ASX Announcement
15 November 2022

EXPLORATION UPDATE

More than 150,000m of drilling further extends organic growth optionality across all three production centres

KEY POINTS

- **Ongoing exploration and in-mine growth success highlights significant life-of-mine extension potential**
- **Drilling at KCGM from first dedicated underground drill drive continues to generate strong results to support long term growth strategies**
- **New Joplin deposit and further growth at Red Hill offers meaningful optionality at Kanowna Belle**
- **Wonder North & Golden Wonder discovery delivers further exceptional results, 25km from Thunderbox plant**
- **Drilling at Goodpaster deposit at Pogo continues to intersect high grades outside of maiden Mineral Resource**
- **26 active drill rigs (on growth) across global portfolio; improving assay turnaround times**
- **FY23 exploration spend of A$48M to date (vs FY23 exploration budget of A$125M)**

Northern Star Resources Limited (ASX: NST) is pleased to announce positive progress from its FY23 exploration program, designed to support the Company's five-year profitable growth strategy.

Northern Star will provide an Annual Mineral Resource and Ore Reserve Statement ended 31 March 2023 in 2H23.

Commenting on the exploration update, Northern Star Managing Director Stuart Tonkin said:

"Our exploration team has made a strong start to FY23, advancing some exciting early-stage prospects across our global tier-1 portfolio as well as expanding beyond known areas of mineralisation. Our exploration team's depth and experience continue to deliver strong success for Northern Star, adding to our organic growth optionality.

"KCGM's mineralisation continuity extends, showcasing the significant opportunity that exists across Fimiston North, Fimiston South, Mt Charlotte and regional areas. These results further strengthen our strategic thinking for this region. Drilling from the first dedicated underground drill drive continues to encourage mineral resource growth.

"We are particularly excited about the new underground Joplin discovery extending life at Kanowna Belle as well as regional drilling at Red Hill, which has outlined a significant mineralised porphyry system to add to our growth optionality across the Kalgoorlie region.

"At Yandal, development of a satellite pit pipeline continues to show encouraging results, particularly for our recently expanded TBO mill. In-mine growth drilling at Jundee has outlined encouraging extensions, supportive of continued performance at this high free cash flow generating asset.

"At Pogo in Alaska, the recent drill results reinforce the enormous growth potential as we transition the mine for the next decade. The results outline expansion of the mineralisation trend at Goodpaster while in-mine drilling has delivered exceptional results to expand the resource potential within the mine area.

"We are making exceptional progress with our exploration program and continue to focus on extending mine lives and developing high-margin ore reserve growth at our three production centres. Ongoing exploration success enables low-cost resource inventory build and underpins our purpose to deliver superior shareholder returns."

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EXPLORATION HIGHLIGHTS

KALGOORLIE, WESTERN AUSTRALIA

- **Fimiston North** drilling from the first dedicated underground drill drive continues to generate strong results including 4.7m @ 22.9g/t and 10.2m @ 35.4 g/t.
- Within **Fimiston South**, drilling continues to convert the significant Inferred Resource inventory within the existing "Super Pit" shell, potentially adding further ore reserve growth. Results include 8.2m @ 9.6g/t, 4.5m @ 23.2g/t and 7.8m @ 9.8g/t.
- At **Mt Charlotte**, underground drilling adjacent to the Maritana Orebody has returned highly encouraging results north of the Golden Pike Fault.
- At **Kanowna Belle**, the new Joplin discovery adjacent to the Velvet mining area will provide additional production growth while drilling at Red Hill has outlined a significant mineralised porphyry system adding to the growth options across the Kalgoorlie region. Red Hill drilling results include 343.3m @ 1.3 g/t, 161.8m @ 2.8 g/t, 239.0 m @ 1.2 g/t and 195m @ 2.7g/t.
- Exploration drilling along the regional Karari-Dervish trend at **Carosue Dam**, continues to generate strong results at Qena and Memphis.

YANDAL, WESTERN AUSTRALIA

- In-mine growth drilling at **Jundee** has outlined encouraging extensions to the main Barton lode system down dip with results including 0.4m @ 110.0 g/t, 0.4m @ 59.3 g/t, 0.3m @ 173.7 g/t, 1.5m @ 31.4 g/t and 0.4m @ 194.2g/t.
- Exceptional results at the recently discovered **Golden Wonder** prospect highlights significant growth potential only 25km from the Thunderbox plant.
- Extensional drilling within the **Wonder North** project south of Thunderbox continues to expand the potential for a future underground mine development.
- Current exploration drilling at **North Well in the Bannockburn area** has delivered early positive results to extend the resource area down plunge.

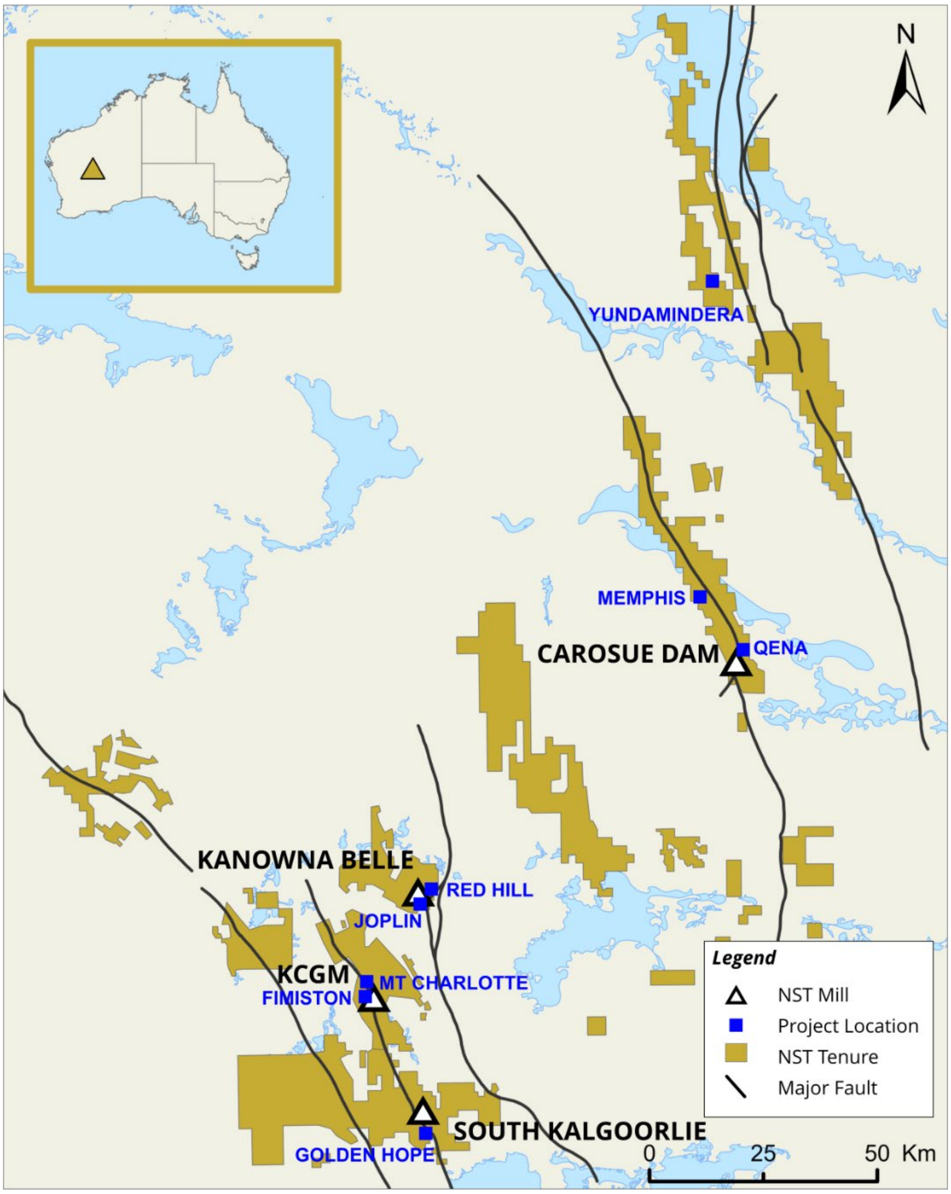
POGO, ALASKA (USA)

- In-mine extensional drilling in the North Zone and South Pogo areas has delivered exceptional results to expand the resource potential within the mine area. Exceptional high-grade results include 5.9m @ 56.6g/t, 0.6m @ 118.3g/t and 1.8m @ 19.6g/t from the North Zone while results from South Pogo include 2.0m @ 44.1g/t, 3.9m @ 26.7g/t and 4.5m @ 10.9g/t.
- At Goodpaster, further surface drilling has expanded the mineralised trend beyond the **maiden Inferred Mineral Resource of 3.2Mt @ 10.3g/t for 1.1Moz**. Drilling highlights include 3.0m @ 16.7 g/t.

KALGOORLIE OPERATIONS

The Kalgoorlie region of Western Australia's Goldfields has been a prolific region for gold production and exploration success. Northern Star's ongoing exploration investment in this highly prospective region continues to deliver strong drilling results, driving continued growth in mine production profiles at KCGM and the Kalgoorlie region.

Figure 1 - Kalgoorlie Operations Location Map



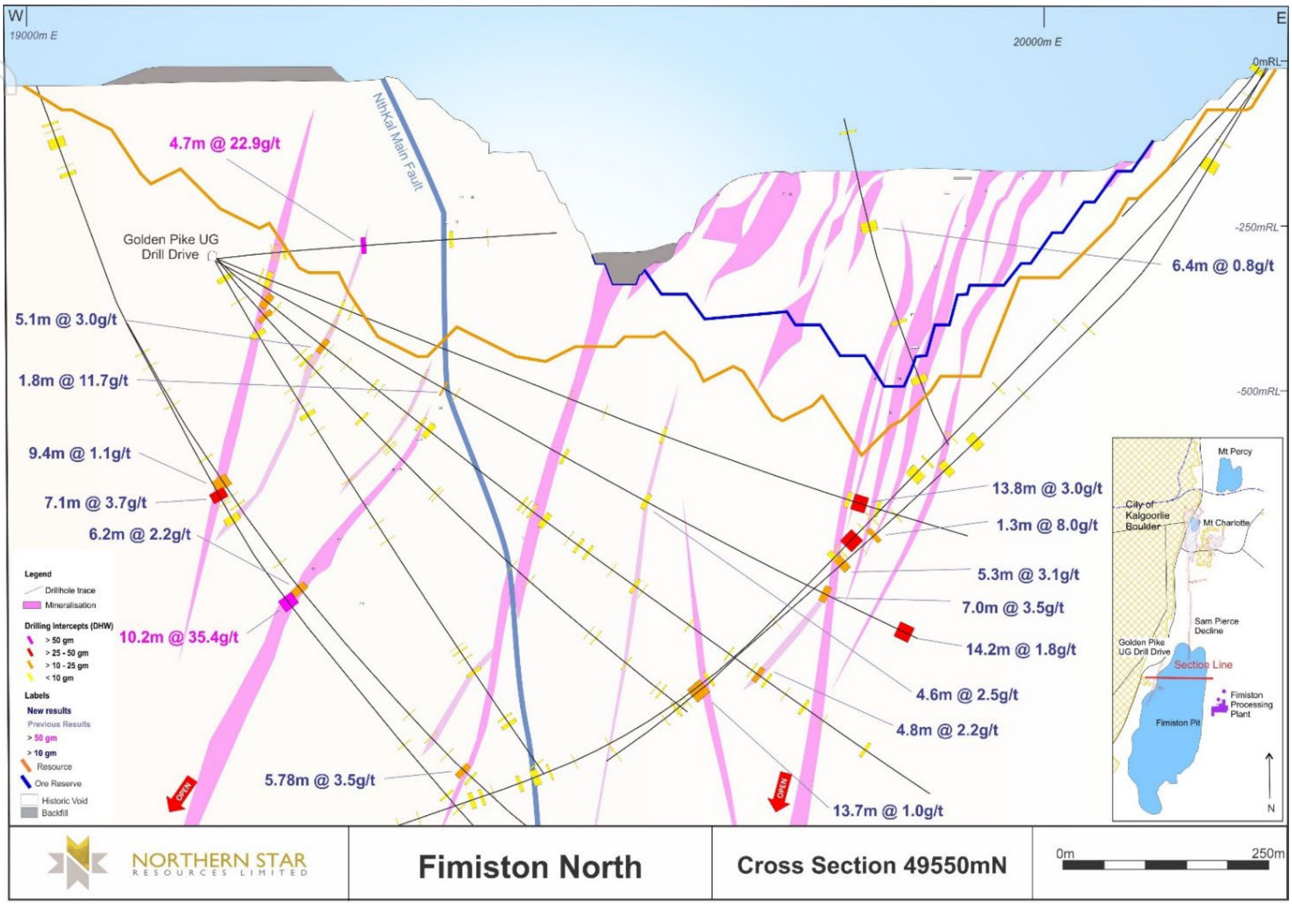
KCGM Operations

Fimiston North

Drilling from the Golden Pike underground drill drive has continued at Fimiston North with the current phase of drilling designed on a 200m x 200m grid pattern to test the northern extensions of known lodes from the Fimiston open pit.

The initial drill program has successfully overcome the technical challenges of drilling through numerous historical voids to intersect mineralised target structures, creating a significant opportunity to test larger areas around historical mining areas. Significant intersections of "Fimiston-style" gold mineralisation characterised by quartz veinlets associated with shearing and tellurides, occur both on the hangingwall and footwall margins of these voids as well as in intact "virgin" lodes.

Figure 2 - Fimiston North Cross Section, Golden Pike Drill Drive



The continuing drilling program is infilling the drill spacing to a 100m x 100m grid pattern to further refine geology, resource potential and the extent of void models in this highly prospective area.

Significant Fimiston North underground drilling intersections received include:

Significant drill results include:	
All widths are estimated true width	
FNUD0049	4.7m @ 22.9g/t
FXGD02B2	10.2m @10.2g/t, 13.4m @2.0g/t
FNUD0050	13.8m @ 3.0g/t, 2.3m @ 13.5g/t
FNUD0040	7.28m @ 6.7g/t, 3.35m @ 9.8g/t, 4.41m @ 6.4g/t, 8.7m @ 2.6g/t, 3.6m @ 3.3g/t
FNUD0038	7.5m @ 4.1g/t, 0.56m @ 54.8g/t
FNUD0062	0.38m @ 66.3g/t, 8.68m @ 3.2g/t

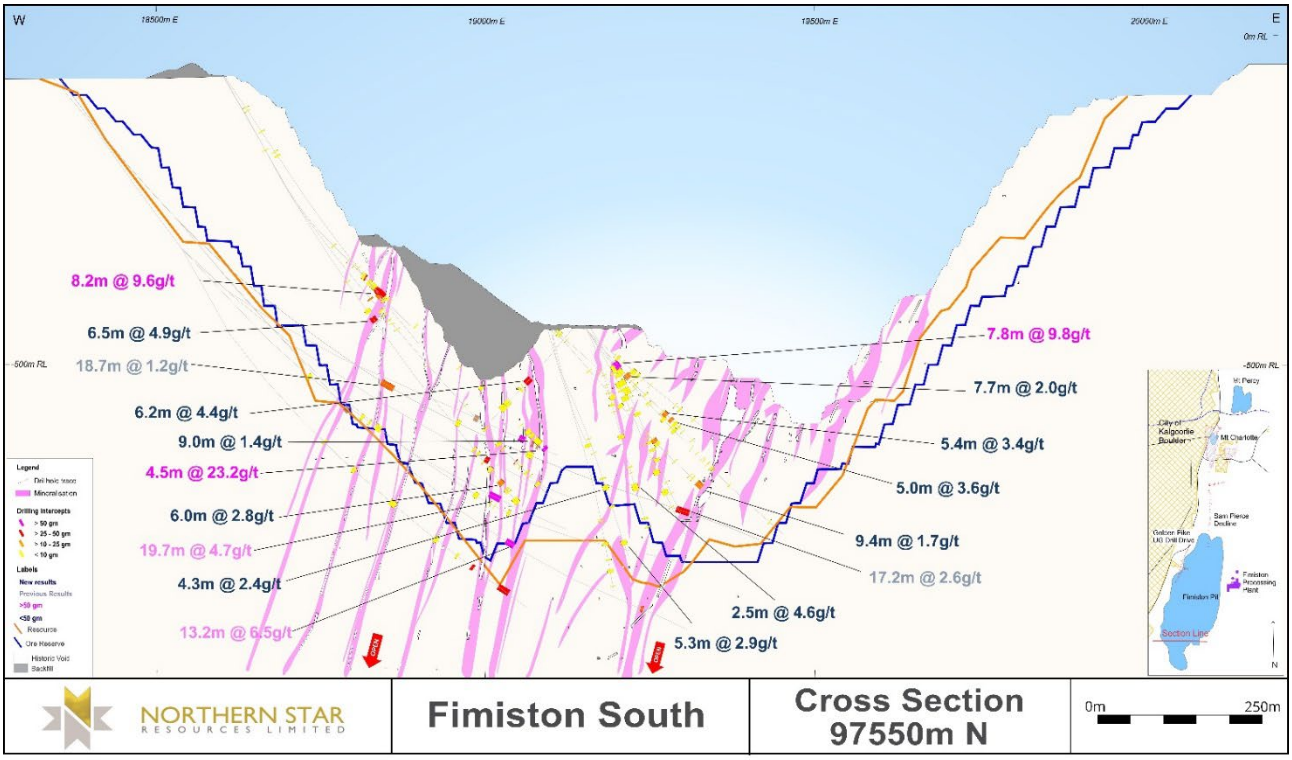
Fimiston South Open Pit

The Fimiston South cutback encompasses the southern end of the world-class 'Super Pit' on the Golden Mile deposit in Kalgoorlie.

The current existing pit design for the Super Pit includes an Ore Reserve of **104Mt @ 1.7g/t for 5.9Moz** (at 31 March 2022) as well as a significant Inferred Mineral Resource. Recent surface and in-pit drilling programs have continued to target these Inferred Resource areas to confirm the continuity of mineralised lodes and upgrade these areas, potentially adding significant ore reserves not currently in the mine plan.

Drilling continues to outline significant zones of Fimiston-style mineralisation together with several quartz stockwork zones analogous to Mt Charlotte-style mineralisation. The ongoing drilling campaign is successfully defining these zones to enhance the geological interpretation and confirm grade continuity of the Inferred Resource areas.

Figure 3 - Fimiston South Cross Section



Significant Fimiston South drilling intersections received include:

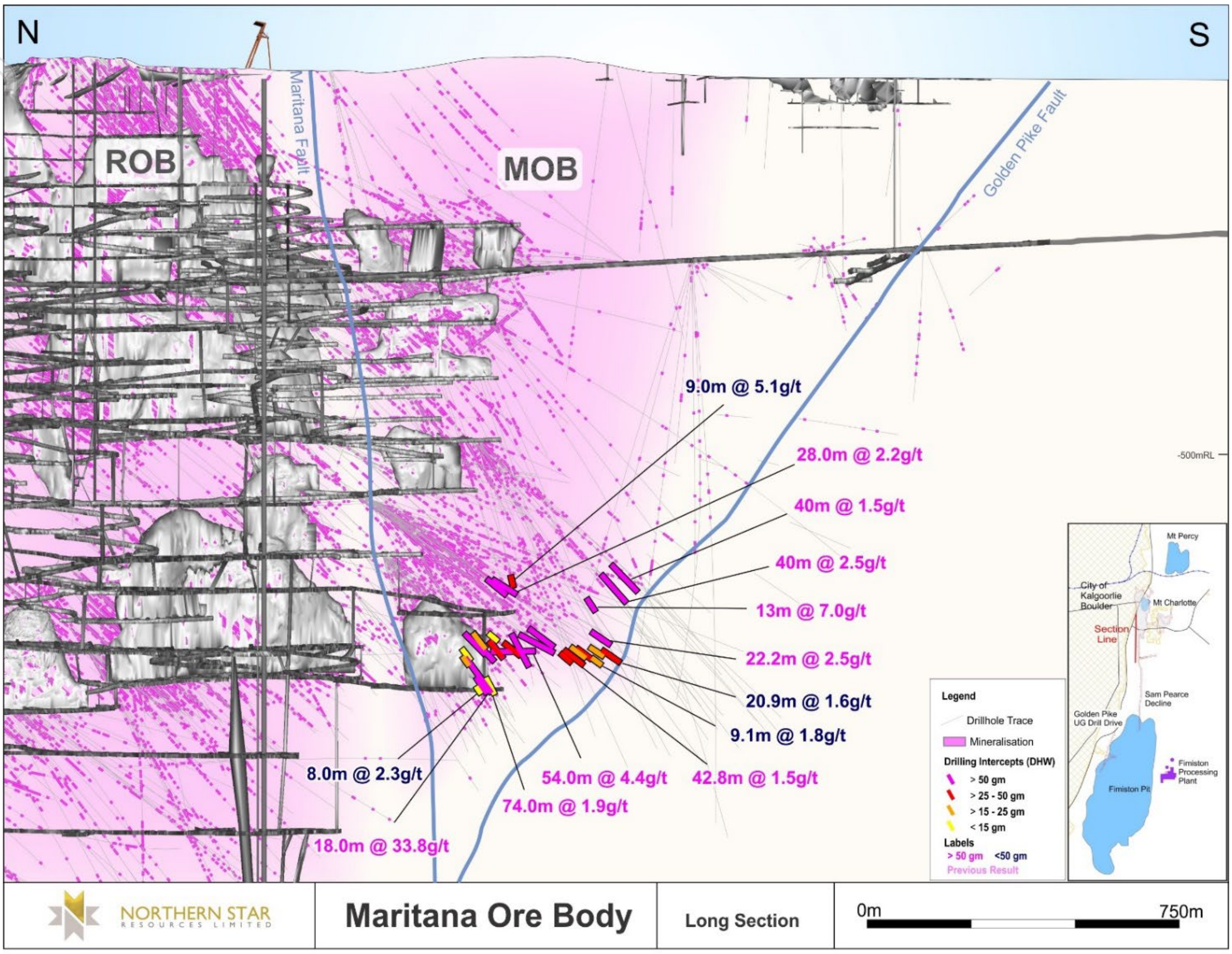
Significant drill results include:	
All widths are estimated true width	
CTGD052A1	8.2m @ 9.6g/t, 4.5m @ 23.2g/t
HOGD038	7.8m @ 9.8g/t, 5.4m @ 3.5g/t, 5.0m @ 3.6g/t
MA04069	6.6m @ 5.6g/t
CTGD052C1	6.5m @ 4.9g/t, 3.3m @ 3.9g/t, 6.0m @ 2.8g/t
HMGD042	8.94m @ 5.5g/t, 2.95m @ 3.8g/t

Mt Charlotte - Maritana Orebody

The Maritana Orebody (MOB) is part of the existing Mt Charlotte underground operation located 3km north of the Fimiston processing plant. The MOB is separated from the Reward (ROB) and Charlotte (COB) orebodies by the Maritana Fault. Gold mineralisation occurs in broad (15 to 20 metres wide), shallow and steeply dipping quartz stockwork vein sets developed within the Golden Mile dolerite units that are suited to bulk mining methods such as sub-level caving.

Recent underground drilling from the 1790 Level targeting the southern extents of the lower MOB, has returned highly encouraging results identifying a significant new lower zone of gold mineralisation north of the Golden Pike Fault.

Figure 4 - Maritana Orebody Long Section, Mt Charlotte Underground Mine



The initial drill program results (highlighted above) have outlined a significant new panel of mineralisation with further drilling planned to test the down plunge extent of the newly defined mineralised zone.

Significant MOB drilling intersections received include:

Significant drill results include:	
All widths are downhole width due to stockwork nature of the mineralisation	
CUGMC01941	48.0m @ 3.79g/t
CUGMC01796	18.0m @ 33.8/t
CUGMC02296	74.0m @ 1.95g/t
CUGMC02424	38.9m @ 4.0g/t
CUGDKUD038	40.0m @ 2.5g/t
CUGDKUD040	13.0m @ 7.0g/t

Kalgoorlie Operations

Ongoing exploration and growth drilling programs within the mine and surrounding areas have achieved excellent results with the potential to materially extend the production profile of the Kanowna Belle Operation.

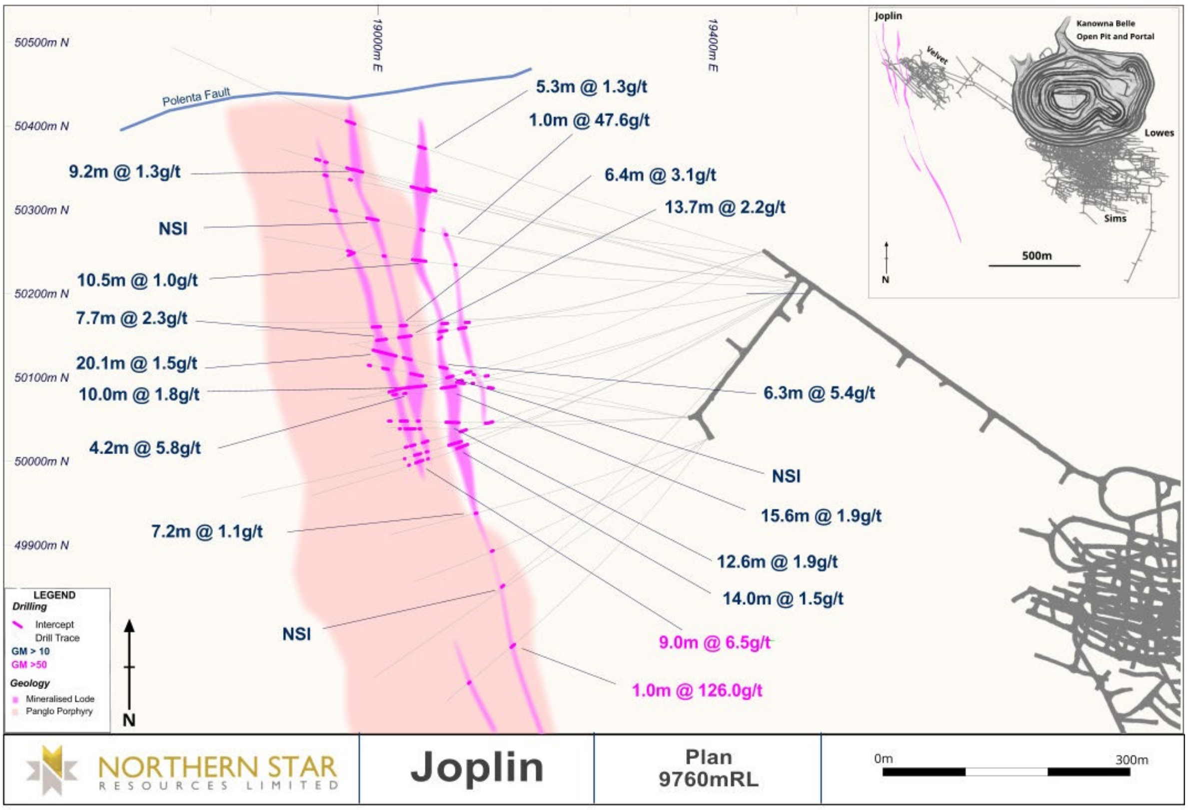
Joplin

The Joplin deposit is an emerging new discovery located within 1km of the main Kanowna Belle orebody and less than 300m from the Velvet mining development. Joplin, a blind discovery situated some 500m below surface, stemmed from initial surface drilling in 2021 that intersected anomalous gold results associated with the poorly defined Panglo Porphyry.

Subsequent further underground and surface drilling has now defined gold mineralisation over a strike length of 1.4km to a vertical depth of 1,000m. The Joplin deposit comprises multiple, sub-parallel, steeply east-dipping mineralised structures within, and on the sheared contacts of, the Panglo Porphyry. Gold mineralisation is typically associated with sulphide-carbonate breccia veins and pervasive sericite-carbonate alteration.

The Joplin lodes are currently being drill defined from underground and may provide additional mining areas for the Kanowna Belle Operation which has produced 5.4Moz since 1993. Recent drilling has returned some exceptional results including 9.0m @ 6.5g/t, 1.0m @ 126.0g/t and 4.2m @ 5.8g/t.

Figure 5 - Joplin Plan Section



Significant Joplin drilling intersections received include:

Significant underground drill results include:	
All widths are estimated true width	
JPRT22003	7.2m @ 3.2g/t, 1.1m @ 24g/t
JPRSD22024	3.2m @ 9.6g/t, 12.4m @ 2.9g/t, 4.0m @2.4g/t
JPRSD22035	20.1m @ 1.5g/t, 6.3m @ 5.4 g/t, 7.2m @ 2.1 g/t
VELRT20092	4.24m @ 5.78g/t, 15.61m @ 1.94g/t
VMRSD21020	8.96m @ 6.52g/t, 13.96m @ 1.47g/t
VELRT20092	16.59m @ 1.97g/t

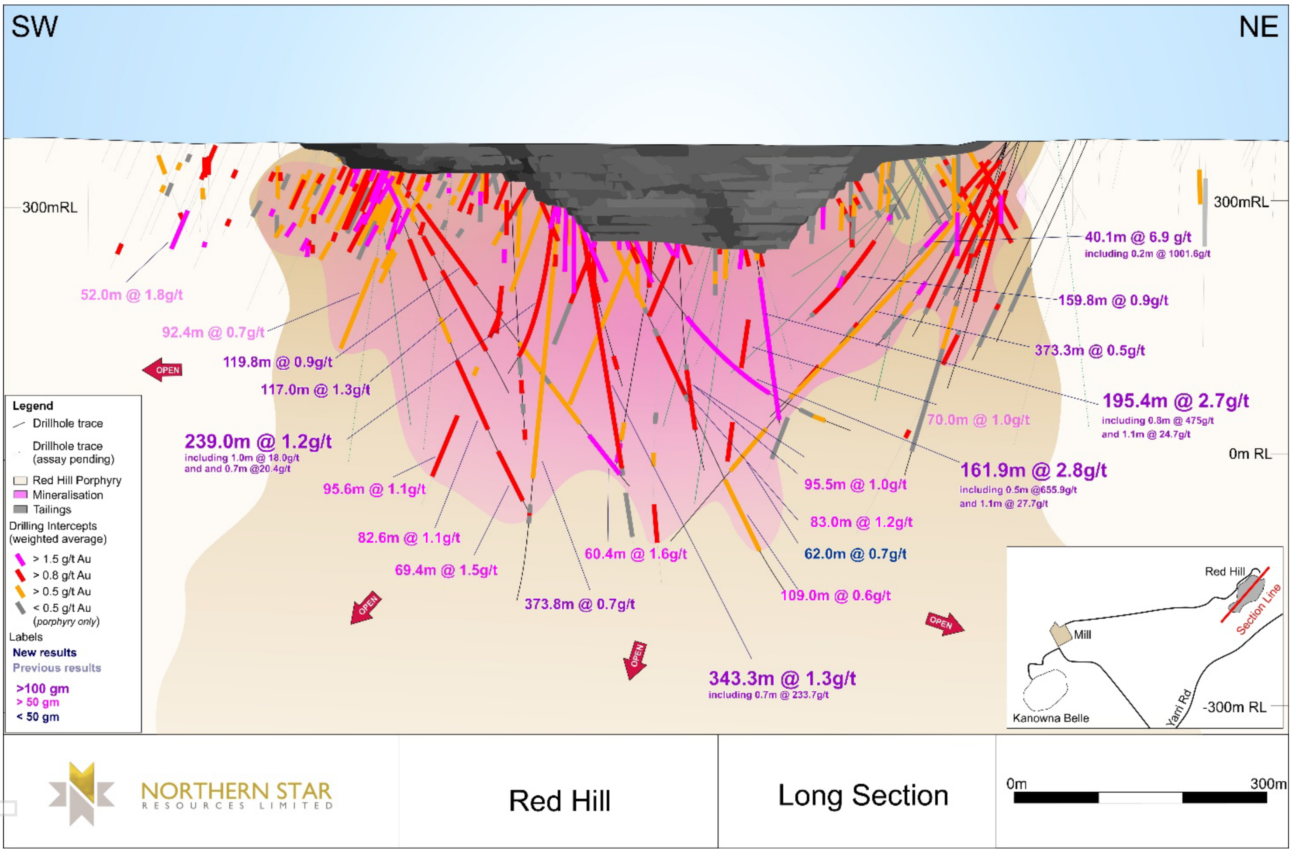
Red Hill

The Red Hill deposit is located 3km east of the Kanowna Belle process plant and 22km from the Fimiston processing plant at KCGM. The project was historically mined as an open pit operation between 2001 and 2007 producing approximately 467,000oz.

At Red Hill, gold mineralisation is present in quartz stockwork vein arrays hosted within a large porphyry intrusion. Mineralised veins typically dip shallowly to the north and may contain sulphides and visible gold.

Surface drilling recommenced at Red Hill in 2021 to outline the full extent of the mineralised porphyry intrusion below the current pit floor and along strike in both directions. The program to date has successfully outlined significant broad zones of gold mineralisation within the host porphyry intrusion to a vertical depth of 400m. The new drilling results highlight the significant scale of the Red Hill mineralised system which remains open in all directions.

Figure 6 - Red Hill Long Section



An updated resource estimate incorporating the significant new results is in preparation for inclusion in the Annual Mineral Resource and Ore Reserve Statement ended 31 March 2023, which will provide future development options for both Kanowna Belle and KCGM.

Significant Red Hill drilling intersections received include:

Significant underground drill results include:	
All widths are estimated true width	
RHDD18007	343.3m @ 1.3g/t including 0.7m @ 233.7g/t
RHDD21025	161.8m @ 2.8g/t including 0.5m @ 655.9g/t
RHDD21024	239.0m @ 1.2g/t
RHDD22040	195m @ 2.7g/t including 0.8m @ 475g/t
RHDD21009	40.1m @ 6.9g/t including 0.2m @ 1001.6g/t
RHDD22038	159.8m @ 0.9g/t
RHDD22034	69.4m @ 1.5g/t

Carosue Dam Operations (CDO)

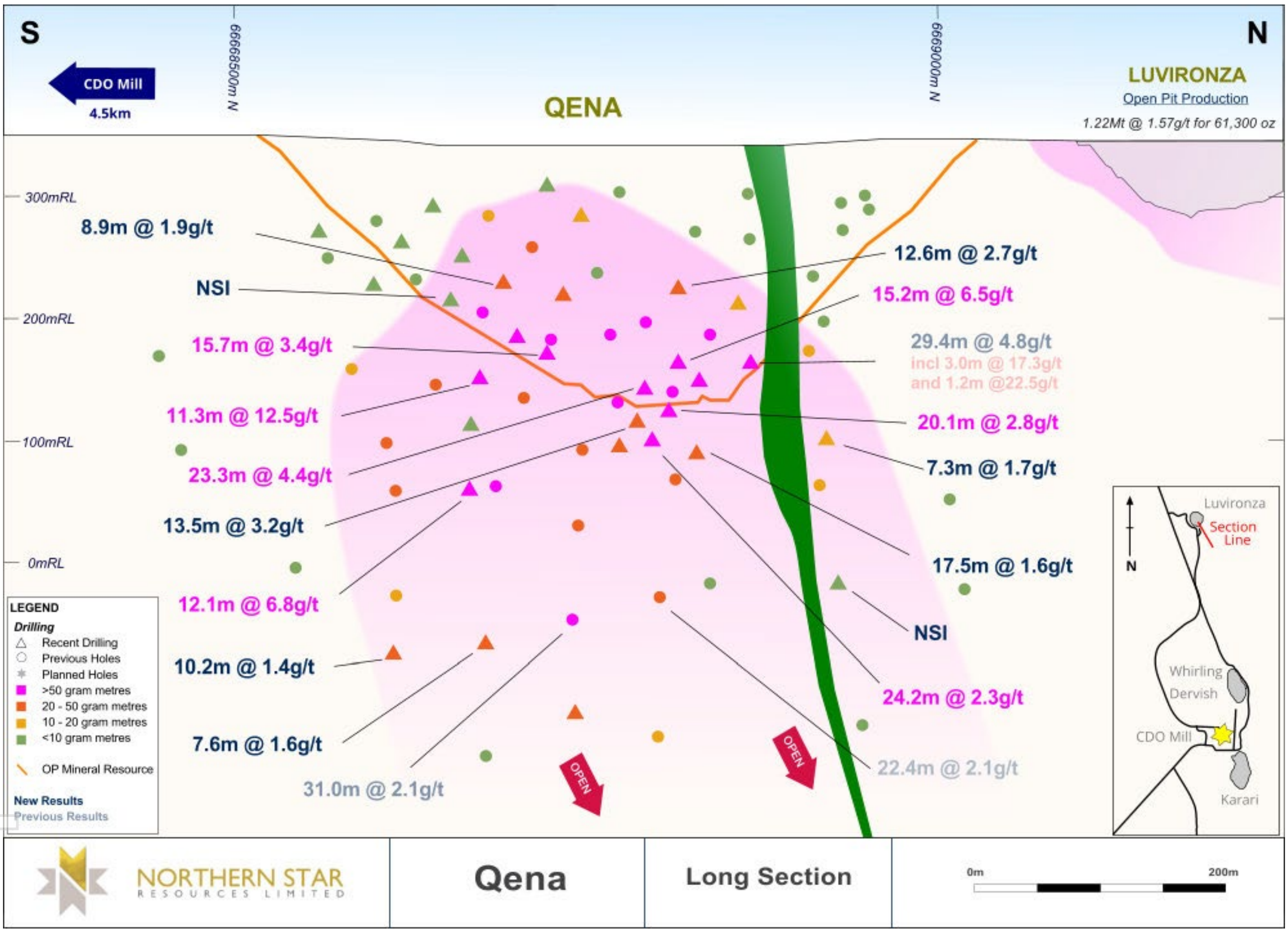
Qena

At Qena, located only 4.5km north of the Carosue Dam processing plant, a maiden Inferred Mineral Resource of **4.3Mt @ 2.2g/t for 310,000oz** was announced in May 2022.

Shear hosted gold mineralisation at Qena is found within a volcaniclastic sandstone adjacent to the Atbara monzonite intrusion. Gold is associated with pervasive quartz-albite-dolomite alteration and disseminated sulphide mineralisation like other deposits along the CDO corridor such as Karari and Whirling Dervish.

Recent infill drilling (40m x 40m spacing) has confirmed and upgraded the Qena mineralisation within both the open pit and underground resource areas returning thick zones of higher-grade mineralisation.

Figure 7 - Qena Long Section



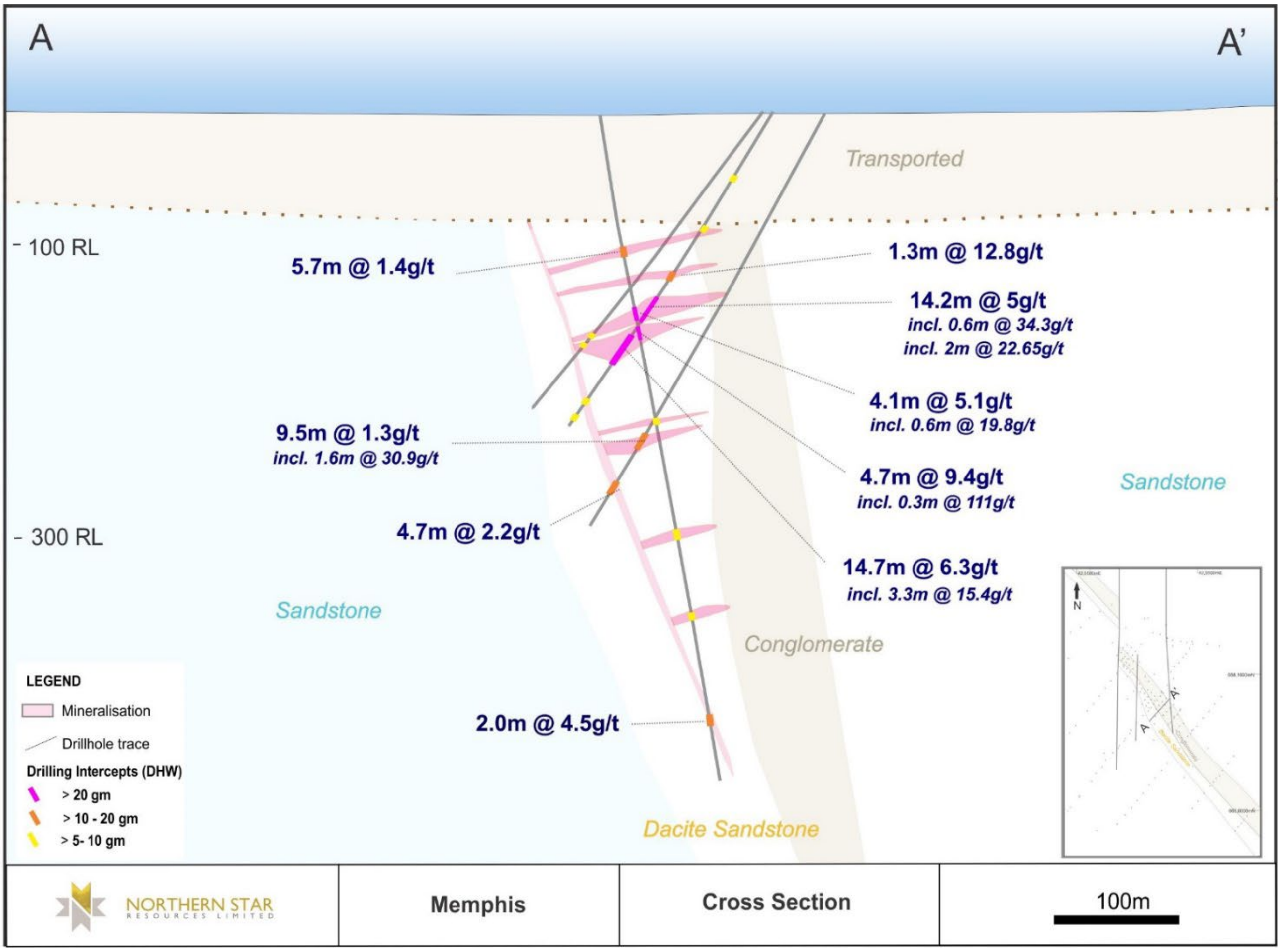
Significant Qena drilling intersections received include:

Significant drill results include:	
All widths are estimated true width	
QERSD020	11.3m @ 12.5g/t
QERSD011	23.3m @ 4.4g/t, 4.4m @ 4.7g/t
QERSD007	15.2m @ 6.5g/t
QERSD038	12.1m @ 6.8g/t, 3.9m @ 14.7g/t, 6.3m @ 2.1g/t
QERSD037	6.0m @ 10.9g/t
QERSD029	24.2m @ 2.3g/t

Memphis

Exploration diamond drilling has returned significant results at the Memphis prospect, located approximately 17km north of the Karari-Dervish underground operations. Newly outlined gold mineralisation is associated with a series of stacked quartz-sulphide vein sets and breccia lodes hosted within a steeply east-dipping sequence of volcaniclastic sandstone and conglomerate at the northern end of the Carosue Dam Basin.

Figure 8 - Memphis Cross Section and New Drill Results



Follow-up diamond and RC drilling programs are in progress to expand the currently defined limits of the Memphis "B Pod" which extends more than 250m on strike and to 400m below surface.

Significant Memphis drilling intersections received include:

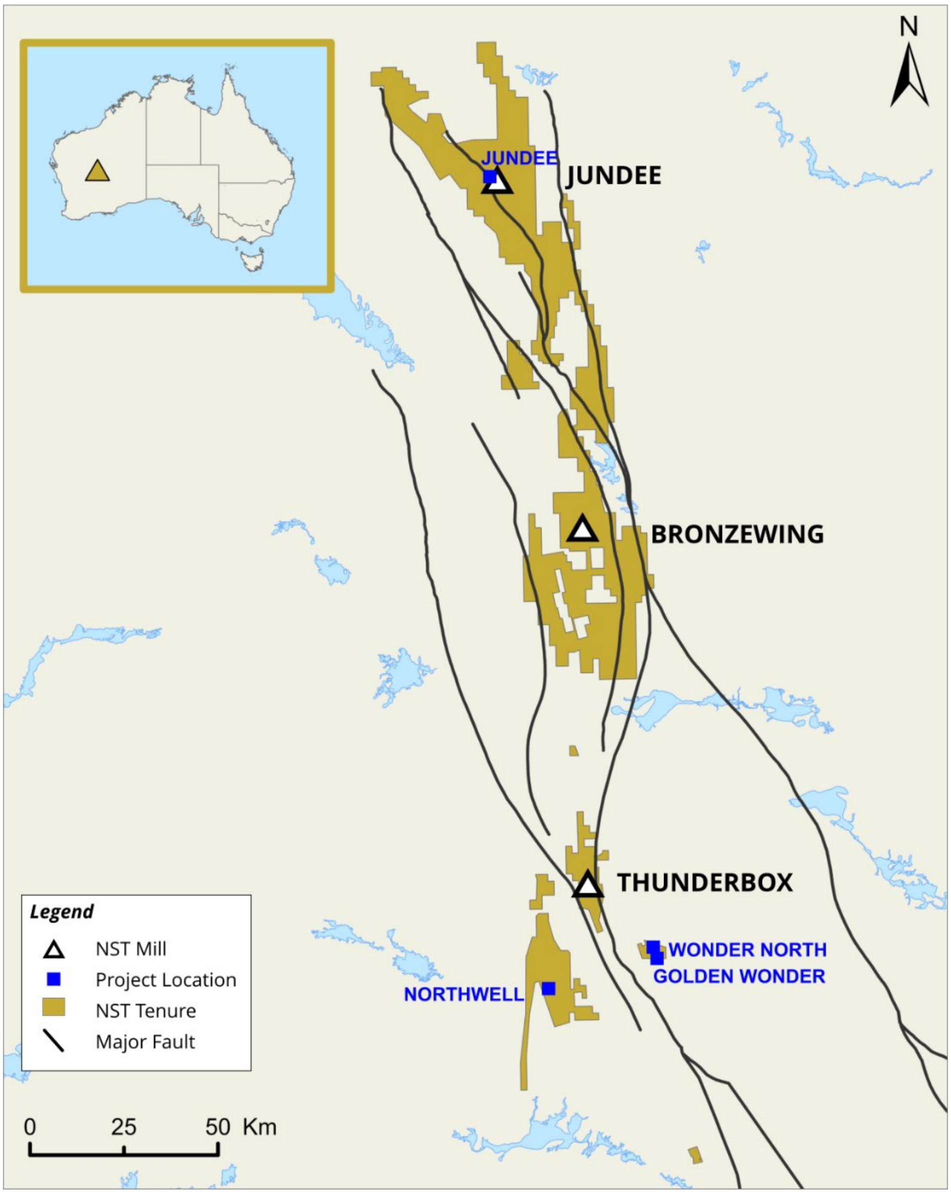
Significant diamond drill results include:	
All widths are estimated true width	
MPEX009	14.2m @ 4.9g/t, including 0.6m @ 24.3g/t and 2.0m @ 22.6g/t
MPEX009	14.7m @ 6.3g/t, including 3.3m @ 15.4g/t and 1.6m @ 30.9g/t
MPEX059	4.7m @ 9.4g/t, including 0.3m @ 111.0g/t
MPEX062	11.3m @ 3.6g/t

YANDAL OPERATIONS

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

Drilling has continued across several projects with strong results highlighting future growth opportunities along this highly prospective belt.

Figure 9 - Yandal Operations Location Map



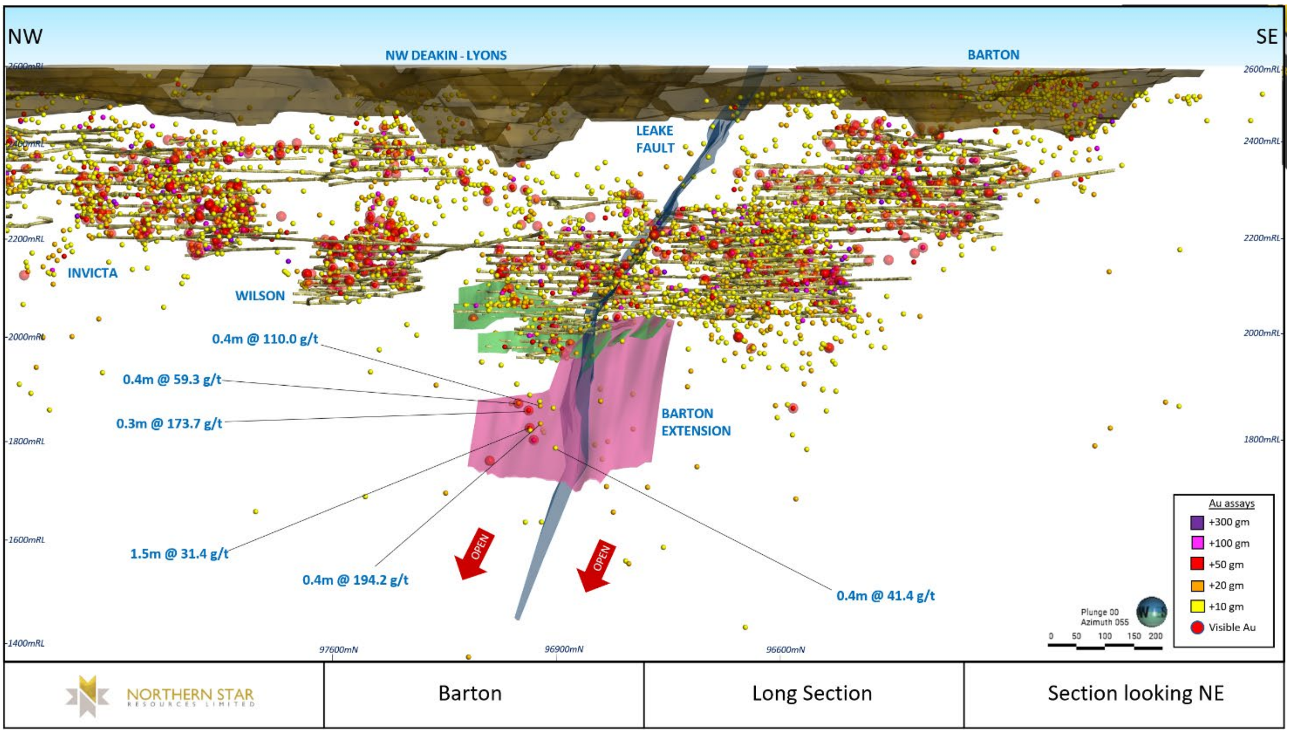
Jundee Operations

Barton

The Barton lode system within the Jundee underground mining operation has produced **more than 1.5Moz since 1997**. The Barton mining area is located in the Jundee "Golden Triangle", a highly prospective dilation zone, hosting high-grade lodes within the Jundee Dolerite. These lodes are characterised by foliated, anastomosing laminated quartz veins, which commonly contain 'bonanza' high-grade visible gold.

A focus on in-mine growth drilling, targeting extensions of the major Barton lode trends down dip has recently commenced from existing hangingwall drill platforms. Initial results have outlined encouraging extensions to the Barton lode system highlighting several new stacked mineralised structures up to 500m down-dip from the 22 Level. Higher-grade domains, including visible gold intersections have been identified in multiple holes highlighting the future potential of this extensive system.

Figure 10 - Barton Long Section and New Drill Results



Drill targeting south of the Leake Fault is currently underway.

Significant Barton underground drilling intersections received include:

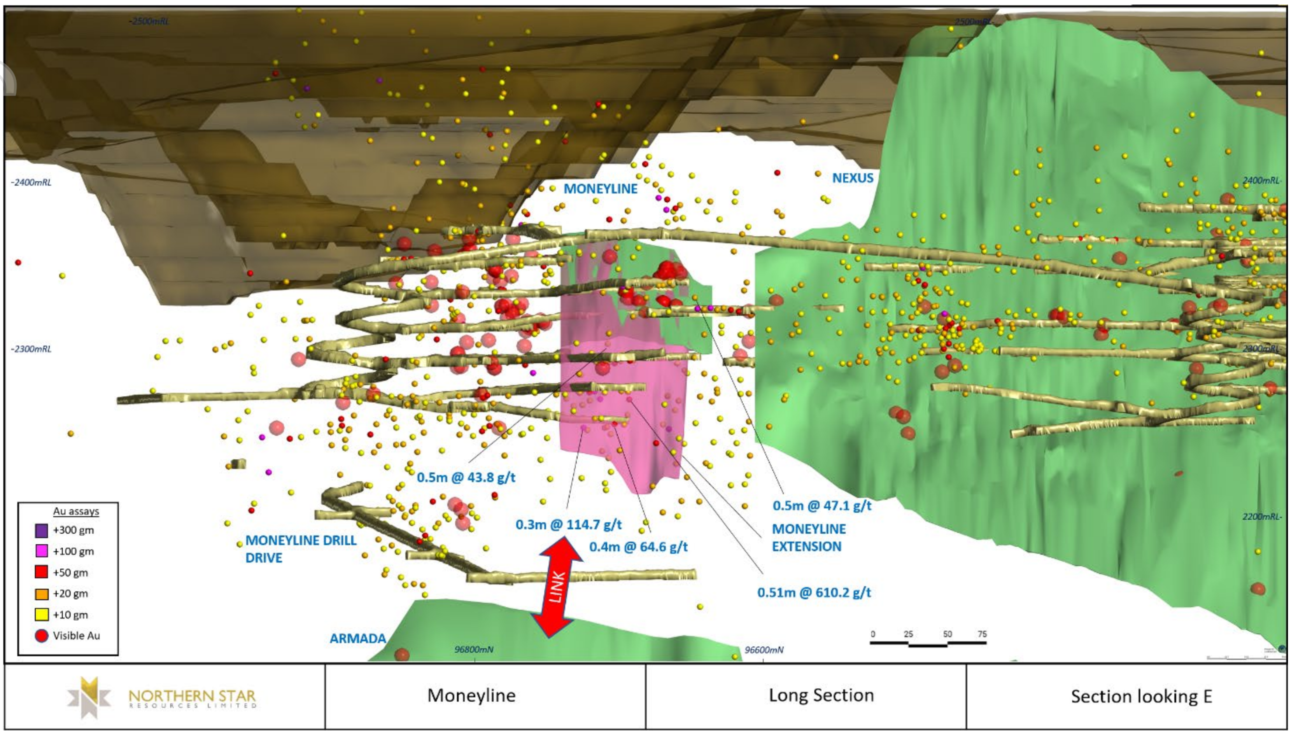
Significant underground drill results include:	
All widths are estimated true width	
BDGC7822	0.4m @ 110.0g/t
BDGC7814	0.4m @ 59.3g/t
BDXP0860A	0.3m @ 173.7g/t
BDGC7820	1.5m @ 31.4g/t
BDGC7828	0.4m @ 194.2g/t
WSXP2876	0.4m @ 10.8g/t

Moneyline

The Moneyline system is hosted in a sequence of basalt and dacitic porphyry within the hangingwall of the main Jundee Dolerite. The Moneyline lodes form a complex system of sheared and brecciated lodes often containing short range 'bonanza' gold grades.

Close spaced drilling in the Moneyline area has targeted the extensions to the known structures and continues to highlight the significance of this high-grade mineralisation. Recent high-grade results include **0.5m @ 610.2g/t and 0.3m @ 114.7g/t**.

Figure 11 - Moneyline Long Section and New Drill Results



Future drilling from 9MYL drill platform will continue to build and extend the continuity of mineralisation between the Moneyline, Armada and Nexus mining areas.

Significant Moneyline underground drilling intersections received include:

Significant underground drill results include:	
All widths are estimated true width	
MLGC0366	0.5m @ 610.2g/t
MLGC0373	0.3m @ 114.7g/t
MLGC0370	0.4m @ 64.6g/t
MLGC0372	0.5m @ 43.8g/t
MLGC0367	0.5m @ 47.1g/t

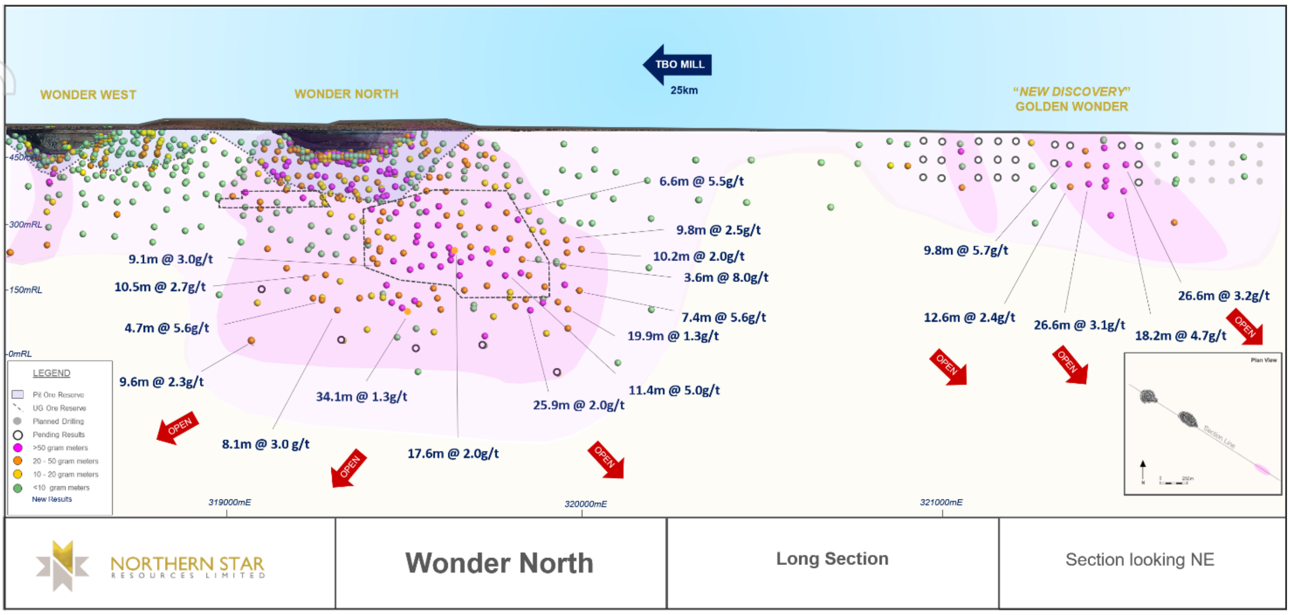
Thunderbox Operations

Wonder North – Golden Wonder

The Wonder North project, located 25km south of the Thunderbox processing plant, continues to grow with the latest drilling extending the principal mineralised structures along strike and at depth. The drilling has returned excellent results outside the maiden underground Ore Reserve announced in May 2022, including 7.4m @ 5.6g/t, 4.7m @ 5.6g/t and 10.5m @ 2.7g/t.

A significant infill drilling program has commenced at the new Golden Wonder prospect, located 1.2km to the south-east, where the mineralised system remains open in all directions.

Figure 12 – Wonder North and Golden Wonder Long Section and New Drill Results



Significant Wonder North drilling intersections received include:

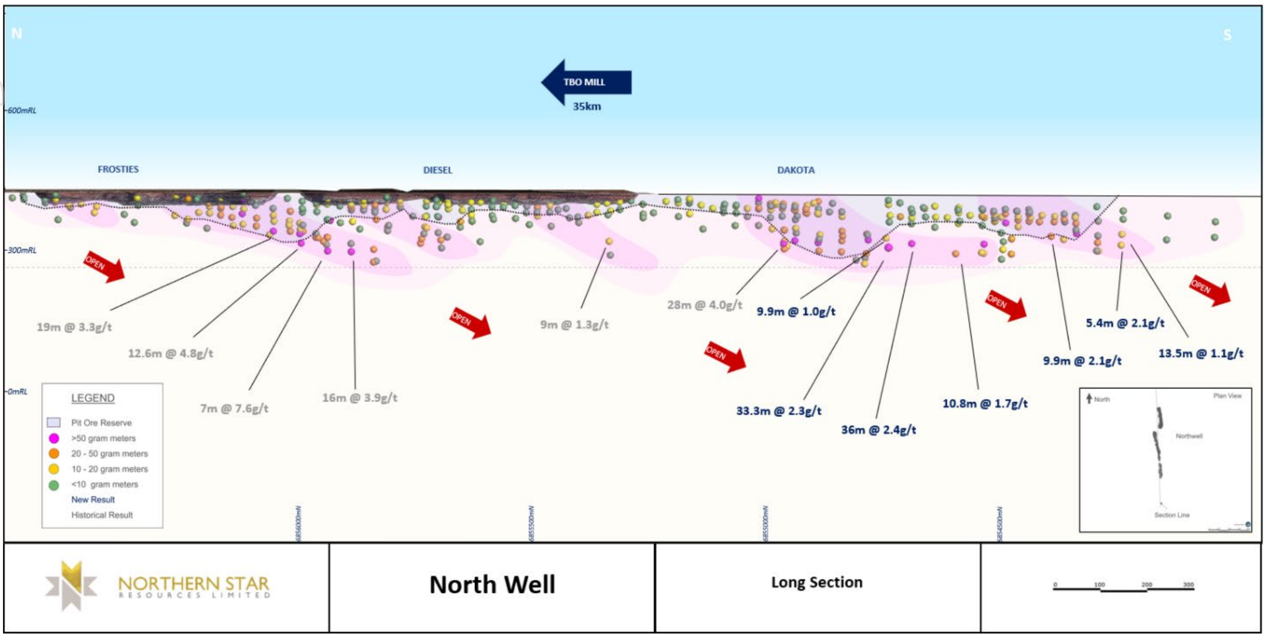
Significant underground drill results include:		
All widths are estimated true width		
Golden Wonder	BNRC117	18.2m @ 4.7g/t
	BNRC116	26.6m @ 3.2g/t
	BNRC114	26.6m @ 3.1g/t
	BNRC110	9.8m @ 5.7g/t
Wonder North	WNRD1115	25.9m @ 2.0g/t
	WNRD1121	7.4m @ 5.6g/t
	WNRD1127	11.4m @ 5.0g/t

Bannockburn – North Well

In the Bannockburn area, located approximately 35km southwest of Thunderbox, the North Well project area is part of the regional Bannockburn Shear Zone where two small satellite pits, Frosties and Diesel, were mined in the late 1990's.

Current drilling underway at North Well targeted extensions on strike and below the current resource area to extend the future production profile of the recently expanded Thunderbox process plant. Approximately 60 percent of the planned drill program has been completed to date with early results defining a series of shallow south plunging ore shoots within the host structures, which remain open at depth.

Figure 13 – North Well Long Section and New Drill Results



Significant North Well drilling intersections received include:

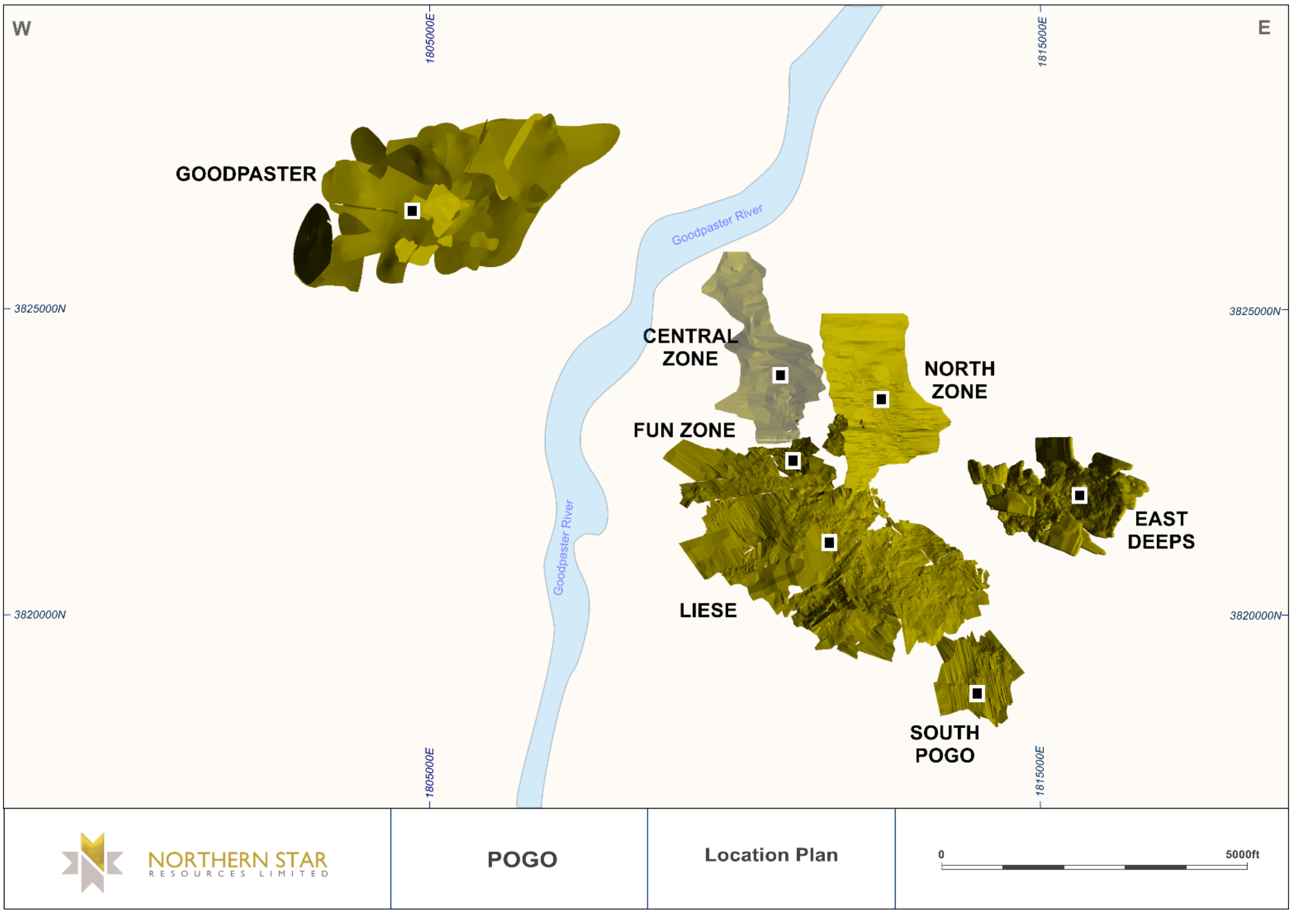
Significant underground drill results include:	
All widths are estimated true width	
NWRC0028	36m @ 2.4g/t
NWRC0030	33.3m @ 2.3g/t
NWRC0018	13.5m @ 1.1g/t
NWRC0026	10.8m @ 1.7g/t
NWRC0019	9.9m @ 2.1g/t
NWRC0017	5.4m @ 2.1g/t

POGO OPERATIONS

At Pogo, in-mine extensional drilling has focused on expanding the North Zone mineralisation testing the prospective gap between the South Zone and the main Liese vein system.

Surface exploration has continued at Goodpaster, focused on defining the continuity of a number of the steeper veins and stepping outside the current 1.1Moz Mineral Resource to further expand the extents of the system.

Figure 14 - Pogo Operations Location Map

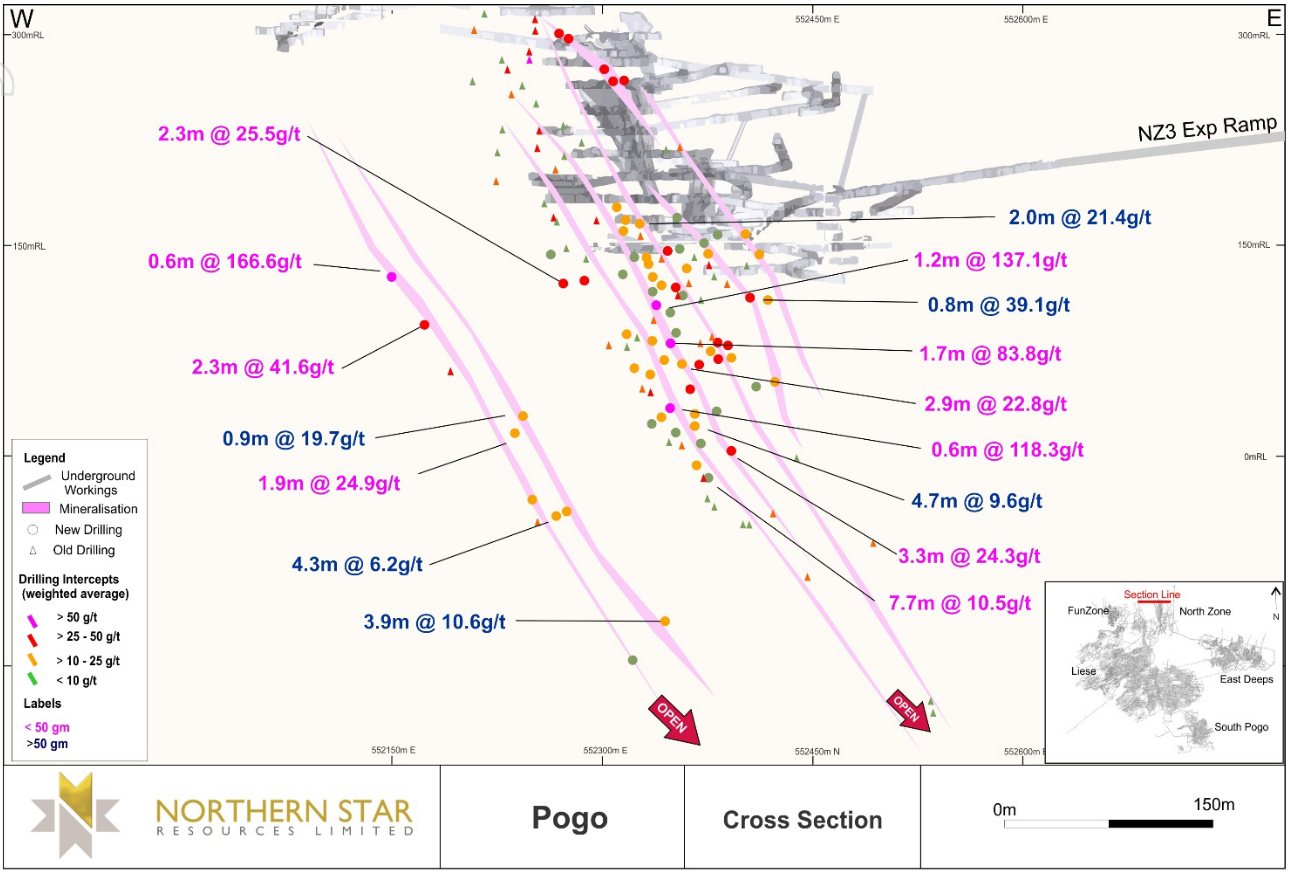


North Zone

At Pogo, the North Zone comprises a series of steeply east-dipping shear veins hosted in a wide, fault network. This steep dip is atypical for the Pogo deposit and contrasts to the more characteristic moderate to gently dipping Liese-style lodes.

Recent drilling in the North Zone has successfully extended the high-grade gold mineralisation within a set of stacked, steeply dipping vein structures. Exceptional high-grade results include **5.9m @ 56.6g/t, 0.6m @ 118.3m and 1.8m @ 19.6g/t**.

Figure 15 - North Zone Cross Section, Mineralisation Wireframes and New Drill Results



Several new diamond drill platforms under development throughout FY23 to facilitate further extensional drill testing of this highly prospective zone.

Significant North Zone drilling intersections received include:

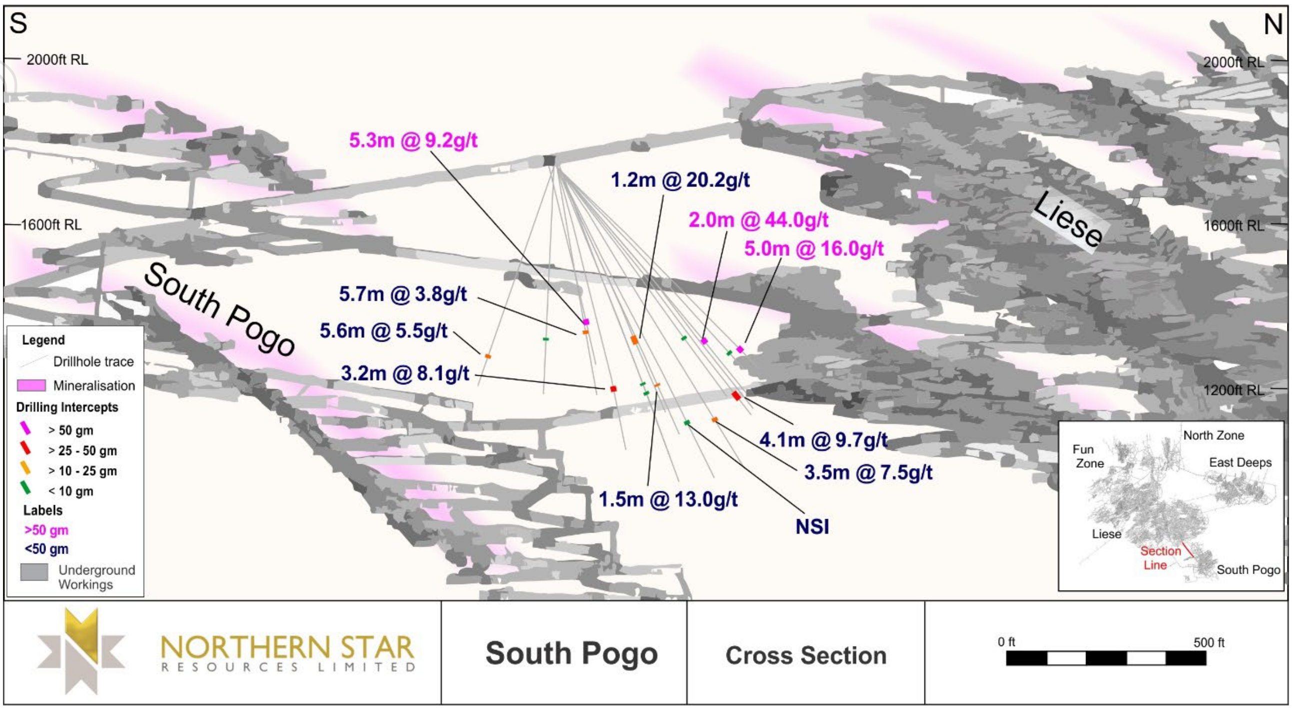
Significant diamond drill results include:	
All widths are estimated true width	
22U0440	2.3m @ 25.5g/t
22U0434	0.6m @ 118.3g/t
22U0479	0.6m @ 166.6g/t
22U0822	2.3m @ 41.6g/t
22U0432	4.7m @ 9.6g/t

South Pogo

South Pogo is located at the southwestern edge of the Pogo deposit and represents the up-dip continuation of the extensive shallow dipping Liese vein system. Recent extensional drilling has focused on the gap between South Pogo and the upper areas of the Liese lodes. Multiple, stacked high-grade Liese style quartz veins have been intersected in the prospective paragneiss host sequence.

Recent high-grade results include **2.0m @ 44.1g/t, 3.9m @ 26.7g/t and 4.5m @ 10.9g/t**.

Figure 16 - South Zone Cross Section, Mineralisation Wireframes and New Drill Results



Significant South Zone drilling intersections received include:

Significant diamond drill results include:	
All widths are estimated true width	
22U0774	2.0m @ 44.1g/t
22U0772	5.0m @ 16.0g/t
22U0783	4.1m @ 9.7g/t
22U0789	5.3m @ 9.2g/t
22U0786	3.2m @ 8.1g/t

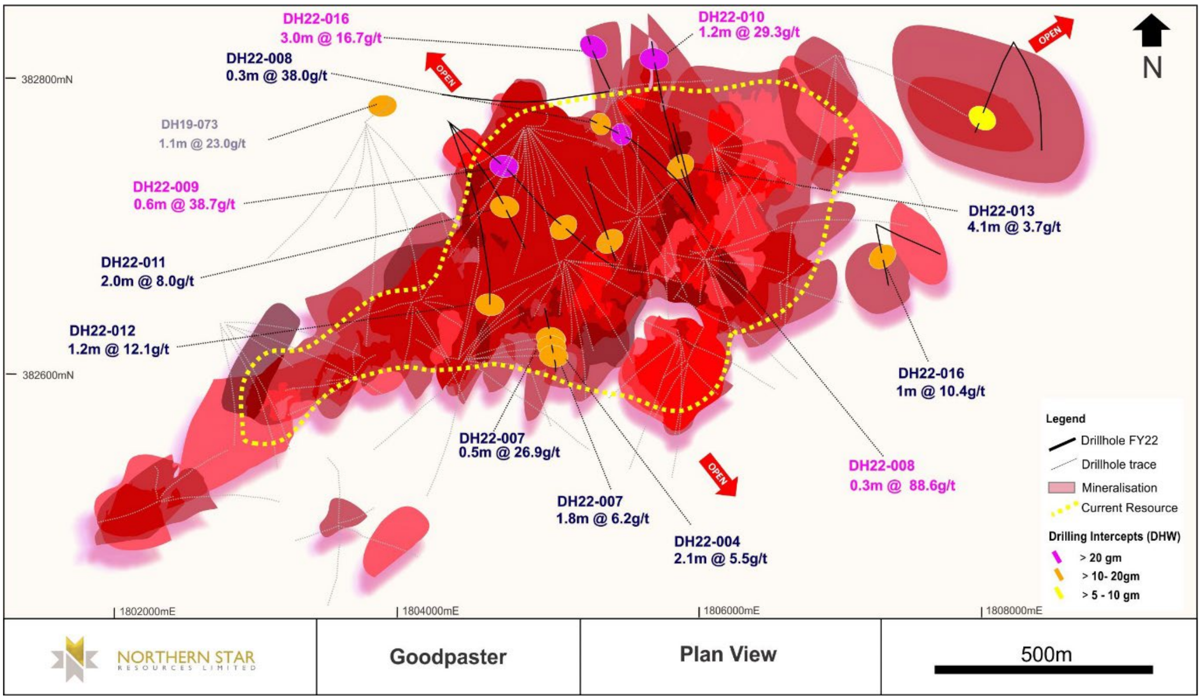
Goodpaster

The Goodpaster deposit is located approximately 2km west of the Pogo mine area with gold mineralisation hosted in a similar geological setting.

Surface exploration drilling has continued to expand the limits of the Goodpaster mineralised system beyond the maiden underground Inferred Mineral Resource estimate of **3.2Mt @ 10.3g/t for 1.1Moz** (announced in May 2022).

New significant diamond drilling results have been returned for the principal northwest-dipping host structures up to 350m on strike and down-dip from the maiden resource area. In addition, targeted infill drilling has confirmed the continuity of several steeply dipping vein systems that are largely excluded from the recent resource volume.

Figure 17 - Goodpaster Plan, Mineralisation Wireframes and New Drill Results



Results will be used to update the Goodpaster geological model and guide further exploration drilling. An updated resource estimate will be included in the Annual Mineral Resource and Ore Reserve Statement ended 31 March 2023.

Significant Goodpaster drilling intersections received include:

Significant diamond drill results include:	
All widths are estimated true width	
DH22-006	3.0m @ 16.7g/t
DH22-008	0.3m @ 88.6g/t
DH22-009	0.6m @ 38.7g/t
DH22-010	1.2m @ 29.3g/t

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

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Competent Persons Statements

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.

The information in this announcement that relates to Mineral Resource estimations for the Company's Operations is based on information compiled by Jabulani Machukera, 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 Machukera 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 Machukera consents to the inclusion in this announcement of the matters based on this information in the form and context in which it appears.

The information in this announcement that relates to Ore Reserve estimations for the Company's Operations is based on information compiled by Jeff Brown, 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 Brown has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Brown consents to the inclusion in this announcement of the matters based on this information in the form and context in which it appears.

APPENDIX B: DRILL RESULTS

KCGM - FIMISTON SIGNIFICANT INTERSECTIONS											
Drill Hole #	Easting (MGA94)	Northing (MGA94)	Drill hole collar RL (MGA)	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)
CTGD052A1	356426	6589108	362	52	61	758	399	405	6	2.7	5.6
						and	409	419	9.81	9.6	8.2
						and	734	745	11.2	1.4	9.0
						and	753	758	5.6	23.2	4.5
CTGD052C1	356426	6589108	362	52	61	799	432	441	8.91	4.9	6.6
						and	724	729	4.33	3.9	3.3
						and	748	756	8.55	2.8	6.0
FNUD0034	356075.8	6594721	254.725	-62	55.894	722.6	330.4	338	7.6	4.5	4.56
						and	552.2	570	17.8	1.4	11.23
FNUD0035	356075.8	6594721	254.725	-64	51.894	762.3	405.87	419.8	13.93	3.3	7.87
						and	618.9	626	7.1	3.1	4.36
						and	729.89	735.73	5.84	2.9	3.75
FNUD0036	356075.8	6594721	254.725	-75	51.894	762.1	155.1	157	1.9	31.1	-
						and	425.45	438.1	12.65	3.1	6.01
						and	445	447.8	2.8	5.4	-
						and	633.89	655.06	21.17	1.4	12.25
FNUD0037	356066.8	6594729	254.725	-41	44.878	740.6	310.98	313.7	2.72	7.6	2.46
FNUD0038	356066.8	6594729	254.725	-45	43.878	897.2	278.4	286.21	7.81	1.7	7.31
						and	312	316.23	4.23	4.7	3.69
						and	333.55	337	3.45	4.3	3.15
						and	609.2	609.87	0.67	54.8	0.56
						and	728.4	733	4.6	3.4	3.91
						and	829.2	837.8	8.6	4.1	7.54
FNUD0039	356066.8	6594729	254.725	-51	42.878	723.1	284	293.36	9.36	2.5	8.43
						and	346.54	350.6	4.06	3.1	3.54
FNUD0040	356066.8	6594729	254.725	-57	41.878	675.3	293.81	299.25	5.44	3.3	3.6
						and	372	383.5	11.5	2.6	8.7
						and	485	489.9	4.9	6.4	4.41
						and	531.8	535.7	3.9	9.8	3.35
						and	542	550.5	8.5	6.7	7.28
FNUD0041	356066.8	6594729	254.725	-64	39.878	693.2	315.4	326.69	11.29	3.2	6.37
						and	410.2	423.03	12.83	2.6	8.65
						and	586.7	592.6	5.9	2.2	4.68
FNUD0045	355919.5	6594839	219.725	-36	52.894	843	327.36	332.14	4.78	3.1	4.38
						and	333.9	334.72	0.82	22.5	0.75
						and	659.3	691.2	31.9	0.6	-
						and	708	726.2	18.2	1.8	16.87
						and	753.2	780.07	26.87	0.9	25
						and	834.51	842.97	8.46	3.3	7.89
FNUD0046	355919.5	6594839	219.725	-42	51.894	844.1	390	393.8	3.8	4.6	-
						and	716	732.2	16.2	1.3	14.14
						and	792	808.9	16.9	2.1	14.86
FNUD0048	355919.5	6594839	219.725	-59	48.894	713.1	190.05	190.6	0.55	63.9	-
						and	360.39	375.91	15.52	2.7	12.39
FNUD0049	355867.5	6595010	196.725	4	53.894	333.6	141.6	146.47	4.87	22.9	4.7
						and	228.04	231.8	3.76	4	3.61
FNUD0050	355866.8	6595010	194.725	-21	51.894	786.5	52	57	5	2.4	4.96
						and	667.65	682	14.35	3	13.78
FNUD0051	355867.4	6595009	194.725	-30	52.894	780.2	254.15	256	1.85	11.7	1.79
						and	479.1	484	4.9	2.5	4.56
						and	675.77	683	7.23	3.5	6.98
						and	758	773.2	15.2	1.8	14.22
FNUD0052	355867.4	6595009	194.725	-39	50.894	871.5	60	67.1	7.1	2.4	6.13
						and	130.7	136.55	5.85	3	5.08
						and	480.08	484.49	4.41	5.2	4.14
						and	664	669.4	5.4	2.2	4.76
FNUD0053	355867.4	6595009	194.725	-45	52.894	638.7	258.87	268	9.13	2.6	7.33
FNUD0054	355866.6	6595008	194.725	-57	50.894	596.1	269.6	276	6.4	5.1	4.24
FNUD0055	355813.3	6595180	170.725	2	45.894	795.1	10.8	22.95	12.15	1.6	11.9
						and	372.2	373.4	1.2	10.1	1.17
						and	704.8	711	6.2	2.8	5.97
FNUD0056	355813.9	6595179	170.725	-12	43.894	696.2	1	3	2	8.5	2
						and	8.04	19	10.96	2.3	10.94
						and	461.61	462.4	0.79	58.7	-

APPENDIX B: DRILL RESULTS

KCGM - FIMISTON SIGNIFICANT INTERSECTIONS											
Drill Hole #	Easting (MGA94)	Northing (MGA94)	Drill hole collar RL (MGA)	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)
						and	652.4	653.6	1.2	21.3	-
FNUD0057	355813.9	6595179	169.725	-28	43.894	762	8	18	10	2.2	9.45
						and	437.62	440.23	2.61	4.2	2.44
						and	480.23	484	3.77	3.9	3.53
						and	742	752.8	10.8	1.3	10.07
FNUD0058	355813.9	6595179	169.725	-43	42.894	834.2	9.4	14	4.6	2.7	3.8
						and	9.4	19.4	10	1.9	8.31
						and	701.77	704	2.23	7.8	1.95
FNUD0059	355813.9	6595179	169.725	-56	40.894	423	11.47	23.35	11.88	2.2	-
FNUD0062	355813.3	6595180	170.725	-15	62.894	335.8	1.31	1.71	0.4	66.3	0.38
						and	7.76	16.57	8.81	3.2	8.68
FNUD0063	355813.9	6595179	169.725	-30	64.894	363.4	7.76	17	9.24	4.4	8.75
						and	173.05	178	4.95	6.5	4.58
FNUD0064	355813.9	6595179	169.725	-42	65.894	462.4	8.7	18	9.3	2.2	8.07
						and	175.5	179.31	3.81	7.8	3.05
FNUD0066	355813.9	6595179	169.725	-63	69.894	516.4	11.95	24.78	12.83	1.7	8.24
						and					
FXGD002A4	355787	6590405	366	46	70	1219	424.8	437.3	12.5	1.1	9.4
						and	555.8	563.5	7.7	2.2	6.2
						and	795.1	801.4	6.3	3.5	5.8
						and	949.0	977.0	28.0	1.1	25.8
						and	1159.1	1169.1	10.1	1.5	9.7
						and	1175.8	1182.1	6.2	2	6.0
FXGD002B1	355787	6590405	366	46	70	488	435.4	445.8	10.4	3.7	7.1
FXGD002B2	355787	6590405	366	46	70	1264	558.7	571.7	13.0	35.4	10.2
						and	1041.4	1056.4	15.0	2	13.4
FXGD004A1	356729	6591329	382	226	54	940	609.0	624.8	15.8	4.9	7.7
						and	818.1	834.4	16.3	1	13.7
FXGD005A1	356671	6591384	383	227	59	1234	599.1	604.1	5.0	8	1.4
						and	639.1	647.7	8.6	3.1	5.3
						and	1206.9	1207.4	0.5	580	0.3
HOGC745	356854	6589439	-11	48	76	384	268.0	276.0	8.0	2.4	4.3
HOGD038	356887	6589489	-18	33	48	252	77.0	89.9	12.9	9.8	7.8
						and	102.3	111.0	8.7	2	7.7
						and	185.5	192.1	6.7	3.4	5.4
						and	198.9	204.4	5.6	3.6	5.0
HOGD041A1	356794	6589514	-18	61	51	340	233.0	239.4	6.4	2.9	5.4
						and	327.1	338.0	10.9	1.7	9.4
MA04069	356024	6590620	-79	317	37	49	7.7	25.7	18.0	5.6	6.6
HMGD040	356781.5	6593723	-18.275	-55	50.894	539.9	286	287.5	1.5	11.7	1.27
						and	346.8	354	7.2	2	5.01
						and	357	366	9	8.8	6.99
						and	370	377.5	7.5	3.5	5.83
HMGD041	356780.9	6593723	-18.275	-48	36.894	550.1	167.41	167.8	0.39	84.5	0.3
						and	279.64	287.4	7.76	2	6.44
						and	348.6	358	9.4	2.1	7.97
						and	527.53	537.92	10.39	9.4	8.68
HMGD042	356781.5	6593723	-17.275	-47	33.894	512.5	280.55	291.12	10.57	1.3	8.83
						and	355.82	359.64	3.82	3.8	2.95
						and	433	442.71	9.71	5.5	8.94
HMGD043	356782.5	6593718	-18.275	-59	59.894	416.1	133.5	134.08	0.58	27.4	0.37
						and	144	156.92	12.92	2.3	5.95
						and	265	273.37	8.37	2.6	5.41
						and	389.1	399.4	10.3	2.6	7.27
HMGD044	356783.1	6593718	-18.275	-56	65.894	468.4	398.25	405.3	7.05	2.9	5.32
						and	145	146	1	134.3	0.68
						and	148	153.5	5.5	9.6	2.53
						and	155.37	161	5.63	7.7	2.59
						and	380.52	385.5	4.98	6	3.74
						and	413.47	414.12	0.65	54	0.45
HMGD046	356779.3	6593722	-18.275	-52	28.894	306	166.4	183	16.6	1.2	14.1
HMGD046B	356779.5	6593724	-18.275	-53	25.894	463.2	150.23	159	8.77	4.9	4.01
						and	446	450	4	8.3	2.92
HOGC779A	356977.7	6593454	12.725	-60	43.894	414	318	330	12	1.6	9.62

APPENDIX B: DRILL RESULTS

KCGM - FIMISTON SIGNIFICANT INTERSECTIONS

Drill Hole #	Easting (MGA94)	Northing (MGA94)	Drill hole collar RL (MGA)	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)
HOGD044	356921.3	6593555	-0.275	-28	48.894	330.2	176	181.1	5.1	15.6	1.86
						and	200.34	201	0.66	94.4	0.24
						and	207.4	208.2	0.8	41	0.29
						and	220.75	226.12	5.37	4.6	5.36
						and	304.78	306.65	1.87	6.2	1.82
						and	318.27	323.1	4.83	4.4	4.78
HOGD046A	356923.5	6593556	-0.275	-28	58.894	312	222.4	227.55	5.15	12.8	5.03
HOGD052A	356909.5	6593586	0.725	-39	-23.106	215.7	177.3	183	5.7	17.9	3.75

KCGM - MT CHARLOTTE - MOB 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)
CUGDKUD026	354828	6597364	-61	-73	105	317.74	178.0	187.0	9.0	5.16	
CUGDKUD036	354827	6597363	-61	-41	152	483.46	224.0	264.0	40.0	1.49	
CUGDKUD038	354827	6597363	-60	-47	155	448.98	224.0	264.0	40.0	2.50	
CUGDKUD040	354827	6597363	-61	-54	154	372.49	235.2	248.3	13.0	6.99	
CUGMC01730	354756	6597457	-200	-54	144	237.8	198.8	203.8	5.0	1.69	
CUGMC01796	354738	6597429	-201	-50	130	236.3	184.0	202.0	18.0	33.85	
CUGMC01831	354776	6597414	-200	-60	156	180	137.0	158.0	21.0	2.86	
CUGMC01852	354787	6597425	-200	-50	156	227.6			NSI		
CUGMC01900	354790	6597477	-199	-51	153	254	153.0	165.0	12.0	0.92875	
CUGMC01941	354783	6597472	-199	-36	153	249	164.0	212.0	48.0	3.796458	
CUGMC01942	354783	6597472	-198	-40	156	272.6	177.0	223.0	46.0	1.103333	
CUGMC01987	354748	6597496	-244	-45	148	264.3	NSI				
CUGMC02296	354790	6597477	-199	-53	156	221.7	142.0	216.0	74.0	1.957237	
CUGMC02297	354790	6597476	-199	-43	155	204.2	161.1	169.1	8.0	2.277188	
CUGMC02414	354776	6597469	-199	-30	153	186	171.0	186.0	15.0	4.037917	
CUGMC02416	354805	6597367	-275	-47	160	99			NSI		
CUGMC02417	354806	6597366	-275	-60	156	118.6	42.9	92.7	49.8	1.158568	
CUGMC02424	354836	6597336	-274	-35	159	66.9	28.0	66.9	38.9	4.009883	
CUGMC02426	354848	6597330	-274	-22	154	90.4	30.0	62.0	32.0	3.441875	
CUGMC02430	354825	6597397	-263	-40	154	157.6	90.0	133.0	43.0	2.371163	
CUGMC02431	354825	6597397	-263	-20	152	102.2	56.0	65.0	9.0	1.487222	
CUGMC02432	354828	6597409	-260	-32	155	132.6			NSI		
CUGMC02433	354828	6597409	-260	-50	157	132			NSI		
CUGMC02434	354828	6597410	-260	-40	158	157	51.0	116.0	65.0	0.879615	
CUGMC02439	354758	6597525	-60		156	391			NSI		
CUGMC04644	354740	6597486	-127	-31	145	306	199.0	227.0	28.0	2.230836	
CUGMC04648	354726	6597465	-127	-33	147	352	322.0	339.0	17.0	1.691706	
CUGMC04651	354722	6597459	-127	-34	149	347	332.0	347.0	15.0	1.389275	
CUGMC04652	354722	6597459	-127	-38	148	333	290.0	332.8	42.8	1.534617	
CUGMC04654	354722	6597459	-127	-38	148	333	344.9	365.9	20.9	1.622817	
CUGMC04656	354718	6597453	-127	-34	151	349	340.0	349.1	9.1	1.852748	
CUGMC04657	354718	6597453	-127	-35	150	375	311.0	328.0	17.0	1.415747	
CUGMC04658	354718	6597453	-127	-38	151	339	306.0	318.0	12.0	2.855119	

KANOWNA BELLE - 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)
VELDT20032	19495	50204	9793	-1	206	783	578.8	582	3.2	4.90	2.9
						and	616.27	619.25	3.0	10.20	2.7
VELDT20034	19495	50205	9792	-9	220	510	317.42	326.01	8.6	3.30	5.9
						and	494	497.26	3.3	9.50	3.1
VELRT20087	19494	50207	9793	-7	276	603	465	472.1	7.1	3.40	4.6
VELRT20092	19494	50206	9793	-7	247	553	422.47	437.59	15.1	2.20	11.9
						and	492.17	496	3.8	6.90	3.0
VELRT20091	19494	50208	9792	2	246	575	400.5	400.81	0.3	25.10	0.3
VELRT20089	19494	50208	9792	1	266	570	388.6	388.9	0.3	131.00	0.2
						and	501	505.76	4.8	3.40	3.8
						and	511.26	511.59	0.3	10.80	0.3
						and	515.95	519.6	3.7	3.30	2.9
						and	524.2	525.1	0.9	12.20	0.7
VELRT20091	19494	50208	9792	2	246	575	400.5	400.81	0.3	25.10	0.3
VELDT20103	19494	50206	9793	8	225	671	176.67	181.4	4.7	3.70	4.7
						and	455	458.76	3.8	2.60	3.7
VELDT20104	19494	50206	9793	4	237	567	179.43	181.5	2.1	20.80	2.1
VELRT20107	19495	50209	9792	-3	276	612	417.66	418.51	0.9	74.70	0.6
VELRT20108	19495	50209	9792	-5	284	639			NSI		
VMRT21002	19494	50205	9792	2	230	729	172.32	173.65	1.3	11.50	1.3
						and	271	271.3	0.3	26.90	0.3
						and	421	424	3.0	3.50	3.0

APPENDIX B: DRILL RESULTS

KANOWNA BELLE - 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)
						and	433	445	12.0	4.30	11.9
						and	439	444	5.0	7.20	5.0
VMRT21003	19494	50205	9792	-6	238	710	440.17	442.08	1.9	5.00	1.1
						and	450.5	452.96	2.5	2.00	1.4
						and	493.29	495.92	2.6	4.00	1.4
VMRT21004	19494	50205	9792	16	238	674	468.85	471.8	3.0	2.20	2.9
						and	492.14	497	4.9	14.40	4.8
						and	532.5	536	3.5	4.90	3.4
VMRT21005	19494	50205	9792	9	244	714	380.48	387.66	7.2	2.90	7.0
						and	477.98	480	2.0	1.90	2.0
VMRSD21019	19493	50206	9792	-7	261	666	435.78	436.6	0.8	59.30	0.7
VMRSD21021	19493	50206	9792	-12	247	645	185	187.87	2.9	3.30	2.6
						and	503	507.71	4.7	7.01	4.4
VMRSD21022	19498	50214	9792	0	278	580	520.63	524	3.4	2.30	2.8
VMRSD21018	19493	50206	9792	-12	256	675	454.44	460.12	5.7	3.30	5.3
VMRSD21024A	19498	50214	9792	-2	284	588	577.16	579.95	2.8	3.32	1.6
VMRSD21023A	19498	50214	9792	-1	281	637	424.18	438.3	14.1	2.40	8.7
						and	512	518.8	6.8	3.20	5.7
						and	556.7	557	0.3	22.80	0.3
VMRSD21026	19498	50214	9792	-12	280	645	461	464.95	4.0	2.01	3.2
VMDT21031	19495	50204	9792	2	215	654	490.86	493	2.1	10.90	1.7
VMRSD21037	19469	50243	9791	6	280	700	361	363	2.0	8.00	1.7
VMRSD21038	19469	50243	9791	3	280	711			NSI		
VMRSD21039	19469	50243	9791	2	277	750			NSI		
VMRSD21040	19469	50244	9791	-2	287	766	409	430.4	21.4	4.30	16.8
VMRSD21042	19458	50249	9791	-9	240	516	472	473.4	1.4	4.60	1.1
VMRSD21043	19458	50249	9791	7	246	484	453	457	4.0	8.80	3.5
VMRSD21044	19458	50249	9791	7	252	492	456	457.2	1.2	9.00	1.1
						and	460.8	464	3.2	6.00	2.9
VMRSD21045	19458	50249	9791	0	250	512	426.5	428	1.5	3.40	1.4
VMRSD21047	19458	50249	9791	-5	251	509	432	434	2.0	12.50	1.8
						and	462	467	5.0	4.20	4.5
VMRSD21050	19458	50249	9791	-10	255	510	318	322	4.0	3.90	3.4
VMRT22006	19458	50249	9791	-14	258	555	444	446	2.0	2.86	1.7
						and	503.9	506	2.1	3.73	2.1
VMRSD21048	19458	50249	9791	1	258	501	424.56	428	3.4	8.50	3.2
						and	463	473.3	10.3	5.30	9.1
VMRSD21049	19458	50249	9791	4	263	524	360	361	1.0	20.00	0.9
VMRSD21052	19458	50250	9791	1	267	536	460	462	2.0	3.00	1.8
						and	466	476.3	10.3	2.60	9.1
VMRSD21053	19458	50250	9791	-8	261	518	313.7	319	5.3	2.75	4.6
VMRSD21053	19458	50250	9791	-8	261	518	491	493.04	2.0	3.47	1.9
VMRSD21054	19458	50249	9791	-8	267	527			NSI		
JPRSD22024	19370	50052	9796	8	259	339	116.7	120	3.3	9.60	3.2
						and	226	239	13.0	2.90	12.4
						and	321.54	324	2.5	4.00	2.4
JPRSD22025	19370	50052	9796	8	267	368	236	237.36	1.4	5.90	1.2
JPRSD22026	19369	50052	9796	13	271	365	14.6	16	1.4	7.60	1.1
						and	237	240.9	3.9	3.90	3.6
						and	333	335.35	2.4	10.20	2.1
JPRSD22027	19369	50053	9796	6	280	397	359.8	363.7	3.9	2.30	3.2
JPRSD22029	19370	50053	9796	2	273	372	327.11	330.3	3.2	3.20	2.7
JPRSD22031	19370	50052	9796	-4	266	357	320.4	321	0.6	39.20	0.5
JPRSD22032	19369	50053	9796	-6	278	387	275	279	4.0	2.30	3.0
						and	322.27	325	2.7	7.70	2.1
						and	333	335	2.0	7.90	1.5
JPRSD22033	19369	50053	9796	-5	288	425	262	268	6.0	10.70	3.9
						and	297	302	5.0	3.90	3.3
JPRSD22034	19370	50053	9796	-9	267	360	276.24	281	4.8	4.40	3.8
						and	323	325	2.0	11.20	1.6
						and	337	341.95	5.0	2.30	4.0
JPRSD22035	19370	50053	9796	-10	280	408	300	304.7	4.7	9.70	3.3
						and	341.75	350.07	8.3	2.45	5.8
						and	359	364.45	5.5	3.40	3.8
JPRSD22036	19369	50054	9796	8	287	426	381	384	3.0	9.50	2.2
						and	391	397.23	6.2	3.90	4.6
JPRSD22037	19369	50054	9796	13	279	387	108	109	1.0	10.00	0.7
						and	354	359	5.0	3.80	4.2
						and	372	377	5.0	2.90	4.2
JPRSD22038	19394	50026	9796	-14	235	427	309.6	312	2.4	12.50	2.0
JPRT22003	19392	50028	9797	10	255	369	112.75	114.5	1.8	6.00	1.6
						and	245.6	253	7.4	3.20	7.2
						and	335.55	336.68	1.1	24.00	1.1
JPRT22006	19393	50028	9797	25	247	390	288	294	6.0	2.20	6.0
						and	327	335	8.0	3.70	8.0
						and	355.8	360	4.2	6.30	4.2
JPRT22007	19394	50026	9796	10	224	476	390	394.83	4.8	3.30	4.4

APPENDIX B: DRILL RESULTS

KANOWNA BELLE - 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)
						and	427	430	3.0	4.60	2.8
						and	306	307	2.0	7.70	2.0
JPRT22010	19393	50028	9796	-8	249	399	124	126.4	2.4	3.70	2.2
JPRT22011	19393	50028	9795	-24	248	426	150	151.6	1.6	7.00	1.3
						and	325.9	327	1.1	4.30	0.8
						and	325.9	327	0.3	53.36	0.3
JPRT22012	19394	50026	9795	-18	243	403	303	306	3.0	10.50	2.4
JPRT22013	19394	50026	9796	-9	218	444	339	344	5.0	13.50	3.8
						and	409	410.7	1.7	15.00	1.3
JPRT22014	19394	50026	9795	-8	239	395	17	18	1.0	125.90	0.9
JPRT22018	19394	50024	9797	19	208	522	446	452	6.0	3.30	5.6
JPRT22022	19394	50025	9797	21	218	504	336	340.11	4.1	3.00	3.7
						and	345.35	354.6	9.3	5.70	8.3
JPRSD22030	19369	50053	9796	1	281	386	87.2	89	1.8	13.24	1.1
JPRSD22040	19394	50026	9796	3	241	439	286.75	288.23	1.5	74.90	1.4
JPRSD22039	19394	50026	9796	-7	231	492	307	317	10.0	11.10	8.7
JPRSD22043	19394	50026	9796	17	220	309	189	195.7	6.7	1.30	6.1
JPRT22010	19393	50028	9796	-8	249	399	124	126.4	2.4	3.70	2.2
JPRT22014	19394	50026	9795	-8	239	395	17	18	1.0	125.90	0.9
VMDT21028	19494	50206	9793	26	245	600	401.39	401.69	0.3	19.10	0.3
VMRSD21018	19493	50206	9792	-12	256	675	454.44	460.12	5.7	3.30	5.3
						and	498.42	501	2.6	1.50	2.4
VMRSD21025	19498	50214	9792	-8	281	631	571.66	574	2.3	5.10	1.9
VMRSD21026	19498	50214	9792	-12	280	645	461	464.95	4.0	2.01	3.2
						and	588	592	4.0	2.30	3.2
VMRSD21051	19458	50249	9791	-5	259	507	314.38	319	4.6	2.90	3.9

KANOWNA BELLE - 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)
RHDD18001	367339	6614524	380	-61	259	545.1	267.0	307.2	40.3	1.4	
RHDD18002A	367097	6614134	377	-64	305	600.5	485.5	538.0	52.5	1.1	
RHCD18003	366981	6614059	375	-55	285	555.5	249.0	290.0	41.0	1.2	
						and	412.0	507.6	95.6	1.1	
RHCD18004	367176	6614223	378	-55	302	519.1	259.0	329.0	70.0	1.0	
						and	411.3	467.6	56.3	0.9	
RHCD18005	367234	6614371	384	-54	283	491.4	208.0	222.0	14.0	2.4	
						includes	211.0	213.0	2.0	10.8	
RHCD18006	367419	6614516	375	-55	290	429.5		NSI			
RHDD18007	366687	6614392	382	-64	118	535.3	93.2	436.5	343.3	1.3	
						includes	315.7	316.4	0.7	233.7	
RHDD21008	367217	6614582	378	-50	235	150.03	30.5	87.0	56.5	0.8	
RHDD21009	367241	6614575	379	-49	232	632.9	30.7	75.0	44.3	1.1	
						and	128.3	168.4	40.1	6.9	
						includes	144.9	145.1	0.2	1001.6	
						and	359.0	394.9	35.9	0.8	
						and	461.0	485.0	24.0	0.8	
						and	498.0	523.0	25.0	0.9	
RHDD21011	367272	6614560	380	-66	229	210.28	76.7	155.0	78.3	1.3	
RHDD21012	367241	6614575	378	-66	232	225.31	39.1	168.0	128.9	1.2	
RHDD21013	367217	6614582	377	-65	238	257.61	50.1	219.0	168.9	0.9	
RHDD21014	367242	6614576	378	-75	229	306.31	59.0	199.0	140.0	1.2	
RHDD21015	367216	6614583	377	-65	277	480.83	148.0	174.0	26.0	1.0	
						and	215.9	409.8	193.8	0.4	
RHDD21016	367092	6614132	376	-54	301	630.16	445.0	482.0	37.0	0.6	
						and	498.0	513.0	15.0	1.1	
						and	529.0	552.0	23.0	3.0	
						includes	536.9	537.6	0.7	21.1	
RHDD21017	366688	6614388	381	-60	147	648.8	99.3	473.1	373.8	0.7	
RHDD21018	366687	6614394	381	-60	90	668.6	120.0	237.0	117.0	0.8	
						and	278.0	361.0	83.0	1.2	
						and	488.5	517.5	29.0	1.4	
RHDD21019	367218	6614585	377	-55	243	450.45	39.7	413.0	373.3	0.5	
RHDD21020	367092	6614134	375	-54	319	501.66	338.5	434.0	95.5	1.0	
RHDD21021	367216	6614583	378	-56	269	372.41	212.0	230.5	18.4	1.7	
RHDD21022	367216	6614584	378	-56	298	319.72	277.1	298.7	21.6	1.2	
RHDD21023	366686	6614391	381	-56	124	387.81	109.0	152.0	43.0	0.7	
						and	166.3	240.0	73.7	1.3	
						and	335.0	354.0	18.9	1.0	
RHDD21024	366686	6614389	381	-55	149	375.5	98.0	337.0	239.0	1.2	
RHDD21025	366690	6614393	381	-54	82	595.04	100.5	135.8	35.3	1.3	
						and	162.0	194.0	32.0	1.2	

APPENDIX B: DRILL RESULTS

KANOWNA BELLE - 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)
						and	275.9	437.8	161.9	2.8	
						includes	326.2	326.7	0.5	655.9	
RHDD22026	367290	6614645	380	-64	207	267.62		NSI			
RHDD22027	367259	6614659	380	-65	230	290.6	217.0	224.0	7.0	1.1	
RHDD22028	366644	6614338	382	-70	131	389.53	307.0	324.0	17.0	0.9	
						and	370.3	382.6	12.3	0.8	
RHDD22029	366644	6614338	382	-55	141	312.52	95.4	141.0	45.6	1.0	
						and	163.0	179.8	16.8	4.9	
						includes	172.0	173.0	1.0	67.3	
						and	216.6	291.0	74.4	0.9	
RHDD22032	366574	6614172	379	-55	52	516.3	93.2	213.0	119.8	0.9	
						and	297.3	341.0	43.7	0.6	
						and	360.0	420.0	60.0	0.8	
						and	436.6	497.0	60.4	1.6	
RHDD22034	366574	6614172	379	-67	78	498.61	129.0	182.5	53.5	1.0	
						and	231.0	264.0	33.0	0.7	
						and	297.4	380.0	82.6	1.1	
						and	409.6	479.0	69.4	1.5	
RHDD22038	366988	6614704	376	-40	163	369.4	136.7	144.8	8.0	1.8	
						and	189.0	348.8	159.8	0.9	
RHDD22040	366837	6614530	377	-60	120	390.3	188.0	383.4	195.4	2.7	
						includes	277.9	278.7	0.8	475.0	

CAROSUE DAM - QENA 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)
QEEX049W1	437499	6668904	344.1	-63.1	228.5	637.0	507.4	526.7	19.3	1.2	11.1
QEEX050W1	437505	6668828	344.5	-62.7	228.5	555.6	509.0	530.0	21.0	3.1	11.8
						and	452.6	466.0	13.4	1.6	7.3
QEEX051W1	437556	6668772	344.5	-62.9	228.5	536.5	454.2	473.0	18.8	1.4	10.3
QEEX055	437324	6669028	344.8	-70.5	235	448.2	NSI				
QEEX056	437320	6669025	344.8	-53.0	235	354.2	198.6	208.0	9.4	1.8	7.3
QEEX057	437663	6668242	346.0	-60.0	240	310.7			NSI		
QEEX059	437761	6668700	344.5	-65.5	231	692.1			NSI		
QEEX071	437675	6669166	344.0	-68.0	215	955.0			NSI		
QEEX071W1	437675	6669166	344.0	-68.0	215	1096.0			NSI		
QERSD001	437218	6668850	345.8	-59.0	239	82.0			NSI		
QERSD003	437255	6668889	345.4	-60.0	238	184.0			NSI		
QERSD004	437298	6668917	345.0	-60.0	240	259.0	214.0	239.0	25.0	2.6	15.8
QERSD006	437284	6668853	345.5	-59.0	238	180.0	120.0	139.0	19.0	2.7	12.6
QERSD007	437311	6668859	345.1	-60.0	240	227.0	191.0	217.0	26.0	6.5	15.2
QERSD008	437319	6668889	345.2	-60.0	240	259.0	220.8	237.0	16.2	3.8	10.7
						and	206.5	219.2	12.7	2.7	8.4
QERSD009	437371	6668896	344.7	-60.0	240	274.0	247.0	274.0	27.0	2.9	20.1
QERSD010	437286	6668813	345.3	-59.0	239	136.0	NSI				
QERSD011	437354	6668851	345.0	-60.0	240	292.0	215.3	250.0	34.7	4.4	23.3
						and	133.0	140.0	7.0	4.7	4.4
QERSD012	437384	6668859	344.8	-60.0	240	304.0	250.4	270.0	19.6	3.2	13.5
QERSD013	437299	6668765	345.5	-60.0	239	104.0	NSI				
QERSD014	437381	6668820	344.9	-60.0	240	271.0	223.0	246.0	23.0	3.4	15.7
QERSD015	437294	6668731	345.7	-60.0	240	74.0	64.0	72.0	8.0	3.3	5.3
QERSD016	437332	6668780	345.3	-59.0	228	173.0	137.0	151.0	14.0	2.0	8.7
QERSD017	437374	6668794	345.1	-60.0	230	244.0	198.0	214.0	16.0	2.6	11.1
QERSD018	437356	6668737	345.3	-59.0	228	160.0	128.0	142.0	14.0	1.9	8.9
QERSD019	437372	6668765	345.2	-60.0	230	208.0	173.0	190.0	17.0	3.5	11.7
						and	60.0	79.0	19.0	1.0	10.1
QERSD020	437406	6668756	345.0	-60.0	230	240.4	214.0	231.0	17.0	12.5	11.3
						and	131.0	137.0	6.0	3.5	3.9
QERSD022	437364	6668698	345.5	-59.0	229	135.0			NSI		
QERSD023	437390	6668710	345.2	-59.0	228	178.0			NSI		
QERSD024	437379	6668660	345.6	-59.0	229	177.0			NSI		
QERSD028	437368	6668961	344.5	-60.0	230	132.0			NSI		
QERSD028A	437368	6668961	344.5	-60.0	230	351.8	292.9	325.9	33.0	1.6	17.5
QERSD029	437374	6668919	344.6	-60.0	230	319.0	270.2	309.3	39.1	2.3	27.2
QERSD030	437400	6668900	344.4	-60.0	230	337.1	291.0	297.8	6.8	5.2	4.8
QERSD037	437456	6668775	344.4	-60.0	230	322.0	282.9	292.0	9.1	11.0	6.0
QERSD038	437490	6668804	344.3	-60.0	230	381.5	337.6	355.0	17.4	6.8	12.1
						and	227.9	233.4	5.5	14.7	3.9
						and	217.0	226.0	9.0	2.1	6.3

APPENDIX B: DRILL RESULTS

CAROSUE DAM - MEMPHIS 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)**
MPEX009	429244	6680826	339	-59.7	219.5	272.8	160.7	179.0	18.3	4.97	14.2
						including	173.6	174.2	0.6	34.30	
						including	176.1	178.1	2.0	22.65	
						and	194.5	217.4	22.9	6.33	14.7
						including	200.9	204.2	3.3	15.39	
						including	214.8	216.4	1.6	30.88	
MPEX011 (RC)	428891	6681215	336	-64.3	218.9	184.0	91.0	106.0	15.0	2.40	11.3
MPEX012	428962	6681304	335	-58.8	218.8	306.8	212.0	221.0	9.0	4.51	6.7
						including	218.4	219.0	0.6	39.70	
MPEX040	429342	6680744	339	-60	219	310.0	179.7	183.5	3.8	13.3	2.4
						including	181.0	181.4	0.4	106.0	
						including	182.3	182.6	0.3	11.40	
MPEX042	429193	6680817	339	-59.7	218.1	219.4	116.9	117.4	0.5	61.80	0.4
MPEX046	429131	6680868	338	-60.2	218.8	229.0	78.0	90.8	12.8	2.24	9.1
						and	153.6	162.0	8.4	3.06	6.6
MPEX059	429161	6680730	338	-80.1	39.5	499.0	151.3	155.4	4.1	5.13	4.1
						including	152.7	153.3	0.6	19.80	
						and	161.0	165.7	4.7	9.40	4.7
						including	165.4	165.7	0.3	111.0	
MPEX062	429099	6680895	339	-60	219.7	220.0	132.0	146.0	14.0	3.63	11.3
						including	133.5	134.0	0.5	13.80	
						including	142.4	143.4	1.0	12.84	
MPEX067	429149	6680829	339	-60	219.7	208.0	95.6	98.0	2.4	15.14	1.7
						including	97.0	98.0	1.0	35.70	
						and	192.6	198.0	5.4	3.79	3.5
MPEX072	429068	6680919	339	-60	219.7	223.0	71.0	75.7	4.7	5.33	3.1
						including	74.3	75.0	0.7	22.7	

JUNDEE - BARTON & MONEYLINE 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)
WSXP2878	259384	7080365	-72	-45	63	1116	343.5	343.8	0.3	7.6	0.3
WSXP2877	259383	7080366	-72	-14	46	1259	700.4	701.0	0.6	76.6	0.4
WSXP2876	259383	7080366	-71	-14	46	1259	700.4	701.0	0.6	76.6	0.4
WSXP2836	260109	7080623	-163	2	13	725	102.4	102.7	0.3	29.5	0.3
WSXP2835	260109	7080623	-164	-15	1	662	230.1	230.4	0.3	5.5	0.3
MLGC0454	259848	7080502	335	-15	113	36	8.0	8.5	0.5	23.8	0.4
MLGC0379	259853	7080427	317	-12	234	186	115.8	116.1	0.3	16.5	0.3
MLGC0378	259853	7080427	317	-14	230	199	173.5	174.0	0.5	0.2	0.3
MLGC0373	259853	7080426	320	17	222	138	95.7	96.1	0.3	114.7	0.3
MLGC0372	259853	7080426	317	-12	220	182	161.0	161.6	0.6	43.8	0.5
MLGC0370	259856	7080426	319	17	215	139	109.1	109.4	0.3	64.6	0.3
MLGC0369	259856	7080427	319	27	215	113	94.0	94.3	0.3	34.2	0.6
MLGC0367	259856	7080427	317	-17	213	216	186.5	187.0	0.5	47.1	0.4
MLGC0366	259856	7080426	318	5	210	136	116.1	116.6	0.5	610.2	0.5
MLGC0364	259856	7080427	317	-14	209	204	189.6	190.4	0.8	19.1	0.4
MLGC0362	259856	7080426	317	-11	206	191	157.5	157.8	0.3	1.7	0.3
MLGC0358	259856	7080427	319	13	195	143	119.5	119.9	0.4	6.9	0.4
MLGC0347	259686	7080368	307	17	179	71	54.1	54.6	0.5	11.0	0.3
MLGC0281	259720	7080379	305	-10	126	98	88.0	89.0	1.0	6.9	0.3
MLGC0280	259720	7080379	307	19	128	81	75.4	76.8	1.4	9.2	0.9
MLGC0278	259720	7080379	306	0	136	98	32.3	32.7	0.4	5.2	0.3
MLGC0277	259720	7080379	307	30	145	122	42.2	42.6	0.4	17.4	0.3
MLGC0276	259721	7080380	304	-34	150	76	55.9	56.2	0.3	12.6	0.3
MLGC0256	259851	7080375	377	-26	238	111	35.1	35.7	0.6	16.7	0.3
MLGC0252	259852	7080374	377	-24	225	114	7.5	8.8	1.3	216.4	0.8
MLGC0240	259899	7080446	399	-60	358	74	51.6	52.4	0.8	20.3	0.6
MLGC0235	259889	7080442	398	-66	308	72	70.0	71.4	1.4	8.5	1.0
MLGC0233	259861	7080453	318	16	182	51	23.4	25.8	2.4	9.8	0.8
MLGC0232	259862	7080453	318	15	140	54	21.7	22.1	0.5	14.5	0.3
MLGC0231	259865	7080455	318	13	112	59	14.3	14.8	0.5	11.6	0.3
MLGC0229	259863	7080458	318	10	37	79	1.0	1.4	0.4	5.5	0.3
MLGC0228	259862	7080458	318	20	4	90	35.9	36.3	0.4	133.0	0.3
MLGC0220	259718	7080487	314	17	124	133	18.9	22.8	3.9	7.2	1.4
MLGC0218	259717	7080487	314	13	130	132	86.9	91.7	4.8	12.9	2.1
MLGC0215	259698	7080472	314	7	140	152	81.0	81.6	0.6	21.4	0.5
MLGC0214	259698	7080472	314	15	141	115	10.6	11.0	0.4	7.8	0.4
MLGC0210	259698	7080472	314	12	150	183	11.5	12.0	0.5	14.4	0.4

APPENDIX B: DRILL RESULTS

JUNDEE - BARTON & MONEYLINE 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)
MLGC0209	259697	7080472	314	6	153	173	164.8	165.1	0.3	171.5	0.3
MLGC0208	259814	7080444	396	-35	75	96	19.6	20.1	0.6	8.1	0.3
MLGC0174	259784	7080468	312	4	105	118	91.0	93.9	2.9	9.0	2.0
MLGC0171	259784	7080468	312	5	93	116	54.8	55.4	0.6	10.5	0.4
MLGC0170	259784	7080468	313	25	87	118	95.7	96.3	0.6	1880.0	0.4
MLGC0169	259784	7080468	312	7	83	126	1.7	2.0	0.3	6.9	0.3
MLGC0168	259784	7080468	312	10	73	142	74.1	75.4	1.3	18.7	0.8
MLGC0138	259728	7080307	412	-61	345	244	156.9	158.2	1.3	27.1	1.0
MLGC0133	259728	7080307	412	-60	338	226	102.9	103.2	0.3	6.2	0.3
MLGC0132	259727	7080308	413	-22	337	210	190.7	193.6	2.9	8.3	1.0
MLGC0124	259729	7080307	412	-64	20	235	181.8	186.0	4.2	6.6	2.8
MLGC0111	259728	7080307	412	-61	323	171	164.4	165.5	1.1	5.6	0.9
MLGC0110	259728	7080307	412	-53	317	201	168.0	168.6	0.6	8.4	0.4
MLGC0109	259728	7080307	412	-58	303	191	60.0	60.4	0.5	13.3	0.3
MLGC0076	259797	7080276	412	-21	38	243	233.9	236.2	2.3	8.9	2.1
MLGC0073	259797	7080276	412	-25	36	229	56.3	56.6	0.3	20.0	0.3
MLGC0072	259797	7080276	412	-26	31	238	53.8	54.3	0.5	830.0	0.3
BDXP0895	259822	7080872	-67	-26	68	448	280.5	280.8	0.3	3.6	0.3
BDXP0894	259822	7080872	-68	-44	61	420	251.7	253.1	1.4	4.7	1.1
BDXP0893	259822	7080872	-68	-34	60	424	337.0	337.5	0.5	8.6	0.3
BDXP0891	259822	7080872	-67	-17	51	407	274.3	275.0	0.7	129.3	0.5
BDXP0891	259822	7080872	-67	-17	51	407	281.4	282.8	1.4	6.3	1.2
BDXP0889	259822	7080872	-67	-17	43	476	276.5	276.9	0.4	0.5	0.3
BDXP0887	259822	7080872	-68	-29	38	493	418.7	419.0	0.3	11.8	0.3
BDXP0885	260033	7080930	-4	-33	40	252	174.5	175.0	0.6	8.5	0.4
BDXP0883	260039	7080919	-4	-41	57	250	6.4	6.7	0.3	12.0	0.3
BDXP0882	260039	7080919	-4	-51	62	246	3.5	3.8	0.3	14.2	0.3
BDXP0880	260038	7080918	-4	-60	76	252	95.0	95.5	0.5	5.9	0.3
BDXP0875	260030	7080933	-4	-51	326	293	266.8	267.2	0.5	9.6	0.3
BDXP0874	260028	7080932	-4	-50	315	318	286.1	287.0	0.9	6.2	0.5
BDXP0869	260031	7080933	-3	-18	5	268	20.5	20.8	0.3	11.9	0.3
BDXP0868	260031	7080933	-3	-18	354	288	39.1	39.4	0.3	8.2	0.3
BDXP0866	260033	7080932	-4	-57	47	226	174.9	175.3	0.4	41.4	0.4
BDXP0862	260032	7080933	-3	-5	22	313	19.6	20.0	0.4	6.3	0.3
BDXP0861	260032	7080933	-4	-51	21	217	100.1	100.5	0.4	6.6	0.3
BDXP0860A	260032	7080933	-3	-23	14	247	181.8	182.1	0.3	173.7	0.3
BDXP0859	260032	7080933	-4	-68	9	223	34.5	34.8	0.3	8.6	0.3
BDXP0858	260032	7080933	-3	-10	6	295	278.1	279.0	0.9	30.6	0.8
BDXP0857	260031	7080933	-3	-35	1	232	25.0	25.3	0.3	5.0	0.3
BDXP0856	260030	7080933	-2	0	358	375	357.0	360.3	3.3	13.6	1.8
BDXP0855	260030	7080933	-4	-56	354	222	188.0	188.4	0.4	18.3	0.3
BDXP0853	260030	7080933	-3	-44	342	236	31.3	31.6	0.3	6.7	0.3
BDGC7829	260031	7080933	-4	-39	29	205	26.7	27.1	0.4	8.9	0.4
BDGC7828	260031	7080933	-3	-35	23	208	171.1	173.6	0.5	194.2	0.4
BDGC7825	260031	7080933	-3	-44	1	206	182.2	182.5	0.4	13.6	0.3
BDGC7822	260030	7080933	-3	-23	21	239	188.0	188.4	0.4	110.0	0.4
BDGC7820	260030	7080933	-4	-40	17	217	168.1	170.5	2.4	31.4	1.5
BDGC7819	260030	7080933	-3	-18	17	255	190.7	191.2	0.5	5.4	0.3
BDGC7818	260030	7080933	-4	-56	12	212	172.0	172.5	0.5	7.2	0.5
BDGC7817	260030	7080933	-4	-47	10	214	172.1	172.7	0.6	17.9	0.4
BDGC7816	260030	7080933	-3	-29	11	232	176.0	176.5	0.6	4.0	0.3
BDGC7815	260031	7080933	-3	-19	11	254	31.3	31.7	0.4	7.5	0.4
BDGC7814	260030	7080933	-3	-23	7	243	164.7	165.2	0.5	59.3	0.4

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)
WNRD1127	322328	6863600	501	-62	214	452	379.1	395.5	16.4	5.0	11.5
WNRD1115	322382	6863633	500	-62	215	550	455.0	492.0	37.0	2.0	25.9
WNRD1130	322153	6863797	502	-61	217	525	462.3	511.0	48.7	1.3	34.1
WNRD1121	322434	6863555	500	-59	219	541	416.4	427.0	10.6	5.6	7.4
WNRD1128	322257	6863506	501	-60	217	361	239.7	249.1	9.4	5.5	6.6
WNRD1153	321914	6864035	502	-62	217	630	557.1	577.5	20.5	2.5	14.3
WNRD1085	322161	6863651	502	-60	220	469	295.6	320.8	25.2	2.0	17.6
WNRD1126	322313	6863567	501	-60	217	424	332.5	337.6	5.2	8.0	3.6
WNRD1136	321972	6863868	504	-59	215	457	397.3	412.3	15.0	2.7	10.5

APPENDIX B: 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)
WNRD1131A	322032	6863781	504	-62	210	454	358.0	371.0	13.0	3.0	9.1
WNRD1137	321998	6863898	504	-60	215	529	471.4	478.2	6.8	5.6	4.7
WNRD1125A	322427	6863585	499	-62	216	538	450.6	479.0	28.4	1.3	19.9
WNRD1132	322058	6863844	504	-62	214	543	456.0	467.6	11.6	3.0	8.1
WNRD1118	322364	6863473	500	-60	217	370	293.0	307.0	14.0	2.5	9.8
WNRD1119	322381	6863495	500	-61	217	466	325.6	340.1	14.6	2.0	10.2
BNRC110	323183	6862636	491	-60	225	118	75.0	89.0	14.0	5.7	9.8
BNRC111	323211	6862665	491	-60	225	172	132.0	150.0	18.0	2.4	12.6
BNRC112	323194	6862591	491	-60	227	100	45.0	50.0	5.0	4.7	3.5
BNRC113	323223	6862619	491	-60	225	142	74.0	97.0	23.0	2.1	16.1
BNRC114	323251	6862647	491	-60	225	190	116.0	154.0	38.0	3.1	26.6
BNRC116	323308	6862587	491	-55	226	172	80.0	118.0	38.0	3.2	26.6
BNRC117	323329	6862607	491	-60	227	214	140.0	166.0	26.0	4.7	18.2

THUNDERBOX – BANNOCKBURN - NORTHWELL 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)
NWRC0028	292418	6854707	409	-60	268	214	102.0	142.0	40.0	2.4	36.0
NWRC0030	292424	6854756	409	-61	271	214	112.0	149.0	37.0	2.3	33.3
NWRC0019	292363	6854413	409	-61	269	154	93.0	104.0	11.0	2.1	9.9
NWRC0026	292439	6854611	409	-60	267	220	139.0	151.0	12.0	1.7	10.8
NWRC0018	292417	6854260	408	-60	270	220	121.0	136.0	15.0	1.1	13.5
NWRC0017	292379	6854261	408	-60	270	208	94.0	100.0	6.0	2.1	5.4
NWRC0029	292379	6854760	409	-60	272	180	103.0	114.0	11.0	1.0	9.9

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)
22U1094A	1813144	3823030	560	-64	283	305	243.5	245.6	2.1	19.6	1.8
22U1084	1812612	3822762	865	-1	283	155	61.6	65.2	3.7	8.0	2.8
22U1078	1812613	3822762	865	-7	254	78	51.1	56.9	5.8	8.2	4.1
22U1077	1812612	3822761	865	1	244	82	19.3	28.3	9.1	10.5	7.4
						and	20.4	28.3	7.9	10.1	5.6
						and	39.6	42.7	3.0	6.1	2.0
						and	57.6	58.3	0.7	22.9	0.5
22U1076	1812613	3822761	863	-9	240	84	17.2	28.4	11.2	3.6	9.7
22U0932	1813002	3823809	482	-74	283	286	55.7	57.9	2.2	5.5	2.1
22U0931	1813001	3823811	482	-69	258	286	53.9	55.8	1.9	8.7	1.5
						and	76.1	81.1	5.1	8.8	3.3
22U0930	1813000	3823801	482	-75	234	310	50.3	54.1	3.8	5.0	3.3
						and	55.8	61.9	6.1	13.3	5.2
22U0919	1812464	3822706	1015	-24	322	75	50.7	51.8	1.1	15.1	0.7
22U0917	1812453	3822681	1013	-36	285	58	9.4	12.9	3.4	3.6	3.4
						and	27.1	28.1	1.0	10.3	1.0
22U0916	1812455	3822680	1014	-62	283	49	0.9	8.8	7.9	6.6	7.8
						and	35.4	39.4	4.0	5.0	3.1
22U0909	1813011	3824060	493	0	290	538	436.7	442.8	6.0	56.6	5.9
						and	61.4	63.8	2.4	11.0	2.2
						and	71.6	71.9	0.3	36.3	0.3
22U0907	1813068	3823081	547	-53	281	196	39.9	41.0	1.1	14.4	0.7
22U0775	1813791	3819609	2025	-65	339	188	169.2	170.4	1.2	20.2	1.2
						and	178.3	180.4	2.0	13.0	1.6
22U0657	1811832	3822227	1091	76	95	139	122.8	123.9	1.1	25.4	0.7
						and	126.7	132.0	5.3	5.6	3.4
22U0654	1811832	3822228	1091	73	75	132	125.0	129.6	4.7	11.5	3.0
22U0443	1812996	3823813	482	-56	296	233	175.0	187.0	11.9	10.5	7.7
						and	49.6	55.5	5.9	9.6	4.1
22U0442	1812995	3823811	486	1	296	240	47.5	47.9	0.3	74.4	0.3
22U0441	1812994	3823811	489	10	294	262	157.0	157.8	0.8	23.7	0.8
						and	53.6	54.3	0.7	33.9	0.6
						and	55.8	57.9	2.1	8.4	1.8
22U0440	1812994	3823812	486	-7	292	213	41.5	44.5	3.0	25.5	2.3
						and	197.5	198.5	1.1	15.7	0.8
						and	181.0	182.3	1.3	37.1	1.2
22U0438	1812993	3823812	487	-2	283	465	196.0	197.6	1.6	9.5	1.2
						and	39.9	41.9	2.0	22.9	1.8
22U0437	1812993	3823812	482	-53	280	226	173.0	176.0	3.0	4.9	2.2

APPENDIX B: DRILL RESULTS

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)
22U0436	1812993	3823812	482	-36	279	471	51.3	53.3	2.1	5.6	2.0
						and	55.2	56.1	0.8	39.1	0.8
						and	147.9	151.2	3.2	3.5	3.2
22U0435	1812993	3823812	485	-20	277	451	36.1	37.5	1.4	7.2	1.4
22U0434	1812996	3823802	482	-47	263	195	48.8	49.8	1.0	22.3	0.8
						and	71.2	75.1	3.9	5.6	3.8
						and	150.9	151.6	0.7	118.3	0.6
22U0433A	1812993	3823803	482	-59	262	213	33.2	33.5	0.3	40.5	0.2
						and	45.6	47.2	1.7	13.5	1.5
						and	82.1	85.3	3.1	11.0	2.8
22U0433	1812995	3823803	483	-59	262	211	81.7	83.3	1.6	11.4	1.1
22U0432	1812995	3823802	482	-49	244	255	229.1	229.8	0.7	60.0	0.7
						and	81.8	82.9	1.1	17.9	1.0
						and	88.3	89.9	1.6	9.4	1.5
						and	169.8	174.5	4.7	9.6	4.6
22U0431	1812995	3823802	482	-62	237	262	93.5	95.4	2.0	7.0	1.5
						and	185.4	187.9	2.5	16.3	1.8
						and	189.7	191.2	1.4	20.6	1.0
22U0430	1812995	3823801	482	-45	230	228	136.6	137.5	0.9	22.9	0.9
22U0429	1812645	3822644	863	14	266	49	22.1	26.4	4.3	24.0	2.7
22U0428	1812644	3822645	863	11	239	50	21.7	27.7	5.9	10.3	3.8
						and	32.0	34.1	2.1	17.2	1.1
22U0427	1812645	3822643	863	10	226	56	30.4	33.5	3.1	7.7	1.8
22U0425	1812683	3822704	867	11	295	140	2.4	6.7	4.3	5.6	3.5
22U0422	1812760	3822929	882	1	265	147	43.3	44.4	1.1	16.3	9.4
						and	62.6	64.1	1.5	30.7	1.2
22U0421	1812760	3822927	882	1	253	99	36.0	38.5	2.6	5.8	1.8
						and	63.9	66.1	2.1	5.8	1.8
						and	32.1	33.5	1.4	18.5	1.0
22U0157	1812777	3823456	483	-49	302	225	40.4	40.9	0.5	23.0	0.4
						and	50.3	52.6	2.3	8.2	1.6
22U0156	1812775	3823454	487	-4	267	213	88.5	91.0	2.5	8.8	2.5
22U0155	1812774	3823447	486	-12	243	286	94.5	97.3	2.8	5.8	2.8
22U0154	1812775	3823447	486	-13	231	311	65.9	67.3	1.5	8.6	1.4
22U0149	1811914	3823240	992	36	88	149	1.7	3.4	1.7	19.6	1.7
22U0033	1813134	3822872	586	28	237	105	15.0	15.8	0.7	17.5	0.7
22U0024	1813115	3822928	570	-36	267	211	173.6	178.0	4.5	8.7	4.2
22U0022	1813115	3822928	570	-57	258	236	149.1	150.2	1.1	15.4	1.1
22U0021	1813115	3822928	570	-53	257	262	197.2	207.4	10.2	6.4	8.8
22U0020	1813115	3822928	570	-42	258	361	207.0	212.0	4.9	6.2	4.3
						and	144.0	146.3	2.3	9.1	2.1
						and	179.3	186.7	7.4	6.0	7.2
22U0013	1813115	3822928	570	-41	249	209	187.5	191.6	4.1	7.3	3.7
22U0008	1813068	3823078	547	-45	263	159	143.3	145.2	2.0	7.9	1.3
22U0004A	1813070	3823075	547	-58	250	228	203.3	205.2	2.0	9.5	1.5
22U0004	1813070	3823076	546	-58	251	237	213.1	216.1	3.0	10.1	2.8
						and	226.7	229.7	3.0	80.8	2.1
22U0003A	1813070	3823075	547	-46	250	210	138.4	139.4	1.0	12.7	1.0
						and	150.6	151.8	1.2	9.9	1.2
22U0003	1813115	3822930	570	-47	250	210	188.9	192.0	3.1	6.6	2.0
22U0002	1813070	3823076	546	-57	241	164	141.9	142.9	1.0	26.3	1.0
22U0001	1813070	3823076	546	-49	243	155	133.5	134.4	0.9	17.6	0.8
21U1897	1812465	3822709	1018	-14	317	62	14.3	18.1	3.8	5.8	3.1
21U1896	1812465	3822707	1015	-56	316	62	21.9	25.5	3.6	33.9	3.3
21U1892	1812449	3822672	1016	-13	314	53	19.6	25.5	5.9	8.3	5.1
21U1890	1812450	3822669	1016	-18	290	57	19.7	23.3	3.6	5.2	3.0
21U1889	1812424	3822623	1012	-47	335	56	1.0	11.5	10.5	7.5	9.1
						and	36.9	39.0	2.1	8.3	2.0
21U1887	1812421	3822621	1014	-30	308	59	7.6	21.7	14.1	6.6	12.2
21U1886	1812420	3822620	1017	8	300	39	8.9	16.2	7.2	15.1	4.6
21U1881	1812419	3822620	1013	-34	264	48	17.8	22.1	4.3	7.5	4.1
						and	10.3	12.5	2.2	14.4	2.0
21U1875	1812295	3822491	1018	12	15	47	22.6	26.8	4.3	9.3	2.4
21U1874	1812295	3822492	1015	-14	6	58	20.1	24.6	4.5	16.3	1.5
21U1813	1812775	3823456	490	25	283	67	51.2	54.0	2.8	64.5	2.2

APPENDIX B: DRILL RESULTS

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)
21U1811	1812779	3823444	490	23	243	77	50.5	53.1	2.7	9.3	2.2
21U1789	1812723	3823091	538	-58	268	262	67.5	71.2	3.7	4.2	3.7
21U1719	1812983	3823262	528	-24	270	164	116.6	117.7	1.1	13.0	1.1
						and	151.4	153.0	1.7	6.4	1.7
21U1718	1812982	3823262	528	-32	269	198	132.3	134.1	1.8	16.3	1.7
21U1717	1812982	3823261	528	-43	269	190	160.7	161.5	0.8	15.8	0.8
21U1717	1812982	3823261	528	-43	269	190	164.0	166.4	2.4	4.9	2.2
21U1716	1812983	3823261	527	-51	269	177	137.2	141.5	4.4	9.8	3.8
						and	96.4	97.2	0.8	14.4	0.7
						and	164.2	165.0	0.9	23.0	0.8
21U1713	1812989	3823253	527	-61	259	228	178.8	179.9	1.2	13.3	1.0
21U1712	1812988	3823255	527	-63	247	227	205.0	210.6	5.6	6.5	4.6
						and	112.8	116.0	3.2	5.5	3.2
21U1705	1812985	3823254	528	-32	263	188	126.3	132.8	6.6	9.0	6.5
21U1703	1812985	3823254	527	-45	261	195	133.7	135.0	1.2	25.4	1.1
						and	138.7	144.8	6.1	4.6	5.8
21U1702	1812986	3823254	528	-51	261	204	119.4	119.8	0.4	32.2	0.3
21U1699	1812985	3823253	529	-35	253	191	164.3	165.7	1.4	9.1	1.3
21U1698	1812984	3823254	529	-28	261	151	124.5	129.9	5.4	12.7	5.3
21U1697	1812986	3823253	529	-27	252	148	124.5	126.9	2.3	4.5	2.3
						and	141.0	143.1	2.0	14.6	2.0
21U1695	1812998	3823247	528	-21	241	168	143.0	147.5	4.6	8.8	4.5
21U1694	1812999	3823247	527	-30	240	212	96.0	101.1	5.1	4.3	4.9
21U1692	1813000	3823248	527	-52	242	223	192.5	193.9	1.4	14.3	1.0
						and	92.1	92.5	0.4	37.4	0.4
21U1689	1813001	3823246	527	-58	228	246	162.5	164.7	2.3	6.6	1.8
21U1688	1813002	3823250	526	-70	243	201	60.0	61.6	1.5	16.5	1.5
21U1686	1812812	3823431	481	-78	185	415	301.9	302.8	0.9	13.5	0.8
21U1685	1812805	3823440	482	-82	209	381	135.5	140.3	4.8	4.8	2.4
21U1684	1812805	3823441	482	-72	211	374	319.8	322.6	2.8	9.1	2.0
						and	142.6	147.4	4.8	10.6	3.9
21U1682A	1812794	3823441	482	-89	212	286	137.6	143.8	6.2	4.0	3.6
21U1680	1812794	3823454	482	-79	338	219	34.5	35.0	0.5	40.5	0.5
21U1677	1812783	3823458	482	-73	316	184	127.0	133.5	6.5	3.7	5.6
21U1676	1812782	3823457	483	-84	317	210	70.0	71.7	1.7	25.5	1.1
						and	131.0	133.9	2.9	10.8	1.9
						and	65.5	69.0	3.4	8.3	2.2
21U1675	1812783	3823457	482	-63	302	155	62.2	67.4	5.2	8.9	4.7
						and	95.7	96.4	0.7	21.9	0.7
21U1674	1812781	3823456	483	-78	292	164	111.7	116.3	4.6	9.1	3.2
21U1670	1812776	3823456	486	-15	291	121	21.9	23.8	1.8	6.2	1.8
						and	38.5	41.8	3.3	4.4	3.2
						and	95.8	99.1	3.3	3.8	3.2
21U1668	1812777	3823455	483	-43	282	115	80.1	81.5	1.4	8.6	1.4
						and	90.3	91.2	0.8	15.4	0.8
21U1662	1812774	3823454	482	-40	266	106	52.4	57.3	4.9	5.9	4.0
						and	82.2	87.2	5.0	5.1	4.7
						and	49.5	57.3	7.8	5.0	7.3
21U1660	1812774	3823454	482	-60	264	120	87.0	89.6	2.6	11.5	2.0
21U1657	1812779	3823450	482	-73	264	155	100.3	109.3	9.1	7.2	6.9
21U1656	1812779	3823444	486	-16	255	118	97.7	100.0	2.3	19.9	2.2
						and	82.5	84.8	2.3	6.1	2.1
						and	106.1	107.2	1.1	22.5	1.1
21U1655	1812779	3823444	482	-28	254	117	37.3	38.2	0.9	16.8	0.9
						and	82.3	83.4	1.1	12.7	1.0
21U1652	1812780	3823443	482	-59	247	120	83.0	85.7	2.7	13.0	2.3
21U1651	1812780	3823443	482	-37	237	265	72.8	74.8	1.9	24.9	1.9
21U1650	1812780	3823442	483	-46	233	282	82.2	87.4	5.1	15.7	4.4
						and	34.9	36.3	1.8	19.8	1.4
						and	91.8	93.4	1.6	9.7	1.5
						and	114.1	114.4	0.3	46.3	0.3
21U1649	1812781	3823443	483	-54	229	173	119.0	125.5	6.5	11.4	5.3
21U1646	1812787	3823445	482	-61	222	176	102.6	106.1	3.4	3.5	3.0
						and	125.6	129.4	3.8	6.0	2.9
21U1233	1811936	3823165	1377	8	59	84	67.4	68.3	1.0	16.8	0.8

APPENDIX B: DRILL RESULTS

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)
21U1182	1813134	3823019	560	-73	180	295	23.3	24.0	0.6	88.2	0.6
21U1177A	1813129	3823027	560	-60	274	252	224.0	226.0	2.0	9.3	1.9
21U1096	1811753	3823316	1350	51	28	115	98.7	100.4	1.7	22.9	1.5
21U1094	1811752	3823320	1348	30	31	124	72.1	73.7	1.6	8.1	1.5
21U0835	1812679	3823161	673	-64	209	127	59.9	64.8	4.9	18.9	3.5
						and	68.3	72.2	4.0	5.9	3.4
						and	84.8	90.5	5.8	4.3	5.0
21U0833	1812678	3823157	673	-53	178	72	63.9	66.0	2.2	8.1	2.1
						And	54.5	59.3	4.8	13.3	4.7
21U0830	1812726	3823100	541	-3	297	91	27.5	28.3	0.8	18.5	0.6
21U0829	1812725	3823101	542	5	296	100	51.4	52.1	0.8	17.3	0.8
21U0829	1812725	3823101	542	5	296	100	83.9	87.2	3.3	5.2	3.2
21U0828	1812727	3823100	537	-46	295	140	62.5	67.4	4.9	8.6	4.6
21U0827	1812726	3823100	538	-35	293	130	76.4	79.5	3.0	4.4	3.0
						and	53.3	61.6	8.3	8.5	8.2
						and	66.5	68.8	2.3	39.1	2.3
21U0826	1812723	3823093	538	-25	292	127	46.5	57.2	10.7	10.6	10.0
21U0824	1812725	3823099	542	8	288	97	79.2	85.3	6.1	9.2	4.7
21U0823	1812723	3823092	538	-44	282	138	11.6	16.5	5.0	16.5	2.5
						and	51.8	62.5	10.7	7.2	10.4
						and	65.8	70.1	4.3	4.6	4.1
21U0822	1812723	3823091	538	-33	281	225	150.1	150.5	0.5	28.5	0.4
						and	202.4	205.7	3.3	15.5	3.3
						and	42.7	49.3	6.6	18.5	6.2
						and	59.8	62.2	2.3	12.3	2.3
21U0817	1812723	3823092	539	-14	268	125	39.7	41.9	2.2	7.6	1.4
21U0815	1812723	3823091	538	-49	266	140	5.1	6.9	1.9	17.3	0.8
21U0814	1812723	3823087	543	14	250	142	82.2	83.8	1.6	8.0	1.4
						and	100.3	102.8	2.5	4.7	2.2
						and	44.8	48.2	3.4	4.8	3.2
						and	54.5	57.3	2.8	9.4	2.5
22U0154	1812774	3823447	486	-13	231	416	296.3	302.9	6.6	21.4	2.0
21U1686	1812812	3823433	482	-78	185	1363	990.5	993.3	1.4	17.1	1.8

SOUTH POGO SIGNIFICANT INTERCEPTS											
Drill Hole #	Easting (AKSP3)	Northing (AKSP3)	Drill hole collar RL (AKSP3)	Planned Dip (degrees)	Azimuth (degrees, Magnetic North)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
22U0770A	1813793	3819604	2027	-62.4	298.7	179.2			NSI		
22U0771	1813793	3819604	2026	-79.4	315.1	148.7			NSI		
22U0772	1813790	3819611	2025	-44.4	312.8	186.8	163.4	170	6.6	16	5.09009
22U0773	1813789	3819611	2025	-47.2	319.3	179.5				NSI	
22U0774	1813790	3819612	2025	-51.1	324.8	168.2	143.4	146.1	2.7	44.1	2.031366
22U0775	1813791	3819609	2025	-65.1	338.7	188.4	153.2	153.9	0.7	52.9	0.560377
22U0776	1813791	3819612	2025	-53.4	340.0	182.3	169.2	170.4	1.2	20.2	1.2192
22U0777	1813798	3819610	2026	-49.0	345.1	180.4	178.3	180.4	2	13	1.564385
22U0778	1813798	3819610	2025	-47.2	350.6	194.8			NSI		
22U0779	1813797	3819611	2026	-45.8	356.1	207.9			NSI		
22U0780	1813798	3819610	2026	-53.0	1.3	223.1	198.7	201.2	2.5	10.8	1.7
						and	215.2	220.2	5.0	7.5	3.5
22U0781	1813797	3819610	2025	-61.6	12.7	182.3	114.7	115.1	0.5	32.2	0.4
22U0782	1813797	3819611	2026	-47.7	14.3	249.0					NSI
22U0783	1813799	3819610	2028	-38.2	20.6	246.6	225.8	233.1	7.3	9.7	4.2
22U0784	1813801	3819608	2025	-54.1	23.9	239.0	NSI				
22U0785	1813802	3819608	2025	-42.1	28.6	280.1	248.6	252.1	3.5	4.8	2.5
22U0786	1813802	3819608	2025	-47.1	42.0	231.3	180.8	184.7	3.9	8.1	3.2
22U0787	1813802	3819605	2025	-64.5	66.3	155.1					NSI
22U0788	1813805	3819602	2025	-42.5	80.2	192.9	167.7	170.4	2.7	5.5	2.2
22U0789	1813773	3819575	2025	-63.1	267.7	147.2	112.7	118.4	5.7	9.2	5.4
						and	128.8	129.5	0.7	28.5	0.7

POGO - GOODPASTER SIGNIFICANT INTERSECTIONS											
Drill Hole #	Easting (AKSP3)	Northing (AKSP3)	Drill hole collar RL (AKSP3)	Dip (deg)	Azimuth (deg, Magnetic North)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
DH22-004	1805099	3825930	1470	-73	346	451.6	123.1	125.7	2.6	5.5	2.1
DH22-006	1805477	3827883	1781	-80	340	712.5	688.4	691.9	3.5	16.7	3.0

APPENDIX B: DRILL RESULTS

POGO - GOODPASTER SIGNIFICANT INTERSECTIONS											
Drill Hole #	Easting (AKSP3)	Northing (AKSP3)	Drill hole collar RL (AKSP3)	Dip (deg)	Azimuth (deg, Magnetic North)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
DH22-007	1805100	3825934	1467	-47	351	227.7	154.5	157.2	2.7	26.9	0.5
						and	101.0	103.8	2.7	6.2	1.8
DH22-008	1806074	3827084	1538	-59	317	634.6	516.1	516.5	0.4	88.6	0.3
						and	606.9	607.4	0.4	38.0	0.3
DH22-009	1804344	3827687	1857	-50	130	564.2	258.0	259.2	1.2	38.7	0.6
DH22-010	1806062	3827081	1537	-55	339	714.1	612.9	616.5	3.6	29.3	1.2
DH22-011	1804342	3827685	1855	-51	148	592.3	372.8	375.1	2.3	8.0	2.0
DH22-012	1804340	3827683	1857	-50	163	685.0	396.3	397.5	1.2	12.1	1.2
						and	670.3	671.1	0.8	26.7	0.5
DH22-013	1806057	3827078	1539	-68	345	557.2	246.3	250.6	4.3	3.7	4.1
DH22-014	1805520	3826673	1532	-60	341	456.6	92.9	94.6	1.7	7.1	1.6
DH22-016	1807291	3826974	1440	-50	170	224.6	126.1	127.1	1.0	10.4	1.0
DH22-017	1805511	3826642	1526	-60	307	323.7	308.6	311.1	2.5	7.5	2.4

APPENDIX C: TABLE 1

KCGM: Fimiston North and Fimiston South

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 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 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 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 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 oriented 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 two metre 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 KCGMQA/QC protocols are removed from the estimate.
	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 1:25 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 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 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: - 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
		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. 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. 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.	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.	Planned holes are marked up by the KCGM surveyors using RTK-GPS in the mine grid. 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. 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. 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.
	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 8mE 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 lodes 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.	The majority of data is drilled perpendicular to the interpreted strike of the Fimiston ore lodes. Due to the complex overlapping nature of the mineralised zones, actual intersections may be slightly oblique to the intended right-angle intersections. Recent drill intercepts from 2020 are recorded in true width where known. Historical drill intercepts are recorded as downhole width, unless otherwise stated. The majority of drill holes are positioned to achieve optimum intersection angles to the ore zone as are practicable.

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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: - 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 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. There are two registered Native Title Claims that incorporate the KCGM leases. Claimant groups include the Maduwongga people (WC2017/001) and Marlinyu Ghoorlie (WC2017/007). These claims are currently before the tribunal for the 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 Kalgurli 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 volcaniclastic rocks (Swager, 1997). Younger sedimentary basins, occurring along major faults or synclines, unconformably overly the greenstone sequence (Swager, 1997). Granitic intrusions occurring

APPENDIX C: TABLE 1

Criteria	JORC Code explanation	Commentary
		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. 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. 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 Paringa 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. 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).. 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 Pit, 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.
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: 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 from KCGM for each lode represented throughout the report. 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.	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.
	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 based on underground and open pit reporting criteria. Cut off grades are based on assumed mining grades. Open pit lode mineralised zones were interpreted using a nominal cut-off grade (COG) of 0.5g/t with a maximum internal dilution of 5 meters. Open pit stockwork mineralised zones were interpreted using a nominal cut-off grade (COG) of 0.5g/t with a maximum internal dilution of 5 meters. Underground lode mineralised zones were interpreted using a nominal cut-off grade (COG) of 3g/t with a maximum internal dilution of 2 meters. Underground Stockwork mineralised zones were interpreted using a nominal cut-off grade (COG) of 1.7g/t with no maximum internal dilution. Where a stand out higher grade zone exists within 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.	No metal equivalent values have been used for the reporting of these exploration results.
Relationship between mineralisation	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.

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Criteria	JORC Code explanation	Commentary
widths and intercept 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').	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 – Maritana Orebody

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 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 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. 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

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Criteria	JORC Code explanation	Commentary
		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 ACTIIIRD 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 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 om 5% of 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.

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Criteria	JORC Code explanation	Commentary
		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: - 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.	Twinning 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.
	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 MTC 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 the KCGM 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. 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.

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Criteria	JORC Code explanation	Commentary
		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.	MTC 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 and distribution	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 lodes 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 lodes. 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: - 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. There are two registered Native Title Claims that incorporate the KCGM leases. Claimant groups include the Maduwongga people (WC2017/001) and Marlinyu Ghoorlie (WC2017/007). These claims are currently before the tribunal for the 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.	In the 1970s, the goldfield was controlled by three companies: Kalgoorlie Mining Associates (KMA), Kalgoorlie Lake View (the majority owner of KMA), and North Kalgurli 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 volcaniclastic rocks (Swager, 1997). Younger sedimentary basins, occurring along major faults or synclines, unconformably overly 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. 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. 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.
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: - easting and northing of the drill hole collar - elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar - dip and azimuth of the hole - down hole length and interception depth - hole length.	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. All material data is periodically released on the ASX Future drill hole data will be periodically released or when results 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 drill information will not detract from the understanding of the report.
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.	All reported assay results 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.
	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 based on underground and open pit reporting criteria. Cut off grades are based on assumed mining grades. Underground lode mineralised zones were interpreted using a nominal cut-off grade (COG) of 3g/t with a maximum internal dilution of 2 meters. Underground Stockwork mineralised zones were interpreted using a nominal cut-off grade (COG) of 1.7g/t with no maximum internal dilution. Where a standout higher grade zone exists within 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.	No metal equivalent values have been used for the reporting of these exploration results.

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Criteria	JORC Code explanation	Commentary
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.

Kanowna Belle: Joplin

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 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.

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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. SGS: 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. ALS: 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. Bureau Veritas: 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.
	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

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Criteria	JORC Code explanation	Commentary
		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.	Sampling and assaying QAQC procedures include: - 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 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. 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. When visible gold is observed in core, a barren flush is required. 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. 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.	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.	Planned holes are marked up by the Mine Survey department using a total station survey instrument in the 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 15 m and 30 m intervals down hole thereafter. Since the 1st of June 2015, a true north seeking 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.

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Criteria	JORC Code explanation	Commentary
	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: - 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.
	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.

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Criteria	JORC Code explanation	Commentary
		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: - 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	All holes that intercept the Joplin lodes have been included in this release. Exclusion of any other drilling information will not detract from the reader's view of the report.
	If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	Exclusion of the drill information will not detract from the understanding of the report.
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g., cutting of high grades) and cut-off grades are usually Material and should be stated.	All reported assay results have been length weighted to provide an intersection width. A maximum of 2 m of barren material between mineralised samples has been permitted in the calculation of these widths.
	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:	True widths have been calculated for intersections of the known ore zones, based on existing knowledge of the nature of these structures.
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	Both the downhole width and true width have been clearly specified when used.
	If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').	Where 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 in the ASX announcements.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	Both high and low grades have been reported accurately, clearly identified with the drill hole attributes and 'From' and 'To' depths.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	No other material exploration data has been collected for this area.

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Criteria	JORC Code explanation	Commentary
Further work	The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).	The down dip, hangingwall extensions and the lateral continuation of the Joplin ore lodes will be drill tested from various underground drilling platforms as well as surface step out targets to test for ore continuity in the supergene position.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	It is not deemed appropriate to include diagrams of this work. Relevant information can be sourced from ASX announcements.

Kanowna Bell: Red Hill

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.	A combination of sample types was used to collect material for analysis including surface diamond drilling (DD) and surface reverse circulation drilling (RC). 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. Sampling is by both diamond drilling (DD) and Reverse Circulation (RC) drilling completed by both NSR and previous operators. 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). For NSR RC samples were split using a rig-mounted cone splitter on 1m intervals to obtain a sample for assay. 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.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	RC samples were split using a rig-mounted cone splitter on 1 m intervals to obtain a sample for assay. Core is aligned and measured by tape, comparing back to downhole core blocks consistent with industry practice. RC metre intervals are delineated with spray paint to determine metres drilled. Sample rejects is 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.	RC sampling was split using a rig mounted cone splitter to deliver a sample of approximately 3 kg DD drill core was cut in half using an automated core saw, where the mass of material collected will vary on the hole diameter and sampling interval. All samples were delivered to a commercial laboratory for assaying. Until 2022 all samples were assayed using Fire Assay. From July 2022 all samples are assayed using Photon analysis. 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 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 are placed in tubes, dissolved on hotplates and analysed using AA finish with over-range dilutions used as required. For Photon assaying, the sample Is crushed to 85% passing 2mm then split with a 500g sub sample taken for analysis. Visible gold is observed in the core and coarse gold is characteristic
Drilling techniques	Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).	Both RC and Diamond Drilling techniques were used to drill the Red Hill deposit. Surface diamond drill holes were completed using HQ (63.5 mm) and NQ2 (50.7 mm) coring. Core is orientated using the Reflex ACT Core orientation system. RC Drilling was completed using a 5.75" drill bit, downsized to 5.25" at depth. 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. Historical drilling has been conducted using RC and Diamond HQ (63.5 mm). Core was oriented using methods current for the period.
	Method of recording and assessing core and chip sample recoveries and results assessed.	For DD drilling, any core loss is recorded on the core block by the driller. This is then captured by the logging geologist and entered as an interval into the hole log.

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Criteria	JORC Code explanation	Commentary
Drill sample recovery		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.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	RC drilling contractors adjust their drilling approach to specific conditions to maximize sample recovery. For diamond drilling the contractors adjust their rate of drilling and method if recovery issues arise. All recovery is recorded by the drillers on core blocks. This is checked and compared to the measurements of the core by the geological team. Any issues are communicated back to the drilling contractor.
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	Recovery was excellent for diamond core and no relationship between grade and recovery was observed. Average recovery 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.	All diamond core is logged for regolith, lithology, veining, alteration, mineralisation and structure. Structural measurements of specific features are also taken through oriented zones. RC sample chips are logged in 1m intervals for the entire length of each hole. Regolith, lithology, alteration, veining and mineralisation are all recorded. All logging codes for regolith, lithology, veining, alteration, mineralisation and structure is entered into the AcQuire database using suitable pre-set dropdown codes to remove the likelihood of human error. 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).
	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 and MinAnalytical 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. 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. 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.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Procedures are used to guide the selection of sample material in the field. Standard procedures are used for all processes within the laboratory. 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. 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.
	Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate / second-half sampling.	Field duplicates were taken for RC samples on a ratio of 1 in 20. Umpire sampling programs are carried out on an ad-hoc basis. For photon assay, 2% of all samples over 0.1g/t Au will be submitted to an umpire laboratory.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	The sample sizes are considered appropriate for the material being sampled.

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Criteria	JORC Code explanation	Commentary
Quality of assay data and laboratory tests	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	A 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. 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. 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.
	For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	No geophysical tools were used to determine any element concentrations.
	Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	Certified reference materials (CRMs) are inserted into the sample sequence randomly at a rate of 1 per 20 samples to ensure correct calibration. Any values outside of 3 standard deviations are 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. 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. New pulps are prepared if anomalous results cannot be resolved. Barren flushes are regularly inserted after anticipated high gold grades. 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. 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. The QA studies indicate that accuracy (CRMs) and precision (duplicates and repeats) are within industry accepted limits. 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.
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.	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 thenloaded 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 visa 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 are uploaded directly from the Reflex software export into the Acquire database. For 2022 drilling, Axis was also used. At the completion of diamond drilling three methods of surveying were utilised in 2018. Five holes utilised driller operated north seeking Reflex EZ-Gyro in-rod survey instrument taking readings every 10 m, In and Out runs and reported in 5 m intervals. Two holes utilized a surveyor operated DeviFlex RAPID continuous in rod survey instrument taking readings every 2 seconds, In and Our runs and reported in 3m intervals. One hole was surveyed by ABIMS down hole surveyors. These six holes comprise less than 1% of the total drill hole data set. In 2022, driller operated north seeking Axis Champ in-rod survey instrument readings were every 10 m for In and Out runs. All survey data is validated by the geologists.

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Criteria	JORC Code explanation	Commentary
		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 active mining.
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.	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 4 m composites to be replaced by 1 m samples in mineralised zones though it is unknown at what grade threshold the 1m sub-samples were analysed for. Compositing of the data to 1 m 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 are 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.

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 M25/57 and M27/164 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.

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Criteria	JORC Code explanation	Commentary
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: - easting and northing of the drill hole collar - elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar - dip and azimuth of the hole - down hole length and interception depth - hole length.	A summary of the drilling completed since 2020 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.
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results.	Down hole widths have been quoted.
	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

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Criteria	JORC Code explanation	Commentary
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	Both high and low grades have been reported accurately, clearly identified with the drill hole attributes and 'From' and 'To' depths.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	No other material exploration data has been collected for this area.
Further work	The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).	Further drilling will continue to test the current resource area for bulk potential below Nemesis and Red Hill pits during FY2023.
	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.

Carosue Dam: Qena

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 in the Qena region has consisted of reverse circulation (RC) drilling and RC pre-collar diamond drill tail (RCD). Historic methods conducted since 1993 have included aircore (AC), rotary air blast (RAB), reverse circulation and diamond drillholes.
	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 sampling and QAQC procedures as per industry standard. RC chips and DD core provide high quality representative samples for analysis. RC, RAB, AC, RCD and DD core drilling was completed by previous holders to industry standard at that time (1993- 2002).
	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 4m composite intervals and 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. All methods are used to produce representative samples of less than 3 kg. Samples are selected to weigh less than 3 kg to ensure total sample inclusion at the pulverisation stage Northern Star core and chip samples are crushed, dried and pulverised to a nominal 90% passing 75µm to produce a 40g or 50 g sub sample for analysis by FA/AAS. Historical AC, RAB, RC and diamond sampling was carried out to industry standard at that time. Analysis methods include fire assay, aqua regia, B/ETA 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.).	The Qena area was initially sampled by 85 AC holes, 170 RAB holes, 224 RC holes (assumed standard 5 ¼ ''bit size) and 22 surface diamond HQ core and unknown diameter holes. Northern Star has completed 94 surface RC drill holes, 102 surface diamond holes and 44 RC precollar /diamond tail drillholes (tail depths averaging 160m) Diamond holes were oriented using a Reflex Act III tool. Some historic surface diamond drill core appears to have been oriented by unknown methods.
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 >90%. RC sampling recoveries are recorded as a percentage based on a visual weight estimate; no historic recoveries have been recorded.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	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. Daily rig inspections are carried out to check splitter condition, general site and address general issues. The sample bags weight versus bulk reject weight is compared to ensure adequate and even sample recovery. Historical AC, RAB, RC and diamond drilling was sampled to industry standard at that time.

APPENDIX C: TABLE 1

Criteria	JORC Code explanation	Commentary
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	Diamond drilling has high recoveries meaning loss of material is minimal. There is no known relationship between sample recovery and grade for RC drilling. 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 diamond drill core and RC chips records lithology, mineralogy, texture, mineralisation, weathering, alteration, veining and other features. 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 (exploration and GC) are stored in chip trays for future reference.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	Core and chips are photographed in a wet state using Imago photographic software. Qualitative and quantitative logging of historic data varies in its completeness. All RC, RCD and Diamond logging is completed in full.
	The total length and percentage of the relevant intersections logged.	All diamond drillholes and exploration RC holes are logged in full. Every drill line is logged in grade control programs. Historical logging is approximately 95% complete.
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. Historic diamond drilling has been half core sampled.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	All exploration RC samples are cone or riffle split. Occasional wet samples are encountered; increased air capacity is routinely used to aid in keeping the sample dry when water is encountered. Historic AC, RAB and RC drilling was sampled using spear, grab, riffle and unknown methods.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	The sample preparation of diamond core and RC 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 historic 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.	Duplicate sampling is carried out at a rate of 1:10 for exploration drilling and is 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. Sampling by previous holders assumed to be industry standard at the time.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes are considered to be 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.	RC chip samples and diamond core are analysed by external laboratories using a 40g fire assay with AAS finish. This method is considered suitable for determining gold concentrations in rock and are total digest methods. In July 2022 Photon assay was introduced at Qena, the sample is crushed to 85% passing 2mm then split with a 500g sub sample taken for analysis. Historic sampling includes fire assay, aqua regia, B/ETA 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 Atbara.
	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 exploration RC and DD drilling. 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.
	The verification of significant intersections by either independent or alternative company personnel.	Significant intercepts are verified by the Geology Manager and corporate personnel.

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Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	The use of twinned holes.	No specific twinned holes have been drilled at Atbara/Qena
	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 adjustments have been made to assay data. First gold assay is utilised for 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.	Exploration drillholes are located using a Leica 1200 GPS with an accuracy of +/- 10mm. Downhole surveys are carried out using the Axis Champ north seeking Gyroscopic continuous in-rod survey instrument taking readings every 18m (diamond drilling) or 30m (RC drilling) down hole as drilling progresses, with a continuous survey conducted at the end of the hole taking a reading every 1m metre. Previous holders' survey accuracy and quality is unknown
	Specification of the grid system used.	GDA94 zone MGA_51 is used
	Quality and adequacy of topographic control.	Topographic control originally used site based survey pickups in addition to Kevron aerial photogrammetric surveys with +/- 5m resolution.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	The nominal spacing for early-stage exploration drilling is 80m x 80m while later stage infill drilling is 40m x 40m
	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.	RC drillholes were composited into 1m samples off the RC rig cone splitter. Some historic RAB and RC sampling was composited into 3-4m samples with areas of interest re-sampled to 1m intervals. It is unknown at what threshold this occurred.
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 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.	No significant sampling bias is thought to occur due to orientation of drilling in regard to mineralised structures.
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.

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 Qena area is located on M31/210, M31/219, and M31/220 The tenements are held 100% by Northern Star Resources Limited. Mining Leases M31/219 and M31/220 have a 21 year life (held until 2041) and are renewable for a further 21 years on a continuing basis. Mining Lease M31/210 has a 21 year life (held until 2023) and is renewable for a further 21 years on a continuing basis. The leases are affected by the Maduwongga (WC2017/001) and Nyalpa Pirniku (WC2019/002) registered claims.
	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 licence to operate already exists.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The Carosue Dam project area in which Qena is located has been subjected to extensive gold exploration by numerous companies since 1991. Airborne geophysics conducted by Aberfoyle Resources in 1997 highlighted numerous targets in the project area with subsequent AC, RAB and RC drilling intersecting mineralisation. Oriole Resources obtained the project in 1998 and, through wholly owned subsidiary company PacMin, completed closely spaced RC drilling to develop the Luvironza resource through to reserve status. Sons of Gwalia carried out minor drilling before their collapse and takeover of the project by St Barbara.
Geology	Deposit type, geological setting and style of mineralisation.	The Qena mineralisation is situated along the Kilkenny-Yilgangi fault zone on the boundary of the Steeple Hill and Mulgabbie domains.

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Criteria	JORC Code explanation	Commentary
		The lithology comprises primarily intermediate felsic volcaniclastic sandstones, intermediate tuffs and intermediate porphyry units intruded by granites of varying composition, with stratigraphy dipping generally to the east at approx. 60 degrees. Mineralisation has a combined lithological and structurally control dipping parallel to the stratigraphy. Mineralisation is continuous along strike in the footwall but is very discontinuous and patchy in the hanging wall structures and overall controlled by the general NW trending ductile faulting and is characterized by weak Hematite banding on the margins to intense hematite-silica alteration hosted in breccia zones adjacent to the faulting with high grade cores typically sericite-silica breccia. Pyrite is the dominant sulphide.
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: - easting and northing of the drill hole collar - elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar - dip and azimuth of the hole - down hole length and interception depth - hole length.	A total of 607 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. All material data is periodically released on the ASX All recent Qena intercepts are reported in this release with all details.
	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 length weighted with a minimum Au grade of 0.5ppm. 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. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	Drilling is generally perpendicular to the mineralisation
	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 downhole lengths and estimated true thickness
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	Previous announcements included sufficient detail to clearly illustrate the geometry of the mineralisation and the recent drilling.
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 previous campaigns 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.	No substantive data acquisition has been completed in recent times.
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).	Extensional exploration for the Atbara/Qena area at this time is under review.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	N/A

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Carosue Dam: Memphis

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 in the Memphis region has consisted of reverse circulation (RC) drilling, RC pre-collar diamond drill tail (RCD) and Diamond drilling. Historic methods conducted since 1993 have included aircore (AC), rotary air blast (RAB), reverse circulation and diamond drillholes(DD).
	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 sampling and QAQC procedures as per industry standard. RC chips and DD core provide high quality representative samples for analysis. RC, RAB, AC, RCD and DD core drilling was completed by previous holders to industry standard at that time (1993 - 2002).
	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 4m composite intervals and 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. All methods are used to produce representative samples of less than 3 kg. Samples are selected to weigh less than 3 kg to ensure total sample inclusion at the pulverisation stage Northern Star core and chip samples are crushed, dried and pulverised to a nominal 90% passing 75µm to produce a 40g or 50 g sub sample for analysis by FA/AAS. Historical AC, RAB, RC and diamond sampling was carried out to industry standard at that time. Analysis methods include fire assay, aqua regia, B/ETA 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.).	Memphis has been tested by 190 AC holes, 1 RAB holes, 59 RC holes (assumed standard 5 ¼ ''bit size) and 57 surface diamond HQ core and unknown diameter holes. Where possible diamond core was orientated using a spear, Ballmark™, Ezimark™, or ACE multi electronic tool.
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 >90%. RC sampling recoveries are recorded as a percentage based on a visual weight estimate; no historic recoveries have been recorded.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	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. Daily rig inspections are carried out to check splitter condition, general site and address general issues. The sample bags weight versus bulk reject weight is compared to ensure adequate and even sample recovery. Historical AC, RAB, RC and diamond drilling was sampled to industry standard at that time.
	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.	Diamond drilling has high recoveries meaning loss of material is minimal. There is no known relationship between sample recovery and grade for RC drilling. 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 diamond drill core and RC chips records lithology, mineralogy, texture, mineralisation, weathering, alteration, veining and other features. 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 (exploration and GC) are stored in chip trays for future reference.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	Core and chips are photographed in a wet state using Imago photographic software. Qualitative and quantitative logging of historic data varies in its completeness. All RC, RCD and Diamond logging is completed in full.
	The total length and percentage of the relevant intersections logged.	All diamond drillholes and exploration RC holes are logged in full. Every drill line is logged in grade control programs. Historical logging is approximately 95% complete.
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. Historic diamond drilling has been half core sampled.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	All exploration RC samples are cone or riffle split. Occasional wet samples are encountered; increased air capacity is routinely used to aid in keeping the sample dry when water is encountered. Historic AC, RAB and RC drilling was sampled using spear, grab, riffle and unknown methods.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	The sample preparation of diamond core and RC 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 historic 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 satisfactory. Sampling by previous holders assumed to be industry standard at the time.

APPENDIX C: TABLE 1

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.	Duplicate sampling is carried out at a rate of 1:10 for exploration drilling and is 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. Sampling by previous holders assumed to be industry standard at the time.
	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.	RC chip samples and diamond core are analysed by external laboratories using a 40g or 50 g sub sample for analysis by FA/AAS. This method is considered suitable for determining gold concentrations in rock and are total digest methods. Historic sampling includes fire assay, aqua regia, B/ETA 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 Memphis
	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 exploration RC and DD drilling. 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 senior geology personnel.
	The use of twinned holes.	No specific twinned holes have been drilled.
	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 adjustments have been made to assay data. First gold assay is utilised for 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.	Exploration drillholes are located using a Leica 1200 GPS with an accuracy of +/- 10mm. Downhole surveys are carried out using the Axis Champ north seeking Gyroscopic continuous in-rod survey instrument taking readings every 18m (diamond drilling) or 30m (RC drilling) down hole as drilling progresses, with a continuous survey conducted at the end of the hole taking a reading every 1m metre. Previous holders' survey accuracy and quality is unknown
	Specification of the grid system used.	GDA94 zone MGA_51 is used
	Quality and adequacy of topographic control.	Topographic control originally used site-based survey pickups in addition to Kevron aerial photogrammetric surveys with +/- 5m resolution.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	The nominal spacing for early-stage exploration drilling is 80m x 80m while later stage infill drilling is 40m x 40m
	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.	A mineral resource or ore reserve estimation has not been applied to this project.
	Whether sample compositing has been applied.	RC drillholes were composited into 1m samples off the RC rig cone splitter. Some historic RAB and RC sampling was composited into 3-4m samples with areas of interest re-sampled to 1m intervals. It is unknown at what threshold this occurred.

APPENDIX C: TABLE 1

Criteria	JORC Code explanation	Commentary
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 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.	No significant sampling bias is thought to occur due to orientation of drilling in regard to mineralised structures.
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.

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 Memphis project is located on tenement number E31/1058. There are two registered Native Title Claims; these are the Maduwongga people (WC2017/001) and Marlinyu Ghoorlie (WC2017/007) and Nyalpa Pirniku (WC2019/002).
	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 licence to operate already exists.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Previous exploration work and existing datasets over the project include: ·Historic soil/auger sampling completed ·100k scale outcrop mapping 4km to the west, Cainozoic aged sandplains have been mapped covering the majority of the Memphis prospect. ·400m-600m spaced RAB/aircore lines on 80m intervals. Multiple programs have left several gaps in coverage in certain areas however continuation of the anomalous structure can be confidently predicted from the geophysical datasets ·Airborne & gravity datasets collected. ·Several RC exploration holes drilled 2003-2004 by Sons of Gwalia
Geology	Deposit type, geological setting and style of mineralisation.	The project is located at the northern end of the Carosue Basin, approximately 18km north of the Carosue Dam processing plant. The Carosue Basin lithology comprises primarily of intermediate to felsic volcaniclastic sandstones, intermediate tuffs and intermediate porphyry units intruded by granites of varying composition, with stratigraphy striking NW and dipping generally to the east at approx. 60-70 degrees. Gold mineralisation at the Memphis prospect is associated with stacked, flat-lying quartz-carbonate-tourmaline vein arrays developed within a steeply northeast-dipping volcaniclastic host sequence.
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: - easting and northing of the drill hole collar - elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar - dip and azimuth of the hole - down hole length and interception depth - hole length.	A representative selection of Memphis intercepts are reported in this release with all details.
	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.

APPENDIX C: TABLE 1

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 significant intercepts have been length weighted with a minimum Au grade of 0.5ppm. 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 0.3m 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.	Drilling is generally perpendicular to the mineralisation
	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 and estimated true thickness.
	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	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.	A cross section provided in this report clearly illustrates the geometry of the mineralisation and the recent drilling.
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 previous campaigns 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.	No substantive data acquisition has been completed in recent times.
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).	Extensional exploration for the Memphis and Yundamindera areas are currently under review.
	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.

Jundee: Barton and Moneyline

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.	This deposit is sampled by diamond drilling (DD) and reverse circulation (RC) drilling completed by previous operators. DD - Sampled sections are generally NQ2 or BQ. Core sample intervals are defined by the geologist to honour geological boundaries ranging from 0.3 to 1.2m in length. RC - Rig-mounted static cone splitter used, with sample falling through a riffle splitter or inverted cone splitter, splitting the sample in 87.5/12.5 ratio. 12.5% Off-split retained. 87.5% split sampled using 'pipe' or 'spear' sampling tool. Generally sampled as 4m composites. 1m composites (12% split) was sent for further analysis if any 4m composite values returned a gold value > 0.1g/t or intervals containing alteration/mineralisation failed to return a significant 4m composite assay result. RC and DD sampling by previous operators are to industry standard at that time often using 1m samples after initial 4m composites. It is unknown what grade threshold triggers the 1m re-samples. The greater majority (>90%) of samples used for Reserve and Resource estimates are DD.

APPENDIX C: TABLE 1

Criteria	JORC Code explanation	Commentary
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Core is aligned and measured by tape, comparing back to downhole core blocks consistent with industry practice. RC and surface core drilling completed by previous operators to industry standard at that time.
	Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g., '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 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). Visible gold is occasionally encountered in core. RC sampling to industry standard at the time of drilling.
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 – Reverse circulation drilling was carried out using a face sampling hammer and a 130mm diameter bit. Previous operators surface diamond drilling carried out by using both HQ2 or HQ3 or PQ2 (triple tube) and NQ2 (standard tube) techniques. Sampled sections are generally NQ2. 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 verses 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 and diamond drilling by previous operators are to industry standard at that time.
	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.	Core and chip samples have been logged by qualified geologist to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. Percussion holes logging were carried out on a metre-by-metre basis and at the time of drilling. Surface core and RC logging completed by previous operators assumed to be to industry standard.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	Logging is qualitative and quantitative, and all core is photographed wet (some older core is pre-digital, photos not all reviewed). Visual estimates of sulphide, quartz and alteration as percentages.
	The total length and percentage of the relevant intersections logged.	100% of the drill core is logged. 100% of 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 - Resource definition drilling uses NQ2: Core is half cut with an Almonté diamond core saw. Sample intervals are defined by a qualified geologist to honour geological boundaries. The left half is archived. Grade Control drilling uses half core NQ2 or BQ: Whole core sampling. Sample intervals are defined by a qualified geologist to honour geological boundaries. 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 in recognized ore zones. The minimum sample length is 0.3m while the maximum is 1.2m. Total weight of each sample generally does not exceed 5kg. For pre-Northern Star Resources (NSR) and prior operator's samples, best practice of the time is assumed.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	RC – Cyclone mounted riffle splitter or inverted cone splitter. Pre NSR, RC sub sampling assumed to be at industry standard at that time.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Following drying at 100°C to constant mass, all samples below approximately 4kg are totally pulverised in LM5's to nominally 85% passing a 75µm screen. The very few samples generated above 4kg are crushed to <6mm and riffle split first prior to pulverisation. In 2012, Francois-Bongarcon (Agoratek International) conducted a heterogeneity study, audit of site laboratory, and audit of plant samplers. This study confirmed that the sampling protocol currently in use are appropriate to the mineralisation encountered and should provide representative results.

APPENDIX C: TABLE 1

Criteria	JORC Code explanation	Commentary
		For RC samples, all drying at 100°C to constant mass, all samples below approximately 4kg are totally pulverised in LM5's to nominally 85% passing a 75µm screen. The very few samples generated above 4kg are crushed to <6mm and riffle split first 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. For pre-NSR samples, best practice is assumed.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Repeat analysis of pulp samples (for all sample types – diamond, RC, rock and soil) occurs at an incidence of 1 in 20 samples. RC drilling by previous operators to industry standard at that 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.	Field duplicates, i.e., other half of cut core, have not been routinely assayed. RC drilling by previous operators assumed to be to industry standard at that time.
	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.	For the majority of drill core samples, gold concentration is determined by fire assay using the lead collection technique with a 30g sample charge weight 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. RC drilling by previous operators to industry standard at the time.
	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: Commercially prepared certified reference materials (CRM) are inserted at an incidence of 1 in 30 samples. The CRM used is not identifiable to the laboratory, QAQC data is assessed on import to the database and reported monthly, quarterly and yearly. The laboratory QAQC protocols used include the following for all drill samples: Repeat analysis of pulp samples occurs at an incidence of 1 in 20 samples, Screen tests (percentage of pulverised sample passing a 75µm mesh) are undertaken on 1 in 50 samples, The laboratories' own standards are loaded into the database, The laboratory reports its own QAQC data monthly. In addition to the above, ~ 3% of samples are sent to a check laboratory. Samples for check -assay are selected automatically from holes, based on the following criteria: grade above 1g/t or logged as a mineralised zone or is followed by feldspar flush or blank. Failed standards are followed up by re-assaying a second 30g pulp sample of samples between the failed standard and the next sequenced standard by the same method at the primary laboratory. Re-assays are dependent on grade above 0.1g/t. 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. QAQC protocols for Surface RC and diamond drilling by some previous operators is assumed to be industry standard.
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.	There are no purpose-drilled twinned holes.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Primary Data imported into SQL database using semi-automated or automated data entry. Hard copies of NSR and previous operators, core assays and surveys are stored at site. Visual checks are part of daily use of the data in Vulcan. Data from previous operators thoroughly vetted and imported to SQL database.
	Discuss any adjustment to assay data.	The first gold assay is utilised for any Mineral Resource estimation. Exceptions occur when 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. Some minor adjustments have been made to overlapping data.

APPENDIX C: TABLE 1

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 ortholinear rectified photogrammetry based on the Australian Map Grid 1994 (MGA94_51). Collar coordinates are recorded in MGA94 or Local Jundee Grid (JUNL2) dependant on the location and orientation of orebodies. Cross checks were made on the survey control points and data in June 2005. Collar information is stored in both local coordinates and MGA94 coordinate in the drilling database. In-mine drill-hole collars are normally accurate to 10 cm. Multi shot cameras and gyro units were used for down-hole survey or were validated by Geologists. Previous drilling has been set-out and picked up in both national and local grids using a combination of GPS and Survey instruments and are assumed to be to industry standards.
	Specification of the grid system used.	Collar coordinates are recorded in MGA94 Zone 51 (AMG GN) and Local Jundee Grid (JUNL2) dependant on the location and orientation of orebodies. The difference between Jundee mine grid (GN) and magnetic north (MN) is 37º 58' 07" and the difference between magnetic north (MN) and true north (TN) is 1º 02' 00". The difference between true north (TN) and MGA94 Zone 51 (AMG GN) is 1º 06' 26". The difference between true north and GDA is zero.
	Quality and adequacy of topographic control.	Topographic control is from Digital Elevation Contours (DEM) 2010, 1m contour data and site surveyed pit pickups.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	All Ore Reserves are based on a maximum drill hole spacing of 40m x 40m. All Mineral Resources are based on a maximum of 80m 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. Ore Reserves are generally based on 20m x 20m drilling up to a maximum of 40m x 40m, or a maximum of 60m x60m in the case of the Armada Reserve. Mineral Resources are generally based on 40m x 40m drilling up to a maximum of 80m x 80m.
	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 to be replaced by 1 m samples if any 4m composite values returned a gold value > 0.1g/t or intervals containing alteration/mineralisation failed to return a significant 4m composite assay result. 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 perpendicular to the main mineralisation trends. The orientation achieves unbiased sampling of all possible mineralisation and the extent to which this is known.
	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. As the opportunity arises, better angled holes are infill drilled.
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. 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. Pre NSR operator sample security assumed to be similar and adequate.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	In 2006, Maxwell conducted an audit of all Jundee data. In 2012, Francois-Bongarcon (Agoratek International) conducted a heterogeneity studies, audit of site laboratory, and audit of plant samplers. Both audits found the sampling techniques and data to be adequate. All recent NSR sample data has been extensively QAQC reviewed both internally and externally. Pre NSR data audits found to be minimal regarding QAQC though in line with industry standards of the time. During 2018, 2019, and 2020 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.

APPENDIX C: 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 Jundee Project consists of 62 Mining Leases and 1 General Purpose Lease covering a total area of approximately 57,422.2 Ha. All are registered in the name of Northern Star Resources Limited. 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 NYO, these agreements being the Wiluna Land Access Agreement 2004 and the Wiluna Claim Heritage Agreement 2004.
	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 20 years.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The Jundee/Nimary Deposits were discovered in the late 1980's/early 1990's after LAG and soil sampling by Mark Creasy (Jundee) and Hunter Resources (Nimary) identified large surface gold anomalies. The deposits were drilled out over the following years by Eagle Mining (which took over Hunter Resources), and Great Central Mines (which formed a joint venture with Creasy and later purchased his share). Open pit operations commenced in mid-1995, with the first gold poured in December 1995. Great Central Mines assumed full control of the field with its successful takeover of Eagle Mining in mid-1997. Great Central Mines was later taken over by Normandy in mid-2000, which in turn was taken over by Newmont in early-2002. Northern Star Resourceshave operated the mine since July 1, 2014. All previous work is accepted and assumed industry standard at that time.
Geology	Deposit type, geological setting and style of mineralisation.	Jundee is an Archean lode-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 predominantly hosted in dolerite and basalt. Mineralisation can be disseminated or vein style host.
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: - easting and northing of the drill hole collar - elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar - dip and azimuth of the hole - down hole length and interception depth - hole length	A representative selection of drill holes are reported in this release with all details.
	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 length weighted with a minimum Au grade of 0.5ppm. 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 0.3m 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:	Drilling is generally perpendicular to the mineralisation
	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 and estimated true thickness.
	If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').	Downhole length in addition to estimated true width is shown in the report tables if intersection structure is known. The drill hole intercept true thickness is notes as "Unknown" otherwise.
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.	A long section provided in this report clearly illustrates the geometry of the mineralisation and the recent drilling.

APPENDIX C: TABLE 1

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.	A representative selection of drill holes are reported in this release with all details.
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 meaningful data to report.
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 and definition drilling is planned for from underground positions.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Representative diagrams are attached with this report.

Thunderbox: Wonder North and Golden Wonder

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 are 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 90% passing 75µm to produce a 40g sub sample for analysis by FA/AAS. 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.
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 release Northern Star Resources completed 42 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.

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Criteria	JORC Code explanation	Commentary
		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 both dry and 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.	The sample preparation of RC 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.
	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.	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.
	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.	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. 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.	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.

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Criteria	JORC Code explanation	Commentary
	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.	Drillholes are located using a Trimble R10 GPS/GNSS with an accuracy of +/- 10mm horizontally and +/- 15mm vertically. Downhole surveys are carried out using a hired Reflex EZ-gyro by the respective drilling companies on a regular basis, between 10-30m.
	Specification of the grid system used.	Some historic drillholes were surveyed via Eastman or gyroscopically surveyed and many survey methods remain unknown.
	Quality and adequacy of topographic control.	MGA Zone 51 grid coordinate system is used
Data spacing and distribution	Data spacing for reporting of Exploration Results.	40x40 is the nominal spacing for 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, therefore the 40m x 40m exploration drill spacing effectively defines the continuity.
	Whether sample compositing has been applied.	RC pre-collars were composited into 4m zones with anomalous areas resampled into 1m samples 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.
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.	An internal review of companywide sampling methodologies was conducted to create the current sampling and QAQC procedures.

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 SR Mining Pty Ltd which is a wholly owned subsidiary of Northern Star Resources. Mining Lease 37/513 has a 21 year life (held until 2042) and is renewable for a further 21 years on a continuing basis. 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, Bligh 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.

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Criteria	JORC Code explanation	Commentary
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 1500m. 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: - easting and northing of the drill hole collar - elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar - dip and azimuth of the hole - down hole length and interception depth - hole length	A representative selection of the recent drilling has been included in the appendix with all relevant information.
	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 length weighted with a minimum Au grade of 0.5ppm. 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 true width unless otherwise stated.
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.	A representative selection of the dataset has been reported appropriately.
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 substantive exploration data has been obtained
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 as well as the Golden Wonder prospect 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.	NA

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Thunderbox: Bannockburn - North Well

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 at North Well by previous owners have included rotary air blast (RAB), reverse circulation (RC) and diamond drillholes (DD). Northern Star has completed DD drilling at the prospect
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Sampling for diamond drilling is carried out as specified within Northern Star sampling and QAQC procedures as per industry standard Historic RC, RAB, and DD core drilling is assumed to have been completed by previous holders to industry standard at that time (1992- 2010).
	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 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 core and samples are crushed, dried and pulverised to a nominal 90% passing 75µm to produce a 40g sub sample for analysis by FA/AAS Limited 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. More recent sampling carried out by previous owners has involved the use of 4m composite or 1m re-split samples from which a 40g charge was produced for fire assay and aqua regia digest.
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.).	Drilling activities at North Well have included 818 RAB holes, 785 RC holes (assumed standard 5 ¼ '' bit size) and 25 DD holes (HQ, NQ, and unknown diameter, some with RC pre-collars). Limited historic diamond core hole was oriented by unknown methods. Northern Star has completed 8 NQ diameter DD holes, oriented via an ACT III tool.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	Recoveries for some more recent RC drilling have been recorded based on a visual weight estimate. It is unknown historic recoveries were recorded.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	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 in historical drilling.
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	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 diamond drill core, RAB and RC chips record lithology, mineralogy, texture, mineralisation, weathering, alteration and veining. Some historic diamond drilling has been geotechnically logged.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	It is unknown if any historic diamond core was photographed, all core drilled by Northern Star was photographed in both dry and wet state
	The total length and percentage of the relevant intersections logged.	All diamond drillholes have been logged in full. The majority of historic drillholes appear to 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.	Diamond drilling was half core sampled. Some historic core was half core or quarter core sampled.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	The sampling methods for RC and RAB drilling carried out in the 1990s are unknown More recent RC drilling has been riffle or cyclone split, or spear sampled. It is unknown if wet samples were encountered.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	The sample preparation of diamond 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. The sampling techniques for much of the 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 satisfactory

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Criteria	JORC Code explanation	Commentary
		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.	It is unknown if duplicate sampling was performed on the majority of historic RAB, RC and DD drilling. Limited field duplicate samples were carried out in more recent RC drilling programs.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	It is assumed sample sizes were appropriate for the grain size of material being sampled. Some recent campaigns included sizing analysis (90% passing 75 microns) to ensure this.
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.	Certified reference material (standards and blanks) with a wide range of values are inserted into every drillhole at a rate of 1:25 for exploration RC and DD. 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.
	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 North Well.
	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.	QAQC information from North Well sampling data is limited therefore all drilling is assumed to have been carried out to industry standard. There is evidence of standards being routinely included in more recent drilling (from 2006 onward) along with limited duplicate sampling. Laboratory repeats were recorded and analysed.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	Significant intercepts are verified by senior Northern Star geology personnel.
	The use of twinned holes.	Specific drilling programs consisting of twinned holes are not apparent.
	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 has 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.	The survey quality and control is unknown for the majority of historic drilling. More recent drilling has collar locations surveyed by unknown GPS and DGPS equipment. Downhole survey methods recorded include Eastman single and multishot, gyro, inferred and 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.	No detail of topographic control was supplied or found.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	The nominal drillhole spacing is 25 m (northing) by 25 m (easting) in the core of the deposit and increases to the margins of the deposit.
	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 mineralised domains at North Well have demonstrated sufficient continuity in both geological and grade continuity to support the definition of Mineral Resources and Reserves, and the classifications applied under the 2012 JORC Code.
	Whether sample compositing has been applied.	Historic 1990s RAB and RC drilling was generally sampled on 3 - 4m composites with significant gold results being resampled in 1m intervals

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Criteria	JORC Code explanation	Commentary
		Some more recent RC pre-collar drilling was composited into 6m 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.	The deposit is drilled towards grid west at angles varying from -60⁰ and -90⁰ to intersect the mineralised zones at a close to perpendicular relationship for the bulk of the deposit.
	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. No orientation based sampling bias has been identified at North Well in the data at this point.
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.	An internal review of companywide sampling methodologies was conducted to create the current sampling and QAQC procedures.

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 North Well resource is located on M37/358, M37/359 and M37/465. The tenements are held by Northern Star (Thunderbox) Pty Ltd, a wholly owned subsidiary of Northern Star Resources Ltd. The mining leases have a 21 year life: Mining Lease M37/465 is held until 2036 and Mining Leases M37/358, and M37/359 are held until 2034. All are renewable for a further 21 years on a continuing basis. All production is subject to a Western Australian state government NSR royalty of 2.5%. Mining Leases M37/358 and M37/359 are subject to a royalty of $25.00 per ounce of gold produced from the tenements over 33,000 ounces and up to 73,000 ounces and of $1.00 per ounce of gold produced over 73,000 ounces payable to Dominion Gold Operations Pty Ltd. Mining Lease M37/465 is subject to a royalty payable to Forsyth NL calculated as a percentage of the Ore Value for ore processed each quarter. The Ore Value is calculated by reference to the Ore Grace and the Average Gold Price for the quarter. For ore processed with an Ore Grade greater than 1.5 g/tonne the royalty is 4% of the Ore Value and less than 1.5g/tonne, the royalty is 2.5% of the Ore Value. The tenements are all subject to a 1.5% royalty on all minerals which are capable of being sold or otherwise disposed of, multiplied by the Net Smelter Return, capped at $17 million, payable to Norilsk Nickel Wildara Pty Ltd. M37/465 is subject to one consent caveat related to RG Royalties, LLC (513930). A single Aboriginal Heritage site exists within M37/340 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.	No known impediment exists to obtaining a licence to operate and the tenements are all in good standing.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Gold was discovered in the area in the late 1800s with intermittent working of the nearby Bannockburn 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. Soil sampling and RAB drilling highlighted the North Well anomaly followed by an extensive RC campaign to delineate the resource. Mining at North Well began in 1995 and continued after the project was sold to Australian Goldfields. DD and RC drilling continued in and around the deposit along with surface sampling and various geophysical surveys in an effort to extend mineralisation and define new targets. AGF were placed under administration and mining ceased in 1998 upon the exhaustion of the mine reserves. Arrow Resources Management acquired the project and sold it to Breakaway Resources who carried out minor RAB drilling in the area. LionOre acquired the ground from Breakaway and completed resource extension and near mine exploration RC drilling. Norilsk acquired the project and carried out further drilling as well as a MILTEM survey over the North Well area, highlighting several areas of interest.
Geology	Deposit type, geological setting and style of mineralisation.	The North Well deposit is located on the central portion of the Archaean Norseman- Wiluna greenstone belt. Mafic to ultramafic intrusive and extrusive rocks, with intercalated sedimentary horizons dominate the greenstone stratigraphy. There are some felsic rocks to intermediate volcanic rocks and their derivatives. The greenstone sequences, confined to the west by basement (pre-tectonic) granitoid, gneiss, smaller syntectonic granitoid stocks, and batholiths, generally occupy the core of anticlinal domes. Some basement rocks partially invade the greenstone stratigraphy. Stratigraphy dips are relatively modest throughout the majority of the project, but steepen considerably towards more vertical, major tectonic structures.

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Criteria	JORC Code explanation	Commentary
		The mineralisation at North Well is confined to the Bannockburn Shear Zone ("BSZ"). The BSZ is a concave structure that has a strike length of approximately 30km, strikes roughly north south, and dips to the east. The BSZ is an approximately one kilometre wide zone of deformation that separates the basement granite/gneiss terrane to the west from greenstone terrane to the east. At North Well, the gold mineralisation is located approximately 400m from the main granite greenstone contact. Gold mineralisation is in east dipping basalts within a sequence of siltstones and acid volcaniclastics and occurs over a strike length of approximately 2600m and to a depth of 170m. Gold mineralisation is predominantly associated with quartz +/- sulphide filled shear structures. A strong S2/S3 lineation controls the mineralisation into a series of shallow (~25°) south plunging ore shoots that form en echelon zones along strike and down the dip of the shear zone. A series of east west late-stage faults (some with dolerite intrusions) crosscut the mineralisation.
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: - easting and northing of the drill hole collar - elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar - dip and azimuth of the hole - down hole length and interception depth - hole length	A representative selection of the recent drilling has been included in the appendix with all relevant information.
	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 length weighted with a minimum Au grade of 0.5ppm. 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. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	This announcement includes sufficient detail to clearly illustrate the geometry of the mineralisation and the recent drilling.
	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').	True widths have been reported unless otherwise stated.
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.	A number of geophysical surveys have been completed and interpreted including regional aeromagnetics, radiometrics, SAM (sub-audio magnetics) and MLTEM (Moving loop electromagnetics) in an effort to highlight potential target areas.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	A representative selection of the recent drilling has been included in the appendix.
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 exploration data has been collected.
Further work	The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).	Northern Star is currently working on establishing an exploration program which will identify areas of opportunity to extend or enhance the North Well mineral resource.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	A diagram has been supplied in the main body of this release.

APPENDIX C: TABLE 1

Pogo: North Zone and South Pogo

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 Pogo deposits (Liese, North Zone, East Deeps, South Pogo, Fun Zone, Central Zone and Hill 4021) were sampled using diamond and reverse circulation drill holes (DD, RC) completed from both surface and underground campaigns drilled between 1994 and the present.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Diamond and face channel sampling are sampled based on geological and mineralisation boundaries identified by the geologists during logging and mapping. Diamond sampling intervals are set at a minimum sample size of 1.0ft (0.3m) and a maximum sampled interval of 4ft (1.2m). Underground RC drilling is sampled on regular 5ft intervals (1.5 m). Face channel sampling, used in the Fun Zone, Liese, South Pogo, East Deeps and North Zone Mineral Resource estimate, are spray-marked then sampled on 1ft to 5ft lengths across the entire width of the vein (where practicable). Material is also sampled either side in non-vein material contiguous with the veins. The sampling lengths are measured and plotted on face mapping with assays once received for record keeping and validation.
	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.	Industry standard sampling methods are used at Pogo. DD core, the predominant sampling method, is supplemented to a lesser extent with underground RC chips. All drill core is comprehensively logged and intervals for sampling selected based on geological and mineralogical observations. Where practicable, samples are not collected across lithological or mineralisation boundaries. Sampling protocols at Pogo vary dependent on the purpose of the drill hole: Exploration Core Drilling: Holes drilled for non-resource conversion purposes are cut using an Almonte core saw and half core submitted for analysis. The non-assayed portion of the core is stored on-site for a period of five years. Infill DD drilling for defining or converting Resources to a higher confidence category are whole core sampled. Production RC (UG): RC Chips are split directly off the rig via the inner return tube through a rotating cone splitter to yield ~3kg sub-samples from 5ft sample lengths. Sludge-hole drilling: Sludge holes are drilled by an underground long hole rig and collected from open holes into buckets on 2.5ft intervals, with each interval washed out with water prior to sampling. Face-channels: The channel sample lines are always perpendicular to the ore body orientation. Sample intervals are determined by geology, including lithology contacts, mineralisation, alteration or structure. The sampled mineralisation showed strong correlation with diamond drilling and provided a greater data density for the estimate. For NQ core samples, minimum sample size of 1.0ft (0.3 m) and a maximum sampled interval of 4ft (1.2m). For HQ drill core that is whole core sampled, samples are collected at a minimum interval of 4 inches (0.1m) and a maximum of 2.0ft (0.6m). When the HQ samples are half-core cut, the maximum sample is extended to 4ft (1.2m). Samples are crushed to 70% passing 2mm. A 200g split is taken of all sample types, including sludge hole samples, which is then pulverised to 85% passing 75 µm. A 30g sub-sample of the pulp sample is then selected for fire assay, followed by atomic absorption spectroscopy (AAS) with a gravimetric 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.).	Drilling has been carried out from both surface and underground. Underground drilling is completed predominantly using NQ2 (50.6mm core diameter) or BQ (36.4mm core diameter) holes, however larger HQ (63.5mm diameter core) and PQ (85.0mm core diameter) holes are completed for long exploration drill holes or when poor ground conditions are encountered. Surface drill holes are typically collared using PQ / HQ diameter and reduced to NQ2/NQ2 where necessary. Underground RC drilling is completed using a 4.5-inch diameter face sampling hammer. RC samples are collected directly from the inner return tube on the rig, via a rotating cone splitter to produce a ~3kg sub sample from 5ft sample lengths. Core drilled between 2009 and 2017 was generally not oriented. Since 2018, orienting of exploration drill holes using the Reflex Act III tool was introduced. Face channel sampling is spray-marked for the channel line and vein contacts. The vein and surrounding material are then sampled on 1ft – 5ft lengths by chiselling chips into a bucket across the entire width of the vein in production where practicable and then sampled either side in non-vein material contiguous with the veins. The sampling lengths are measured and plotted on face mapping with assays once received for record keeping and validation. The following table provides details on the quantity and types of drill core drilled by year at the Pogo deposit as of 31 December 2021 Face channelling totalled 7,592 for 83,479 ft. Liese Resource Model incorporated results from 4,383 Face Channels for 48,570 ft, Fun Zone, 752 Face channels for 8,852 ft, South Pogo, 1,445 face channels for 15,999 ft and North Zone 1,012 face channels for 10,055 ft.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	Core recovery is recorded for all DD holes. Recovery is measured and recorded as a percentage calculated from measured core verses drilled intervals. All data is saved in AcQuire software.

APPENDIX C: TABLE 1

Criteria	JORC Code explanation	Commentary
		In general, recovery is high through mineralised zones due to the competent nature of the quartz vein. In structurally complex zones, recoveries and core loss results vary. Core preparation and geotechnical logging procedures are in place for the continual assessment of results.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	Core is processed at the Pogo core processing facility. For DD holes, 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 and supervising geologist.
	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.	Recent studies are showing a correlation between grade and core RQD, core recovery. Average grades are higher in core with lower RQD. Area of core loss can exhibit lower grades. More detailed studies are in progress determine the overall effect
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 by a qualified geologist in accordance with Pogo Mine's core logging procedures manual. Data recorded includes, but is not limited to, lithology, structure, alteration assemblages, sulphide mineralogy, geotechnical parameters (recovery and RQD) and the presence of visible gold. Drill core was logged electronically using Rockware Logplot 7 software and on the AcQuire database system. Logging and sampling are carried out according to Pogo Mine protocols and are consistent with industry standards. Logging is to a sufficient level of detail to support appropriate Mineral Resource estimation and mining studies.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	Drill logging is both qualitative and quantitative in nature. Every core tray is photographed wet.
	The total length and percentage of the relevant intersections logged.	All drill holes are logged in full.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	Diamond core drilled for resource definition and grade control is whole core sampled. Core drilled for exploration purposes is cut in half onsite using an industry standard Almonte core saw.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	Underground RC drilling in 2019 used a 4.5-inch diameter face sampling hammer. RC samples were collected directly from the inner return tube on the rig, via a static cone splitter to produce a ~3kg sub sample from 5ft sample lengths.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	All sample preparation and assaying of Pogo drill core is currently being performed by Bureau Veritas (BV). Pogo sends core samples to BV Fairbanks for sample preparation and a pulp is sent to the BV laboratory in Reno, Nevada or Vancouver, British Columbia for fire assay. Typically, gold assays and multi-element assays are completed in Vancouver. Sample preparation includes drying, crushing to 70% passing 2mm, splitting of a 200g subsample and pulverising to 85% passing 75µm. All sample preparation and assaying of Pogo face channel samples are performed at the on-site Pogo lab. Sample preparation includes drying the face channel samples, (weight range of 2 to 7 lb), crushing to 70% passing 2mm, splitting of a 200g subsample, and pulverising to 85% passing 75µm. The sample preparation techniques are considered appropriate for the 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 which are introduced in the assay batches at an approximate rate of one control sample per eight normal samples. Repeat analysis of crush and pulp samples (for all sample types) occurs at an incidence of 1 in 40 samples. QC results are analysed immediately upon return of a sample batch and reported to management monthly. Overall results demonstrate no significant QAQC issues with the analytical laboratory and no systematic bias observed. Protocols are in place to deal with QAQC results that fail. In addition to Pogo QAQC, the analytical laboratory is ISO certified and conducts rigorous internal QAQC checks. Internal QAQC reports provided to Pogo personnel do not indicate any 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 (i.e., other half of cut core) and RC drilling field duplicates have not been routinely assayed. Face channel second samples are taken in conjunction with primary underground face sample collection of material at every 14ft advance of the production face.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Duplicate sample results correlate well, hence sample sizes are acceptable to accurately represent the gold mineralisation at Pogo Mine. Sample sizes are appropriate and correctly represent the style and type of mineralisation.
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.	The samples are analysed using industry standard analytical techniques. Historically, underground holes were analysed for gold by a 30g fire assay with a gravimetric finish. In holes drilled for exploration purposes, gold content is determined by 30g fire assay with atomic absorption finish (AAS). Since 2019, all underground holes were analysed using the AAS method. Exploration and underground results analysed by fire assay with the AAS finish returning > 10ppm (0.292 oz/ton) gold are re-assayed by fire assay with gravimetric finish.

APPENDIX C: TABLE 1

Criteria	JORC Code explanation	Commentary
		Select samples are assayed for forty-five elements multi-acid digestion and ICP-MS/ES finish. The technique is considered total and 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.
	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.	Commercially prepared certified reference materials (CRM's), inhouse standards, non-certified blanks and duplicates are randomly inserted into the sample stream at an incidence of 1 in 20. The Pogo Mine uses Certified reference Materials (CRMS) sourced from GEOSTAT Laboratories and OREAS laboratories. Blanks are also produced in-house and are generated from a local source of barren basalt and crushed to nominal one-inch size and inserted into sample bags prior to including into the laboratory submittal. Sand is also used as a blank. 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 the drill hole or the core processing facility supervisor. Failed standards are generally followed up by re-assaying a second 30g pulp sample of samples between the failed standard and the next sequenced standard by the same method at the primary laboratory. Re-assays are dependent on grade above 0.03 opt. The laboratory QAQC protocols used include repeat analysis of crush and pulp samples at an incidence of 1 in 40 samples, screen tests (percentage of crush sample passing a 1mm mesh and pulverised sample passing a 75µm mesh) and undertaken on 1 in 40 samples. QAQC data is reported monthly, quarterly, and yearly.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	Significant intersections are routinely inspected by alternative company personnel. Core photographs of significant intersections reviewed to ensure mineralised zones are consistent with known Pogo mineralisation styles.
	The use of twinned holes.	No purpose drilled twinned holes have been complete at Pogo.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	All diamond core is logged in detail. Logging takes place at the core processing facility. Core logging (geological and geotechnical) was historically completed using Logplot 7 software. Since Northern Star acquisition, data capture has transitioned to the AcQuire database and logging systems. The core logging procedures manual provides guidance to the user. All Pogo data is stored as in industry-standard AcQuire database. Validation protocols are built into the importation process to ensure data integrity.
	Discuss any adjustment to assay data.	The first gold assay is almost always utilised for any Resource estimation. Exceptions occur when evidence from re-assaying dictates. A systematic procedure utilising several re-assays is in place to determine when the final assay is changed from the first gold assays.
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. Underground collar locations are surveyed after completion of the drill hole using a Leica 1200 series survey station. On surface, collar locations are surveyed using a Leica RTK-GPS survey station. Downhole surveys for underground drill holes are collected at 50ft downhole from the collar and every 100ft thereafter using historically, a Reflex® EZ-Trac multi-shot survey instrument and currently a Trushot digital survey tool multi-shot survey instrument. Surface drill holes are surveyed at 100ft from the collar and every 200ft thereafter, except in areas of overburden, where the first Downhole survey is at 200ft. A final survey is taken at the end of all drill holes. Deviation at the initial survey is checked against plan and the hole is redrilled if there is excessive deviation (>3%).
	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.	Drill hole spacing is highly variable. Well-drilled areas are tested by drilling on approximately 45 by 45 ft patterns, extending out to 240ft at the peripheries of the deposits.
	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 drill hole spacing, is generally based on a 60ft x 60ft up to a maximum of 120ft x 120ft for reserves. Resources are based on 120ft x 120ft up to a maximum of 240ft x 240ft drill spacing. Combined with estimation quality parameters such as slope of regression, and average distance to sample, were used to classify the Mineral Resource estimate. The data spacing, and distribution is considered sufficient to support the reporting of Indicated and Inferred Mineral Resources.
	Whether sample compositing has been applied.	No compositing was applied prior to submission of samples for analysis.

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Criteria	JORC Code explanation	Commentary
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.	Where practicable, the drilling was designed to intersect the mineralisation as perpendicular as possible to the dominant vein geometries. In some circumstances, the lack of drill positions resulted in holes that were oblique 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.	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. As the opportunity arises, better angled holes are infill drilled.
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 the samples is carried out within the confines of this secure facility. All samples are selected, whole core or cut and bagged in tied pre-numbered calico bags, grouped in larger rice bags labelled with the drill hole number and the sample sequence, and placed in large heavy duty plastic totes with a sample submission sheet. Samples are transported via road to the sample preparation facility in Fairbanks, Alaska. Upon receipt, any issues with sample condition are reported via email to Pogo personnel. All sample submissions are documented, and all assays are returned via email. Sample pulp splits from the Pogo Site Lab are stored at the Pogo mine site and those from the Bureau Veritas Lab are stored at the Vancouver facility.
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. Northern Star Resources personnel completed validation of the database for internal consistency and any obvious, which incorporates results acquired prior to 2022. Northern Star have completed validation checks of all data reported in this release. Checks were completed for overlapping intervals, sample intervals extending beyond the hole depth, from > to intervals, and missing from or to values. All issues were rectified. Various other potential issues such as missing surveys, missing sample data, and missing intervals etc. were also identified and corrected.

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 1251 state mining claims (17,079 ha) in addition to the mine lease claim (641 ha) and the mill site lease (1,385 ha). The Pogo operation is 100% owned by Northern Star Resources. There are no known royalties on the 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 Pogo 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 Liese Creek area 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 other companies (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 successful anomalism returned in the initial three holes, a further 13 were drilled in the Liese Creek area in 1995, one of which was the discovery hole for the Liese vein system. This 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 and assumed operatorship of the project in 1998. Further surface definition drilling was completed between 1998 and 2004, with the mining operation commencing in 2006.
Geology	Deposit type, geological setting and style of mineralisation.	The Project is in the Tintina Mineral Belt, which is 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. The region contains numerous economic deposits of gold in addition to copper, lead, zinc, silver and tungsten deposits.

APPENDIX C: TABLE 1

Criteria	JORC Code explanation	Commentary
		The lithological units in the Pogo deposit area are dominantly high-grade metamorphic rocks intruded by later felsic to intermediate intrusive units. 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 (granite-tonalite-diorite) is the dominant intrusive complex in the district. Locally small felsic to intermediate stocks and dykes are present. The principal mineralisation is hosted in biotite-quartz-feldspar paragneiss and orthogneiss, although all other lithologies are cut. Where the veins cross intrusives, they tend to split and become stockwork zones. Gold at Pogo is predominantly hosted within laminated quartz veins ranging in thickness from <0.5m to >10m. Mineralised veins contain around 3% sulphides (arsenopyrite, pyrite, pyrrhotite, loellingite, chalcopyrite, bismuthinite, sphalerite, galena, molybdenite, tetradymite, maldonite) and a variety of Bi-Pb-Ag sulphosalts. The Pogo gold deposit is an example of a Reduced Intrusive Related Gold Deposit (RIRGD), characterised by a low sulphide content, (typically <5%) and a reduced ore mineral assemblage, that typically comprises pyrite and lacks primary magnetite or hematite. In brief, these deposits typically have the following characteristics: Mineralisation occurs as sheeted vein deposits or stockwork assemblages and often combines gold with variably elevated Bi, W, As, Mo, Te, and/or Sb, but low concentrations of base metals. Restricted and commonly weak proximal hydrothermal 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: - easting and northing of the drill hole collar - elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar - dip and azimuth of the hole - down hole length and interception depth - hole length	A representative selection of the recent drilling has been included in the appendix with all relevant information.
	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 length weighted with a minimum Au grade of 0.5ppm. 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.	True widths have been reported unless otherwise stated.
	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	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.	An appropriate map has been included in this release.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	A representative selection of the recent drilling has been included in the appendix with all relevant information.

APPENDIX C: TABLE 1

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.	Nil
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 and definition drilling is planned from both underground and surface positions.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Diagrams have been included in this announcement.

Pogo: Goodpaster

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 Goodpaster prospect was sampled from HQ diamond drill hole core (DD) obtained from surface drilling campaigns carried out between 2011 and August 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 or mineralisation boundaries. Sampling protocols at Pogo vary dependent on the purpose of the drill hole: 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. For NQ2 core samples, minimum sample size of 0.5ft (0.15m) and a maximum sampled interval of 5ft (1.52m). 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 250g sub-split is taken which is then pulverised. A 30g sub-sample of all sample types is then selected for fire assay with an atomic absorption spectroscopy (AAS) finish.
	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 at Goodpaster. Surface drill holes are typically collared using PQ / HQ diameters and are rarely reduced to NQ2 only where necessary. Core drilled between 2009 and 2017 was generally not oriented. Since 2018, all exploration drill holes are oriented using the Reflex Act III tool.
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 was historically recorded in the Recovery tab using Rockware Logplot 7 software. In general, recoveries are excellent (well above 95% core recovered) and 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.

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Criteria	JORC Code explanation	Commentary
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	Goodpaster Project has no known relationship between sample recovery and grade. Overall recoveries are excellent and no significant issues with core loss are apparent.
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 Rockware Logplot 7 software and since 2019 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.	Drill logging is both qualitative and quantitative in nature. Every core tray is photographed wet.
	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.	Core drilled for exploration purposes is cut in half onsite using industry standard Almonte core saws.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	Diamond core drilling only at Goodpaster
	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 Bureau Veritas (BV) and/or Australian Laboratory Services (ALS). Pogo sends drill core to Fairbanks, Alaska with pulps sent to the BV laboratories in Reno, Nevada or Vancouver, British Columbia or ALS laboratories Vancouver, British Columbia 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 250g 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 twenty 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. These reports do not indicate 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.	Duplicate sample results correlate well, hence sample sizes are considered to accurately represent the gold mineralisation at Pogo Mine. Sample sizes are appropriate and correctly represent the style and type of gold mineralisation.
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. In holes drilled for exploration purposes, gold content is determined by a 30g 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. The 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 estimate resources in this release.

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Criteria	JORC Code explanation	Commentary
	Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.	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. However, 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 round-robin assay approach 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.
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 photographs of significant intersections reviewed to ensure mineralised zones are consistent with known Pogo mineralisation styles.
	The use of twinned holes.	No twinned holes have been completed at Goodpaster Project.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	All diamond core is logged in detail. Logging takes place at the core processing facility. Core logging was historically completed using Logplot 7 software. Since Northern Star's Pogo acquisition in 2018, data capture has transitioned to the modern AcQuire database and logging systems. All Pogo data is stored in an industry-standard AcQuire database. Validation protocols are built into the importation process to ensure data integrity.
	Discuss any adjustment to assay data.	No adjustments were made to the assay data.
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	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 and the hole is redrilled if there is excessive deviation (>5%). There are no mine workings in the area
	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.	Drill hole spacing is highly variable. Well-drilled areas are tested by drilling on approximately 80 meter-spaced patterns, extending or contracting where the geology demands definition. The Goodpaster drilled deposit area contains drill spacing up to a maximum of 300m.
	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 current Goodpaster drill spacing of approximately 80m by 80m or less is deemed suitable to the establishment of an Inferred Resource.
	Whether sample compositing has been applied.	No compositing was 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.	Where practicable, drilling was designed to intersect the mineralisation as perpendicular as possible to the dominant vein and structural geometries. In some circumstances, terrain obstacles resulted in drill positions that were oblique 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.	The Competent Person believes that 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.

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Criteria	JORC Code explanation	Commentary
		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 Mine and 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.

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 Goodpaster area subject the resource 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 are 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 high-grade metamorphic rocks later 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 north of the Pogo gold district. Principal gold mineralisation is hosted in biotite-quartz-feldspar paragneiss and orthogneiss, although any lithology can host gold mineralisation. Post-metamorphic intrusions are rarely significant hosts. Gold at Pogo occurs predominantly within thrust faults where quartz veins ranging in thickness from <0.5m to >10m. Mineralised veins contain plus/minus 3% sulphides (arsenopyrite, pyrite, pyrrhotite, loellingite, chalcopyrite, bismuthinite, sphalerite, galena, molybdenite, tetradymite, maldonite) and a variety of Bi-Pb-Ag sulphosalts. High-angle faults often host strong gold grades 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; - 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 hydrothermal alteration - Spatially and temporally related to reduced intrusions of intermediate to felsic composition.

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Criteria	JORC Code explanation	Commentary
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: - easting and northing of the drill hole collar - elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar - dip and azimuth of the hole - down hole length and interception depth - hole length	A representative selection of drillholes and appropriate details 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.	Excluded material will not materially affect the understanding of this report
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g., cutting of high grades) and cut-off grades are usually Material and should be stated.	All reported 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.	Not applicable - given metal equivalent values are not being reported.
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results.	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 estimated true widths have been clearly stated 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, true width intersections are estimated using trigonometry calculations of the vein angle to the core axis (see above).
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.	A diagram has been included in the body of the announcement.
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 attribute 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 additional material data has been collected.
Further work	The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).	Surface exploration diamond drilling on the Goodpaster vein system is ongoing will resume in the 2023 field season 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 have been included in this announcement.