An Australian gold miner - for global investors

Kalgoorlie Operations Site Visit Presentation – February 2020

NORTHERN STAR
RESOURCES LIMITED

Resources & Reserves and Forward Looking Statements

Mineral Resources and Ore Reserves

Other than in relation to Appendices 1, 2 and 3, the Mineral Resources and Ore Reserves information, and exploration results reported in accordance with the 2012 edition of the Joint Ore Reserves Committee's Australasian Code for Reporting of Mineral Resources and Ore Reserves ("JORC Code") in this presentation for the Company's Kalgoorlie Operations is extracted from the reports entitled "Resource and Reserve Update" dated 1 August 2019, available at www.nsrltd.com and www.asx.com. For the purposes of ASX Listing Rule 5.23, Northern Star confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. Northern Star confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

Competent Persons Statement – Appendices 1, 2 and 3 Drilling Results

The information in this announcement that relates to Mineral Resource estimations, exploration results, data quality and geological interpretations for the Company's Kalgoorlie Operations the subject of Appendices 1, 2 and 3 is based on information compiled by Michael Mulroney, 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 Mulroney 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" for the Company's Kalgoorlie Operations. Mr Mulroney consents to the inclusion in this announcement of the matters based on this information in the form and context in which it appears.

Forward Looking Statements

Northern Star Resources Limited has prepared this announcement based on information available to it. No representation or warranty, express or implied, is made as to the fairness, accuracy, completeness or correctness of the information, opinions and conclusions contained in this announcement. To the maximum extent permitted by law, none of Northern Star Resources Limited, its directors, employees or agents, advisers, nor any other person accepts any liability, including, without limitation, any liability arising from fault or negligence on the part of any of them or any other person, for any loss arising from the use of this announcement or its contents or otherwise arising in connection with it.

This announcement is not an offer, invitation, solicitation or other recommendation with respect to the subscription for, purchase or sale of any security, and neither this announcement nor anything in it shall form the basis of any contract or commitment whatsoever. This announcement may contain forward looking statements that are subject to risk factors associated with gold exploration, mining and production businesses. It is believed that the expectations reflected in these statements are reasonable but they may be affected by a variety of variables and changes in underlying assumptions which could cause actual results or trends to differ materially, including but not limited to price fluctuations, actual demand, currency fluctuations, drilling and production results, Resource and Reserve estimations, loss of market, industry competition, environmental risks, physical risks, legislative, fiscal and regulatory changes, economic and financial market conditions in various countries and regions, political risks, project delay or advancement, approvals and cost estimates.

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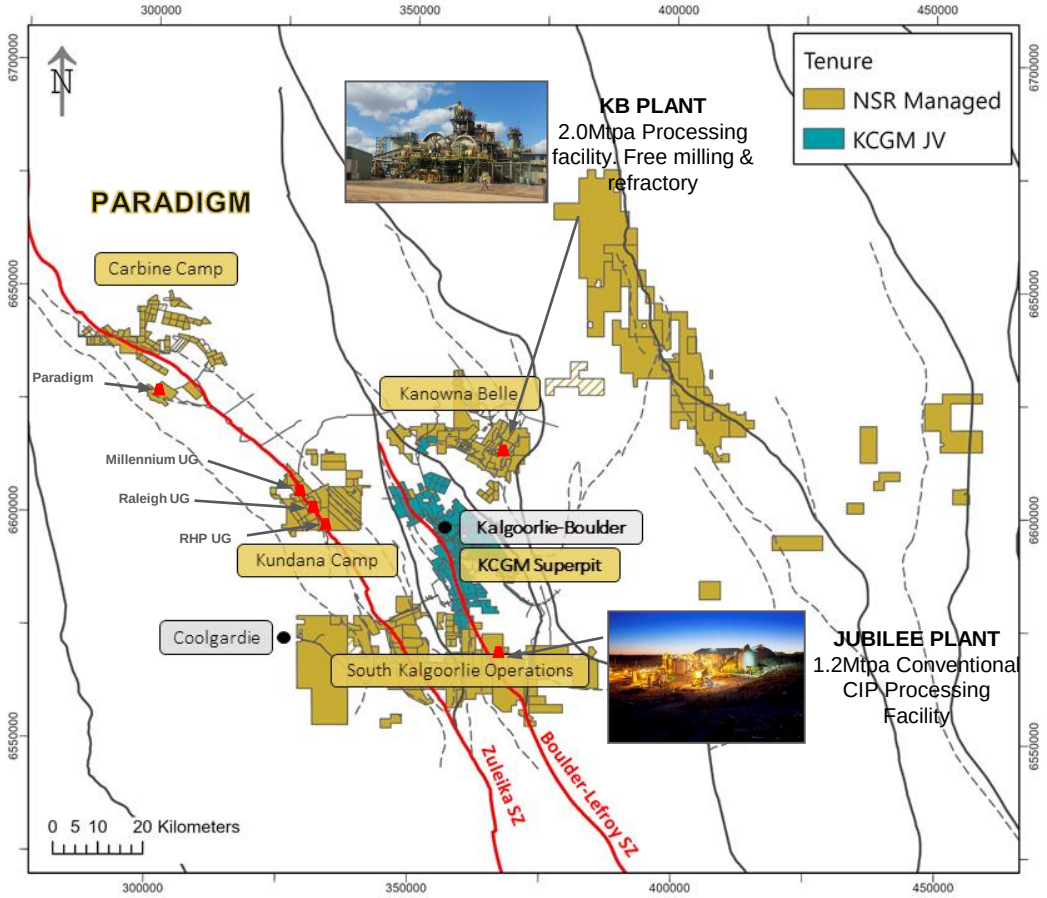
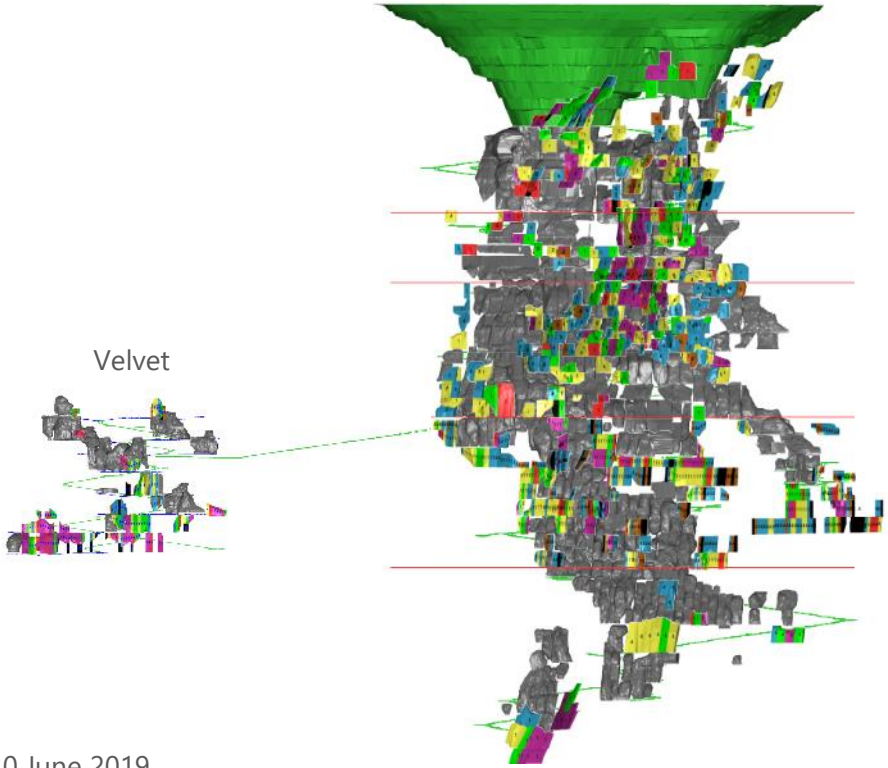
Kalgoorlie Operations
Mining Overview
(Excluding KCGM)

Northern Star Kalgoorlie Operations



- FY2020 continues organic production growth profile with guidance of 340,000oz – 380,000oz at AISC of A$1,260-A$1,370/oz
- 5 Operating UG Mines
  - Kanowna Belle
  - Millennium
  - HBJ
  - Raleigh (51% NST)
  - Rubicon-Hornet-Pegasus (RHP) (51% NST)
- 2 Processing Facilities – Total 3.2Mtpa
  - Kanowna Belle – 2Mtpa
  - Jubilee – 1.2Mtpa
  - Plus regional toll treating options
- Concentrated centre allows simplified management and leverage to synergies and gold price with organic growth options

Kanowna Belle



- +5Moz orebody
- Underground development began in 1995, production in 1998
- Lowest level in the mine is 1.3km below surface
- Production targets ~1Mt per year @ 3.4g/t for 110k oz

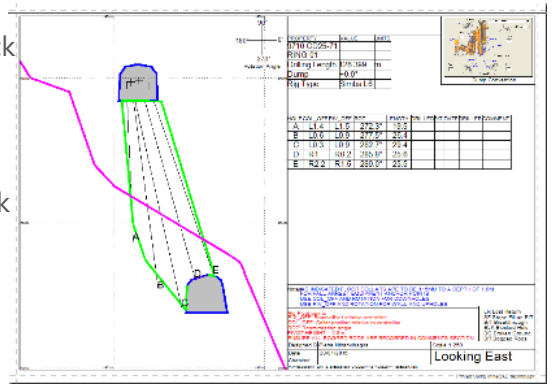
A Block

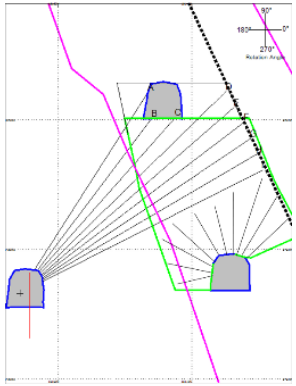
B Block

C Block

D Block

E Block





30 June 2019

Total Resource	17,766t @ 3.4g/t – 1,943 k oz.
Total Reserve	6,412t @ 3.2g/t – 668 k oz.

Mining Equipment

Trucks

- Rigid Komatsu HD605 modified (KB Only)
- Articulated Sandvik TH663 – 63t Payload

Loaders

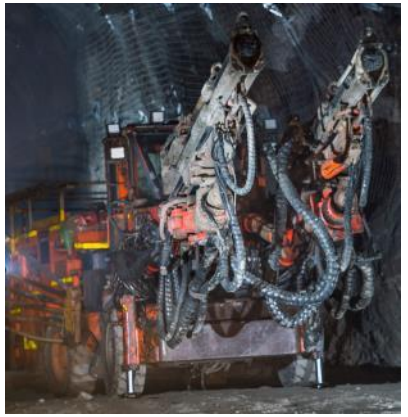
- Sandvik 621 - 20t bucket
- Sandvik 517 - 17t bucket
  - Remote capable

Long hole Production Drills

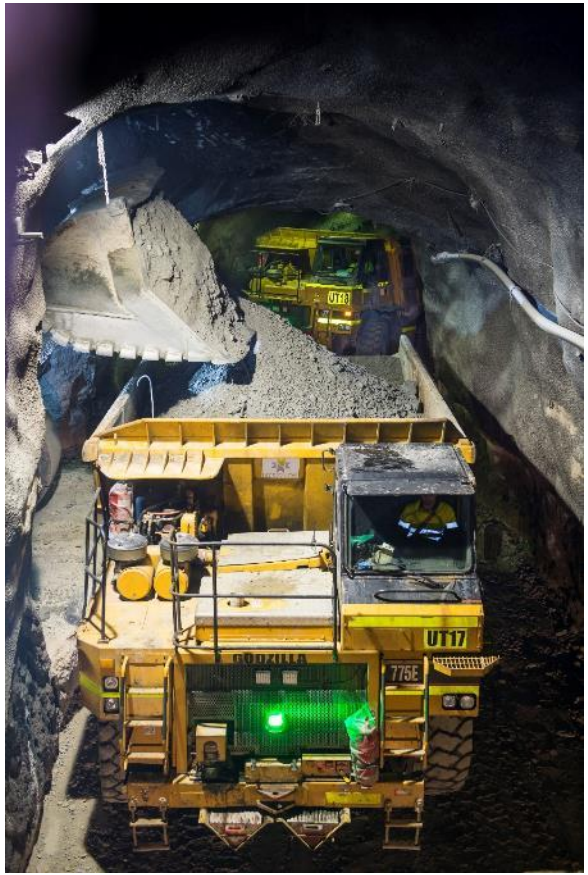
- Epiroc Simba ME7C / S7D
- 76 or 89 mm hole size

Development Jumbos

- Sandvik DD421 (Twin booms)



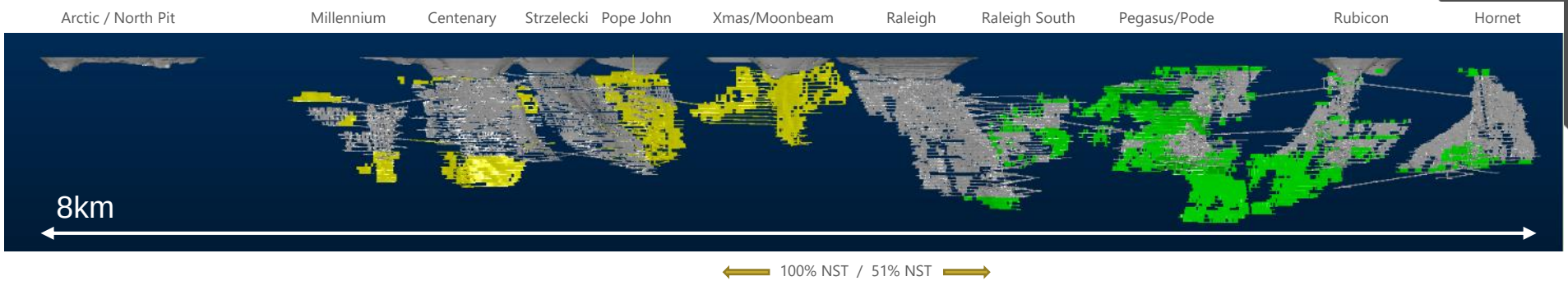
KB Ore Haulage System



Main Haulage System:

Primary location ➡ Articulated ➡ Ore pass ➡ Rigid ➡ ROM

Kundana Region - 100% NST & EKJV (51% NST)



The Kundana mining area has been in operation for over 30 years

NST current operations stretch >8km along this exceptional geological corridor, with orebodies open at depth, laterally and along strike

Ore bodies are typically narrow quartz vein style mineralisation (1m to 6m in width)

~7.5M oz endowment (Kundana Gold + 100% EKJV)

The current operational mines include

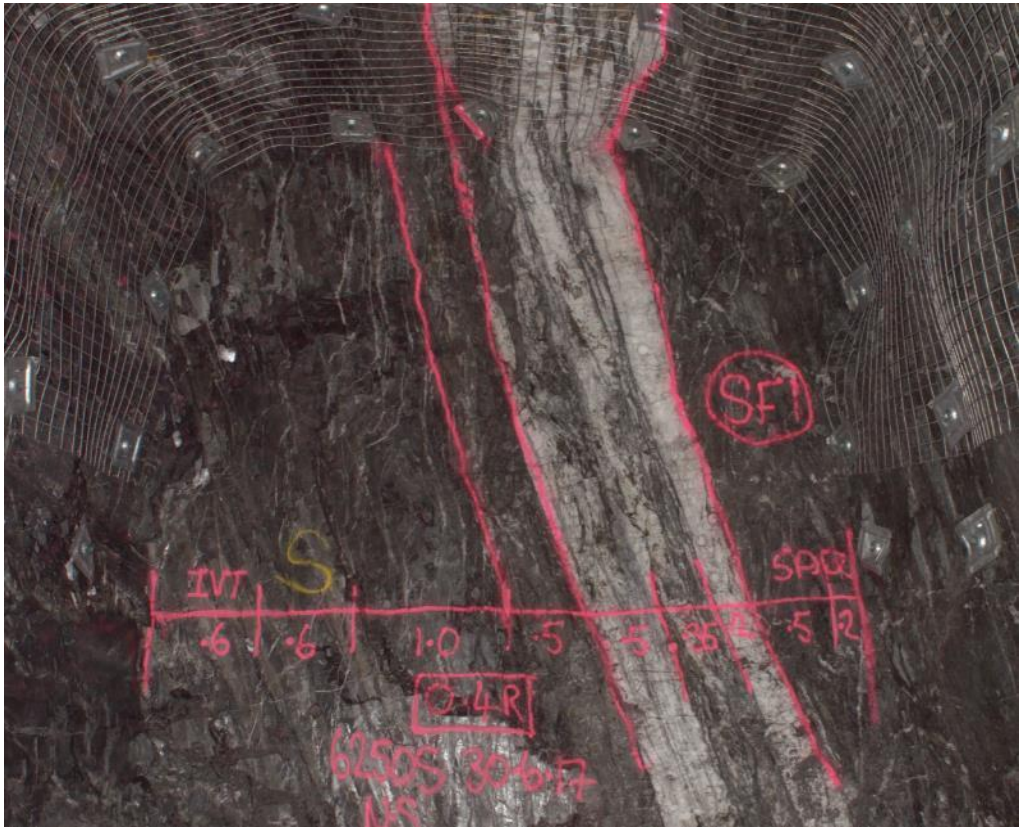
- Kundana (100% NST) - Millennium, Pope John, Moonbeam
- East Kundana Joint Venture (51% NST) - Raleigh, RHP

Current physicals (100% basis)

- >2Mtpa ore production
- >20kmpa of lateral development

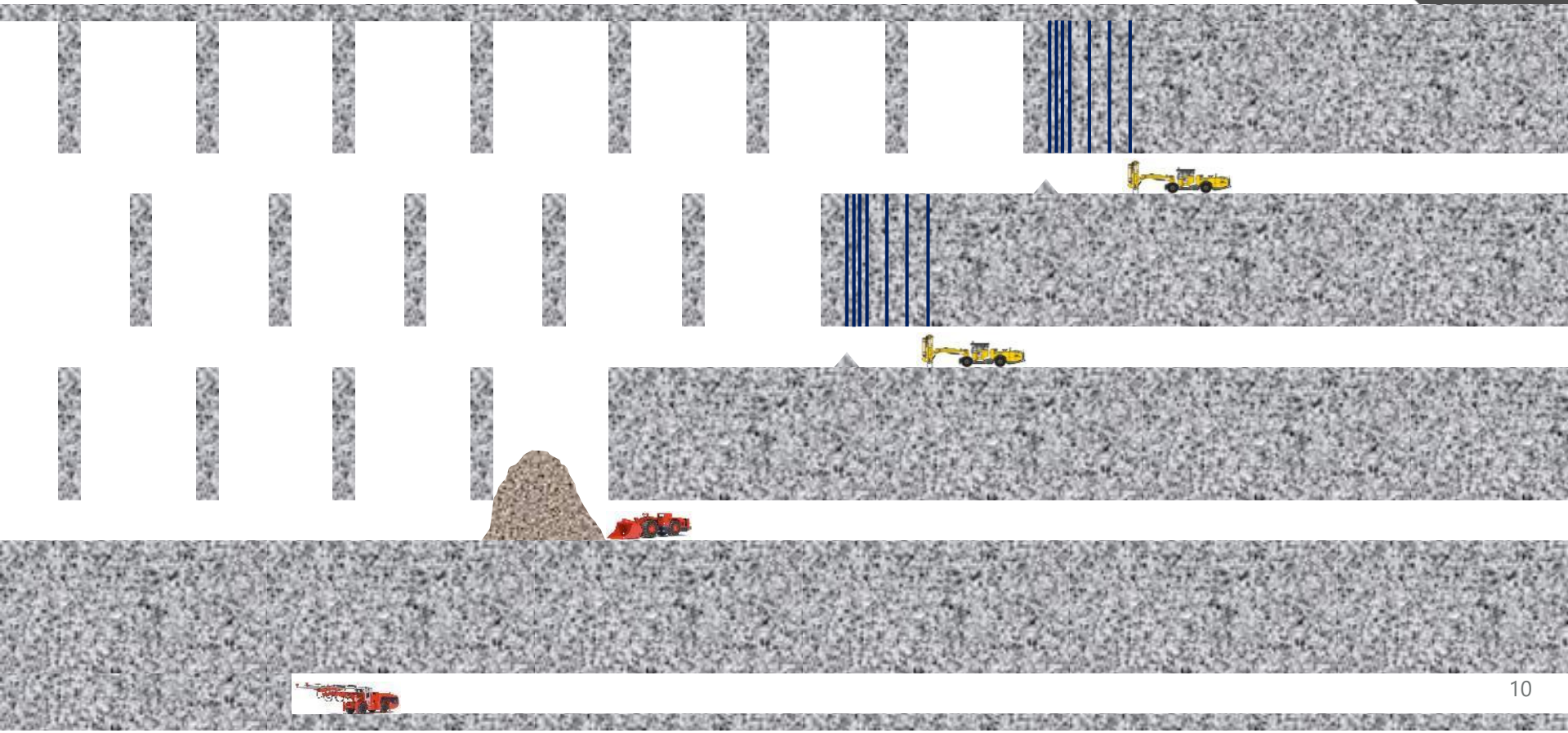
Narrow Vein Orebodies

K2 Lode – Millennium, Pope John, Moonbeam, RHP

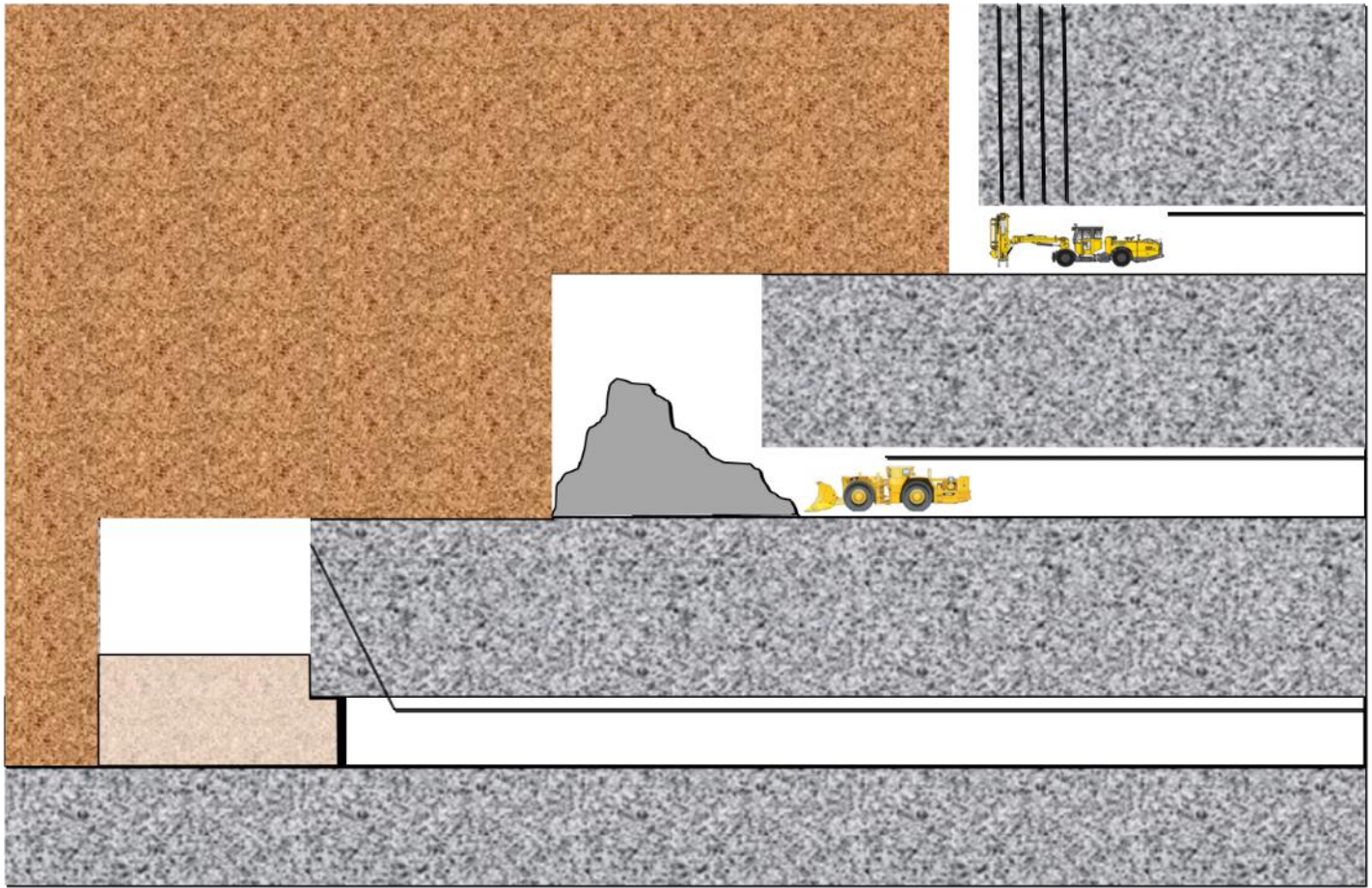


Strzelecki Lode – Xmas, Raleigh

Mining Method - Longhole Open Stoping (MIL-PJ-MB)

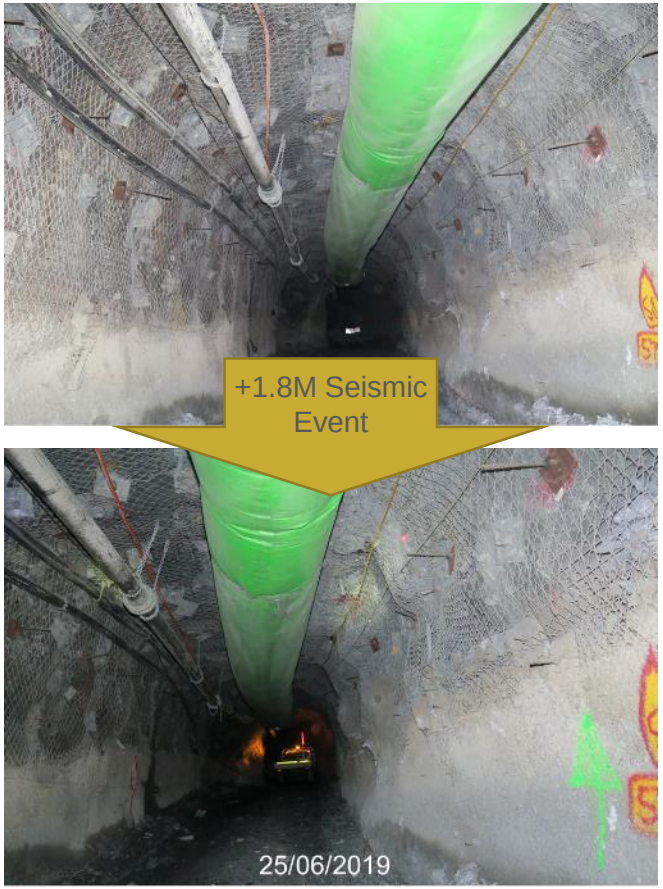


Mining Method – Top down with Pastefill (RHP-RAL)

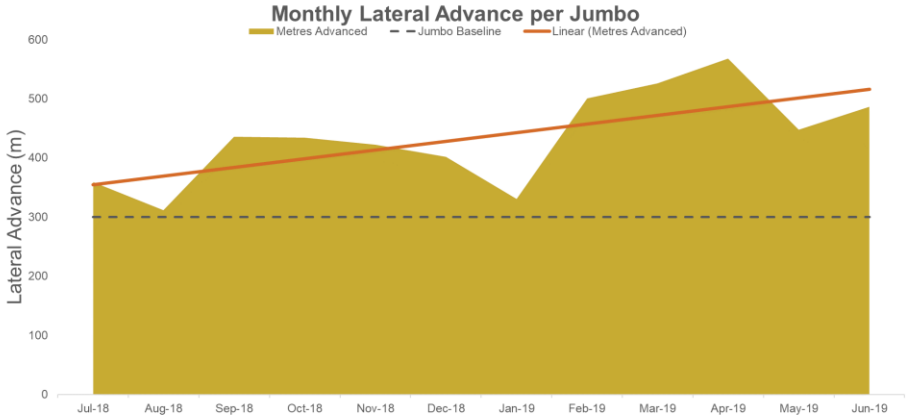


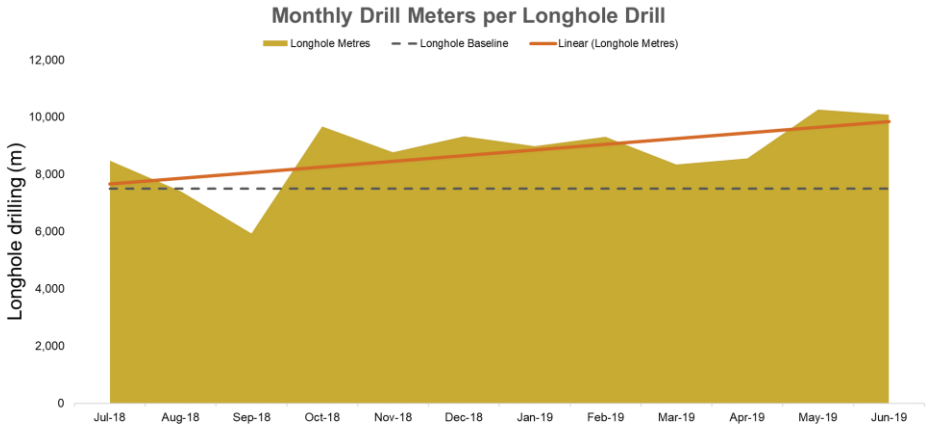
Industry Leading Management of Mining at Depth

- Collaboration with Western Australian School of Mines in a research project to develop effective and productive single pass ground support systems to ensure delivery of mine plan
- Achieved excellent ground support performance in high stress conditions.
- Ensures safety of personnel & avoid delays that impact delivery of the mining plan



NSR / NSMS - Delivering Superior Performance





Our Underground Mining Services Division (NSMS) is implemented and operating at Kalgoorlie Operations

Best of both worlds

- Geology, mine design & scheduling structured to allow for operational success
- Contractor-style productivity focus – get the most out of people & assets

Industry leading mining productivities
delivered from "In House" Mining contractor model

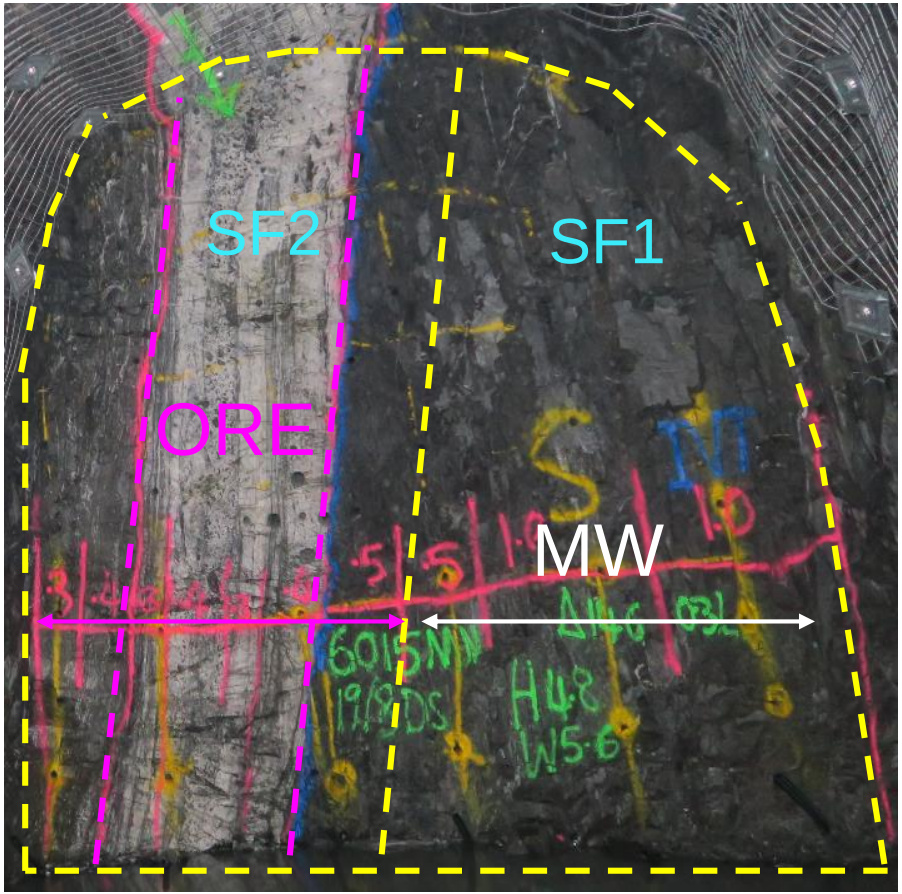
Jumbo development to 500m/jumbo/month

Production drilling to 10,000m/drill/month

High productivity is a key driver of project value

- Reduces fixed costs (reduced $/t)
- Accelerated access to ore
- Increased annual production rates

Maximising Quality of Ore - Split Firing



Increases quality of ore by removing waste material from development heading as part of the mining cycle

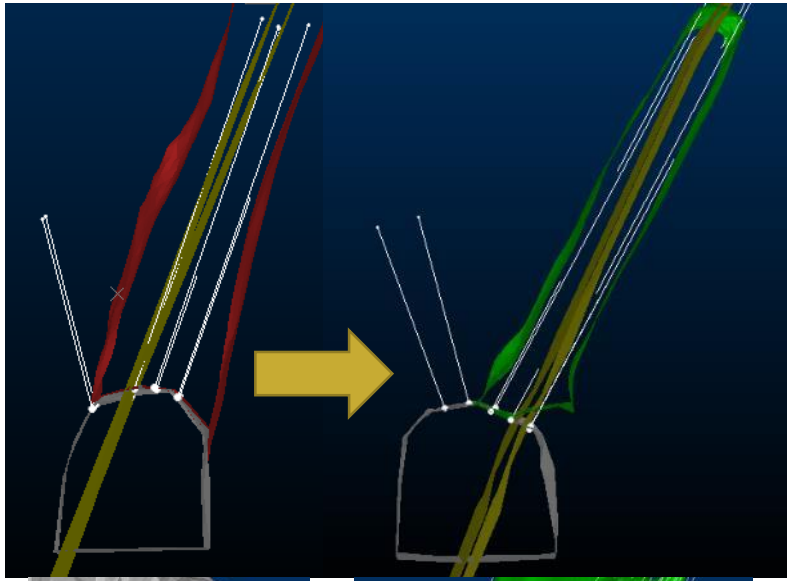
No impact to advance rates; Kundana achieving and maintaining industry leading physicals

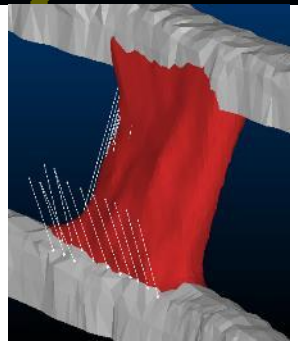
Impact of removing 30% waste from a development ore cut:

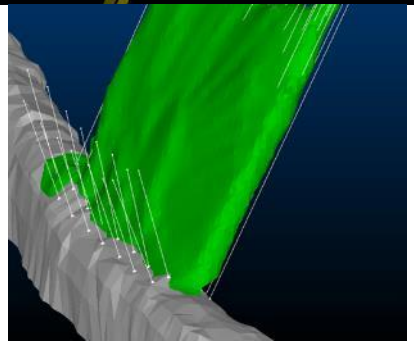
- Direct savings realised by not hauling and processing 70t of waste per cut. ~$3,000/cut
- Value creation from increase of mill head grade – opportunity +A$10,000 revenue per ore cut

Additional value creation by conversion of low grade to ore above cut-off.

Maximising Quality of Ore - Reducing Stope Dilution







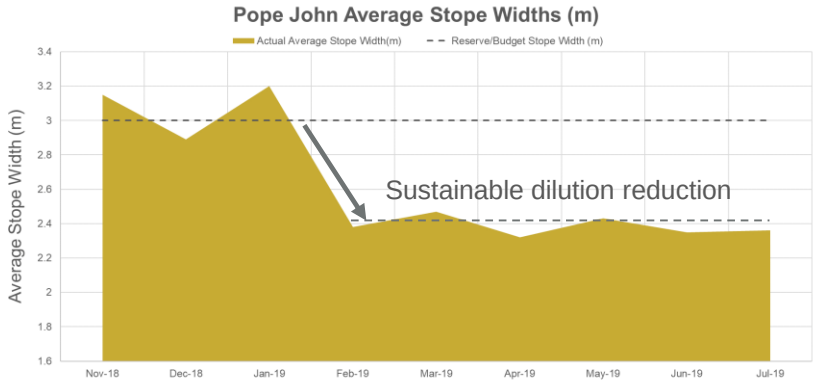
Reduction in mining dilution through

- More efficient drill design (zipper vs dice-5), optimised blasting design
- Drilling Accuracy (Minnovare Azi-Aligner)
- Better support of hanging wall, improved hanging wall protection

Impact of reducing stope width by 0.5m

- Remove ~80kt of waste material per year from hauling and processing
- Increases stoping production rates – bring forward 80,000t of higher grade
- Opportunity +A$20M revenue

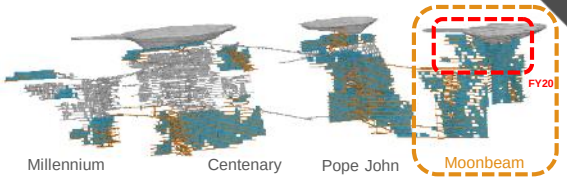
More Resource converts to Reserve and extends mine life



Moonbeam – Rapid Mine Development

Building the ramp to start dewatering 16th June

Dewatering complete 11th August

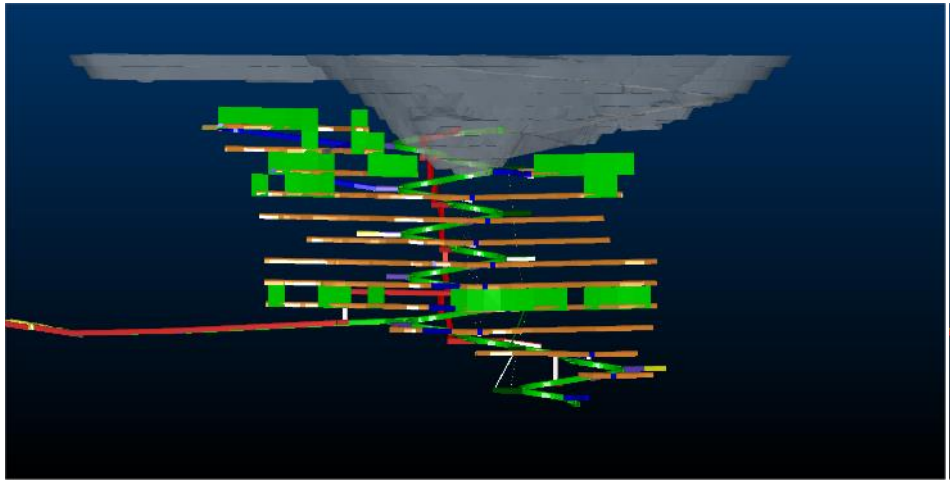


Jumbo working in Moonbeam portal Friday 6th September

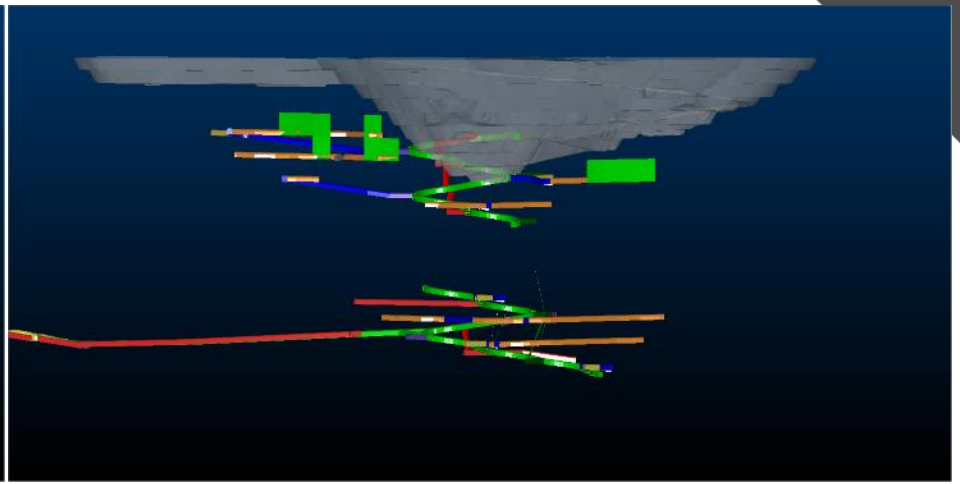
Decline Breakthrough Achieved – 27th January 2020

NST Operational Capability Delivers Superior Returns

Moonbeam established as an additional production centre in FY2020



Development and production profile with NST performance at 500m per month per Jumbo



Comparable development and production profile at 300m per month per Jumbo

Development and Production difference

- +4 km Development
- +170kT of Ore (development and stoping)

This scenario would carry the same fixed costs

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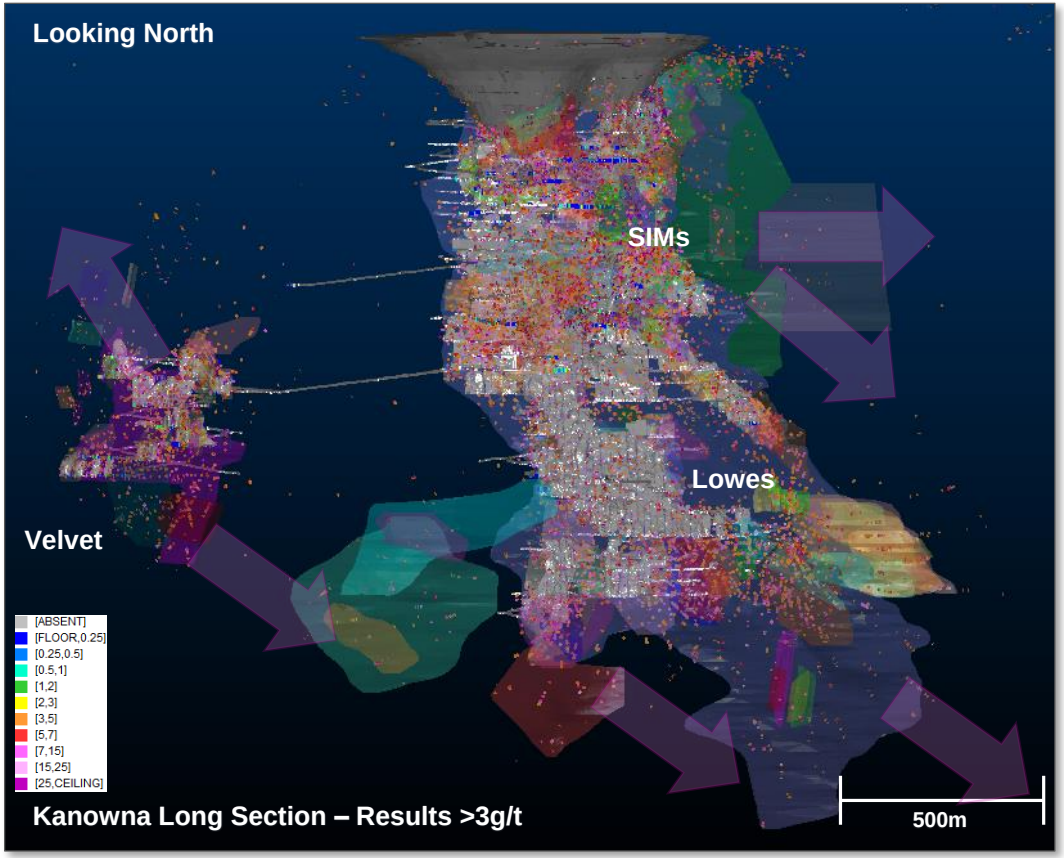
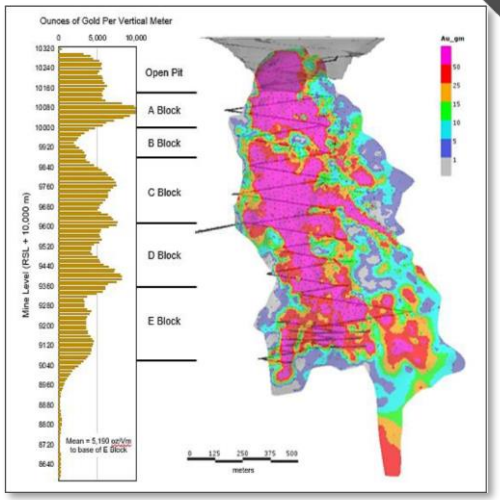
Kanowna Belle Geology Overview

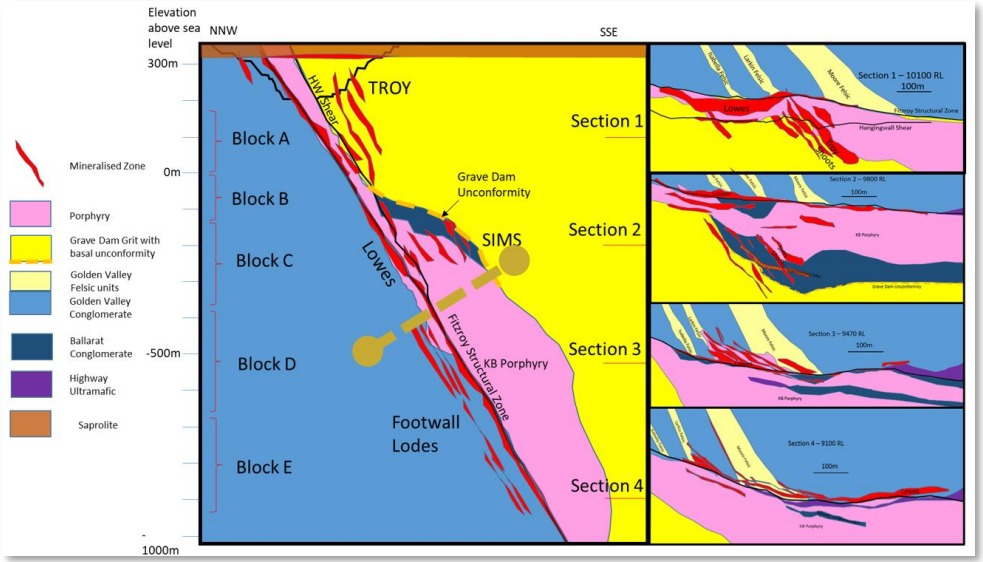
Kanowna Belle

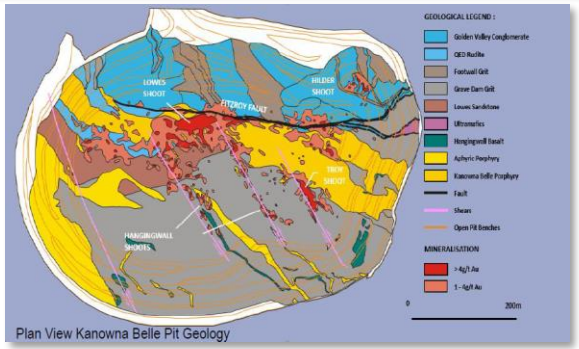




- Kanowna Belle is a 5Moz ore body
- Average 4koz per vertical metre with ongoing drilling and re-interpretation to assist in growth and expansion
- 6 production blocks including Velvet
- Multiple lithological settings
- 1.3km from surface and open down dip and along strike
- Mineralisation drilled and open 400m below E block
- Significant mineralisation discovered outside of the main Lowes and Troy lodes
- Sims – high grade narrow lodes open along strike and down dip

Kanowna Belle Stratigraphy



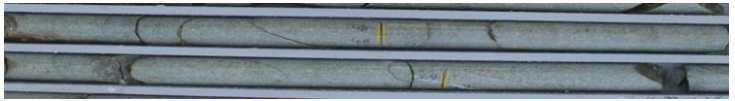


Plan View Kanowna Belle Pit Geology

Footwall : Golden Valley conglomerate
Undeformed, clast supported with minor veining

Fitzroy Shear zone
Cataclasite, mylonite, fault gouge

Hanging wall: KB Porphyry
Sericite-carbonate-albite altered with disseminated pyrite, sulphide stringers and late stage veins and veinlets



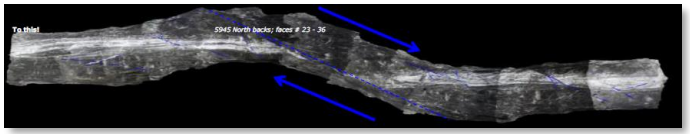
Hanging wall: Grave Dam Grit
Volcanoclasic breccia, sericite-carbonate and fuchsite altered

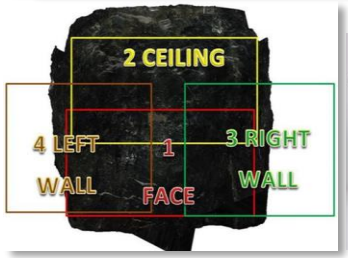
Development Cycle – Optimising Geological Control

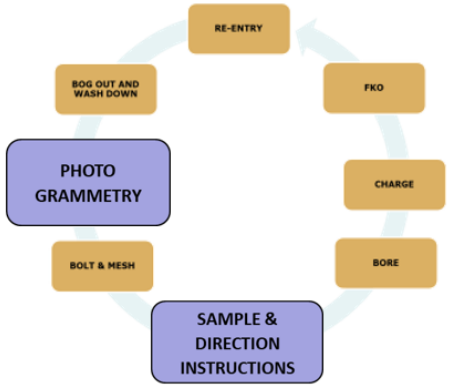
3D Photogrammetry
Completed for all ore and critical waste headings to optimise geological integrity

Sirovision a 3D image that the geologists use to map structures, rock types, veining etc

Requires
- Full face bogged out
- Cuts washed down completely
- Control points surveyed to ensure 3D image can be processed and interpreted in 'real space'







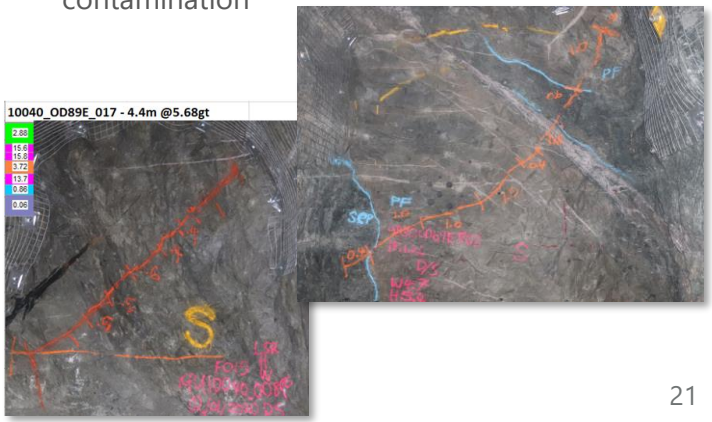
Other Uses For Sirovision
- Dilution monitoring
- Geotechnical mapping and structural modelling
- Geological modelling
- Ore domaining prior to resource estimation
- Identify and extrapolate structures known to be responsible for high grade zones, and target areas for further drill testing

Face Sampling

Completed for all ore headings, or where potential mineralisation is identified

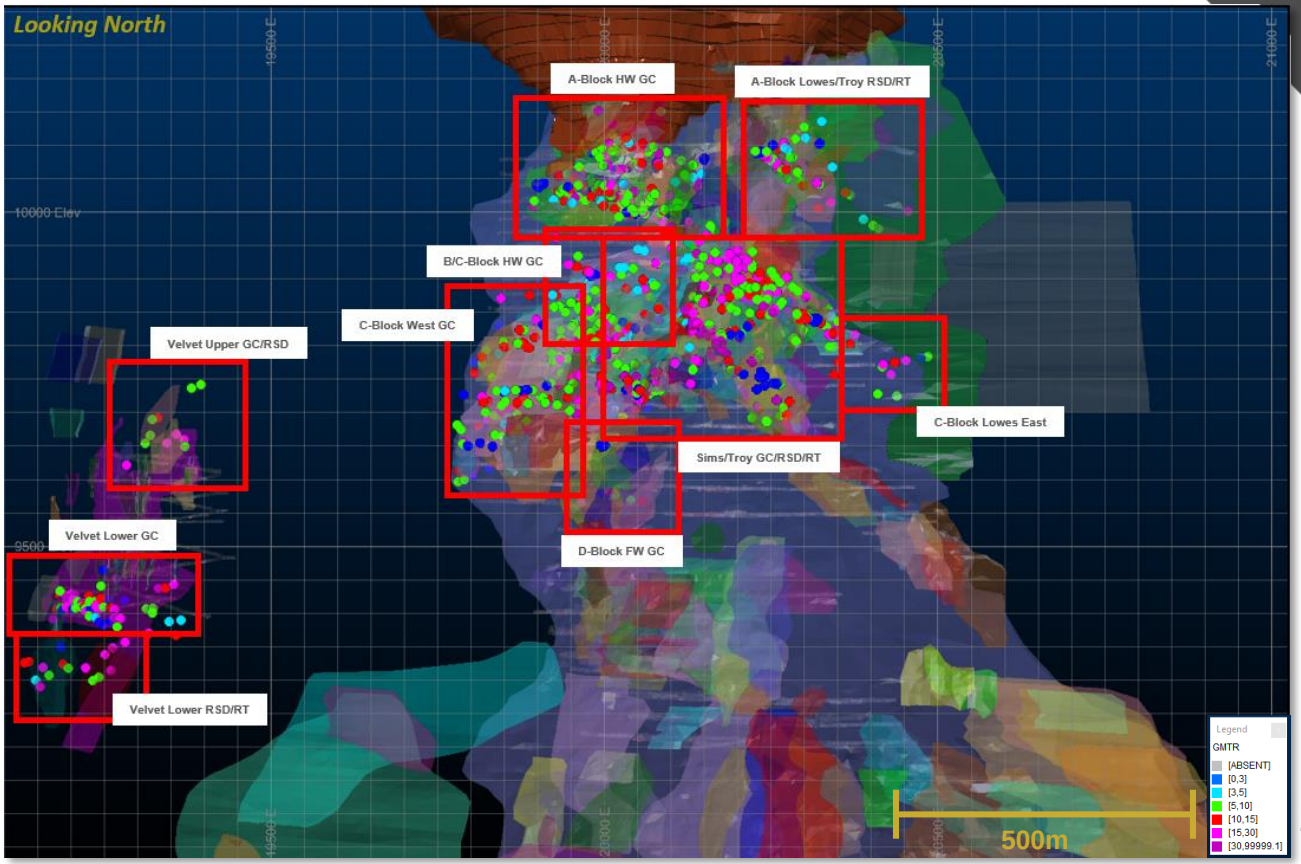
Samples are broken up into several 'domains' which are used in our grade models to predict future development and stope grades

Requires
- Full ground support to standard
- Clean up after bolt-mesh to avoid trip hazards
- Face washed after bolt-mesh to avoid grade contamination

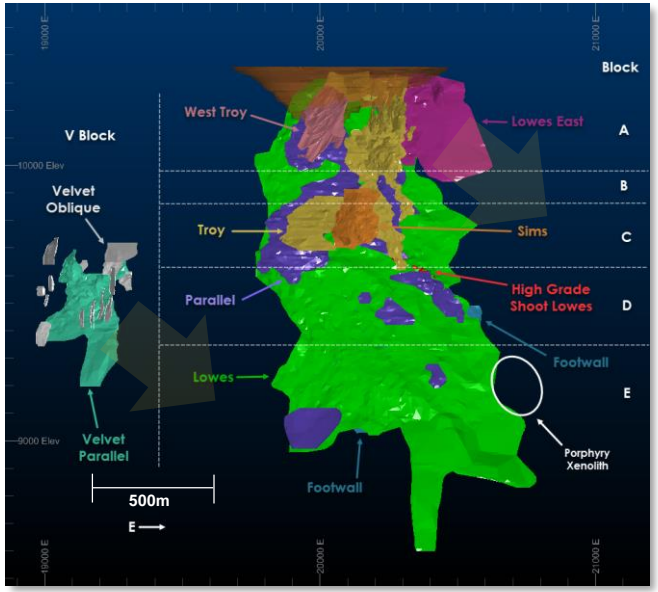


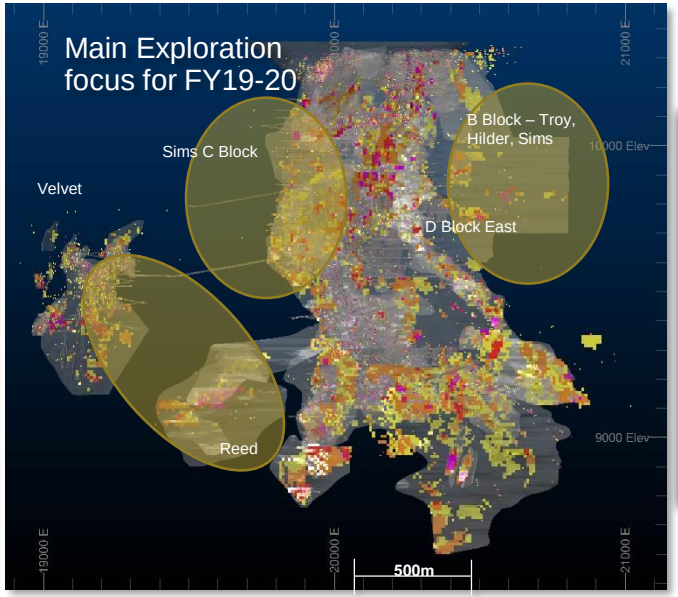
Kanowna Belle – In Mine Drilling Q1/Q2

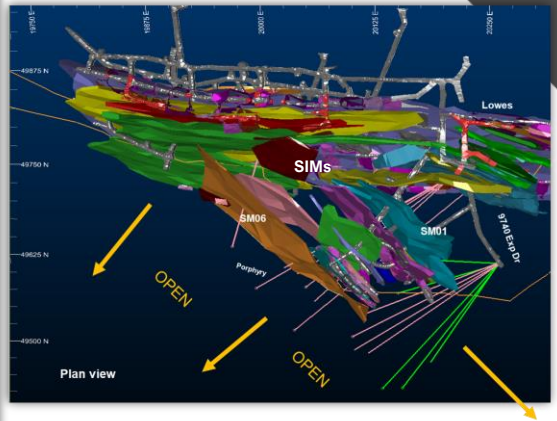
- 3 – 4 Rigs drilling Q1 and Q2
- 3 Rigs leading into Q3
- Total metres drilled
  - Q1 – 44,695m
  - Q2 – 30,758m
- Total of A$13.7M budgeted for drilling at KB this financial year



Kanowna Belle – In Mine Exploration







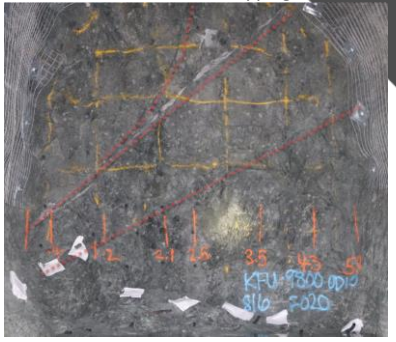
- Hanging wall structures exist throughout the system, and are currently being defined through geological and systematic targeting
- Continue to return strong results in Lowes parallel lodes and the oblique systems (Troy, Sims etc) stepping out into the hanging wall (testing new lithological models and theories)
- Higher Grade A, B, C and D Block HW are the main focus for FY19/20 – Along with Velvet and Eastern extensions to Lowes

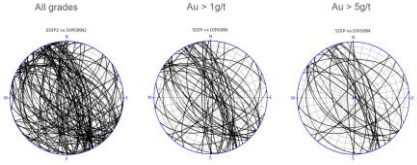
Sims - Back to Basics - Geology

- Detailed wall and backs mapping of the Sims lodes
- Wall sampling – cross-cutting the ore lodes
- Lithological model update
- Sampling perpendicular to the ore body (basket) as well as horizontally
- Sirovision photogrammetry of all faces used for direction/ Mapping/geotech/wireframing
- Re-logging and sampling areas when new interpretations are being developed
- More selective face sampling – narrow vein ore body with mineralised selvedge's
- Reconciling stopes through the mill – testing new interpretations

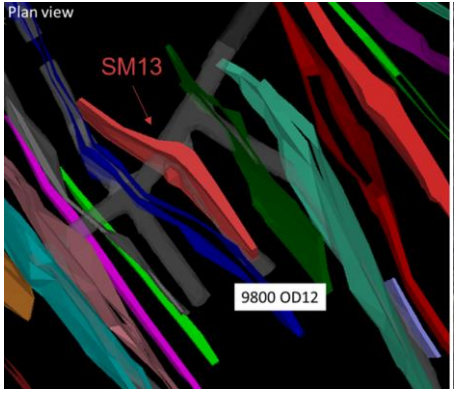
Detailed Backs/Wall Mapping

Detailed Face/wall/access Mapping

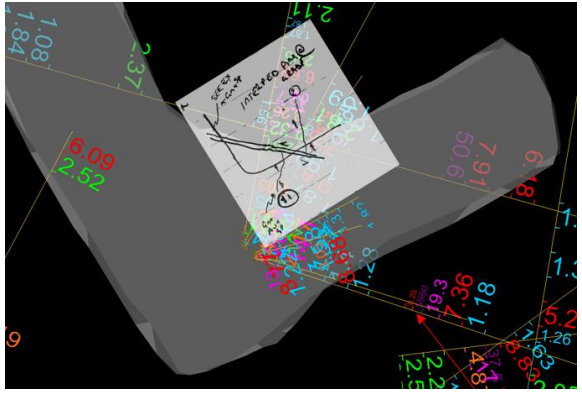


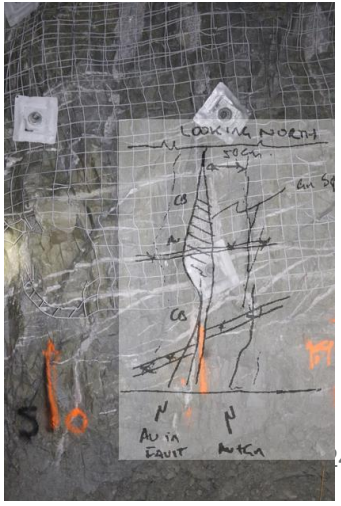


Currently modelled on SM13. NW/SE striking vertical lode.



Faces – Show clear low angle, ~45°SW, gold bearing structure in drive

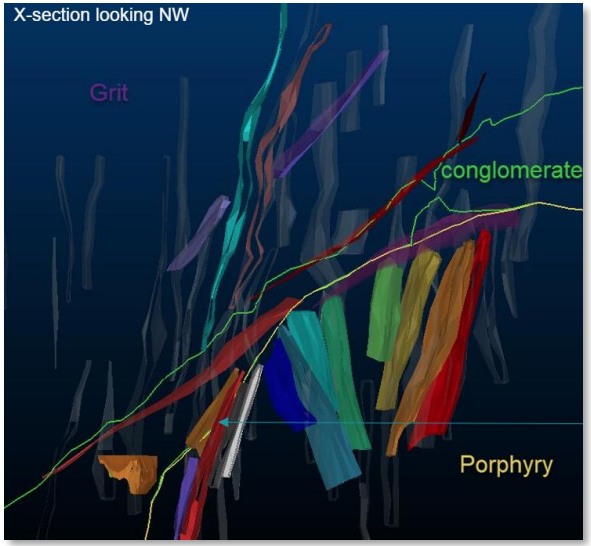




Sims – An Evolving Ore Body

Conglomerate SX Structures

- Complex Sims lode examples seen in core
- Gold mineralisation hosted in quartz veining with strong fuchsite alteration and shearing
- Discrete mappable structure striking NW/SE dipping ~45°SW
- Reverse shear utilising conglomerate bedding

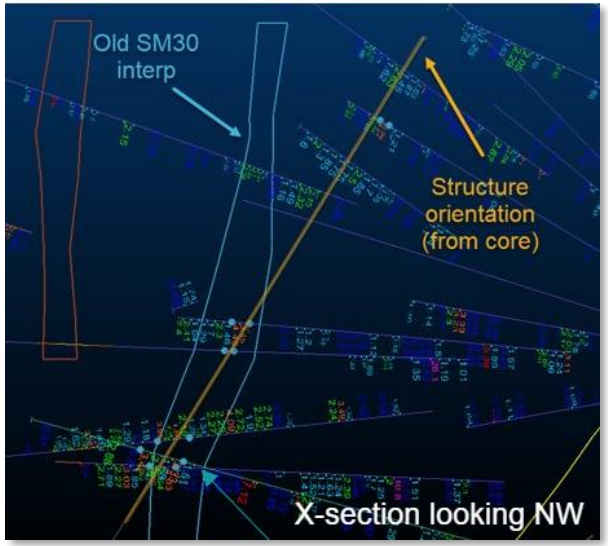


Old Vs New Porphyry

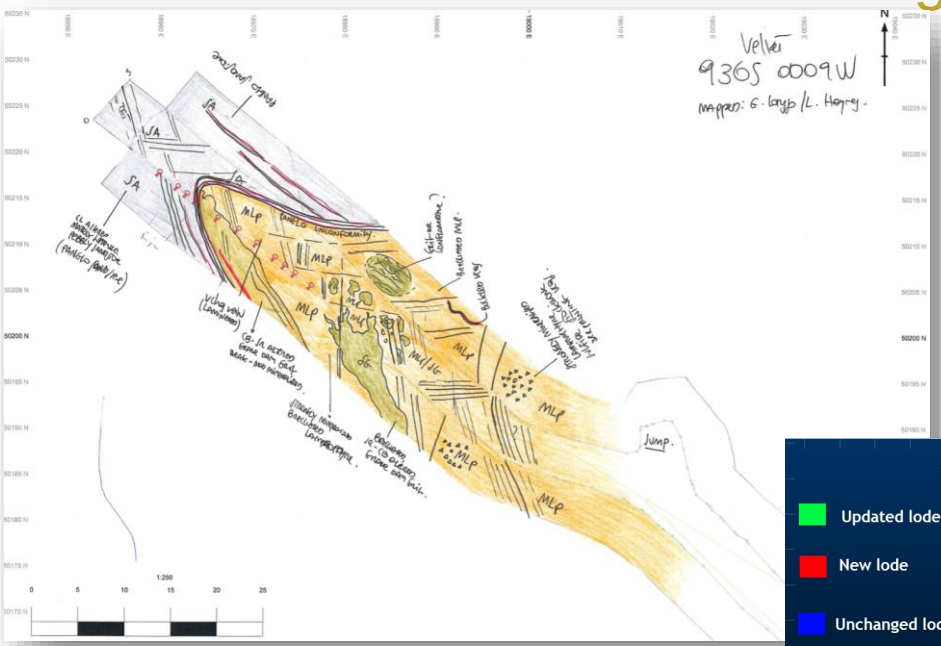
- Contact lodes created where visible mineralisation observed and high grades trends apparent in certain orientations
- Porphyry lodes extrapolated from current development
- Strike aligning more towards troy orientation

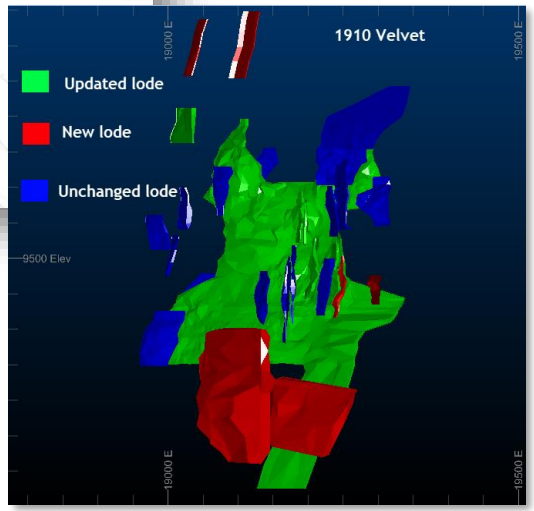
Old Vs New Grit

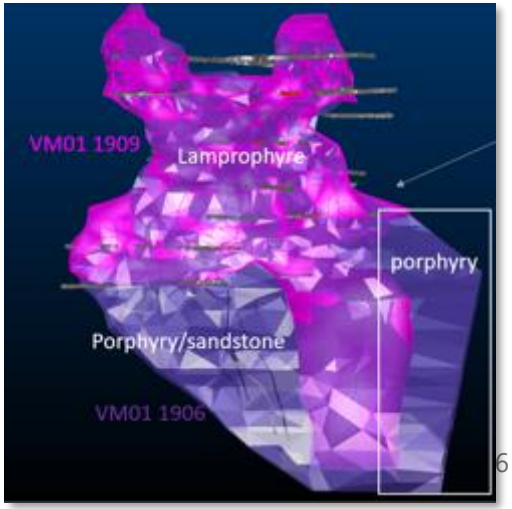
- Dip of lodes have moved towards 70 degrees, strike remains similar
- Dip lines up with porphyry grit contact
- Lodes do not cross lithology



Velvet - Back to Basics - Geology







- Focus on reinterpretation - to take VM01 back to a geological wireframe and highlight the potential of mineralisation in porphyry in the hanging wall of the main lode
- New lodes highlighted and new stopes added

NORTHERN STAR
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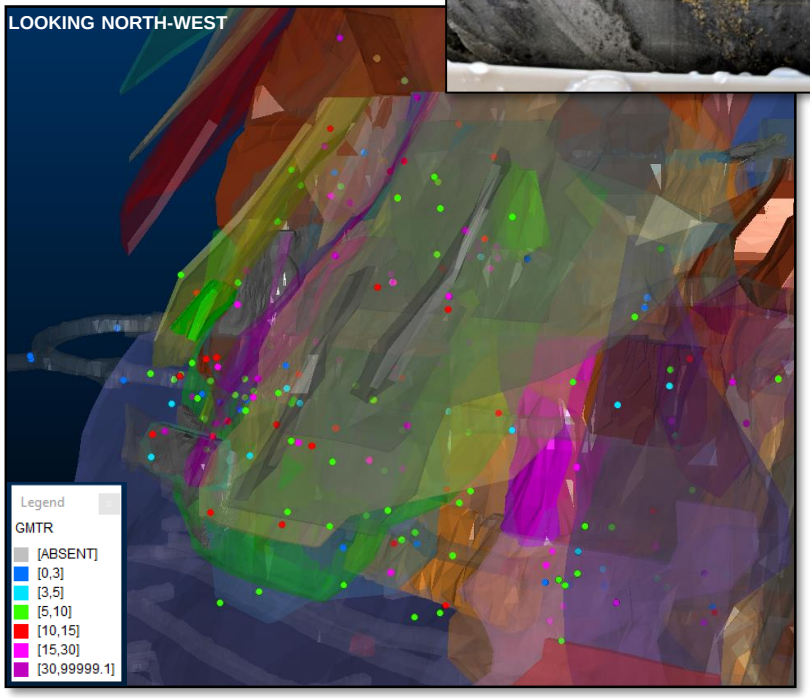
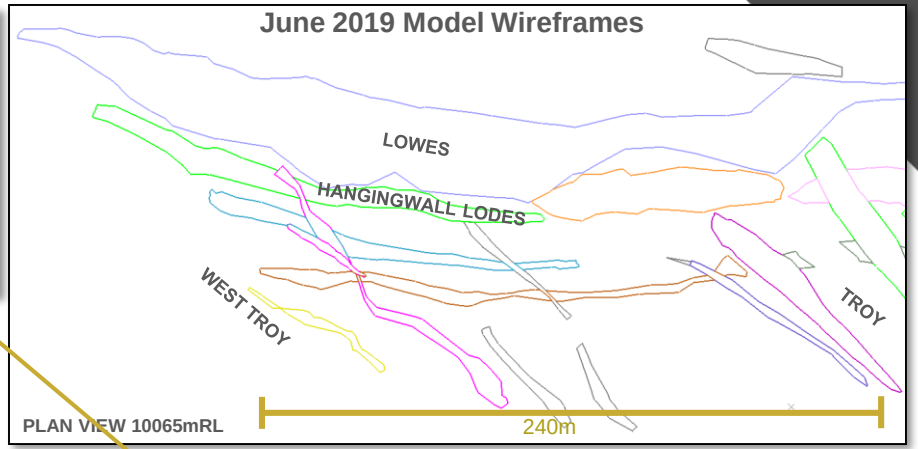
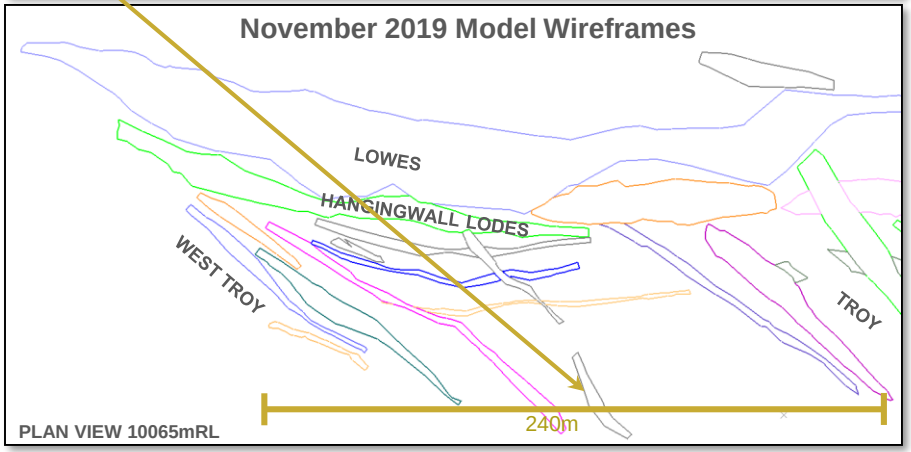
Kanowna Belle Highlights
FY20 Drilling To Date

Kanowna Belle - A-Block Hanging Wall

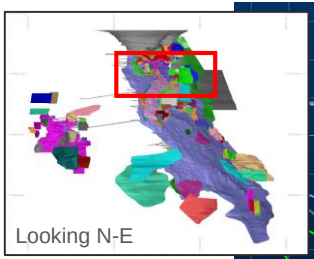
- Extensive drill programs to further identify and understand hangingwall geology and mineralisation





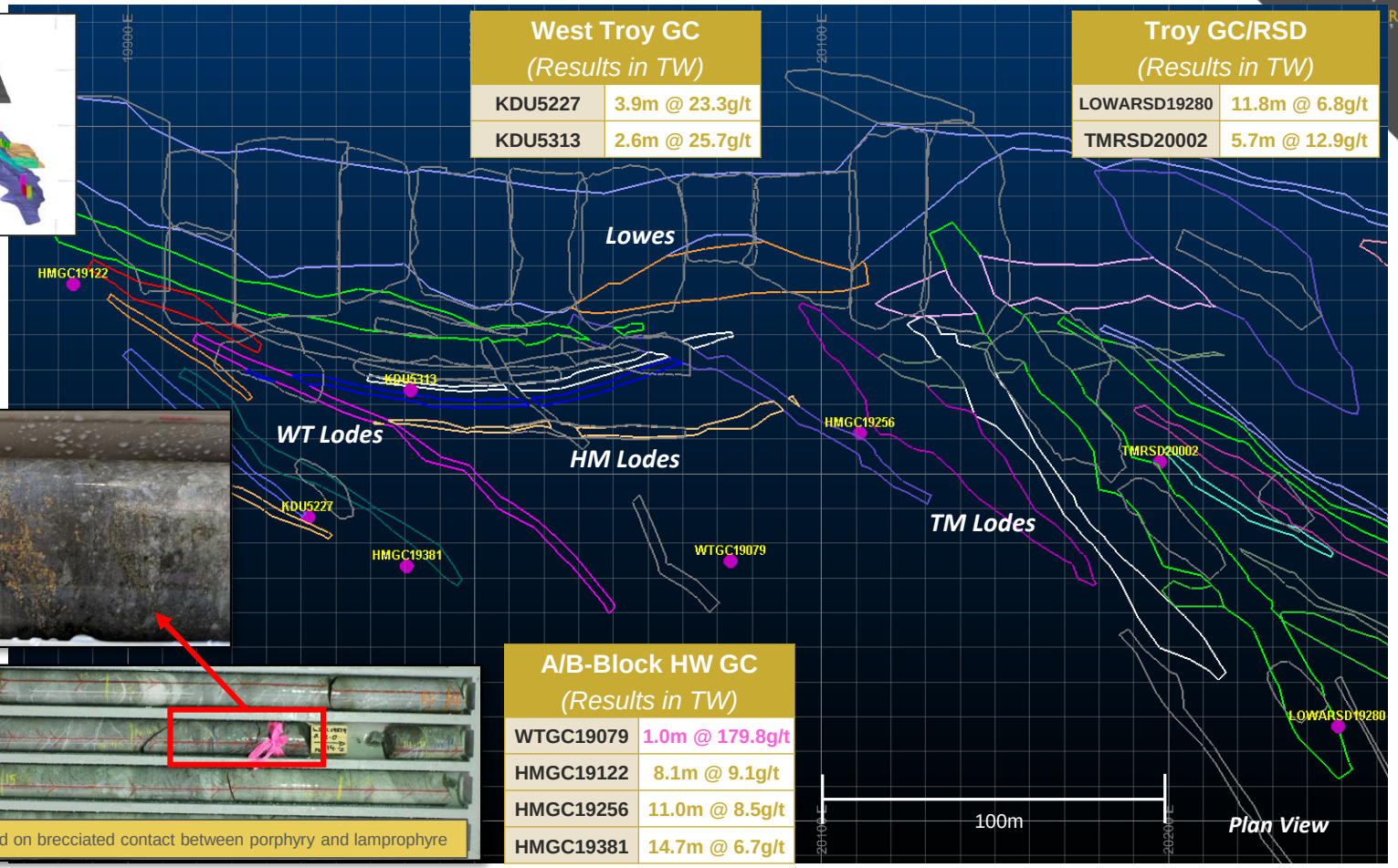


Kanowna Belle - A & B-Block Highlights FY19/20 Q1 & Q2



West Troy GC (Results in TW)	
KDU5227	3.9m @ 23.3g/t
KDU5313	2.6m @ 25.7g/t

Troy GC/RSD (Results in TW)	
LOWARSD19280	11.8m @ 6.8g/t
TMRSD20002	5.7m @ 12.9g/t



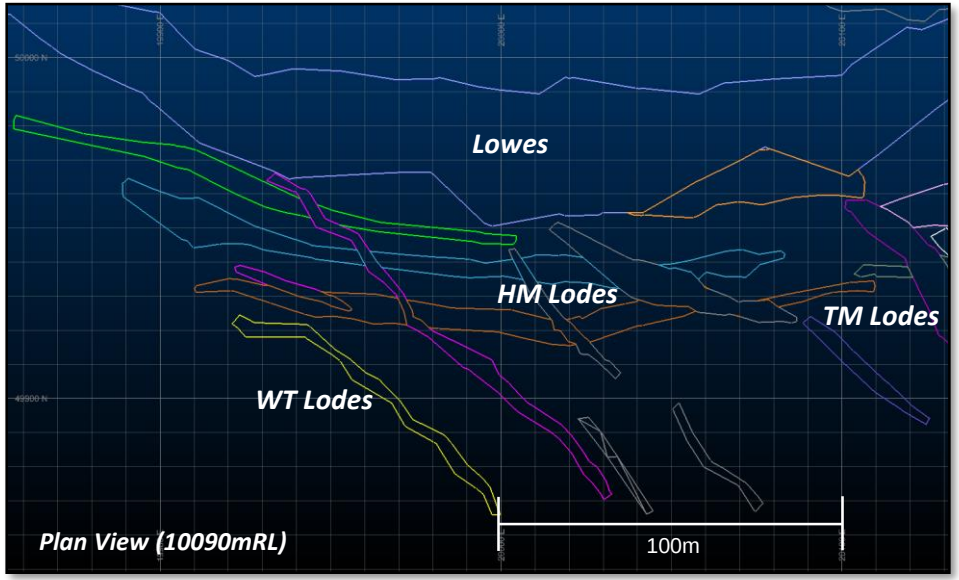
WTGC19079: Visible gold on brecciated contact between porphyry and lamprophyre

A/B-Block HW GC (Results in TW)	
WTGC19079	1.0m @ 179.8g/t
HMGC19122	8.1m @ 9.1g/t
HMGC19256	11.0m @ 8.5g/t
HMGC19381	14.7m @ 6.7g/t

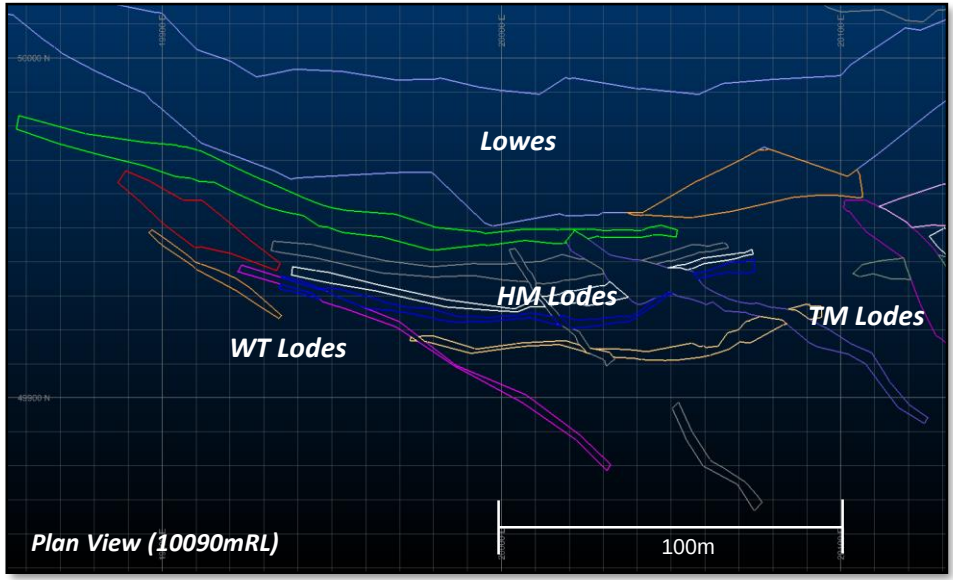
Kanowna Belle - A-Block Hangingwall Updates

- Updated mineralisation wireframes focusing more on lithological boundaries and visible, continuous structures
- Minimising thickness of lodes allowed identification of individual parallel structures
- Results to date have shown strong reconciliation while mining through the updated area

JUNE '19 INTERP:

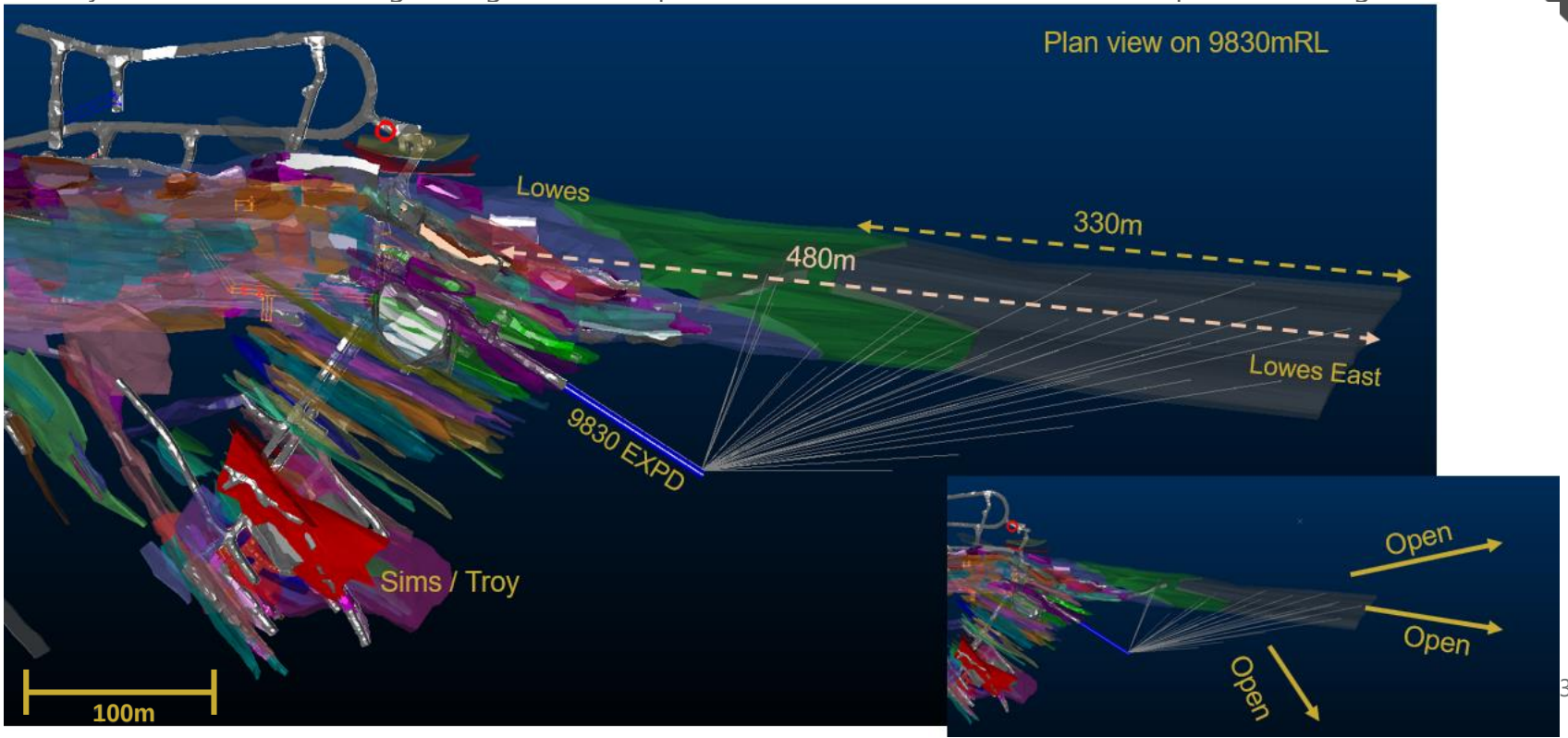


JANUARY '20 INTERP:



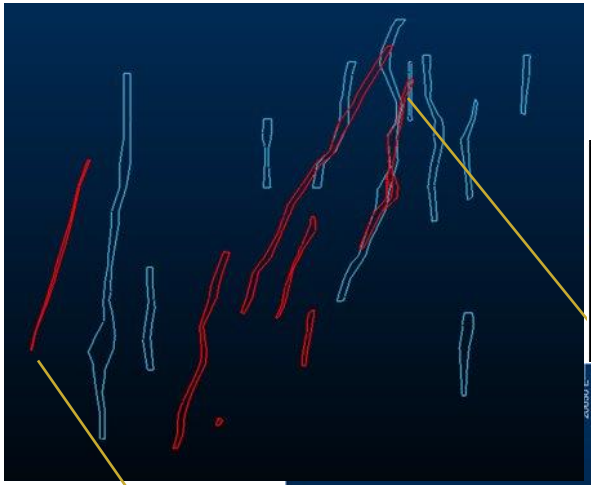
Kanowna Belle - B/C East

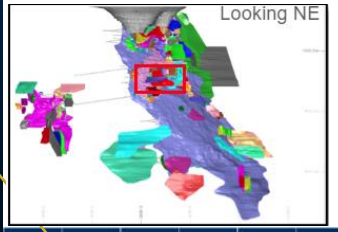
- Mineralisation open up dip and to the East, cannot drill this from current development
- 170m extension of 9830 OD23 will allow a complete drill out of current LE09 interp
- Possibility for incremental drilling throughout development, increases drill metres and non-optimal drill angles

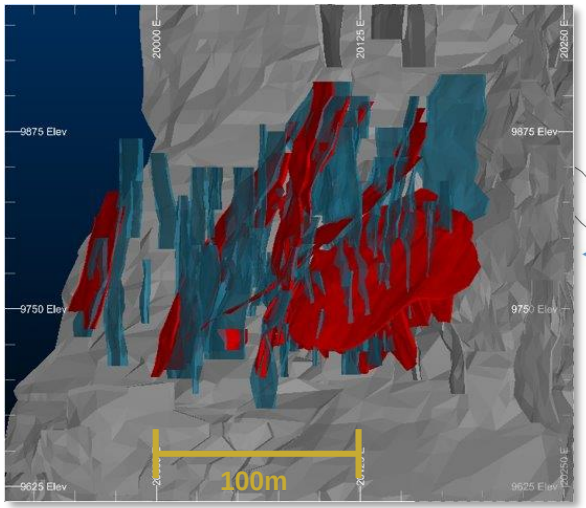


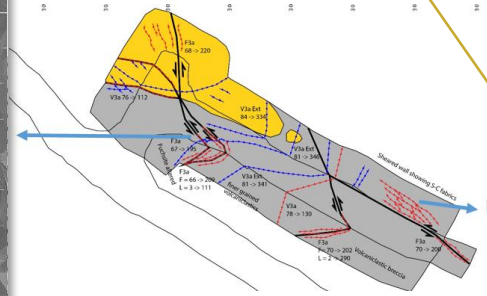
Kanowna Belle
Sims Ore Lodes

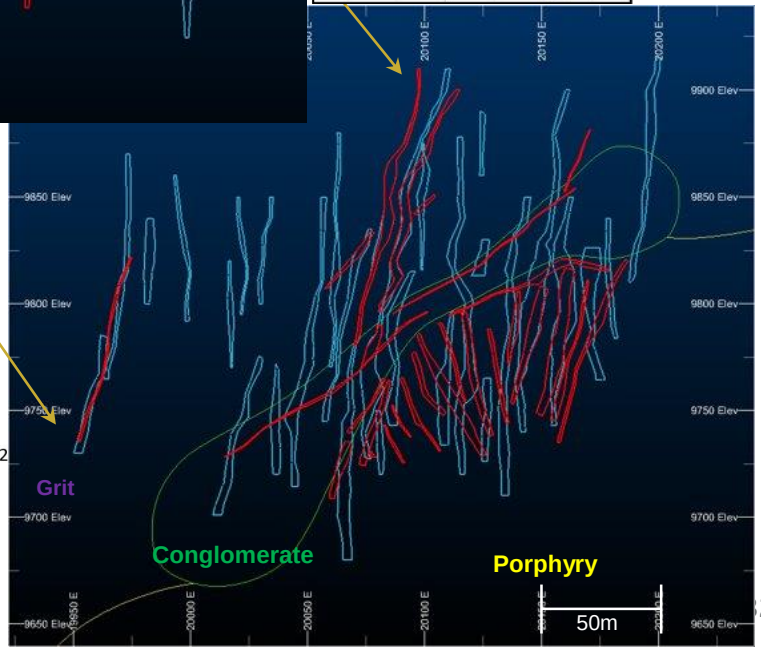
- Clear lithological and structural controls
- Gold mineralisation hosted in quartz veining with strong fuchsite alteration and shearing
- Clear angled and more discrete structures
- Mix of free gold in quartz veins and disseminated gold as small inclusions within pyrite (refractory)



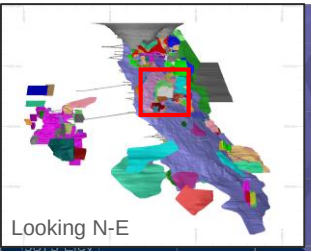








Kanowna Belle - Sims Highlights FY19/20 Q1 & Q2



B-Block Sims RSD
(Results in TW)

SMRSD19234	4m @ 22.8g/t

C-Block Sims RSD/GC Contact structures
(Results in TW)

KDU5232	0.3m @ 216g/t
KDU5343	2.2m @ 81.3g/t
KDU5418	6.7m @ 12.8g/t
KDU5356	3.3m @ 167g/t

C-Block SIMS GC East extension
(Results in TW)

SMGC19179	3.5m @ 26.5g/t

C-Block Sims RSD
(Results in TW)

SMRSD19363	5.8m @ 16.6g/t

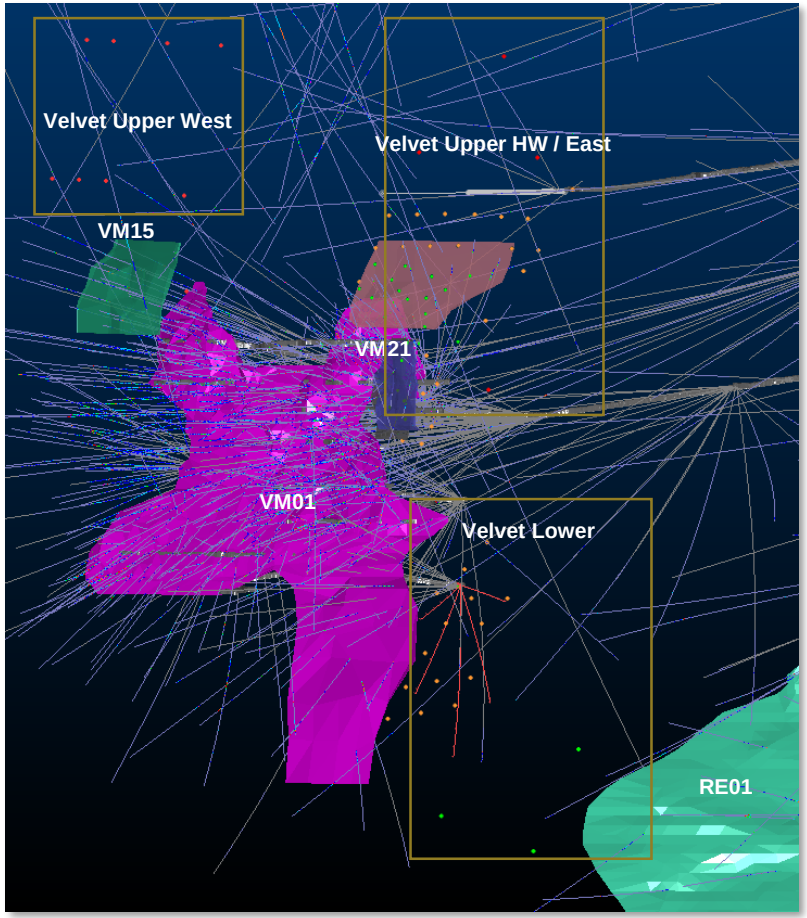
C-Block Sims GC
(Results in TW)

KDU5333	2.8m @ 728.9g/t

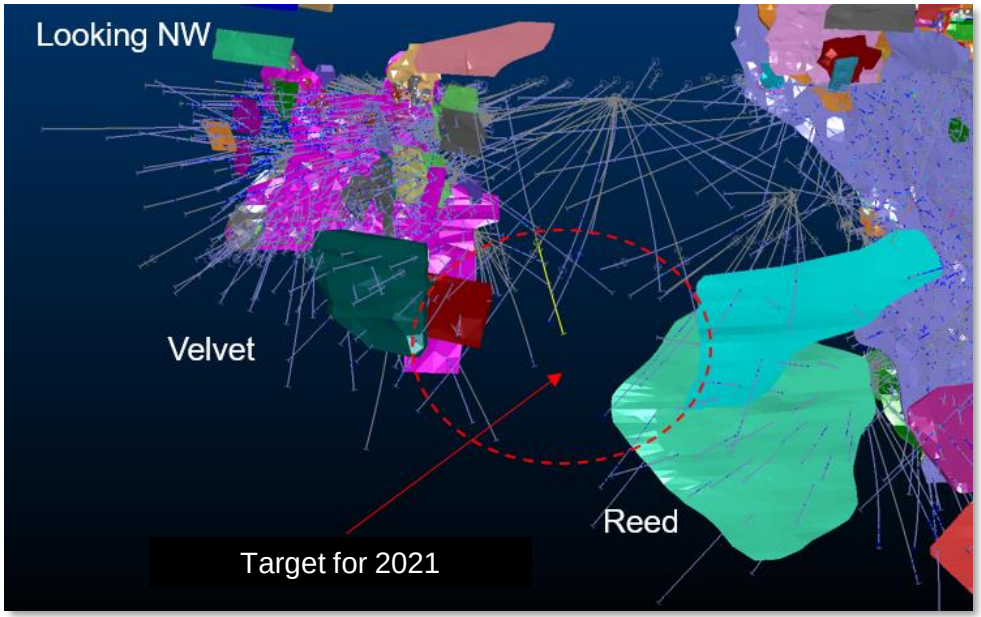
KDU5333: Visible gold on selvage of carbonate veining in porphyry stockwork

KDU5333: 2.8m @ 728.9g/t Including 0.3m @ 5980g/t

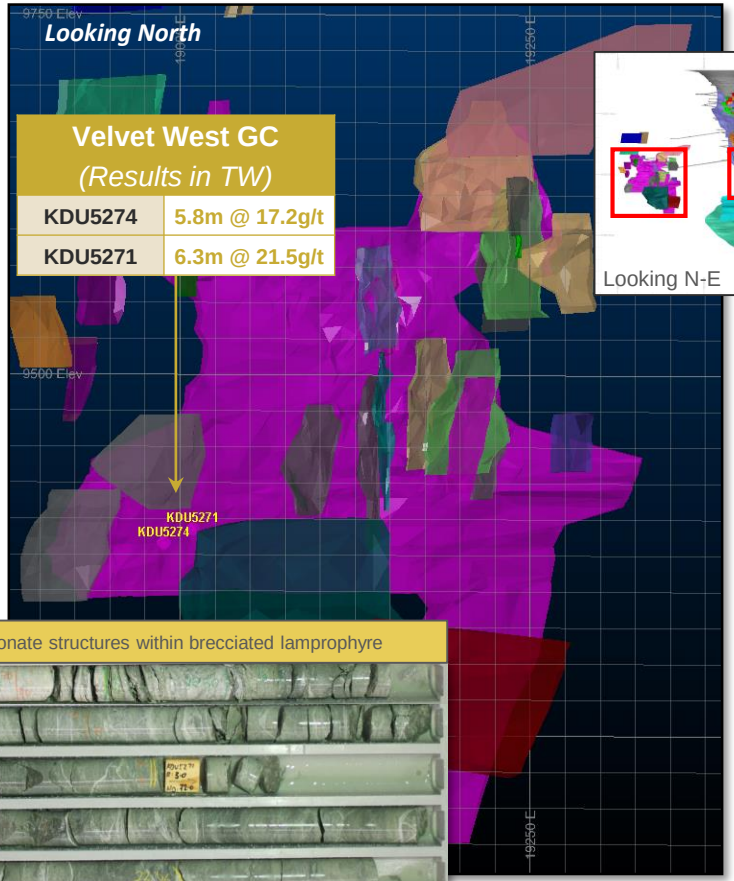
Kanowna Belle - Velvet



- Focus for Velvet exploration is to extend main lode up dip and down dip and to close the gap with KB

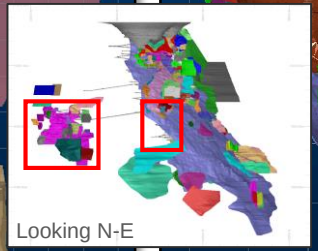


Kanowna Belle - Velvet & D-Block Highlights FY19/20 Q1 & Q2



Velvet West GC
(Results in TW)

KDU5274	5.8m @ 17.2g/t
KDU5271	6.3m @ 21.5g/t

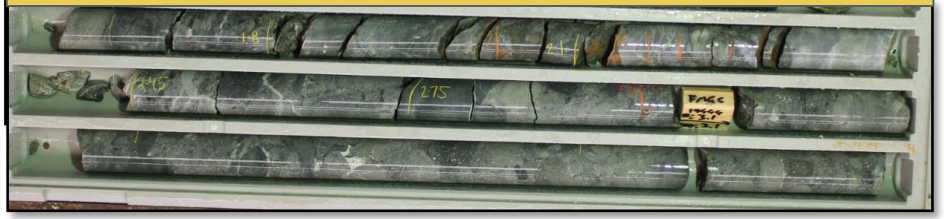


D-Block FW West
(Results in TW)

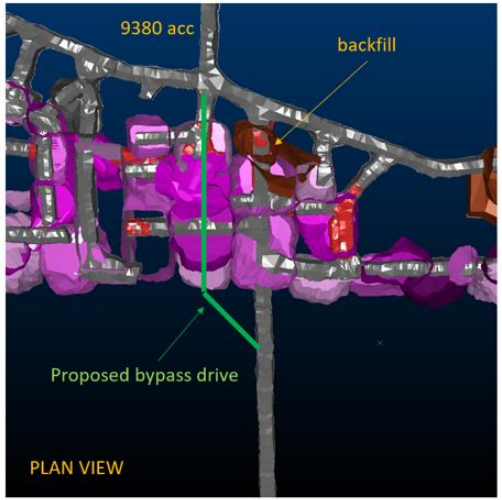
FMGC19444	2.2m @ 33.5g/t

KDU5271: Carbonate structures within brecciated lamprophyre

FMGC19444: Carbonate structures within footwall conglomerate

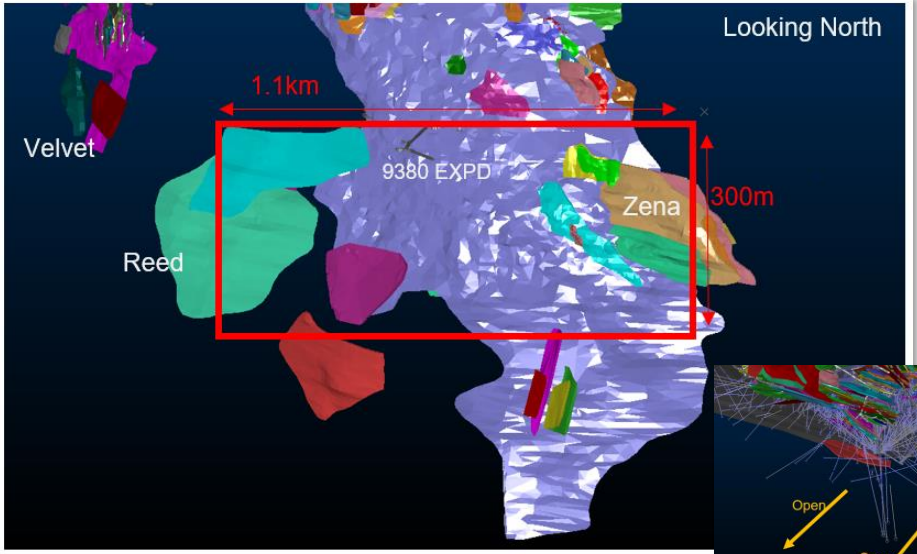


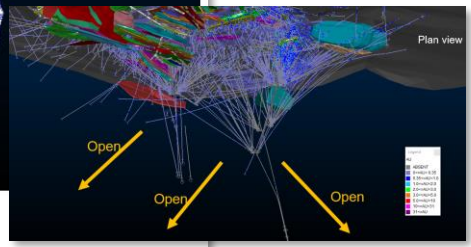
KB Lower - D/E, Sims Extension and Velvet Reed

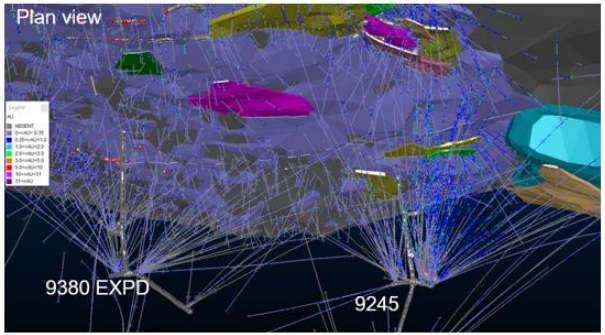


9380 EXPD
D Block

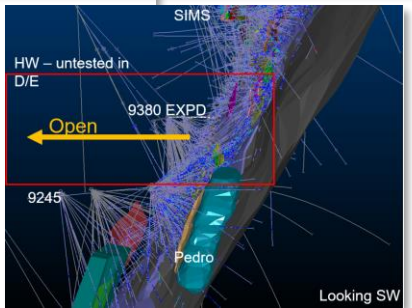
Targets
Sims – lower
Reed
Velvet







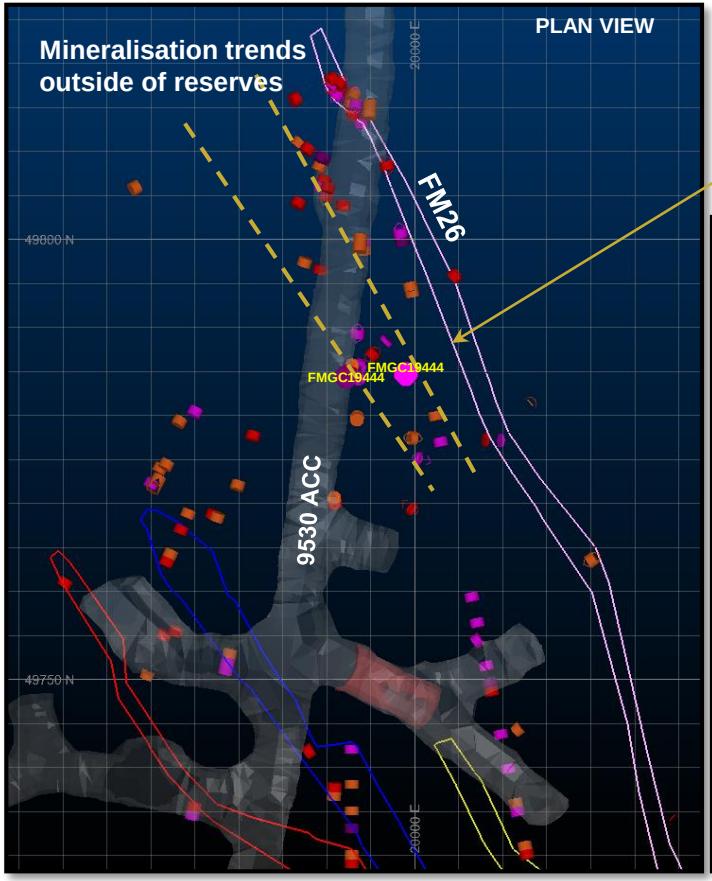
- HW of D block not properly tested (gap in drilling)
- Potential for new lodes SIMS or HM parallel
- Lack of Development to target the area from the footwall
- Target area of 50,000 oz potential
- Multiple targets, from Sims down dip to Zena
- From Reed to Velvet
- HW lodes to unconformity
- No access (backfill stope in access)
- Requires 50m paste dig and bypass drive (24m in fresh rock)



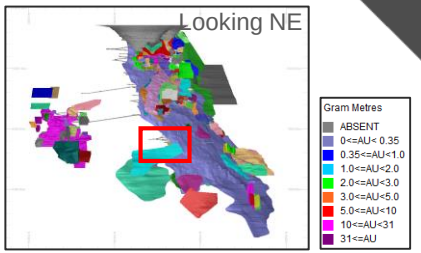
Kanowna Belle - D Block West Footwall Highlights

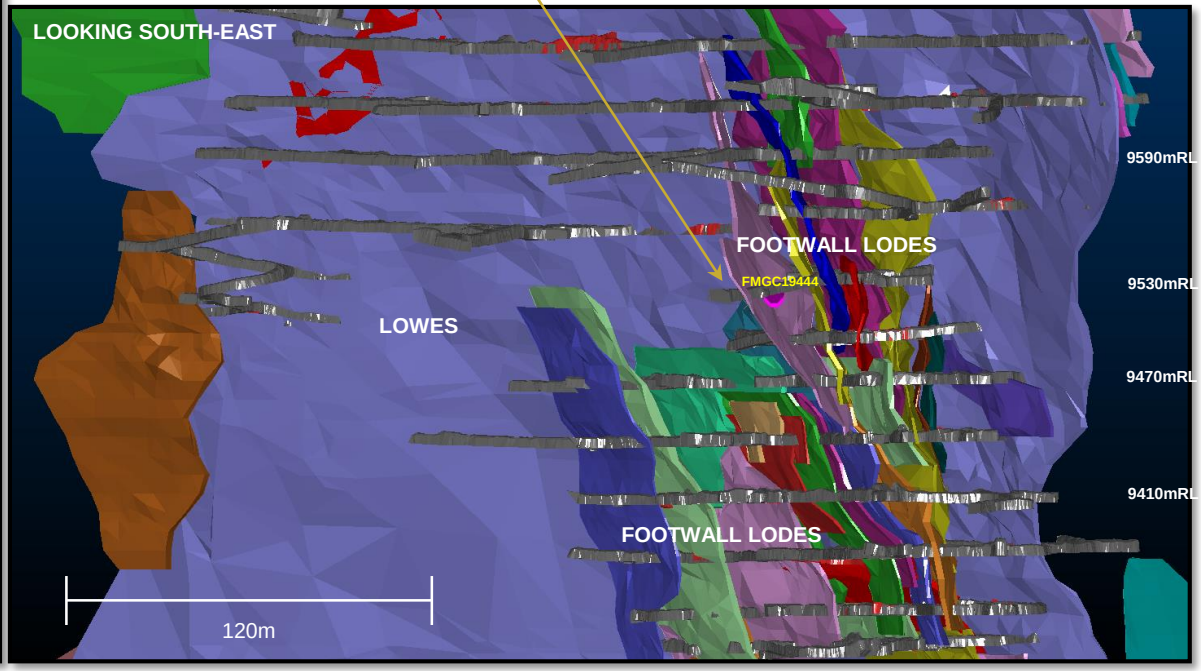
FY19/20 Q1 & Q2

- Strong mineralisation intersected outside of current reserves

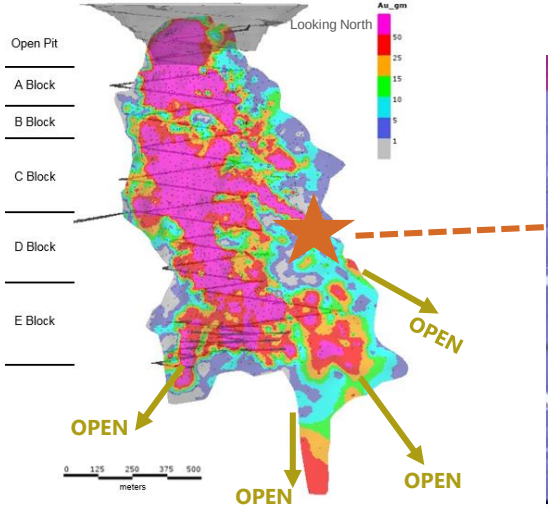


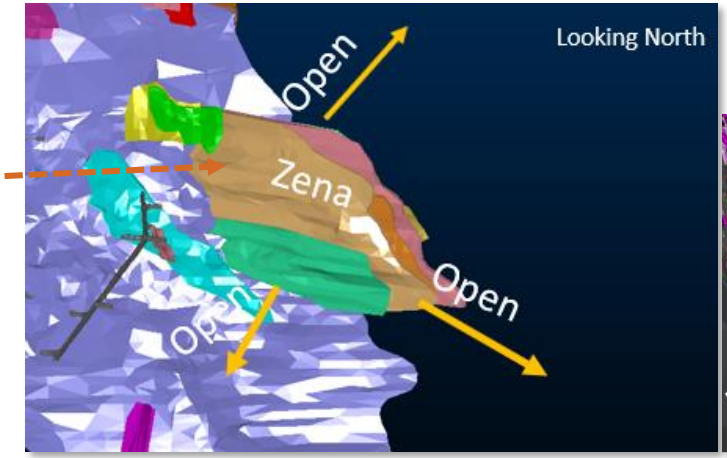
HOLE	INTERCEPT
FMGC19444	2.2m @ 33.5g/t
	0.9m @ 14.4g/t



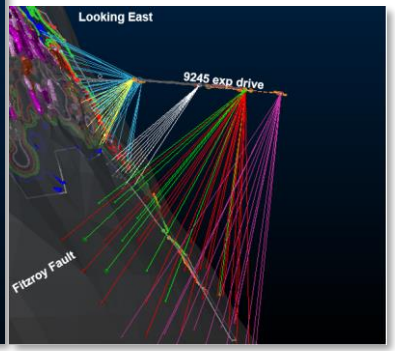


Kanowna Belle – E Block



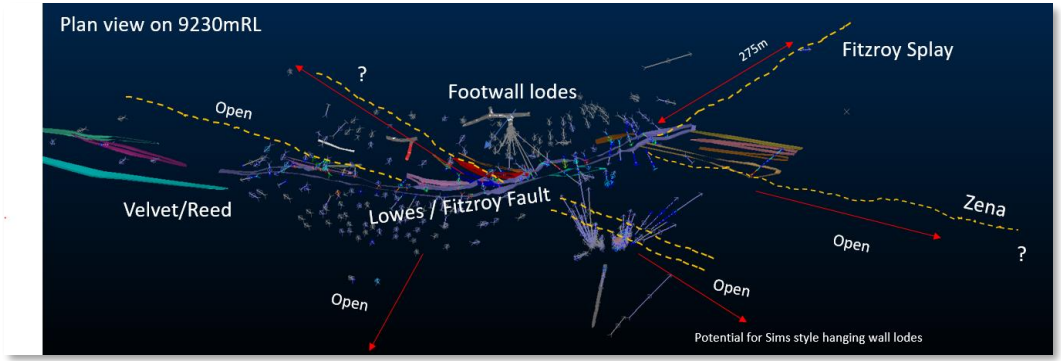


Zena lodes – HW lodes open in all directions, potential extension from D to E block



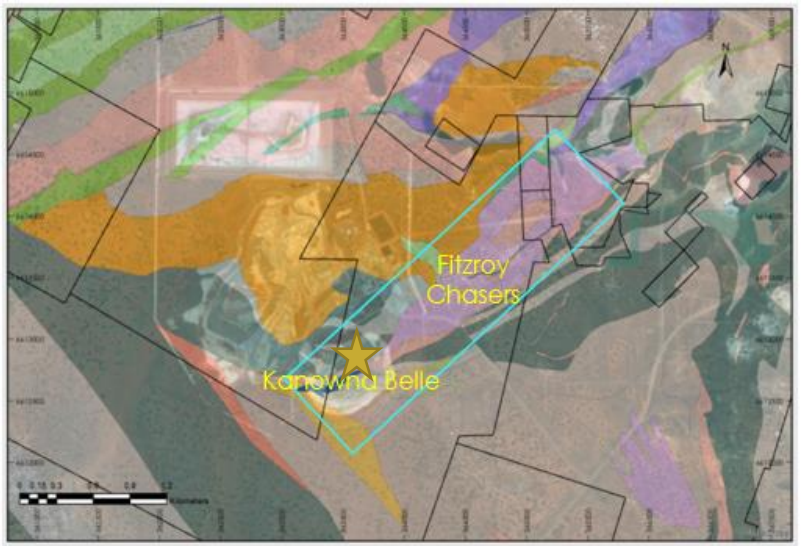
Planned Lowes Deep E/F Block drilling

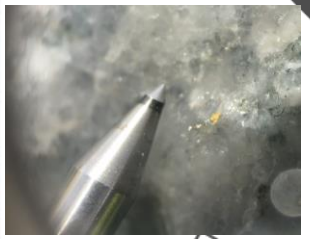
- Potential to add significant mine life to Kanowna Belle on the main Lowes ore body
- Mineable intersection in deepest hole drilled at KB – 7m @ 5.75 g/t at the 8610 RL (450m below current infrastructure)
- Mineralisation in E Block open in all directions, system proven to be open 275m from current resource to the East
- Potential for Sims style lodes in the hanging wall of Lowes
- Potential extension and additional footwall lodes

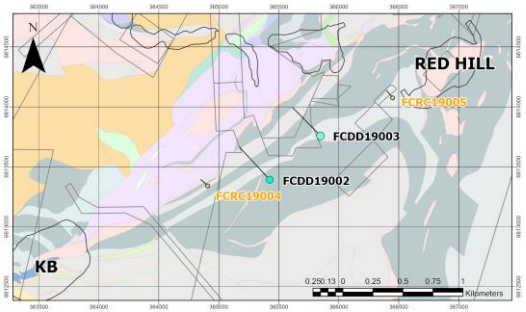


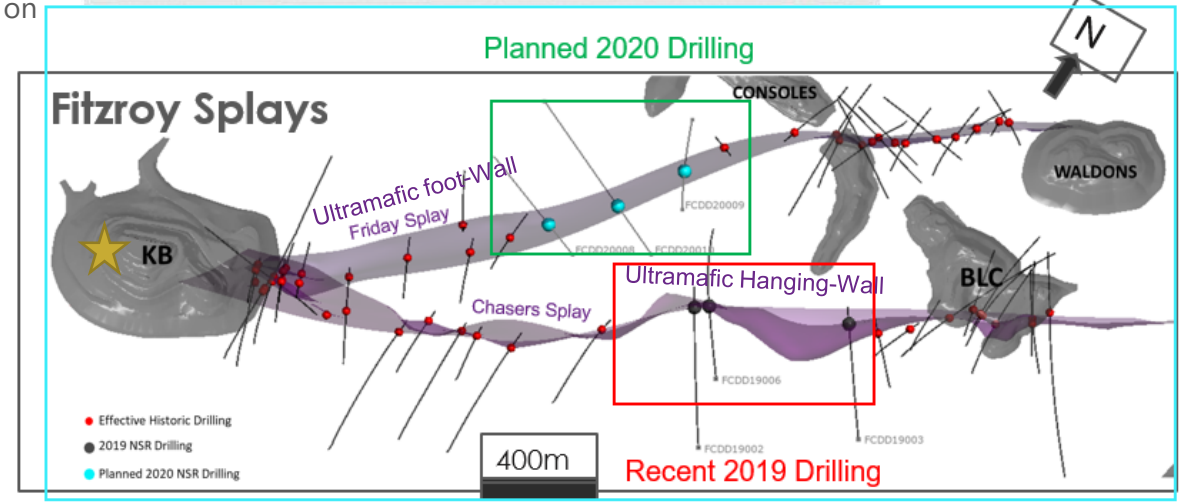
Kanowna Belle Regional Geology

- Two major splays extend from the Fitzroy Fault within the KB mine;
  - The Chasers Splay in the south
  - And the Friday Splay in the north
- ~2km of untested ground between KB, Red Hill and BLC
- ~1km of untested ground between KB & Consoles
- Drilling is planned to commence in February
- DHEM and DHMMR successfully executed on FCDD19002 and FCDD19003









NORTHERN STAR
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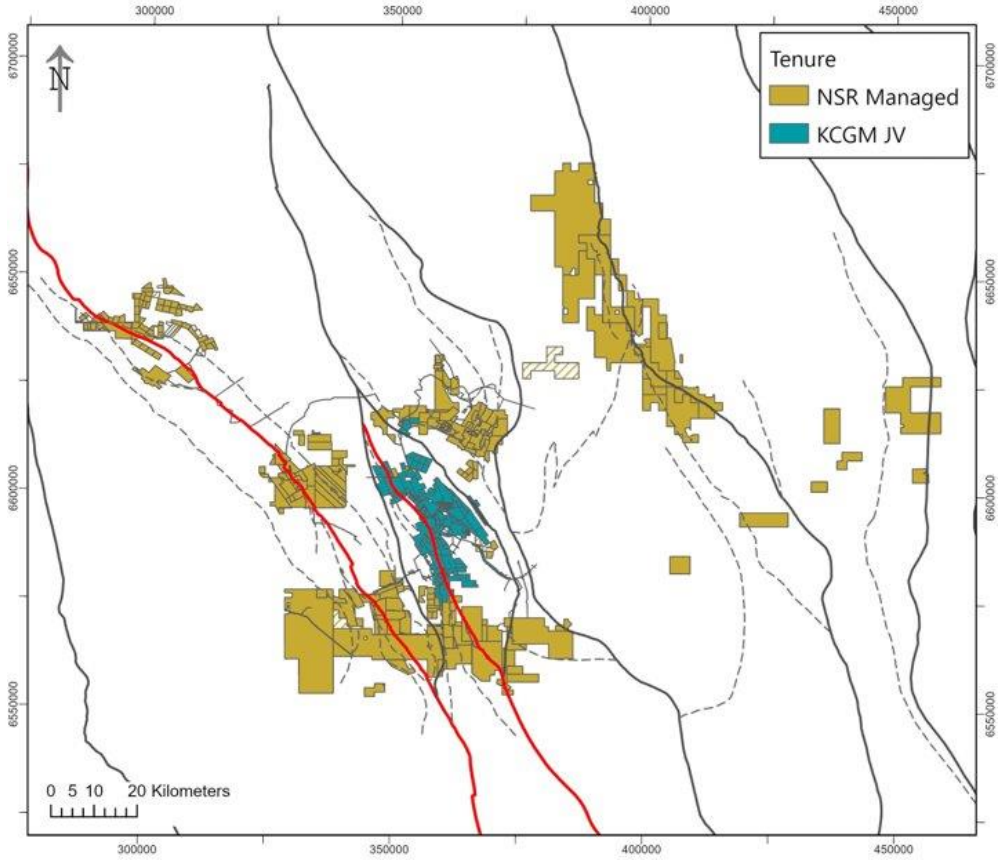
Kalgoorlie Exploration

Kalgoorlie Exploration - Opportunity - Strategy - Results



Opportunity

- Quality (and size) of the ground holding
- ~14 Moz production to date
- Despite endowment, large tracts of ground lack systematic modern exploration

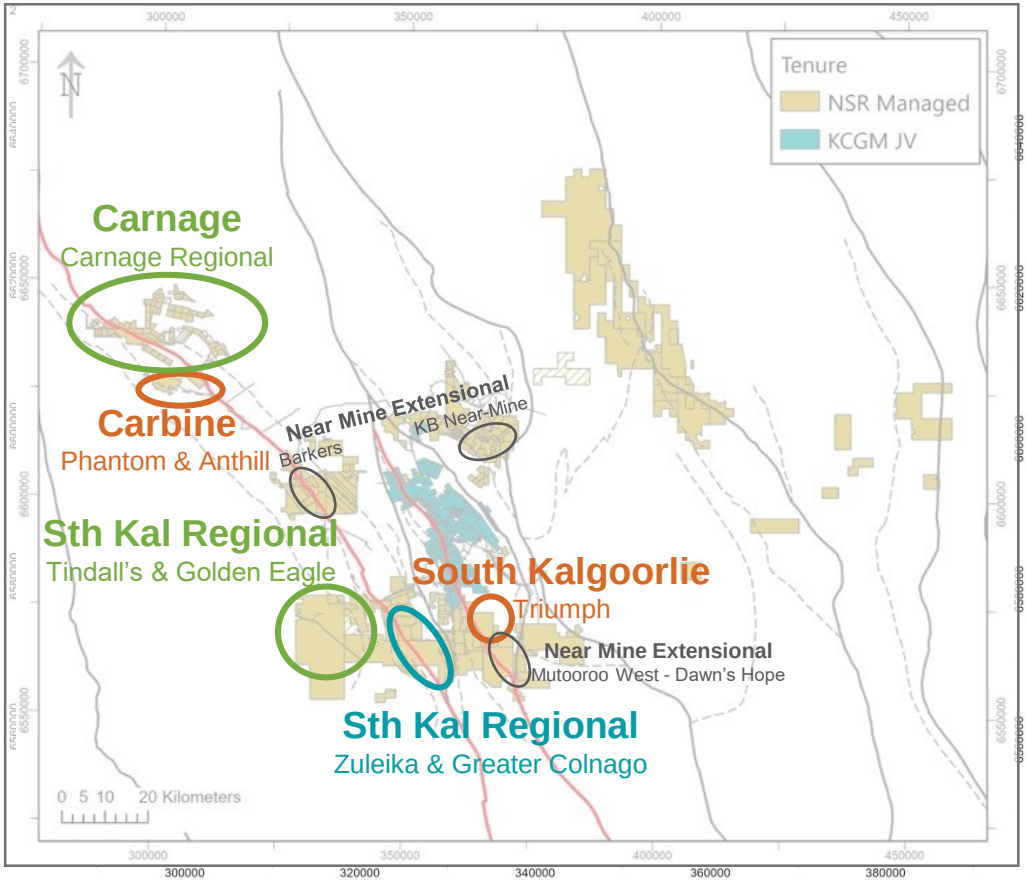
Strategy

- Apply a systematic, back-to-basics targeting and testing approach
- Decisively test prospects with concentrated multi-disciplinary campaigns

Results

- Advancing projects behind production

Kalgoorlie Exploration - Opportunity - Strategy - Results



Early stage **Opportunity**

- World-class land holding for gold exploration
- …with amazingly under explored areas at Carnage, Tindall's and Golden Eagle

Applying disciplined **Strategy** to advance targets

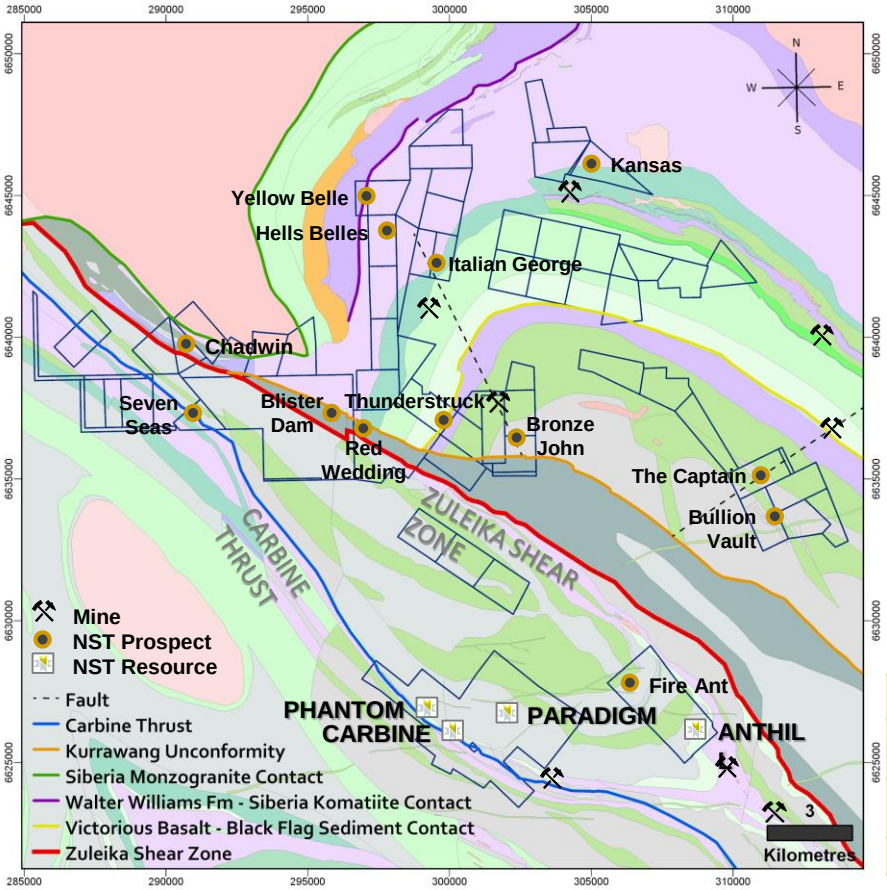
- The Zuleika Shear is one of the most prospective structures in the Goldfields
- Decisively test prospects with concentrated multi disciplinary campaigns

Delivering **Results** on advanced projects

- Advancing projects behind production
- The Phantom (Carbine) project is returning plus-twenty gram-metre intercepts potentially adding a future to Paradigm as a new mining centre, not just a standalone project
- Triumph is consistently showing a single very large broad mineralised zone with two – higher grade lodes at its core


NORTHERN STAR
RESOURCES LIMITED
Regional
Opportunity

Carbine - Carnage



Significant Regional Upside

Hells Belles
Seven Seas
Blister Dam
Bronze John
Red Wedding
Phantom
Carbine
Anthill
Paradigm

PRODUCTION CENTRE

Solid Exploration pipeline

Highly prospective stratigraphy

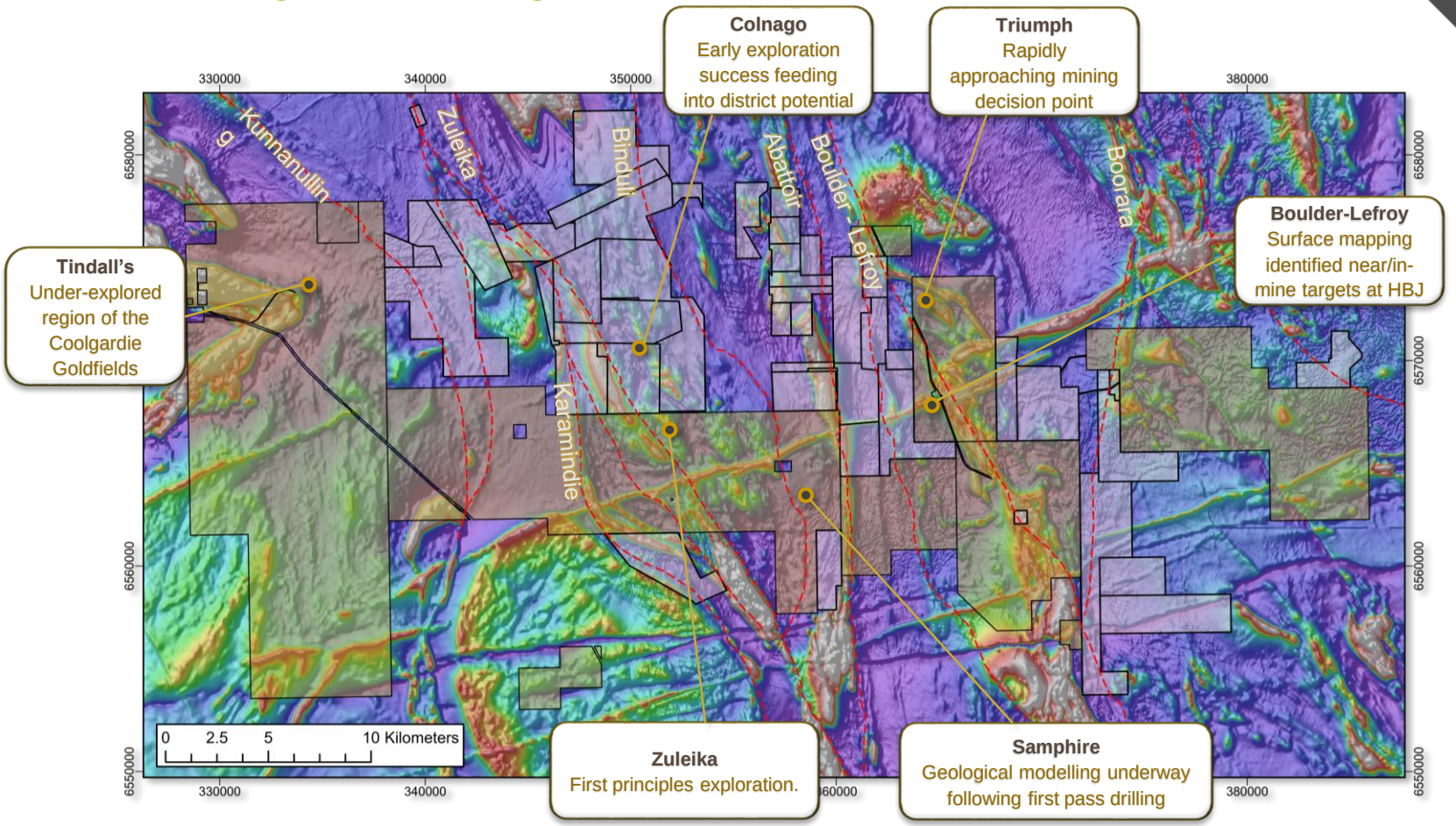
- *Bent Tree – Victorious Basalt*
- *Ora Banda and Mt. Pleasant Sills*
- *Black Flag Group Sediments*

Multiple well-endowed structures

- *Zuleika Shear Zone*
- *Carbine Thrust*
- *Kurrawang Unconformity (Carnage Shear Zone)*

Prospect	Hole ID	From	To	Width (m)	Au (g/t)	Au (gm.)
Red Wedding	CGDD17083	247	248	1	7.97	7.97
Bronze John	CGRC18134	58	82	24	0.97	23.3
Hells Belles	CGRC18003	51	52	1	11.2	11.2

South Kalgoorlie Regional



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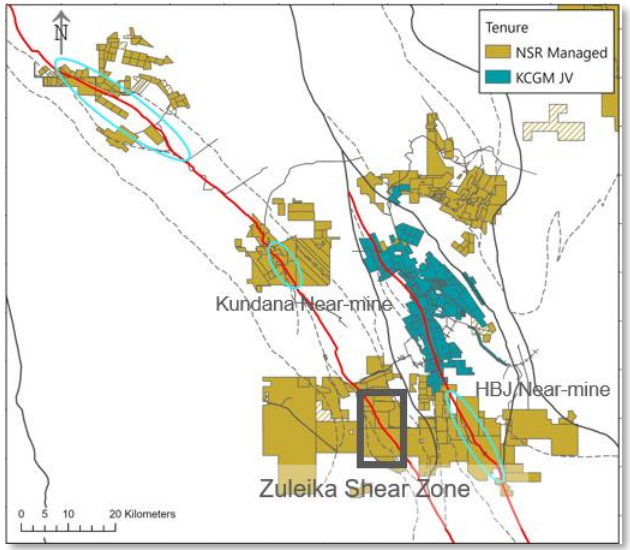
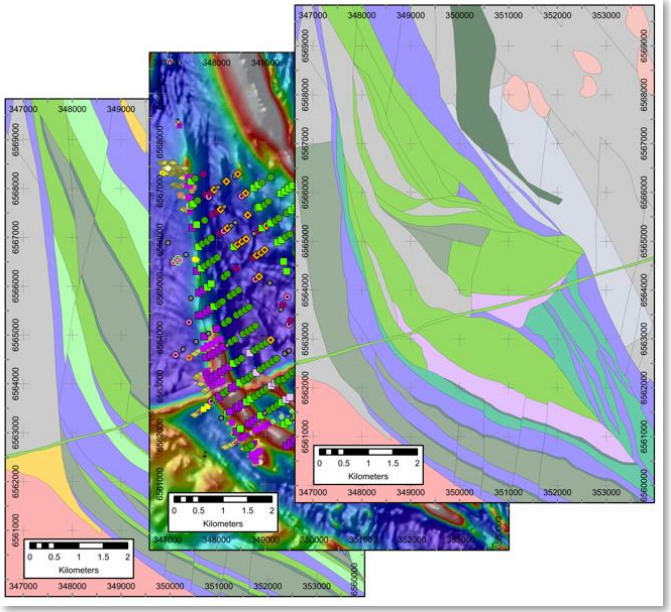
Back-to-basics Strategy

Strategic Methodical Exploration

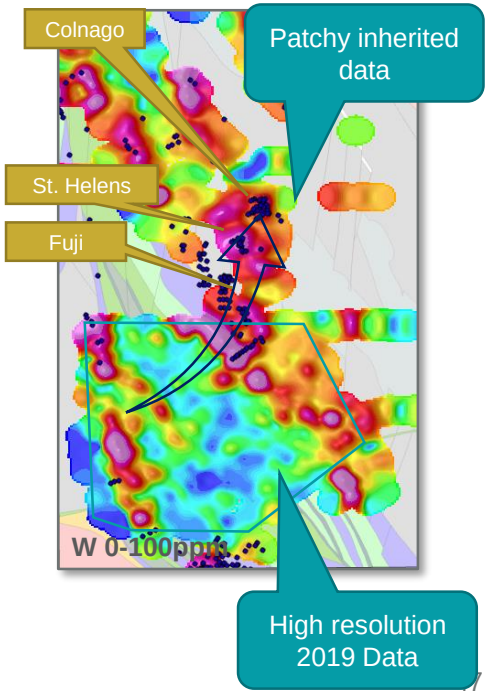
Identify the best opportunities to test prospective corridors



Integrated mapping, geophysics and drilling

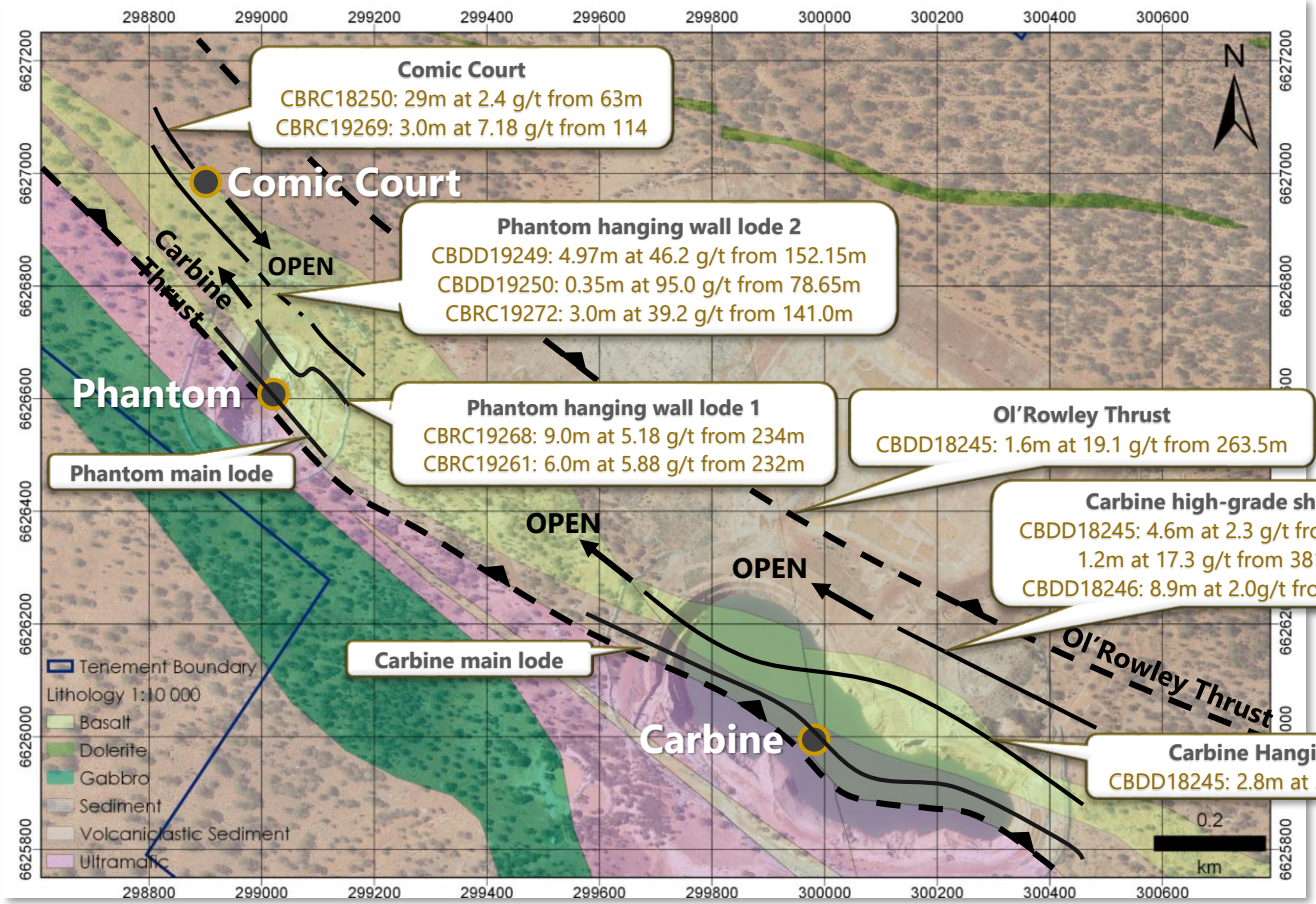


Geochemistry Targeting and fresh rock drill testing




NORTHERN STAR
RESOURCES LIMITED
Advanced
Project Results

Carbine – Near Mine Exploration

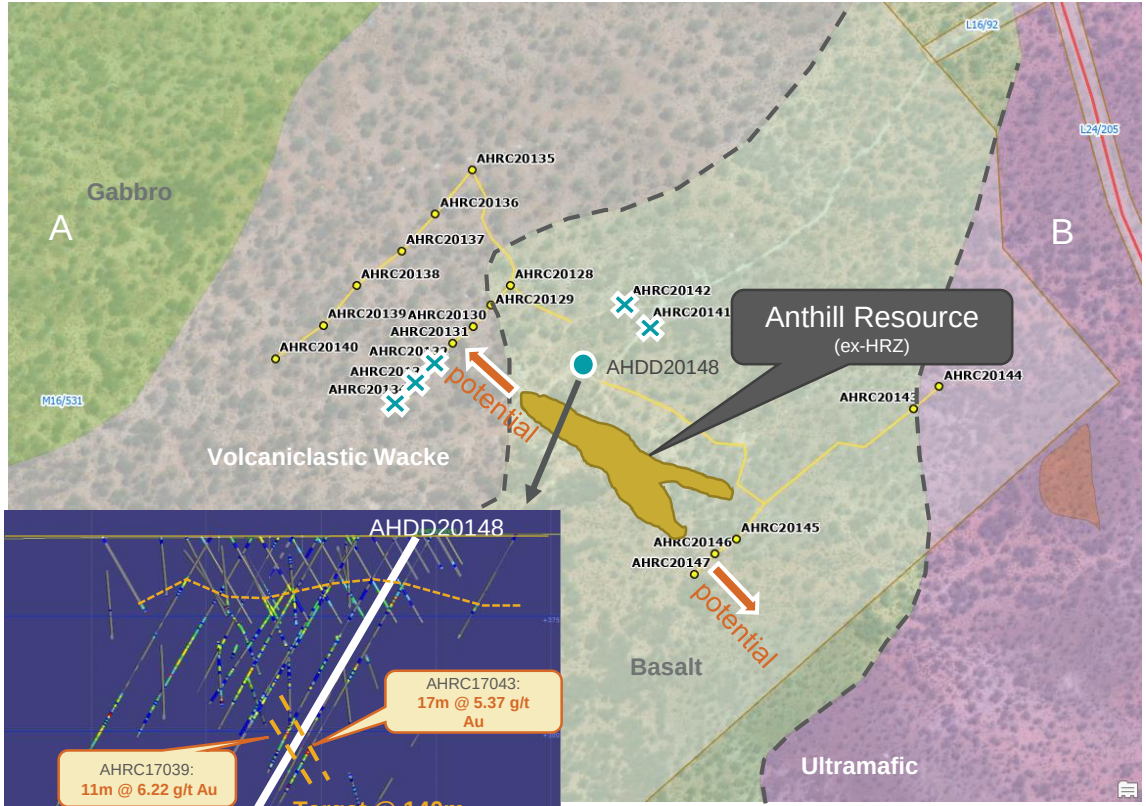


Recent discoveries of new hanging wall lodes and mineralised structures has significantly increased the exploration potential along the Carbine corridor

Current drilling is testing for extensions to mineralisation at:

- Phantom hanging wall lode 1
- Phantom hanging wall lode 2
- Comic Court
- Ol'Rowley Thrust

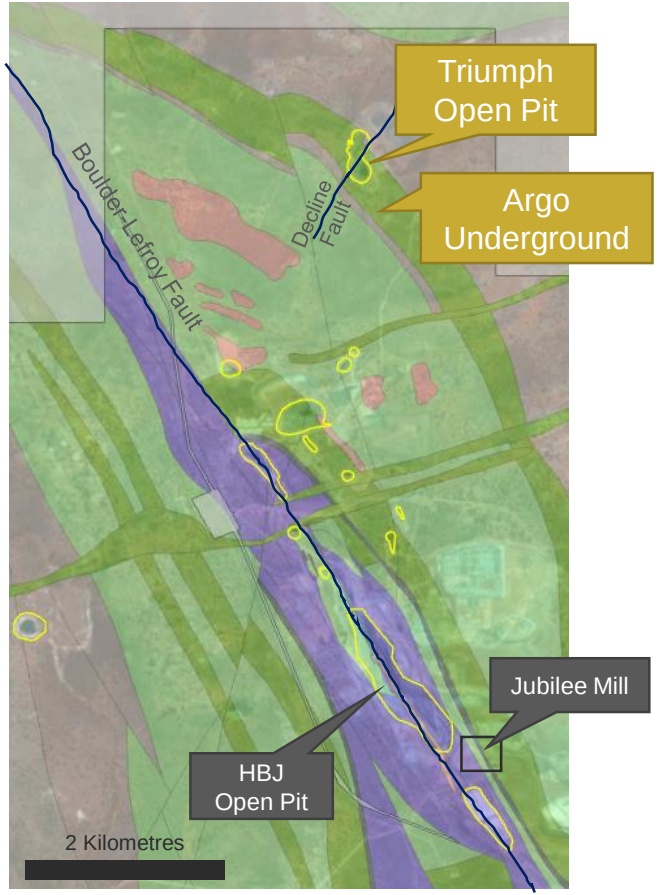
Carbine - Anthill



Anthill Project Growth Potential

- The recent strategic tenement swap with HRZ brought the Anthill project into the NSR portfolio
- Historical drilling was highly concentrated on the core resource
- Drilling has commenced testing for extensional opportunities with a Paradigm Analogue in mind
- The structural-stratigraphic context and geometry of Anthill is similar to the NSR project 5 kilometres to the west.

Triumph - Geology



Host

- Coarse differentiated Gabbro/Dolerite about 2 km east of the Boulder-Lefroy Fault
- Preferentially but not exclusively in a granophyric zone of that sill

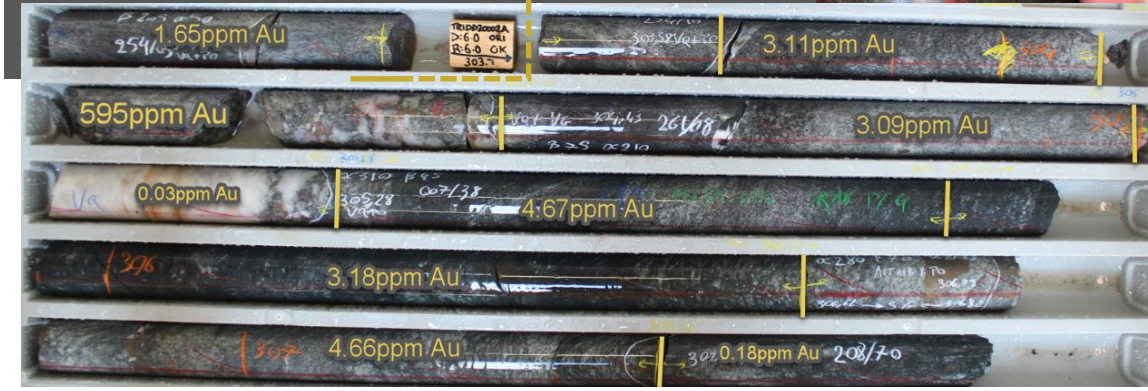
Mineralisation

- Gold associated with sub-horizontal stacked quartz veins + Fe-sulphides and silica-sericite-albite-Fe-sulphide alteration halos.

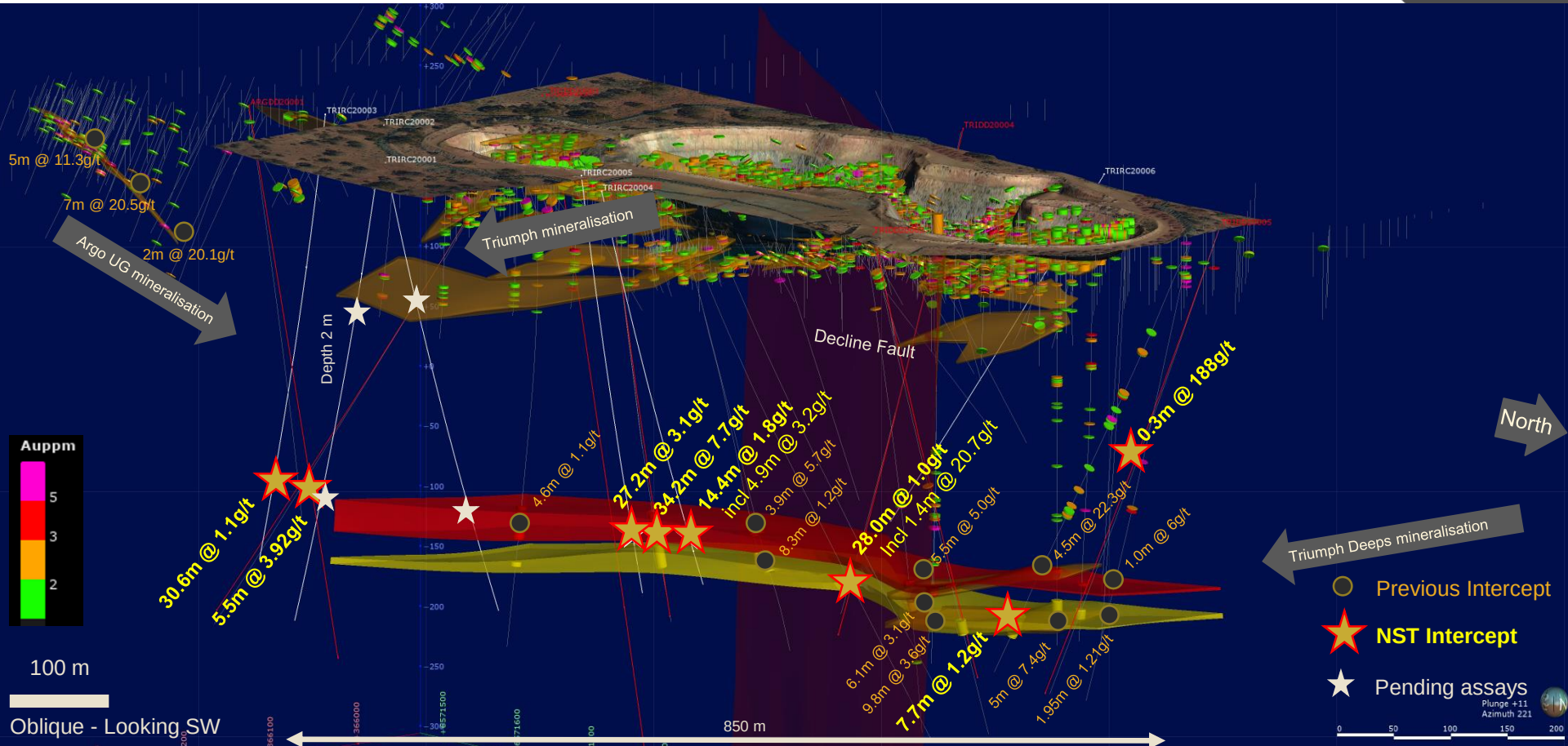
TRIDD20002A at 304 m

TRIDD20002A quartz-pyrrhotite-gold + alteration halos

(4.4m @ 47.98g/t Au from 303m)



Triumph


5m @ 11.3g/t
7m @ 20.5g/t
2m @ 20.1g/t
Argo UG mineralisation
Triumph mineralisation
Depth 2 m
Decline Fault
TRIRC20003
TRIRC20002
TRIRC20001
TRIRC20005
TRIRC20004
TRIRC20006
TRIDD20004
30.6m @ 1.1g/t
5.5m @ 3.92g/t
4.6m @ 1.1g/t
27.2m @ 3.1g/t
34.2m @ 7.7g/t
14.4m @ 1.8g/t
incl 4.9m @ 3.2g/t
3.9m @ 5.7g/t
8.3m @ 1.2g/t
28.0m @ 1.0g/t
Incl 1.4m @ 20.7g/t
5.5m @ 5.0g/t
0.3m @ 188g/t
4.5m @ 22.3g/t
1.0m @ 6g/t
6.1m @ 3.1g/t
9.8m @ 3.6g/t
7.7m @ 1.2g/t
5m @ 7.4g/t
1.95m @ 1.21g/t
Auppm
5
3
2
100 m
Oblique - Looking SW
850 m
North
Triumph Deeps mineralisation
Previous Intercept
NST Intercept
Pending assays
Plunge +11
Azimuth 221
0
50
100
150
200

Kalgoorlie Exploration - Opportunity - Strategy - Results

- Quality landholding covering the most prospective structural corridors of the Kalgoorlie Goldfields
- Decisively testing targets with a comprehensive back-to-basics approach
- Recent results at Triumph include 34.2m @ 7.7gpt in a new unmined lode and Carbine-Phantom results including 6m @ 5.8gpt, 9m@ 5.8gpt and from a newly identified lode, 3.0m at 39.2gpt

NORTHERN STAR
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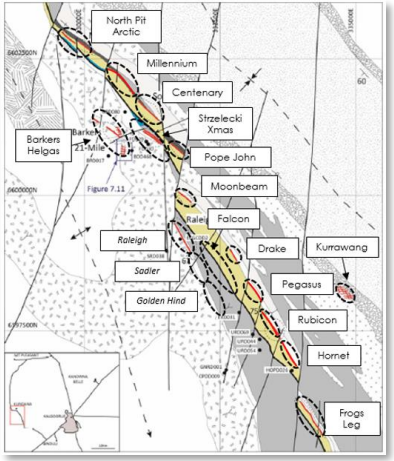
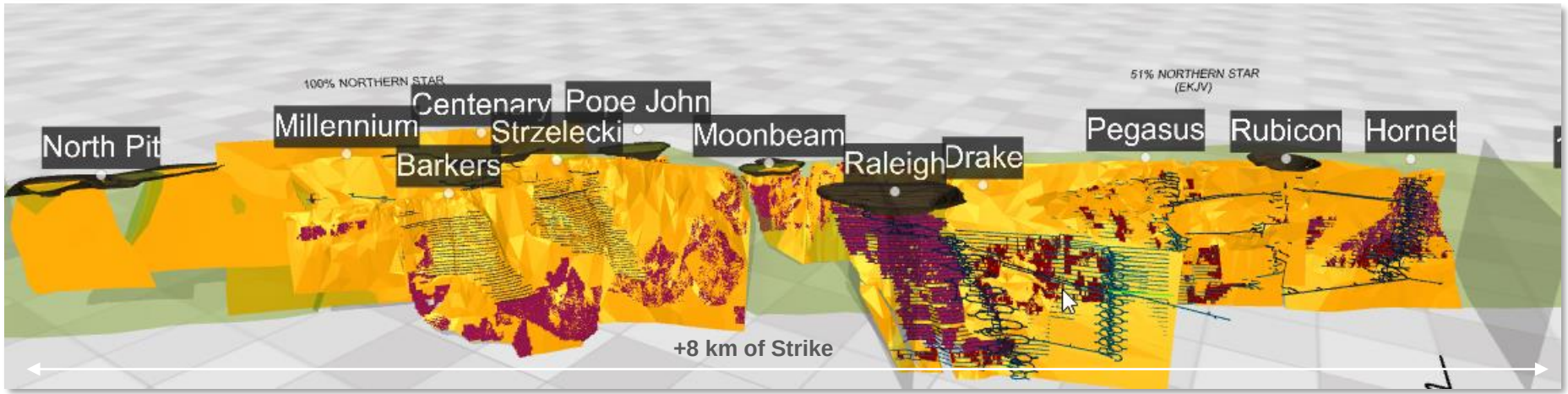
Kundana (100% NST) Geology Overview

Kundana Regional Overview



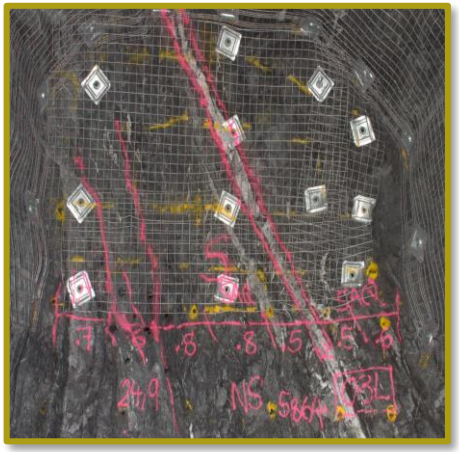
- The Kundana mining complex was officially opened 10 December 1988
- Last financial year (FY18-19) Northern Star drilled over 150,000 m (both underground and surface) across both Kundana and EKJV tenure
- Further 150,000 m projected for this financial year (FY19-20) with 73,000 m drilled year to date
- FY19-20 drilling focusing on K2, Strzelecki and hangingwall lodes including Falcon Corridor
- FY19-20 mining on 100% Kundana tenure focused on the K2 Main Vein and Strzelecki Structure
- FY19-20 mining on EKJV ground on K2 Main Vein, Strzelecki and hangingwall lodes (Pode/Hera)
- Recent underground exploration drilling has highlighted potential for significant hanging wall mineralisation and strike extension across the Kundana region

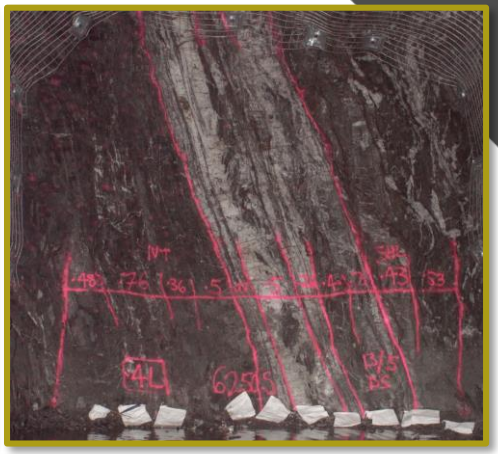


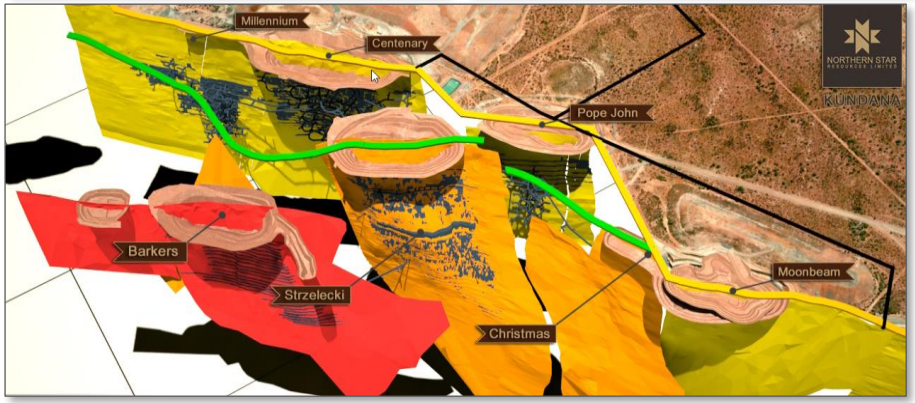
Kundana Narrow Vein Main Lodes

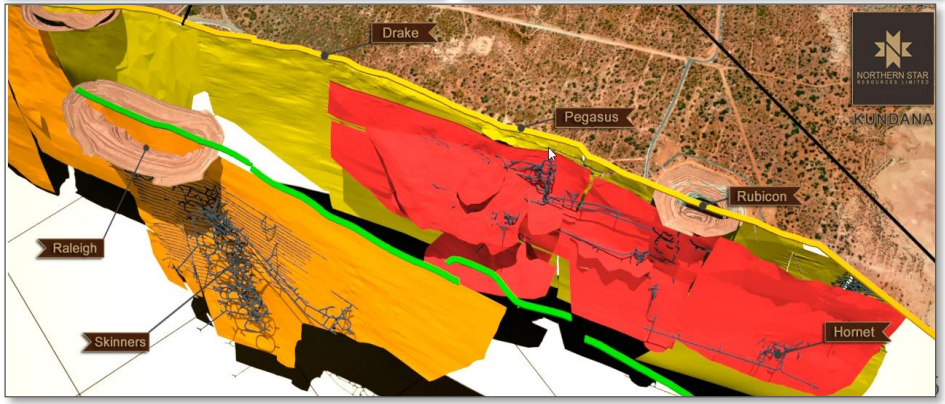
Strzelecki Line

K2 Line

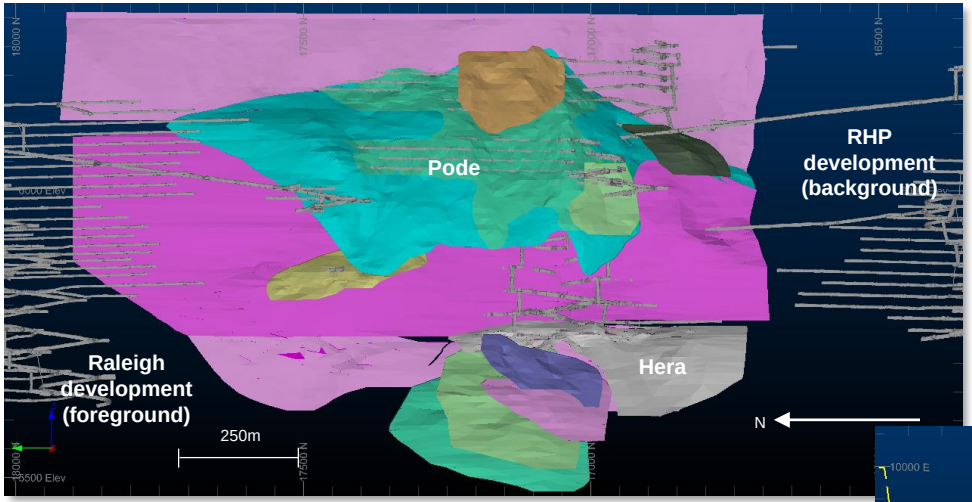


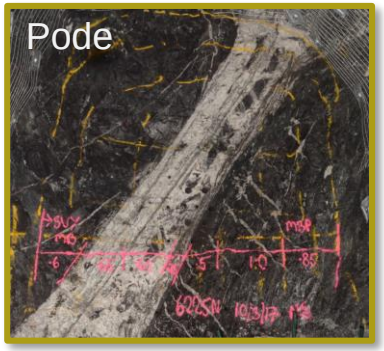


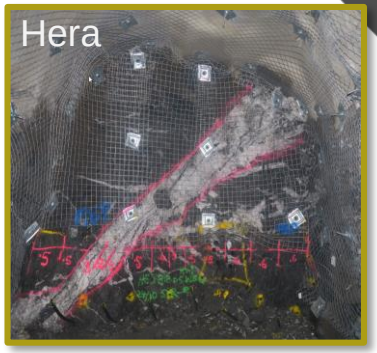




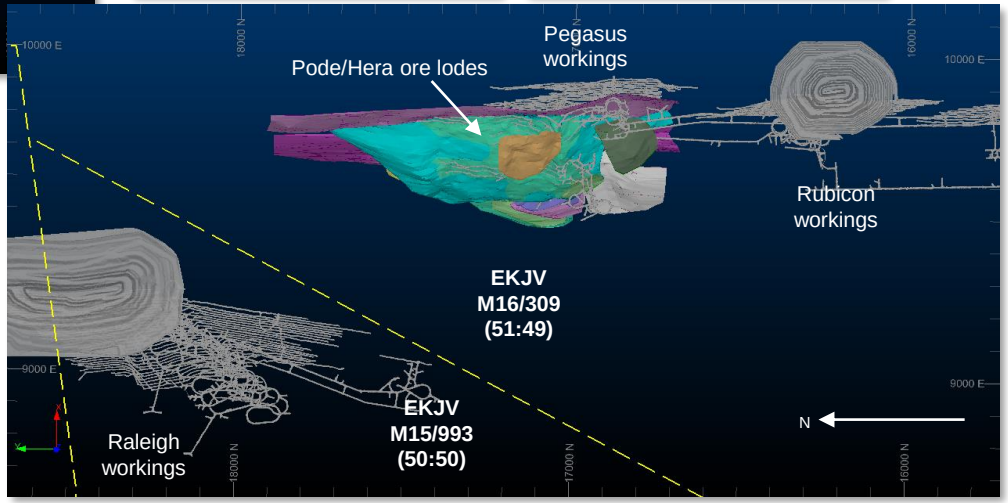
Kundana – Hanging wall Lodes



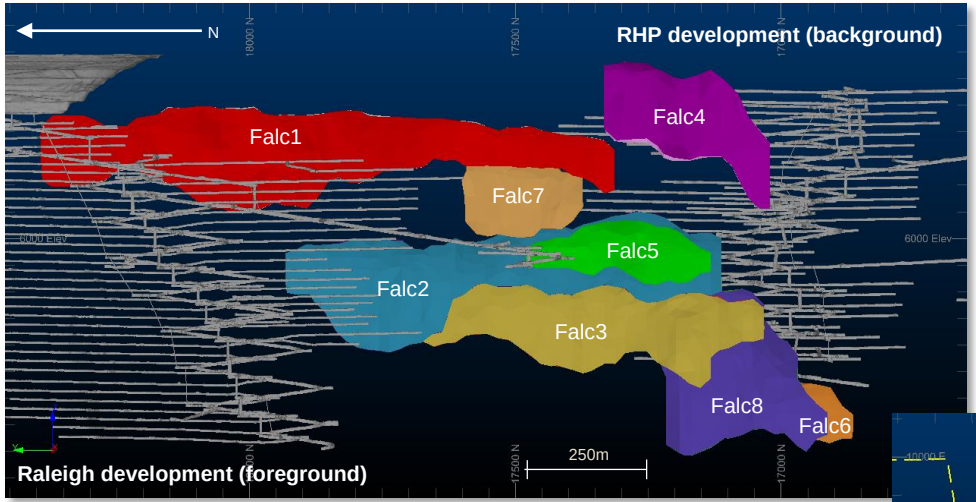




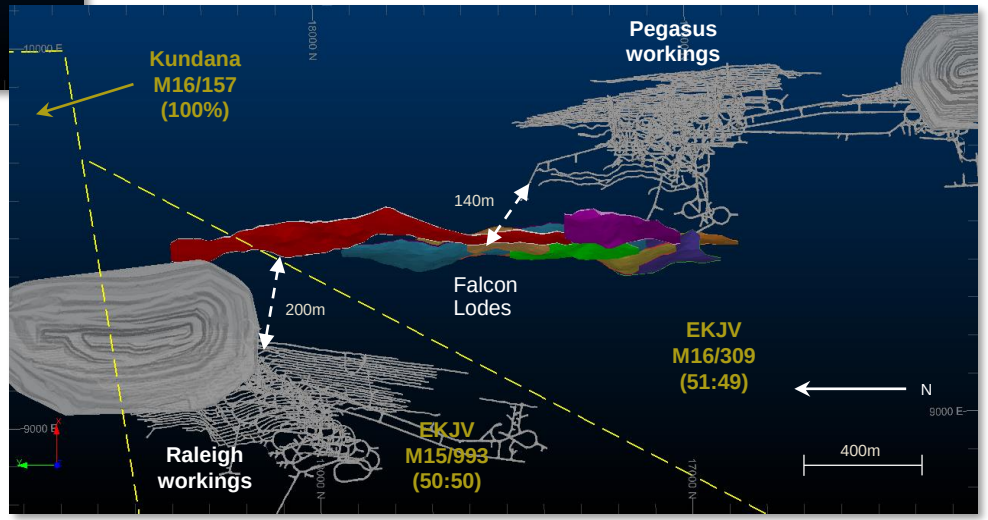
- Low angle structures in hangingwall of Pegasus identified in 2014
- Current mining activities focused on Pode and Hera structures
- Hanging wall lodes provide multiple production areas higher in the mine with shorter haulage distances and can be mined concurrently with K2
- Extension potential along strike with limited drill testing to date



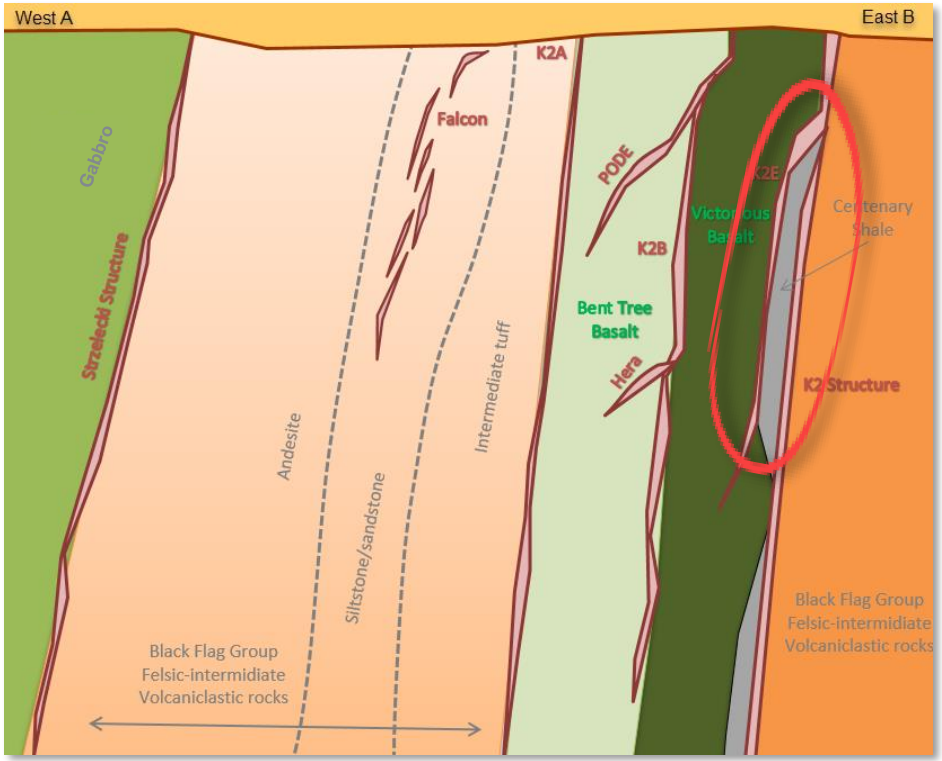
Falcon – Maiden Resource



- Maiden resource released August 2019
- 75,000m of drilling scheduled for FY19-20
- Forecast A$2.8M expenditure (NST share)
- Major focus to bring central Falcon corridor to feasibility status by mid year
- Exploration drive planned Q3 FY19-20 (5796-Exploration Drive)
- Under drilled Falcon corridor extends further north onto 100% NST Kundana tenements

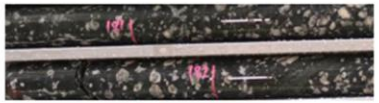


K2 Stratigraphy



Individual Lithologies.

Victorious Basalt – MBP - Fine – medium grained basalt with Porphyritic texture. Sheared or foliated texture common throughout with associated biotite alteration. Secondary veining commonly present.



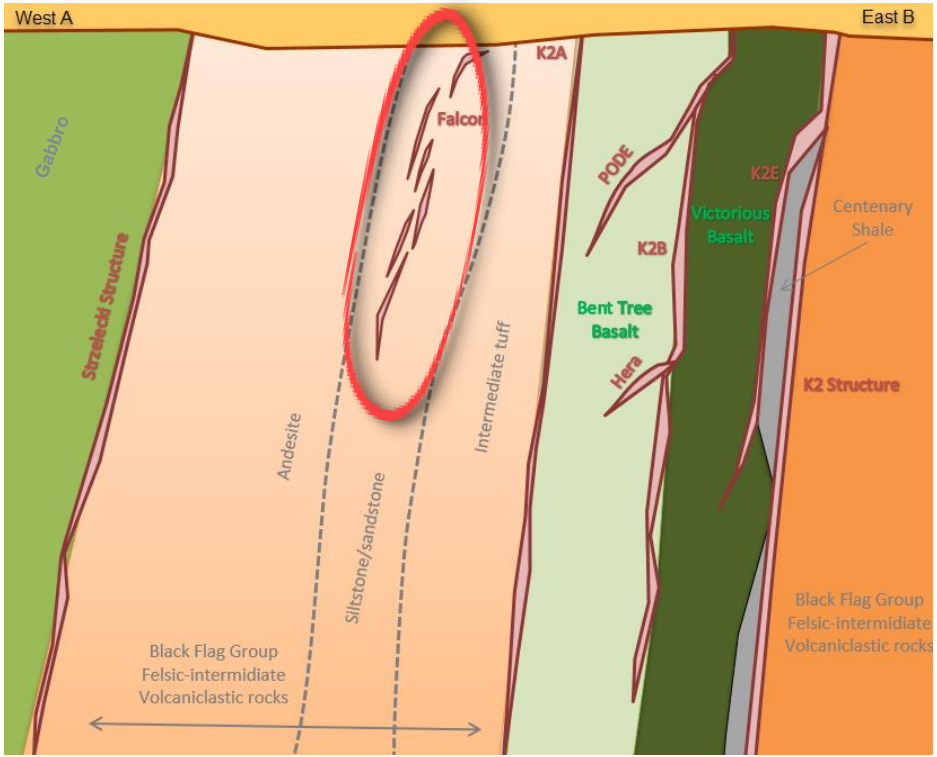
Centenary Shale – SHL - Sulphide rich through laminations/bands with Pyrrhotite and pyrite in high percentages commonly present. Can also be silica flooded if in close proximity to major structures or graphitic and carbon rich in nature.

Centenary Main Vein – CMV/K2 - Well laminated vein. Common associated with sulphides such as pyrrhotite, chalcopyrite and arsenopyrite. Galena, scheelite and native gold sometimes present.

Intermediate volcaniclastic Tuff – IVT - Massive to foliated volcaniclastics with visible clasts.

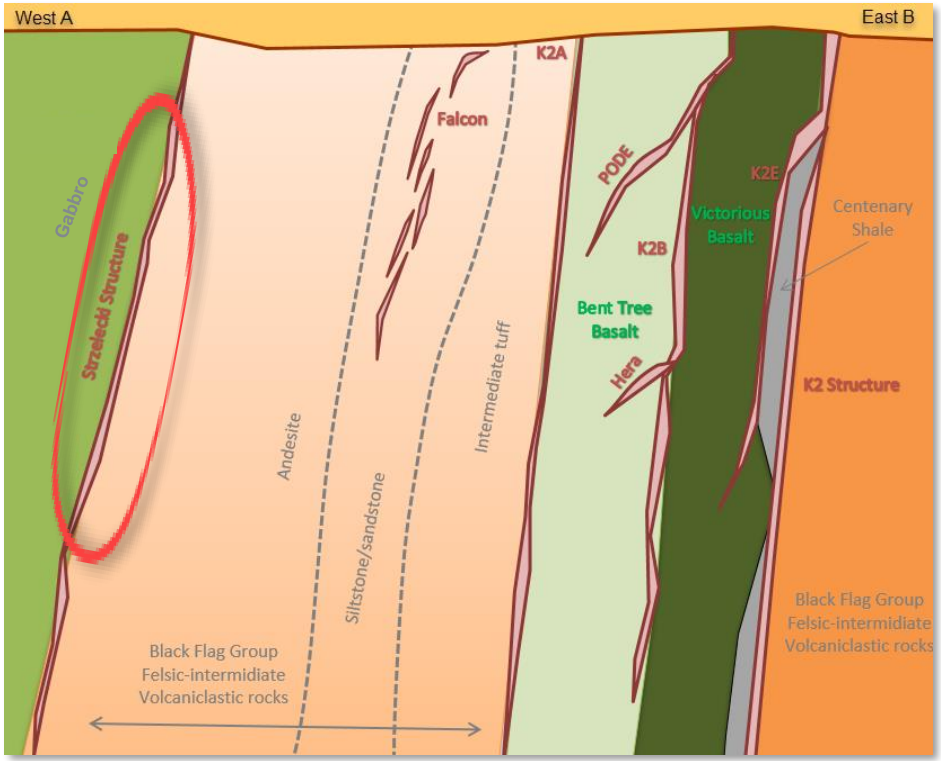
K2 structure occurs on the unconformity between the Black Flag volcaniclastics and the Victorious basalt . The K2 structure at Kundana hosts economic mineralisation including Millennium, Pope John, Centenary, Moonbeam and RHP

Falcon Mineralised Corridor



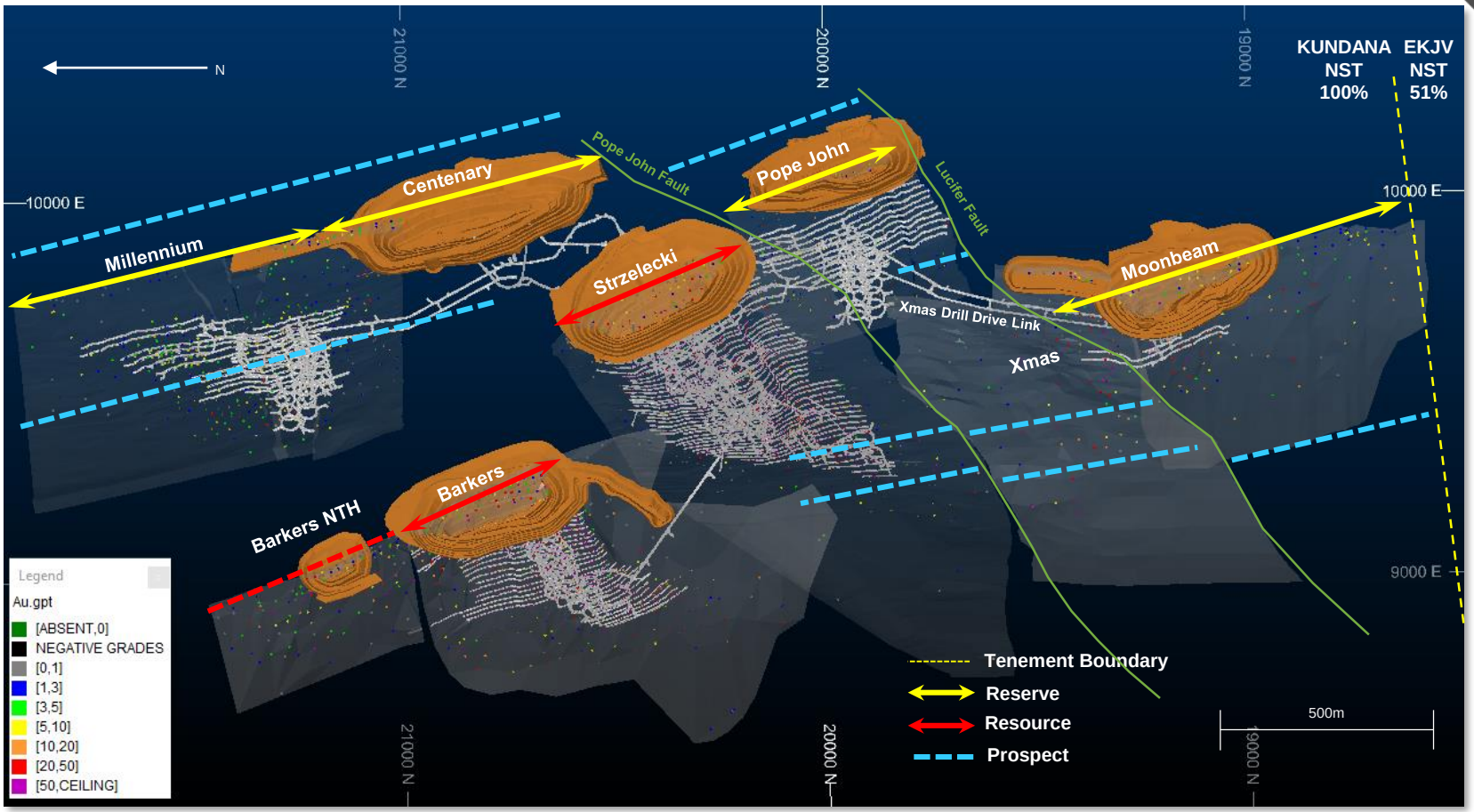
The Falcon mineralised corridor occurs internal to the Black Flag volcaniclastics associated with interbedded siltstone and sandstone horizons with multiple repeated surfaces identified to date in drilling. Current mining infrastructure allows for drill targeting to occur from at multiple RLs from both hangingwall and footwall.

Strzelecki Stratigraphy



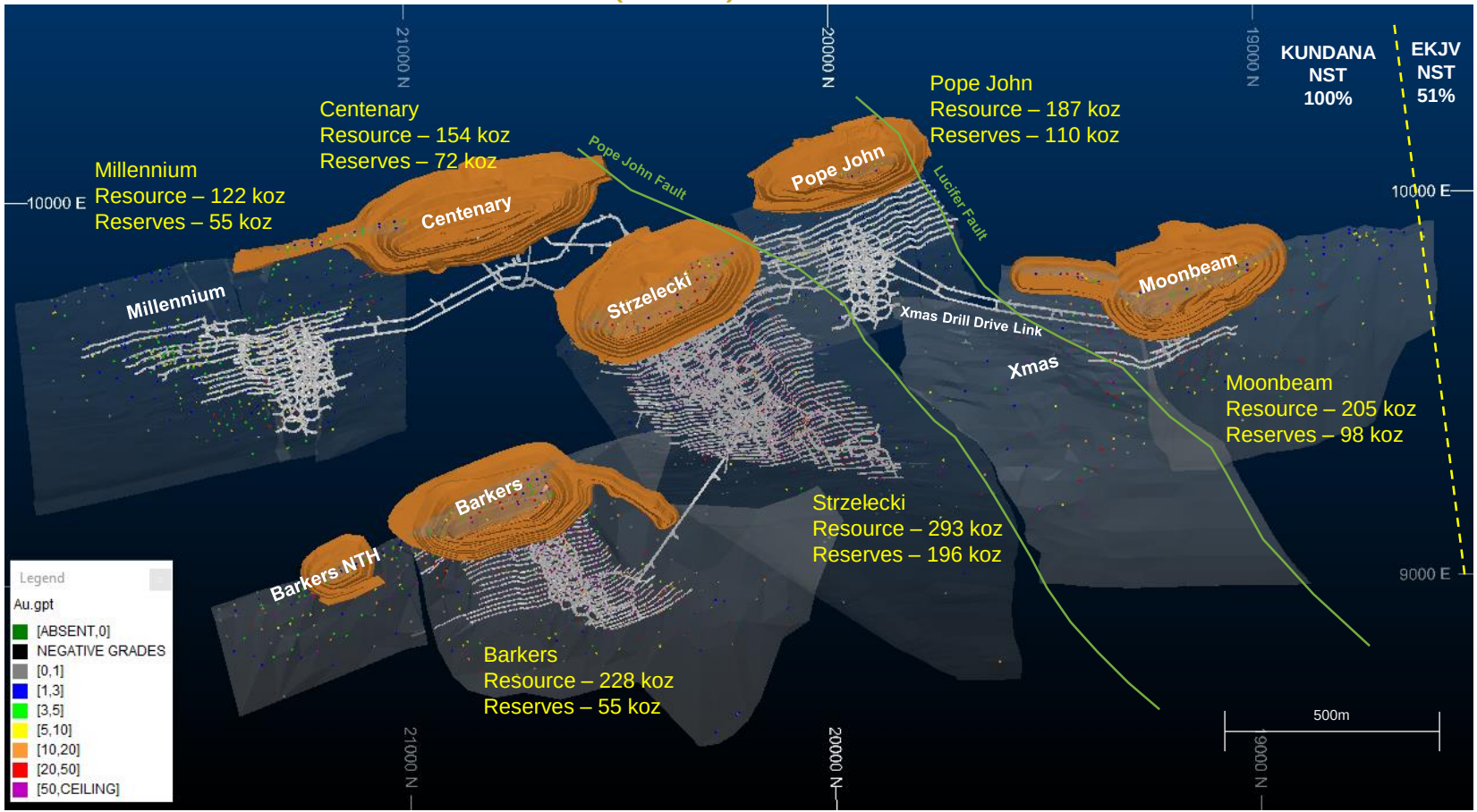
Strzelecki structure occurs on the western contact between the Black Flag Volcaniclastics and the Powder Sill gabbro – The Strzelecki structure hosts economic mineralisation at Kundana including Strzelecki, Xmas and Raleigh

Overview Kundana (NST 100%)

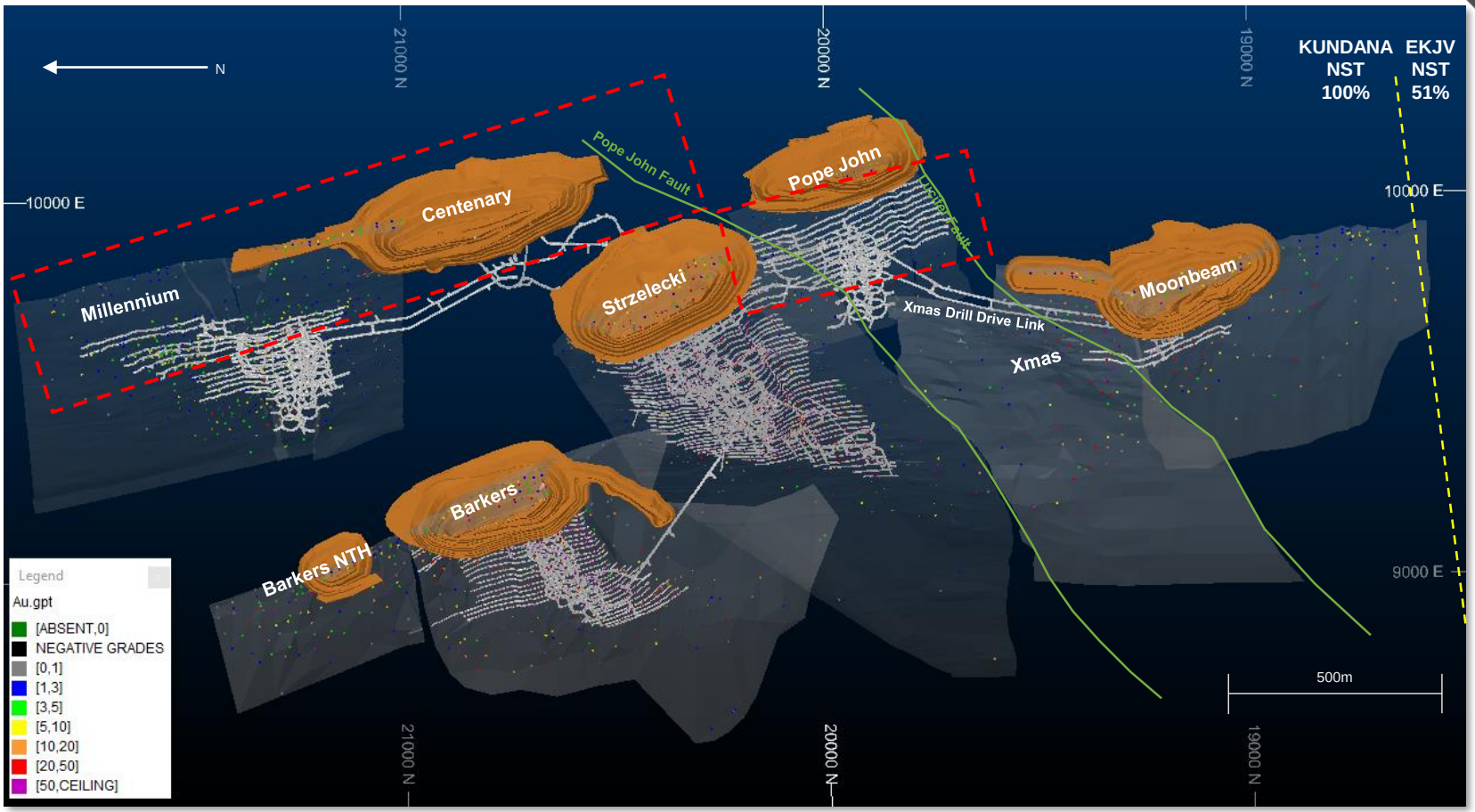


Kundana 100% NST Resource (FY19) 1.39Moz

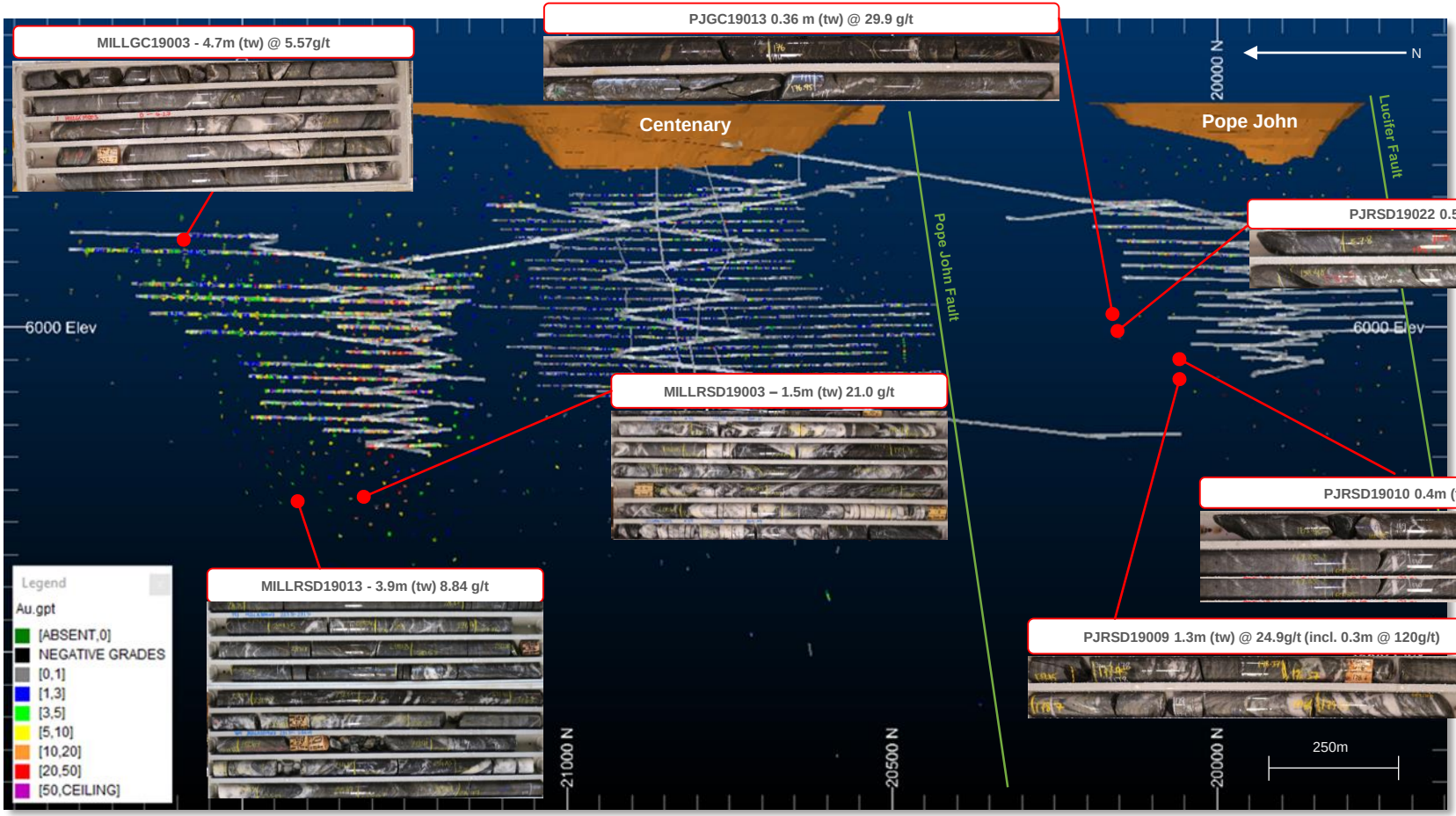
Kundana 100% NST Reserves (FY19) 588koz



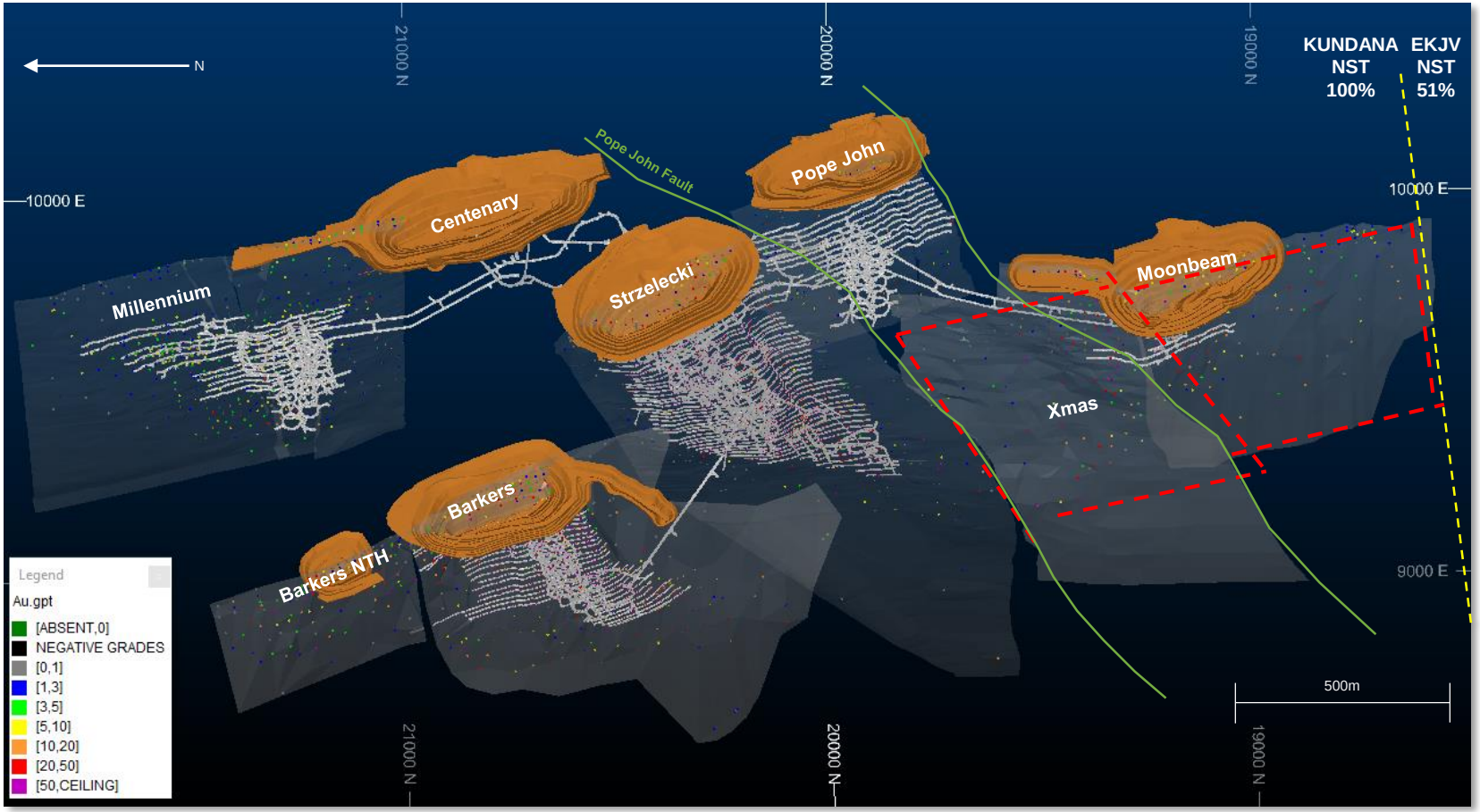
Millennium/Pope John - Continuing Current Production



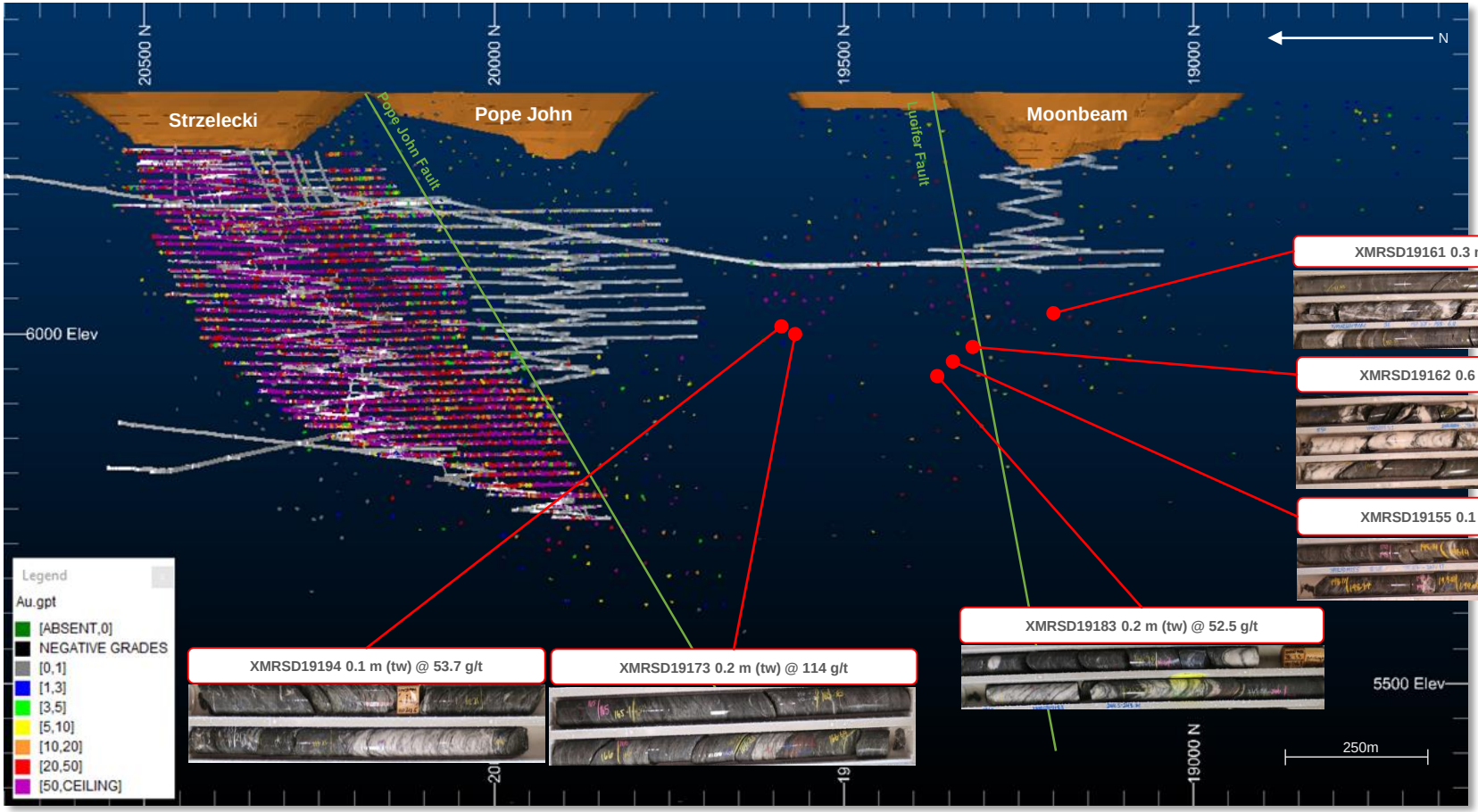
Millennium/Pope John - Continuing Current Production



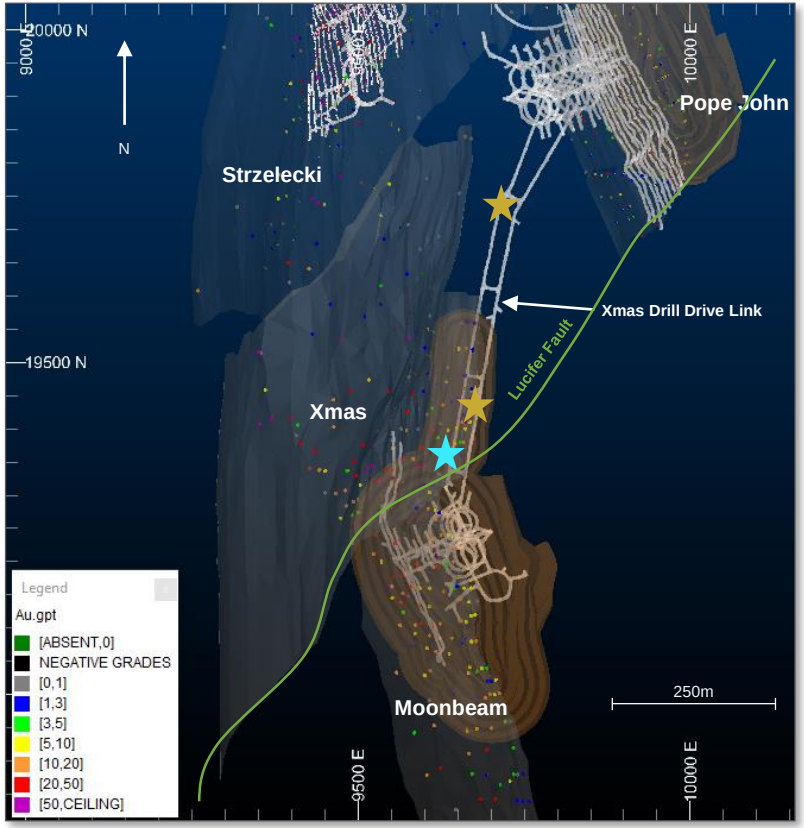
Moonbeam/Xmas – New Production Area



Moonbeam/Xmas – New Production Area

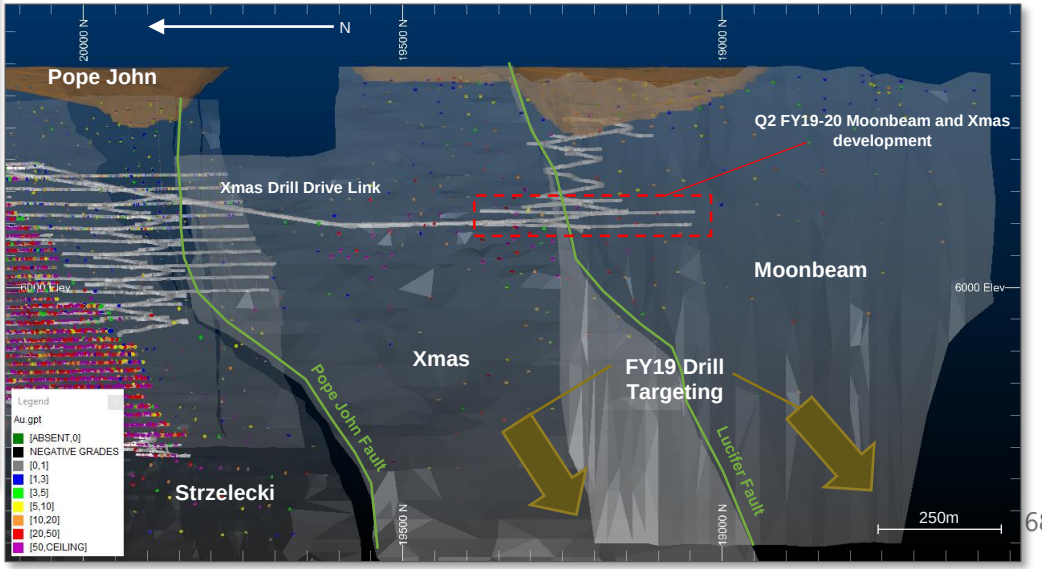


Moonbeam/Xmas – New Production Area

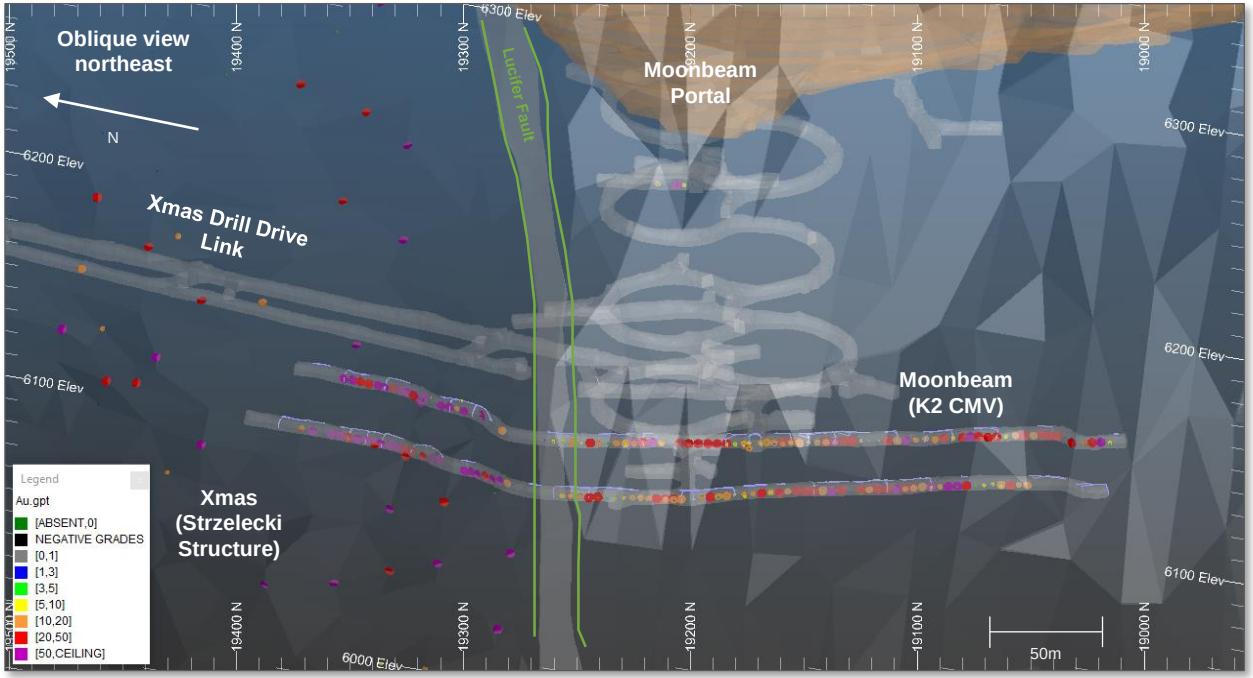


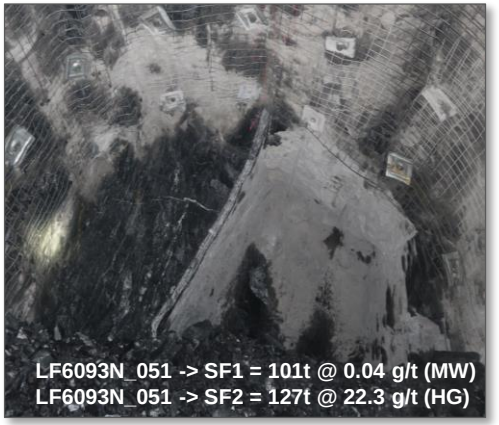
Drill Platforms FY1819 Drill Platforms FY1920

- Moonbeam accessed from existing drill drive at Pope John and the recently established Moonbeam portal
- Development is currently being established in Moonbeam (K2 Main Vein) and Xmas (Strzelecki Structure)
- FY19-20 year to date, >13,000m drilling completed on Xmas and >2,000m on Moonbeam, with >30,000m remaining to drill across both orebodies
- Priority for Resource extension and Reserve growth



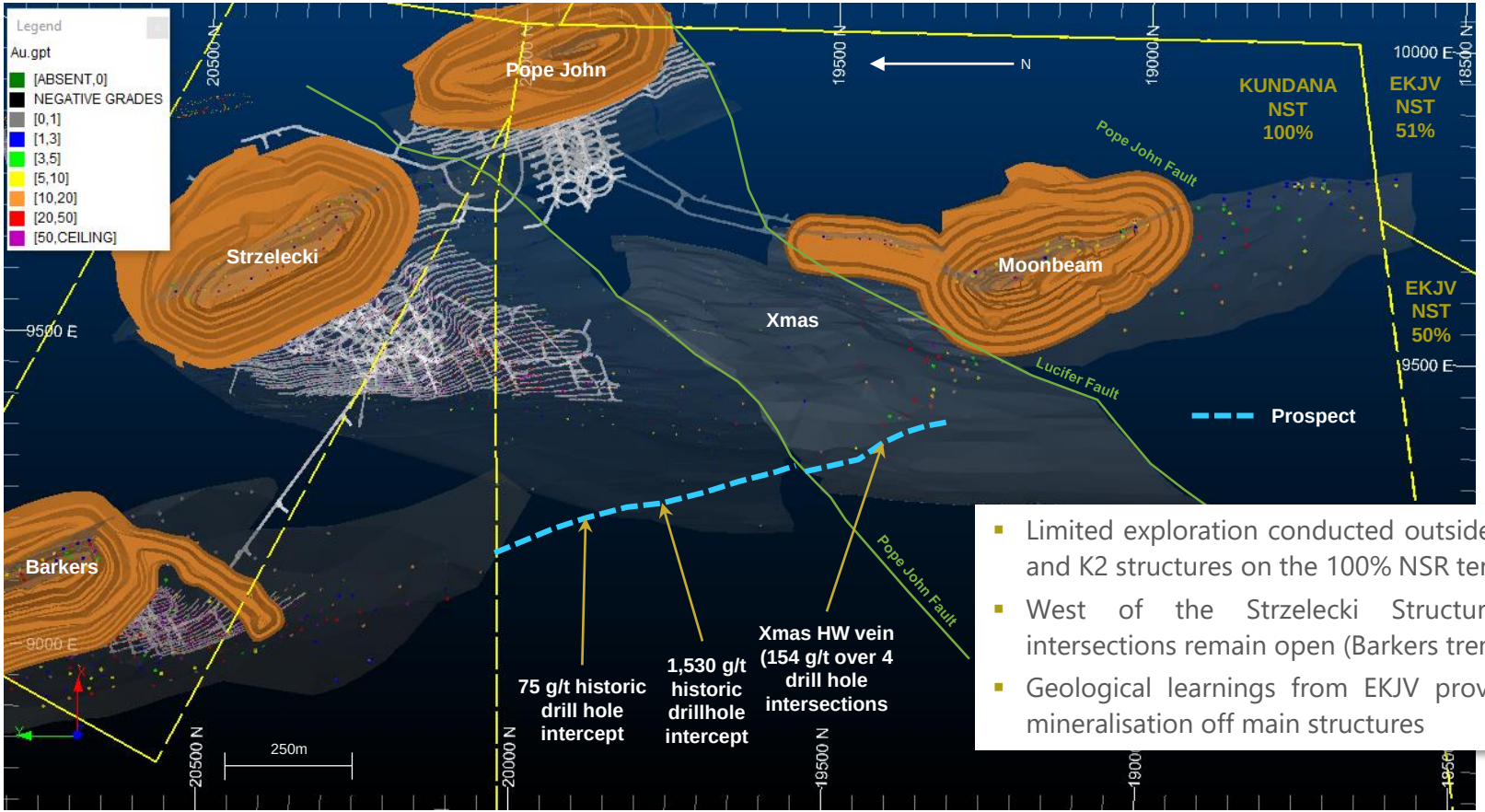
Xmas – First Ore Development





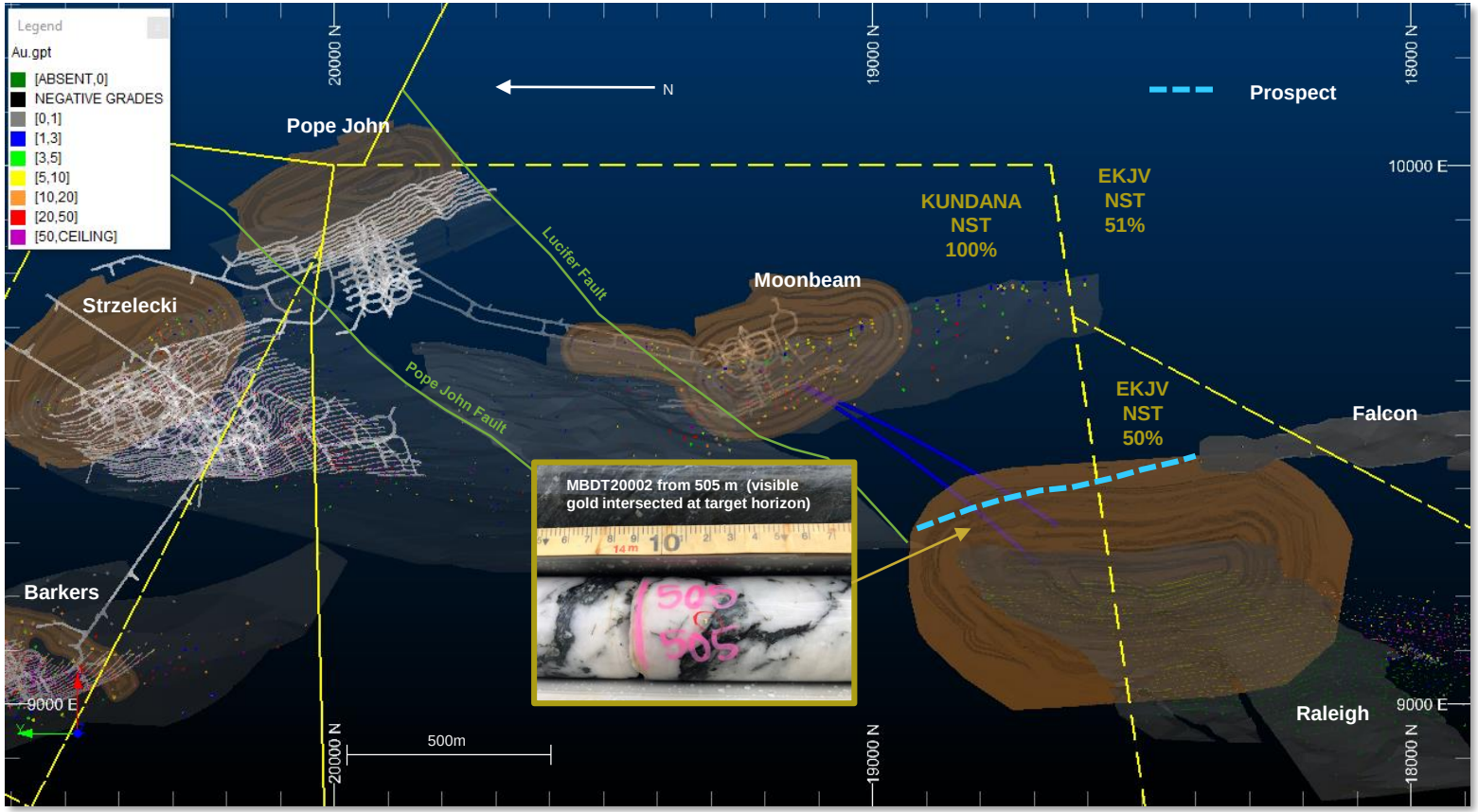
- To reduce dilution of ore and maximise grade, the Kundana operation split-fires development headings where possible
- The split-fire process occurs in two steps with ore and waste portions of the cut being fired independently, allowing up to 50% of the waste material to be extracted separately from high grade portion of development
- Reduction of ore tonnes for haulage and processing whilst maintaining overall ounce profile

Looking Forward – Potential Outside Main Structures



- Limited exploration conducted outside of the Strzelecki and K2 structures on the 100% NSR tenements
- West of the Strzelecki Structure historic HW intersections remain open (Barkers trend)
- Geological learnings from EKJV provides evidence of mineralisation off main structures

Drill Targeting - 100% NSR 'Falcon Corridor'



APPENDIX 1 - DRILLING RESULTS

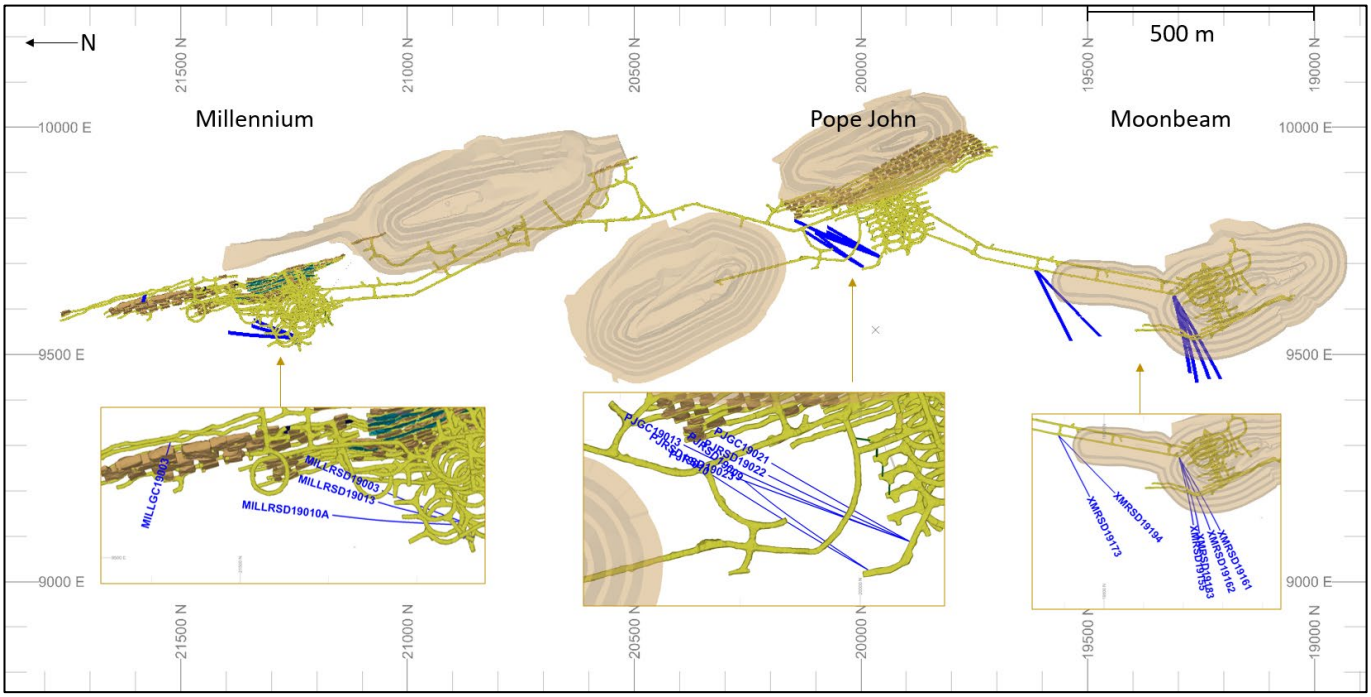
KANOWNA BELLE DRILLING PHYSICALS											
Hole ID	East (MGA)	North (MGA)	RL (AHD)	Dip (degrees)	Azi (MGA)	Hole Depth (m)	From (m)	To (m)	DH Width (m)	Grade g/t Au	True Width (m)
FMGC19444	363615	6612441	-478	-40	038	19.6	1.25	3.8	2.55	33.50	2.23
							13.0	14.0	1.0	14.40	0.87
HMGC19122	363451	6612500	60	-35	317	65.0	48.0	56.3	8.3	9.08	8.05
HMGC19256	363716	6612575	91	-28	303	100.0	70.0	82.13	12.13	8.47	10.97
HMGC19381	363557	6612542	-92	-12	127	155.0	46.0	75.02	29.02	6.70	14.74
KDU5227	363596	6612563	12	15	232	105.0	94.41	98.91	4.5	23.34	3.87
KDU5232	363856	6612426	-194	-18	189	41.0	35.0	35.4	0.4	216.0	0.3
KDU5271	362668	6612363	-627	20	215	104.0	69.85	76.4	6.55	21.54	6.26
KDU5274	362668	6612363	-627	11	229	112.0	78.45	85.0	6.55	17.19	5.75
KDU5313	363567	6612592	92	19	215	126.0	6.0	25.0	19.0	4.50	18.2
KDU5333	363835	6612416	-196	-14	080	54.0	6.52	10.0	3.48	728.85	2.76
KDU5343	363815	6612443	-192	27	194	97.0	47.37	49.73	2.36	81.30	2.20
KDU5356	363798	6612326	-270	21	263	132.0	55.0	60.9	5.9	167.0	3.33
KDU5418	363809	6612389	-248	1	199	87.0	61.0	68.0	7.0	12.75	6.65
LOWARSD19280	363814	6612578	93	-23	004	212.0	21.0	33.15	12.15	6.75	11.81
SMGC19179	363910	6612567	-162	2	180	234.0	113.0	118.0	5.0	26.45	3.5
SMRSD19234	363910	6612567	-162	17	192	327.0	258.27	262.32	4.05	22.80	4.0
SMRSD19363	363722	6612410	-179	-9	196	205.0	133.4	140.0	6.6	16.60	5.8
TMRSD20002	363695	6612533	-11	5	026	210.0	128.65	135.05	6.4	12.90	5.73
WTGC19079	363649	6612571	94	34	209	134.0	14.45	16.0	1.55	179.76	1.02

KUNDANA DRILLING PHYSICALS							
Hole ID	East (MGA)	North (MGA)	RL (MGA)	Azimuth (MGA)	Dip (degrees)	Depth (m)	Hole Type
MILLGC19003	330632	6602079	117	257	31	17.7	DD
MILLRSD19003	330717	6601740	-191	351	-63	227.55	DD
MILLRSD19010A	330715	6601741	-191	333	-53	266.82	DD
MILLRSD19013	330717	6601740	-191	343	-67	265.59	DD
PJGC19013	331498	6600707	1	352	-1	204.95	DD
PJGC19021	331498	6600708	1	360	-41	174.02	DD
PJRSD19009	331460	6600726	2	4	-50	200.43	DD
PJRSD19010	331460	6600726	2	0	-36	188.73	DD
PJRSD19022	331498	6600707	0	355	-52	210.18	DD
PJRSD19023	331498	6600707	1	351	-41	200.47	DD
XMRSD19155	331740	6600099	101	227	-38	219.21	DD
XMRSD19161	331740	6600098	101	209	-38	266.3	DD
XMRSD19162	331740	6600099	101	217	-37	248.82	DD
XMRSD19173	331639	6600392	97	214	-30	200.87	DD
XMRSD19183	331740	6600098	101	224	-44	275.55	DD
XMRSD19194	331640	6600392	97	196	-30	233.52	DD

APPENDIX 1 - DRILLING RESULTS

KUNDANA SIGNIFICANT ASSAY RESULTS											
Hole ID	East (MGA)	North (MGA)	RL (AHD)	Dip	Azi (MGA)	Hole Depth (m)	From (m)	To (m)	DH Width (m)	Grade g/t Au	True Width (m)
MILLGC19003	330632	6602079	117	31	257	486.5	0	5.57	5.57	5.57	4.7
MILLRSD19003	330717	6601740	-191	-63	351	227.55	195.15	195.75	0.60	14.7	0.3
							201.35	204.37	3.02	21.0	1.5
MILLRSD19010A	330715	6601741	-191	-53	333	266.82	228.35	229.87	1.52	3.92	0.6
MILLRSD19013	330717	6601740	-191	-67	343	265.59	226.74	235.77	9.03	8.84	3.9
PJGC19013	331498	6600707	1	-1	352	204.95	176.95	178.0	1.05	2.70	0.7
							178.0	178.55	0.55	29.9	0.4
PJGC19021	331498	6600708	1	-41	360	174.02	154.1	156.05	1.84	6.30	1.4
PJRSD19009	331460	6600726	2	-50	4	200.43	177.95	179.58	1.63	25.0	1.3
PJRSD19010	331460	6600726	2	-36	0	188.73	169.85	170.3	0.45	6.67	0.4
PJRSD19022	331498	6600707	0	-52	355	210.18	24.55	24.85	0.30	5.30	0.2
							185.86	186.57	0.71	29.2	0.5
PJRSD19023	331498	6600707	1	-41	3513	200.47	169.44	169.95	0.51	2.00	0.3
							171.89	172.21	0.32	5.00	0.2
							175.39	176.24	0.85	9.80	0.6
XMRSD19155	331740	6600099	101	-38	227	219.21	199.07	199.37	0.30	68.3	0.2
XMRSD19161	331740	6600098	101	-38	209	266.3	152.3	152.87	0.57	25.6	0.3
XMRSD19162	331740	6600099	101	-37	217	248.82	208.0	209.5	1.50	28.7	0.6
XMRSD19173	331639	6600392	97	-30	214	200.87	166.33	166.64	0.31	114.0	0.2
XMRSD19183	331740	6600098	101	-44	224	275.55	245.26	245.88	0.62	52.5	0.2
XMRSD19194	331640	6600392	97	-30	1961	233.52	213.25	213.6	0.35	53.7	0.1

Figure 1: Plan view of Kundana showing drill hole traces of holes in Tables 1 and 2. Note holes are displayed in Kundana10 grid.



APPENDIX 1 - DRILLING RESULTS

PREVIOUSLY RELEASED TRIUMPH INTERCEPTS										
Drill Hole #	Easting (MGA)	Northing (MGA)	Drill hole collar RL (MGA)	Dip (degrees)	Azimuth (degrees, MGA)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Grade Au (gpt) uncut
TRIDD20002A	366525	6572420	355	-78	258	384.47	285.60	319.80	34.2	7.70
including...							285.60	297.50	11.90	4.60
							303.00	307.40	4.40	48.00
							314.40	319.80	5.40	1.70
TRIDD20003B	366475	6572714	354	-75	276	448.18	350.23	357.93	7.7	1.23

NEW TRIUMPH INTERCEPTS										
Drill Hole #	Easting (MGA)	Northing (MGA)	Drill hole collar RL (MGA)	Dip (degrees)	Azimuth (degrees, MGA)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Grade Au (gpt) uncut
ARGDD20001	366549	6571961	359	-55	24	376	281.0	286.5	5.5	3.9
TRIDD20005	366228	6572898	356	-64	94	341.64	210.2	210.5	0.3	188.0
TRIDD20004	366138.9	6572444	359.041	-54	62	468	358.9	386.9	28.0	1.0
including...							385.2	386.6	1.4	20.7
TRIRC20001	366599.1	6572203	355	-71	257	318	Assays Pending			
TRIRC20002	366497.7	6572083	357	-65	60	235	Assays Pending			
TRIRC20003	366507.2	6572018	358	-66	57	395.34	276.4	307.0	30.6	1.1
TRIRC20004	366538.4	6572423	355	-75	278	352	280.0	294.4	14.4	1.8
							280.0	284.9	4.9	3.2
TRIRC20005	366508.8	6572364	355	-81	272	392.9	282.8	310.0	27.2	3.1
including...							290.6	293.5	2.9	16.6

CARBINE PHANTOM INTERCEPTS										
Drill Hole #	Easting (MGA)	Northing (MGA)	Drill hole collar RL (MGA)	Dip (degrees)	Azimuth (degrees, MGA)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Grade Au (gpt) uncut
CBRC19261	299324	6626556	428	-60	225	258	232	238	6.0	5.9
CBRC19268	299204	6626783	425	-58	224	288	234	243	9.0	5.2
CBRC19269	299225	6626799	425	-61	225	294	114	117	3.0	7.2
CBRC19272	299063	6626862	424	-62	229	220	141	144	3.0	39.2
CBDD19249	299245	6626707	425	-60	228	344	152.15	157.12	5.0	46.2
CBDD19250	299110	6626750	426	-60	228	242.9	78.65	79	0.4	95.0

APPENDIX 2 – TABLE 1s

JORC Code, 2012 Edition – Table 1 Report
Kanowna Belle Mine – 5 February 2020
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. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. 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.	▪ Sampling was completed using diamond drill core (DD). ▪ Diamond core was transferred to core trays for logging and sampling. Half core or full core samples were nominated by the geologist from HQ or NQ diamond core, with a minimum sample width of 30cm and a maximum width of 120cm. ▪ Samples were transported to various analysis laboratories in Kalgoorlie for preparation by drying, crushing to <3mm, and pulverizing the entire sample to <75µm. ▪ 300g Pulp splits were analysed in laboratories in both Kalgoorlie and Perth for 40-50g Fire assay charge and AAS analysis for gold.
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.).	▪ For underground drilling, NQ2 (50.6mm) and HQ (63.5mm) diameter core was used. ▪ Core was orientated using an electronic 'back-end tool' core orientation system.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. 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.	▪ 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. ▪ Recovery was excellent for diamond core and no relationship between grade and recovery was observed.
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. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography. The total length and percentage of the relevant intersections logged.	▪ All diamond core is logged for regolith, lithology, veining, alteration, mineralisation and structure. Structural measurements of specific features are taken through oriented zones. All logging is quantitative where possible and qualitative elsewhere. A photograph is taken of every core tray.

APPENDIX 3 – TABLE 1

Criteria	JORC Code explanation	Commentary
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all sub-sampling stages to maximise representivity of 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. Whether sample sizes are appropriate to the grain size of the material being sampled.	▪ All diamond core that was half-core sampled was cut longitudinally with an automated core saw. ▪ Sample preparation was conducted at various laboratories in Kalgoorlie, commencing with sorting, checking and drying at less than 110°C to prevent sulphide breakdown. Samples are jaw crushed to a nominal -6mm particle size. The entire crushed sample is then pulverized to 90% passing 75µm, using a bowl or ring-mill pulveriser. 300g Pulp subsamples are then taken with an aluminium scoop and stored in labelled pulp packets. ▪ Grind checks are performed at both the crushing stage (3mm) and pulverising stage (75µm), requiring 90% of material to pass through the relevant size to ensure consistent sample preparation.
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 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. 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.	▪ A 40-50g fire assay charge is used with a lead flux, dissolved in the furnace. The prill is totally digested in HCl and HNO3 acids before Atomic Absorption Spectroscopy (AAS) determination for gold analysis. This method ensures total gold is reported appropriately. ▪ No geophysical tools, spectrometers or XRF instruments were used to determine any element concentrations ▪ Certified Reference Materials (CRMs) are inserted into the sample sequence randomly at a rate of 1 per 20 composite samples to ensure correct calibration. Any values outside of 3 standard deviations are scrutinised and re-assayed with a new CRM if the failure is deemed genuine. ▪ Blanks are inserted into the sample sequence at a rate of 1 per 20 composite samples. Failures above 0.2g/t are scrutinised, and re-assayed if required. New pulps are prepared if failures remain. ▪ All sample QAQC results are assessed by geologists to ensure the appropriate level of accuracy and precision when the results have been returned from the laboratory.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. Discuss any adjustment to assay data.	▪ All significant intersections are verified by the project geologist and senior geologist during the drill hole validation process. ▪ No holes were twinned as part of the programmes in this report. ▪ Geological logging and sampling are captured using Acquire database software. Both a hardcopy and electronic copy of sampling are stored. Assay files are received in csv and PDF format. The csv files are loaded directly into the database by the supervising geologist who then checks that the results have inserted correctly. Electronic copies of these are also kept. 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. Specification of the grid system used. Quality and adequacy of topographic control.	▪ All collars for underground drilling are in the local mine grid by a mine surveyor using a laser theodolite total station. A True North seeking gyroscope tool is used to align holes and record a zero-meter survey. A reference tool (Deviflex) is used for downhole survey every 50m and at the end of hole, referencing the starting zero meter records. ▪ QAQC is performed on the speed of running, and on the misclose rate for each 'Deviflex' survey. Where issues are identified, the survey will be redone. A single survey run can be chosen as preferred with the remaining data ignored. Survey data is converted to csv format and imported into the AcQuire database where it is validated by the project geologist. ▪ A local grid system (KBMINE grid) is used. It is rotated anticlockwise 27.73 degrees to the MGA94 grid.
Data spacing and distribution	Data spacing for reporting of Exploration Results. 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. Whether sample compositing has been applied.	▪ In-mine diamond drill holes spacings are variable from 80m apart through to isolated single drill holes. Closer spaced drilling is considered operational drilling. ▪ Sample compositing has not been applied.

APPENDIX 3 – 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. 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 is oriented as close as practical to perpendicular to the target structures. The orientation of all in-mine target structures is well known and drill holes are only designed where meaningful intercept angles can be achieved. ▪ 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 in a secure yard. Once submitted to the laboratories they are stored in a secure fenced compound and tracked through their chain of custody via audit trails.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	▪ No audits or reviews have recently been conducted on sampling techniques; however, lab audits are conducted on a regular basis.

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 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 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 leases containing the deposit are pre-1994 leases so are not subject to Native Title claims. ▪ 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 commenced between 1993 and 1998 resulting in a 220m deep pit. Underground operation began 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. ▪ 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 several elongate, broadly NNW-SSE striking structural-stratigraphic late Archaean greenstone terranes of the Eastern Goldfields of Western Australia. The Kanowna Belle gold mine is located close to the centre of the NNW-SSE trending, greenstone-dominated Boorara Domain, the eastern most subdivision of the Kalgoorlie Terrane. ▪ The Kanowna Belle deposit can be categorised as a refractory, Archean lode-gold type deposit. The orebody is comprised of several ore shoots, including the large Lowes Shoot, and several smaller lodes including Troy, 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. Lowes shoot has a strike length of 500m, width of 5m to 50m and down-plunge extent greater than 1,250m. The overall steep SE plunge is interpreted to reflect the intersection of D1 (ENE) and D2 (NW) structures. ▪ Kanowna Belle is one of the only 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.

APPENDIX 3 – TABLE 1

Criteria	JORC Code explanation	Commentary
		▪ 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 crosscuts fabrics associated with the D1 Fitzroy Mylonite and Fitzroy Shear Zone and is in turn overprinted by S2. ▪ The Velvet orebody is located approximately 600 m west of the Kanowna Belle deposit at a vertical depth of 700 m below surface. The currently defined mineral resource is contained within a northwest-dipping main lode, with secondary lodes developing in the hanging wall of the main lode. Velvet main lode VM01 is open at depth, with current dimensions of 454m (dip) by 355m (strike); the secondary, oblique lodes are open along strike. The Velvet deposit is interpreted to be part of the Kanowna Belle gold mineralised system. ▪ The geology and mineralisation of the Velvet deposit is dominated by the intersection of the Fitzroy Shear Zone and the Velvet Mylonite, a hanging wall splay of the Fitzroy Shear Zone. The Velvet Mylonite is characterized by a well-developed porphyroclastic fabric and is separated from the Fitzroy shear Zone by a zone of massive dolomite breccia.
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. 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.	▪ All the drill hole data above is used directly or indirectly for the preparation of the presentation.
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated. Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. The assumptions used for any reporting of metal equivalent values should be clearly stated.	▪ All drill results are reported as aggregates across the target zone.

APPENDIX 3 – TABLE 1

Criteria	JORC Code explanation	Commentary
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. 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').	▪ The orientation of target structures is well known for all in-mine exploration targets and true widths can be accurately calculated and are reported accordingly. ▪ Both the downhole width and true width have been clearly specified when used.
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	▪ Refer to the figures the body of this report for the spatial context of all holes planned and drilled to date.
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 avoiding misleading reporting of Exploration Results.	▪ Exploration results that are not material to this report are excluded for some drill programmes, however the drill physicals are all detailed for all drilling regardless of the outcome.
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 presentation.
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). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	▪ Further mine planning work is planned for Kanowna Belle Mineral Resource. The down dip and hangingwall extensions of the Kanowna Belle Mineral Resource will be drill tested from various underground drilling platforms. ▪ Appropriate diagrams accompany this release.

APPENDIX 3 – TABLE 1

JORC Code, 2012 Edition – Table 1 Report
Kundana Mine – 5 February 2020
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. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. 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.	▪ Sampling was completed using diamond drill core (DD). ▪ Diamond core was transferred to core trays for logging and sampling. Half core or full core samples were nominated by the geologist from HQ or NQ diamond core, with a minimum sample width of 0.3 m and a maximum width of 1.0 m. ▪ Samples were transported to various analysis laboratories in Kalgoorlie for preparation by drying, crushing to <3 mm, and pulverizing the entire sample to <75 µm. ▪ 300 g Pulp splits were analysed in laboratories in both Kalgoorlie and Perth for 40-50 g Fire assay charge and AAS analysis for gold.
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.).	▪ For underground drilling, NQ2 (50.6 mm) diameter core was used. ▪ Core was orientated using an electronic 'back-end tool' core orientation system.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. 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.	▪ 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. ▪ Recovery was excellent for diamond core and no relationship between grade and recovery was observed. Average recovery across the Kundana camp is at 99%.
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography. The total length and percentage of the relevant intersections logged.	▪ All diamond core is logged for lithology, veining, alteration, mineralisation and structure. Structural measurements of specific features are taken through oriented zones. All logging is quantitative where possible and qualitative elsewhere. Logging is entered in acQuire using a series of drop-down menus which contain the appropriate codes for description of the rock. A photograph is taken of every core tray.

APPENDIX 3 – TABLE 1

Criteria	JORC Code Explanation	Commentary
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all sub-sampling stages to maximise representivity of 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. Whether sample sizes are appropriate to the grain size of the material being sampled.	▪ All diamond core that was half-core sampled was cut longitudinally with an automated core saw. ▪ Preparation of NSR samples was conducted at Bureau Veritas Kalgoorlie and Perth preparation facilities Sample preparation commenced with sorting, checking and drying at less than 110 °C to prevent sulphide breakdown. Samples are jaw crushed to a nominal -6mm particle size. If the sample is greater than 3 kg a Boyd crusher with rotary splitter is used to reduce the sample size to less than 3 kg (typically 1.5 kg) at a nominal <3 mm particle size. The entire crushed sample (if less than 3 kg) or sub-sample is then pulverized to 90% passing 75 µm, using a Labtechnics LM5 bowl pulveriser. 400 g Pulp subsamples are then taken with an aluminium scoop and stored in labelled pulp packets. ▪ The sample preparation is considered appropriate for the deposit. ▪ Grind checks are performed at both the crushing stage (3 mm) and pulverising stage (75 µm), requiring 90% of material to pass through the relevant size to ensure consistent sample preparation. ▪ Umpire sampling is performed monthly, where 3% of the samples are sent to the umpire lab (ALS Perth) for processing. In the last year there was an insertion rate of 0.22% for Millennium umpire samples, which resulted in a correlation of 99%. These umpire samples were picked and submitted together for the whole Kundana region.
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 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. 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.	▪ A 40-50g fire assay charge is used with a lead flux, dissolved in the furnace. The prill is totally digested in HCl and HNO3 acids before Atomic Absorption Spectroscopy (AAS) determination for gold analysis. This method ensures total gold is reported appropriately. ▪ No geophysical tools were used to determine any element concentrations ▪ Certified Reference Materials (CRMs) are inserted into the sample sequence randomly at a rate of 1 per 20 composite samples to ensure correct calibration. Any values outside of 3 standard deviations are scrutinised and re-assayed with a new CRM if the failure is deemed genuine. ▪ Blanks are inserted into the sample sequence at a rate of 1 per 20 composite samples. Failures above 0.2g/t are scrutinised, and re-assayed if required. New pulps are prepared if failures remain. ▪ Barren flushes are regularly inserted after anticipated high gold grades at the pulverising stage. ▪ All sample QAQC results are assessed by geologists to ensure the appropriate level of accuracy and precision when the results have been returned from the laboratory.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. Discuss any adjustment to assay data.	▪ All significant intersections are verified by the project geologist and senior geologist during the drill hole validation process. ▪ No holes were twinned as part of the programmes in this report. ▪ Geological logging was captured using Acquire database software. Both a hardcopy and electronic copy of these are stored. Assay files are received in csv format and loaded directly into the database by the supervising geologist who then checks that the results have inserted correctly. Hardcopy and electronic copies of these are also kept. 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. Specification of the grid system used. Quality and adequacy of topographic control.	▪ Planned holes are marked up by the mine survey department using a total station survey instrument in mine grid (Kundana 10). The actual hole position is then located by the mine survey department once drilling is completed. ▪ Holes are lined up on the collar point using the DHS Minnovare Azimuth Aligner. Planned azimuths and dips of the holes are downloaded to the aligner which is then placed on the rod string to align the hole for drilling. ▪ During drilling, single shot surveys are conducted every 30 m to track the deviation of the hole and to ensure it stays close to design. This is performed using the Devishot camera which measures the gravitational dip and magnetic azimuth. Results are uploaded from the Devishot software into a csv format which is then imported into the Acquire database. At the completion of the hole, a Multishot Deviflex survey is completed taking measurements every 3 m to ensure accuracy of the hole. The is relative change survey which is then referenced back to the Azimuth aligner to provide an accurate, continuous nonmagnetic survey. This is also converted to csv format and imported into the acQuire database.

APPENDIX 3 – TABLE 1

Criteria	JORC Code Explanation	Commentary
Data spacing and distribution	Data spacing for reporting of Exploration Results. 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. Whether sample compositing has been applied.	▪ Drill hole spacing varies across the deposit. For resource targeting drilling spacing was typically a minimum of 80 m x 80 m. This allowed for infill drilling at 40 m x 40 m spacing known as resource definition. Grade control drilling was drilled on a level by level basis with drill spacing at 20 m x 20 m. ▪ The data spacing and distribution is considered sufficient to support the resource and reserve estimates. ▪ No sample compositing has been applied.
Orientation of data in relation to geological structure	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. 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.	▪ Majority of the mineralisation in the Kundana area dips steeply (80°) to the WSW. Diamond drilling was designed to target the orebodies perpendicular to this orientation to allow for an ideal intersection angle. Instances where this was not achievable (mostly due to drill platform location), drilling was not completed or re-designed once a suitable platform became available. ▪ 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 in a secure yard. Once submitted to the laboratories they are stored in a secure fenced compound and tracked through their chain of custody via audit trails.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	▪ No audits or reviews have recently been conducted on sampling techniques; however, lab audits are conducted on a regular basis.

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 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 holes mentioned in this report are located within the M16/87, M16/72, M16/97 tenements, which are owned by KUNDANA GOLD PTY LTD a wholly owned subsidiary of Northern Star Resources. There are no private royalty agreements applicable to this tenement. ▪ No known impediments exist, and the tenements are in good standing.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	▪ Early exploration was completed in the 1980's by Kalbara Minerals with the development and operation of South Pit. Modern mining continued in late 1980's with the Kundana North and Strzelecki Open pits. Mining continued through to 1999 when the Centenary Underground ceased operations. ▪ Exploration continued over the camp through various companies including Placer Dome and Barrick Gold. ▪ Early 2014 saw Northern Star Resources purchase the Kundana camp from Barrick Gold and mining recommenced in March 2014. Millennium was discovered in the same year and commenced mining in 2015.
Geology	Deposit type, geological setting and style of mineralisation.	▪ The Kundana camp is situated within the Norseman-Wiluna Greenstone Belt, in an area dominated by the Zuleika Shear Zone, which separates the Coolgardie domain from the Ora Banda domain. The Zuleika Shear Zone in the Kundana area comprises multiple anastomosing shears the most important of which are the K2, the K2A and Strzelecki Shears. ▪ K2-style mineralisation consists of narrow vein deposits hosted by shear zones located along steeply dipping overturned lithological contacts. The K2 structure is present along the contact between a black shale unit (Centenary shale) and intermediate volcaniclastics (Black Flag Group).

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Criteria	JORC Code Explanation	Commentary
		▪ Pope John is a continuation of the Centenary K2 trend. Starting in the north from the Pope John Fault which separates Pope John and Centenary, offsetting the Pope John K2 lode approximately 80 to the south west. The deposit extends south through to the Lucifer Fault. At the Lucifer Fault it is offset approximately 200m to the south west and becomes the Moonbeam deposit. The Pope John lode is offset by a number of smaller mine scale faults in between the 2 larger regional faults. The K2 mineralization is typical of the area with a high-grade laminated quartz vein being the primary gold hosting unit with minor halo grade disseminated around this structure in the Centenary Shale and Black Flag volcaniclastics. ▪ The Strzelecki main vein is the Strzelecki trend north of the Pope John fault and extending up to 20650n. This exists on the Quartz Arenite Andesite contact. The Strzelecki footwall vein is situated parallel within the footwall Andesite. There are a number of smaller mine scale faults offsetting the main and footwall Strzelecki lodes.
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all material drill holes: ▪ easting and northing of the drill hole collar ▪ elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar ▪ dip and azimuth of the hole ▪ down hole length and interception depth ▪ hole length. 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.	▪ Information refers only to the body 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. Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. The assumptions used for any reporting of metal equivalent values should be clearly stated.	▪ All reported assay results have been length weighted to provide an intersection width. A maximum of 2 m of barren material (considered < 1 g/t) between mineralized samples has been permitted in the calculation of these widths. Typically grades over 1.0 g/t are considered significant, however, where low grades are intersected in areas of known mineralisation these will be reported. No top-cutting is applied when reporting intersection results. ▪ Where 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.
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. 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').	▪ The orientation of target structures is well known for all in-mine exploration targets and true widths can be accurately calculated and are reported accordingly. ▪ Both the downhole width and true width have been clearly specified when used.
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	▪ Refer to the figures the body of this report for the spatial context of all holes planned and drilled to date.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	▪ Exploration results that are not material to this report are excluded for some drill programmes, however the drill physicals are all detailed for all drilling regardless of the outcome.

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Criteria	JORC Code Explanation	Commentary
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	▪ No other material exploration data has been collected for this drill program.
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). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	▪ Drilling will continue in various parts of the camp with the intention of extending areas of known mineralization. ▪ Areas of focus will be to extend the K2 structure both down dip and along strike to the north. Drilling will also focus on infilling areas of the resource to improve confidence. As Well as grade control drilling in certain areas to build of data collected from development face sampling and assist in production. ▪ Drilling is continuing to the south towards the Pope John fault and historic Strzelecki workings. Drilling will also focus on infilling areas of the resource to improve confidence.

JORC Code, 2012 Edition – Table 1 Report
Kalgoorlie Regional Exploration – 5 February 2020
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. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1m samples from which 3kg was pulverised to produce a 30g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.	▪ Sampling was completed using Reverse circulation (RC) and Diamond drilling (DD). ▪ Diamond core was transferred to core trays for logging and sampling. Half core or full core samples were nominated by the geologist from HQ diamond core, with a minimum sample width of 30cm and a maximum width of 100cm. ▪ Sample widths honour lithological, alteration and structural boundaries unless shorter than the minimum 30cm. ▪ Diamond samples were transported to various analysis laboratories in Kalgoorlie for preparation by drying, crushing to <3mm, and pulverizing the entire sample to <75µm. ▪ RC samples were split using a rig-mounted cone splitter on 1m intervals to obtain a ~3kg sample for assay, a ~5kg sample for back up (e.g. duplicate in case of grade intersection) and a pile of dirt disposed on the ground. The 1m samples of ~3kg were immediately submitted for assay. ▪ 300g Pulp splits were analysed in laboratories in both Kalgoorlie and Perth for 50g Fire assay charge and AAS analysis for gold.
Drilling techniques	Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).	▪ Diamond holes were drilled as HQ (core diameter = 96mm). ▪ Core was orientated using an electronic 'back-end tool' core orientation system. ▪ RC Drilling was completed using a 5.75" drill bit, downsized to 5.25" at depth.

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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. Measures taken to maximise sample recovery and ensure representative nature of the samples. 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.	▪ 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. ▪ Recovery was excellent for diamond core and no relationship between grade and recovery was observed. ▪ RC drilling contractors adjust their drilling approach to specific conditions to maximize sample recovery. Sample recovery may be poor at the beginning of RC drill holes, this is normal for this type of drilling in the overburden. Good recovery is qualitative monitored and sample split weights are measured using scales and samples are kept dry in fresh rocks where possible. Partial resampling may be performed if holes show poor recovery and wet samples to assess if any grade had been impacted. This resampling may involve pick up of primary ~5kg field duplicate samples and rifle split of dirt piles sitting on the ground where the recovery of the primary field duplicate was insufficient. ▪ Moisture content and sample recovery is recorded for each RC sample.
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. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography. The total length and percentage of the relevant intersections logged.	▪ All diamond core is logged for regolith, lithology, veining, alteration, mineralisation and structure. Structural measurements of specific features are taken through oriented zones. All logging is quantitative where possible and qualitative elsewhere. A photograph is taken of every core tray. ▪ All data for diamond and RC was recorded digitally.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all sub-sampling stages to maximise representivity of 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. Whether sample sizes are appropriate to the grain size of the material being sampled.	▪ The regolith of the diamond core was whole-core sampled. ▪ All diamond core that was half-core sampled was cut longitudinally with an automated core saw. ▪ Sample preparation was conducted at various laboratories in Kalgoorlie, commencing with sorting, checking and drying at less than 110°C to prevent sulphide breakdown. Samples are jaw crushed to a nominal -3mm particle size. ▪ For fire assay analysis the entire crushed sample is then pulverized to 90% passing 75µm, using a Labtechnics LM5 bowl pulveriser. 300g Pulp subsamples are then taken with an aluminium scoop and stored in labelled pulp packets. ▪ For Photon Assay (PA) analysis a 500g subsample is taken from the crushed material and stored in a labelled jar. ▪ Grind checks are performed at both the crushing stage (3mm) and pulverising stage (75µm), requiring 90% of material to pass through the relevant size to ensure consistent sample preparation. ▪ Photon Assay (PA) analysis or Screen Fire Assay (SFA) was completed on selected samples where coarse visible gold was observed in the core.

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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. 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. 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.	▪ Routine samples are assayed with fire assay. ▪ A 40-50g fire assay charge is used with a lead flux, dissolved in the furnace. The prill is totally digested in HCl and HNO3 acids before Atomic Absorption Spectroscopy (AAS) determination for gold analysis. This method ensures total gold is reported appropriately. ▪ Where coarse gold is encountered 1kg Screen Fire Assay or Photon Assay methods are used to mitigate the effect of nuggety gold. Higher grade intersections at Triumph used Screen Fire Assay for the reported result. ▪ Photon Assay (PA) analysis involves alternately activating the sample using high power X-ray source and measuring the signal from the excited gold atoms. ▪ No geophysical tools were used to determine any element concentrations. ▪ 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 scrutinised and re-assayed with a new CRM if the failure is deemed genuine. ▪ Blanks are inserted into the sample sequence at a rate of 1 per 20 samples. Failures above 0.2g/t are scrutinised, and re-assayed if required. New pulps are prepared if failures remain. ▪ All sample QAQC results are assessed by geologists to ensure the appropriate level of accuracy and precision when the results have been returned from the laboratory.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. Discuss any adjustment to assay data.	▪ All significant intersections are verified by the senior geologist during the drill hole validation process. ▪ No holes were twinned as part of the programmes in this report. ▪ Geological logging was captured using Acquire database software. Electronic copies of these are stored. Assay files are received in csv format and loaded directly into the database by the supervising geologist who then checks that the results have been inserted correctly. Electronic copies of these are also kept. 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. Specification of the grid system used. Quality and adequacy of topographic control.	▪ A planned hole is pegged using a GPS by the field assistants for surface holes. ▪ During surface diamond hole drilling continuous gyroscopic surveys are conducted at 0m and then every 30m down hole to design depth to ensure the hole remains close to design. ▪ The final hole collar for each diamond hole is picked up after drillhole completion by DGPS in the MGA94_51 grid for surface holes. ▪ Good quality topographic control has been achieved through regional topographic maps (±2.5m) based on photogrammetry data.
Data spacing and distribution	Data spacing for reporting of Exploration Results. 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. Whether sample compositing has been applied.	▪ Early stage diamond drilling is variably spaced to effectively test the desired target. Spacings of the regional drilling programmes range from 80m apart through to several hundred metres apart through to isolated single drillholes in some cases. These variable spacings are considered appropriate for early-stage testing of exploration targets. ▪ No compositing has been applied to these exploration results, although composite intersections are reported.
Orientation of data in relation to geological structure	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. 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 is oriented as close as practical to perpendicular to the target structures. Drill holes are only designed where meaningful intercept angles can be achieved. ▪ No sampling bias is considered to have been introduced by the drilling orientation. ▪ The targeted Triumph lode is sub-horizontal and near perpendicular intercepts are generally able to be achieved. ▪ The targeted Carbine-Phantom lodes dip moderately to the east and drill angles from surface are good.
Sample security	The measures taken to ensure sample security.	▪ Prior to laboratory submission samples are stored by Northern Star in a secure yard. Once submitted to the laboratories they are stored in a secure fenced compound and tracked through their chain of custody via audit trails.

APPENDIX 3 – TABLE 1

Criteria	JORC Code Explanation	Commentary
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	▪ No audits or reviews have recently been conducted on sampling techniques, however lab audits are conducted on a regular basis.

JORC Code, 2012 Edition – Table 1 Report
Kalgoorlie Regional Exploration – 5 February 2020
Section 2 Reporting of Exploration Results

(Criteria 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 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 drillholes mentioned in this report are located on mining leases ▪ Other prospects mentioned are on prospecting or exploration leases and some freehold land ▪ All applicable mining tenure is wholly owned by Norther Star Resources and all tenements are in good standing.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	▪ Triumph - Exploration work in the Triumph area first commenced during 1986 by Newmont Australia Limited, whom confirmed the Triumph Gabbro to be stratigraphically similar to the Golden Mile and Junction Dolerites during 1989. Further exploration work conducted by Newcrest (1997), Harmony (2003), AVO (2013) and Northern Star Resources (2019). ▪ Carbine-Phantom – The Carbine area has been explored since the late 1800's. Numerous companies, including BHP, Newcrest, Centaur Mining, Goldfields Exploration, Placer Dome and Barrick have been active in the area.
Geology	Deposit type, geological setting and style of mineralisation.	▪ Triumph – Quartz veining hosted in a differentiated dolerite sill that is a Golden Mile Dolerite equivalent within the Black Flag Group Sediments. ▪ Carbine-Phantom – Mineralisation is shear hosted mineralisation associated with or directly hosted with the Carbine Thrust as major splay off the Zuleika Shear.
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. 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.	▪ Refer to the various tables listed separately. ▪ Exploration results that are not material to this report are excluded for some drill programmes.
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.	▪ Drill results are reported as aggregates across the target zone. ▪ Aggregate intercepts only use low grade results where such inclusion results in grades and thicknesses consistent with realistic mining widths. ▪ No metal equivalents are used.

APPENDIX 3 – TABLE 1

Criteria	JORC Code Explanation	Commentary
	Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. The assumptions used for any reporting of metal equivalent values should be clearly stated.	
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. 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 early nature of both projects, downhole widths are reported, however the intercept angle for Triumph is near perpendicular and most intercepts are close to true width. ▪ Downhole widths are clearly stated as such when 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.	▪ Refer to the figures the body of this report for the spatial context of all holes planned and drilled to date.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	▪ Exploration results that are not material to this report are excluded for some drill programmes.
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 drill program.
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). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	▪ Work is progressing on both the Triumph and Carbine-Phantom projects. ▪ further drilling is planned for both projects

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