ 0.6g/t including 13m @ 2.6g/t and 9m @ 1.8g/t
DKUD041A	277.0m @ 1.5g/t
DKUD046	241m @ 0.7g/t including 12m @ 4.3g/t and 4.6m @ 9.0g/t
DKUD012	320.5m @ 0.6g/t including 10m @ 3.5g/t

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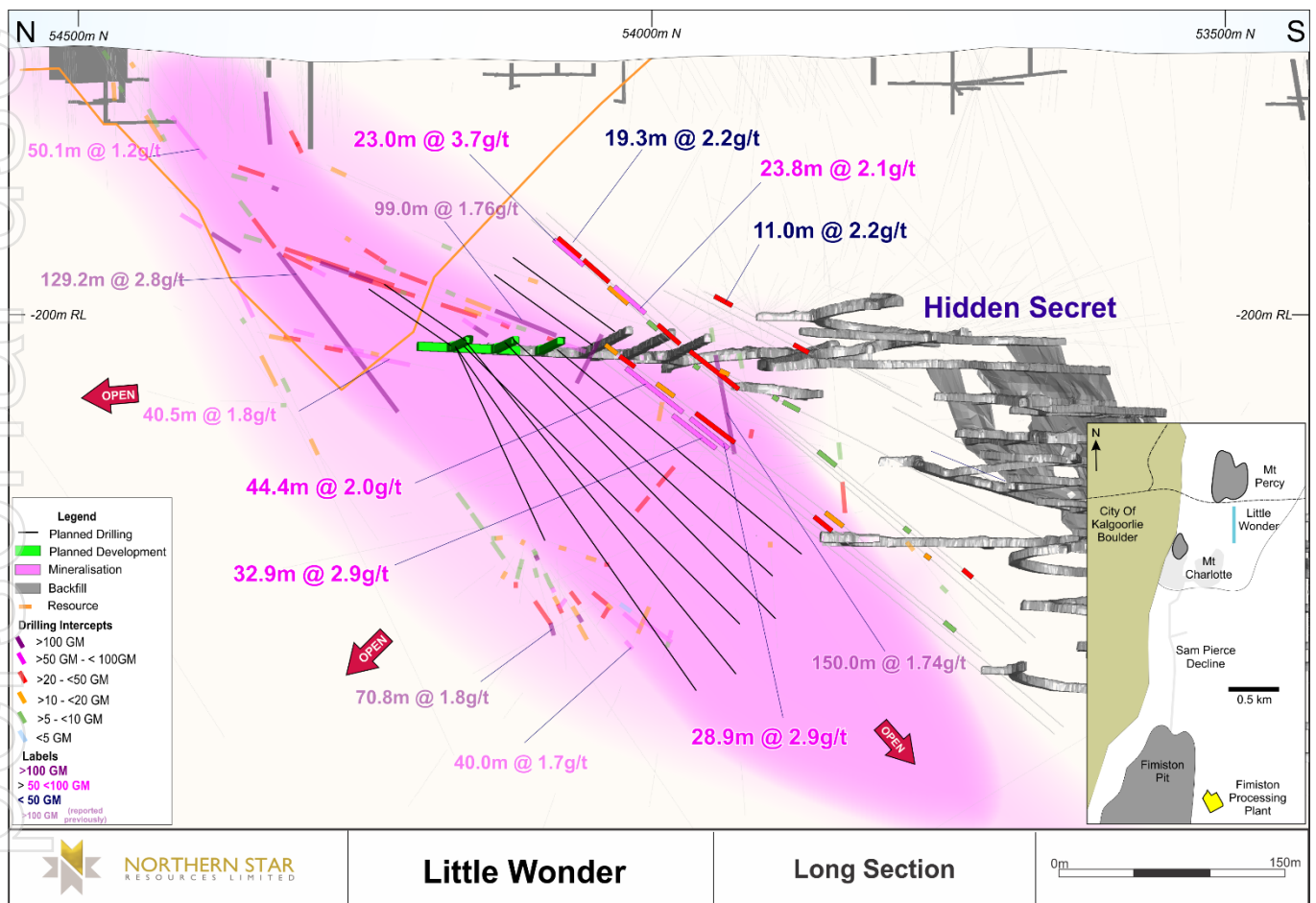
Mt Charlotte – Little Wonder

Little Wonder, located only 500m from the main Mt Charlotte underground infrastructure, is an area of stockwork mineralisation hosted in the Devons Consols Basalt within the Kalgoorlie Anticline. Drilling from new drill drives has commenced and delivered impressive early results including **32.9m @ 2.9g/t** and **28.9m @ 2.9g/t**.

The initial drill program was designed to identify the lateral extents of the stockwork mineralisation at the southern end of the deposit. The second and current phase of infill drilling aims to deliver an understanding of the grade distribution within the deposit at a local scale. Development of further drill platforms to the north of the deposit will be completed in 2H24.

Little Wonder is a future bulk mining area readily accessible from the existing Mt Charlotte infrastructure.

Figure 4 - Little Wonder long section, Mt Charlotte underground mine



Significant Little Wonder drill results include:
All widths are downhole widths due to the stockwork nature of mineralisation

LWUD0038	44.4m @ 2.02g/t and 28.9m @ 2.9g/t
LWUD0030	19.3m @ 2.2g/t, 23.8m @ 2.1g/t and 16.5m @ 2.01g/t
LWUD0036	32.9m @ 2.9g/t

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Mt Percy – Sir John and Union Club

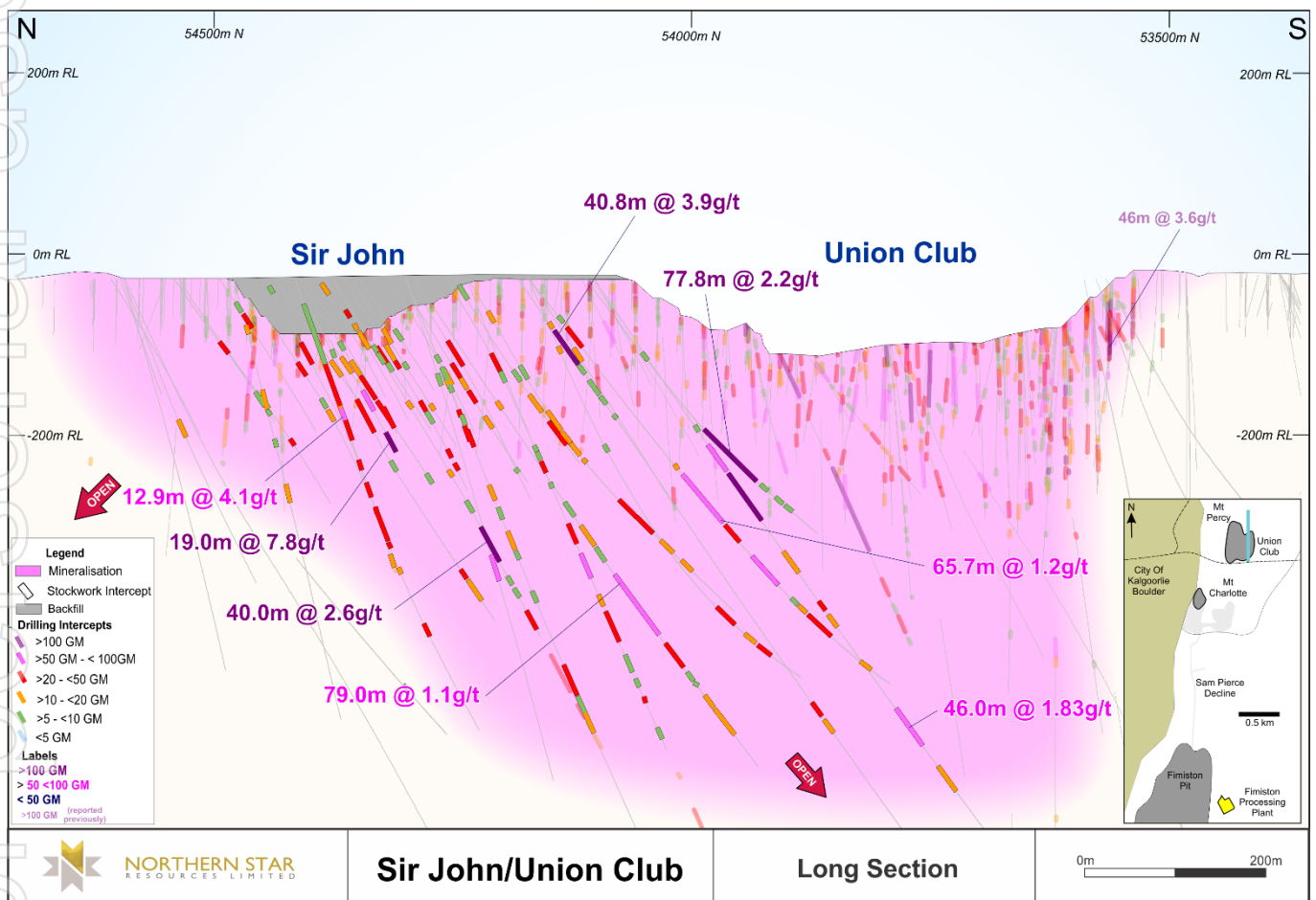
The Mt Percy project is located less than 1km north of the existing Mt Charlotte underground mine. Historical open pit mining at Mt Percy produced 277,000 ounces between 1989 and 1992.

Drilling across the Mt Percy area during FY22 and FY23 highlighted the potential for significant Mineral Resource growth beneath the previously mined open pits.

Continued drilling below the Mt Percy pits (Sir John, Union Club and Mystery) has returned several exceptional results outside the current Mineral Resource.

Future drilling will be aimed at improving geology and mineralisation models over the remainder of FY24 and beyond. The mineralisation at Mt Percy remains open with the recent drilling supporting the potential for additional Mineral Resource growth.

Figure 5 - Sir John and Union Club long section, Mt Percy project



Significant Sir John and Union Club drill results include:

All widths are downhole widths due to the stockwork nature of mineralisation

UCGD070	40.0m @ 3.9g/t and 14.0m @ 6.9g/t
UCGD006	23.0m @ 1.13g/t, 65.7m @ 1.21g/t and 20.0m @ 2.1g/t
UCGD001	5.6m @ 1.4g/t, 77.8m @ 2.2g/t and 6.0m @ 1.5g/t
SJGC012	21.0m @ 2.5g/t and 19.0m @ 7.8g/t



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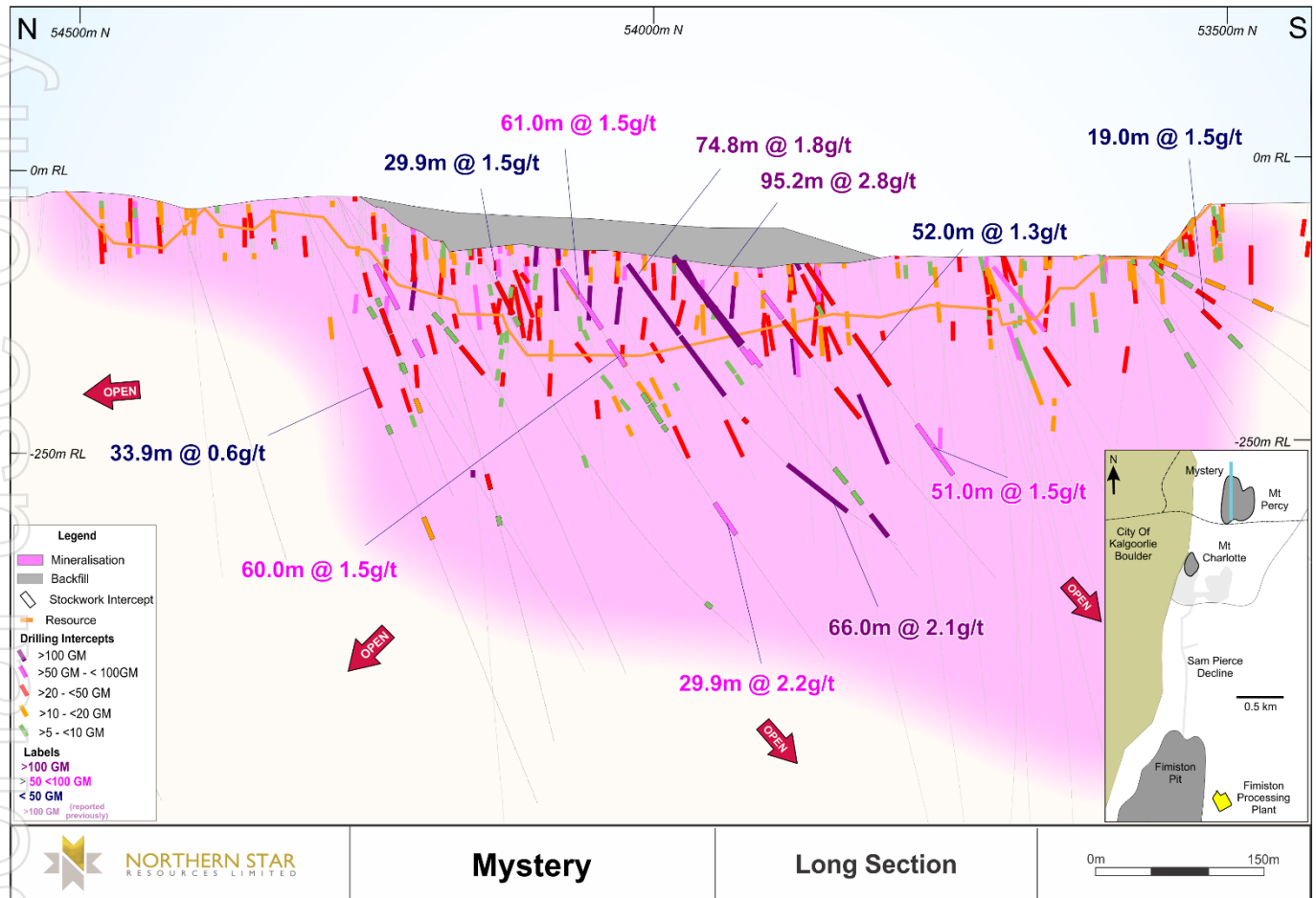
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Figure 6 - Mystery long section, Mt Percy project



Significant Mystery drill results include:

All widths are downhole widths due to the stockwork nature of mineralisation

MYGD012	95.2m @ 2.8g/t and 14.0m @ 6.9g/t
MYGD011	74.8m @ 1.8g/t, 62.9m @ 2.6g/t and 66.0m @ 2.1g/t
MYGD112	40.0m @ 0.8g/t, 52.0m @ 0.9g/t and 51.0m @ 1.5g/t
MYGD010	61.0m @ 1.5g/t, 24.0m @ 3.0g/t and 29.9m @ 2.2g/t

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Kalgoorlie Operations

Ongoing exploration and growth drilling programs within the mines and surrounding areas have achieved excellent results that have the potential to materially extend the production profile of the Kanowna Belle and South Kalgoorlie Operations.

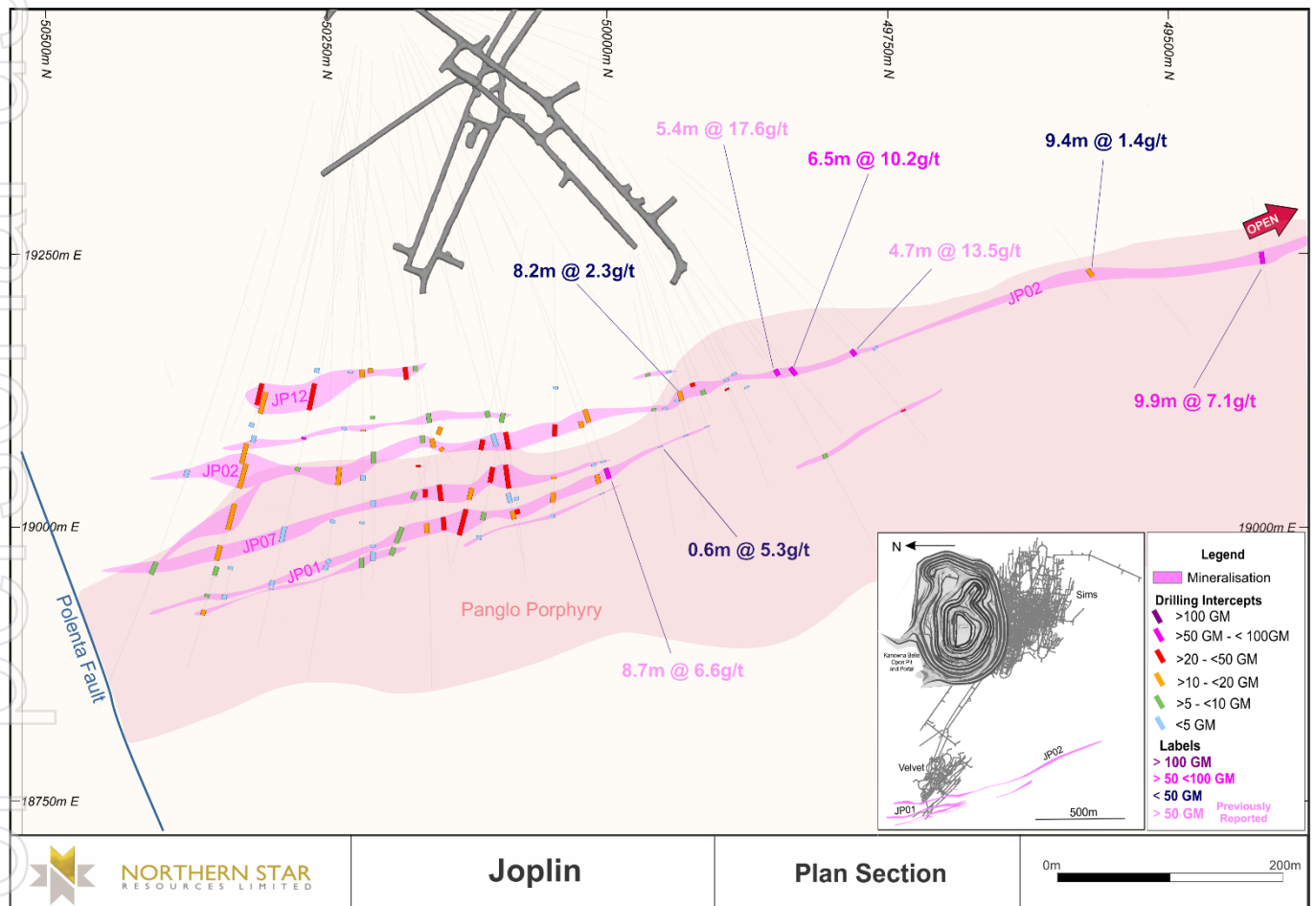
Joplin

The Joplin lodes are located within 1km of the main Kanowna Belle orebody and less than 300m from the existing Velvet mining area.

The Joplin lodes comprises multiple, sub-parallel, steeply east-dipping mineralised structures within, and on the sheared contacts of, the Panglo Porphyry and Grave Dam Grit. Gold mineralisation is typically associated with sulphide-carbonate breccia veins and pervasive sericite-carbonate alteration.

Recent drilling at Joplin continues to deliver multiple high-grade intercepts in both infill drilling and extensional programs south of the deposit including **9.9m @ 7.1g/t**.

Figure 7 - Joplin JP02 lode long section, Kanowna Belle



Joplin will provide an additional mining area for Kanowna Belle and is expected to commence mining operations in 2H24.

Significant Joplin underground drill results include:

All widths are estimated true width

JPGC033	2.2m @ 40.4g/t
JPGC23039	3.4m @ 21.1g/t
JPRT23023	9.9m @ 7.1g/t
JPGC23041	6.5m @ 10.1g/t

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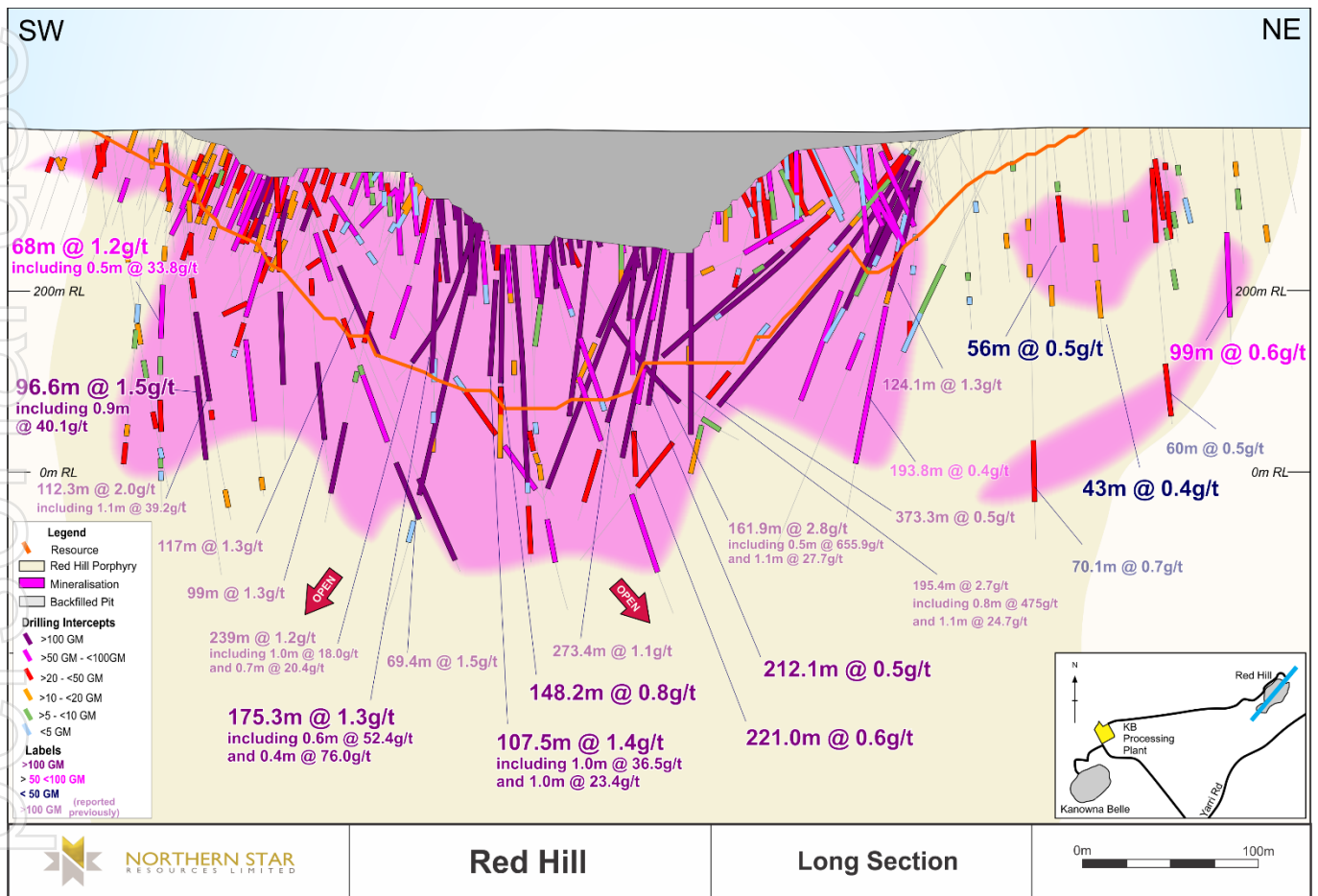
Red Hill

The Red Hill deposit is located 3km east of the Kanowna Belle processing plant and 22km from KCGM's Fimiston processing plant. The current Mineral Resource at Red Hill of **32.4Mt @ 1.1g/t for 1.2Moz** remains open in several directions.

Gold mineralisation at Red Hill is characterised by quartz stockwork vein arrays containing sulphides and visible gold that typically dip shallowly to the north within a large porphyry intrusion.

Recent drilling has focused on testing the extent of mineralisation to the north-east and south-west while improving confidence limits of the current resource. Two diamond drill rigs are working at improving the understanding of grade and geological continuity as well as supporting geotechnical investigations and metallurgical testing.

Figure 8 - Red Hill long section



Significant Red Hill underground drill results include:

All widths are downhole widths due to the stockwork nature of mineralisation

RHDD23064	107.5m @ 1.4g/t
RHDD23065	136.4m @ 0.8g/t
RHDD23066	175.3m @ 1.3g/t
RHDD23061	68.0m @ 1.2g/t
RHRC23005	99.0m @ 0.6g/t

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South Kalgoorlie Operations

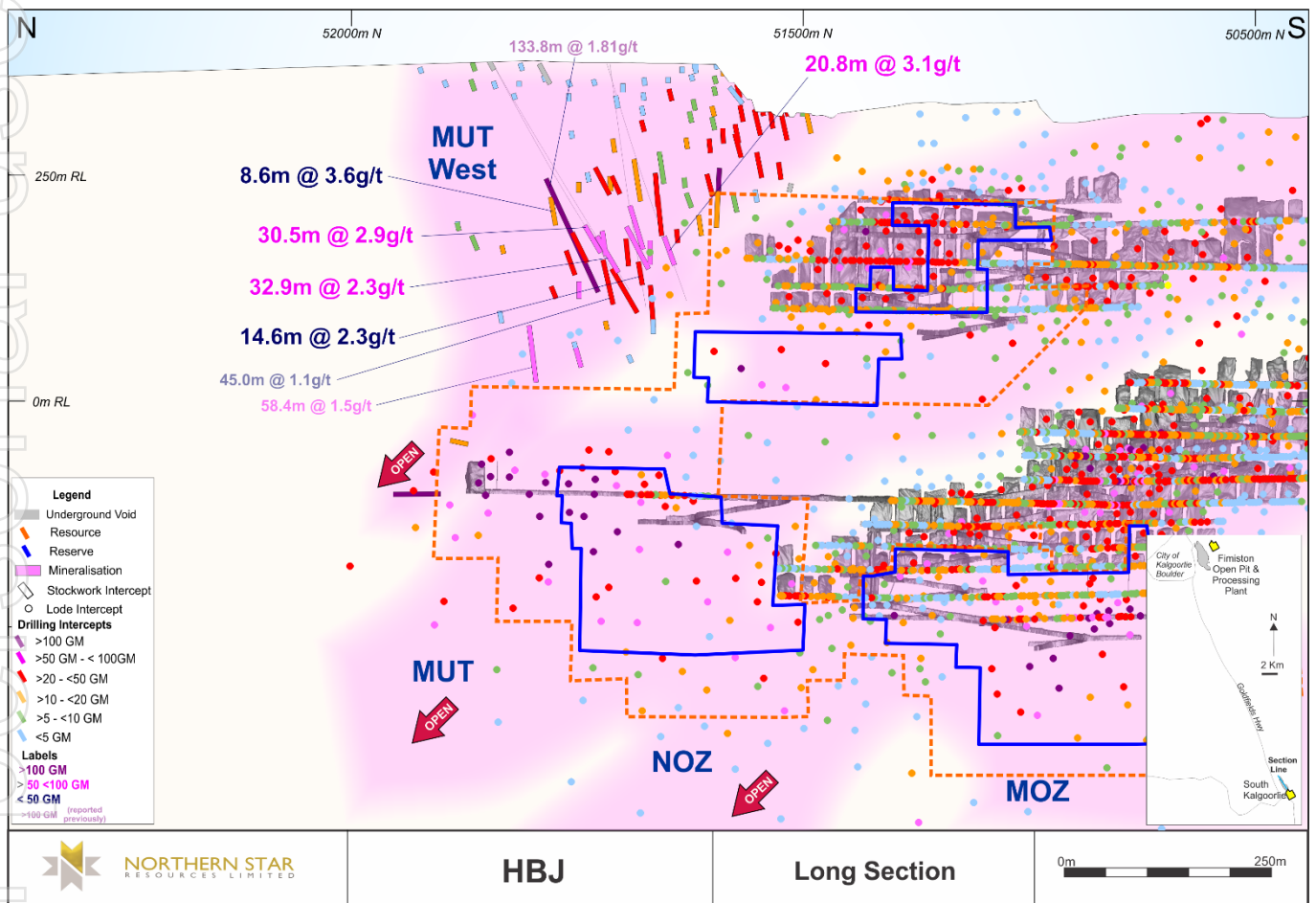
HBJ – Mutooroo West

The HBJ underground mining operation is located 25km south of Kalgoorlie where gold mineralisation is hosted within and adjacent to the regionally significant Boulder-Lefroy Fault system. Mutooroo West, located north of the existing HBJ mine, is a dolerite hosted, quartz-sulphide stockwork style of mineralisation.

Recent diamond drilling from the surface has returned encouraging results including **30m @ 2.9g/t** and **20.8m @ 3.1g/t** beyond the current resource model and represent an opportunity for further growth.

A new drill platform has been established and infill drilling has recently commenced. The new drill platform will provide mining access to the area following completion of the drilling.

Figure 9 - HBJ long section with Mutooroo West drill results



Significant Murtooroo West underground drill results include:

All widths are downhole widths due to the stockwork nature of mineralisation

MWRSD23002	30.5m @ 2.9g/t
MWRSD23003	32.9m @ 2.3g/t
MWRSD23004	14.6m @ 2.3g/t
MWRSD23005	20.8m @ 3.1g/t

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Hercules

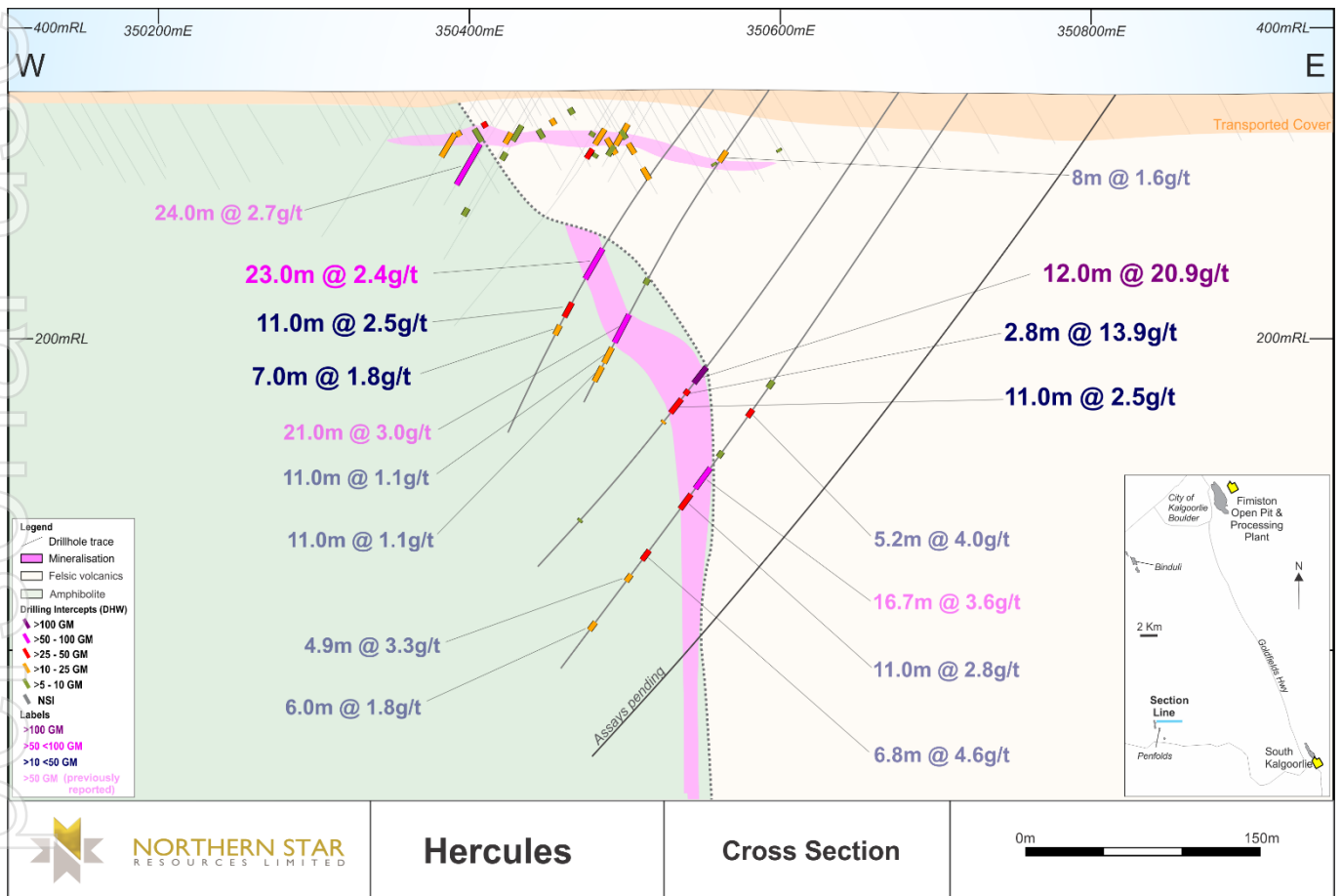
Exploration diamond and reverse circulation (RC) drilling has continued at the Hercules discovery, which was announced in May 2023. Hercules is located 20km west of the HBJ mine and 35km south-west of KCGM’s Fimiston processing plant.

Continued exploration drilling has returned significant results including **12m @ 20.93g/t** and **40m @ 3.57g/t**.

At Hercules, primary gold mineralisation is associated with quartz-carbonate-sulphide vein arrays developed along a structural contact between an amphibolite unit and an overlying meta-volcaniclastic sequence. Significant drilling intersections through the mineralised contact zone have been returned over a 500m strike length and to a depth of 350m below surface.

Further drilling is planned to improve the understanding of the mineralisation and testing along the defined strike extents.

Figure 10 - Hercules long section



Significant Hercules underground drill results include:

All widths are downhole widths

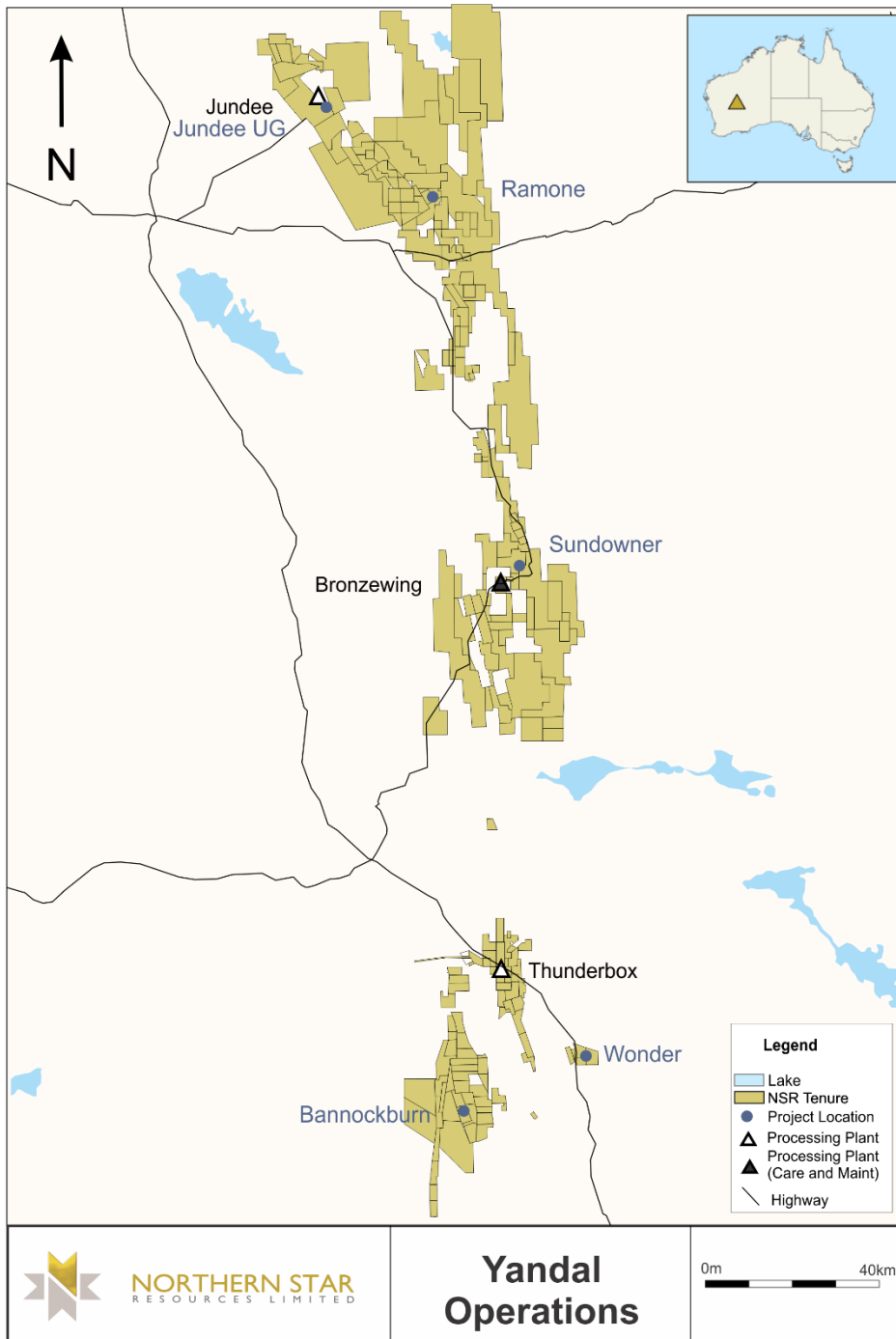
HEDD23003	12m @ 20.93g/t including 0.95m @ 16.1g/t, 0.54m @ 20.7g/t, 0.77m @ 24.2g/t and 0.7m @ 11.2g/t
HERC23049	40m @ 3.57g/t including 1m @ 48.3g/t and 1m @ 11.5g/t
HERC23044	33m @ 2.38g/t including 1m @ 10.25g/t and 1m @ 23.9g/t
HERC23046	25m @ 2.25g/t
HERC23048	23m @ 2.41g/t including 1m @ 16.8g/t

YANDAL OPERATIONS

The Yandal region covers an area of approximately 180 strike kilometres encompasses several key greenstone belts stretching from Jundee in the north to Thunderbox in the south.

Drilling has continued across operational, growth and discovery projects with strong results highlighting future growth opportunities along this highly prospective belt.

Figure 11 - Yandal Production Centre location map



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Jundee Operations

Griffin

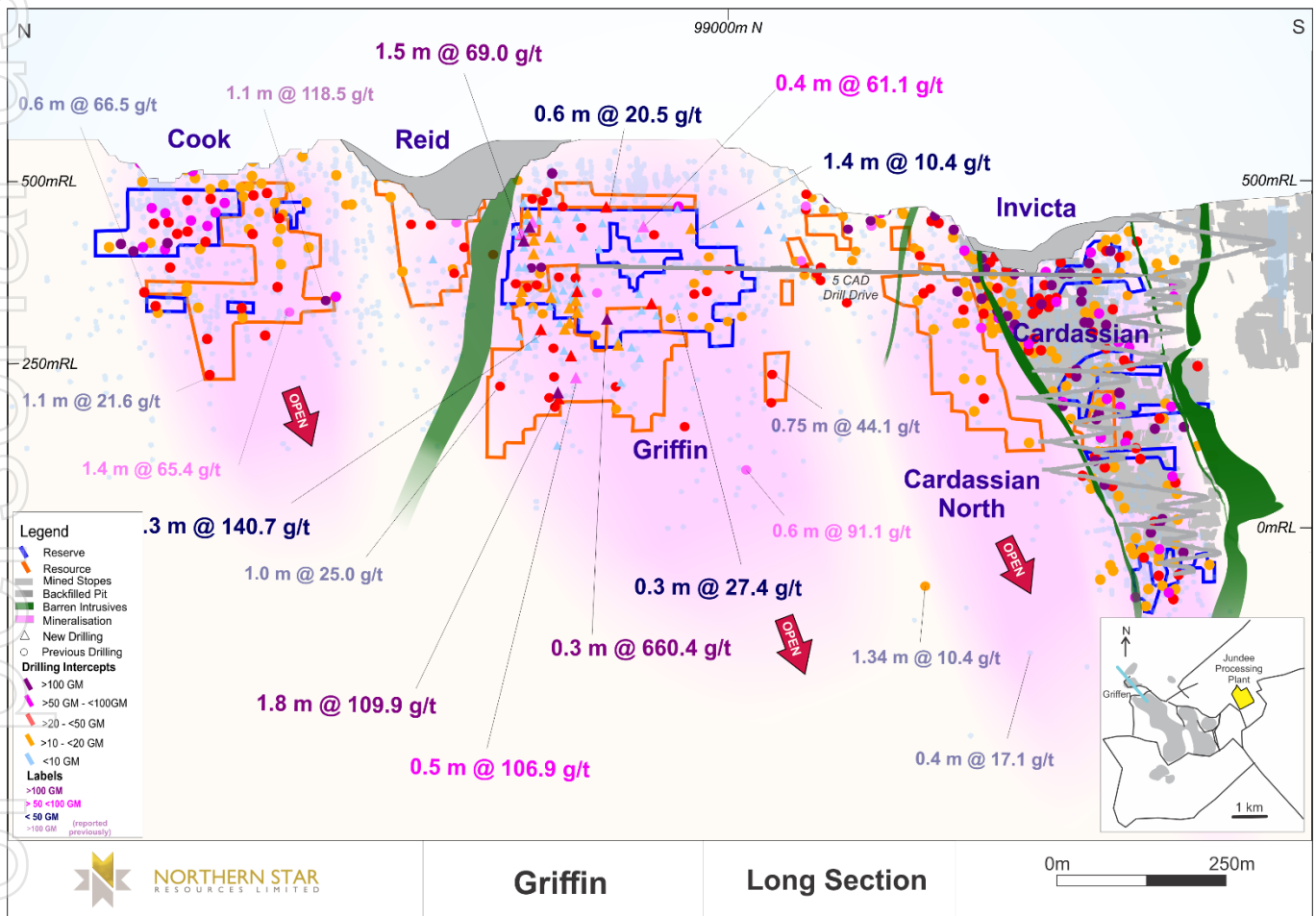
The Jundee underground mine consists of a number of mining areas spanning over 4km. Griffin is situated to the northern end of the Invicta mining area.

Gold mineralisation at Griffin occurs as typical shear-hosted, quartz-carbonate and breccia veins that vary in width from 0.1m to 2.2m. Visible gold occurrences are common.

Recent drilling has continued to expand the economic extents of mineralisation along strike, down-dip and in the footwall of the main structure. Drilling has focused on resource conversion within the upper levels of the system to inform a future mine design and economic assessment.

Drilling is currently underway from both the surface and underground, with underground drilling focused on growing the Ore Reserves and surface drilling testing the system's potential at depth below the current resource.

Figure 12 - Griffin long section and new drill results



Significant Griffin underground drill results include:

All widths are estimated true width

CDGC1052	1.8m @ 109.9g/t
CDGC1086	1.5m @ 69.0g/t
CDXP0685	0.3m @ 660.4g/t
CDGC1057	0.5m @ 106.9g/t

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Ramone

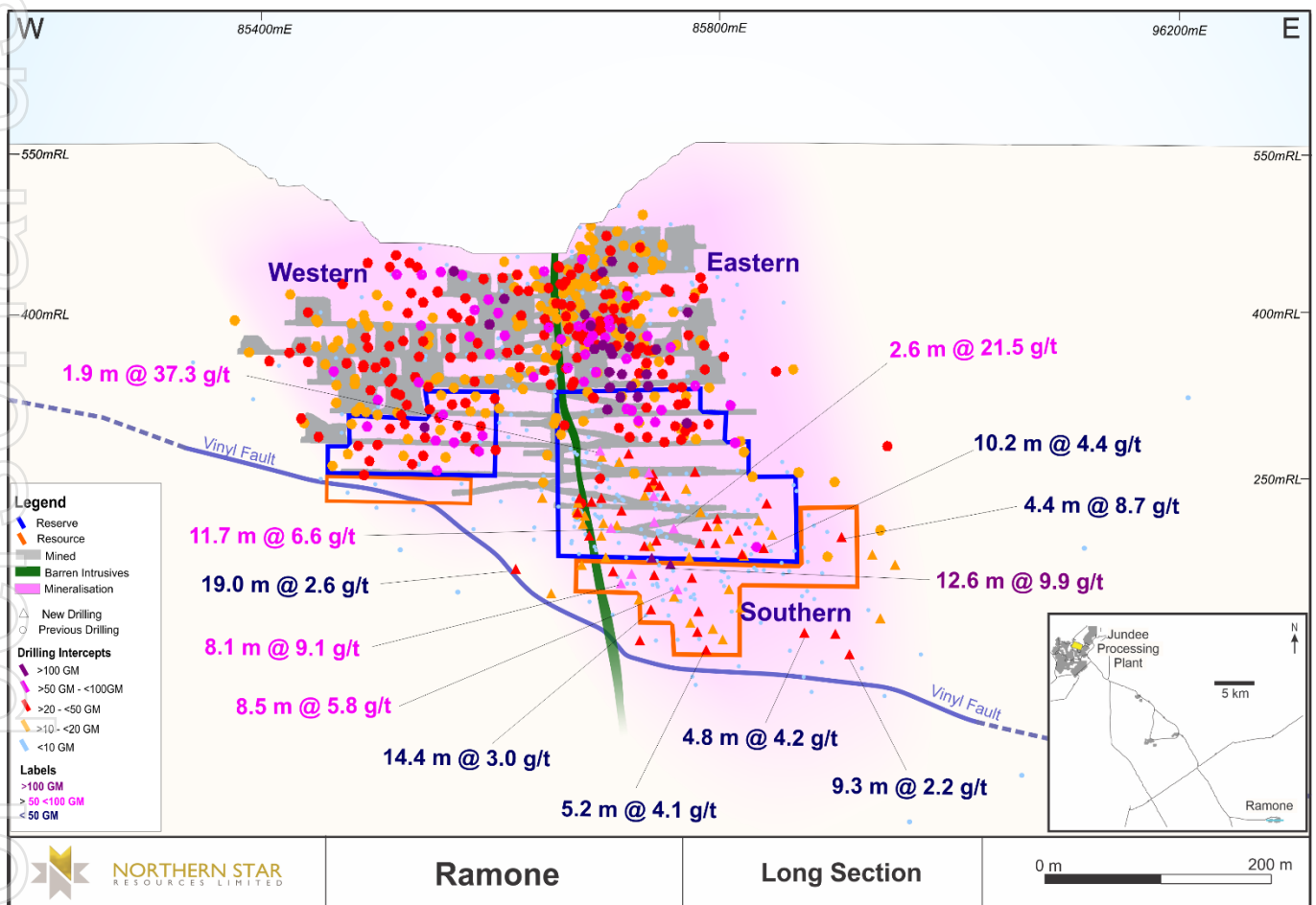
The Ramone mine lies 35km south-east of the Jundee processing plant. To date, 2.9Mt for 187,000 ounces, have been produced from both open-pit and underground sources.

The deposit is hosted in an Archean granite with gold mineralisation that is associated with north-east trending shear zones. The mineralisation is characterised by narrow smoky quartz veins with sulphide, carbonate, chlorite and sericite alteration extending 700m along strike and 550m vertically.

Recent extensional drilling has primarily targeted down-plunge extensions of the high-grade Eastern lodes. This drilling has identified several previously unmodelled mineralised structures collectively referred to as the Southern Lodes. Drilling of the Western Lodes also continued to define additional material and improve grade.

Future drilling will continue to target potential down-plunge extensions of the high-grade Eastern trend along with further exploration and resource development of the newly identified Southern lodes.

Figure 13 - Ramone long section and new drill results



Significant Ramone underground drill results include:

All widths are estimated true width

RURTO017	4.4m @ 10.2g/t including 0.3m @ 128.6g/t
RURD0018	11.7m @ 6.6g/t including 3.7m @ 17.3g/t
RURD0022	8.1m @ 9.1g/t including 2.6m @ 23.6g/t
RURD0029	19.0m @ 2.6g/t including 7.3m @ 4.7g/t

Thunderbox Operations

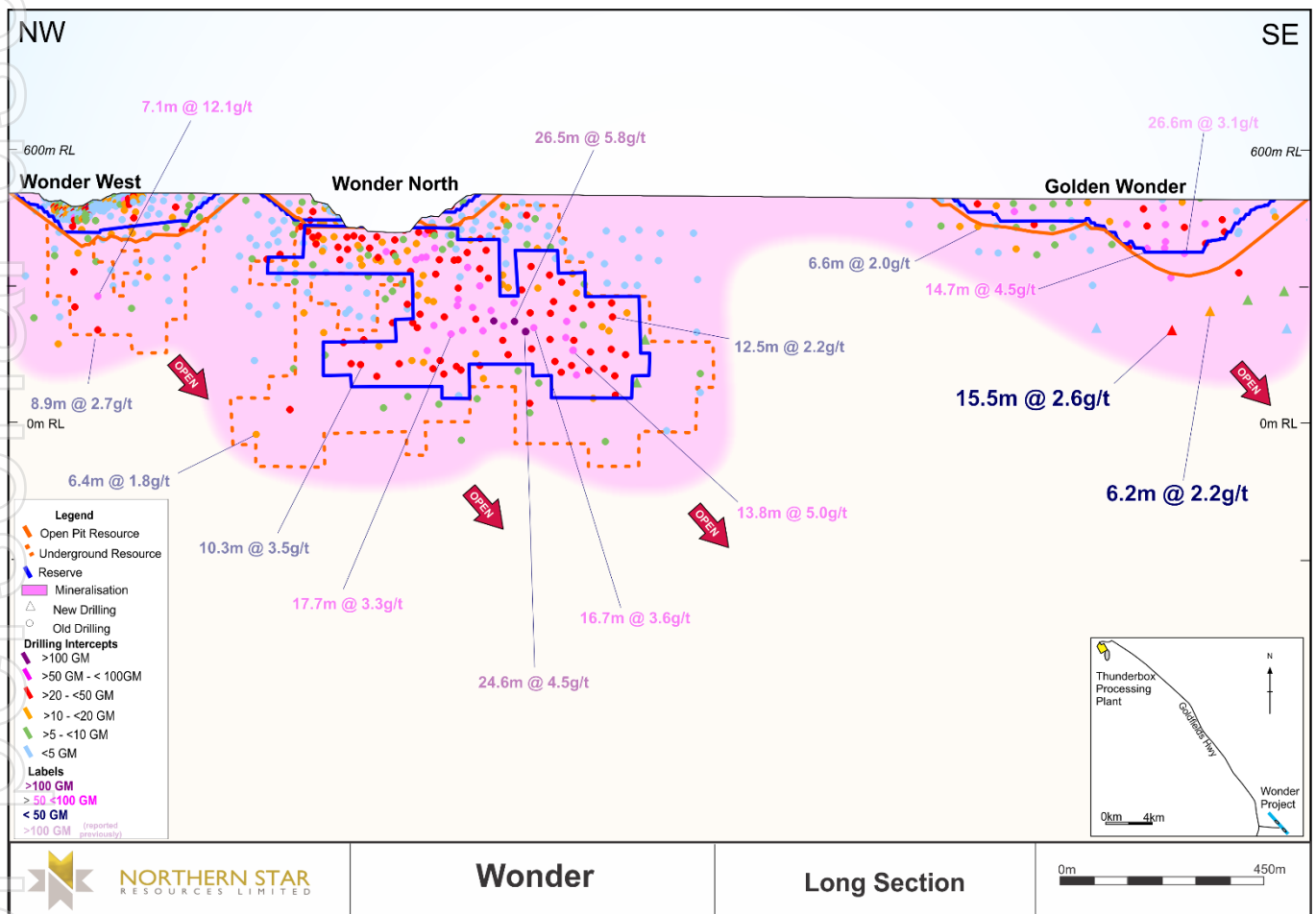
Wonder

The Wonder complex is located 25km south of the Thunderbox processing plant. A maiden underground Reserve was declared in May 2023, with underground mining expected to commence in 2H24 at Wonder North.

Recent drilling at the Golden Wonder discovery continued to deliver impressive results including **15.5m @ 2.6g/t** 170m below the current Mineral Resource. The mineralisation is characterised by smoky quartz breccia veins hosted within a granite host rock.

All deposits remain open at depth with future extensional drilling to be from both dedicated underground drill platforms and surface locations.

Figure 14 - Wonder North and Golden Wonder long section and new drill results



Significant Golden Wonder underground drill results include:

All widths are estimated true width

GWRD0007	15.5m @ 2.6g/t and 4.4m @ 5.37g/t
GWRD0006	6.8m @ 1.34g/t
GWRD0001	6.2m @ 2.2g/t
GWRD0002	5.8m @ 1.5g/t

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Bannockburn

The historic Bannockburn mining centre is located 40km south-west of the Thunderbox Operations.

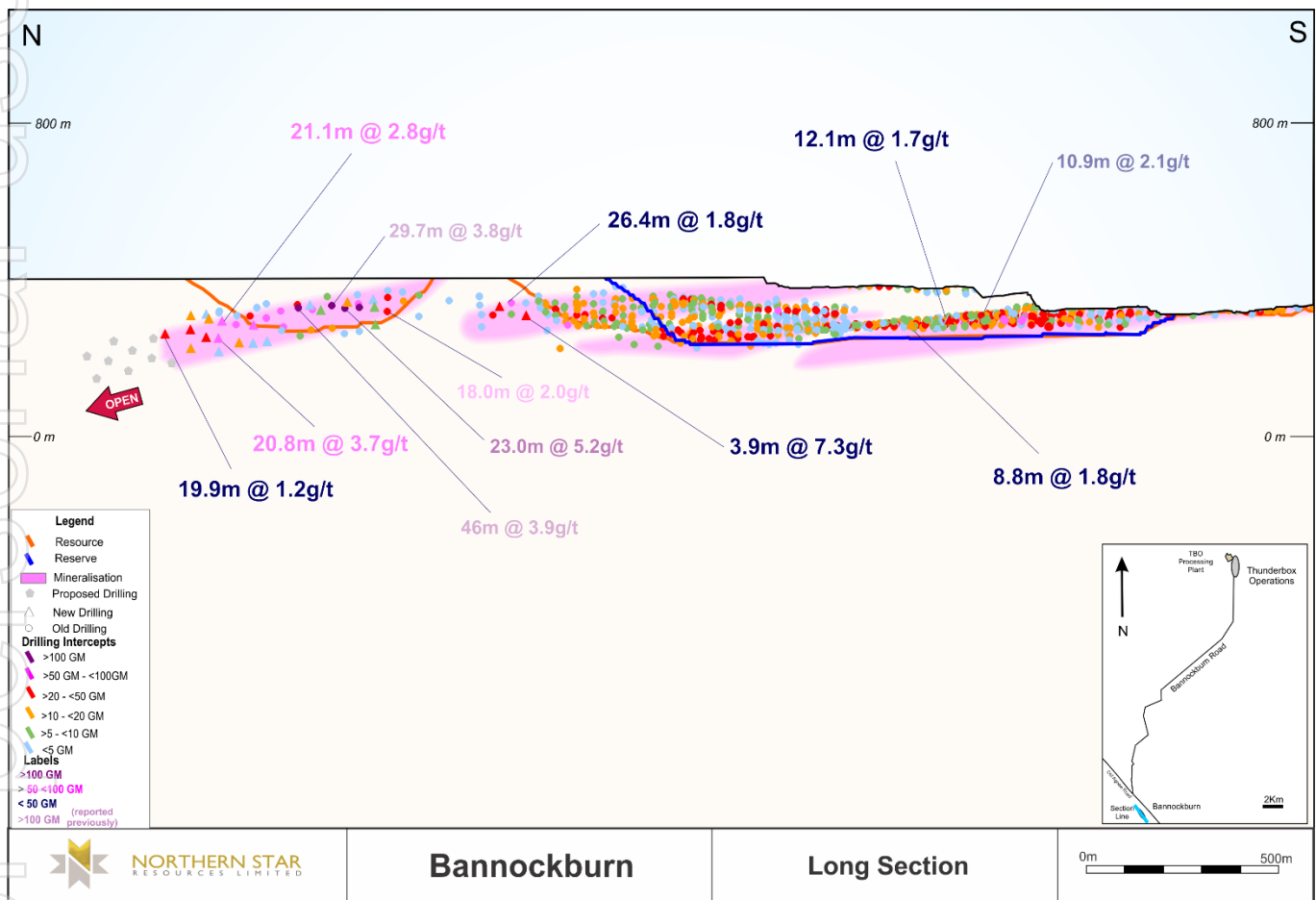
In 2021, exploration drilling along strike to the north of Bannockburn identified a new high-grade mineralisation trend which has been the focus of drilling during FY23 and so far in FY24.

The Bannockburn mineralisation is hosted in a sequence of tholeiitic, high magnesium and komatiitic basalts with intercalated sedimentary and intermediate volcanoclastic horizons intruded by dolerite and gabbro sills.

Gold mineralisation consists of intense silica alteration within breccia and stockwork veining with abundant arsenopyrite. Interflow shale units within the stratigraphy have acted as a localised control on the mineralisation.

Drilling is continuing to expand the down-plunge extents of the newly discovered extension, which remains open to the north.

Figure 15 - Bannockburn long section and new drill results



Significant Bannockburn underground drill results include:

All widths are estimated true width

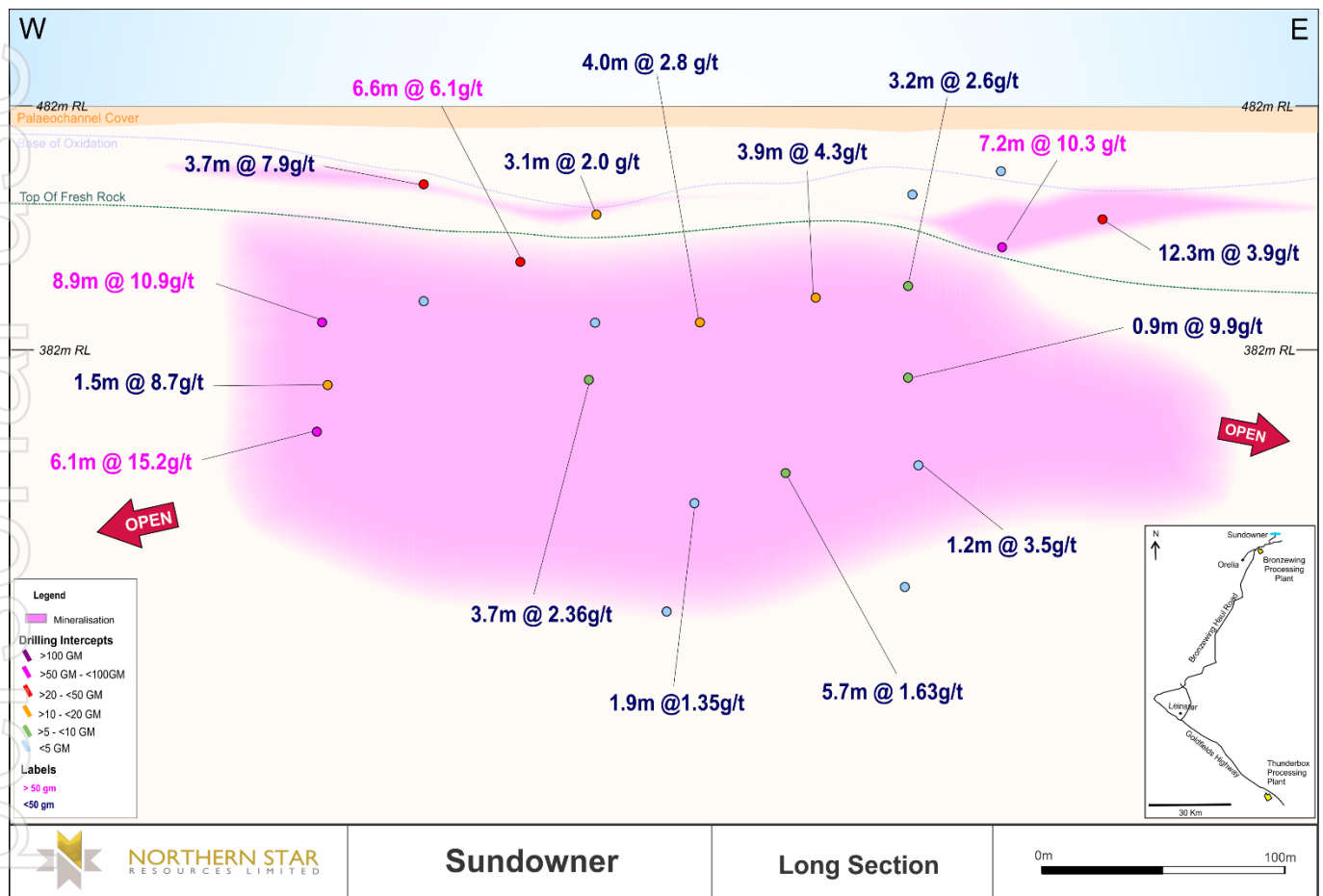
BBRC0243	21.1m @ 2.8g/t
BBRC0244	20.8m @ 3.7g/t
BBRC0250	16.4m @ 4.5g/t
BBRC0274	20.5m @ 2.2g/t
BNWR003	12.3m @ 2.2g/t

Sundowner

The Sundowner prospect is located 7km north of the historic Bronzewing mine and within economic trucking distance to the Thunderbox processing plant. Historical drilling at the prospect identified two north-south orientated zones of supergene mineralisation preserved beneath 10-20m of cover.

Recent diamond and RC exploration drilling beneath the eastern supergene zone has located a primary gold-bearing structure within quartz-carbonate veining in a predominantly mafic volcanic host sequence. This drilling returned a number of strong results highlighting the potential of the prospect. Future drilling will be aimed at improving the geological understanding of the primary mineralisation and structure.

Figure 16 - Sundowner long section and new drill results



Significant Sundowner diamond drill results include:

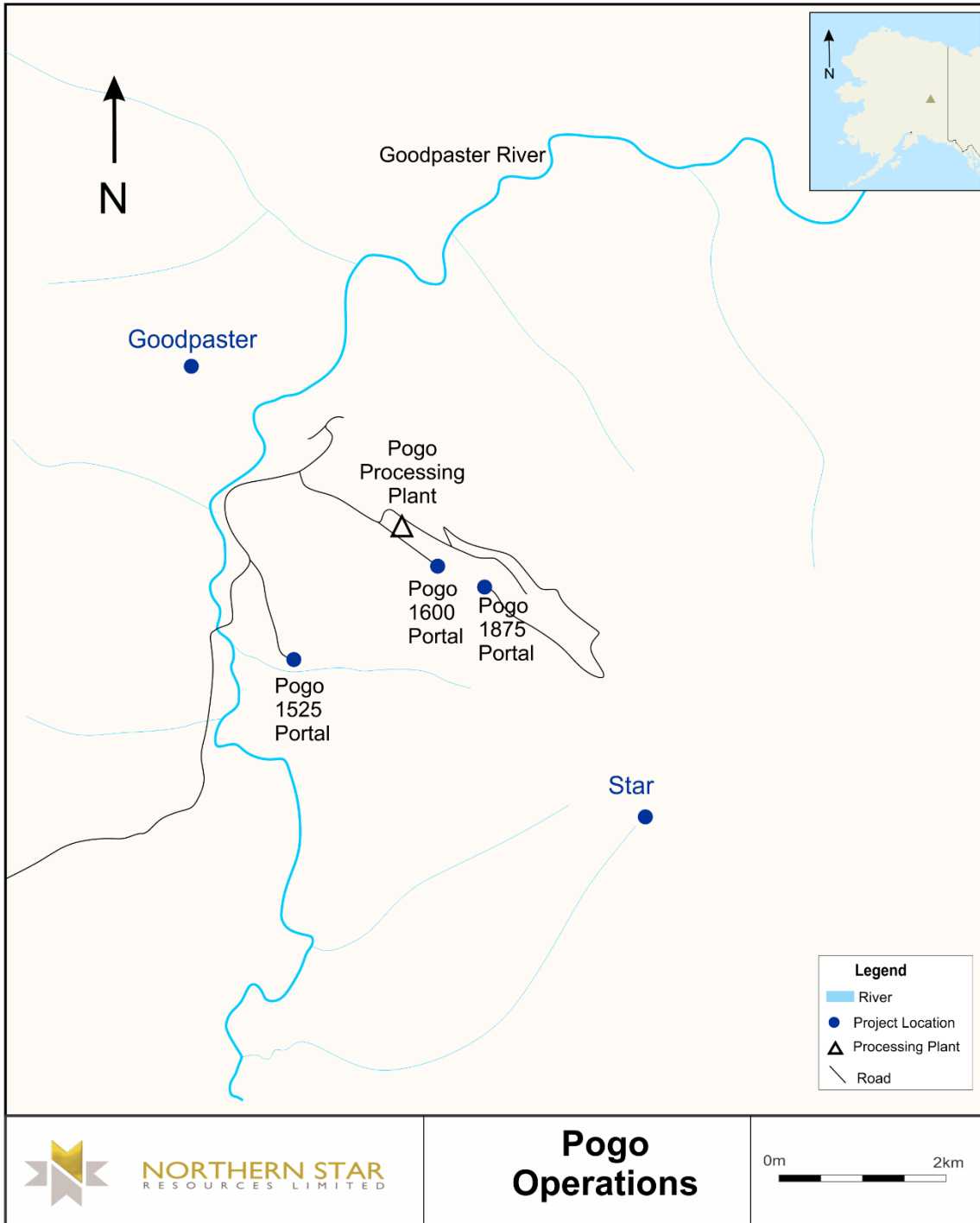
All widths are estimated true width

NSRYXR00672	8.9m @ 10.95g/t including 3m @ 47.79g/t
NSRYXR00673	6.1m @ 15.23g/t including 5m @ 26.28g/t
NSRYXR00369	7.2m @ 10.30g/t including 1m @ 56.28g/t
NSRYXR00365	12.3m @ 3.96g/t including 1m @ 21.66g/t
NSRYXR00519	6.6m @ 6.12g/t including 1m @ 21.66g/t and 1m @ 15.72g/t

POGO OPERATIONS

The Pogo Operations lie within the highly prospective Tintina Gold Province of Alaska, USA, and to date has produced more than 4.8 million ounces of gold. In FY24, surface exploration continued at the Star prospect, focused on defining the continuity and extents of this newly discovered vein system.

Figure 17 - Pogo Operations location map



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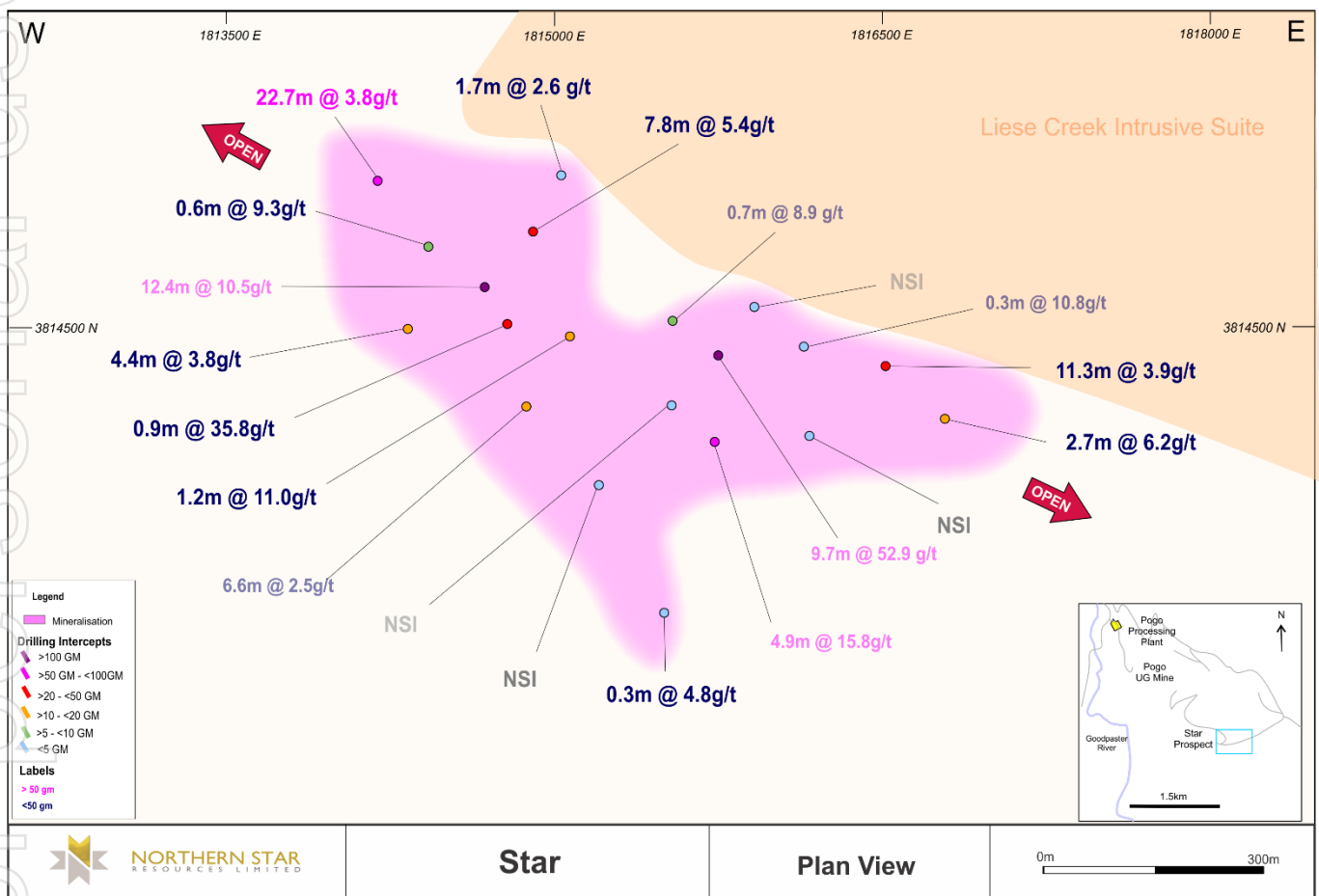
Star

The Star prospect comprises a Liese-style quartz vein system located 1.3km south of the Pogo mine development. A further 16 diamond drill holes have been completed at the prospect since the discovery of significant gold mineralisation in May 2023. Positive assay results returned for the principal host structure have expanded the Star mineralised footprint to an area now measuring 1.1km (dip) by 450m (strike).

The Star vein structure dips moderately to the north-west and is characterised by a quartz-bismuthinite-telluride-arsenopyrite ± visible gold infill mineral assemblage. This structure and subordinate parallel veins are hosted in the highly prospective paragneiss sequence in a similar geological setting to the Liese and Goodpaster vein systems.

The wide-spaced FY24 exploration drilling campaign has so far successfully mapped the up-dip extents and broad geometry of the Star quartz vein system. A full geology interpretation and economic assessment will occur for the remainder of FY24, prior to a targeted infill drilling program in FY25 to quantify resource potential.

Figure 18 - Star long section (plan view) and diamond drill results



Significant Star diamond drill results include:

All widths are estimated true width

DH23-002	7.8m @ 5.4g/t
DH23-004	0.9m @ 35.8g/t
DH23-006	1.7m @ 22.1g/t
DH23-010	10.5m @ 3.9g/t
DH23-012	22.7m @ 3.8g/t including 0.3m @ 53.3g/t and 0.3m @ 39.6g/t

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Authorised for release to the ASX by Stuart Tonkin, Managing Director & CEO.

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Competent Persons Statement

The information in this announcement that relates to exploration results, data quality and geological interpretations for the Company's Operations is based on information compiled by Daniel Howe, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy and a full-time employee of Northern Star Resources Limited. Mr Howe has 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 Howe consents to the inclusion in this announcement of the matters based on this information in the form and context in which it appears.

ASX Listing Rules Disclosures

The information in this announcement that relates to the current Ore Reserves and Mineral Resources of Northern Star has been extracted from the ASX release by Northern Star entitled "Resources, Reserves and Exploration Update" dated 4 May 2023 available at www.nsrld.com and www.asx.com ("Northern Star Announcement").

Northern Star confirms that it is not aware of any new information or data that materially affects the information included in the Northern Star Announcement other than changes due to normal mining depletion during the seven month period to 20 November 2023, and, in relation to the estimates of Northern Star's Ore Reserves and Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the Northern Star Announcement continue to apply and have not materially changed. Northern Star confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from that announcement.

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APPENDIX A: DRILL RESULTS

KCGM – FIMISTON UNDERGROUND SIGNIFICANT INTERSECTIONS											
Drill Hole #	Easting (MGA)	Northing (MGA)	Drill hole collar RL (MGA)	Dip (deg)	Azimuth (deg, MGA)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
FNUD0122	356070	6594729	255	-58	22	372.0	366.6	371.96	5.36	2.4	4.0
FNUD0123	356066	6594730	254	-53	23	452.9	355.34	363.8	8.46	3.6	6.6
FNUD0124	356070	6594729	255	-49	24	540.4	341	347.4	6.4	1.6	5.2
FNUD0125	356070	6594729	255	-62	27	383.6	373	383.64	10.64	1.9	8.0
FNUD0126	356070	6594729	255	-60	30	597.4	363	374	11	1.3	8.6
FNUD0127	356070	6594729	255	-54	30	555.4	344	359	15	1.6	12.5
FNUD0140	355867	6595008	195	-52	93	586.0	298.4	299.35	0.95	5.9	0.7
FNUD0140A	355867	6595008	195	-48	114	612.2	359.59	368.95	9.36	4.5	6.3
FNUD0160	355814	6595179	169	-48	63	456.0	177.7	182	4.3	0.8	3.7
FNUD0161	355814	6595179	170	-44	54	402.2	172.9	176.4	3.5	1.1	3.2
FNUD0163	355814	6595179	169	-56	55	480.0	179.3	180.5	1.2	2.4	1.0
FNUD0166	355814	6595178	170	-51	80	288.2	186.7	194.11	7.41	1.3	5.8
FNUD0167	355814	6595178	170	-56	84	468.3	196	202	6	1.3	4.4
FNUD0168	355814	6595178	169	-50	88	483.2	201	210	9	9.5	6.6
FNUD0169	355814	6595178	169	-53	86	456.1	199.32	206.5	7.18	3.5	5.1
FNUD0172	355814	6595180	171	-2	46	384.1	177.5	178	0.5	0.0	0.5

KCGM - MT CHARLOTTE - DUKE SIGNIFICANT INTERSECTIONS											
Drill Hole #	Easting (MGA)	Northing (MGA)	Drill hole collar RL	Dip (deg)	Azimuth (deg, MGA)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
DKUD009	355132	6597642	-4	-16.6	176.1	670	218	316	98	0.4	2.5
							and	549.6	629.2	79.6	0.2
							and	629.2	634	4.8	16.3
							and	634	663	29	1
DKUD010	355132	6597642	-4	-25.2	180.3	669	356.6	484.6	128	0.5	
							including	427	435	8	2.7
							and	568.2	612.3	44.1	0.9
							and	613.1	669.3	56.2	0.8
DKUD011	355132	6597642	-4	-11.5	177	549	234.7	470	235.3	0.4	
DKUD012	355132	6597642	-5	-38.4	190.5	696	249.6	570.1	320.5	0.6	
							including	457	467	10	3.5
							and	574.5	616	41.5	0.3
							and	690	696.4	6.4	5.1
DKUD015	355132	6597642	-4	-5.2	180.7	531	264	381	117	0.3	
							and	402	416.6	14.6	0.8
DKUD016	355132	6597642	-4	-1	171.9	720			NSI		
DKUD017	355132	6597642	-4	-11.1	182.9	504	177	367	190	0.5	
							including	331	365	34	1.1
							and	404	429.5	25.5	1.2
DKUD018	354829	6597365	-60	-18.5	106.5	237	190.3	196	5.7	4.2	4.7
DKUD019	354828	6597364	-61	-41.9	110.2	249			NSI		
DKUD020	354828	6597364	-61	-39.7	125.7	318	201	280	79	1.2	
							including	217.3	217.8	0.5	98.3
							and	280	304	24	1.7
							including	280	291	11	3.1
DKUD021	354829	6597365	-61	-57	106.4	276	174	194.3	20.3	0.7	5.9
DKUD022	354828	6597364	-61	-58.4	121.1	363	207.2	219.4	12.2	1.1	3
							and	236.9	363	126.1	0.4
							including	314	356	42	0.8
DKUD023	354829	6597365	-60	-57.4	131	360	192.7	247	54.3	0.7	
							including	195.6	196.2	0.6	44.2
							and	247	270.7	23.7	2.6
							including	250	263.7	13.7	3.8
							and	284.7	359.8	75.1	0.5
DKUD024	354828	6597364	-61	-64.4	122.3	339	241	338.9	97.9	0.4	
							including	310.6	317	6.4	3.4
DKUD025	354828	6597364	-61	-66.9	103.2	300	221	299.6	78.6	0.2	
DKUD026	354828	6597364	-61	-72.7	104.9	318	181.7	187	5.3	5.3	
							including	225	317.7	92.7	0.4
DKUD027	354851	6597393	-62	-39.8	148.9	504	225.8	421	195.2	1.2	
							including	362	369.1	7.1	5.2
							including	386	390	4	3.1
							and	421	430	9	6.6
DKUD028	354850	6597393	-62	-38.5	152.2	516	245	475	230	0.5	
							including	386	394	8	1.9
							including	405.3	409	3.7	3.7
DKUD029	354850	6597393	-62	-45.5	151.5	465	225	265	40	1.1	
							including	261	266.1	5.1	8.1
							and	274.8	435	160.2	0.4
DKUD030	354850	6597393	-62	-45	154.9	433	240	432.5	192.5	0.3	
							including	278	283.4	5.4	2.1
DKUD031	354850	6597393	-61	-53.6	150	456	215	262	47	0.5	
							and	266	277	11	2.6

APPENDIX A: DRILL RESULTS

KCGM - MT CHARLOTTE - DUKE SIGNIFICANT INTERSECTIONS											
Drill Hole #	Easting (MGA)	Northing (MGA)	Drill hole collar RL (MGA)	Dip (deg)	Azimuth (deg, MGA)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
							304.3	319	14.7	3.2	
							including 307.8	315.9	8.1	5.2	1.6
								336.1	347.2	11.1	1.2
							including 341	344	3	3.7	
							and 372	456	84	0.4	
DKUD032	354850	6597393	-62	-53.5	154.6	441	237	327.7	90.7	0.5	
								327.7	334	6.3	2.7
							including 332.9	334	1.1	12.9	0.4
							and 352	389	37	6	
							including 354	359.7	5.7	33	0.8
							including 385.5	388	2.5	9.9	0.3
DKUD033	354850	6597393	-62	-63.4	154	393	304.9	393	88.1	4.5	
							including 351.1	362.9	11.8	31	
DKUD034	354849	6597393	-62	-61.8	160.6	444	315.5	377.7	62.2	1	
							including 330	339	9	1.8	
							including 352.9	353.3	0.4	50.7	0.1
							and 399.4	443.7	44.4	0.4	
DKUD035	354849	6597392	-62	-39.3	153.9	514	257	514.3	257.3	0.6	
							including 296.1	299	2.9	4.3	
							including 377	387	10	2.1	
DKUD036	354827	6597363	-61	-40.6	151.9	483	321.8	470	148.2	0.4	
DKUD037	354827	6597363	-60	-46.4	150.8	489	255.4	474.2	218.8	0.4	
DKUD038	354827	6597363	-60	-46.6	154.5	449	285	449	164	0.6	
							including 334	347	13	2.6	
							including 356	365	9	1.8	
DKUD039	354849	6597393	-62	-52.9	156.1	489	473.7	478.2	4.5	39.6	
							including 475	477	2	88	0.1
DKUD040	354827	6597363	-61	-54.6	153.7	372	269.2	335	65.9	1	
							including 287	288	1	40.3	
DKUD041	355100	6597634	-93	8.8	188.5	390	33	277.4	244.4	0.2	
							including 272.5	275.5	3	6.3	
							and 381	384	3	6.1	
DKUD041A	355100	6597634	-93	10.1	184.3	396	30.6	33	2.4	140.9	1.8
							and 33	310	277	1.5	
							and 313.3	342	28.8	0.7	
DKUD042	355100	6597634	-93	1	193.5	365	33	120.5	87.5	0.2	
							and 210.5	289.4	78.8	0.2	
DKUD042A	355100	6597634	-93	1.9	189.3	370	39.4	182	142.6	0.3	
DKUD043	355100	6597634	-93	-5.8	186.8	402	38.2	100	61.8	0.4	
							and 181.8	202.5	20.7	1.2	10.4
							and 202.5	336.5	134	0.3	
DKUD044	355100	6597634	-94	-10.1	185.3	435	23	75	52	0.3	
							and 167	176.5	9.5	1.5	4.2
							and 193	350.2	157.2	0.4	
DKUD045	355099	6597634	-94	-17	191.5	441	23	70	47	0.2	
							and 127.4	138.2	10.8	1.8	6.1
							and 139.8	318	178.2	0.6	
							including 173	178.6	5.6	4.8	
							including 183.8	191	7.2	1.5	
							including 214.4	217.4	3	3.6	
							including 243	252.5	9.5	1.5	
							including 303.7	317.2	13.6	1.5	
							and 429	441.4	12.4	1.2	
DKUD046	355099	6597634	-94	-25.7	191.9	450	138	379	241	0.7	
							including 185	185.8	0.8	18.6	
							including 193	199.2	6.2	1.7	
							including 294	306	12	4.3	
							including 316.4	321	4.6	9	
							and 430	440	10	4.9	6.5
DKUD046A	355099	6597634	-94	-24.3	185.5	242	22	79	57	0.2	
							and 149	241.8	92.8	0.5	
							including 199	213	14	1.4	
							including 231	239	8	1.5	
DKUD046B	355099	6597634	-94	-27.7	188.8	507	23.1	76	52.9	0.2	
							including 23.1	25	1.9	1.6	
							and 123.4	133	9.6	2	
							and 137.3	391.1	253.9	0.4	
							including 278	296	18	1.7	
							and 433.5	439	5.5	10.6	3.4
							and 472.4	507.4	35	0.7	
							including 472.4	476.5	4.1	2.7	
							including 502.4	506.5	4.1	2.6	
DKUD047	355099	6597634	-94	-15.4	195.1	404	31	79.2	48.2	0.4	
							including 59	61.3	2.3	5.5	
							and 139.5	284	144.5	0.2	
							and 372.9	381.2	8.3	1.5	6.3
							and 381.2	398	16.8	1.1	
							including 387.6	397.3	9.7	1.8	

APPENDIX A: DRILL RESULTS

KCGM - MT CHARLOTTE - DUKE SIGNIFICANT INTERSECTIONS											
Drill Hole #	Easting (MGA)	Northing (MGA)	Drill hole collar RL (MGA)	Dip (deg)	Azimuth (deg, MGA)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
DKUD049	355099	6597634	-94	-28.4	198.4	490	26	70.5	44.5	0.3	
							and	122.4	364	241.6	0.7
							including	149	157	8	1.9
							including	295	308	13	7.1
							and	379	382.4	3.4	2.5
							and	426.4	441	14.6	3.2
							and	446	490.1	44.1	0.6
							including	481.6	490.1	8.5	1.6
DKUD050	355098	6597634	-94	-18.9	200.7	411	126	299.8	173.8	0.4	
							including	149.6	168.2	18.5	1.5
							including	196.4	203	6.6	2.2
							and	356.9	373.6	16.7	1.1
											6.3
DKUD051	355099	6597634	-94	-12.1	200	363	41	75.4	34.4	0.6	
							and	117	124	7	1.8
							and	127.2	263.9	136.7	0.4
							including	144	157	13	1.3
							including	167	178.2	11.2	1.9
							and	268.6	271	2.5	8
							and	290.5	293.4	2.9	4.7
											2.3
DKUD053	354851	6597393	-61	-24.3	143.4	447	404	447.1	43.1	1.8	
DKUD060	354850	6597392	-61	-35.6	152.2	468	316	349	33	1.1	
							and	361	428.2	67.2	0.5
MBUD0002	354935	6597321	147	-43.5	139.8	672	371	462	91	0.3	
							and	543.0	578.0	35.0	1.3
MBUD0006	354915	6597304	148	-44.6	144.5	544	501	512	11	5	
MC04335	354878	6597389	84	-53.4	146.3	792	495.7	766	270.3	0.7	
							including	495.7	523.6	24.0	1.2
							including	535.0	574.0	25.0	0.8
							including	593.1	617.0	27.0	0.9
							including	623.0	639.0	28.0	2.0
NCUD002	354935	6597123	163	-77.7	14	558	471	482	11	8.4	
NCUD004	354935	6597122	163	-82	81.4	702	568	702.2	134.2	0.8	

KCGM - MT CHARLOTTE - LITTLE WONDER SIGNIFICANT INTERSECTIONS											
Drill Hole #	Easting (MGA)	Northing (MGA)	Drill hole collar RL (MGA)	Dip (deg)	Azimuth (deg, MGA)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
LWUD0001	355098	6598125	203	-27	171	188.8	27.6	39.0	11.4	1.1	
LWUD0002	355079	6598163	205	28	351	60.0	0.0	30.0	30.0	1.6	
LWUD0003	355060	6598133	204	27	351	179.3	0.0	55.0	55.0	0.8	
							and	112.0	117.6	5.6	0.6
LWUD0004	355062	6598125	201	-27	171	194.4			NSI		
LWUD0005	355043	6598107	201	28	351	185.8	0.0	10.0	10.0	2.2	
							and	39.0	49.0	10.0	3.0
LWUD0006	355040	6598088	197	-27	171	131.8			NSI		
LWUD0007	355021	6598057	195	-27	171	73.6			NSI		
LWUD0008	355019	6598069	198	28	351	170.1	2.0	24.0	22.0	1.0	
							and	64.0	74.0	10.0	3.8
							and	152.0	168.0	16.0	1.2
LWUD0009	355010	6598047	194	-28	171	44.9			NSI		
LWUD0010	354998	6598046	196	27	351	242.8	75.0	86.0	11.0	2.2	
							and	107.0	109.0	2.0	4.7
							and	111.0	127.9	16.9	1.0
							and	156.0	175.0	19.0	0.7
LWUD0011	354974	6598046	194	28	351	101.7			NSI		
LWUD0012	354948	6598044	190	28	351	103.6			NSI		
LWUD0013	354946	6598038	188	-27	171	101.8			NSI		
LWUD0017	354981	6598147	198	-38	153	299.6	13.6	14.5	0.9	7.4	
											9.2
LWUD0018	354957	6598127	199	-37	153	268.4	3.0	41.0	38.0	1.3	
							and	111.3	123.5	12.1	0.6
							and	235.9	241.2	5.3	7.4
LWUD0019	354969	6598137	198	-27	153	269.8	28.8	32.3	3.5	5.0	
							and	68.0	69.0	1.0	5.1
							and	75.7	85.0	9.3	0.5
LWUD0021	354969	6598137	198	-38	153	300.0	189.0	191.0	2.0	2.5	
LWUD0022	354944	6598116	199	-38	153	250.0			NSI		
LWUD0024	354918	6598096	198	-38	153	260.1			NSI		
LWUD0025	354906	6598087	199	-37	153	260.0			NSI		
LWUD0026	354991	6598160	200	40	342	140.0			NSI		
LWUD0027	354990	6598160	201	42	335	130.1			NSI		
LWUD0028	354978	6598151	200	42	335	130.1	100.2	128.9	28.7	1.3	
LWUD0029	354965	6598140	200	42	335	130.1	18.0	23.0	5.0	1.7	
							and	44.0	58.0	14.0	1.2
							and	83.0	106.0	23.0	3.7
LWUD0030	354952	6598130	201	41	335	130.1	2.0	18.5	16.5	2.0	
							and	33.0	56.8	23.8	2.1

APPENDIX A: DRILL RESULTS

KCGM - MT CHARLOTTE – LITTLE WONDER SIGNIFICANT INTERSECTIONS											
Drill Hole #	Easting (MGA)	Northing (MGA)	Drill hole collar RL (MGA)	Dip (deg)	Azimuth (deg, MGA)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
							64.6	83.9	19.3	2.2	
							90.0	106.5	16.5	1.8	
LWUD0032	354927	6598110	201	42	335	130.0			NSI		
LWUD0033	354917	6598101	202	41	335	130.0			NSI		
LWUD0034	354902	6598090	202	41	335	130.0			NSI		
LWUD0035	354956	6598203	197	-38	152	400.0			NSI		
LWUD0036	354943	6598192	198	-38	152	400.0	70.1	103.0	32.9	2.9	
LWUD0038	354917	6598173	198	-38	152	400.0	23.7	68.2	44.4	2.0	
							78.0	106.9	28.9	2.9	
							183.0	195.0	12.0	2.4	
							295.2	301.2	6.0	0.8	
LWUD0039	354905	6598161	199	-37	152	400.0	1.0	7.9	6.9	1.8	
							13.3	22.6	9.3	3.4	
							44.0	55.2	11.2	1.6	
							76.3	105.9	29.6	0.7	
							185.0	197.0	12.0	1.4	
							248.6	255.0	6.4	1.7	
LWUD0040	354893	6598153	199	-37	153	300.0	0.0	14.9	14.9	2.8	
							60.0	68.0	8.0	0.9	
							85.0	107.0	22.0	2.5	

KCGM - MT PERCY SIGNIFICANT INTERSECTIONS											
Drill Hole #	Easting (MGA)	Northing (MGA)	Drill hole collar RL (MGA)	Dip (deg)	Azimuth (deg, MGA)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
UCGD001	354378.05	6599604.18	396.54	-56.00	165.72	388.52	74.00	80.00	6.0	0.8	
							108.57	114.19	5.6	1.4	
							217.69	295.49	77.8	2.2	
							306.46	311.45	5.0	1.4	
							328.40	334.39	6.0	1.0	
							342.37	348.35	6.0	1.5	
UCGD002	354372.27	6599669.79	396.17	-65.00	169.91	577.12	87.69	91.00	3.3	3.6	
							435.08	460.06	25.0	1.1	
							482.04	494.04	12.0	1.4	
							503.03	519.02	16.0	1.8	
UCGD003	354345.75	6599731.38	395.70	-58.00	171.75	499.10	48.00	57.00	9.0	1.7	
							78.00	81.00	3.0	1.0	
							97.00	100.00	3.0	1.0	
							117.92	129.99	12.1	0.7	
							146.00	147.00	1.0	1.0	
							162.00	164.00	2.0	0.9	
							177.00	199.00	22.0	0.6	
							206.00	216.00	10.0	1.3	
							221.73	234.00	12.3	1.6	
							244.44	245.44	1.0	11.3	
							296.04	298.01	2.0	0.9	
							307.83	331.39	23.6	1.1	
							337.35	359.21	21.9	1.3	
							368.16	371.14	3.0	0.8	
							377.10	393.00	15.9	1.0	
							412.00	425.00	13.0	1.2	
UCGD004	354311.63	6599790.20	395.02	-69.18	179.59	632.97	115.46	124.63	9.2	0.7	
							328.56	354.61	26.0	2.2	
UCGD005	354371.29	6599669.04	396.14	-51.24	191.28	328.52	24.50	27.50	3.0	0.6	
							103.00	116.00	13.0	0.9	
UCGD006	354371.93	6599670.16	396.35	-49.41	168.11	731.33	59.00	62.99	4.0	1.6	
							74.99	97.97	23.0	1.1	
							283.91	349.65	65.7	1.2	
							358.66	378.69	20.0	2.1	
							405.73	444.79	39.1	1.8	
							498.87	530.91	32.0	1.1	
							581.98	593.00	11.0	1.6	
UCGD007	354346.07	6599732.49	395.63	-66.09	183.00	763.05	91.12	92.00	0.9	0.5	
							206.52	208.76	2.2	3.6	
							214.00	219.00	5.0	1.5	
							226.00	235.00	9.0	4.2	
							252.17	254.12	1.9	3.4	
							303.53	323.15	19.6	1.3	
							340.79	365.97	25.2	2.3	
							413.02	446.05	33.0	0.9	
							521.11	523.11	2.0	14.8	
							663.00	687.00	24.0	1.3	
							712.00	722.00	10.0	0.9	
UCGD008	354313.20	6599791.79	394.96	-65.12	176.67	197.77	46.00	47.00	1.0	0.5	
							111.06	118.05	7.0	1.1	
							125.05	130.04	5.0	2.2	
							162.01	165.01	3.0	7.2	

APPENDIX A: DRILL RESULTS

KCGM - MT PERCY SIGNIFICANT INTERSECTIONS											
Drill Hole #	Easting (MGA)	Northing (MGA)	Drill hole collar RL (MGA)	Dip (deg)	Azimuth (deg, MGA)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
						and	181.18	194.37	13.2	2.9	
UCGD009	354313.42	6599792.90	394.88	-64.70	172.01	675.50	100.03	101.04	1.0	1.0	
						and	112.10	122.16	10.1	0.7	
						and	168.43	176.00	7.6	1.2	
						and	186.45	201.86	15.4	2.6	
						and	253.00	266.00	13.0	0.9	
						and	308.89	325.96	17.1	0.6	
						and	332.98	337.86	4.9	1.9	
						and	380.97	389.97	9.0	0.9	
						and	402.96	403.95	1.0	0.9	
						and	471.11	504.17	33.1	0.8	
						and	530.22	550.26	20.0	0.7	
UCGD010	354211.50	6599884.77	393.50	-63.05	162.83	439.16	32.10	33.90	1.8	0.8	
						and	91.25	95.30	4.1	1.7	
						and	153.00	189.00	36.0	1.2	
						and	230.50	238.65	8.2	1.1	
						and	373.56	380.84	7.3	3.9	
						and	387.84	409.89	22.0	0.9	
						and	419.04	421.08	2.0	2.1	
UCGD011	354266.90	6599860.80	393.96	-58.67	179.37	682.09	90.70	94.74	4.0	1.3	
						and	100.81	109.90	9.1	0.7	
						and	165.03	169.30	4.3	2.5	
						and	255.65	259.67	4.0	3.9	
						and	296.03	306.00	10.0	0.7	
						and	330.14	370.10	40.0	2.6	
						and	410.06	417.05	7.0	1.4	
						and	439.03	459.01	20.0	1.0	
						and	469.00	470.00	1.0	0.6	
						and	496.11	543.01	46.9	0.8	
						and	562.03	577.99	16.0	2.2	
UCGD011A1	354266.91	6599861.03	394.15	-58.00	142.57	551.03			NSI		
UCGD012	354209.88	6599883.93	393.75	-69.36	153.08	541.21	137.71	155.74	18.0	0.9	
						and	215.19	222.00	6.8	3.9	
						and	241.89	253.81	11.9	1.7	
						and	270.70	272.69	2.0	11.1	
						and	272.69	305.74	33.1	1.3	
						and	312.00	314.30	2.3	13.2	
						and	342.45	345.40	2.9	4.8	
						and	410.66	421.02	10.4	2.4	
UCGD013	354208.21	6599883.13	393.53	-68.86	181.69	511.13	103.40	148.13	44.7	0.7	
						and	156.08	169.00	12.9	4.1	
						and	170.00	189.00	19.0	1.3	
						and	330.00	348.00	18.0	1.1	
UCGD014	354183.30	6599945.94	393.43	-75.44	154.56	501.07	55.50	61.13	5.6	2.0	
						and	129.51	146.63	17.1	0.8	
						and	237.00	253.00	16.0	0.7	
UCGD015	354127.37	6600054.60	393.62	-74.40	159.01	447.58	193.90	194.89	1.0	2.0	
UCGD016	354473.57	6599026.26	394.26	-52.10	116.11	351.90			NSI		
UCGD017	354469.68	6599035.80	394.18	-63.00	114.81	505.20			NSI		
UCGD018	354469.28	6599036.43	394.17	-72.40	107.01	12.80			NSI		
UCGD018A	354465.15	6599048.21	394.00	-72.00	107.37	688.42	337.00	338.00	1.0	1.8	
						and	349.00	351.00	2.0	1.0	
UCGD019	354127.98	6600055.29	393.85	-72.26	112.07	370.19	116.21	117.25	1.0	1.9	
						and	171.89	188.13	16.2	0.7	
UCGD020	354126.90	6600053.10	393.73	-72.00	107.71	1138.13	180.32	181.30	1.0	0.7	
						and	192.06	195.00	2.9	0.7	
						and	302.97	305.98	3.0	1.3	
UCGD021	354123.65	6600057.03	393.86	-67.50	136.21	397.23	237.00	238.00	1.0	3.7	
						and	248.00	253.00	5.0	2.0	
						and	296.00	320.00	24.0	0.8	
UCGD024	353897.92	6599997.20	395.28	-53.00	61.71	521.20	233.00	239.00	6.0	1.7	
UCGD065	354359.97	6599589.51	397.25	-56.10	160.41	774.63	204.00	207.00	3.0	1.8	
						and	229.99	260.97	31.0	2.2	
						and	268.96	327.92	59.0	2.3	
						and	374.89	398.88	24.0	0.7	
						and	442.85	449.84	7.0	3.6	
						and	460.84	472.83	12.0	1.0	
						and	589.75	635.72	46.0	1.8	
						and	669.70	698.68	29.0	0.6	
						and	711.67	716.67	5.0	0.6	
UCGD070	354356.67	6599676.85	396.68	-54.90	165.51	870.90	65.40	68.37	3.0	3.5	
						and	76.30	117.10	40.8	3.9	
						and	123.05	130.25	7.2	1.2	
						and	190.00	191.00	1.0	8.8	
						and	581.05	595.05	14.0	1.6	
						and	605.04	618.04	13.0	1.1	
UCGD073	354279.13	6599769.30	395.65	-55.80	162.21	870.80	69.00	71.00	2.0	2.1	
						and	168.50	173.70	5.2	2.5	

APPENDIX A: DRILL RESULTS

KCGM - MT PERCY SIGNIFICANT INTERSECTIONS											
Drill Hole #	Easting (MGA)	Northing (MGA)	Drill hole collar RL (MGA)	Dip (deg)	Azimuth (deg, MGA)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
								303.00	317.00	14.0	0.7
								335.00	357.00	22.0	0.9
								401.00	480.00	79.0	1.1
								497.00	526.00	29.0	1.2
								571.00	583.00	12.0	1.0
								590.00	622.00	32.0	0.6
SJGC001	353993.70	6600033.97	393.21	-54.40	141.15	642.90	214.00	226.00	12.0	4.4	
								264.00	298.00	34.0	0.8
SJGC002	354019.96	6600054.03	392.88	-55.89	140.28	645.20	172.00	179.03	7.0	0.6	
								210.14	214.15	4.0	1.1
								242.25	244.26	2.0	1.3
								253.29	255.30	2.0	3.4
SJGC003	354146.09	6600076.40	392.47	-54.85	139.79	200.00					
SJGC004	354140.48	6599994.68	393.53	-56.63	140.12	304.00	87.00	88.00	1.0	0.8	
								164.00	175.00	11.0	0.6
								222.00	226.00	4.0	9.6
SJGC005	354156.09	6600005.74	393.41	-54.52	138.87	196.00	83.00	84.00	1.0	3.9	
								90.00	102.00	12.0	3.5
								160.00	174.00	14.0	0.7
								184.00	186.00	2.0	3.9
SJGC006	354109.96	6599873.41	393.90	-60.30	131.01	178.00	0.00	23.00	23.00	1.1	
								55.00	67.00	12.0	1.6
SJGC007	354158.99	6599900.65	393.40	-59.69	144.97	226.00	12.00	16.00	4.0	1.7	
								84.00	106.00	22.0	1.5
SJGC008	354160.28	6599931.18	393.69	-55.00	140.82	275.00	24.00	25.00	1.0	1.0	
								118.00	131.00	13.0	3.0
								167.00	174.00	7.0	1.3
								182.00	191.00	9.0	1.9
SJGC009	354209.97	6599974.91	392.75	-54.88	138.26	202.00	34.00	42.00	8.0	0.8	
								50.00	63.00	13.0	1.6
SJGC010	354164.28	6599855.94	394.34	-54.90	140.62	202.00	1.00	2.00	1.0	0.5	
								41.00	42.00	1.0	0.7
								55.00	56.00	1.0	0.6
								64.00	65.00	1.0	1.7
								140.00	141.00	1.0	2.9
								173.00	194.00	21.0	1.8
SJGC011	354187.24	6599871.02	393.85	-55.00	140.62	275.00	87.00	93.00	6.0	1.4	
								112.00	127.00	15.0	0.9
								133.00	159.00	26.0	0.8
								166.00	190.00	24.0	1.1
SJGC012	354209.18	6599891.23	393.73	-55.79	141.78	226.00	109.00	125.00	16.0	0.9	
								153.00	174.00	21.0	2.5
								207.00	226.00	19.0	7.8
SJGC013	354233.01	6599915.14	394.03	-55.00	141.11	178.00	115.00	131.00	16.0	0.8	
SJGC014	354138.81	6599839.24	395.10	-55.00	140.62	124.00					
SJGC015	354186.16	6599800.24	395.42	-55.12	138.29	154.00	16.00	18.00	2.0	1.7	
								75.00	85.00	10.0	0.6
SJGC016	354213.27	6599819.26	394.68	-54.89	139	226.00	9.00	16.00	7.0	0.6	
								71.00	85.00	14.0	1.0
								116.00	120.00	4.0	1.7
								172.00	175.00	3.0	6.4
								223.00	225.00	2.0	0.7
SJGC017	354239	6599835	394	-55	140	34					
SJGC017A	354239	6599835	394	-55	138	274	91.00	106.00	15.0	1.3	
								112.00	117.00	5.0	6.6
								165.00	173.00	8.0	3.5
								179.00	189.00	10.0	0.7
								218.00	219.00	1.0	2.7
								227.00	233.00	6.0	4.5
								245.00	249.00	4.0	7.5
SJGC018	354260	6599861	394	-54	140	202.0	94.00	111.00	17.0	1.3	
								116.00	122.00	6.0	1.5
SJGC019	354285	6599881	394	-54	138	184.0	46.00	51.00	5.0	4.8	
								65.00	67.00	2.0	8.4
								74.00	92.00	18.0	0.9
SJGC020	354311	6599894	395	-55	140	154.0	11.00	21.00	10.0	1.5	
								27.00	29.00	2.0	0.6
								57.00	61.00	4.0	0.7
SJGC021	354237	6599761	396	-55	137	287.0	89.00	117.00	28.0	0.9	
SJGC022	354261	6599781	395	-55	137	275.0	117.00	131.00	14.0	1.7	
								137.00	146.00	9.0	1.3
								153.00	165.00	12.0	1.9
								188.00	199.00	11.0	0.9
SJGC023	354284	6599801	394	-55	139	202.0	106.00	110.00	4.0	1.5	
								124.00	139.00	15.0	1.1
SJGC024	354286	6599726	396	-55	140	256.0	15.00	29.00	14.0	0.5	
								129.00	139.00	10.0	0.5
								162.00	181.00	19.0	0.9

APPENDIX A: DRILL RESULTS

KCGM - MT PERCY SIGNIFICANT INTERSECTIONS											
Drill Hole #	Easting (MGA)	Northing (MGA)	Drill hole collar RL (MGA)	Dip (deg)	Azimuth (deg, MGA)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
						and	199.00	227.00	28.0	1.2	
						and	233.00	235.00	2.0	0.7	
SJGC025	354313	6599745	395	-55.4	141.5	202.0	22.00	23.00	1.0	0.6	
						and	103.00	120.00	17.0	2.0	
MYGD004	354011	6599566	398	-57	136	477.8			NSI		
MYGD005	354010	6599567	398	-69	143	577.5	164.3	198.2	33.9	0.6	
						and	306.4	323.4	17.0	0.7	
MYGD006	353958	6599662	397	-70	112	344.7			NSI		
MYGD007	353991	6599440	390	-61	119	465.8			NSI		
MYGD008	353990	6599441	390	-69	107	502.7	254.6	264.7	10.1	2.7	
MYGD009	354018	6599408	385	-58	118	134.0	76.1	106.1	29.9	1.5	
MYGD009A	354017	6599408	385	-58	117	479.0			NSI		
MYGD010	354058	6599364	380	-53	125	483.9	60.0	121.0	61.0	1.5	
						and	137.0	161.0	24.0	3.0	
						and	313.9	343.8	29.9	2.2	
MYGD011	354108	6599320	377	-53	129	404.0	50.9	125.7	74.8	1.8	
						and	131.7	194.6	62.9	2.6	
						and	225.0	227.0	2.0	11.2	
						and	283.0	349.0	66.0	2.1	
MYGD012	354146	6599287	373	-51	139	175.0	36.0	131.3	95.2	2.8	
						and	143.0	157.0	14.0	6.9	
MYGD012A	354146	6599287	373	-51	139	393.8	44.0	132.0	88.0	1.3	
						and	138.0	152.0	14.0	6.5	
						and	325.0	346.0	21.0	5.1	
MYGD013	354168	6599234	369	-50	127	408.3	76.0	100.0	24.0	2.3	
						and	106.0	144.0	38.0	1.3	
						and	184.0	215.0	31.0	1.1	
MYGD014	354338	6599241	370	-68	144	260.7	12.0	26.0	14.0	0.9	
MYGD015	354335	6599240	370	-60	135	747.9	228.0	249.2	21.1	4.6	
MYGD016	354335	6599237	369	-50	89	333.5	10.0	20.0	10.0	1.0	
						and	26.0	37.0	11.0	1.9	
						and	59.6	74.4	14.9	0.9	
						and	250.4	271.4	20.9	1.6	
						and	273.4	284.5	11.1	3.5	
MYGD017	354336	6599240	369	-59	115	478.0	12.1	37.0	24.9	1.1	
						and	93.9	100.6	6.7	1.9	
MYGD097	354354	6598920	345	-53	151	162.5			NSI		
MYGD097A	354351	6598918	345	-53	113	354.8			NSI		
MYGD098	354365	6598905	345	-30	116	262.9	61.2	79.1	17.9	1.2	
MYGD099	354359	6598906	346	-41	128	324.3	75.0	94.0	19.0	1.5	
MYGD100	354364	6598903	345	-20	123	300.5			NSI		
MYGD101	354364	6598902	345	-20	131	294.0	6.0	25.0	19.0	0.7	
						and	59.0	74.0	15.0	0.8	
						and	107.0	123.0	16.0	0.7	
MYGD112	354205	6599184	369	-55	134	295.1	39.0	79.0	40.0	0.8	
						and	115.0	167.0	52.0	0.9	
						and	213.0	264.0	51.0	1.5	

KALGOORLIE OPERATIONS - JOPLIN SIGNIFICANT INTERCEPTS											
Drill Hole #	Easting (KBMINE)	Northing (KBMINE)	Drill hole collar RL (KBMINE)	Dip (deg)	Azimuth (deg, KBMINE)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
JPGC23024	19309	49995	9798	5	232	270	190.4	192.7	2.26	4.1	2.2
JPGC23026	19309	49995	9798	-3	241	242	185.0	187.4	2.38	0.7	2.3
						and	233.8	234.5	0.68	8.8	0.7
JPGC23028	19309	49995	9798	-2	228	274	202.2	203.2	0.99	26.9	1.0
JPGC23030	19310	49994	9798	15	229	274	253.1	253.5	0.40	6.1	0.4
JPGC23033	19309	49995	9798	9	229	262	194.9	197.0	2.13	40.4	2.1
JPGC23035	19310	49994	9798	-2	222	286	214.9	219.1	4.19	2.7	4.0
JPGC23037	19309	49995	9798	-9	246	258	193.3	197.0	3.70	9.2	3.5
JPGC23038	19310	49994	9798	12	226	394	203.0	205.2	2.14	9.5	2.1
JPGC23039	19310	49994	9798	5	230	382	192.6	196.0	3.43	21.3	3.4
JPGC23040	19310	49994	9798	-2	227	361	203.5	204.7	1.18	15.1	1.1
JPGC23041	19310	49994	9798	-8	224	304	230.6	237.7	7.09	10.1	6.5
JPGC23043	19310	49994	9797	-15	233	330	219.3	220.4	1.11	4.1	1.0
JPGC23044	19309	49996	9797	-15	238	347	210.7	212.6	1.88	11.6	1.7
JPGC23046	19309	49995	9797	-16	250	237	196.0	205.0	9.02	2.3	8.2
JPGC23048	19308	49996	9797	-10	258	318	205.5	207.0	1.48	7.2	1.3
						and	239.85	240.44	0.59	5.3	0.6
JPGC23050	19308	49996	9798	4	249	282	182.4	186.2	3.87	1.1	3.8
						and	227.0	230.7	3.65	5.5	0.4
JPRSD23064	19393	50027	9796	6	223	477	308.0	313.5	5.47	4.5	5.4
JPRT23022	19822	49559	9734	-10	247	650	600.0	601.4	1.35	4.3	1.2
JPRT23023	19822	49559	9734	0	250	631	582.1	592.5	10.39	7.1	9.9
JPRT23057	19822	49559	9734	6	255	625	577.8	586.8	9.05	2.1	8.4
JPRT23058	19822	49559	9734	13	255	639	564.0	570.5	6.46	1.7	6.1



APPENDIX A: DRILL RESULTS

JPRT23060	19822	49559	9734	-4	255	629	591.7	594.4	2.72	4.1	2.5
JPRT23061	19822	49559	9734	-6	244	663	604.7	608.7	4.01	2.9	3.8
						and	619	620	1.00	9.1	1.0
JPRT23062	19626	49963	9586	12	211	672	587.0	596.7	9.70	1.4	9.4

KALGOORLIE OPERATIONS - RED HILL SIGNIFICANT INTERSECTIONS												
Drill Hole #	Easting (MGA)	Northing (MGA)	Drill hole collar RL	Dip (deg)	Azimuth (deg. True North)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)	
RHDD23057	366439	6614089	377	-55	132	444.1	265.3	286.4	21.1	0.5		
RHDD23061	366757	6613898	378	-56	300	515.7	212.0	280.0	68.0	1.2		
						includes	261.1	261.6	0.5	33.8		
RHRC23001	367204	6614641	378	-67	310	245	174.0	182.0	8.0	0.8		
RHRC23002	367210	6614689	380	-70	315	180	126.0	141.0	15.0	0.7		
RHRC23003	367246	6614729	380	-80	315	240	179.0	201.0	22.0	0.7		
RHRC23004	367269	6614764	378	-62	315	257	185.0	228.0	43.0	0.4		
RHRC23005	367331	6614749	377	-62	315	156	62.0	66.0	4.0	0.4		
RHRC23006	367371	6614880	375	-64	310	282	122.0	221.0	99.0	0.6		
RHRC23007	367179	6614675	379	-55	310	228	100.0	112.0	12.0	0.3		
RHRC23008	367155	6614747	380	-70	315	108	41.0	51.0	10.0	0.8		
RHRC23009	367201	6614769	379	-60	315	204	86.0	142.0	56.0	0.5		
RHRC23010	367264	6614817	375	-65	315	129	96.0	108.0	12.0	0.6		
RHDD23062	366840	6614530	375	-55	138	490	156.6	368.7	212.1	0.5		
						and	429.5	469.0	39.5	0.6		
RHDD23063	366840	6614530	375	-63	147	456.4	99.0	108.8	9.8	1.5		
						and	187.0	408.0	221.0	0.6		
RHDD23064	366687	6614392	381	-59	131	369.9	102.9	135.1	32.2	1.7		
						including	132.0	133.0	1.0	18.3		
						including	134.0	134.5	0.5	35.0		
						and	151.1	183.0	31.9	0.8		
						and	197.0	304.5	107.5	1.4		
						including	209.0	210.0	1.0	36.5		
						including	299.0	300.0	1.0	23.4		
RHDD23065	366687	6614392	381	-67	131	400	154.2	302.4	148.2	0.8		
						and	318.0	378.0	60.0	0.6		
RHDD23066	366645	6614338	382	-55	130	350	152.7	328.0	175.3	1.3		
						including	170.6	171.2	0.6	52.4		
						including	223.6	224.0	0.4	76.0		
RHDD23067	366756	6613897	377	-66	316	561.8	301.0	397.6	96.6	1.5		
						including	391.0	391.9	0.9	40.1		

KALGOORLIE OPERATIONS - HBJ SIGNIFICANT INTERSECTIONS												
Drill Hole #	Easting (MGA)	Northing (MGA)	Drill hole collar RL (MGA)	Dip (deg)	Azimuth (deg. MGA)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)	
MWRS23001	20043	51849	375	-60	148	274	236.9	245.4	8.6	3.6		
MWRS23002	20042	51847	375	-57	150	283	224.5	255.0	30.5	2.9		
MWRS23003	20041	51847	375	-56	155	309	239.8	272.7	32.9	2.3		
MWRS23004	19968	51715	372	-60	102	319	262.1	276.7	14.6	2.3		
MWRS23005	19968	51718	372	-55	115	328	253.5	274.3	20.8	3.1		

KALGOORLIE OPERATIONS - HERCULES SIGNIFICANT INTERSECTIONS												
Drill Hole #	Easting (MGA)	Northing (MGA)	Drill hole collar RL (MGA)	Dip (deg)	Azimuth (deg. MGA)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)	
HEDD23003	350678	6569437	361	-52	277	388.14	219	231	12	20.9		
						including	220	220.9	0.9	16.4		
						including	224.9	225.4	0.5	20.7		
						including	225.5	226.3	0.8	242.0		
						including	229.2	229.9	0.7	11.2		
						and	238.04	240.9	2.8	13.9		
						including	238	238.6	0.6	29.8		
						and	245	256.0	11	2.47		
						including	247.8	248.1	0.3	14.7		
						and	263.01	264.3	1.3	10.3		
						including	263.6	264.2	0.6	20.3		
HEDD23005	350594	6569598	361	-57	271	399.3	224.64	228.5	3.9	5.85		
						including	225	225.6	0.6	18.6		
						including	226.6	226.9	0.3	23.7		
						and	269.36	284.4	15.0	1.73		
HERC23029	350378	6569766	362	-53	278	282	36	47	11	1.47		
HERC23030	350525	6569750	363	-53	275	246	38	50	12	0.97		
HERC23041	350618	6569387	362	-57	282	275	122	131	9	1.67		
						and	134	152	18	2.03		
HERC23044	350488	6569598	361	-52	268	243	56	65	9	2.15		
						and	167	182	15	1.91		
						including	168	169	1	12		
						and	193	226	33	2.4		

APPENDIX A: DRILL RESULTS

KALGOORLIE OPERATIONS - HERCULES SIGNIFICANT INTERSECTIONS												
Drill Hole #	Easting (MGA)	Northing (MGA)	Drill hole collar RL (MGA)	Dip (deg)	Azimuth (deg, MGA)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)	
HERC23046	350527	6569550	362	-60	276	including	193	194	1	10.3		
						including	204	205	1	23.9		
							63	94	31	1.2		
						and	113	138	25	2.2		
HERC23047	350742	6569253	361	-57	283	280	187	198	11	1.9		
HERC23048	350558	6569460	362	-61	285	260	126	149	23	2.41		
						including	130	131	1	16.8		
						and	166	177	11	2.53		
						including	173	174	1	11.9		
						and	183	190	7	1.8		
HERC23049	350547	6569509	362	-57	273	264	157	197	40	3.57		
						including	172	173	1	48.3		
						including	173	174	1	11.5		
						and	227	234	7	2.36		
						and	240	252	12	1.21		
HERC23050	350686	6569308	361	-58	282	258	110	114	4	4.2		
						including	111	112	1	14.7		
							39	61	22	0.95		
HERC23051	350423	6569684	361	-55	270	233	84	98	14	2.72		
						and	84	98	14	2.72		
						including	90	91	1	14.55		
HERC23055	350730	6569175	362	-56	276	198	82	89	7	3.23		
						including	83	84	1	14.65		
							46	70	24	2.7		
03SWRC004	350427	6569497	360	-60	270	80	46	70	24	2.7		

JUNDEE - GRIFFIN SIGNIFICANT INTERSECTIONS												
Drill Hole #	Easting (MGA)	Northing (MGA)	Drill hole collar RL (MGA)	Dip (deg)	Azimuth (deg, MGA)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)	
CDGC1048	258591	7082567	384	-32	42	264.0	87.7	88.1	0.5	22.3	0.3	
CDGC1049	258591	7082567	384	-43	50	202.0	169.9	170.3	0.4	7.4	0.3	
						and	172.9	174.1	1.2	8.3	1.0	
							160.0	160.3	0.3	140.7	0.3	
CDGC1050	258591	7082567	385	-35	58	193.0	76.7	78.0	1.3	15.4	0.6	
CDGC1051	258591	7082567	384	-50	64	242.0	201.5	202.6	1.1	41.6	0.5	
						and	79.2	80.1	0.9	17.5	0.6	
						and	225.8	230.0	4.2	109.9	1.8	
CDGC1053	258591	7082566	385	-44	68	230.0	71.1	71.5	0.4	52.4	0.3	
						and	183.2	184.7	1.4	6.6	1.0	
						and	150.8	151.2	0.5	37.3	0.3	
CDGC1054	258592	7082566	385	-35	73	223.0	152.6	153.0	0.4	36.9	0.3	
						and	69.6	70.0	0.3	13.4	0.3	
						and	188.5	189.4	0.9	27.6	0.5	
CDGC1055	258591	7082566	385	-44	77	424.0	328.6	328.9	0.3	7.9	0.3	
						and	76.4	76.9	0.5	3.5	0.3	
						and	71.4	71.9	0.5	15.2	0.4	
CDGC1056	258593	7082566	384	-55	79	277.0	215.3	216.7	1.4	106.9	0.5	
CDGC1057	258592	7082565	384	-49	83	230.0	109.4	109.7	0.3	1.2	0.3	
						and	109.2	109.8	0.6	5.3	0.3	
CDGC1058	258774	7082351	382	30	77	171.0			NSI			
CDGC1059	258773	7082349	382	24	93	225.0						
CDGC1060	258774	7082351	382	32	100	151.0						
CDGC1076	258728	7082423	383	29	57	156.0	95.9	100.0	4.2	10.3	1.4	
						and	98.4	98.8	0.5	15.5	0.4	
						and	99.2	100.0	0.8	16.7	0.6	
CDGC1077	258728	7082423	384	36	80	159.0	104.6	105.2	0.6	5.7	0.3	
CDGC1078	258728	7082424	384	33	107	147.0	113.0	113.3	0.3	5.4	0.3	
CDGC1079	258587	7082566	386	5	12	256.0	207.0	207.6	0.6	9.2	0.4	
						and	221.6	222.6	1.0	10.6	0.6	
CDGC1080	258591	7082568	385	-10	19	236.0			NSI			
CDGC1081	258591	7082568	385	-3	25	223.0			NSI			
CDGC1082	258590	7082567	385	-17	30	199.0	115.1	115.5	0.4	33.2	0.3	
CDGC1083	258591	7082568	386	6	31	225.0			NSI			
CDGC1084	258590	7082568	386	13	34	292.0			NSI			
CDGC1085	258591	7082569	386	-2	35	148.0			NSI			
CDGC1086	258590	7082567	386	15	39	261.0	124.6	126.6	2.0	69.0	1.5	
CDGC1087	258589	7082567	387	20	40	265.0	129.8	131.5	1.7	39.3	1.0	
						and	133.7	134.7	1.0	25.0	0.5	
						and	137.1	137.6	0.5	5.6	0.3	
CDGC1088	258590	7082567	386	10	45	205.0	112.2	113.0	0.8	13.3	0.6	
CDGC1089	258590	7082567	387	23	47	243.0	133.5	139.0	5.5	9.3	5.0	
CDGC1090	258590	7082567	387	19	49	210.0	123.2	124.0	0.8	16.3	0.4	
CDGC1091	258590	7082567	387	27	55	238.9	176.9	177.3	0.4	37.0	0.3	
						and	185.1	185.6	0.6	7.7	0.3	
							183.6	185.5	1.9	4.6	1.0	
CDGC1092	258590	7082567	386	11	57	189.0	117.4	118.6	1.2	8.4	1.0	
CDGC1093	258591	7082567	387	22	59	225.0	173.8	174.4	0.6	96.0	1.1	
						and	128.9	129.4	0.5	5.1	0.3	
CDGC1094	258590	7082567	388	30	67	192.0			NSI			
CDGC1095	258591	7082566	386	12	74	202.0						
CDGC1120	258588	7082567	384	-47	11	225.0	142.6	143.0	0.4	14.5	0.3	
CDGC1121	258591	7082568	385	-29	20	252.0			NSI			

APPENDIX A: DRILL RESULTS

JUNDEE - GRIFFIN SIGNIFICANT INTERSECTIONS												
Drill Hole #	Easting (MGA)	Northing (MGA)	Drill hole collar RL (MGA)	Dip (deg)	Azimuth (deg, MGA)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)	
CDGC1132	258653	7082261	384	16	55	376.0			NSI			
CDGC1134	258651	7082259	384	17	65	343.0	277.8	278.1	0.3	7.9	0.3	
							and	282.7	283.1	0.5	5.1	0.4
							and	284.1	285.1	1.0	6.4	0.9
CDGC1135	258653	7082261	384	18	72	327.0			NSI			
CDGC1136	258653	7082261	384	19	80	322.0			NSI			
CDGC1137	258653	7082261	384	18	88	309.0			NSI			
CDXP0671	258838	7082287	381	43	98	132.0			NSI			
CDXP0672	258838	7082287	379	15	104	210.0			NSI			
CDXP0673	258609	7082531	388	26	64	166.0	146.5	147.0	0.5	11.0	0.5	
CDXP0674	258609	7082533	385	11	77	248.0			NSI			
CDXP0675	258608	7082531	387	26	83	163.0	137.4	137.7	0.3	7.9	0.6	
CDXP0676	258609	7082531	388	32	84	190.0	155.6	156.2	0.6	9.9	0.3	
							and	157.3	158.3	1.0	20.5	0.6
CDXP0677	258609	7082531	386	25	111	177.0	134.4	135.0	0.6	152.7	0.4	
CDXP0678	258609	7082533	386	17	109	244.0			NSI			
CDXP0679	258610	7082532	385	2	115	121.0			NSI			
CDXP0680	258609	7082530	384	-41	136	117.0	112.3	113.1	0.8	8.7	0.3	
CDXP0681	258752	7082304	380	-59	89	112.0			NSI			
CDXP0682	258751	7082302	380	-35	129	123.0	65.3	67.0	1.7	5.8	1.7	
CDXP0683	258652	7082261	383	-14	26	444.0			NSI			
CDXP0684	258651	7082260	383	-21	33	494.0	445.1	446.0	0.9	24.8	0.3	
CDXP0685	258651	7082260	383	-12	34	371.0	318.9	319.2	0.3	660.4	0.3	
CDXP0686	258652	7082259	383	-12	47	294.0	250.6	251.1	0.6	27.4	0.3	
CDXP0692	258798	7082325	378	-44	97	332.0	15.5	16.2	0.7	5.6	0.5	
DKXP0536	258648	7082478	382	-31	68	256.0	209.5	210.0	0.5	5.7	0.4	
							and	213.4	214.1	0.7	28.5	0.6
DKXP0537	258648	7082478	382	-45	68	308.0	95.5	96.0	0.5	11.0	0.3	
							and	234.8	235.2	0.4	9.8	0.3
DKXP0538	258648	7082478	382	-38	79.03	285.0	88.2	88.8	0.6	67.1	0.6	
							and	219.4	220.3	0.9	8.8	0.9

JUNDEE - RAMONE SIGNIFICANT INTERSECTIONS												
Drill Hole #	Easting (MGA)	Northing (MGA)	Drill hole collar RL (MGA)	Dip (deg)	Azimuth (deg, MGA)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)	
RURD0010	285463	7060424	330	-60	308.2	162.0	116.4	122.0	5.7	1.1	3.4	
RURD0011	285467	7060426	330	-58	331.8	161.9	110.6	114.8	4.2	0.4	2.5	
RURD0012	285685	7060569	245	-34	341.6	191.5	0.0	8.7	8.7	8.1	6.1	
							and	17.8	21.2	3.5	4.1	2.4
							and	26.9	27.8	0.9	0.4	0.6
							and	37.3	38.5	1.3	1.9	0.9
							and	94.4	98.2	3.8	21.5	2.6
							including	96.3	96.9	0.5	134.6	0.4
							and	114.0	127.0	13.0	0.3	9.1
							and	137.5	147.8	10.3	1.5	7.2
RURD0013	285685	7060569	245	-40	327.6	179.7	0.0	7.2	7.2	2.6	5.0	
							and	7.7	14.2	6.5	5.6	4.6
							and	24.2	34.2	10.0	0.1	7.0
							and	37.4	39.5	2.1	2.5	1.5
							and	103.2	108.0	4.8	0.9	3.4
							and	111.0	129.0	18.0	9.9	12.6
							including	118.0	125.0	7.0	23.3	4.9
							and	140.0	152.0	12.0	0.5	8.4
RURD0014	285685	7060569	245	-57	327.3	260.0	0.0	32.6	32.6	3.0	19.6	
							and	118.9	131.0	12.1	0.2	7.3
							and	140.0	164.0	24.0	3.0	14.4
							including	142.0	146.0	4.0	12.0	2.8
							and	186.0	187.0	1.0	0.1	0.6
RURD0015	285710	7060572	245	-34	358.3	206.5	20.0	30.5	10.5	1.0	7.4	
							and	33.0	38.6	5.6	0.6	3.9
							and	48.2	53.4	5.2	1.4	3.6
							and	87.0	93.0	6.0	2.8	4.2
							and	108.0	110.5	2.5	4.3	1.8
							and	111.0	116.2	5.2	0.2	3.6
							and	136.3	140.5	4.2	2.9	2.9
							and	160.4	161.0	0.6	0.4	0.4
							and	161.0	169.0	8.0	0.6	5.6
RURD0016	285710	7060571	245	-53	337.9	250.0	30.0	36.7	6.7	0.6	4.0	
							and	48.0	49.3	1.3	2.8	0.8
							and	88.3	89.9	1.6	0.5	1.0
							and	117.0	132.0	15.0	2.6	9.0
							including	125.0	127.1	2.1	8.7	1.3
							and	141.0	142.0	1.0	0.3	0.6
							and	146.4	147.5	1.1	0.9	0.7
							and	155.3	169.3	14.0	1.8	8.4
							and	201.4	210.0	8.6	4.1	5.2
							including	2033.0	204.0	0.7	33.4	0.4
RURD0017	285645	7060506	224	-10	325.8	173.6	20.0	23.5	3.5	2.5	3.5	

APPENDIX A: DRILL RESULTS

JUNDEE- RAMONE SIGNIFICANT INTERSECTIONS												
Drill Hole #	Easting (MGA)	Northing (MGA)	Drill hole collar RL (MGA)	Dip (deg)	Azimuth (deg, MGA)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)	
								93.0	96.0	3.0	0.9	1.8
								119.0	122.9	3.9	1.2	2.3
								131.0	133.4	2.4	1.7	1.4
								153.0	154.0	1.0	0.9	0.6
								175.0	181.0	6.0	2.3	3.6
								182.0	197.0	15.0	1.2	9.0
								230.4	232.2	1.9	0.9	1.1
RURD0035	285546	7060462	224	-18	330.0	120.0	96.0	99.0	3.0	0.3	2.9	
RURT0007	285684	7060569	245	-27	328.5	185.9	0.0	10.0	10.0	2.3	8.5	
								21.1	29.4	8.3	2.0	7.1
								32.4	33.9	1.5	0.5	1.3
								98.0	111.0	13.0	6.3	11.1
								114.5	121.0	6.5	1.1	5.5
								121.7	124.6	2.9	1.4	2.5
RURT0008	285685	7060569	245	-31	351.5	200.0	0.0	8.1	8.1	2.4	5.7	
								15.8	22.0	6.2	6.6	4.3
								26.0	29.0	3.0	2.6	2.1
								37.0	41.0	4.0	5.7	2.8
								115.4	128.5	13.1	4.6	9.2
								141.0	157.0	16.0	0.7	11.2
								169.0	171.0	2.0	0.8	1.4
								178.0	180.0	2.0	0.3	1.4
RURT0009	285685	7060569	245	-43	336.6	236.9	0.0	14.0	14.0	4.2	8.4	
								20.5	25.0	4.6	3.4	2.7
								26.9	37.0	10.1	5.4	6.1
								42.0	44.0	2.0	2.1	1.2
								48.6	50.0	1.4	1.9	0.8
								103.1	142.7	39.6	3.0	23.8
								151.8	166.0	14.2	5.8	8.5
							including	153.7	155.0	1.3	38.3	0.8
								170.5	173.0	2.5	2.3	1.5
RURT0010	285685	7060569	245	-40	358.4	242.0	0.0	9.9	9.9	2.8	6.9	
								17.9	28.0	10.2	2.7	7.1
								32.2	35.9	3.8	0.7	2.6
								59.8	68.6	8.8	0.8	6.2
								156.0	156.4	0.4	1.4	0.2
								156.4	173.6	17.2	0.6	12.0
								186.0	191.0	5.0	2.8	3.5
								204.3	212.8	8.5	0.9	6.0
RURT0011	285740	7060574	246	-31	357.0	253.6	71.0	73.9	2.9	0.6	2.0	
								91.7	97.0	5.3	1.0	3.7
								99.0	103.2	4.2	0.5	2.9
								110.7	112.8	2.1	0.9	1.5
								139.8	147.0	7.2	1.3	5.1
								161.4	167.4	6.0	1.2	4.2
								178.3	180.0	1.7	0.9	1.2
								212.0	215.0	3.0	1.0	2.1
								222.0	232.0	10.0	0.5	7.0
RURT0012	285740	7060574	245	-48	338.6	296.8	69.0	72.7	3.7	15.4	2.2	
								82.5	94.9	12.4	3.8	7.4
								97.9	103.4	5.6	1.4	3.3
								104.2	110.0	5.8	0.6	3.5
								122.3	124.6	2.3	0.6	1.4
								170.8	178.4	7.6	0.5	4.5
RURT0013	285740	7060574	245	-42	359.1	321.0	73.0	89.0	16.0	4.0	9.6	
								95.0	106.1	11.1	0.6	6.7
								111.0	115.5	4.5	0.5	2.7
								216.0	224.0	8.0	4.2	4.8
							including	220.4	222.4	2.0	12.2	1.2
								260.3	263.0	2.7	0.8	1.6
RURT0014	285740	7060574	245	-50	2.0	386.7	93.0	107.0	14.0	1.5	8.4	
								115.6	122.9	7.3	0.1	4.4
								213.5	214.9	1.4	4.3	0.8
								245.0	246.0	1.0	4.1	0.6
								262.9	263.8	0.9	1.6	0.5
RURT0015	285740	7060574	246	-20	14.3	317.8	74.0	76.5	2.5	1.6	2.1	
								79.8	90.0	10.2	3.2	8.7
								145.4	146.8	1.4	1.0	1.2
								161.0	164.2	3.2	1.3	2.7
								174.8	180.0	5.2	8.7	4.4
							including	177.9	179.1	1.2	29.1	1.0
								216.0	217.0	1.0	11.5	0.8
								239.0	250.5	11.5	1.7	9.8
RURT0016	285740	7060574	246	-33	15.0	318.2	79.0	86.5	7.5	1.9	5.3	
								88.4	105.0	16.6	0.5	11.6
								129.0	139.0	10.0	0.6	7.0
								148.0	156.7	8.7	0.3	6.1
								171.6	172.0	0.4	0.6	0.3

APPENDIX A: DRILL RESULTS

JUNDEE- RAMONE SIGNIFICANT INTERSECTIONS												
Drill Hole #	Easting (MGA)	Northing (MGA)	Drill hole collar RL (MGA)	Dip (deg)	Azimuth (deg, MGA)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)	
							and	230.0	237.5	7.5	0.5	5.3
							and	244.0	251.0	7.0	1.4	4.9
							and	297.0	311.8	14.8	0.6	10.4
RURT0017	285740	7060574	245	-43	16.5	364.6	94.0	111.0	17.0	4.4	10.2	
							including	95.6	96.0	0.5	128.6	0.3
							and	134.7	138.0	3.3	2.1	2.0
							and	160.0	172.0	12.0	0.4	7.2
							and	208.7	218.6	9.9	5.0	5.9
							and	233.0	248.5	15.5	2.2	9.3
							and	257.2	264.4	7.2	0.7	4.3
							and	296.0	297.4	1.4	1.8	0.8
RURT0018	285606	7060600	241	15	158.3	149.8	0.0	7.3	7.3	0.5	6.3	
							and	49.9	51.0	1.1	0.6	0.9
							and	54.0	56.0	2.0	1.7	1.7
							and	76.0	81.0	5.0	0.4	4.3
							and	83.0	90.6	7.6	1.2	6.5
							and	99.0	100.0	1.0	1.2	0.9
RURT0019	285606	7060600	240	-17	154.2	160.0	0.0	7.0	7.0	0.5	6.8	
							and	74.1	78.9	4.8	5.4	4.6
							and	81.7	88.4	6.7	0.6	6.6
							and	91.6	93.4	1.8	4.9	1.7
RURT0020	285606	7060600	241	15	141.1	160.0	0.3	4.7	4.4	0.4	3.8	
							and	4.8	8.1	3.3	1.8	2.8
							and	48.0	49.5	1.5	0.6	1.3
							and	52.2	55.2	3.0	0.1	2.6
							and	73.4	81.6	8.2	2.0	7.1
							and	86.9	89.1	2.3	37.3	1.9
RURT0021	285606	7060600	240	-14	127.3	170.9	1.0	6.0	5.0	1.3	4.9	
							and	32.0	40.0	8.0	0.4	7.8
							and	61.0	63.0	2.0	2.1	2.0
							and	67.0	70.3	3.3	0.9	3.2
							and	76.8	83.0	6.2	1.4	6.1
							and	83.3	86.3	3.0	0.6	2.9
RURT0022	285606	7060600	241	14	123.7	179.7	2.2	8.0	5.9	0.9	5.0	
							and	51.0	53.9	2.9	0.3	2.5
							and	55.0	57.6	2.6	4.0	2.2
							and	77.0	84.1	7.2	2.9	6.2
							and	89.5	89.8	0.3	0.5	0.3
RURT0023	285610	7060603	240	-14	106.0	203.8	2.0	8.0	6.0	0.2	5.9	
							and	59.3	65.9	6.6	2.3	6.4
							and	86.0	91.0	5.0	0.2	4.9
							and	100.0	102.0	2.0	1.2	2.0
RURT0024	285606	7060600	239	-33	140.0	201.0	0.0	2.9	2.9	1.2	2.0	
							and	28.5	39.0	10.5	1.9	7.4
							and	44.0	47.1	3.1	2.2	2.2
							and	61.0	66.0	5.0	0.8	3.5
							and	73.0	76.0	3.0	3.6	2.1
							and	83.3	83.7	0.4	1.0	0.2
							and	90.0	93.7	3.7	4.4	2.6
RURT0025	285610	7060604	240	3	92.6	200.8	76.7	80.0	3.3	2.0	3.1	
							and	96.0	100.2	4.2	0.9	3.9
							and	101.6	110.0	8.4	3.4	7.8
							and	111.0	115.8	4.8	1.5	4.5
RURT0026	285609	7060606	240	-19	58.0	212.8	88.0	96.4	8.4	1.6	8.2	
							and	161.4	164.1	2.7	4.7	2.6
							and	195.1	197.8	2.7	0.8	2.6
RURT0027	285609	7060605	240	-17	83.6	200.7	92.4	95.0	2.7	1.4	2.6	
							and	113.0	116.6	3.6	0.5	3.5
							and	121.7	129.4	7.7	2.9	7.5
							and	136.0	140.9	5.0	1.1	4.8
RURT0028	285609	7060605	239	-40	66.0	269.4	98.0	118.6	20.6	0.7	14.4	
							and	148.0	155.3	7.3	0.2	5.1
							and	167.4	178.0	10.6	1.4	7.4
							and	198.0	203.0	5.0	0.9	3.5
RURT0029	285610	7060604	239	-36	91.0	230.8	82.0	82.4	0.4	2.4	0.2	
							and	82.8	85.1	2.3	0.4	1.6
							and	90.7	93.0	2.4	1.7	1.6
RURT0030	285606	7060600	239	-34	115.0	241.0	1.6	9.2	7.6	0.9	5.3	
							and	34.4	41.6	7.2	1.3	5.0
							and	50.6	54.1	3.6	11.0	2.5
							and	105.9	112.1	6.2	1.4	4.3
RURT0031	285546	7060462	224	-34	312.0	145.0	94.3	94.9	0.7	0.8	0.5	

THUNDERBOX - WONDER NORTH & GOLDEN WONDER SIGNIFICANT INTERSECTIONS												
Drill Hole #	Easting (MGA)	Northing (MGA)	Drill hole collar RL (MGA)	Dip (deg)	Azimuth (deg, MGA)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)	
GWRD0001	323461	6862690	490	-60	219	493.6	308.8	316.8	8.0	2.28	6.2	

APPENDIX A: DRILL RESULTS

THUNDERBOX - WONDER NORTH & GOLDEN WONDER SIGNIFICANT INTERSECTIONS											
Drill Hole #	Easting (MGA)	Northing (MGA)	Drill hole collar RL (MGA)	Dip (deg)	Azimuth (deg, MGA)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
GWRD0002	323518	6862634	490	-59	217	477.7	424.0	440.1	16.1	0.85	12.1
						and	280.0	287.0	7.0	1.50	5.8
						and	406.0	406.9	0.9	3.78	0.7
GWRD0005	323632	6862633	490	-61	218	600.9	477.0	480.0	3.0	0.95	2.2
GWRD0006	323253	6862826	492	-60	219	491.7	418.3	427.7	9.3	1.34	6.8
						and	348.0	353.9	5.9	0.52	4.7
GWRD0007	323405	6862749	491	-59	219	523.0	354.8	375.6	20.8	2.62	15.5
						and	390.0	396.1	6.1	5.37	4.4
						and	441.2	450.4	9.2	0.87	7.2
GWRD0008	323575	6862577	489	-61	218	446.6	248.6	264.4	15.9	0.54	11.7
WNRD1154	322474	6863417	499	-67	225	450.9	366.9	379.0	12.1	0.83	9.6
WNRD1155	322526	6863479	498	-66	229	535.0	468.0	487.0	19.0	0.42	14.6
						and	509.0	514.4	5.4	0.72	3.9

THUNDERBOX - BANNOCKBURN SIGNIFICANT INTERSECTIONS											
Drill Hole #	Easting (MGA)	Northing (MGA)	Drill hole collar RL (MGA)	Dip (deg)	Azimuth (deg, MGA)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
BNWR002	292686	6852453.183	406	-60	251	202.0	102.0	118.0	16.0	0.5	12.2
BNWR003	292758	6852479.393	406	-60	248	298.8	115.8	123.5	7.7	2.5	7.5
						and	133.9	148.7	14.8	2.2	12.3
						and	165.6	169.0	3.4	0.3	3.3
						and	199.2	207.1	7.9	0.9	6.4
BNWR005	292623	6852594	406	-60	251	202.0	137.0	139.0	2.0	1.0	1.6
BNWR006	292682	6852599	406	-65	250	295.0	97.7	100.5	2.8	0.6	2.5

BRONZEWING - SUNDOWNER SIGNIFICANT INTERSECTIONS											
Drill Hole #	Easting (MGA)	Northing (MGA)	Drill hole collar RL (MGA)	Dip (deg)	Azimuth (deg, MGA)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
NSRYXD0015	307975	6975486	482	-60	90	190.1	41.2	44.3	3.1	1.36	2.5
						and	130.4	132.7	2.3	8.49	1.5
NSRYXR00365	307952	6975804	482	-60	90	151.0	44.0	63.0	19.0	3.96	12.3
NSRYXR00369	307951	6975766	482	-60	90	150.0	60.0	71.0	11.0	10.30	7.2
						and	90.0	92.0	2.0	1.20	1.0
NSRYXR00373	307948	6975729	482	-60	90	150.0	80.0	87.0	7.0	1.96	5.2
						and	92.0	94.0	2.0	1.92	1.2
NSRYXR00374	307900	6975729	482	-60	90	200.0	166.0	168.0	2.0	3.54	1.2
NSRYXR00377	307950	6975684	482	-60	90	150.0	89.0	95.0	6.0	4.34	3.9
NSRYXR00378	307902	6975684	482	-60	90	200.0	168.0	178.0	10.0	1.63	7.8
NSRYXR00381	307948	6975643	482	-60	90	150.0	102.0	108.0	6.0	2.81	4.4
NSRYXR00382	307899	6975642	482	-60	90	210.0	44.0	48.0	4.0	1.12	3.5
						and	188.0	191.0	3.0	1.35	2.7
NSRYXR00384	307999	6975601	482	-60	90	120.0	48.0	53.0	5.0	2.02	4.1
NSRYXR00385	307949	6975600	482	-60	90	150.0	126.0	132.0	6.0	2.36	4.8
NSRYXR00519	307988	6975570	482	-60	90	140.0	69.0	79.0	10.0	6.12	6.6
NSRYXR00521	308023	6975528	482	-60	90	114.0	33.0	39.0	6.0	7.90	3.7
NSRYXR00672	307994	6975489	482	-60	90	120.0	94.0	108.0	14.0	10.95	8.9
NSRYXR00673	307956	6975488	483	-60	90	180.0	57.0	59.0	2.0	0.69	1.0
						and	153.0	162.0	9.0	15.23	6.1

POGO SIGNIFICANT INTERSECTIONS											
Drill Hole #	Easting (AKSP3)	Northing (AKSP3)	Drill hole collar RL (AKSP3)	Dip (deg)	Azimuth (deg, AKSP3)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
DDH23-001	1814961	3814610	2884	-75	250	792	341.5	342.2	0.7	43.1	0.3
DDH23-001	1814961	3814610	2884	-75	250	792	753.9	759.3	5.4	3.8	4.4
DDH23-002	1814959	3814587	2883	-81	350	801	122.6	124.2	1.6	9.1	1.5
DDH23-002	1814959	3814587	2883	-81	350	801	717.5	726.5	9.0	5.4	7.8
DDH23-003	1814956	3814587	2883	-74	12	789	306.3	308.2	1.8	13.7	1.3
DDH23-004	1814948	3814609	2883	-85	208	702	675.5	676.7	1.2	35.8	0.9
DDH23-006	1814950	3814602	2883	-83	128	654	204.1	206.1	2.0	22.1	1.7
DDH23-006	1814950	3814602	2883	-83	128	654	623.1	624.6	1.5	11.0	1.2
DDH23-010	1816312	3813845	2539	-60	25	366	326.4	338.5	12.1	3.9	10.5
DDH23-011	1816309	3813848	2541	-52	60	340.8	268.3	271.2	2.8	6.2	2.7
DDH23-012	1813873	3814567	2682	-72	30	872.9	784.6	810.8	26.2	3.8	22.7
						including	786.4	786.7	0.3	53.3	0.3
						including	799.5	799.8	0.3	39.6	0.3

APPENDIX B: TABLE 1

JORC Code, 2012 Edition – Table 1 Report

KCGM: Fimiston - 21 November 2023

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.	The sampling database for KCGM has been collected over the last 115 years. The data has been collected by many different operations, using varying techniques. Assay information quality also varies with detection limit and quality: generally, the quality appears to be inversely proportional to the age of the samples. For this reason, assay information collected prior to 1984 is not used in the interpolation of element grades. All information collected prior to involvement by Northern Star Resources in 2019 is hereafter referred to as historical data. Only historical data that is deemed as having acceptable and traceable location and assay information has been included in the Mineral Resource estimation dataset for Fimiston.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	The DD drilling down hole depth is recorded by the drillers on core blocks after every run. This is checked and compared to the measurements of the core by the geologist during core mark-up prior to logging. Sample intervals are then marked on the core by a geologist, to honour geological boundaries. Sample interval lengths vary from 0.3m to 1.3m. DD core is orientated, measured, and then sampled by cutting the core in half longitudinally using an "Almonte" or "Corewise" diamond saw. Cutting is along orientation or cut lines. The same half of the core is always selected for each sample interval, placed in numbered calico bags that contain a bar code, scanned into the database, and submitted to the laboratory for analysis. The other half of the core is retained in the core tray, which was stamped for identification, stored, and catalogued. Routine 'field duplicates' to assess sample representivity are not performed on diamond core as these are not considered to be true field duplicates. RC samples are homogenised by riffle or cone splitting prior to sampling and then submitted for assay as either 1m or 2m intervals. Certified standard samples, ranging in grades from 0.69 gpt Au to 34.99 gpt Au, purchased from OREAS, are inserted at the rate of one in 40 samples. The results are reviewed on a per batch basis and the entire batch of samples is reanalysed if the result is greater than three standard deviations (SD) from the expected result. All drill collars are surveyed by using a total station theodolite or total GPS.
	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.	Historical sample preparation and assay procedures are variable due to the duration of historical work and the numerous companies involved. All historical sampling accepted for use is considered to have been collected by acceptable practices. Current sample preparation and assay procedures employed by KCGM are considered as following industry standard practice. All assay determinations are conducted by internationally recognised laboratories. The primary laboratory, Bureau Veritas, meets ISO 9001:2000. Samples are oven dried until a constant mass is achieved. All samples are then processed through an Essa Jaw Crusher or a Boyd Crusher to 90% < 3 mm. The crushed sample is then pulverised in an LMS pulveriser for a product of 90% passing < 75 µm. Approximately 250 - 300g of the pulp is retained and a 40g charge weight for fire assay is extracted from the pulp packet. Samples are tested for sulphides and flux adjusted, flux is added at a ratio of 1:4. Samples are fired, hammered and cupelled. Prills are placed in tubes, dissolved on hotplates and analysed using AA finish with over-range dilutions used as required. Sample preparation for Sulphur determination follows the same process as for Gold, with assaying taking place using the LECO method.
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 orientated and if so, by what method, etc.).	The Fimiston drilling database is composed of surface and in-pit reverse circulation (RC) drill holes and PQ, HQ, HQ3, NQ, triple tube and BQ diamond drill holes from surface and underground. Where possible diamond core was orientated using a spear, Ballmark™, Ezimark™, or ACE multi electronic tool. For RC holes either 5.5inch or 5.25inch diameter face sampling hammer was used.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	For DD, all recovery is recorded by the drillers on core blocks. This is checked and compared to the measurements of the core by the geologist. Recovery is generally very high, in excess of 95%, and there have been no significant sample recovery problems. Historic DD core stored on site shows excellent recovery. 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. Drilling within Fimiston regularly intersects historic underground workings (voids), this is recorded on the core block as well as on driller's plods and is recorded in the database. Where possible drilling continues beyond the void. RC drilling sample weights were recorded for selected sample intervals and monitored for fluctuations against the expected sample weight. If samples were below the expected weight, feedback was given promptly to the RC driller to modify drilling practices to achieve the expected weights
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	For DD, drilling contractors adjust the rate of drilling and method if recovery issues arise. Minor loss occurs when drilling through fault zones such as the Golden Pike Fault. Areas of potential lower recovery are generally known before hand and controlled drilling techniques employed to maximise recovery.
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	No specific study has been carried out on recovery and grade. As recoveries are generally very high (95%+) it is assumed that the potential for bias due to variable sample recovery is low.

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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.	Core is logged using either digital logging into a laptop computer or onto paper logs and then transcribed into the database. Logging records lithology, stratigraphy, oxidation state, structure, vein form, mineralisation, and alteration. All drill core is photographed using a digital camera and stored on the site server. RC samples are first split at the rig using a cone splitter, with the sample stream being placed into numbered calico bags and the reject stream stored in chip trays for logging. Resource definition RC drill chips are sieved, and a small representative sample is collected in chip trays, one sample for each interval. These samples are logged using the same parameters as for diamond core above. Geological boundaries are defined to the nearest two metres. The data are manually entered directly into the database. Logging is entered in Acquire using a series of drop-down menus which contain the appropriate codes for description of the rock. Chips from all exploration and resource definition RC holes are stored in chip trays for future reference while remaining core is stored in core trays and archived on site. RC chips from grade control are retained until assays have been returned and validated, after which the chips are disposed of. Qualitative and quantitative logging of historic data varies in its completeness.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	Geology logging is qualitative in nature with visual estimates made of mineralisation percentages for core. Structural and geotechnical logging is quantitative in nature. All core is photographed wet as standard practice. Historically some core may have also been photographed dry.
	The total length and percentage of the relevant intersections logged.	100% of the drill core is logged.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	DD core is sampled by sawn half-core on intervals controlled by geological domaining represented by mineralisation, alteration and lithology. A selected number of grade control holes were full cored. Mineralised intersections are sampled with a maximum and minimum length of 1.3m and 0.3m, respecting lithological or alteration contacts. The down hole depth of all sample interval extents are recorded.
	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 - 4 kg in size from each 2 m interval. Wet samples are rarely encountered in Fimiston, however any samples that fail KCGM QA/QC protocols are removed from the estimate.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Samples are oven dried until a constant mass is achieved. All samples are then processed through an Essa Jaw Crusher or a Boyd Crusher to 90% < 3 mm. The crushed sample is then pulverised for 4 minutes in an LMS pulveriser for a product of 90% passing < 75 µm. Approximately 250 - 300 g of the pulp is retained and a 40g charge prepared.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Coarse grind checks at the crushing stage (3mm) are carried out at a ratio of 1:25 samples with 90% passing required. Pulp grind checks at the pulverising stage (75 µm) are carried out at a ratio of 1:25 samples with 90% passing required. Laboratory duplicate samples are taken for coarse crush (3mm) and pulverising (75 µm) stages at a ratio of 1:25 samples. Repeat assays are carried out at a ratio of 1:10 on prepared pulp samples.
	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.	Quarter core sampling of diamond core is occasionally undertaken for check assays, however routine field duplicates are not performed on diamond core as these are not considered to be true field duplicates. Umpire sampling is performed fortnightly, where 10% of the samples are sent to the umpire lab for processing.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	The sample and size (3kg to 4kg) relative to the particle size (>90% passing 75µm) of the material sampled is a commonly utilised practice for effective sample representation for gold deposits within the Eastern Goldfields of Western Australia
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.	Fire assay analysis is undertaken and this is considered to be a total assay method. Monthly QAQC reports are prepared to check for any bias or trends with conclusions discussed with the laboratory management. Holes that do not pass QAQC are not used for Mineral Resource estimation.
	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.	Sampling and assaying QAQC procedures include: <ul style="list-style-type: none"> - Periodical resubmission of samples to primary and secondary laboratories - Submittal of independent certified reference material - Sieve testing to check grind size - Sample recovery checks. - Unannounced laboratory inspections

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Criteria	JORC Code explanation	Commentary
		<p>Standard control samples and blanks purchased from certified commercial suppliers are inserted at a ratio of 1:40. The standard control samples are changed on a 3-month rotation. The results are reviewed on a per batch basis and batches of samples are re-analysed if the result is greater than three standard deviations from the expected result. Any result outside of two standard deviations is flagged for investigation by a geologist and may also be re-assayed.</p> <p>Blanks are inserted into the sample sequence at a nominal ratio of 1:40. 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 gpt are investigated, and re-assayed if appropriate. New pulps are prepared if anomalous results cannot be resolved.</p> <p>When visible gold is observed in core, a barren flush is required.</p> <p>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</p> <p>The QA studies indicate that accuracy and precision are within industry accepted limits.</p>
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	All significant and anomalous intersections are verified by a Senior Geologist during the drill hole validation process.
	The use of twinned holes.	No twinned holes were drilled for this data set. Re-drilling of some 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.	All data are stored and validated within the site Acquire database. Data imported into the database is controlled by documented standard operating procedures, and by a set of validation tools included in Acquire import routines. Hard copies and electronic copies of all primary location, logging and sample results data are filed for each hole. Assay results are received in a comma-separated values (.csv) file format and loaded directly into the database by the supervising geologist who then checks that the results have inserted correctly. Holes that cannot be accurately validated or do not meet the requirements of Fimiston Quality assurance and Quality Control (QAQC) are excluded prior to Mineral Resource estimation.
	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.	<p>Planned holes are marked up by the KCGM surveyors using RTK-GPS in the mine grid.</p> <p>All historical drill hole collar positions were assumed to be surveyed. All recent drill hole collar positions were surveyed. All recent DD holes were surveyed down hole by various methods including single shot down hole camera, EMS (Electronic Multi Shot) method or in-rod gyroscopic survey tools. Holes are typically surveyed at 15m and 30m intervals down hole thereafter.</p> <p>QAQC is performed on the speed of running and on the misclose rate for each gyroscopic survey. Where issues are identified, a single survey run can be chosen as preferred with the remaining data ignored. This data is converted to CSV format and imported into the Acquire database where it is validated by the project geologist.</p> <p>Any poor surveys are re-surveyed. If survey data is missing or quality was suspect and not replaced by more recent drilling, affected data was not used in estimation.</p>
	Specification of the grid system used.	The Fimiston data is exported and modelled on the mine Oroya East Grid. This is a rotated grid 38.3° from MGA 94.
	Quality and adequacy of topographic control.	The topography surface wireframe is generated from an annual flyover survey completed by Fugro Australia Land Pty Ltd with +/- 15cm resolution.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Drill hole spacing varies through the deposit. Exploration drill spacing targets areas of gaps within the current dataset. These vary from 100m to 25m infill spacing. Fimiston is nominally 50mE x 60mN down to 20mE x 25mN in the Eastern zones of mineralisation, 50mE x 60mN down to 15mE x 20mN in the Western Zones of mineralisation and 40mE x 50mN down to 12mE x 20m in the Northern zones of mineralisation. While open pit drill hole spacing is 10mE x 10mN. Cross mineralised structures in the hanging wall and footwall of Fimiston are typically narrower and less consistent so have a nominal drill spacing of 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 in the ore lodges at Fimiston is considered sufficient to support the estimation of Mineral Resources and Reserves as applied under the 2012 JORC Code. Appropriate geological and grade continuity have been demonstrated during the 20+ years of mining at the Fimiston operations.
	Whether sample compositing has been applied.	No sample compositing has been applied to the database. For grade estimation, the datasets are composited to 1 m intervals prior to grade estimation. This aligns with the most common sample length taken.
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.	<p>The majority of data is drilled perpendicular to the interpreted strike of the Fimiston ore lodges. Due to the complex overlapping nature of the mineralised zones, actual intersections may be slightly oblique to the intended right-angle intersections. Drill intercepts post 2020 are recorded in true width where known. Historical drill intercepts are recorded as downhole width, unless otherwise stated.</p> <p>The majority of drill holes are positioned to achieve optimum intersection angles to the ore zone as are practicable.</p>

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Criteria	JORC Code explanation	Commentary
	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.	Holes with orientations that are considered likely to introduce sampling bias are flagged during drill hole validation and are excluded from the Mineral Resource estimation datasets.
Sample security	The measures taken to ensure sample security.	All core is kept within the site perimeter fence on the Mining Lease M 26/131, M 26/353, M 26/78 and M 26/86. Samples are dispatched and/or collected by an offsite delivery service on a regular basis. Each sample batch is accompanied with a: <ul style="list-style-type: none"> - Job number - Number of Samples - Sample Numbers (including standards and duplicates) - Required analytical methods - A job priority rating A Chain of Custody is demonstrated by both KCGM and Bureau Veritas in the delivery and receipt of sample materials. Any damage to or loss of samples within each batch (e.g. total loss, spillage or obvious contamination), is reported to the KCGM in the form of a list of samples affected and detailing the nature of the problem(s).
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Sampling performed by KCGM staff and contractors is reviewed weekly by senior KCGM geology personnel including task observations and inspections. Data is reviewed regularly by senior Northern Star geology personnel and low confidence data is excluded from the estimate. Audits and inspections of the commercial assay lab are completed regularly by the Northern Star QA/QC geologist.

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 tenement portfolio is located on land owned by the State of Western Australia on Crown reserves or vacant Crown land. Northern Star Pty Ltd (Northern Star) manages the tenement portfolio for the KCGM operations. The portfolio comprises of 322 granted tenements which is a combination of Miscellaneous (73) and Prospecting Licenses (28), and General Purpose (113) and Mining Leases (122). The tenements cover a total area of approximately 30,000 hectares extending in a north-south direction over a distance of approximately 45km, centred on the Super Pit. There is one registered Native Title application that incorporates KCGM leases: Marlinyu Ghoorlie (WC2017/007). This claim is currently before the National Native Title Tribunal for Determination.
	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.	In the 1970s, the goldfield was controlled by three companies: Kalgoorlie Mining Associates (KMA), Kalgoorlie Lake View (the majority owner of KMA), and North Kalgurlu Mines. In 1974, all operations on the Golden Mile had ceased, with the exception of the highly mechanized Mt Charlotte Underground Mine. Modern day surface mining commenced in 1983 in the Kemlo Pit followed by the Croesus and Eclipse pits, and the Central and Paringa pits in 1985. KCGM was formed in 1989 to run the operation on behalf of its owners Homestake Gold of Australia Ltd (Homestake) and GMK, a subsidiary of Normandy Mining Limited. By 1992, all labour intensive, high cost underground mining of narrow zones stopped in the Main, Croesus, Chaffers, Lake View, and Perseverance shafts. Fimiston underground production ceased in 1994. In 2001, Homestake merged with Barrick to form Barrick Gold Australia, thereby becoming a 50% owner of KCGM. In 2002, Newmont acquired Normandy Mines Limited, thereby becoming a 50% owner of KCGM. In 2019, Saracen and Northern Star acquired the operation from Barrick and Newmont. In 2020, Northern Star announced a merger of equals and the operation is now wholly owned by Northern Star Resources Exploration drilling is ongoing from underground to extend the known mineral resources.
Geology	Deposit type, geological setting and style of mineralisation.	The Golden Mile deposit occurs in the Kalgoorlie Terrane, within the southern portion of the NNW trending Archaean Norseman-Wiluna Greenstone Belt. The greenstone belt has been multiply deformed and regionally metamorphosed to grades varying from lower greenschist to amphibolite grade (Swager, 1997). The stratigraphy of the Kalgoorlie Terrane consists of a lower mafic-ultramafic volcanic sequence overlain by a thick sequence of clastic sedimentary rocks and intermediate to felsic volcanoclastic rocks (Swager, 1997). Younger sedimentary basins, occurring along major faults or synclines, unconformably overlie the greenstone sequence (Swager, 1997). Granitic intrusions

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		<p>occurring within the Norseman-Wiluna Greenstone Belt are divided into two categories: pre-folding and post-folding (Witt and Davy, 1997). The post-folding intrusions are further subdivided as syn-tectonic and late tectonic.</p> <p>The stratigraphy covered by the KCGM tenements consists of a basal ultramafic unit called the Hannan Lake Serpentinite. This ultramafic unit is overlain successively by the high magnesian Devon Consols Basalt, Kapai Slate, tholeiitic Paranga Basalt and the Black Flag sediments. Differentiated zones of dolerite and gabbro texture occur within the mafic sequence. The Golden Mile Dolerite, hosting the bulk of the Golden Mile and Mount Charlotte gold mineralisation, is a strongly differentiated layered gabbro, approximately 700m in thickness. The Golden Mile Dolerite is situated conformably between the Paranga Basalt and the Black Flag sediments. This entire stratigraphic sequence is intruded by numerous porphyry dykes of intermediate to felsic composition.</p> <p>The Fimiston style gold mineralisation, which accounts for the bulk of the economic gold ore of the Golden Mile deposit, is hosted dominantly in the Golden Mile Dolerite with lesser mineralisation hosted in the Paranga Basalt. The Golden Mile deposit is an intensely mineralised Archaean shear zone system developed between the Adelaide and Golden Pike faults (Clout et al., 1990). Gold mineralisation occurs over a north-south strike length of 4,250m, a width of 1,850m and has been historically mined to a depth of about 1,200m underground.</p> <p>The mineralisation consists of numerous narrow, generally 1-2m wide, but locally up to 20m wide, vertically and laterally extensive lodes, up to 1200m vertical and over 1000m along strike length. The Fimiston lodes occur in three principle orientations: Main 140o/80oW, Caunter 115o/55oW to 80oW and Cross Lodes 050o/90o to 80oN-S (Finucane, 1948). The deposit lies within a regional syncline and is divided into the Eastern Lode System and the Western Lode System, divided by the steeply dipping reverse Golden Mile Fault. The Main and Caunter lodes are the dominant sets in both the Western and Eastern Lode Systems. The lodes in the Western Lode System display good lateral and vertical continuity whereas lodes in the Eastern Lode System are segmented by numerous steep reverse faults. The lodes in the Western and Eastern Lode System form a funnel shaped array, which is sub-vertical in the Western Lode System and steeply west dipping in the Eastern Lode System (Gauthier, 2005).</p> <p>The Mt Charlotte style gold mineralisation, which accounts for the bulk of the economic gold ore of the Mt Charlotte deposit, but may be seen in some areas of Fimiston, is predominantly associated with pyrite in carbonate alteration haloes around quartz veins, with a minor proportion as relatively coarse free gold within the veins, commonly close to their margins. The veins vary in width from a few millimetres to a maximum of about two metres but are commonly between two centimetres and 50 cm wide. The vein spacing varies from 20 cm to tens of metres but is typically from 50 cm to two metres in areas mined as ore. Quartz is the dominant vein-fill mineral; accessory vein minerals include calcite, ankerite, scheelite, pyrite, pyrrhotite, and gold.</p>																																																
Drill hole Information	<p>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:</p> <ul style="list-style-type: none"> o easting and northing of the drill hole collar o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar o dip and azimuth of the hole o down hole length and interception depth o hole length. 	<p>Refer to the drill hole information table in the Appendix of this report for significant assay results from KCGM for the lodes represented within the report. All mineralised intercepts are shown in the table.</p>																																																
	<p>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.</p>	<p>Exclusion of the drill information will not detract from the understanding of the report.</p>																																																
Data aggregation methods	<p>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.</p>	<p>All reported assay results have been length weighted to provide a true intersection width where possible. All reported assay results within Mt Charlotte style stockwork mineralisation are reported using downhole widths, due to the nature of the mineralisation and orientation of the drill holes, true width calculations are not possible or are misleading. Grades are not top cut or truncated.</p>																																																
	<p>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.</p>	<p>Intercepts are aggregated based on void intercepts. The width is calculated by identifying the hanging wall and footwall points of the lode geologically and estimating true width based on the lode geometry. Voids are included in the intercept width, however the grade of the void is assigned a NULL value. The overall grade of the intercept is calculated using the weighted average grade of the in situ intercepts. Eg:</p> <table border="1"> <thead> <tr> <th>Drill Hole #</th> <th>Easting</th> <th>Northing</th> <th>Drill hole collar RL</th> <th>Dip (Deg)</th> <th>Azimuth</th> <th>End of hole depth (m)</th> <th>Downhole From (m)</th> <th>Downhole To (m)</th> <th>Downhole Intersection (m)</th> <th>Au (g/t)</th> <th>Agg Lode #</th> <th>Agg True Thickness (m)</th> </tr> </thead> <tbody> <tr> <td rowspan="5">FNU00077</td> <td rowspan="5">315751</td> <td rowspan="5">6395347</td> <td rowspan="5">144.1</td> <td rowspan="5">28.6</td> <td rowspan="5">38.8</td> <td>142.4</td> <td>0</td> <td>17</td> <td>8</td> <td>0.7</td> <td rowspan="5">7.4</td> </tr> <tr> <td>and</td> <td>258.2</td> <td>278</td> <td>18.8</td> <td>3.2</td> <td>18.5</td> </tr> <tr> <td>including</td> <td>258.2</td> <td>268</td> <td>9.8</td> <td>0.8</td> <td>0.5</td> </tr> <tr> <td>and</td> <td>268</td> <td>268.1</td> <td>0.1</td> <td>VOID</td> <td>0.5</td> </tr> <tr> <td>and</td> <td>268.1</td> <td>278</td> <td>9.9</td> <td>1.5</td> <td>9.6</td> </tr> </tbody> </table> <p>Where a standout higher grade zone exists within the broader mineralised zone, the higher-grade interval is reported also.</p>	Drill Hole #	Easting	Northing	Drill hole collar RL	Dip (Deg)	Azimuth	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (g/t)	Agg Lode #	Agg True Thickness (m)	FNU00077	315751	6395347	144.1	28.6	38.8	142.4	0	17	8	0.7	7.4	and	258.2	278	18.8	3.2	18.5	including	258.2	268	9.8	0.8	0.5	and	268	268.1	0.1	VOID	0.5	and	268.1	278	9.9	1.5
Drill Hole #	Easting	Northing	Drill hole collar RL	Dip (Deg)	Azimuth	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (g/t)	Agg Lode #	Agg True Thickness (m)																																						
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<p>The assumptions used for any reporting of metal equivalent values should be clearly stated.</p>	<p>No metal equivalent values have been used for the reporting of these exploration results.</p>																																																	
<p>These relationships are particularly important in the reporting of Exploration Results.</p>	<p>Estimated true widths have been calculated for intersections of the known ore zones, based on existing knowledge of the nature of these structures.</p>																																																	

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Criteria	JORC Code explanation	Commentary
Relationship between mineralisation widths and intercept lengths	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 estimated 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 mineralisation orientations are unknown, downhole lengths 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 sections 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.	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).	Fimiston Pit is currently in production and resource definition is planned to infill areas of inferred resource inside the pit shell as well as planned exploration testing the down dip and plunge extents 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.

KCGM: Mt Charlotte - 21 November 2023

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.	The sampling database for the KCGM Mineral Resource estimation has been collected over the last 115 years. The data has been collected by many different operations, using varying techniques. Assay information quality also varies with detection limit and quality: generally, the quality appears to be inversely proportional to the age of the samples. For this reason, assay information collected prior to 1984 is not used in the interpolation of element grades. All information collected prior to involvement by Northern Star Resources and Saracen Minerals in 2019 is hereafter referred to as historical data. Only historical data that is deemed as having acceptable and traceable location and assay information has been included in the Mineral Resource estimation dataset for Mt Charlotte.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	For DD samples, down hole depths are recorded by the drillers on core blocks. This is checked and compared to the measurements of the core by the geologist during core mark-up prior to logging, to prevent incorrect logging and sampling errors. Sample intervals are then marked on the core by a geologist, to honour geological boundaries. Sample interval lengths vary from 0.3m and 1.3m (NQ). DD core is orientated, measured and then sampled by cutting the core in half longitudinally using an "Almonte" diamond saw. Cutting was along orientation lines. The same half of the core is always selected for each sample interval, placed in numbered calico bags that contain a bar code, scanned into the database and submitted to the laboratory for analysis. The other half of the core is left in the core tray which is stamped for identification, stored and catalogued. Routine 'field duplicates' to assess sample representivity are not performed on diamond core as these are not considered to be true field duplicates. Certified standard samples, ranging in grades from 0.542 g/t Au to 34.99 g/t Au, purchased from OREAS, are inserted at the rate of one in 40 samples. The results are reviewed on a per batch basis and the entire batch of samples is reanalysed if the result is greater than three standard deviations (SD) from the expected result. All drill collars are surveyed by using a total station theodolite or total GPS. .
	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	Historical sample preparation and assay procedures are variable due to the duration of historical work and the numerous companies involved. All historical sampling accepted for use in the Mineral Resource estimates are considered to have been collected by acceptable practices. Current sample preparation and assay procedures employed by KCGM are considered as following industry standard practice. All assay determinations are conducted by internationally recognised laboratories. The primary laboratory, Bureau Veritas, meets ISO 9001:2000.

APPENDIX B: TABLE 1

Criteria	JORC Code explanation	Commentary
	sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.	Samples are oven dried until a constant mass is achieved. All samples are then processed through an Essa Jaw Crusher or a Boyd Crusher to 90% < 3 mm. The crushed sample is then pulverised for 4 minutes in an LMS pulveriser for a product of 90% passing < 75 µm. Approximately 250 - 300g of the pulp is retained and a 40g charge weight for fire assay is extracted from the pulp packet. Samples are tested for sulphides and flux adjusted, flux is added at a ratio of 1:4. Samples are fired, hammered and cupelled. Prills placed in tubes, dissolved on hotplates and analysed using AA finish with over range dilutions. Sample preparation for Sulphur determination follows the same process as for Gold, with assaying taking place using the LECO method. Sample preparation for Silver determination follows the same process as for Gold, with assaying taking place using Four Acid Digest with an ICP MS finish.
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.).	DD core is mostly NQ diameter with some BQ, HQ, and LTK60 diameter core. Where possible diamond core was orientated using a spear, Ballmark™, Ezimark™, ACE multi electronic tool, Reflex ACTIIRD or Trucore™ tool. A small proportion of the Mount Charlotte database is made up of RC drilling completed from surface.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	For DD, all recovery is recorded by the drillers on core blocks. This is checked and compared to the measurements of the core by the geologist and entered as interval into the hole log. Any issues are communicated back to the drilling contractor. Recovery is generally very high, in excess of 95%, and there have been no significant sample recovery problems. Historic DD core stored on site shows excellent recovery. A limited number of drill holes have intersected historical workings, this is recorded on the core block as well as on driller's plods and is recorded in the database. Where possible drilling continues beyond the void. RC drilling sample weights were recorded for selected sample intervals and monitored for fluctuations against the expected sample weight. If samples were below the expected weight, feedback was given promptly to the RC driller to modify drilling practices to achieve the expected weights
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	For DD and RC, drilling contractors adjust the rate of drilling and method if recovery issues arise. Minor loss occurs when drilling through fault zones. Areas of potential lower recovery are generally known before hand and controlled drilling techniques employed to maximise recovery.
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	No specific study has been carried out on recovery and grade. As recoveries are generally very high (95%+) it is assumed that the potential for bias due to variable sample recovery is low.
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 DD core was logged by geologists with lithology, mineralisation, structure, alteration, veining and specific gravity were recorded. Quantitative measures such as structural measurements, intensity of alteration, percentage of mineralisation and vein intensity were also recorded. Geotechnical measurements on DD core include RQD, Recovery, and Fracture Frequency. For selected holes joint sets, infill, infill thickness and roughness were also geotechnically measured. All mineralised intersections are logged and sampled. Logging is entered in acquire using a series of drop-down menus which contain the appropriate codes for description of the rock. All underground face chips are logged for lithology and mineralisation. Logging is captured on a face sample sheet underground which is then transferred to acquire, a component of face logging during a trial period was conducted using Datamine StudioMapper software on tablets. Faces are 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.	Geology logging is qualitative in nature with visual estimates made of mineralisation percentages for core. Structural and geotechnical logging is quantitative in nature. All core is photographed wet as standard practice. Historically some core may have also been photographed dry. 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.	100% of the drill core is logged.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	DD core is sampled by sawn half-core on intervals controlled by geological domaining represented by mineralisation, alteration and lithology. In general, grade control holes are routinely full core sampled. Mineralised intersections are sampled with a maximum and minimum length of 1.3m and 0.3m, respecting lithological or alteration contacts. The down hole depths of all sample interval extents are recorded.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	Samples are a maximum of 1.3m and a minimum of 0.3m in width and honour geological boundaries. Samples are taken horizontally across the mineralisation. Historic RC samples were homogenised by riffle or cone splitting prior to sampling, however it was not recorded whether they were sampled wet or dry.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Sample preparation follows industry standard practice. Samples are oven dried until a constant mass is achieved. All samples are then processed through an Essa Jaw Crusher or a Boyd Crusher to 90% < 3 mm. The crushed sample is then pulverised for 4 minutes in an LMS pulveriser for a product of 90% passing < 75 µm. Approximately 250 - 300 g of the pulp is retained and a 40g charge prepared.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Coarse grind checks at the crushing stage (3mm) are carried out at a ratio of 1:40 samples with 90% passing required. Pulp grind checks at the pulverising stage (75 µm) are carried out at a ratio of 1:40 samples with 90% passing required. Laboratory duplicate samples are taken for coarse crush (3mm) and pulverising (75 µm) stages at a ratio of 1:50 samples. Repeat assays are carried on 5% of prepared pulp samples.

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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.	Quarter core sampling of diamond core is occasionally undertaken for check assays, however routine field duplicates are not performed on diamond core as these are not considered to be true field duplicates. Umpire sampling is performed monthly, where 10% of the samples are sent to the umpire lab for processing.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	The sample and size (3kg to 4kg) relative to the particle size (>90% passing 75um) of the material sampled is a commonly utilised practice for effective sample representation for gold deposits within the Eastern Goldfields of Western Australia
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.	Fire assay analysis is undertaken and this is considered to be a total assay method. Monthly and more detailed Quarterly QAQC reports are prepared to check for any bias or trends with conclusions discussed with the laboratory management. Holes that do not pass QAQC are not used for Mineral Resource estimation.
	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.	Sampling and assaying QAQC procedures include: <ul style="list-style-type: none"> - Periodical resubmission of samples to primary and secondary laboratories - Submittal of independent certified reference material - Sieve testing to check grind size - Sample recovery checks. - Unannounced laboratory inspections Standard control samples and blanks purchased from certified commercial suppliers are inserted at a ratio of 1:40. The results are reviewed on a per batch basis and batches of samples are re-analysed if the result is greater than three standard deviations from the expected result. Any result outside of two standard deviations is flagged for investigation by a geologist and may also be re-assayed. Blanks are inserted into the sample sequence at a nominal ratio of 1:40. 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 are investigated, and re-assayed if appropriate. New pulps are prepared if anomalous results cannot be resolved. When visible gold is observed in core, a barren flush is required. 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 and anomalous intersections are verified by a Senior Geologist during the drill hole validation process.
	The use of twinned holes.	All significant and anomalous intersections are verified by a Senior Geologist during the drill hole validation process.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Twining of historic partially sampled GC holes is routinely assessed and where able (and beneficial) drilled when targeting around the Charlotte Stockwork orebodies. Where historic partially sampled GC holes are twinned with new drillholes, the historic holes are excluded from the estimation where appropriate. Re-drilling of some drillholes has occurred due to issues downhole (e.g. deviation). These have been captured in the database as an 'A' and have been logged and sampled as well as the original hole.
	Discuss any adjustment to assay data.	All data are stored and validated within the site acQuire database. Data import into the database is controlled by documented standard operating procedures, and by a set of validation tools included in acQuire import routines. Electronic copies of all primary location, logging and sample results data are filed for each hole. Assay results are received in csv format and loaded directly into the database by the supervising geologist who then checks that the results have inserted correctly. Holes that cannot be accurately validated or do not meet the requirements of MTC QAQC are excluded prior to Mineral Resource estimation.
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.	No adjustments are made to the diamond or RC assay data. During Mineral Resource estimation, face chip sample assays are calibrated by an average factor of 0.5 due to a sampling bias (in general, the full structure/orebody width not exposed in underground faces) to better correlate with diamond and RC assay data. No adjustments are made to the raw assay data in the database.
	Specification of the grid system used.	Planned holes are marked up by the KCGM surveyors in the Mt Charlotte mine grid.

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Criteria	JORC Code explanation	Commentary
Data spacing and distribution	Quality and adequacy of topographic control.	The topography surface wireframe is generated from an annual flyover survey completed by Fugro Australia Land PTY LTD with +/- 15cm resolution.
	Data spacing for reporting of Exploration Results.	Drill hole spacing varies through the mine depending on the mineralisation style. For stockwork ore bodies drill spacing is nominally 16mE x 60mN down to 8mE x 30mN. For lode-style ore bodies, including Hidden Secret, drill spacing is nominally 50mE x 50mN down to 12.5mE x 12.5mN
	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 in the ore lodges at MTC is considered sufficient to support the definition of Mineral Resources and Reserves as applied under the 2012 JORC Code. Appropriate geological and grade continuity have been demonstrated during the 30+ years of mining at the MTC operations.
	Whether sample compositing has been applied.	No sample compositing has been applied to the database. For grade estimation, the datasets are composited to 1m intervals prior to grade estimation. This aligns with the most common sample length taken.
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.	Orientation of drilling varies depending on the style of mineralisation. For stockwork ore bodies drilling is specifically orientated to intercept the vein sets at an optimum angle. For the lode-style orebodies, including Hidden Secret, drilling is perpendicular to the interpreted strike of the ore lodges. As a result of limited drill platforms underground actual intersections may be slightly oblique to the intended right-angle intersections. The majority of drillholes are positioned to achieve optimum intersection angles to the ore zone as are practicable.
	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.	Holes with orientations that are considered likely to introduce a bias to the estimation are flagged during drill hole validation process and are excluded from the Mineral Resource estimation datasets.
Sample security	The measures taken to ensure sample security.	All core is kept within the site perimeter fence on the Mining Lease M26/353, M26/359 and M26/131. Samples are dispatched and/or collected by an offsite delivery service on a regular basis. Each sample batch is accompanied with a: <ul style="list-style-type: none"> - Job number - Number of Samples - Sample Numbers (including standards and duplicates) - Required analytical methods - A job priority rating A Chain of Custody is demonstrated by both Company and Bureau Veritas in the delivery and receipt of sample materials. Any damage to or loss of samples within each batch (e.g. total loss, spillage or obvious contamination), is reported to the Company in the form of a list of samples affected and detailing the nature of the problem(s).
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Sampling performed by KCGM staff and contractors is reviewed weekly by senior KCGM geology personnel including task observations and inspections. Data is reviewed regularly by senior KCGM geology personnel and low confidence data is excluded from the estimate. Audits and inspections of the commercial assay lab are completed monthly by the QA/QC geologist.

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 tenement portfolio is located on land owned by the State of Western Australia on Crown reserves or vacant Crown land. KCGM manages the tenement portfolio for the KCGM operations on behalf of the Joint Venture Owners, Saracen Kalgoorlie Pty Limited (Saracen) and Northern Star (KLV) Pty Ltd (Northern Star). The portfolio comprises of 322 granted tenements which is a combination of Miscellaneous (73) and Prospecting Licenses (25), and General Purpose (107) and Mining Leases (117). The tenements cover a total area of approximately 34,000 hectares extending in a north-south direction over a distance of approximately 45km, centred on the Super Pit.



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Criteria	JORC Code explanation	Commentary
		There is one registered Native Title application that incorporates KCGM leases: Marlinyu Ghoorlie (WC2017/007). This claim is currently before the National Native Title Tribunal for Determination.
	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.	<p>In the 1970s, the goldfield was controlled by three companies: Kalgoorlie Mining Associates (KMA), Kalgoorlie Lake View (the majority owner of KMA), and North Kalguri Mines. In 1974, all operations on the Golden Mile had ceased, with the exception of the highly mechanized Mt Charlotte Underground Mine. Modern day surface mining commenced in 1983 in the Kemlo Pit followed by the Croesus and Eclipse pits, and the Central and Paringa pits in 1985.</p> <p>KCGM was formed in 1989 to run the operation on behalf of its owners Homestake Gold of Australia Ltd (Homestake) and GMK, a subsidiary of Normandy Mining Limited. By 1992, all labour intensive, high cost underground mining of narrow zones stopped in the Main, Croesus, Chaffers, Lake View, and Perseverance shafts. Firmiston underground production ceased in 1994.</p> <p>In 2001, Homestake merged with Barrick to form Barrick Gold Australia, thereby becoming a 50% owner of KCGM. In 2002, Newmont acquired Normandy Mines Limited, thereby becoming a 50% owner of KCGM. In 2019, Saracen and Northern Star acquired the operation from Barrick and Newmont. In 2020, Northern Star announced a merger of equals, and the operation is now wholly owned by Northern Star Resources</p> <p>Exploration drilling is ongoing from underground to extend the known mineral resources.</p>
Geology	Deposit type, geological setting and style of mineralisation.	<p>The Golden Mile deposit occurs in the Kalgoorlie Terrane, within the southern portion of the NNW trending Archaean Norseman-Wiluna Greenstone Belt. The greenstone belt has been multiply deformed and regionally metamorphosed to grades varying from lower greenschist to amphibolite grade (Swager, 1997). The stratigraphy of the Kalgoorlie Terrane consists of a lower mafic-ultramafic volcanic sequence overlain by a thick sequence of clastic sedimentary rocks and intermediate to felsic volcanoclastic rocks (Swager, 1997). Younger sedimentary basins, occurring along major faults or synclines, unconformably overlie the greenstone sequence (Swager, 1997). Granitic intrusions occurring within the Norseman-Wiluna Greenstone Belt are divided into two categories: pre-folding and post-folding (Witt and Davy, 1997). The post-folding intrusions are further subdivided as syn-tectonic and late tectonic.</p> <p>The stratigraphy covered by the KCGM tenements consists of a basal ultramafic unit called the Hannan Lake Serpentinite. This ultramafic unit is overlain successively by the high magnesian Devon Consols Basalt, Kapai Slate, tholeiitic Paringa Basalt and the Black Flag sediments. Differentiated zones of dolerite and gabbro texture occur within the mafic sequence. The Golden Mile Dolerite, hosting the bulk of the Golden Mile and Mount Charlotte gold mineralisation, is a strongly differentiated layered gabbro, approximately 700m in thickness. The Golden Mile Dolerite is situated conformably between the Paringa Basalt and the Black Flag sediments. This entire stratigraphic sequence is intruded by numerous porphyry dykes of intermediate to felsic composition.</p> <p>The Mt Charlotte style gold mineralisation is hosted within the Golden Mile Dolerite and is predominantly associated with pyrite in carbonate alteration haloes around quartz veins, with a minor proportion as relatively coarse free gold within the veins, commonly close to their margins. The veins vary in width from a few millimetres to a maximum of about two metres but are commonly between two centimetres and 50 cm wide. The vein spacing varies from 20 cm to tens of metres but is typically from 50 cm to two metres in areas mined as ore. Quartz is the dominant vein-fill mineral; accessory vein minerals include calcite, ankerite, scheelite, pyrite, pyrrhotite, and gold.</p>
Drill hole Information	<p>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:</p> <ul style="list-style-type: none"> o easting and northing of the drill hole collar o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar o dip and azimuth of the hole o down hole length and interception depth o hole length. <p>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.</p>	<p>Refer to the drill hole information table in the Appendix of this report for significant assay results from KCGM for each lode represented throughout the report. All mineralised intercepts are shown in the table.</p> <p>All material data is periodically released on the ASX</p> <p>Future drill hole data will be periodically released or when results materially change the economic value of the project.</p> <p>Exclusion of the drill information will not detract from the understanding of the report.</p>
Data aggregation methods	<p>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.</p> <p>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.</p>	<p>All reported assay results within Mt Charlotte style stockwork mineralisation are reported using downhole widths, due to the nature of the mineralisation and orientation of the drill holes, true width calculations are not possible or are misleading.</p> <p>Intercepts are aggregated based on underground and open pit reporting criteria. Cut off grades are based on assumed mining grades.</p> <p>Underground lode mineralised zones were interpreted using a nominal cut-off grade (COG) of 3g/t with a maximum internal dilution of 2 metres. Underground Stockwork mineralised zones were interpreted using a nominal cut-off grade (COG) of 1.7g/t with no maximum internal dilution. Where both Open pit and Underground options are available, the open pit method takes precedence.</p> <p>Where a standout higher grade zone exists within the broader mineralised zone, the higher-grade interval is reported also.</p>

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Criteria	JORC Code explanation	Commentary
	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.	Estimated 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 estimated 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 mineralisation orientations are known, downhole lengths 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.	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).	MT Charlotte is currently in production and exploration is planned to test for lateral and depth extensions to known orebodies, and to identify new satellite ore bodies.
	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.

KCGM: Mt Percy - 21 November 2023

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.	The sampling database for the KCGM Mineral Resource estimation has been collected over the last 115 years. The data has been collected by many different operations, using varying techniques. Assay information quality also varies with detection limit and quality: generally, the quality appears to be inversely proportional to the age of the samples. For this reason, assay information collected prior to 1984 is not used in the interpolation of element grades. All information collected prior to 2019 is hereafter referred to as historical data. Only historical data that is deemed as having acceptable and traceable location and assay information has been included in this report.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	For DD samples, down hole depths are recorded by the drillers on core blocks. This is checked and compared to the measurements of the core by the geologist during core mark-up prior to logging, to prevent incorrect logging and sampling errors. Sample intervals are then marked on the core by a geologist, to honour geological boundaries. Sample interval lengths vary from 0.3m and 1.3m (NQ). DD core is orientated, measured and then sampled by cutting the core in half longitudinally using an "Almonte" diamond saw. Cutting was along orientation lines. The same half of the core is always selected for each sample interval, placed in numbered calico bags that contain a bar code, scanned into the database and submitted to the laboratory for analysis. The other half of the core is left in the core tray which is stamped for identification, stored and catalogued. Routine 'field duplicates' to assess sample representivity are not performed on diamond core as these are not considered to be true field duplicates. RC samples were homogenised by riffle or cone splitting prior to sampling and then submitted for assay as 1m or 2m samples. Certified standard samples, ranging in grades from 0.542 g/t Au to 34.99 g/t Au, purchased from OREAS, are inserted at the rate of one in 40 samples. The results are reviewed on a per batch basis and the entire batch of samples is reanalysed if the result is greater than three standard deviations (SD) from the expected result. All drill collars are surveyed by using a total station theodolite or total GPS.

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Criteria	JORC Code explanation	Commentary
	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.	<p>Historical sample preparation and assay procedures are variable due to the duration of historical work and the numerous companies involved. All historical sampling accepted for use in the Mineral Resource estimates are considered to have been collected by acceptable practices.</p> <p>Current sample preparation and assay procedures employed by Northern Star are considered as following industry standard practice. All assay determinations are conducted by internationally recognised laboratories. The primary laboratory, Bureau Veritas, meets ISO 9001:2000.</p> <p>Samples are oven dried until a constant mass is achieved. All samples are then processed through an Essa Jaw Crusher or a Boyd Crusher to 90% < 3 mm. The crushed sample is then pulverised for 4 minutes in an LM5 pulveriser for a product of 90% passing < 75 µm. Approximately 250 - 300g of the pulp is retained and a 40g charge weight for fire assay is extracted from the pulp packet. Samples are tested for sulphides and flux adjusted, flux is added at a ratio of 1:4. Samples are fired, hammered and cupelled. Prills placed in tubes, dissolved on hotplates and analysed using AA finish with over range dilutions. Sample preparation for Sulphur determination follows the same process as for Gold, with assaying taking place using the LECO method. Sample preparation for Silver determination follows the same process as for Gold, with assaying taking place using Four Acid Digest with an ICP MS finish.</p>
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.).	<p>DD core is mostly NQ diameter with some BQ, HQ and LTK60 diameter core. Where possible diamond core was orientated using a spear, Ballmark™, Ezimark™, ACE multi electronic tool or Reflex ACTIIRD tool.</p> <p>Grade control drilling undertaken prior to mining in the existing pits at Mt Percy was Reverse Circulation.</p>
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	<p>For DD, all recovery is recorded by the drillers on core blocks. This is checked and compared to the measurements of the core by the geologist and entered as interval into the hole log. Any issues are communicated back to the drilling contractor. Recovery is generally very high, in excess of 95%, and there have been no significant sample recovery problems. Historic DD core stored on site shows excellent recovery. A limited number of drill holes have intersected historical workings, this is recorded on the core block as well as on driller's plods and is recorded in the database. Where possible drilling continues beyond the void.</p> <p>RC drilling sample weights were recorded for selected sample intervals and monitored for fluctuations against the expected sample weight. If samples were below the expected weight, feedback was given promptly to the RC driller to modify drilling practices to achieve the expected weights</p>
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	For DD and RC, drilling contractors adjust the rate of drilling and method if recovery issues arise. Minor loss occurs when drilling through fault zones. Areas of potential lower recovery are generally known before hand and controlled drilling techniques employed to maximise recovery.
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	No specific study has been carried out on recovery and grade. As recoveries are generally very high (95%+) it is assumed that the potential for bias due to variable sample recovery is low.
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.	<p>All core and RC chips were logged by geologists with lithology, mineralisation, structure, alteration, veining, and specific gravity recorded. Quantitative measures such as structural measurements, intensity of alteration, percentage of mineralisation and vein intensity were also recorded. Geotechnical measurements on DD core include RQD, Recovery, and Fracture Frequency. For selected holes joint sets, infill, infill thickness and roughness were also geotechnically measured. All mineralised intersections are logged and sampled.</p> <p>Logging is entered in acQuire using a series of drop-down menus which contain the appropriate codes for description of the rock.</p>
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	Geology logging is qualitative in nature with visual estimates made of mineralisation percentages for core. Structural and geotechnical logging is quantitative in nature. All core is photographed wet as standard practice. Historically some core may have also been photographed dry.
	The total length and percentage of the relevant intersections logged.	100% of the drill core and RC chips are logged.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	DD core is sampled by sawn half-core on intervals controlled by geological domaining represented by mineralisation, alteration and lithology. Mineralised intersections are sampled with a maximum and minimum length of 1.3m and 0.3m, respecting lithological or alteration contacts. The down hole depth of all sample interval extents are recorded.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	Historic RC samples were homogenised by riffle or cone splitting prior to sampling, however it was not recorded whether they were sampled wet or dry.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Sample preparation follows industry standard practice. Samples are oven dried until a constant mass is achieved. All samples are then processed through an Essa Jaw Crusher or a Boyd Crusher to 90% < 3 mm. The crushed sample is then pulverised for 4 minutes in an LM5 pulveriser for a product of 90% passing < 75 µm. Approximately 250 - 300 g of the pulp is retained and a 40g charge prepared.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Coarse grind checks at the crushing stage (3mm) are carried out at a ratio of 1:40 samples with 90% passing required. Pulp grind checks at the pulverising stage (75 µm) are carried out at a ratio of 1:40 samples with 90% passing required. Laboratory duplicate samples are taken for coarse crush (3mm) and pulverising (75 µm) stages at a ratio of 1:50 samples. Repeat assays are carried on 5% of prepared pulp samples.

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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.	Quarter core sampling of diamond core is occasionally undertaken for check assays, however routine field duplicates are not performed on diamond core as these are not considered to be true field duplicates. Umpire sampling is performed monthly, where 10% of the samples are sent to the umpire lab for processing.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	The sample and size (3kg to 4kg) relative to the particle size (>90% passing 75um) of the material sampled is a commonly utilised practice for effective sample representation for gold deposits within the Eastern Goldfields of Western Australia
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.	Fire assay analysis is undertaken and this is considered to be a total assay method. Monthly and more detailed Quarterly QAQC reports are prepared to check for any bias or trends with conclusions discussed with the laboratory management. Holes that do not pass QAQC are not used for Mineral Resource estimation.
	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.
Verification of sampling and assaying	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.	Sampling and assaying QAQC procedures include: <ul style="list-style-type: none"> - Periodical resubmission of samples to primary and secondary laboratories - Submittal of independent certified reference material - Sieve testing to check grind size - Sample recovery checks. - Unannounced laboratory inspections Standard control samples and blanks purchased from certified commercial suppliers are inserted at a ratio of 1:40. The results are reviewed on a per batch basis and batches of samples are re-analysed if the result is greater than three standard deviations from the expected result. Any result outside of two standard deviations is flagged for investigation by a geologist and may also be re-assayed. Blanks are inserted into the sample sequence at a nominal ratio of 1:40. 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 are investigated, and re-assayed if appropriate. New pulps are prepared if anomalous results cannot be resolved. When visible gold is observed in core, a barren flush is required. 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.
	The verification of significant intersections by either independent or alternative company personnel.	All significant and anomalous intersections are verified by a Senior Geologist during the drill hole validation process.
	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. deviation). These have been captured in the database as an 'A' and have been logged and sampled as well as the original hole.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	All data are stored and validated within the site acQuire database. Data import into the database is controlled by documented standard operating procedures, and by a set of validation tools included in acQuire import routines. Electronic copies of all primary location, logging and sample results data are filed for each hole. Assay results are received in csv format and loaded directly into the database by the supervising geologist who then checks that the results have inserted correctly. Holes that cannot be accurately validated or do not meet the requirements of MTP QAQC are excluded prior to Mineral Resource estimation.
	Discuss any adjustment to assay data.	No adjustments are made to the diamond or RC assay data. During Mineral Resource estimation, face chip sample assays are calibrated by an average factor of 0.5 due to a sampling bias (in general, the full structure/orebody width not exposed in underground faces) to better correlate with diamond and RC assay data. No adjustments are made to the raw assay data in the database.
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 surveyors in the Mt Charlotte mine grid. All drill hole collar positions were surveyed. All recent DD holes were surveyed down hole by various methods including single shot down hole camera, EMS (Electronic Multi Shot) method or in-rod gyroscopic survey tools. Holes are typically surveyed at 15m and 30m intervals down hole thereafter.

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Criteria	JORC Code explanation	Commentary
Data spacing and distribution		QAQC is performed on the speed of running, and also on the misclose rate for each gyroscopic survey. Where issues are identified, a single survey run can be chosen as preferred with the remaining data ignored. This data is converted to csv format and imported into the Acquire database where it is validated by the project geologist. Any poor surveys are re-surveyed. If survey data was missing or quality was suspect and not replaced by more recent drilling, affected data was not used in estimation.
	Specification of the grid system used.	Mt Percy models are completed on the Mt Charlotte Grid. This is a rotated grid 38.4° from MGA 94
	Quality and adequacy of topographic control.	The topography surface wireframe is generated from an annual flyover survey completed by Fugro Australia Land PTY LTD with +/- 15cm resolution.
	Data spacing for reporting of Exploration Results.	Drill hole spacing varies through the mine depending on the mineralisation style. For stockwork ore bodies drill spacing is nominally 16mE x 60mN down to 8mE x 30mN. For lode-style ore bodies, drill spacing is nominally 50mE x 50mN down to 12.5mE x 12.5mN
Orientation of data in relation to geological structure	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 in the ore lodges at Mt Percy is considered sufficient to support the definition of Mineral Resources as applied under the 2012 JORC Code.
	Whether sample compositing has been applied.	No sample compositing has been applied to the database. For grade estimation, the datasets are composited to 1m intervals prior to grade estimation. This aligns with the most common sample length taken.
Sample security	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	Orientation of drilling varies throughout the area, historic RC grade control was generally orientated across the lithology. However, this does not optimally intercept the vein orientation for stockwork orebodies. All recent drilling is specifically orientated to intercept the vein sets at an optimum 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.	Currently, the orientations drilled at Mt Percy are not considered to introduce any bias. Ongoing exploration drilling in the area will be used to geostatistically test any bias introduced by drilling orientation. If any holes are found to introduce a bias to the estimation they will then be flagged during drill hole validation process they will be excluded from the Mineral Resource estimation datasets.
Audits or reviews	The measures taken to ensure sample security.	All core is kept within the site perimeter fence on the Mining Lease M26/353 and M26/359 and M26/131. Samples are dispatched and/or collected by an offsite delivery service on a regular basis. Each sample batch is accompanied with a: <ul style="list-style-type: none"> - Job number - Number of Samples - Sample Numbers (including standards and duplicates) - Required analytical methods - A job priority rating A Chain of Custody is demonstrated by both Company and Bureau Veritas in the delivery and receipt of sample materials. Any damage to or loss of samples within each batch (e.g. total loss, spillage or obvious contamination), is reported to the Company in the form of a list of samples affected and detailing the nature of the problem(s).
	The results of any audits or reviews of sampling techniques and data.	Sampling performed by KCGM staff and contractors is reviewed weekly by senior KCGM geology personnel including task observations and inspections. Data is reviewed regularly by senior KCGM geology personnel and low confidence data is excluded from the estimate. Audits and inspections of the commercial assay lab are completed monthly by the QA/QC geologist.

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 tenement portfolio is located on land owned by the State of Western Australia on Crown reserves or vacant Crown land. KCGM manages the tenement portfolio for the KCGM operations on behalf of Northern Star (KLV) Pty Ltd (Northern Star). The portfolio comprises of 322 granted tenements which is a combination of Miscellaneous (73) and Prospecting Licenses (25), and General Purpose (107) and Mining Leases (117). The tenements cover a total area of approximately 34,000 hectares extending in a north-south direction over a distance of approximately 45km, centred on the Super Pit. There is one registered Native Title application that incorporates KCGM leases: Marlinyu Ghoorlie (WC2017/007). This claim is currently before the National Native Title Tribunal for Determination.

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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.	<p>In the 1970s, the goldfield was controlled by three companies: Kalgoorlie Mining Associates (KMA), Kalgoorlie Lake View (the majority owner of KMA), and North Kalguri Mines. In 1974, all operations on the Golden Mile had ceased, with the exception of the highly mechanized Mt Charlotte Underground Mine. Modern day surface mining commenced in 1983 in the Kemlo Pit followed by the Croesus and Eclipse pits, and the Central and Paringa pits in 1985. Mt Percy was mined previously between 1989 and 1995 by the West African Gold Recovery Company.</p> <p>KCGM was formed in 1989 to run the operation on behalf of its owners Homestake Gold of Australia Ltd (Homestake) and GMK, a subsidiary of Normandy Mining Limited. By 1992, all labour intensive, high cost underground mining of narrow zones stopped in the Main, Croesus, Chaffers, Lake View, and Perseverance shafts. Fimiston underground production ceased in 1994.</p> <p>In 2001, Homestake merged with Barrick to form Barrick Gold Australia, thereby becoming a 50% owner of KCGM. In 2002, Newmont acquired Normandy Mines Limited, thereby becoming a 50% owner of KCGM. In 2019, Saracen and Northern Star acquired the operation from Barrick and Newmont. In 2020, Northern Star announced a merger of equals and the operation is now wholly owned by Northern Star Resources</p> <p>Exploration drilling is ongoing from underground to extend the known mineral resources.</p>
Geology	Deposit type, geological setting and style of mineralisation.	<p>The Golden Mile deposit occurs in the Kalgoorlie Terrane, within the southern portion of the NNW trending Archaean Norseman-Wiluna Greenstone Belt. The greenstone belt has been multiply deformed and regionally metamorphosed to grades varying from lower greenschist to amphibolite grade (Swager, 1997). The stratigraphy of the Kalgoorlie Terrane consists of a lower mafic-ultramafic volcanic sequence overlain by a thick sequence of clastic sedimentary rocks and intermediate to felsic volcanoclastic rocks (Swager, 1997). Younger sedimentary basins, occurring along major faults or synclines, unconformably overlie the greenstone sequence (Swager, 1997). Granitic intrusions occurring within the Norseman-Wiluna Greenstone Belt are divided into two categories: pre-folding and post-folding (Witt and Davy, 1997). The post-folding intrusions are further subdivided as syn-tectonic and late tectonic.</p> <p>The stratigraphy covered by the KCGM tenements consists of a basal ultramafic unit called the Hannan Lake Serpentine. This ultramafic unit is overlain successively by the high magnesian Devon Consols Basalt, Kapai Slate, tholeiitic Paringa Basalt and the Black Flag sediments. Differentiated zones of dolerite and gabbro texture occur within the mafic sequence. The Golden Mile Dolerite, hosting the bulk of the Golden Mile and Mount Charlotte gold mineralisation, is a strongly differentiated layered gabbro, approximately 700m in thickness. The Golden Mile Dolerite is situated conformably between the Paringa Basalt and the Black Flag sediments. This entire stratigraphic sequence is intruded by numerous porphyry dykes of intermediate to felsic composition.</p> <p>Mineralisation at Mt Percy consists of both lode and stockwork mineralisation similar to Fimiston and Mt Charlotte Mineralisation.</p> <p>The Mt Charlotte style gold mineralisation, which accounts for the bulk of the economic gold ore of the Mt Percy deposit, is predominantly associated with pyrite in carbonate alteration haloes around quartz veins, with a minor proportion as relatively coarse free gold within the veins, commonly close to their margins. The veins vary in width from a few millimetres to a maximum of about two metres but are commonly between two centimetres and 50 cm wide. The vein spacing varies from 20 cm to tens of metres but is typically from 50 cm to two metres in areas mined as ore. Quartz is the dominant vein-fill mineral; accessory vein minerals include calcite, ankerite, scheelite, pyrite, pyrrhotite, and gold.</p>
Drill hole information	<p>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:</p> <ul style="list-style-type: none"> o easting and northing of the drill hole collar o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar o dip and azimuth of the hole o down hole length and interception depth o hole length. <p>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.</p>	<p>Refer to the drill hole information table in the Appendix of this report for significant assay results from KCGM for each lode represented throughout the report. All mineralised intercepts are shown in the table.</p> <p>Exclusion of the drill information will not detract from the understanding of the report.</p>
Data aggregation methods	<p>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.</p> <p>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.</p>	<p>All reported assay results have been length weighted to provide a true intersection width where possible. All reported assay results within Mt Charlotte style stockwork mineralisation are reported using downhole widths, due to the nature of the mineralisation and orientation of the drill holes, true width calculations are not possible or are misleading.</p> <p>Mineralised zones were interpreted using a nominal cut-off grade (COG) of 0.5g/t with a maximum internal dilution of 5 meters. Where a stand out higher grade zone exists within the broader mineralised zone, the higher grade interval is reported also.</p>

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Criteria	JORC Code explanation	Commentary
	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.	Estimated true widths have been calculated for intersections of the known lode style 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 estimated 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 mineralisation orientations are unknown, downhole lengths 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.	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 exploration and resource definition is planned to test for extensions and increase the confidence in the existing 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.

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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.	For Mineral Resource estimation the Kanowna Belle deposits are sampled in majority by diamond drilling (DD) from underground platforms. Reverse Circulation (RC) drilling makes up a small proportion of the data set and has been carried out at the Kanowna Belle deposit for delineation of open pit material. Face sampling data (where validated) has been included in the Resource Estimate.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	For DD samples, downhole depth is recorded by the drillers on core blocks. This is checked and compared to the measurements of the core by the geologist during core mark-up prior to logging to prevent incorrect logging and sampling errors. Sample intervals are then marked on the core by a geologist, to honour geological boundaries (i.e., lithology, mineral assemblage, veining percentage). Sample interval lengths vary from 0.3m to 1.3m.
	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.	Current sample preparation and assay procedures employed by Northern Star Resources are considered as following industry standard practice. All assay determinations are conducted by internationally recognised laboratories. The primary laboratories (Bureau Veritas, SGS and ALS) meet ISO 9001:2000
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 orientated and if so, by what method, etc.).	DD core is mostly NQ2 diameter with some BQ, HQ and LTK60 diameter core. Where possible diamond core was orientated using a spear, Ballmark™, Ezimark™, or ACE multi electronic tool.

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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.	For DD, all recovery is recorded by the drillers on core blocks. This is checked and compared to the measurements of the core by the geologist. Any issues are communicated back to the drilling contractor. Recovery is generally very high (>95%) and there have been no significant sample recovery problems. Historic DD core stored on site shows excellent recovery.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	For DD, drilling contractors adjust the rate of drilling and method if recovery issues arise. Minor loss can occur when drilling through major fault zones such as the Fitzroy Fault. Areas of potential lower recovery are identified on drill plans provided to the drilling contractor, and controlled drilling techniques are employed to maximise recovery. Where sample loss occurs internal to an ore zone, the drillhole is usually excluded from the estimate.
	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 specific study has been carried out on recovery and grade. As recoveries are generally very high (95%+) it is assumed that the potential for bias due to variable sample recovery is low.
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 DD core was logged by geologists with lithology, mineralisation, structure, alteration, veining and specific gravity recorded. Quantitative measures such as structural measurements, intensity of alteration, percentage of mineralisation, thickness of veins and veins per metre were also recorded. Geotechnical measurements on DD core include RQD, Recovery, and Fracture Frequency. For selected holes joint sets, infill, infill thickness and roughness were also geotechnically measured. All mineralised intersections are logged and sampled. 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.	Geology logging is qualitative in nature with visual estimates made of mineralisation percentages for core. Structural and geotechnical logging is quantitative in nature. All core is photographed wet as standard practice. Historically some core may have also been photographed dry. 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.	The entirety of the drillhole is logged.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	Mineralised intersections are sampled with a minimum and maximum length of 0.3 m and 1.3 m respectively, generally to lithological or alteration contacts. DD core was orientated (where possible), measured and then sampled by cutting the core in half longitudinally using an "Almonte" diamond saw. The same half of the core is selected for each sample interval, placed in numbered calico bags and submitted to the laboratory for analysis. The other half of the core is left in the core tray which are stored and catalogued.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	N/A
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Samples for Joplin since its discovery have been sent to three different labs. Sample preparation techniques for each lab is described below. <u>SGS:</u> Samples are oven dried and diamond samples subsequently processed through an Essa Jaw Crusher or a Boyd Crusher to 90% < 3 mm. The crushed sample is then pulverised for 4 minutes in an LM5 pulveriser for a product of 90% passing < 75 µm. Approximately 250 - 300 g of the pulp is retained as the primary sub sample and the pulp reject stored for..... A pulp residue duplicate sample is taken at the request of the onsite geologist. A 40g catch weight for fire assay is extracted from the pulp packet, samples are tested for sulphides and flux adjusted, flux is added at a ratio of 1:4. Samples are fired, hammered and cupelled, prills placed in tubes, dissolved on hot plates and analysed using AA finish with over range dilutions. <u>ALS:</u> Photon assay testing is carried out through ALS. This process involves a coarse crush stage, crushing samples to < 3 mm. 500 g of crushed material is then placed into single-use sample jars. Using a robotic shuttle, high energy x-rays are then fired at the sample causing excitation of atomic nuclei allowing detection of gold content. Photon analysis allows sampling of larger amounts of sample material providing a true bulk reading of gold content. The process is chemical free and non-destructive, samples are retained at the lab for a period of two months. <u>Bureau Veritas:</u> Samples are oven dried. All diamond samples are then processed through an Essa Jaw Crusher or an Orbis Crusher. Sample are crushed with the Orbis Crusher to 90% < 3 mm. 2.6 kg will be split for the primary and the remainder will be the coarse reject. The crushed sample is then pulverised for approximately 4 minutes in an LM5 pulveriser for a product of 90% passing < 75 µm. If the sample fails a grind check the lab must re-pulverise the pulp with the pulp reject. Approximately 250 - 300 g of the pulp is retained as the primary sub sample and the pulp reject stored for 3 months. A pulp residue duplicate sample is taken at a 1:50 ratio, which involves a second packet after pulverising. A 40g charge weight for fire assay is extracted from the pulp packet. The charge weight will be reduced to 20g charge weight in samples believed to have a high sulphide content. Samples are tested for sulphides and flux is adjusted. Approximately 170g of flux is added. Samples are fired, hammered and cupelled with final prill samples placed in test tubes. The prills are dissolved using a water bath and analysed using Atomic Adsorption Spectroscopy (AAS) finish over a range of dilutions.

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Criteria	JORC Code explanation	Commentary
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Coarse grind checks at the crushing stage (3 mm) are carried out at a ratio of 1:25 samples with 90% of the sample volume reporting through the sieve required for a pass. Pulp grind checks at the pulverising stage (75 µm) are carried out at a ratio of 1:25 samples with 90% of the sample volume reporting through the sieve required for a pass. Laboratory duplicate samples are taken for coarse crush (3 mm) and pulverising (75 µm) stages at a ratio of 1:25 samples. Repeat assays are carried out at a ratio of 1:10 on prepared pulp samples.
	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.	Quarter core sampling of diamond core is occasionally undertaken for check assays, however routine field duplicates are not performed on diamond core as these are not considered to be true field duplicates.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Grind checks are performed at both the crushing stage (3 mm) and pulverising stage (75 µm) requiring 90% of material to report through the relevant size for a pass. No specific study has been carried out to determine optimum sub-sample size fractions. These material sizes are assumed to be acceptable for the mineralization style and material grain size present.
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.	Fire assay or Photon assay analysis is undertaken, and these are considered to be total assay methods. Monthly, quarterly, and annual QAQC reports are prepared to check for any bias or trends with conclusions discussed with the laboratory management. Holes that do not pass QAQC are not used for Mineral Resource estimation.
	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.	<p>Sampling and assaying QAQC procedures include:</p> <ul style="list-style-type: none"> Periodical resubmission of samples to primary and secondary laboratories Submittal of independent certified reference material Sieve testing to check grind size Sample recovery checks. Unannounced laboratory inspections <p>Standard control samples and blanks are inserted at a ratio of 1:20. The standard control samples are changed on a 3-month rotation. The results are reviewed on a per-batch basis and batches of samples are re-analysed if the result is greater than three standard deviations from the expected result. Any result outside of two standard deviations is flagged for investigation by a geologist and may also be re-assayed.</p> <p>Blanks are inserted into the sample sequence at a ratio of 1:20. 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 are investigated, and re-assayed if appropriate. New pulps are prepared if anomalous results cannot be resolved.</p> <p>When visible gold is observed in core, a barren flush is required.</p> <p>Laboratory performance is monitored using the results from the QA samples supplemented by the internal QA samples used by the laboratories, which included pulp duplicates and CRMs.</p> <p>The QA studies indicate that accuracy and precision are within industry accepted limits.</p>
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	All significant and anomalous intersections are verified by a Senior Geologist during the drill hole validation process.
	The use of twinned holes.	No twinned holes were drilled for this data set. Redrilling of some 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.	All data are stored and validated within the site Acquire database. Data import into the database is controlled by documented standard operating procedures, and by a set of validation tools included in Acquire import routines. Hard copies and electronic copies of all primary location, logging and sample results data are filed for each hole. Assay results are received in .csv format and loaded directly into the database by the supervising geologist who then checks that the results have inserted correctly. Holes that cannot be accurately validated or do not meet the requirements of Kanowna QAQC are excluded prior to Mineral Resource estimation.
	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.	<p>Planned holes are marked up by the Mine Survey department using a total station survey instrument in the Mine Grid.</p> <p>All drill hole collar positions were surveyed. All recent DD holes were surveyed down hole by various methods including single shot down hole camera, EMS (Electronic Multi Shot) method or in-rod gyroscopic survey tools. Holes are typically surveyed at 15 m and 30 m intervals down hole thereafter. Since the 1st of June 2015, a true north seeking</p>

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Criteria	JORC Code explanation	Commentary
		gyroscopic tool has been used to line up the rig and record a zero-metre survey. Since May 2019, all DD holes are surveyed down hole only using DeviFlex, generally every 50 m during drilling of the hole and again at 3 m intervals upon completion of the drillhole. QAQC is performed on the running speed and misclose rate for each gyroscopic survey. Where issues are identified, a single survey run can be given a higher priority in the database. This data is converted to .csv format and imported into the Acquire database where it is validated by the Project Geologist. If survey data is missing or quality was suspect and not replaced by more recent drilling, affected data was not used in estimation.
	Specification of the grid system used.	A local grid system (KBMine grid) is used. It is rotated anticlockwise 28.43 degrees to the MGA94 grid. Drill hole collars are located by the Mine Surveyors using a Laser system respective to the local mine grid and to the overall property in UTM or Australian grid coordinates.
	Quality and adequacy of topographic control.	Topographic control is not relevant to the underground mine.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Drill hole spacing is nominally 60 m x 60 m down to 40 m x 40 m at Joplin.
	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 spacings in the ore lodes at Joplin are considered sufficient to support the definition of Mineral Resources at Joplin Appropriate geological and grade continuity have been demonstrated during the 20+ years of mining at the Kanowna Belle operations.
	Whether sample compositing has been applied.	No sample compositing has been applied. The datasets were composited to 1 m intervals prior to grade estimation. This aligns with the most common sample length taken.
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 majority of data is drilled perpendicular to the interpreted strike of the Joplin ore lodes however due to the repetition and stacked nature of the mineralised zones, actual drill intersections may be oblique to some of the non-targeted ore trends.
	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.	Holes with orientations that are considered likely to introduce sampling bias are flagged during drill hole validation and are excluded.
Sample security	The measures taken to ensure sample security.	All core is kept within the site perimeter fence on the Mining Lease M27/103. Samples are dispatched and/or collected by an offsite delivery service on a regular basis. Each sample batch is accompanied with a: <ul style="list-style-type: none"> ▪ Job number ▪ Number of Samples ▪ Sample Numbers (including standards and duplicates) ▪ Required analytical methods ▪ A job priority rating A Chain of Custody is demonstrated by both Company and Laboratory in the delivery and receipt of sample materials. Any damage to or loss of samples within each batch (e.g., total loss, spillage, or obvious contamination), is reported to the Company in the form of a list of samples affected and detailing the nature of the problem(s).
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	The last external audit was conducted in 2009 with the conclusion that industry best practice was being followed. Standards and procedures have remained largely unchanged since this time. A review of sampling techniques, assay results and data usage was conducted internally by the Companies' Principal Resource Geologist during 2015 with no material issues found.

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 Kanowna Belle mine and associated infrastructure is located on Mining Leases M27/92 and M27/103. Mining lease M27/92 (972.65 ha) was granted on March 14, 1988 and M27/103 (944.25 ha) was granted on January 12, 1989. Both leases were granted for periods of 21 years after which they can be renewed for a further 21 years. The Mining Leases and most of the surrounding tenement holdings are 100% owned by Northern Star (Kanowna) Pty Limited, a wholly owned subsidiary of Northern Star Resources Limited. The mining tenements are either located on vacant crown land or on pastoral leases.

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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.	Kanowna was discovered in 1989 by Delta Gold, open pit mining occurred between 1993 and 1998 with underground operations beginning in 1998. In 2002, Delta Gold Limited and Goldfields Limited merged to form Aurion Gold Limited and Placer Dome Inc. (Placer Dome) subsequently acquired Aurion Gold Limited. In 2006 Barrick Gold Corporation acquired Placer Dome and in 2014 Northern Star acquired the operation from Barrick Gold. Exploration drilling is ongoing from underground to extend the known mineral resources.
Geology	Deposit type, geological setting and style of mineralisation.	Kanowna Belle is located within the Kalgoorlie Terrane, one of a number of elongate, broadly NNW-SSE striking structural-stratigraphic late Archaean greenstone terranes of the Eastern Goldfields of Western Australia. The Kanowna Belle gold mine is located close to the centre of the NNW-SSE trending, greenstone-dominated Boorara Domain, the eastern most subdivision of the Kalgoorlie Terrane. The Kanowna Belle deposit can be categorised as a refractory, Archean lode-gold type deposit. The orebody is comprised of several ore shoots, including the large Lowes Shoot, and several smaller lodes including Troy, Sims, Hilder, Hangingwall and Footwall shoots controlled by sets of structures of various orientations oblique to Lowes. Lowes contains some 80% of known gold mineralization and strikes ENE, dips steeply SSW and plunges steeply SW. The Lowes shoot has a strike length of 500m, width between 5 m and 50 m and down-plunge extent greater than 1,250 m. The overall steep SE plunge is interpreted to reflect the intersection of D1 (ENE) and D2 (NW) structures. Kanowna Belle is one of the few known refractory pyritic orebodies in the Yilgarn Craton. Gold in the Kanowna Belle deposit occurs mostly as fine-grained (<10 µm) inclusions in pyrite or as very fine-grained gold located in arsenic-rich growth zones in pyrite. Typical ore assemblages contain 0.5% S to 1.5% S and 40 ppm As. The Kanowna Belle deposit is hosted by sedimentary volcanoclastic and conglomeratic rocks which are separated into hangingwall and footwall sequences by a major, steeply SSE dipping zone of structural disruption. This structure represents the product of at least three distinct stages of deformation, comprising the Fitzroy Mylonite, the Fitzroy Shear Zone and the Fitzroy Fault, which have produced clear structural overprinting relations. Importantly, this structure has localised emplacement of the Kanowna Belle porphyry which hosts at least 70% of known mineralisation. Localisation of high grade mineralization and most intense alteration around the composite structure emphasises its importance for acting as the major plumbing system for fluids. Formation of the Fitzroy Mylonite and Fitzroy Shear Zone are interpreted to have occurred during regional south-to-north D1 thrusting. A switch in far-field stress axes to the approximately ENE-WSW D2 orientation caused reactivation of the Fitzroy Shear Zone, resulting in sigmoidal folding of pre-existing structures and formation of a shallow lineation associated with sinistral transcurrent shearing. The Kanowna Belle porphyry cross-cuts fabrics associated with the D1 Fitzroy Mylonite and Fitzroy Shear Zone and is in turn overprinted by S2. The Joplin lodes are associated primarily with sulphide carbonate breccia within the Panglo Porphyry and on the sheared contact with the Grave Dam Grit.
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: <ul style="list-style-type: none"> o easting and northing of the drill hole collar o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar o dip and azimuth of the hole o down hole length and interception depth o hole length. <p>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.</p>	All holes that intercept the Joplin lode JP02 have been included in this release. Exclusion of any other drilling information will not detract from the reader’s view of the report. 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. 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. The assumptions used for any reporting of metal equivalent values should be clearly stated.	All reported assay results have been length weighted to provide an intersection width. A maximum of 2 m of barren material between mineralised samples has been permitted in the calculation of these widths. Where an intersection incorporates short lengths of high grade results these intersections will be reported in addition to the aggregate value. No metal equivalent values have been used for the reporting of these exploration results.
	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.

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Criteria	JORC Code explanation	Commentary
Relationship between mineralisation widths and intercept lengths	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 mineralisation orientations are known, downhole lengths 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 maps and sections of any significant discoveries are included.
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).	The down dip, hangingwall extensions and the lateral continuation of the Joplin ore lodes will be drill tested from various underground drilling platforms.
	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 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.	<p>A combination of sample types was used to collect material for analysis including surface diamond drilling (DD) and surface reverse circulation drilling (RC). All RAB holes were excluded from the estimate. Where sufficient diamond drill holes were present, some RC holes were excluded due to inadequate survey and assay methods.</p> <p>Sampling is by both diamond drilling (DD) and Reverse Circulation (RC) drilling completed by both NSR and previous operators.</p> <p>Diamond core was placed in core trays for logging and sampling. Samples intervals are defined by the geologist to honour geological boundaries. Diamond core samples are mainly HQ and NQ(2) and vary between 0.3 m and 1.2 m (NQ2) or between 0.2 m and 1 m (HQ).</p> <p>For NSR RC samples were split using a rig-mounted cone splitter on 1m intervals to obtain a sample for assay.</p> <p>Reverse circulation drilling was used to obtain 1m samples from which 2 kg (Delta Gold holes) or 3 kg (Barrick/NSR holes) was pulverised to produce a 50 g charge for fire assay. For the Delta Gold holes, less prospective zones or wet zones were sampled with five metre composites that were assayed with aqua-regia digest and AAS finish on a 50 g charge. All composite intervals returning greater than 0.01 Au g/t were subsequently re-sampled from one metre intervals retained in plastic bags, dried, riffle split, and then treated as above.</p>
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	<p>RC samples were split using a rig-mounted cone splitter on 1 m intervals to obtain a sample for assay.</p> <p>Core is aligned and measured by tape, comparing back to downhole core blocks consistent with industry practice.</p> <p>RC metre intervals are delineated with painted markers on the drill rig mast to determine metres drilled. Bulk sample rejects are left on the sample pad to verify metres drilled for the hole.</p>
	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	<p>RC sampling was split using a rig mounted cone splitter to deliver a sample of approximately 3 kg.</p> <p>Selected sampling intervals of DD drill core were sampled in their entirety (full-core) for non-competent regolith intervals and cut in half for competent 'fresh-rock' material using an automated core saw, where the mass of material collected will vary on the hole diameter and sampling interval.</p>

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Criteria	JORC Code explanation	Commentary
	sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.	<p>All samples were delivered to a commercial laboratory for assaying. Until 2022 all samples were assayed using Fire Assay. From July 2022 all samples are assayed using Photon analysis.</p> <p>Samples are oven dried until a constant mass is reached. All samples are then processed through an Essa Jaw Crusher or a Boyd Crusher to 90% < 3 mm. The crushed sample is then pulverised in an LMS pulveriser for a product of 90% passing < 75 µm. Approximately 250 - 300g of the pulp is retained and a 40g charge weight for fire assay is extracted from the pulp packet. Samples are tested for sulphides and flux adjusted, flux is added at a ratio of 1:4. Samples are fired, hammered and cupelled. Prills are placed in tubes, dissolved on hotplates and analysed using AA finish with over-range dilutions used as required.</p> <p>For Photon assaying, the sample is crushed to 85% passing 2mm then split with a 500g sub sample taken for analysis.</p> <p>Visible gold is observed in the core and coarse gold is characteristic.</p>
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 orientated and if so, by what method, etc.).	<p>Both RC and Diamond Drilling techniques were used to drill the Red Hill deposit.</p> <p>Surface diamond drill holes were completed using HQ (63.5 mm) and NQ2 (50.7 mm) coring.</p> <p>Core is orientated using the Reflex ACT Core orientation system.</p> <p>RC Drilling was completed using a 5.75" drill bit, downsized to 5.25" at depth.</p> <p>3 RC pre-collars were drilled followed by NQ2 diamond tails. Pre-collar depth was determined in the drill design phase depending on the target been drilled and production constraints.</p> <p>Historical drilling has been conducted using RC and Diamond HQ (63.5 mm). Core was orientated using methods current for the period.</p>
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	<p>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.</p> <p>RC drill recoveries were logged by the geologist or field assistant whilst drilling based on a visual estimation of the proportion of sample returned relative to a full one metre sample. Moisture was logged as wet, moist or dry where wet means all or part of the sample was a slurry, moist means the material was wet enough to clump together and therefore not split effectively through a riffle or cone splitter and dry was any sample that was sufficiently free of moisture to properly run through a riffle or cone splitter.</p>
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	<p>RC drilling contractors adjust their drilling approach to specific conditions to maximize sample recovery.</p> <p>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 to rectify.</p>
	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 for the projects is 98%.
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.	<p>All diamond core is logged for regolith, lithology, veining, alteration, mineralisation, and structure. Structural measurements of specific features are also taken through orientated zones.</p> <p>RC sample chips are logged in 1m intervals for the entire length of each hole. Regolith, lithology, alteration, veining, and mineralisation are all recorded.</p> <p>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.</p> <p>All core and chips have been logged to the detailed exploration logging scheme of Delta Gold/Placer Dome/Barrick/Northern Star (i.e. a single logging scheme that has evolved with only minor changes over time).</p>
	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 left half being stored for later reference. Full core sampling may be undertaken in the regolith where the core cutting process could introduce sampling bias, or 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 1 m sample weighing 3-4 kg. 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 at Genalysis, Minanalytical and ALS 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 3 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 3 kg at a nominal <3 mm particle size.

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Criteria	JORC Code explanation	Commentary
		<p>For fire assay, leach well assay 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. 300 g Pulp subsamples are then taken with an aluminium scoop and stored in labelled pulp packets for fire assay. Leach well samples had a 1000 g or 400 g pulp sub samples collected. The sample preparation is considered appropriate for the deposit.</p> <p>The photon assay technique was introduced at Red Hill in 2022. This process involves crushing samples to < 3 mm. 500 g of crushed material is then placed into single-use sample jars. Using a robotic shuttle, high energy x-rays are then fired at the sample causing excitation of atomic nuclei allowing detection of gold content. Photon analysis allows sampling of larger amounts of sample material providing a true bulk reading of gold content. The process is chemical free and non-destructive, samples are retained at the lab for a period of two months.</p>
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	<p>Procedures are used to guide the selection of sample material in the field. Standard procedures are used for all processes within the laboratory.</p> <p>For fire assay samples, grind checks are performed at both the crushing stage (3mm) and pulverising stage (75 µm), requiring 90% of material to pass through the relevant size.</p> <p>For photon assay samples, coarse grind checks at the crushing stage (3 mm) are carried out at a ratio of 1:25 samples by the robot. If the grind check is > 3mm, the robot stops, and samples are looped back through and re-crushed.</p>
	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.	<p>Field duplicates were taken for RC samples on a ratio of 1 in 20.</p> <p>Umpire sampling programs are carried out on an ad-hoc basis. For photon assay, 2% of all samples over 0.1g/t Au will be submitted to an umpire laboratory.</p>
	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.	<p>A 50 g 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. FA is considered to report total gold content of the sample.</p> <p>One in twenty samples in historical resource drilling were mat split to produce 250g to 1kg screen fire assays in addition to the 400g Leachwell sample.</p> <p>The photon assay technique was introduced at Red Hill in 2022. The primary samples are analysed through ALS. For preparation, samples are oven dried at 105 degrees until dry (2+ hours, longer for sludge samples). Hygroscopic tests are performed using a cold spatula. All samples are fed into a robot where the remaining sample preparation is automated. The robot weighs the samples, crushes the sample through the Boyd crusher to <3 mm. The crushed sample is then split through the smart linear splitter which calculates how to split each individual sample to achieve the 500g quotient. The 500g jar is analysed using PAA finish.</p>
	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.	<p>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 investigated and, where appropriate, the relevant batch of samples are re-assayed with a new CRM. The decision to re-assay takes into account the geology, the expected grade and the actual grades present in the assay results. In the event of CRM failure, any decision not to re-assay must be confirmed with the Supervising Geologist and a justification must be recorded in QAQC comments in the drillhole database.</p> <p>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 0.2 g/t if received are investigated, and re-assayed if appropriate.</p> <p>New pulps are prepared if anomalous results cannot be resolved.</p> <p>Barren flushes are regularly inserted after anticipated high gold grades.</p> <p>No field duplicates were submitted for recent diamond core samples. 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, screen tests and CRMs.</p> <p>Laboratory preparation duplicates (check samples) are required at a rate of 1 per 20 samples, where 2 separate pulps are prepared from a singular submitted sample, using identical preparation techniques.</p> <p>The QA studies indicate that accuracy (CRMs) and precision (duplicates and repeats) are within industry accepted limits.</p> <p>Multiple reviews of QA processes were undertaken by previous operators for feasibility studies and grade control during mining and any QA issues identified were resolved at the time.</p>
	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.

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Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	The use of twinned holes.	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 both csv and pdf formats, and both are filed in the company's cloud storage. Csv files are then loaded directly into the drillhole database using an Acquire importer object which includes a QAQC form. Assay results must be manually approved by a geologist following QAQC review before the results are stored in the database assay table.
	Discuss any adjustment to assay data.	No adjustments are made to this assay data. Leachwell and fire assay results are too incompatible to allow sensible factoring of Leachwell to match fire assays (or vice versa).
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.	Under NST a planned hole is pegged using a Differential Global Positioning System (DGPS) by the field assistants. The final collar is picked up after hole completion by field assistants with a DGPS rover unit in the MGA 94_51 grid. During drilling single-shot surveys are conducted every 30 m to ensure the hole remains close to design. This was performed using the Reflex Ez-Trac system prior to 2022, which measures the gravitational dip and magnetic azimuth, results were uploaded directly from the Reflex software export into the Acquire database. From 2022, driller operated north-seeking gyroscopic 'Champ' in-rod survey instruments supplied by Axis were used for both the 30m single shot surveys as well as 'end-of-hole' surveys which increase measurement frequency to every 10 metres for In and Out runs. All survey data is validated by the geologists. All historical drilling was surveyed by EDM theodolite in either AMG84 or Redhill local grid. Locations for older holes were either estimated or surveyed by EDM theodolite in AMG66 coordinates. All coordinates have been transformed to MGA 94 Zone 51. All holes with estimated coordinates are located in the Nemesis area. Holes drilled by Delta were down hole surveyed by Gyro or digital electronic multi shot tools. Diamond tails were surveyed by single shot Eastman camera at 30m intervals. Many older holes, (North Ltd. holes), were surveyed by electronic multishot or Eastman Camera. However, a significant proportion were non-surveyed and were assumed to run straight at designed orientations. Many holes with some down-hole survey measurements were not surveyed to full depth. Quality of the historical down hole surveys vary with ~400 of the 624 holes at the project surveyed with a down hole gyroscope (reference and north seeking) whilst the other drill holes rely on magnetic based azimuth systems.
	Specification of the grid system used.	Collar coordinates and survey azimuth are recorded in MGA94_51.
	Quality and adequacy of topographic control.	Quality topographic control has been achieved through Lidar data and survey pickups during drilling.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Drill hole spacing across the area varies from approximately 10 m to 100 m 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.	Core is sampled to geology; sample compositing is not applied until the estimation stage. RC samples initially taken as 4m composites are replaced by 1m samples in mineralised zones though it is unknown at what grade threshold the 1m sub-samples were analysed for. Compositing of the data to 1m was used in the estimate.
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 Red Hill and Nemesis deposits are well known and suggests the drilling direction originally undertaken by NSR during resource definition drilling was appropriate to the orientation of mineralisation.
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	The dominant vein orientation is shallowly dipping and 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 recent audits have been undertaken of the data and sampling practices at this stage. All recent NSR sample data has been extensively QAQC reviewed both internally and externally.

APPENDIX B: TABLE 1

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 M27/57, M27/164, M27/127 and M27/287 tenements, which is owned by Kanowna Mines PTY LTD a wholly owned subsidiary of Northern Star Resources. The Red Hill Pit has been backfilled with tailings from the Kanowna Belle Mill. M27/57 is subject two Royalty agreements, the parties to the first are Kanowna Mines and Dioro Exploration (Northern Star South Kalgoorlie). The parties to the second agreement are Grange Resources and Kanowna Mines (Northern Star). M27/164 has a partial royalty to Oxford Credits Corporation Pty Ltd however this royalty does not extend over the area of drilling that is the subject of this release.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	The tenements are in good standing. Part of the Nemesis area is included within the historical Kanowna Town site.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Gold discovered in October 1893 with a 2 m wide outcrop of quartz veining with underground mining continuing into the early 1900s and continues intermittently until the 1980's. Systematic exploration of the prospect was initiated by Sabminc NL and North Limited in 1994 with Delta Gold acquiring and consolidating the Red Hill tenements in 2000 which culminated in 2,714 holes prior to mining Red Hill open pit in 2001. Mining continued until 2007 with Red Hill – Nemesis project producing 356,980 ounces. Barrick Gold held tenure of the project from 2006 up to 2014 with limited exploration. Early 2014 saw Northern Star Resources purchase the Kanowna camp from Barrick Gold which initiated a review of the project due to its close proximity to Kanowna Belle Mine and Mill infrastructure.
Geology	Deposit type, geological setting and style of mineralisation.	Red Hill - Nemesis are felsic porphyritic intrusions located within the Talbot Formation of the Boorara Domain. Intrusive porphyries occupy a structural corridor which trends 060 degrees and extends approximately 4 kilometres to the north east of the Kanowna Belle Gold Mine. In total, Red Hill Nemesis is viewed as a bulk 'stockwork' mineralised porphyry dominated by flat to shallow dipping quartz vein sets. In detail, gold mineralisation at Red Hill proper is hosted within the Red Hill porphyry stock by three phases of mineralisation; Gold hosted in the altered rock mass provides background grades of the order of 0.3g/t, gold hosted in early quartz-carbonate and quartz-carbonate-pyrite veins in the order of mm to several cm wide, and the dominant phase of gold hosted in late stage planar, shallowly dipping quartz veins occur on a scale of mm to several m wide. Visible free gold is commonly observed within the latter and these veins are estimated to contribute 60% of the contained gold at Red Hill. Gold mineralisation in the Nemesis Domain is dominated by three styles; Gold hosted in breccias, gold hosted in steep east-west trending quartz-pyrite veins and pyrite Stringers and gold hosted in late stage planar flat dipping quartz veins like those observed at Red Hill. The majority of mineralisation is free milling.
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: <ul style="list-style-type: none"> o easting and northing of the drill hole collar o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar o dip and azimuth of the hole o down hole length and interception depth o hole length. 	A summary of the drilling completed since May 2023 can be found in the appendix of this 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.	No top-cutting is applied when reporting intersection results. All reported assay results are reported as down hole width. Exploration intercepts have been determined based on geological characteristics such as vein frequency and alteration and grade distribution. Due to the highly variable style of mineralisation these intervals may include zones of relatively low grades.
	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.
	These relationships are particularly important in the reporting of Exploration Results.	Down hole widths have been quoted.

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Criteria	JORC Code explanation	Commentary
Relationship between mineralisation widths and intercept lengths	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	The mineralisation is stockwork with a series of northerly dipping veins within a porphyry host unit.
	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').	Due to the geometry of the ore body, only down hole widths have been quoted. Where possible, drilling has been oriented to intercept the vein sets at a high angle. This gives a good approximation of the vertical width intercepted but does not provide information on lateral extent.
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.
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 test the current resource area for bulk potential below Nemesis and Red Hill pits during FY2024.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	All holes mentioned in this report are located within the M27/57, M27/164, M27/127 and M27/287 tenements, which is owned by Kanowna Mines PTY LTD a wholly owned subsidiary of Northern Star Resources. The Red Hill Pit has been backfilled with tailings from the Kanowna Belle Mill. M27/57 is subject two Royalty agreements, the parties to the first are Kanowna Mines and Dioro Exploration (Northern Star South Kalgoorlie). The parties to the second agreement are Grange Resources and Kanowna Mines (Northern Star). M27/164 has a partial royalty to Oxford Credits Corporation Pty Ltd however this royalty does not extend over the area of drilling that is the subject of this release.

Kalgoorlie Operations: HBJ (Hampton Boulder Jubilee) - 21 November 2023

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 and surface diamond drilling (DD), surface reverse circulation drilling (RC) and face channel sampling (FC).
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Diamond drill-core (DD) is geologically logged and then sampled according to geology (minimum sample length of 0.3 m to maximum sample length of 1.2 m), where consistent geology is sampled, a 1 m length is used for sampling the core. RC sampling is from a 5½" face sampling hammer, three-tier riffle splitter (approximately 5 kg sample), split to a 12.5% fraction (approximately 3kg) or to a 12% fraction via a rig-mounted cone splitter. All residual material is retained on the ground in rows of 10 or 20 samples. Four metre composites are obtained via representative scoop / spear sampling of the one metre residual bags which are retained until required for re-split analysis (samples returning Au >0.2ppm) or eventual disposal. Historical RC drilling is assumed to employ similar practices. Face channel sampling is constrained within geological and mineralised boundaries with a minimum (0.2 m) and maximum (1.3 m) channel sample length. In some cases, smaller samples (0.1 m – 0.2 m) have been taken to account for smaller structures in the face. The sample is taken across the grade line (1.5 m from floor) or perpendicular to the ore body. Face samples are taken by personnel trained and deemed competent to ensure sample representivity.
	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	Underground face samples (FS) are taken by chip sampling across the face using a geological hammer, collecting the sample in a calico bag held in a steel frame. Wherever possible, the faces are sampled along a channel approx. 1.5 m above the floor RL. Face sample intervals are determined by alteration and or lithological contacts or in all other cases, a standard interval of 1 m (minimum sample length of 0.2 m to maximum sample length of 1.0 m). Exploration DD core is sawn half-core with one half sent for analysis

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Criteria	JORC Code explanation	Commentary
	sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.	and the other half retained. Grade Control DD core is whole core sampled and sent for analysis. Core selected for half core sampling is cut using an Almonte core saw then bagged in pre-determined sample ID calicos; sampling practices ensure that circa 99% of half core sample is collected.
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.).	DD core is mostly NQ2 diameter with some BQ, HQ and LTK60 diameter core. Where possible diamond core was orientated using a spear, Ballmark™, Ezimark™, or ACE multi electronic tool. Many of the holes drilled from surface had RC pre-collars generally to a depth of between 60 – 120 m, followed by a diamond tail. These diamond tails have been drilled at NQ2 size with minor HQ sized core. All diamond holes were surveyed during drilling with downhole cameras, and then at end of hole using a downhole gyro/DeviFlex tool at regular intervals (1-10 m). Drill hole collars were surveyed by onsite mine surveyors. RC drilling is used predominantly for defining and testing for near-surface mineralisation and utilises a face sampling hammer with the sample being collected on the inside of the drill-tube. RC drill holes utilise downhole single or multi shot cameras. Drill hole collars were surveyed by onsite mine surveyors.
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 maximize sample recovery. Moisture content and sample recovery is recorded for each RC sample. No recovery issues were identified during RC drilling programs. Recovery was poor at the very beginning of each hole, as is normal for this type of drilling in overburden. Limited information is available on the drill sample recovery of historic drilling. DD drilling contractors measure each individual run prior to pulling the inner tube. If the full run cannot be drilled out, the remaining meterage is calculated by measuring with a tape measure, the remaining tube and back calculating the stickup off the steel tube length. This drill length is measured against the recovered core from the run. Where there is a discrepancy, core blocks are used to annotate the calculated core loss, and whether the loss is due to poor recovery or intersected voids (noted by a loss of water pressure during the drilling process).
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	For DD, drilling contractors adjust the rate of drilling and method if recovery issues arise. Minor loss can occur when drilling through major fault zones. Areas of potential lower recovery are identified on drill plans provided to the drilling contractor, and controlled drilling techniques are employed to maximise recovery. Where sample loss occurs internal to an ore zone, the drillhole is usually excluded from the estimate.
	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 defined relationship exists between sample recovery and grade. Nor has sample bias due to preferential loss or gain of fine or coarse material been noted.
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.	Northern Star drill-holes are logged in detail for geology, veining, alteration, mineralisation, and areas of significance are orientated for structural measurements where possible. Core is logged in enough detail to allow for the relevant mineral resource estimation techniques to be employed. Diamond core is photographed wet and all photos are stored on the companies' servers, with the photographs from each hole contained within separate folders. Development faces are mapped and logged geologically for each sample interval. Development faces are photographed whilst sampling. RC chips are geologically logged.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	Geology logging is qualitative in nature with visual estimates made of mineralisation percentages for core. Structural and geotechnical logging is quantitative in nature. All core is photographed wet as standard practice. Historically some core may have also been photographed dry. 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.	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.	NQ2 and HQ diameter core is sawn in half core using a diamond-blade saw, with one half of the core consistently taken for analysis. The unsampled half of diamond core is retained for check sampling if required. HBJ staff collect the sample in pre-numbered calico sample bags which are then submitted to the laboratory for analysis. Delivery of the sample is by a contractor.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	RC samples are collected at 1 m intervals with the samples being riffle split through a three-tier splitter. The samples are collected by the RC drill crews in pre-numbered calico sample bags which are then collected by Northern Star staff for submission.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Upon delivery to the laboratory, the sample numbers are checked against the sample submission sheet. Sample numbers are recorded and tracked by the laboratory using electronic coding. Sample preparation techniques are considered appropriate for the style of mineralisation being tested for – this technique is industry standard across the Eastern Goldfields.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Procedures are available to guide the selection of sample material in the field. Standard procedures are used for all process within the laboratory. Since 2020 all samples have been Photon assayed. Prior to this, all assaying was carried out using traditional fire assay techniques.

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Criteria	JORC Code explanation	Commentary
		<p>For fire assay samples, coarse grind checks at the crushing stage (3 mm) are carried out at a ratio of 1:25 samples with 90% passing required. Pulp grind checks at the pulverising stage (75 µm) are carried out at a ratio of 1:25 samples with 90% passing required. Laboratory duplicate samples are taken for coarse crush (3 mm) and pulverising (75 µm) stages at a ratio of 1:25 samples. Repeat assays are carried out at a ratio of 1:10 on prepared pulp samples.</p> <p>Photon assaying involves crushing samples to < 3 mm. 500 g of crushed material is then placed into single-use sample jars. Using a robotic shuttle, high energy x-rays are then fired at the sample causing excitation of atomic nuclei allowing detection of gold content. Photon analysis allows sampling of larger amounts of sample material providing a true bulk reading of gold content. The process is chemical free and non-destructive, samples are retained at the lab for a period of two months.</p>
	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.	For RC chips field duplicates are collected and analysed for significant variance to primary results.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	<p>For fire assay, grind checks are performed at both the crushing stage (3mm) and pulverising stage (75 µm) requiring 90% of material to pass through the relevant size. No specific study has been carried out to determine optimum sub-sample size fractions. These material sizes are assumed to be acceptable for the mineralization style and material grain size present.</p> <p>For photon assay samples, grind checks are performed by the robot at the crushing stage (3mm). Multiple internal studies were conducted and determined at a particle size of 3mm, the effect of coarse grain gold on precision is acceptable. The minimal reduction in precision is offset by the ability to take a larger volume sample than traditional fire assay.</p>
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.	<p>Only nationally accredited laboratories are used for the analysis of the samples collected at HB1.</p> <p>Current sample preparation and assay procedures employed by Northern Star Resources are considered as following industry standard practice. All assay determinations are conducted by internationally recognised laboratories.</p> <p>For fire assay samples (pre-2020), the primary samples were analysed through Bureau Veritas, which met ISO 9001:2000 standards. For preparation, samples are oven dried until a constant mass is achieved. All samples are then processed through an Essa Jaw Crusher or a Boyd Crusher to 90% < 3 mm. The crushed sample is then pulverised for 4 minutes in an LM5 pulveriser for a product of 90% passing < 75 µm. Approximately 250g – 300g of the pulp is retained and a 40 gm catch weight for fire assay is extracted from the pulp packet. Samples are tested for sulphides and flux adjusted, flux is added at a ratio of 1:4. Samples are fired, hammered and cupelled. Prills placed in tubes, dissolved on hotplates, and analysed using AA finish with over-range dilutions.</p> <p>For photon samples (2020 onwards), the primary samples are analysed through MinAnalytical and ALS. For preparation, samples are oven dried at 105 degrees until dry (2+ hours, longer for sludge samples). Hygroscopic tests are performed using a cold spatula. All samples are fed into a robot where the remaining sample preparation is automated. The robot weighs the samples, crushes the sample through the Boyd crusher to <3 mm. The crushed sample is then split through the smart linear splitter which calculates how to split each individual sample to achieve the 500 gm quotient. The 500 gm jar is analysed using PAA finish.</p>
	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.	<p>Sampling and assaying QAQC procedures include:</p> <ul style="list-style-type: none"> • Periodical resubmission of samples to primary and secondary laboratories • Submittal of independent certified reference material • Sieve testing to check grind size • Sample recovery checks. • Unannounced laboratory inspections <p>Standard control samples and blanks purchased from certified commercial suppliers are inserted at a ratio of 1:20. The results are reviewed on a per batch basis and batches of samples are re-analysed if the result is greater than three standard deviations from the expected result. Any result outside of two standard deviations is flagged for investigation by a geologist and may also be re-assayed.</p> <p>Blanks are inserted into the sample sequence at a ratio of 1:20. 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 are investigated, and re-assayed if appropriate. New pulps are prepared if anomalous results cannot be resolved.</p> <p>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.</p> <p>The QA studies indicate that accuracy and precision are within industry accepted limits.</p>

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Criteria	JORC Code explanation	Commentary
		There is limited information available on historic QA/QC procedures, the available data is generally accepted at face value. Where there are concerns of quality, Resource classification applied to the Mineral Resource takes this into account. The analytical techniques used are considered appropriate for the style of mineralisation being tested.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	All data compiled in databases is overseen and validated by senior geologists and database administrators internal to Northern Star Resources.
	The use of twinned holes.	No specific twinned holes were drilled at HBJ. 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 drill hole is logged, but not sampled.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Primary data is collected and entered directly in acquire. Inbuilt validation procedures prevent the input of simple errors. The information is stored in a SQL database server and verified.
	Discuss any adjustment to assay data.	All data used is compiled in databases which are overseen and validated by Northern Star geologists and database administrators. No adjustments have been made to any 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.	Collar coordinates for surface RC and diamond drill-holes were generally determined by either RTK-GPS or a total station survey instrument. Underground drill-hole locations were all surveyed using a Leica reflector less total station. Recent surface diamond holes were surveyed during drilling with Axis down-hole north seeking Gyro-inclinometer and a full hole continuous survey completed at the end of the hole by Gyro-Inclinometer at 1 m - 10 m intervals. Historical holes not gyro-surveyed were surveyed using Eastman single shot cameras at 20 m intervals. RC drill-holes utilised down-hole single shot camera surveys spaced every 15 m to 30 m down-hole. Historical down-hole surveys for underground diamond drill-holes were taken at 15 m – 30 m intervals by Reflex single-shot cameras. Recent practice for down-hole surveys in underground diamond drilling utilises a DeviFlex survey tool whereas current practice utilises a DeviGyro survey tool. A true north seeking gyroscopic tool has been used to line up the rig and record a zero-metre survey. Downhole deviations recorded by the DeviGyro are back calibrated to the zero-metre survey. Completed collars are picked up by the mine survey department for location and to confirm starting bearing and inclination. QAQC is performed on the speed of running and the misclose rate for each gyroscopic survey. Where issues are identified, a single survey run can be chosen as preferred with the remaining data ignored. This data is converted to .csv format and imported into the acquire database where it is validated by the project geologist
	Specification of the grid system used.	Data is captured predominately in local grid. Where required, conversion between local, magnetic and an MGA grid has been verified by the HBJ survey department and applied as a calculated field in acquire.
	Quality and adequacy of topographic control.	Topographic control is generated from RTK GPS. This methodology is adequate for the resources in question.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Drill hole spacing across the area varies from approximately 10 m to 170 m 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.	Interpretation of the area is well understood and is supported by the knowledge from open pit and underground operations. The data spacing and distribution is considered sufficient to support the resource and reserve estimates.
	Whether sample compositing has been applied.	Core is sampled to geology; sample compositing is not applied until the estimation stage.
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.	Drilling intersections are nominally designed to be as perpendicular to the orebody as far as underground infrastructure constraints / topography allows for lode hosted orebodies. Drilling intersections for stockwork lodes aims to orientate the hole perpendicular to the veins rather than the orebody. Development sampling is nominally sampled perpendicular to mineralised structure.
	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.	Drill samples are picked up by a third-party transport service, who relay them to the independent laboratory contractor. Samples are stored securely until they leave site. Underground face and sludge samples are delivered daily directly to the Lab by company personnel.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Site generated resources and reserves and the parent geological data is routinely reviewed by the Northern Star Corporate technical team.

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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.	<p>State Royalty of 2.5% of revenue applies to all mining tenements but not to the 16 freehold titles (Location land) that occur within the South Kalgoorlie tenement package. There are several minor agreements attached to a specific tenements and locations with many of these royalty agreements associated with tenements with no current Resources and/or Reserves.</p> <p>Private royalty agreements are in place that relate to production from HBJ open pit at \$10/ oz. In addition, a 1.75% NSR royalty is payable on the total gold ounces produced from the following resources: Shirl Underground, Bellevue, HBJ Open-pit, Mount Martin open-pit, Mount Martin stockpiles and any reclaimed tailings.</p> <p>The South Kalgoorlie Operations consists of 35 Mining Leases and 19 Exploration and Prospecting Licences. The Project also includes 9 Miscellaneous Licences, 2 groundwater Licences and 16 Freehold Lots known as the Hampton "Exempted East Locations". The Area of the leases covers approximately 35,638 Hectares with a further 71,861 Hectares of Freehold Land.</p>
	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.	<p>All leases and licences to operate are granted and in the order of up to 21 years.</p> <p>There are no known impediments to continued operation.</p>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<p>The HBJ 'line of lode' is a 6 km zone of mineralisation that extends from Golden Hope in the south to Celebration in the north. The existing HBJ pit was mined for over 25 years producing approximately 1.6Moz Au and was owned by separate companies across the Location 48 and Location 50 tenement boundary.</p> <p>Gold was first discovered in the New Celebration area in 1919 and a short-lived gold rush ensued. Intermittent exploration for gold and nickel was undertaken by a variety of companies in the 1960s and 1970s. The rising gold price further rekindled interest in the area in the 1980s, and open-pit mining at New Celebration started in 1986 by a joint venture comprising Newmont Holdings Limited (subsequently Newcrest; 60%), Hampton Areas Australia Ltd., (25%) and Mt Martin Gold Mines (15%), which merged with Titan Resources in 1993. The New Celebration project includes the Hampton Boulder deposit. In June 2001 Hill 50 Gold agreed to purchase the New Celebration project from Newcrest Mining. In December 2001 Harmony Gold Mining acquired Hill 50 Gold, the transaction giving Harmony Gold Mining a 100% interest in the New Celebration project.</p> <p>The Jubilee deposit located south of the Hampton Boulder deposit was evaluated and mined by Hampton Areas Australia Ltd from 1984 to 1996 with open pit mining starting in 1987. New Hampton Goldfields (New Hampton) acquired the Jubilee deposit in 1996. In May 2001, Harmony Gold Mining acquired New Hampton, and combined the operations of New Hampton's Jubilee operations and associated small open pits with the New Celebration project into the South Kalgoorlie Operations (SKO).</p> <p>In 2007, Dioro Exploration NL (Dioro) acquired SKO from Harmony Gold (Australia) Pty Ltd (Harmony) via its wholly owned subsidiaries, South Kal Mines Pty Ltd, New Hampton Goldfields Ltd and Aurora Gold (WA) Pty Ltd.</p> <p>The tenement package at SKO was then purchased by Avoca Resources in April 2010, which was subsequently acquired by Alacer Gold Corp. Pty Ltd in early 2011.</p> <p>Westgold Resources Limited acquired the SKO tenement holdings in October 2013 via the acquisition of Alacer Gold's Australian assets.</p> <p>In April 2018, Northern Star Resources acquired the SKO tenement holdings with the purchase of HBJ Minerals Pty Ltd from Westgold.</p>
Geology	Deposit type, geological setting and style of mineralisation.	<p>Stratigraphy for the Ora Banda and Kalgoorlie Domains is relatively well-known and comprises (from stratigraphically lowest) a lower basalt unit, komatiitic to high-magnesian basaltic rocks, an upper basalt unit and overlying felsic volcanic-sedimentary units. Conglomeratic and sandstone units unconformably overlie the upper felsic units adjacent to major shear zones. Layered mafic sills occur within various stratigraphic units and cross-cutting Proterozoic dykes also occur throughout the region. Metamorphic grade ranges from upper greenschist to upper amphibolite facies.</p> <p>The deformation history of the area is generally divided into four main phases, comprising north-directed thrusting with recumbent folding and stratigraphic repetition in D1. The second deformation (D2) resulted in north-northwest trending folds which are reflected in the dominant north-northwest trending fabric of the greenstone belts. Shortening continued during D3 with strike slip movement along northwest to north northwest trending shear zones and D4 brittle faulting.</p> <p>The HBJ orebodies form part of a gold mineralised system along the Boulder-Lefroy shear zone that is over 4 km long and includes the Celebration, Mutooroo, HBJ and Golden Hope open pit and underground mines.</p> <p>The HBJ orebodies are hosted within a steeply-dipping, north-northwest-striking package of mafic, ultramafic, and sedimentary rocks and schists that have been intruded by felsic to intermediate porphyries. The area is extensively deformed with numerous north-striking shear zones and dilation of the porphyry intrusions. Mutooroo West is hosted within the quartz rich granophyric zone of the Mutooroo Dolerite and is comprised of a sheeted vein system.</p>
Drill hole Information	<p>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:</p> <ul style="list-style-type: none"> o easting and northing of the drill hole collar o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar o dip and azimuth of the hole o down hole length and interception depth 	A summary of the drilling completed on Mutooroo West in 2023 can be found in the appendix of this report.

APPENDIX B: TABLE 1

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> o hole length. <p>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.</p>	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 Mutooroo West intercepts are reported as down hole width due to the stockwork nature of the mineralisation. For lode hosted results (not in this release) reported assay results are length weighted to provide an intersection width. A maximum of 2 m of barren material (considered < 2 g/t) between mineralized samples has been permitted in the calculation of these widths. Typically grades over 2 m @ 2.0 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.
	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.	Downhole widths have been used in this release due to the nature of the stockwork mineralisation of Mutooroo West. Previous releases have been true width due to the lode style of mineralisation.
	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.
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).	Ongoing surface and underground exploration activities will be undertaken to support continuing mining activities at Northern Star Operations
	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.

Kalgoorlie Operations: Hercules - 21 November 2023

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	Sampling methods since 2019 undertaken by Northern Star at Hercules has consisted of diamond drilling (DD) and reverse circulation (RC) Historical methods conducted since 1988 have included, rotary air blast (RAB), air core (AC), reverse circulation (RC) and diamond drillholes (DD).

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Criteria	JORC Code explanation	Commentary
	gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.	
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Sampling for DD and RC drilling is carried out as specified within Northern Star sampling and QAQC procedures as per industry standard. DD core provides high quality representative samples for analysis. RC and DD core drilling was completed by previous holders to industry standard at that time (1988 - 2018).
	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.	Diamond core (NQ, HQ or PQ sized) was transferred to core trays for logging and sampling. Half/full core samples were nominated by the geologist, generally being around 1 m intervals however, sample widths do vary due to geological boundaries, ranging between approximately 10 cm and 120 cm. RC samples were collected from the cyclone at 1m intervals via the use of a cone splitter that splits the samples into calico bags. Sample weights were typically 2 -3kg Samples were taken to ALS Kalgoorlie for preparation by drying, crushing to < 3 mm, and pulverizing the entire sample to < 75µm. 300 g Pulp splits were taken and a 50 g sub sample were used for fire assay charge and AAS analysis. Historical DD and RC sampling was carried out to industry standard at that time. Analysis methods include fire assay and unspecified methods.
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.).	Northern Star has completed 5 surface diamond holes (PQ/HQ or HQ3 triple tube through the regolith and NQ2 diameter in fresh rock) and 59 reverse circulation holes (Schramm T685 rig) at Hercules during mid 2019 - 2023. All DD holes were orientated once in fresh rock, using a Reflex Act IIII tool. RC pre collars were used in some holes.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	Diamond core recovery percentages calculated from measured core versus drilled intervals are logged and recorded in the database. Recoveries average > 95%. RC recoveries were recorded by the NSR field technician during drilling. Recovery percentages then imported in to NSR database. No historical recoveries have been recorded.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	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. RC recoveries were monitored by NSR field technicians and drill contractors. Lower recovery was returned during transported (1-10m), however, returning to >90% once in fresh rock. Sample moisture content also documented by NSR field technician (moist, wet, dry). Cyclone and sampling system cleaned at regular interval, especially after intersected clays within the first 10-20m of each hole. Any historical relationship is not known.
	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 has been observed between recovery and grade. Any historical relationship is not known.
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 drilled by Northern Star were logged for regolith, lithology, veining, alteration, mineralisation and structure. Structural measurements of specific features were also taken through oriented zones (for DD core). Geotechnical logging was carried out on all diamond holes to record recovery, RQD, defect number, type, fill material, shape and roughness. Various SG measurements were taken. RC chips were sieved and washed in placed in chip trays. Chips were logged by qualified NSR geologist for regolith, lithology, veining, alteration, mineralisation and structure. RC chip trays are subsequently photographed via the Imago software.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	All recent core and chip samples are logged in full and samples are photographed in a wet state using Imago photographic software. Qualitative and quantitative logging of historical data varies in its completeness.
	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.	All regolith diamond core was fully sampled down to a depth where the core has been deemed competent enough to be sawn. The majority of the fresh diamond core were cut, and half the core taken for sampling, the remaining half stored for later use. Parts of the fresh core sections were full core sampled, due to the fissile nature, making it challenging to cut. No details available for historical core.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	Each RC hole was sampled at 1m intervals directly off a rig-mounted cone splitter into separate pre-numbered calico bags. Pre-numbered calico bags containing the samples were despatched to the laboratory for assay.

APPENDIX B: TABLE 1

Criteria	JORC Code explanation	Commentary
		Samples were predominantly dry, with moisture content recorded by the NSR field technician. No sampling methods recorded for historical RC holes.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	The sample preparation of diamond core and chips adhere to industry best practice. It is conducted by a commercial laboratory and involves oven drying, coarse crushing then total grinding to a size of 90% passing 75 microns. Best practice is assumed at the time of historical sampling
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	All subsampling activities are carried out by commercial laboratory and are considered to be satisfactory. Sampling by previous holders assumed to be industry standard at the time.
	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 field duplicates were taken from the core samples. For reverse circulation drilling, an entire hole was duplicated at the rig, by attaching a secondary pre-numbered calico bag to the cone splitter, in addition to the primary bag. These duplicates are used for internal NSR QAQC. Details of field duplicates from historical RC and core is not known
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes are considered appropriate.
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.	Diamond core and reverse circulation chips are analysed by external laboratories using a 50g fire assay with AAS finish. This method is considered suitable for determining gold concentrations in rock and are total digest methods. Historical sampling includes fire assay and unknown methods.
	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 have been utilised for reporting gold mineralisation at Hercules.
	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. Standards were certified reference material prepared by Geostats Pty Ltd. Blanks are inserted into the sample sequence at a rate of 1 per 20 samples, this is random, except where high-grade mineralization is expected. Here, a Blank is inserted after the high-grade sample to test for contamination. Failures above 0.2g/t are followed up, and re-assayed. New pulps are prepared if failures remain. Field duplicates were submitted for RC samples but not for diamond core.
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. However, diamond drilling was used to verify previous RC intercepts to much success.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Geological logging is directly entered into a robust database (Acquire). Assay files are received in csv format and loaded directly into the database by the project's responsible geologist with an importer object.
	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.	Drillhole collars from 2019 onwards were picked up by differential GPS in the MGA94 Zone 51 map grid. Downhole surveys using the Axis Champ north seeking Gyroscopic continuous in-rod survey instrument taking readings every 18m (diamond drilling) or continuous IN/OUT at the end of hole (reverse circulation drilling) were taken from 2019 onwards. Previous holders' survey accuracy and quality is unknown
	Specification of the grid system used.	Collar coordinates are recorded in MGA94 Zone 51
	Quality and adequacy of topographic control.	Topographic control originally used site-based survey pickups in addition to a +/- 2m resolution DTM derived from 20cm stereo imagery.
	Data spacing for reporting of Exploration Results.	Drillhole spacing across the area is variable.

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Criteria	JORC Code explanation	Commentary
Data spacing and distribution	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.	Data spacing and distribution are sufficient to establish the degree of geological and grade continuity appropriate for JORC classifications applied.
	Whether sample compositing has been applied.	Historical RAB and AC sampling was typically composited to 2 or 4m, most of the ore zone were sampled at 1m intervals
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.	All drilling was oriented as close to perpendicular as practicable to the interpretation of mineralisation orientation. They style of mineralisation is unknown and NSR are growing their understanding of the mineralisation.
	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.	For DD samples, prior to laboratory submission samples are stored by Northern Star Resources and previous companies in a secure yard. For RC samples, the calico bags are transported directly from the drill site to ALS Kalgoorlie at the conclusion of each drill hole by NSR personnel. 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.	Any significant gold assay results are validated against RC chips or DD core to correlate to geology. Internal QAQC reports are generated on an ongoing basis throughout the drill programs.

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 drill holes mentioned in this report are located within M15/469, located approximately 25km SW of Kalgoorlie WA. The registered holder of Mining Lease M15/469 is Northern Star (South Kalgoorlie) Pty Ltd, a wholly owned subsidiary of Northern Resources Limited The Mining Lease has a 21-year life expiring on 27/11/2031 and is renewable for a further 21 years on a continuing basis The Mining Lease is subject to the Woolibar Compensation Agreement The Mining Lease is subject to the New Celebration 1998 Royalty (1.75% NSR) The Mining Lease is subject to the New Celebration 2001 Royalty (\$10/oz every ounce of gold over 400,000oz) The Mining Lease is affected by the Marlinyu Ghoorlie registered native title claim There are no Heritage Sites located within the area of the Mining Lease. The Mining Rehabilitation Fund applies to the tenements.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	The tenement is in good standing and the licence to operate already exists.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The prospect referred to in this report is a project generated by NSR based on work previously undertaken by several different companies, which includes RAB/AC/RC/DD programs.
Geology	Deposit type, geological setting and style of mineralisation.	Mineralisation is confined to several zones with supergene horizons and primary mineralisation. Primary mineralisation occurs along a sediment amphibolite contact with quartz carbonate stringer veins and occasional areas of visible gold.
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: <ul style="list-style-type: none"> o easting and northing of the drill hole collar o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar o dip and azimuth of the hole o down hole length and interception depth o hole length. 	A select group of Hercules intercepts are reported in this release with all details.

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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.	Historical AC/RAB drilling results were excluded, and the 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 significant intercepts have been length weighted with a minimum Au grade of 0.1g/t. No high grade cut off has been applied.
	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.	Intercepts are aggregated with minimum width of 0.2m and maximum width of 2m for internal dilution. Where present, higher-grade values are included in the intercepts table, with assays > 10 gram-metres stated on a separate row with text stating "including".
	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.	Drilling is generally perpendicular to the mineralisation corridor however multiple vein orientations are a high angle to the drill core
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	All results are reported as downhole lengths
	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').	Down hole length, true width not known
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 map and section are included in the body of 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.	Intercepts >10 gram-metres are reported in the attached table and low grades have been illustrated in the Hercules cross section in the report.
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.	All material exploration data has been reported within the report body.
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 infill and extensional DD drilling are planned to define and the extend the deposit along strike and down dip. To gain more understanding of this early-stage project.
	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 are included in the body of this report.

Jundee: Jundee - 21 November 2023

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 is by both diamond drilling (DD) and Reverse Circulation (RC) drilling completed by Northern Star Resources (NSR). DD samples are HQ and NQ core with sample intervals defined by the geologist to honour geological boundaries ranging from 0.3 to 1.2m in length. RC samples are collected via rig-mounted static cone splitter with sample falling through inverted cone splitter, splitting the sample in 88%/9%/3% ratio. 9% split retained for 1m composites and 3% split retained for 4m composites. 1m samples are sent for further analysis if any 4m composites return a gold value > 0.1g/t or intervals containing alteration/mineralisation failed to return a significant composite assay result. NSR Resource definition and grade control drilling routinely collects 1m composites.

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Criteria	JORC Code explanation	Commentary
	<p>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</p> <p>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.</p>	<p>DD core is aligned and measured by tape, comparing back to down hole core blocks consistent with industry practice.</p> <p>RC metre intervals are delineated with spray paint to determine metres drilled. Sample rejects are left on the sample pad to indicate metres drilled for the hole.</p> <p>Diamond drilling is completed to industry standard using varying sample lengths (0.3 to 1.2m) based on geological intervals, which are then crushed and pulverised to produce a ~200 gm pulp sub sample to use in the assay process.</p> <p>Diamond core samples are fire assayed (30g charge).</p> <p>Visible gold is occasionally encountered in core.</p> <p>RC sampling to industry standard at the time of drilling where ~3-4kg samples are pulverised to produce a ~200 gm pulp sample to utilise in the assay process.</p> <p>RC samples are fire assayed (50 gm charge).</p>
Drilling techniques	<p>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.).</p>	<p>RC drilling is carried out using a face sampling hammer and a 130mm diameter bit.</p> <p>Diamond drilling carried used HQ3 (triple tube) and NQ2 techniques.</p> <p>Core is routinely orientated using the ORI-shot device.</p>
Drill sample recovery	<p>Method of recording and assessing core and chip sample recoveries and results assessed.</p> <p>Measures taken to maximise sample recovery and ensure representative nature of the samples.</p> <p>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.</p>	<p>RC – Approximate recoveries are sometimes recorded as percentage ranges based on a visual and weight estimate of the sample.</p> <p>DD – Recoveries are recorded as a percentage calculated from measured core versus drilled intervals.</p> <p>Diamond drilling practice results in high core recovery due to the competent nature of the ground.</p> <p>RC drilling recovery is supervised on the rig and any recovery issues are recorded and rectified.</p> <p>There is no known relationship between sample recovery and grade, diamond drill sample recovery is very high.</p>
Logging	<p>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.</p> <p>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</p> <p>The total length and percentage of the relevant intersections logged.</p>	<p>DD core and RC chip samples have been logged by qualified geologists to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</p> <p>RC hole logging was carried out on a metre-by-metre basis and at the time of drilling.</p> <p>Logging is qualitative and quantitative; all core is photographed wet. Visual estimates are made of sulphide, quartz and alteration as percentages.</p> <p>100% of all DD and RC drilling is logged.</p>
Sub-sampling techniques and sample preparation	<p>If core, whether cut or sawn and whether quarter, half or all core taken.</p> <p>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</p> <p>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</p> <p>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</p>	<p>DD core is halved with an Almonté diamond core saw. The core is quarter cut when metallurgical samples are required. Sample intervals are defined by a qualified geologist to honour geological boundaries. The left half is archived.</p> <p>All mineralised zones are sampled plus associated visibly barren material in contact with mineralised zones.</p> <p>Core is sampled on the width of the geological/mineralised structure with a minimum sample length of 0.3m and a maximum sample length of 1.2m. Total weight of each sample generally does not exceed 5kg.</p> <p>RC drilling uses a cyclone mounted inverted cone splitter.</p> <p>DD core is dried at 100°C to constant mass, all samples below approximately 4kg are totally pulverised in LMS's to nominally 85% passing a 75µm screen. The few samples generated above 4kg are crushed to <6mm and riffle split first prior to pulverisation.</p> <p>RC samples are dried at 100°C to constant mass, all samples below approximately 3kg are totally pulverised in LMS's to nominally 85% passing a 75µm screen. Samples generated above 4kg are crushed to <6mm and cone split to nominal mass prior to pulverisation.</p> <p>For RC samples, no formal heterogeneity study has been carried out or monographed. An informal analysis suggests that the sampling protocol currently in use are appropriate to the mineralisation encountered and should provide representative results.</p> <p>Repeat analysis of pulp samples (all sample types) occurs at an incidence of 1 in 20 samples.</p> <p>Analysis of 2mm coarse crush and split has been completed for three RC bulk cone splitter rejects each of them divided into 32 equal splits.</p>

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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.	Field duplicates, (i.e., other half of cut core) are routinely assayed. NSR routinely collects field duplicates during RC drilling.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes are considered appropriate. No formal nomograph study has been conducted on the RC primary sub sample split. Industry standard practice supports splitting of primary sub samples at particle sizes of <6mm and P ₈₀ 75µm.
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 RC drill samples, gold concentration was determined by fire assay using the lead collection technique with a 50 gm sample charge weight. MP-AES instrument finish was used to be considered as total gold. For DD drill samples, gold concentration was determined by fire assay using the lead collection technique with a 30 gm sample charge weight. AAS or MP-AES instrument finish was used to be considered as total gold. For the majority of drill core samples, gold concentration is determined by fire assay with an AAS or PMAES finish is used to be considered as total gold. In 2021 Photon assay was introduced at Jundee, the sample is crushed to 85% passing 2mm then split with a 500g sub sample taken for analysis. Various multi-element suites are analysed using a four-acid digest with an AT/OES finish.
	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 derived analyses are reported.
	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.	The QAQC protocols used include the following for all drill samples: <ul style="list-style-type: none"> - Field QAQC protocols used for all drill samples include commercially prepared certified reference materials (CRM) inserted at an incidence of 1 in 20 samples. The CRM used is not identifiable to the laboratory with QAQC data is assessed on import to the database and reported monthly, quarterly and yearly. - NSR RC Resource definition and grade control drilling routinely inserts field blanks and monitor their performance. - Laboratory QAQC protocols used for all drill samples include repeat analysis of pulp samples occurs at an incidence of 1 in 20 samples and screen tests (percentage of pulverised sample passing a 75µm mesh) are undertaken on 1 in 40 samples. - The laboratories' own standards are loaded into the database and the laboratory reports its own QAQC data monthly. - In addition to the above, about 5% of drill samples are sent to a check laboratory. Samples for check -assay are selected automatically from holes based on the following criteria: grade above 0.5g/t or logged as a mineralised zone or is followed by feldspar flush or blank. - Failed standards are generally followed up by re-assaying a second 50g or 30g pulp sample of all samples in the fire above 0.1g/t by the same method at the primary laboratory. Both the accuracy component (CRM's and third-party checks) and the precision component (duplicates and repeats) of the QAQC protocols are thought to demonstrate acceptable levels of accuracy and precision.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	Significant intersections not verified.
	The use of twinned holes.	There is no purpose drilled twin holes.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Sampling and logging data are digitally entered into a tablet using Logchief software imported into SQL database using semi-automated or automated data entry. Digital assay files are loaded directly into the database. Visual checks are part of daily use of the data in Vulcan.
	Discuss any adjustment to assay data.	The first gold assay is almost always utilised for any Mineral Resource estimation except where evidence from re-assaying and/or check-assaying dictates. A systematic procedure utilizing several re-assays and/or check assays is in place to determine when the final assay is changed from the first gold assay.
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.	Collar positions are recorded using conventional survey methods based on Leica TS15 3" total stations and Trimble R10 GNSS instruments. The location of each station is referenced to state-wide network of Standard Survey Marks (SSM) established and coordinated by the Department of Land Administration (WA Government). Where regional drill hole positions are distant from the SSM network, the worldwide Global Navigational Satellite System (GNSS) network is used. Positional checks are carried out using a combination of existing known positions (usually based on prominent landmarks) and grid referenced information such as ortho-linear rectified photogrammetry based on the Map Gird of Australia MGA94. Collar coordinates are recorded in MGA94. Surface collar RL's have been validated utilizing an airborne elevation survey by Arvista.

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Criteria	JORC Code explanation	Commentary
		Multi shot cameras and gyro units were used for down-hole survey.
	Specification of the grid system used.	Collar coordinates are recorded in MGA94 Zone 51. The difference between magnetic north (MN) and true north (TN) is 1° 34' 30". The difference between true north (TN) and AMG84 Zone 51 (AMG GN) is 1° 02' 47". The difference between true north and GDA is zero.
	Quality and adequacy of topographic control.	Topographic control is from Digital Elevation Contours (DEM) 2020, 1m contour data and site surveyed pickups.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	All Ore Reserves are based on a maximum drill hole spacing of 25m x 25m and all Mineral Resources are based on a maximum of 60m x 60m. Exploration results in this report range from 25m x 25m drill hole spacing to 60m x 60m.
	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.	Ore Reserves are generally based on 25m x 25m drilling to a maximum of 40m by 40m. Mineral Resources are generally based on 25m x 25m drilling up to a maximum of 60m x 60m. The data spacing and distribution is sufficient to establish geological and/or grade continuity appropriate for the Mineral Resource and classifications to be applied.
	Whether sample compositing has been applied.	Core is sampled to lithology; sample compositing is not applied until the estimation stage. RC samples are taken as 1 m samples and 4 m composites during first pass exploration, 1m samples are sent for further analysis if any 4m composites return a gold value > 0.1g/t or intervals containing alteration/mineralisation failed to return a significant composite assay result. For RC Resource definition and grade control drilling 1 m samples are routinely collected. No RC samples greater than 1m were used in estimation.
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 sampling is generally on a high angle to the main mineralisation trends as these are vertical to sub-vertical. Drill holes are drilled on a 60-degree angle, perpendicular to the strike of the mineralisation.
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	The drill orientation to mineralised structures biases the number of samples per drill hole. It is not thought to make a material difference in the Mineral Resource estimation.
Sample security	The measures taken to ensure sample security.	All samples are selected, cut and bagged in tied numbered calico bags, grouped in larger tied plastic bags, and placed in large sample cages with a sample submission sheet. The cages are either sent to the site laboratory or are transported via freight truck to Perth, with consignment note and received by external and independent laboratory. All sample submissions are documented, and all assays are returned via email and hard copy. Sample pulp splits from the site lab are stored at the Jundee mine site and those from the Newburn Lab in Perth are stored at the Newburn Lab. RC samples processed at SGS have had the bulk residue discarded and pulp packets sent to Jundee mine site for long term storage.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Historical audits of all Jundee data were carried out by previous operators. During 2018, 2019, 2020 and 2021 Zaremus Pty Ltd conducted an audit of the site laboratory and audit of the external laboratories. Both audits found the laboratory procedures and performance to be adequate. All recent NSR sample data has been extensively QAQC reviewed both internally and externally.

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 Jundee Project consists of 7 Exploration Licenses, 62 Mining Leases, 1 General Purpose Lease and 1 Prospecting Licence covering a total area of approximately 86,341 Ha. The Leases are 100% registered to Northern Star Resources Ltd. The Project also includes 28 Miscellaneous Licenses, 4 Groundwater Licenses, a Pipeline License and the Jundee Pastoral Lease covering the bore fields, roads, airstrip, and gas pipeline. There are numerous access agreements in place including access rights over part of M53/193 which lies contiguous to, and beneath, the General Purpose Lease on which the Jundee processing plant is located. There are no heritage issues with the current operation. The majority of the Jundee leases are granted Mining Leases prior to 1994 (pre-Mabo) and as such Native Title negotiations are not required. During 2004, two agreements were struck between Ngaanyatjarra Council (now Central Desert Native Title Services (CDNTS)) and Newmont Yandal Operations, these agreements being the Wiluna Land Access Agreement 2004 and the Wiluna Claim Heritage Agreement 2004, both agreements were transferred to Northern Star on purchase of the Jundee Operations in 2014.

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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.	All leases and licences to operate are granted and in the order for between 3 and 21 years.																																																
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Great Central Mines (GCM) first discovered what is now known as the Griffin deposit in 1995 with RC drilling in around the Reid pit. Newmont Mining (NEM) later intercepted the deposit with some deeper surface diamond drilling in 2009. NSR put further surface diamond drilling in at depth in 2021																																																
Geology	Deposit type, geological setting and style of mineralisation.	Jundee is an Archean gold mineralised deposit that is part of the Northern Yandal Greenstone belt. Gold mineralisation is controlled by a brittle fracture-system, is commonly fracture-centred, and is predominantly hosted in dolerite and basalt. Mineralisation can be disseminated or vein style host. The Griffin orebody is hosted in Lyons basalt (hanging wall) and Lyons Dolerite (footwall) with a north-south strike. Gold mineralisation occurs as shear hosted quartz carbonate veins and tectono-hydraulic breccia veins within pale brown-green bleached and strained wall rock. Mineralised zones vary in width from 0.1 m to 2.2 m with visible gold occurrences common.																																																
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: <ul style="list-style-type: none"> o easting and northing of the drill hole collar o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar o dip and azimuth of the hole o down hole length and interception depth o hole length. 	Refer to the drill hole information table in the Appendix of this report for significant assay results for Griffin. All mineralised intercepts are shown in the table.																																																
	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. 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.	All reported assay results have been length weighted to provide a true intersection width where possible. An estimated true thickness has been reported for all intersections in the report. Each mineralised zone intercepted is recorded as a separate line. The width is calculated by identifying the hanging wall and footwall points of the lode geologically and estimating true width based on the lode geometry. The assays for each sample within a mineralised zone are composited to produce the Au grade for the zone.																																																
		<table border="1"> <thead> <tr> <th>Drill Hole #</th> <th>Easting (MGA)</th> <th>Northing (MGA)</th> <th>Drill Hole Collar RL (MGA)</th> <th>Dip (deg)</th> <th>Azimuth (deg, MGA)</th> <th>End of hole depth (m)</th> <th>Downhole From (m)</th> <th>Downhole To (m)</th> <th>Downhole Intersection (m)</th> <th>Au (gpt) uncut</th> <th>Est True Thickness (m)</th> </tr> </thead> <tbody> <tr> <td>CDGC1055</td> <td>258591</td> <td>7082566</td> <td>385</td> <td>-44</td> <td>77</td> <td>424.0</td> <td>69.6</td> <td>70.0</td> <td>0.3</td> <td>13.4</td> <td>0.3</td> </tr> <tr> <td>CDGC1055</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>188.5</td> <td>189.4</td> <td>0.9</td> <td>27.6</td> <td>0.5</td> </tr> <tr> <td>CDGC1055</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>328.6</td> <td>328.9</td> <td>0.3</td> <td>7.9</td> <td>0.3</td> </tr> </tbody> </table>	Drill Hole #	Easting (MGA)	Northing (MGA)	Drill Hole Collar RL (MGA)	Dip (deg)	Azimuth (deg, MGA)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)	CDGC1055	258591	7082566	385	-44	77	424.0	69.6	70.0	0.3	13.4	0.3	CDGC1055							188.5	189.4	0.9	27.6	0.5	CDGC1055							328.6	328.9	0.3	7.9	0.3
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	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 result																																																
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results.	Estimated 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.	Estimated true widths have been calculated for intersections of the known ore zones, based on existing knowledge of the nature of these structures.																																																
	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 intersection and estimated true thickness have been 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 sections 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.	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).	Further extensional, resource definition and grade control drilling are planned for FY2024.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Plans and sections of the Jundee open pit deposits are included in this report.

Jundee: Ramone - 21 November 2023

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 is by both diamond drilling (DD) and Reverse Circulation (RC) drilling completed by NSR. DD samples are HQ and NQ core with sample intervals defined by the geologist to honour geological boundaries ranging from 0.3 to 1.2m in length. RC samples are collected via rig-mounted static cone splitter with sample falling through inverted cone splitter, splitting the sample in 88%/9%/3% ratio. 9% split retained for 1m composites and 3% split retained for 4m composites. 1m samples are sent for further analysis if any 4m composites return a gold value > 0.1g/t or intervals containing alteration/mineralisation failed to return a significant composite assay result. NSR Resource definition and grade control drilling routinely collects 1m composites.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	DD core is aligned and measured by tape, comparing back to down hole core blocks consistent with industry practice. RC metre intervals are delineated with spray paint to determine metres drilled. Sample rejects are left on the sample pad to indicate metres drilled for the hole.
	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.	Diamond drilling is completed to industry standard using varying sample lengths (0.3 to 1.2m) based on geological intervals, which are then crushed and pulverised to produce either a ~200 gm pulp sub sample or 500g 2mm sample depending on assay technique (Fire assay or photon). Diamond core is sampled via both fire assay (30 gm charge) and photon analysis (500g sub sample). Visible gold is occasionally encountered in core and double feldspar flushes are requested to follow. RC sampling to industry standard at the time of drilling where ~3-4kg samples are pulverised to produce a ~200g pulp sample to utilise in the assay process. RC samples are fire assayed (50 gm charge).
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.).	RC drilling is carried out using a face sampling hammer and a 130mm diameter bit. Diamond drilling carried used HQ3 (triple tube) and NQ2 techniques. Core is routinely orientated using the ORI-shot device.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	RC – Approximate recoveries are sometimes recorded as percentage ranges based on a visual and weight estimate of the sample. DD – Recoveries are recorded as a percentage calculated from measured core versus drilled intervals.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	Diamond drilling practice results in high core recovery due to the competent nature of the ground. RC drilling recovery is supervised on the rig and any recovery issues are recorded and rectified.
	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.	There is no known relationship between sample recovery and grade, diamond drill sample recovery is very high.
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.	DD core and RC chip samples have been logged by qualified geologists to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.

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Criteria	JORC Code explanation	Commentary
		Percussion holes logging were carried out on a metre by metre basis and at the time of drilling.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	Logging is qualitative and quantitative; all core is photographed wet. Visual estimates are made of sulphide, quartz and alteration as percentages.
	The total length and percentage of the relevant intersections logged.	100% of all DD and RC drilling is logged.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	DD core is both half cored and full cored for sampling purposes, with core cut using an Almonté diamond core saw. The core is quarter cut when metallurgical samples are required. Sample intervals are defined by a qualified geologist to honour geological boundaries. The left half is archived. All mineralised zones are sampled plus associated visibly barren material in contact with mineralised zones. Core is sampled on the width of the geological/mineralised structure with a minimum sample length of 0.3m and a maximum sample length of 1.2m. Total weight of each sample generally does not exceed 7kg when full core sampled.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	RC drilling uses a cyclone mounted inverted cone splitter.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	DD core is sampled by both fire assay and photon analysis. Fire assay samples are dried at 100°C to constant mass, samples below approximately 4kg are totally pulverised in LMS's to nominally 85% passing a 75µm screen. The few samples generated above 4kg are crushed to <6mm and riffle split first prior to pulverisation. Photon samples are dried at 100°C to constant mass, crushed to 85% passing 2mm, and split with a 500g sub sample for analysis. RC samples are dried at 100°C to constant mass, all samples below approximately 3kg are totally pulverised in LMS's to nominally 85% passing a 75µm screen. Samples generated above 4kg are crushed to <6mm and cone split to nominal mass prior to pulverisation. For RC samples, no formal heterogeneity study has been carried out or monographed. An informal analysis suggests that the sampling protocol currently in use are appropriate to the mineralisation encountered and should provide representative results.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Repeat analysis of pulp samples (all sample types) occurs at an incidence of 1 in 20 samples. Analysis of 2mm coarse crush and split has been completed for three RC bulk cone splitter rejects each of them divided into 32 equal splits.
	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, (i.e., other half of cut core) are routinely assayed. NSR routinely collects field duplicates during RC drilling.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes are considered appropriate. Recent DD core has been whole core sampled to increase sample size. No formal nomograph study has been conducted on the RC primary sub sample split. Industry standard practice supports splitting of primary sub samples at particle sizes of <6mm and P ₈₀ 75µm.
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 RC drill samples, gold concentration was determined by fire assay using the lead collection technique with a 50 gm sample charge weight. MP-AES instrument finish was used to be considered as total gold. For DD drill samples, gold concentration was determined by both fire assay using the lead collection technique with a 30 gm sample charge weight, and photon analysis. Both AAS instrument and photon analysis finish was used to be considered as total gold. Various multi-element suites are analysed using a four-acid digest with an AT/OES finish.
	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.	Not applicable to this report.
	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.	The QAQC protocols used include the following for all drill samples: Field QAQC protocols used for all drill samples include commercially prepared certified reference materials (CRM) inserted at an incidence of 1 in 20 samples. The CRM used is not identifiable to the laboratory with QAQC data is assessed on import to the database and reported monthly, quarterly and yearly. NSR RC Resource Definition and Grade Control drilling routinely inserts field blanks and monitor their performance. Laboratory QAQC protocols used for all drill samples include repeat analysis of pulp samples occurs at an incidence of 1 in 20 samples and screen tests (percentage of pulverised sample passing a 75µm mesh) are undertaken on 1 in 40 samples. The laboratories' own standards are loaded into the database and the laboratory reports its own QAQC data monthly. In addition to the above, about 5% of drill samples are sent to a check laboratory. Samples for check -assay are selected automatically from holes based on the following criteria: grade above 0.5g/t or logged as a mineralised zone or is followed by feldspar flush or blank.

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Criteria	JORC Code explanation	Commentary
		Failed standards are generally followed up by re-assaying a second 50 gm or 30 gm pulp sample of all samples in the fire above 0.1g/t by the same method at the primary laboratory. Both the accuracy component (CRM's and third-party checks) and the precision component (duplicates and repeats) of the QAQC protocols are thought to demonstrate acceptable levels of accuracy and precision.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	Significant intersections are verified by the Senior Resource Geologist.
	The use of twinned holes.	Some recent DD twinned around earlier RC.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Sampling and logging data is digitally entered into a laptop using Logchief software imported into SQL database using semi-automated or automated data entry. Digital assay files are loaded directly into the database. Visual checks are part of daily use of the data in Datamine.
	Discuss any adjustment to assay data.	The first gold assay is almost always utilised for any Mineral Resource estimation except where evidence from re-assaying and/or check-assaying dictates. A systematic procedure utilizing several re-assays and/or check assays is in place to determine when the final assay is changed from the first gold assay.
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.	Collar positions are recorded using conventional survey methods based on Leica TS15 3" total stations and Trimble R10 GNSS instruments. The location of some stations are referenced to state-wide network of Standard Survey Marks (SSM) established and coordinated by the Department of Land Administration (WA Government). Where regional drill hole positions are distant from the SSM network, the worldwide Global Navigational Satellite System (GNSS) network is used. Positional checks are carried out using a combination of existing known positions (usually based on prominent landmarks) and grid referenced information such as ortho-linear rectified photogrammetry based on the Map Gird of Australia MGA94 and a conversion to a Ramone specific local grid. Collar coordinates are recorded in both MGA94 and a Ramone specific local grid. Surface collar RL's have been validated utilising an airborne elevation survey by Arvista in October 2017. Multi shot cameras and gyro units were used for down-hole survey.
	Specification of the grid system used.	Collar coordinates have been recorded in both MGA94 Zone 51 and a Ramone specific local grid. Collars picked up in MGA have been converted to a Ramone local grid. The difference between magnetic north (MN) and true north (TN) is 1° 34' 30". The difference between true north (TN) and AMG84 Zone 51 (AMG GN) is 1° 02' 47". The difference between true north and GDA is zero.
	Quality and adequacy of topographic control.	Topographic control is from Digital Elevation Contours (DEM) 2017, 1m contour data and site surveyed pickups.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	All Ore Reserves are based on a maximum drill hole spacing ranging from 15m x 15m to 40m x 40m and all Mineral Resources are based on a maximum of 60m x 60m. Exploration results in this report range from 15m x 15m drill hole spacing to 60m x 60m.
	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.	Ore Reserves are generally based on 15m x 15m drilling to a maximum of 40m x 40m. Mineral Resources are generally based on 25m x 25m drilling up to a maximum of 60m x 60m. The data spacing and distribution is sufficient to establish geological and/or grade continuity appropriate for the Mineral Resource and classifications to be applied.
	Whether sample compositing has been applied.	Core is sampled to geology; sample compositing is not applied until the estimation stage. RC samples are taken as 1 m samples and 4 m composites during first pass exploration, 1m samples are sent for further analysis if any 4m composites return a gold value > 0.1g/t or intervals containing alteration/mineralisation failed to return a significant composite assay result. For RC Resource definition and grade control drilling 1 m samples are routinely collected. No RC samples greater than 1m were used in estimation.
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 sampling is generally on a high angle to the main mineralisation trends as these are vertical to sub-vertical.
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	The drill orientation to mineralised structures biases the number of samples per drill hole. It is not thought to make a material difference in the Mineral Resource estimation.
Sample security	The measures taken to ensure sample security.	All samples are selected and bagged in tied numbered calico bags, grouped in larger tied plastic bags, and placed in large sample cages with a sample submission sheet. The cages are either sent to the site laboratory or are transported via freight truck to Perth, with consignment note and receipted by external and independent laboratory. All sample submissions are documented, and all assays are returned via email and hard copy.

APPENDIX B: TABLE 1

Criteria	JORC Code explanation	Commentary
		Sample pulp splits from the site lab are stored at the Jundee mine site and those from the Newburn Lab in Perth are stored at the Newburn Lab. RC samples processed at SGS have had the bulk residue discarded and pulp packets sent to Jundee mine site for long term storage.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Historical audits of all Jundee data were carried out by previous operators. During 2018 and 2019, Bruce van Blommestein (Zaremus Pty Ltd) conducted an audit of the site laboratory and audit of the external laboratories. Both audits found the laboratory procedures and performance to be adequate. All recent NSR sample data has been extensively QAQC reviewed both internally and externally.

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.	Ramone is located on Mining Lease M53/347 which 100% owned by Northern Star Resources Limited. The tenement in good standing There are no heritage issues with the current operation. The majority of the Jundee leases are granted Mining Leases prior to 1994 (pre-Mabo) and as such Native Title negotiations are not required. During 2004, two agreements were struck between Ngaanyatjarra Council (now Central Desert Native Title Services (CDNTS)) and Newmont Yandal Operations, these agreements being the Wiluna Land Access Agreement 2004 and the Wiluna Claim Heritage Agreement 2004, both agreements were transferred to Northern Star on purchase of the Jundee Operations in 2014.
	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.	All leases and licences to operate are granted and in the order for between 3 and 21 years.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Not applicable, all the exploration work has been completed by NSR.
Geology	Deposit type, geological setting and style of mineralisation.	Ramone is Archean gold mineralised deposit that is part of the Northern Yandal Greenstone belt. Gold mineralisation is hosted by a granite and controlled by a brittle stockwork fracture-system within a north-easterly trending shear zone. The mineralisation formed by a stockwork of veins with smoky quartz, sulphides, minor carbonate, chlorite and sericite hosted by a monzonitic granite. The mineralisation is intruded by an east-west striking (about 096 degrees) vertical dolerite dyke that cross cuts the mineralisation and is part of a suite of magnetic dolerite dykes that intrudes the Yandal belt in an east-west direction.
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: <ul style="list-style-type: none"> o easting and northing of the drill hole collar o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar o dip and azimuth of the hole o down hole length and interception depth o hole length. 	DD and RC holes have been used in the mineral resource. It is not practical to summarise all the holes here in this release. Future drill hole data will be periodically released or when a result materially change the economic value of the project.
	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 drilling information will not detract from the reader's view 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 significant intercepts have been weighted by an estimated true width of intersect for all drilling. No high grade cut off has been applied.
	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.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	There are no metal equivalents reported in this release.
Relationship between	These relationships are particularly important in the reporting of Exploration Results.	All results are reported as estimated true widths. Intercepts have been composited to wireframed domains in Leapfrog and then processed to calculate true-width intercepts for each specific intercept.

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Criteria	JORC Code explanation	Commentary
mineralisation widths and intercept lengths	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 estimated true width have been clearly specified where 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 estimated true width and downhole intercept lengths have been recorded.
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.	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).	Future planned underground development beneath the existing open pit operation.
	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.

Thunderbox: Wonder - 21 November 2023

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.	Northern Star Resources has completed reverse circulation drilling (RC) and diamond (DD) drilling at Wonder. Sampling methods undertaken at Wonder by previous owners have included rotary air blast (RAB), (RC), and diamond drillholes (DD). Limited historical data has been provided by previous owners.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Sampling for RC and DD drilling is carried out as specified within Northern Star Resources sampling and QAQC procedures as per industry standard. RC chips and diamond core provide high quality representative samples for analysis. RC, RAB and DD core drilling is assumed to have been completed by previous holders to industry standard at that time (1992- 2019).
	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.	RC Chips are cone split and sampled into 1m intervals with total sample weights under 3kg to ensure total sample inclusion at the pulverisation stage. Diamond core is NQ sized, sampled to 1m intervals or geological boundaries where necessary and cut into half core to give sample weights under 3 kg. Samples are selected to weigh less than 3 kg to ensure total sample inclusion at the pulverisation stage. Northern Star Resources core and chip samples are crushed, dried and pulverised to a nominal 85% passing 3mm to produce a 500g sub sample for analysis by Photon Analysis. All RAB, RC and DD and sampling is assumed to have been carried out to industry standard at that time. The majority of recent drillholes have been riffle or cone split to provide 1m samples for analysis. Older drillholes have been sampled via spear sampling or unknown methods. Analysis methods include fire assay and unknown methods.

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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.).	Historic drilling included 1335 RAB holes, 772 RC holes (assumed standard 5 ¼" face sampling hammer bit) 62 RC collar/diamond tail holes, 1228 grade control drillholes and 21 NQ and unknown diameter diamond drillholes. In the period since the previous resource estimate release Northern Star Resources completed 46 diamond holes and 8 RC drillholes at Wonder North. The RC rig was equipped with an external auxiliary booster utilizing a 5.5-inch diameter RC hammer. Diamond drilling was orientated using a Reflex ACT 3 orientation unit. It is unknown if historic diamond drill core was oriented.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	Recoveries for RC drilling are recorded as a percentage based on a visual weight estimate. Historic recoveries have not been recorded
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	During RC drilling daily rig inspections are carried out to check splitter condition, general site and address general issues. It is unknown what, if any, measures were taken to ensure sample recovery and representivity.
	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.	There is no known relationship between sample recovery and grade for RC drilling. Diamond drilling has high recoveries meaning loss of material is minimal. Any historical relationship is not known.
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.	Logging of RC chips and DD core has recorded lithology, mineralogy, texture and colour, mineralisation, weathering, alteration and veining. Geotechnical and structural logging is carried out on all diamond holes to record recovery, RQD, defect number, type, fill material, shape and roughness and alpha and beta angles. Chips from all RC holes are stored in chip trays for future reference. Some historic diamond drilling has been geotechnically logged to provide data for geotechnical studies.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	Core has been photographed in wet state. It is unknown if historic diamond core was photographed.
	The total length and percentage of the relevant intersections logged.	All drillholes completed by Northern Star Resources have been logged in full.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	All drill core is cut in half onsite using an automatic core saw. Samples are always collected from the same side.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	The sampling method for historic drill core is half or quarter core sampled, with some remaining unknown
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	All RC samples are cone split. Occasional wet samples are encountered.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	The sampling methods for the historic RAB and RC drilling include cone split, riffle split, spear and grab sampling as well as some unknown methods
	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.	Historically, Field duplicate samples are carried out at a rate of 1:20 and are sampled directly from the on-board splitter on the rig. These are submitted for the same assay process as the original samples and the laboratory are unaware of such submissions. Currently, field duplicates are taken on every meter directly from the on-board cone splitter on the rig. Selected samples are sent to the lab during the same time as the original assay and the lab is unaware of the corresponding original sample. It is unknown if duplicate sampling was performed on historic RAB, RC and DD drilling. Limited field duplicates were carried out on some more recent RC grade control drilling at a rate of one per hole.
Whether sample sizes are appropriate to the grain size of the material being sampled.	The sampling techniques for historic RAB, RC and DD drilling are unknown, best practice is assumed.	
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.	Prior to 2022, RC chip and diamond core samples are analysed by an external laboratory using a 40g fire assay with AAS finish. This method is considered suitable for determining gold concentrations in rock and is a total digest method. The photon assay technique was introduced at Wonder in 2022. The primary samples are analysed through ALS. For preparation, samples are oven dried at 105 degrees until dry (2+ hours, longer for sludge samples). All samples are fed into a robot where the remaining sample preparation is automated. The robot weighs the samples, crushes the sample through the Boyd crusher to <3 mm. The crushed sample is then split through the smart linear splitter which calculates how to split each individual sample to achieve the 500g quotient. The 500g jar is analysed using PA finish. This method is considered suitable for determining gold concentrations in rock on advanced projects.

APPENDIX B: TABLE 1

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.	Methods for historic RC, RAB and DD drilling included fire assay, aqua regia and unknown methods.
	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.	<p>Certified reference material (standards and blanks) with a wide range of values are inserted into every drillhole at a rate of 1:25 for RC and DD drilling. These are not identifiable to the laboratory.</p> <p>QAQC data returned are checked against pass/fail limits with the SQL database and are passed or failed on import. A report is generated and reviewed by the geologist as necessary upon failure to determine further action.</p> <p>QAQC data is reported monthly.</p> <p>Sample preparation checks for fineness are carried out to ensure a grind size of 90% passing 75 microns.</p> <p>The laboratory performs a number of internal processes including standards, blanks, repeats and checks.</p> <p>QAQC data analysis demonstrates sufficient accuracy and precision.</p> <p>Industry best practice is assumed for previous holders.</p>
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	Significant intercepts are verified by the Geology Manager and corporate personnel
	The use of twinned holes.	No holes are twinned. Selected holes were drilled in close proximity to historic holes to replicate anomalous zones
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Primary data is collated in a set of excel templates utilising lookup codes. This data is forwarded to the Database Administrator for entry into a secure acquire database with inbuilt validation functions.
	Discuss any adjustment to assay data.	Data from previous owners was taken from a database compilation and validated as much as practicable before entry into the Northern Star Resources acquire database
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.	Northern Star drillholes are located using a Leica 1200 GPS with an accuracy of +/- 10mm and +/- 15mm vertically. Downhole surveys are carried out using the Axis Champ Gyro (North Seeking) for diamond drilling and by the Reflex EZ-Gyro for RC on a regular basis, between 10-30m.
	Specification of the grid system used.	MGA Zone 51 grid coordinate system is used. Some historic data drilled on local grid systems has been converted to this grid system
	Quality and adequacy of topographic control.	Topographic contour locally controlled by high resolution RTK drone pickup. This is supported by collar pickups and survey layouts.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	120x120 - 40x40 is the range of exploration space of drilling
	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 drilling is distributed and spaced such that geological and grade continuity can be established to estimate the mineral resource and ore reserve appropriately. The mineralisation is continuous over 1500m strike length, estimation statistics of our various domains support a 40m x 40m exploration drill spacing to effectively define the continuity.
	Whether sample compositing has been applied.	<p>RC pre-collars were composited into 4m zones with anomalous areas resampled into 1m samples</p> <p>Some historic RAB and RC drilling was sampled with 3-4m composite samples. Anomalous zones were resampled at 1m intervals in some cases; it is unknown at what threshold this occurred.</p>
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.	Drillholes are drilled perpendicular to the shear zone and hence intersects dominant structures within the deposit type.
	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.	All drilling from surface has been drilled as close to perpendicular as possible. This has reduced the risk of introducing a sampling bias as far as possible.
Sample security	The measures taken to ensure sample security.	Samples are prepared on site under supervision of Northern Star Resources geological staff. Samples are selected, bagged into tied numbered calico bags then grouped into secured cages and collected by the laboratory personnel.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Sample submissions are documented via laboratory tracking systems and assays are returned via email. Sampling performed by Northern Star staff and contractors is reviewed weekly by senior Northern Star geology personnel including task observations and inspections. Data is reviewed regularly by senior Northern Star geology personnel and low confidence data is excluded from the estimate. Audits and inspections of the commercial assay lab are completed regularly by the Northern Star QA/QC geologist

APPENDIX B: TABLE 1

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 Wonder resources are located on M37/513 held by Northern Star (SR Mining) Pty Ltd which is a wholly owned subsidiary of Northern Star Resources Ltd. Mining Lease 37/513 has a 21-year life held until 2042 and is renewable for a further 21 years on a continuing basis. M37/513 is subject to a 1.5% of the Royalty Base payable to International Royalty Corporation. The tenement lies within the Darlot Native Title Claim area.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	The tenement is subject to one third party royalty and one caveat (118H/067). All production is subject to a Western Australian State Government NSR royalty of 2.5%.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The Bundarra Project area has been subject to over a century of small-scale mining and gold prospecting, much of which has no record. Modern gold exploration first started in the mid-1990's with Mt Edon Gold Mines conducting systematic exploration over the area which resulted in definition of the Wonder prospect. Pacmin Mining Corporation Ltd held the project between 1996 and 2000 and completed resource drilling and modelling. Sons of Gwalia purchased Pacmin Mining in 2000, acquiring access to Wonder in the sale. Following further resource drilling, Sons of Gwalia started mining activities at Wonder from 2002 to 2003 before the company become insolvent in 2004. St Barbara acquired Wonder as part of a larger project purchase, eventually selling the project to Terrain Minerals in 2006. Between 2006 and 2011, Terrain Minerals conducted additional resource drilling, modelling and detailed scoping studies for both open pit and underground mining. In 2011 the project was sold to SR Mining. In 2012, Blight Resources acquired 33.5% stake in SR Mining which included exploration rights at Wonder. Between 2012 and 2019, Blight Resource undertook further resource drilling and modelling but no mining activities occurred. Northern Star Resources Ltd purchased the project in 2019. Overall, historic exploration has defined the geological controls on mineralisation and extent of the gold system at Wonder.
Geology	Deposit type, geological setting and style of mineralisation.	Bundarra is located in the Murrin Domain of the Kurnalpi Terrain. The geology is characterised by large volumes of tonalites and granodiorite with assimilated rafts of mafic xenoliths from the greenstone in which the tonalite laccolith intruded. The Bundarra tonalities have been intruded by a number of Andesites, Lamprophyres and fractionated intrusions such as "mafic granites". Cutting across the tonalites is the NW trending Wonder Shear which dips steeply to the NE. It controls the main mineralised packages that stretches ~1,500m. Quartz veining with chlorite + sericite alteration is closely associated with mineralisation. Geological and structural evidence suggests an overall southerly plunge to the mineralisation, which is indicative of the regional geology.
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: <ul style="list-style-type: none"> o easting and northing of the drill hole collar o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar o dip and azimuth of the hole o down hole length and interception depth o hole length. 	DD and RC holes have been used in the mineral resource. It is not practical to summarise all the holes here in this release. Future drill hole data will be periodically released or when a result materially change the economic value of the project.
	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 drilling information will not detract from the reader's view 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 significant intercepts have been weighted by an estimated true width of intersect with a minimum Au grade of 0.5ppm for RC and DD drilling. No high grade cut off has been applied.
	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.	Intercepts are aggregated with minimum width of 1m and maximum width of 3m for internal dilution.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	There are no metal equivalents reported in this release.
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results.	This announcement includes sufficient detail to clearly illustrate the geometry of the mineralisation and the recent drilling.
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	All drilling from surface has been drilled as close to perpendicular as possible. This has reduced the risk of introducing a sampling bias as far as possible.
	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').	All results are reported as estimated true width intersection lengths. The intercept length is also reported.

APPENDIX B: TABLE 1

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.	All significant exploration results released by Northern Star Resources are accompanied by the appropriate diagrams and maps at the time of the 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.	All results from the recent campaign have been reported, irrespective of success or not. In the event of extremely high assay results a smaller inclusion sub-set interval shall be provided.
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.	A recent drone magnetic survey was conducted over the exploration area highlighting prospective anomaly's for future exploration. Metallurgical, bulk density and waste rock characterisation studies were completed. Groundwater and geotechnical studies are underway.
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).	Northern Star Resources is currently planning follow-up drilling programs to test the extension of intersected mineralisation at depth for the Golden Wonder prospect which sits to the SE of the Wonder North project area.
	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.

Thunderbox: Bannockburn - 21 November 2023

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 methods undertaken by Northern Star at Bannockburn include diamond drilling (DD), reverse circulation (RC) drilling and aircore (AC) drilling. Sampling methods undertaken at Bannockburn by previous owners have included rotary air blast (RAB), reverse circulation (RC) and diamond drillholes (DD). Limited historical data has been provided by previous owners.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Sampling for DD, RC and AC drilling is carried out as specified within Northern Star sampling and QAQC procedures as per industry standard. RC, RAB, and DD core drilling are assumed to have been completed by previous holders to industry standard at that time (1990- 2008).
	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.	RC chips are cone split, both sampled into 4m or 1m intervals with total sample weights under 3kg. Diamond core is NQ or HQ sized, sampled to 1m intervals or geological boundaries where necessary and cut into half core to give sample weights under 3 kg. Samples are selected to weigh less than 3 kg to ensure total sample inclusion at the pulverisation stage. Up until December 2021, Northern Star core and chip samples were crushed, dried and pulverised to a nominal 90% passing 75µm to produce a 40g sub sample for analysis by FA/AAS. Initial RC drilling in the early 1990s included single stage mix and grind sample preparation to create a 300g pulp from which a 50g charge was used for assay determination. In 2022, Northern Star analysis at Bannockburn has moved to Photon Assay preparation which are dried, crushed and pulverised to a nominal 85% passing 3mm prior to splitting. Samples are rotary split and filled in Photon Jars (aiming for a 500g quotient) nominally filled to 85% jar capacity. No other information has been found or supplied so it is assumed all RAB, RC and DD and sampling was carried out to industry standard at that time.
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.).	Historic drilling activities at Bannockburn have included 684 RAB holes, 1694 RC holes (some with diamond tails) and 78 DD holes (HQ, NQ, and unknown diameter). Northern Star has completed 393 RC drillholes, 76 DD drillholes and 1132 AC holes. The RC drilling was completed with a 5.5 inch diameter bit with a face sampling hammer. The rig was equipped with an external auxiliary booster. Diamond drilling was HQ or NQ sized and core was orientated using an ACT III core orientation tool. Some historic HQ core was orientated by unknown methods.
	Method of recording and assessing core and chip sample recoveries and results assessed.	Recoveries for RC and AC drillholes are recorded as a percentage based on a visual weight estimate.

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Criteria	JORC Code explanation	Commentary
Drill sample recovery		Diamond core recovery percentages calculated from measured core versus drilled intervals are logged and recorded in the database No other recoveries have been provided, it is unknown if they were recorded.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	During RC and AC drilling daily rig inspections are carried out to check splitter condition, general site and address general issues. Measures were taken to suppress groundwater. Diamond core is reconstructed into continuous runs on an angle iron cradle for orientation marking. Depths are checked against depth given on the core blocks. It is unknown what, if any, measures were taken to ensure sample recovery and representivity
	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.	There is no known relationship between sample recovery and grade for RC or AC drilling. Diamond drilling has high recoveries meaning loss of material is minimal. Any historical relationship is not known.
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.	Logging of RC and AC chips and DD core record lithology, mineralogy, texture, mineralisation, weathering, alteration and veining. Chips from all RC holes are stored in chip trays for future reference. Geotechnical and structural logging is carried out on all diamond holes to record recovery, RQD, defect number, type, fill material, shape and roughness and alpha and beta angles. Some historic diamond drilling has been photographed and geotechnically logged. Core is photographed in both dry and wet state. It is unknown if all diamond core was photographed.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	Qualitative and quantitative logging of historic data varies in its completeness
	The total length and percentage of the relevant intersections logged.	All drillholes completed by Northern Star have been logged in full.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	All drill core is cut in half onsite using an automatic core saw. Samples are always collected from the same side. The sampling method for most historic drill core is unknown. Some historic core was half core sampled.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	All RC samples were cone split. Occasional wet samples were encountered. AC drillholes were spear sampled RC drilling carried out in the 1990s includes spear sampled composites and riffle split 1m samples. RAB drilling was spear sampled. More recent RC drilling has been riffle split or spear sampled. Some sampling methods remain unknown.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	The sample preparation of RC and AC chips and DD core adheres to industry best practice. It is conducted by a commercial laboratory and involves oven drying, coarse crushing then total grinding to a size of 90% passing 75 microns for fire assay and 85% passing 3mm for Photon Analysis. Given the advanced nature of Bannockburn, the >0.03g/t detection level provided by Photon Analysis is considered appropriate for defining the resource. The sample preparation of 1990s RC drilling involved a single stage mix and grind method, more recent RC drilling involved a total preparation method. The sampling techniques for much of the remaining historic RAB, RC and DD drilling are unknown, best practice is assumed.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	All subsampling activities are carried out by commercial laboratory and are considered to be satisfactory Best practice is assumed at the time of historic RAB, DD and RC sampling.
	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.	Historically, Field duplicate samples are carried out at a rate of 1:20 and are sampled directly from the on-board splitter on the rig. These are submitted for the same assay process as the original samples and the laboratory are unaware of such submissions. Currently, field duplicates are taken on every meter directly from the on-board cone splitter on the rig. Selected samples are sent to the lab during the same time as the original assay and the lab is unaware of the corresponding original sample. It is unknown if duplicate sampling was performed on historic RAB, RC and DD drilling. Limited field duplicates were carried out on some more recent RC grade control drilling at a rate of one per hole.
Whether sample sizes are appropriate to the grain size of the material being sampled.	Analysis of data determined sample sizes were considered to be appropriate.	

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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.	RC chip samples and DD core samples are analysed by an external laboratory using a 40g fire assay with AAS finish. AC samples are analysed using a 25g aqua regia digest. Both methods are considered suitable for determining gold concentrations in rock and are total digest methods. Limited historic samples were assayed using a leachwell digest and AAS finish in the onsite laboratory. The photon assay technique was introduced at Bannockburn in 2022. The primary samples are analysed through Intertek. For preparation, samples are oven dried at 105 degrees until dry (2+ hours). All samples are fed into a robot where the remaining sample preparation is automated. The robot weighs the samples, crushes the sample through the Boyd crusher to <3 mm. The crushed sample is then split through the smart linear splitter which calculates how to split each individual sample to achieve the 500g quotient. The 500g jar is analysed using PA finish. Other assay methods for exploration RC, RAB and DD drilling included fire assay with AAS finish, aqua regia with AAS finish and unknown methods.
	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.	It is unknown if any instruments of this nature have been used at Bannockburn historically. None have been used in the past 5 years.
	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 material (standards and blanks) with a wide range of values are inserted into every drillhole at a rate of 1:25 for RC, DD and AC. These are not identifiable to the laboratory. QAQC data returned are checked against pass/fail limits with the SQL database and are passed or failed on import. A report is generated and reviewed by the geologist as necessary upon failure to determine further action. QAQC data is reported monthly. Sample preparation checks for fineness are carried out to ensure a grind size of 90% passing 75 microns. The laboratory performs a number of internal processes including standards, blanks, repeats and checks. QAQC data analysis demonstrates sufficient accuracy and precision. Industry best practice is assumed for previous holders.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	Significant intercepts are verified by the Geology Manager and corporate personnel
	The use of twinned holes.	Specific drilling programs consisting of twinned holes are not apparent. However, grade control from both open pit and underground operations have confirmed the width and grade of previous exploration drilling.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Primary data is collated in a set of excel templates utilising lookup codes. This data is forwarded to the Database Administrator for entry into a secure acQuire database with inbuilt validation functions. Data from previous owners was taken from a database compilation and validated as much as practicable before entry into the Northern Star acQuire database
	Discuss any adjustment to assay data.	No adjustment to assay data appears to have been made
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.	Northern Star drillholes are located using a Leica 1200 GPS with an accuracy of +/- 10mm. Downhole surveys are carried out using the Axis Champ Gyro (North Seeking) for diamond drilling and by the Reflex EZ-Gyro for RC on a regular basis, between 10-30m. Collar locations for early 1990s RC, RAB and DD drilling were surveyed using an EDM theodolite. The precision of this equipment is unknown. Downhole surveys were carried out using a CHAMP downhole electronic multishot system. More recent drilling has collar locations surveyed by unknown GPS and DGPS equipment, while downhole surveys have been carried out at regular intervals by unknown methods.
	Specification of the grid system used.	MGA Zone 51 grid coordinate system is used. Some historic data drilled on local grid systems has been converted to this grid system
	Quality and adequacy of topographic control.	Topographic contour locally controlled by high resolution RTK drone pickup. This is supported by collar pickups and survey layouts.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	AC drilling was carried out on a broad 400x200m to 600x800m grid, with some closer spacing (50x50m) designed to test geophysical and geochemical targets. RC and Diamond drilling has been carried out on a 120x120 – 35x35m 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 drilling is distributed and spaced such that geological and grade continuity can be established to estimate the mineral resource and ore reserve appropriately. The mineralisation is continuous over a 2km strike length, therefore the 35m x 35m exploration drill spacing effectively defines the continuity. The tight drill spacing at the exploration and mineral resource definition stage highlight the complex nature of some areas of the resource.
	Whether sample compositing has been applied.	RC and AC sampling has been composited into 4m samples with mineralised areas resampled to 1m intervals

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Criteria	JORC Code explanation	Commentary
		Historic 1990s RC drilling was sampled on 6m composites due to the depth of overburden, with significant gold results being resampled in 1m intervals. Historic RAB drilling was generally 4m composite sampled with anomalous zones resampled to 1m intervals. Some more recent RC drilling was composited into 3m or 4m samples with areas of interest resampled to 1m.
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.	Due to the variability in the dip direction of the various lodes at Bannockburn, drilling has been orientated in multiple directions to ensure all mineralisation has been tested effectively. This ensures that minimal bias is introduced when sampling.
	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.	All drilling from surface has been drilled as close to perpendicular as possible. This has reduced the risk of introducing a sampling bias as far as possible. Multiple drill orientations have been used to test the variably orientated mineralisation.
Sample security	The measures taken to ensure sample security.	Samples are prepared on site under supervision of Northern Star geological staff. Samples are selected, bagged into tied numbered calico bags then grouped into secured cages and collected by the laboratory personnel. Sample submissions are documented via laboratory tracking systems and assays are returned via email
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	An internal review of companywide sampling methodologies was conducted to create the current sampling and QAQC procedures. No external audits or reviews have been conducted.

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 Bannockburn pit and associated infrastructure is located across M37/339, M37/340, M37/360, and M37/361. The tenements are 100% held by Northern Star (Thunderbox) Pty Ltd, a wholly owned subsidiary of Northern Star Resources Ltd. The mining leases have a 21 year life and are all held until 2034. All are renewable for a further 21 years on a continuing basis. The tenements are all subject to a royalty of \$25 p/oz over 33,000 and up to 73,000 oz of gold produced from the Resources, and \$1 p/oz on each ounce of gold after 73,000 oz of gold produced from the Resource payable to Challenger Gold Operations Pty Ltd. All production from the Tenements are subject to a Western Australia state government NSR royalty of 2.5%. There are two registered heritage sites located over the tenements: Bannockburn 1 site (Place ID 1119) located over M37/361 and Koara Camp site (Place ID 1522) located over M37/339 and M37/340. There are no caveats relating to the tenements. The tenements lie within the Darlot Native Title Claim area.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	The tenements are in good standing and the license to operate already exists.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Gold was discovered at Bannockburn in the late 1800s with small scaled workings on the deposit until the 1950s. Modern exploration began in the late 1970s with initial exploration targeting nickel sulphides before gold exploration began in 1979. Exploration activities by numerous companies including Freeport of Australia, Kulim Limited and Arboyne took place until Dominion purchased the project and commenced mining in 1991. Dominion pushed brownfields exploration which included aeromagnetic surveys, soil sampling, and RAB and RC drilling and led to the discovery of neighbouring deposits North Well, Blue Tank and Slaughter Yard. The Bannockburn mine was placed on care and maintenance in 1995 and by 1996 was back up and running under the management of Consolidated Gold Mines. Subsequent liquidation of the parent company to CGM, saw Arrow Resources continue on with mining until the reserves were exhausted in 1998. They re-evaluated the nickel sulphide potential. Breakaway Resources acquired the project which was then purchased by LionOre Australia in 2005. LionOre Australia NL retained the ground prospective for gold and divested ground considered prospective for nickel to Jubilee Mines. LionOre was then taken over by Norilsk Nickel Australia Pty Ltd in August 2007. Norilsk carried out diamond and RC drilling programmes, geochemical and geophysical surveys and reviews. Review of the base metal potential was carried out in 2010 and Bannockburn AU resource review and geological review was completed in 2011.
Geology	Deposit type, geological setting and style of mineralisation.	The Bannockburn deposit is located along the western margin within the central portion of the Norseman-Wiluna greenstone belt. Locally the project area is dominated by an extensive sequence of tholeiitic, high-Mg and komatiitic basalts with intercalated sedimentary and intermediate volcanoclastic horizons. Dolerite and gabbro sills intrude the sequence. The deposit is complex with multiple controlling factors. The gross geometry of the deposit is controlled by the Bannockburn fault, a steeply dipping NNW trending fault that is continuous over at least 2.3km on the western margin of the orebody. The fault separates an ultramafic unit in the west from the Bannockburn host sequence in the east. It dips steeply east, rolling to vertical and steep west dipping in the northern part of the orebody. The Bannockburn fault is effectively the western boundary to the orebody with very little mineralisation penetrating the western side of the fault. The Central fault which hosts the Central orebody has a shallow northerly plunge and is the orebody on which the majority of the underground workings is focused.

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Criteria	JORC Code explanation	Commentary
		There are a series of steeply east dipping lodes in the hangingwall of the central lode; these are interpreted as either tensional veins of reverse faults with shearing present along the veins. Black graphic shale units present within the stratigraphy have acted as a localised control on the mineralisation. The black shale units have taken up some of the deformation with stratigraphy parallel shearing and mafic sequences between the shales have extended to form steep east dipping extension veins.
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: <ul style="list-style-type: none"> o easting and northing of the drill hole collar o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar o dip and azimuth of the hole o down hole length and interception depth o hole length. 	A total of 2,257 holes have been used in the mineral resource and are deemed to be material. It is not practical to summarise all of the holes here in this release.
	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 drilling information will not detract from the reader’s view of the report. Material data has been previously released to the ASX: 04/05/2023, 15/11/2022, 03/05/2022, 30/04/2019, 18/02/2019, 27/11/2018
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 significant intercepts have been weighted by an estimated true width of intersect with a minimum Au grade of 1ppm for RC and DD drilling or 20ppb for AC drilling. No high grade cut off has been applied.
	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.	Intercepts are aggregated with minimum width of 1m and maximum width of 3m for internal dilution. Where stand out higher grade zone exist with in the broader mineralised zone, the higher-grade interval is reported also
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	There are no metal equivalents reported in this release.
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results.	All results are reported as estimated true widths.
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	Intercepts have been composited to wireframed domains and then processed in datamine to calculate dynamic true-width intercepts for each specific intercept.
	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 estimated true width and downhole intercept lengths have been recorded.
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.	All significant exploration results released by Northern Star are accompanied by the appropriate diagrams and maps at the time of the 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.	All results from the recent campaign have been reported, irrespective of success or not.
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.	Various geophysical surveys have been carried out over the Bannockburn deposit in an effort to delineate structure and mineralisation including magnetics, gravity, CSMAT (Controlled Source Audio Magneto Telluric), radiometrics and SAM (sub-audio magnetics). CSMAT was deemed ineffective due to penetration issues while other methods returned varying results. Waste rock characterisation is underway. Geotechnical drilling and groundwater drilling studies are anticipated to occur during the next financial year.
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).	Northern Star is currently reviewing its recent exploration programs and identifying further opportunity to extend the Bannockburn deposit distal to the known mineral resource. Continued resource infilling has been planned based on the recent success of the project.
	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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Thunderbox: Sundowner - 21 November 2023

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 is by both diamond drilling (DD) and Reverse Circulation (RC) drilling completed by Northern Star Resources (NSR). DD samples are HQ and NQ core with sample intervals defined by the geologist to honour geological boundaries ranging from 0.3 to 1.2m in length. RC samples are collected via rig-mounted static cone splitter with sample falling through inverted cone splitter, splitting the sample in 88%/9%/3% ratio. 9% split retained for 1m composites and 3% split retained for 4m composites. 1m samples are sent for further analysis if any 4m composites return a gold value > 0.1ppm or intervals containing alteration/mineralisation failed to return a significant composite assay result. NSR Resource definition and grade control drilling routinely collects 1m composites.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	DD core is aligned and measured by tape, comparing back to down hole core blocks consistent with industry practice. RC metre intervals are delineated with spray paint to determine metres drilled. Sample rejects are left on the sample pad to indicate metres drilled for the hole.
	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.	Diamond drilling is completed to industry standard using varying sample lengths (0.3 to 1.2m) based on geological intervals, which are then crushed and pulverised to produce a ~200g pulp sub sample to use in the assay process. Diamond core samples are fire assayed (30g charge) and screen fire assayed for visible gold. Visible gold is occasionally encountered in core. RC sampling to industry standard at the time of drilling where ~3-4kg samples are pulverised to produce a ~200g pulp sample to utilise in the assay process. RC samples are fire assayed (50g charge). Selected RC and diamond pulp samples are assayed (0.2g charge) for multiple elements by 4-acid digest and ICP-MS analysis
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.).	RC drilling is carried out using a face sampling hammer and a 130mm diameter bit. Diamond drilling carried used HQ3 (triple tube) and NQ2 techniques. Core is routinely orientated using the ORI-shot device.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	RC – Approximate recoveries are sometimes recorded as percentage ranges based on a visual and weight estimate of the sample. DD – Recoveries are recorded as a percentage calculated from measured core versus drilled intervals.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	Diamond drilling practice results in high core recovery due to the competent nature of the ground. RC drilling recovery is supervised on the rig and any recovery issues are recorded and rectified.
	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.	There is no known relationship between sample recovery and grade, diamond drill sample recovery is very high.
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.	DD core and RC chip samples have been logged by qualified geologists to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. RC holes logging were carried out on a metre-by-metre basis at the time of drilling.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	Logging is Qualitative and Quantitative; all core is photographed wet. Visual estimates are made of sulphide, quartz and alteration as percentages.
	The total length and percentage of the relevant intersections logged.	100% of all DD and RC drilling is logged.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	DD core is halved with an Almonté diamond core saw. The core is quarter cut when metallurgical samples are required. Sample intervals are defined by a qualified geologist to honour geological boundaries. The left half is archived. All mineralised zones are sampled plus associated visibly barren material in contact with mineralised zones. Core is sampled on the width of the geological/mineralised structure with a minimum sample length of 0.3m and a maximum sample length of 1.2m. Total weight of each sample generally does not exceed 5kg.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	RC drilling uses a cyclone mounted inverted cone splitter.

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Criteria	JORC Code explanation	Commentary
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	DD core is dried at 100°C to constant mass, all samples below approximately 4kg are totally pulverised in LM5's to nominally 90% passing a 75µm screen. The few samples generated above 4kg are crushed to <6mm and riffle split first prior to pulverisation. RC samples are dried at 100°C to constant mass, all samples below approximately 3kg are totally pulverised in LM5's to nominally 85% passing a 75µm screen. Samples generated above 4kg are crushed to <6mm and cone split to nominal mass prior to pulverisation. For RC samples, no formal heterogeneity study has been carried out or monographed. An informal analysis suggests that the sampling protocol currently in use are appropriate to the mineralisation encountered and should provide representative results.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Repeat analysis of pulp samples (all sample types) occurs at an incidence of 1 in 20 samples. Analysis of 2mm coarse crush and split has been completed for three RC bulk cone splitter rejects each of them divided into 32 equal splits.
	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, (i.e., other half of cut core) are routinely assayed. NSR routinely collects field duplicates during RC drilling.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes are considered appropriate. No formal nomograph study has been conducted on the RC primary sub sample split. Industry standard practice supports splitting of primary sub samples at particle sizes of <6mm and P ₈₀ 75µm.
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 RC drill samples, gold concentration was determined by fire assay using the lead collection technique with a 50-gram sample charge weight. MP-AES instrument finish was used to be considered as total gold. For DD drill samples, gold concentration was determined by fire assay using the lead collection technique with a 30-gram sample charge weight. AAS instrument finish was used to be considered as total gold. Various multi-element suites are analysed using a four-acid digest with an AT/OES finish.
	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 derived analyses are reported.
	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.	The QAQC protocols used include the following for all drill samples: <ul style="list-style-type: none"> - Field QAQC protocols used for all drill samples include commercially prepared certified reference materials (CRM) inserted at an incidence of 1 in 20 samples. The CRM used is not identifiable to the laboratory with QAQC data is assessed on import to the database and reported monthly, quarterly and yearly. - NSR RC Resource definition and grade control drilling routinely inserts field blanks and monitor their performance. - Laboratory QAQC protocols used for all drill samples include repeat analysis of pulp samples occurs at an incidence of 1 in 20 samples and screen tests (percentage of pulverised sample passing a 75µm mesh) are undertaken on 1 in 40 samples. - The laboratories' own standards are loaded into the database and the laboratory reports its own QAQC data monthly. - In addition to the above, about 5% of drill samples are sent to a check laboratory. Samples for check -assay are selected automatically from holes based on the following criteria: grade above 0.5gpt or logged as a mineralised zone or is followed by feldspar flush or blank. - Failed standards are generally followed up by re-assaying a second 50g or 30g pulp sample of all samples in the fire above 0.1ppm by the same method at the primary laboratory. Both the accuracy component (CRM's and third-party checks) and the precision component (duplicates and repeats) of the QAQC protocols are thought to demonstrate acceptable levels of accuracy and precision.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	Significant intersections not verified.
	The use of twinned holes.	There is no purpose drilled twin holes.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Sampling and logging data are digitally entered into a tablet using Logchief software imported into SQL database using semi-automated or automated data entry. Digital assay files are loaded directly into the database. Visual checks are part of daily use of the data in Vulcan.
	Discuss any adjustment to assay data.	The first gold assay is almost always utilised for any Resource estimation except where evidence from re-assaying and/or check-assaying dictates. A systematic procedure utilizing several re-assays and/or check assays is in place to determine when the final assay is changed from the first gold assay.

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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.	Collar positions are recorded using conventional survey methods based on Leica TS15 3" total stations and Trimble R10 GNSS instruments. The location of each station is referenced to state-wide network of Standard Survey Marks (SSM) established and coordinated by the Department of Land Administration (WA Government). Where regional drill hole positions are distant from the SSM network, the worldwide Global Navigational Satellite System (GNSS) network is used. Positional checks are carried out using a combination of existing known positions (usually based on prominent landmarks) and grid referenced information such as ortho-linear rectified photogrammetry based on the Map Gird of Australia MGA2020. Collar coordinates are recorded in MGA2020. Surface collar RL's have been validated utilizing an airborne elevation survey by NSR in October 2023. Multi shot cameras and gyro units were used for down-hole survey.
	Specification of the grid system used.	Collar coordinates are recorded in MGA2020 Zone 51. The difference between magnetic north (MN) and true north (TN) is 1° 34' 30". The difference between true north (TN) and AMG84 Zone 51 (AMG GN) is 1° 02' 47". The difference between true north and GDA is zero.
	Quality and adequacy of topographic control.	Topographic control is from using RTX GPS function to utilise ground control points in GDA94 to create a drone surface accurate to +/- 50mm
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Exploration results in this report range from 20m x 40m drill hole spacing to 40m x 80m.
	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 sufficient to establish geological and/or grade continuity appropriate for the Mineral Resource and classifications to be applied.
	Whether sample compositing has been applied.	Core is sampled to geology; sample compositing is not applied until the estimation stage. RC samples are taken as 1 m samples and 4 m composites during first pass exploration, 1m samples are sent for further analysis if any 4m composites return a gold value > 0.1ppm or intervals containing alteration/mineralisation failed to return a significant composite assay result. For RC Resource definition and grade control drilling 1 m samples are routinely collected. No RC samples greater than 1m were used in estimation.
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 sampling is generally on a high angle to the main mineralisation trends as these are vertical to sub-vertical. Drill holes are drilled on a 60-degree angle, perpendicular to the strike of the mineralisation.
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	The drill orientation to mineralised structures biases the number of samples per drill hole. It is not thought to make a material difference in the Resource estimation.
Sample security	The measures taken to ensure sample security.	All samples are selected, cut and bagged in tied numbered calico bags, grouped in larger tied plastic bags, and placed in large sample cages with a sample submission sheet. The cages are either sent to the site laboratory or are transported via freight truck to Perth, with consignment note and receipted by external and independent laboratory. All sample submissions are documented, and all assays are returned via email and hard copy. Sample pulp splits from the Perth lab are stored at the Bronzewing mine site. RC samples processed at Intertek have had the bulk residue discarded and pulp packets sent to Bronzewing mine site for long term storage.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Historical audits of all Jundee data were carried out by previous operators. During 2018 and 2019, Bruce van Bloomstein (Zaremus Pty Ltd) conducted an audit of the site laboratory and audit of the external laboratories. Both audits found the laboratory procedures and performance to be adequate. All recent NSR sample data has been extensively QAQC reviewed both internally and externally.

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 Sundowner Project is within the Yandal region and consists of 46 Exploration Licenses, 96 Mining Leases, 32 Prospecting Leases and 1 General Purpose Lease covering a total area of over 275,000 Ha. Tenements are variously registered (via Northern Star or wholly-owned subsidiaries), with Northern Star Resources Limited being the beneficial registered owner. There are also a number of minor joint-venture tenements throughout the Yandal portfolio, with registration details reflecting these agreements. The Project also includes 32 Miscellaneous Licenses, 3 Groundwater Licenses, a Pipeline License and the Jundee Pastoral Lease covering the bore fields, roads, airstrip, and gas

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Criteria	JORC Code explanation	Commentary
		<p>pipeline. There are numerous access agreements in place, including access rights over part of M53/193 which lies contiguous to, and beneath, the General Purpose Lease on which the Jundee processing plant is located.</p> <p>There are no heritage issues with the current operation. A significant proportion of the Yandal leases are granted Mining Leases prior to 1994 (pre-Mabo) and as such Native Title negotiations are not required. During 2004, two agreements were struck between Ngaanyatjarra Council (now Central Desert Native Title Services (CDNTS)) and Newmont Yandal Operations, these agreements being the Wiluna Land Access Agreement 2004 and the Wiluna Claim Heritage Agreement 2004, covering the northern (Jundee) group of leases, both agreements were transferred to Northern Star on purchase of the Jundee Operations in 2014. The existing Heritage agreement with the Kultju, covering the central group of leases in the Yandal Project was transferred to Northern Star on purchase of the Echo Resources Bronzewing Operations during 2019.</p>
	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.	All leases and licences to operate are granted and in the order for between 1 and 21 years.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	All the reported exploration work has been completed by NSR.
Geology	Deposit type, geological setting and style of mineralisation.	<p>Drilling has intersected primary and supergene mineralised domains at Sundowner Prospect:</p> <p>Primary Lode – quartz-carbonate-pyrite-pyrrhotite and minor visible gold within discreet brittle ductile fault as part of a conjugate fault set within a sequence of tholeiitic basalt flows. An increase in sericite-albite and minor biotite alteration is observed in the fault zone within the unit.</p> <p>Supergene Lodes – Two parallel N-S supergene horizons ~45m vertical depth have been identified with the eastern horizon blanketing the primary lode.</p>
Drill hole Information	<p>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:</p> <ul style="list-style-type: none"> o easting and northing of the drill hole collar o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar o dip and azimuth of the hole o down hole length and interception depth o hole length. <p>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.</p>	<p>A select group of Sundowner intercepts are reported in this release with all details.</p> <p>Historical AC/RAB drilling results were excluded, and the exclusion of the drill information will not detract from the understanding of the report.</p>
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 significant intercepts have been length weighted with a minimum Au grade of 0.5g/t. No high grade cut off has been applied.
	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.	<ul style="list-style-type: none"> ▪ Intercepts are aggregated with minimum width of 0.2m and maximum width of 2m for internal dilution. ▪ Where present, higher-grade values are included in the intercepts table, with assays > 10 gram-metres stated on a separate row with text stating “including”.
	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.	Drilling is generally perpendicular to supergene mineralisation and oblique to the primary mineralised corridor. True widths of the mineralised intercepts are estimated based on the angle of intercept through the interpreted ore lode orientation.
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	All results are reported as estimated true widths.
	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’).	All results are labelled and reported as estimated true widths.
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 map and section are included in the body of this 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.	All significant intercepts are reported in the attached table, and those greater than ten-gram meters are shown on the cross section in the report.
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.	All material exploration data has been reported within the report body.
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 infill and extensional RC drilling is planned to define and extend the deposit along strike and down dip. To gain more understanding of this early-stage project.
	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 are included in the body of this report.

Pogo: Star - 21 November 2023

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.	The Star Prospect was sampled from HQ diamond drill hole core (DD) completed from a surface drill campaign during 2022.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Geological and mineralisation boundaries are identified by professional geologists; such boundaries are not crossed for sampling purposes. Diamond core sampling intervals are set at a minimum sample width of 0.5ft (0.15m) and a maximum sampled interval of 5ft (1.52m). Sampled intervals are measured and plotted once they are received for record keeping and validation. Gold and multi-element assays are plotted against core logs into their designated sample intervals.
	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.	All drill core is comprehensively logged; intervals for assay sampling are selected based upon geological and mineralogical observations by professional geologists. Assay samples are not normally collected across lithological nor mineralisation boundaries. Exploration Core Drilling: Drill core is cut using an Almonte core saw. Half-cut core is submitted for analysis. The non-assayed portion of the core is stored on-site. When HQ samples are half-core cut, the maximum sample is extended to 5ft (1.52m). Quartz vein, fault zones, silica flooding, quartz stockwork zones and strongly altered host rocks are sampled. The adjacent five feet (1.52m) above and below mineralised zones are also sampled. Samples are crushed to 70% passing 2mm. A 250 gm sub-split is taken which is then pulverised. A 30 gm sub-sample of all sample types is then selected for fire assay with an atomic absorption spectroscopy (AAS) finish.
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.).	Diamond core drilling has been carried out only from the surface at Star. Surface drill holes are typically collared using PQ / HQ diameters; they are rarely reduced to NQ2, only where necessary. Core drilled was oriented using the Reflex Act III tool on all holes.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	Core recovery is recorded for all drilled holes. Recovery is measured to the tenth of a foot (~3cm) and is recorded in the Recovery tab using Rockware Logplot 7 software. Recovery percentages are excellent (well above 95% core recovered). No significant issues with core loss are known.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	Core is measured, cut, sampled and bagged for shipments at Pogo's core processing facility. Drill contractors adjust their rate of drilling and method if recovery issues arise. All recovery footages are recorded by the drillers on core blocks. Blocks are checked and compared to the measurements of the core by geologists. Discrepancies are reviewed with 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.	Star Prospect has no known relationship between sample recovery and grade. Overall recoveries are excellent and no significant issues with core loss are apparent.

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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.	Core logging is carried out in accordance with Pogo Exploration core logging procedures. Data recorded includes lithology, structure, alteration assemblages, oxide/sulphide mineralogy, geotechnical parameters (recovery and RQD), and the presence of visible gold and associated minerals. Drill core is logged electronically using the Acquire database system has been utilized. Logging and sampling are consistent with industry standards. Lithology is measured to the tenth of a foot (~3cm) scale marked from the closest core block. Rock codes are specific to this project. Logs are completed in sufficient levels of detail to support current Mineral Resource estimation and mining practices.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	Geology logging is qualitative in nature with visual estimates made of mineralisation percentages for core. Structural and geotechnical logging is quantitative in nature. All core is photographed wet as standard practice.
	The total length and percentage of the relevant intersections logged.	All drill holes are logged in full, from start to finish of the hole. All intersections are logged.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	DD core was orientated (where possible), measured and then sampled by cutting the core in half longitudinally using an "Almonte" diamond saw. The same half of the core is selected for each sample interval, placed in numbered calico bags and submitted to the laboratory for analysis. The other half of the core is left in core trays which are stored and catalogued.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	Only diamond core is drilled at Pogo and on the Star Prospect.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	All sample preparation and assaying of Pogo drill core is undertaken by Australian Laboratory Services (ALS). Pogo sends drill core to Fairbanks, Alaska with pulps sent to ALS laboratories Vancouver, British Columbia or Reno, NV, USA for assay. Industry standard chain of command paperwork is maintained. Typically, gold assays are completed in Reno or Vancouver and the multi-element assays are completed in Vancouver or at another ALS laboratory. Sample preparation includes drying, crushing to 70% passing 2 mm, splitting of a 250 gm subsample, and pulverising to 85% passing 75 µm. Sample preparation techniques are appropriate for the Pogo intrusion-related style of mineralisation.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Pogo Mine uses an industry standard QAQC programme involving standards, blanks and field duplicates, Standards are introduced in the assay batches at a rate of three control samples per every twenty-one half-core samples. QC results are analysed immediately upon return of a sample batch and reported to management monthly. Overall results show no significant QAQC issues with the analytical laboratory. No systematic bias observed. Protocols are in place to manage failed QAQC results. In addition to Pogo QAQC, both analytical laboratories are ISO certified and conduct rigorous internal QAQC checks. Internal QAQC reports are provided to Pogo personnel. To date, these reports have not indicated any systematic issues with the quality of the analysis provided.
	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 are submitted when half core is taken to ensure that the sampling is representative of the in-situ material being collected.
Whether sample sizes are appropriate to the grain size of the material being sampled.	Grind checks are performed at both the crushing stage (3 mm) and pulverising stage (75 µm) requiring 90% of material to report through the relevant size for a pass. These material sizes appear to be acceptable for the intrusion-related mineralization style and fine material grain size present.	
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.	Core samples are analysed using industry standard analytical techniques. For exploration purposes, gold content is determined by a 30 gm fire assay with an atomic absorption finish (AAS). Exploration results analysed by fire assay with the AAS finish returning > 10 ppm (0.292 oz/ton) gold are re-assayed by fire assay with a gravimetric finish. Select samples, generally one in every five holes drilled, are assayed for forty-five elements multi-acid digestion and ICP-MS/ES finish. This technique is considered appropriate for the style of mineralisation under consideration.
	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 in this release.
	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.	Quality control samples are inserted into the sample stream. A mixture of both Certified Reference Materials and certified standards, blanks and duplicates are inserted randomly. Pogo Exploration aims to achieve an insertion rate of approximately three in every twenty core samples. The Pogo Mine both generates its own in-house blank certified standards and uses Certified Reference Materials (CRMS) sourced from OREAS Laboratories. Blank standards are prepared with a four laboratory round-robin assay study to determine values and acceptable limits. Commercially purchased sand is also used as blank material. Monitoring of QA/QC results is performed by the resource geologists upon importing the individual assay certificates into the drill hole database. When failures occur, the resource geologists notify the geologist responsible for logging the drill hole or the core processing facility supervisor.

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Criteria	JORC Code explanation	Commentary
		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.	Significant intersections are routinely inspected by senior company personnel. Core and core photographs of significant intersections reviewed to ensure mineralised zones are consistent with known Pogo mineralisation styles.
	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.	All data are stored and validated within the site Acquire database. Data import into the database is controlled by documented standard operating procedures, and by a set of validation tools included in Acquire import routines. Hard copies and electronic copies of all primary location, logging and sample results data are filed for each hole. Assay results are received in .csv format and loaded directly into the database by the supervising geologist who then checks that the results have inserted correctly.
	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.	Drill rigs are aligned using the Reflex TN14 Gyrocompass. On surface, collar locations are surveyed using a Leica RTK-GPS survey station. Surface drill holes are surveyed every 200 ft. A final survey is taken at the end of all drill holes. Deviation from the initial survey is checked against plan. The hole is redrilled if there is excessive deviation (>5%). There are no mine workings near the Star Prospect area to date.
	Specification of the grid system used.	The grid system used is the North American Datum of NAD83 (NAD83) AKSP-3.
	Quality and adequacy of topographic control.	High quality LIDAR topographic mapping is utilised at Pogo.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	The Star Prospect is in the initial phases of surface exploration drilling. Drill hole spacing is variable; this depends upon the terrain, permitted sites locations and the geological objectives that are being drilled.
	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.	Current drill hole spacing is sufficient to establish geological continuity across wide areas of the Star Vein structure.
	Whether sample compositing has been applied.	No sample compositing has been applied prior to submission of samples for analysis.
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 are designed to intersect the mineralisation as perpendicular as possible to the principal vein geometries. In some circumstances, terrain obstacles may result in drill positions that are at oblique angles to the mineralisation.
	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 bias has been introduced to the data, as no single potentially bias inducing orientation dominates in any given area.
Sample security	The measures taken to ensure sample security.	Chain of custody is managed by Pogo Mine personnel. All core samples are received intact and in their entirety in their core trays at the Company's secure core processing facility. All sampling and work on core samples is carried out within the confines of this secure facility. Pogo uses pre-numbered sample ticket books for sample numbers. The drill hole number, sample interval, and date are recorded on each ticket and the tear-off ticket is labelled with the sample interval and stapled onto the core box. Core is placed in bags with the sample number marked in permanent marker and the bar code stapled to the bag. After sampling is complete, sample bags are scanned and placed into rice bags (poly weave bags) labelled with the drill hole number and the sample sequence, ready for submission to the laboratory. Bags are sealed with a zip-tie. Samples are transported in totes via road to sample preparation facilities in Fairbanks, Alaska. Upon receipt, any issues with sample conditions are reported to Pogo Exploration personnel.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	In March 2018, Sumitomo Metal Mining Pogo LLC (SMM Pogo) commissioned Mine Technical Services Ltd. (MTS) to complete a review audit of standard procedures currently in use at the Pogo Mine in Central Alaska. Drilling, logging, sampling, analytical, QA/QC, database, modelling, density, ore control, resource estimation, mine planning, metallurgy and reconciliation procedures were audited. While minor recommendations for improvement were made, sampling techniques and data were generally found to be well-considered and consistent with industry good practise.

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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 total tenement area comprising the Pogo Project consists of 1,250 state mining claims (20,623 ha) in addition to the mine lease claim (777 ha) and the mill site lease (1,385 ha). The Pogo operation is 100% owned by Northern Star Resources, purchased in Aug 2018. There are no known royalties on the Star Prospect area reported in this release.
	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.	Detailed legal due diligence completed as part of the Pogo acquisition demonstrates that the tenure is in good standing and secure. Pogo is a fully permitted and operational mine, and there are no foreseen permitting issues that will prevent development of the resource or any future exploration activities.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The first modern-day exploration was conducted in the Pogo area by WGM Inc, in 1981, where strong gold-arsenic-tungsten anomalies were identified in stream sediment samples collected from the Pogo and Liese Creeks during regional reconnaissance surveys. WGM staked mining claims over the area. In 1991, the area was incorporated into the Stone Boy Joint Venture, which consisted of large claim groups focused on the Chena, Salcha and Goodpaster River basins. As part of the Stone Boy JV, exploration was conducted by WGM and financed by Sumitomo Mining Metal Corporation Ltd. and others (that later withdrew) as part of an earn-in agreement. Regional grid-based soil sampling was completed between 1991 and 1994, with three diamond drill holes funded by the Japan Oil Gas and Metals National Corporation drilled in 1994 to test a prominent gold-in soil anomaly. Based on strong gold grades returned in the initial three holes, a further 13 holes were drilled in the Liese Creek area in 1995. One hole was the discovery hole for the Liese vein system. The intercept graded 22.7ft at 1.838opt (6.92m @ 63.0gpt). In 1997, Sumitomo signed an agreement with Teck Resources Ltd. to acquire a 40% interest in the Pogo claims; Teck Corp assumed operatorship of the project in 1998. Further surface definition drilling was completed between 1998 and 2004; mining operations commenced in 2006.
Geology	Deposit type, geological setting and style of mineralisation.	The Project is located in the Tintina Mineral Belt, a 200 km-wide, 1,200 km-long arc, broadly bounded by the Tintina-Kaltag fault systems to the north and the Denali-Fairwell fault systems to the south. This region contains numerous economic deposits of gold in addition to copper, lead, zinc, silver and tungsten deposits. The lithological units in the Pogo deposit area are dominantly amphibolite-grade metamorphic rocks intruded by felsic to intermediate plugs and sills. Key metamorphic rocks include biotite feldspar gneiss, augen gneiss and mafic schist derived from both sedimentary and igneous protoliths. Metamorphic mineral assemblages observed consist of quartz, feldspar, biotite, chlorite, muscovite, sillimanite, andalusite and garnet. The 50km long Goodpaster batholith (granodiorite composition) is the dominant intrusive complex bounding Pogo gold district to the north. Principal gold mineralisation is hosted in biotite-quartz-feldspar paragneiss and orthogneiss, although any lithology can host gold mineralization. Post-metamorphic intrusions occasionally host gold. Gold at Pogo occurs predominantly within thrust faults where quartz veins range in thickness from <0.5m to >10m. Mineralised veins contain plus/minus 3% sulphides (arsenopyrite, pyrite, pyrrhotite, loellingite, chalcopyrite, bismuthinite, sphalerite, galena, molybdenite, tetradyrite, maldonite) and a variety of Bi-Pb-Ag sulphosalts. High-angle faults often host high-grade gold lodes as well. The Pogo gold deposit is considered to be an example of a Reduced Intrusive-Related Gold Deposit (RIRGD), characterised by a low sulphide content, (typically <5%) and a reduced ore mineral assemblage. It typically contains pyrite and arsenopyrite but lacks primary magnetite or hematite. In brief, these deposits typically have the following characteristics: <ul style="list-style-type: none"> Mineralisation occurs as sheeted vein deposits or stockwork assemblages and often combines gold with variably elevated Bi, W, As, and Te, but contains low concentrations of base metals Restricted and commonly weak proximal mineral alteration Spatially and temporally related to reduced intrusions of intermediate to felsic composition.
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: <ul style="list-style-type: none"> 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. 	Tables with the drill hole information accompany this release.
	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 materially affect the understanding of the report.

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Criteria	JORC Code explanation	Commentary
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 assays have been length weighted to provide an intersection width. Where lower grade stockwork veining and/or barren material is present between sheeted veins, length weighted calculations may include such mineralized material intervals.
	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
	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.	From October 2018 to present, true width intersections are estimated using trigonometry calculations of the vein angle to the core axis (Estimated true thickness = intercept length X sin (vein angle to core axis)).
	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').	Diagrams have been included in the body of the announcement to present drill results. Clear statement of down hole length reported, true width not known are included where relevant.
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.	Diagrams have been included in the body of the announcement to illustrate significant results.
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).	Surface exploration diamond drilling on the Star Prospect is currently ongoing with one diamond drill rig from multiple surface drill pads.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Diagrams for work completed are attached to this announcement. Relevant information can be sourced from ASX announcements.