

ASX Release 17 November 2016

HIGH GRADE GOLD IN UNDERGROUND SAMPLING RESULTS FROM MORNING STAR AND ROSE OF DENMARK

Mantle Mining Corporation Limited (ASX: MNM) ('Mantle' or 'the Company') provides the following update relating to previously unreleased underground sampling results from the Morning Star and Rose of Denmark gold mines in eastern Victoria.

Highlights

- Over 1,150 previously unreported samples reinforce the existence of high grade gold mineralisation yet to be mined from Morning Star, Rose of Denmark and other sites within Mantle's significant tenement holding in the region
- Results of these samples include:
 - 1.4 metres at 87.8 g/t gold from the area of recent trial mining at the Rose of Denmark
 - 2.3 metres at 28.4 g/t gold and 1.2 metres at 33.3 g/t gold from the area of intersection of the Maxwells and Stones reefs
 - 0.7 metres at 93.5 g/t gold from the Maxwell's reef
 - o 0.1 metres at 364.1 g/t gold from the Burns reef
- The samples were collected in 2012 but never reported they are now being incorporated into the already extensive drilling and sampling database as part of the ongoing Morning Star data compilation
- This new dataset further supports Mantle's confidence in the potential of its Victorian gold
 assets, and is contributing to an improved geological model which will be used to prioritise
 planning for the eventual reopening of the Morning Star and Rose of Denmark mines

"These new results continue to show the existence of high grade gold mineralisation that is accessible to mining at our Morning Star Project," said Dr Rick Valenta, Executive Director of Mantle Mining.

"Our detailed and meticulous geological work on the Morningstar deposits over just the past two months has advanced the prospectivity and in turn prioritised these two mines for development. Our ongoing compilation and analysis of data is continuing to unearth datasets and other information to aid this objective of prioritisation of mining areas in the deposits. The samples reported here were originally collected in order to optimise mining of high grade gold in the deposits, however the mine ceased operations before this information could be acted on."

New Underground Sampling Results

A large proportion of the underground samples collected during late 2011 and 2012 at Morning Star and Rose of Denmark were never compiled into the mine database. The bulk of the samples are underground face samples, with 142 samples coming from Rose of Denmark and 871 samples coming from the Morning Star mine. Some of the more notable samples are summarised in Table 1. The locations of the reefs mentioned in Table 1 are shown in Figure 1, with representative underground photos shown in Figure 2. High grade face samples have been returned from all of the main reefs. In addition to the samples listed in Table 1, notable grab samples include 1,341g/t gold in U9056 from Burns Reef, and 207.1g/t gold in U8525 from Maxwells Reef.

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Table 1 – Selected 2012 underground sampling results

Sample Number	Sample Type	Mine	Reef	Sample Width	Au (g/t)
U8301	Channel	Rose of Denmark	Trial Stope 1	1.4	87.8
U8324	Face	Morning Star	Maxwells	0.7	93.5
U8963	Face	Morning Star	Maxwell/Stones intersection	2.3	28.4
U8692	Face	Morning Star	Maxwell/Stones intersection	1.2	33.3
U8600	Face	Morning Star	Burns	0.1	364.1
U8961	Face	Morning Star	Maxwells/Stones	2.3	15.4
U8950	Face	Morning Star	Tills	0.3	111.7
U9026	Face	Morning Star	Burns	0.3	82
U8479	Face	Morning Star	Maxwells	0.3	79.1
U8868	Face	Morning Star	Burns	0.3	76.5
U8687	Rockchip	Morning Star	Unnamed Reef	0.8	26.1
U9038	Face	Morning Star	Tills	0.3	67.6
U8738	Face	Morning Star	Stones/ Tills Upper Intersection	0.6	24.7
U9174	Face	Morning Star	Tills	0.5	27.2
U8394	Face	Morning Star	Stones	0.7	17.8
U9000	Face	Morning Star	Maxwell/Stones intersection	0.4	30
U8793	Rockchip	Morning Star	Unnamed Reef	0.4	29.2
U9129	Face	Morning Star	Burns	0.15	77.4
U8890	Face	Morning Star	Tills	0.4	28.6
U8363	Face	Morning Star	Maxwells	0.7	13.7
U8405	Face	Morning Star	Kennys	0.2	46.5
U8903	Face	Morning Star	Burns	0.3	28.7
U8913	Face	Morning Star	Burns	0.12	70.3
U8939	Face	Morning Star	Burns	0.15	52.2
U8575	Face	Morning Star	Burns	0.1	76.6
U9087	Face	Morning Star	Tills	0.3	24.6
U8488	Face	Morning Star	Maxwells	0.2	36.7
U8560	Face	Morning Star	Maxwell/Stones intersection	0.6	10.6
U8391	Face	Morning Star	Dickensons	0.6	10.3
U8859	Face	Morning Star	Burns	0.1	60
U9002	Face	Morning Star	Maxwells/Stones	0.3	18.8
U8753	Face	Morning Star	Stones	0.4	13.3
U8999	Face	Morning Star	Maxwells/Stones	0.4	11.5
U8686	Rockchip	Morning Star	Unnamed Reef	0.3	15.3
U8672	Face	Morning Star	Maxwell/Stones intersection	0.3	13.8
U8985	Face	Morning Star	Burns	0.25	16.5
U8871	Face	Morning Star	Burns	0.3	13.2
U9095	Face	Morning Star	Burns	0.15	26.3
U8730	Face	Morning Star	Dickensons/Shamrock intersection	0.35	10.4
U9222	Face	Morning Star	Tills	0.3	11.8
U9081	Face	Morning Star	Burns	0.25	10.6

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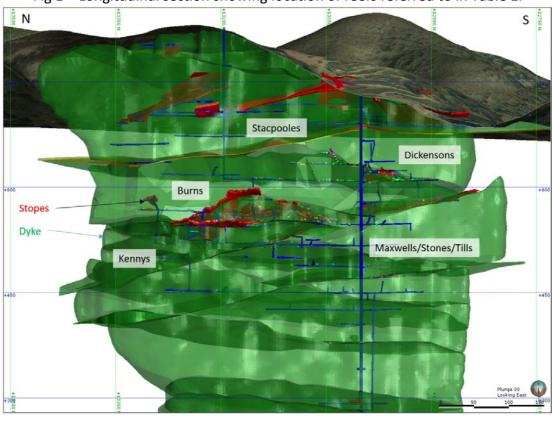
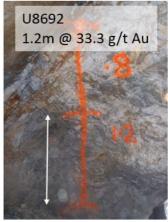
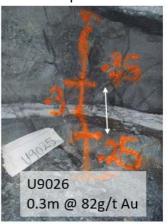


Fig 1 – Longitudinal section showing location of reefs referred to in Table 1.

Fig 2 – selected photos of underground samples. White arrows show sample location.













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Ongoing development of Morning Star

The company is continuing a comprehensive review of the Morning Star mine and broader tenement area, with a view to identifying the highest priority reefs and approaches to expedite a return to production for the Morning Star Mine and associated deposits. A full data compilation and review is under way, along with a structural reinterpretation of the mine in order to best align the identification of high priority mining areas with knowledge and understanding of the geological controls on high grades in the deposit. Concurrently, a program of underground sampling is commencing in areas which are currently accessible.

About Mantle Mining:

Mantle is focused on the return to production of the Morning Star mine - an advanced high-grade gold exploration play, with significant infrastructure, tenement footprint and prospectivity, well positioned for near-term trial mining.





Mantle's Gold Projects

Mantle's Morning Star Gold Mine

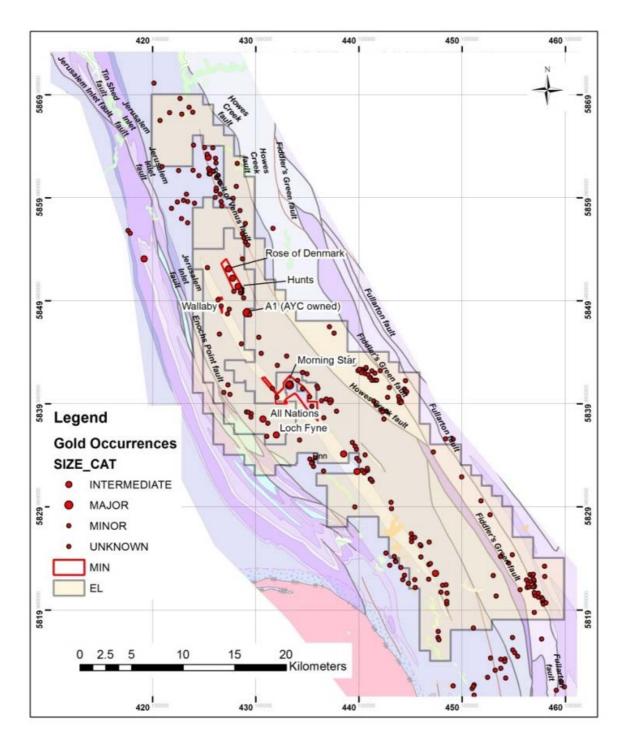
The Morning Star Gold Mine has, by historical production, displayed potential to deliver low cost, high grade gold production upon which to found major corporate expansion.

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Location of Mantle's Tenements and main targets in the region, including the location of both the Morning Star and Rose of Denmark mines

Competent Persons Statement:

The information in this report that relates to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Dr Richard Valenta, Executive Director of Mantle Mining Corporation Ltd. Dr Valenta is a Fellow of the Australasian Institute of Mining and Metallurgy and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Dr Valenta consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

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Table 2. Additional location information for reported samples

Sample Number	Mine	Reef	Level	Location
U8301	Rose of Denmark	Trial Stope 1	Adit	Trial Stope 1
J8324	Morning Star	Maxwells	8L Sub	Slot 3
J8963	Morning Star	Maxwell/Stones intersection	8Sub	Maxwell/Stones East Drive
J8692	Morning Star	Maxwell/Stones intersection	8L Sub	Slot 3 North Wall
J8600	Morning Star	Burns	6L	6 Inter Burns stope resample
J8961	Morning Star	Maxwells/Stones	8Sub	Maxwell/Stones East Drive
J8950	Morning Star	Tills	8L	Historical stope rise
J9026	Morning Star	Burns	6L	Bay 4
J8479	Morning Star	Maxwells	8L Sub	Slot 4 South Wall
J8868	Morning Star	Burns	6L Burns	Bay 1
J8687	Morning Star	Unnamed Reef	3L Sub Sth	Sample Station 10
J9038	Morning Star	Tills	8L Tills	South face
J8738	Morning Star	Stones/ Tills Upper Intersection	8L	Restricted area resample
J9174	Morning Star	Tills	8L	South Drive
J8394	Morning Star	Stones	8L Sub	Slot 3
J9000	Morning Star	Maxwells/Stones	8Sub	8 Sub South Drive
J8793	Morning Star	Unnamed Reef	3L Sub2	Sample Station 14
J9129	Morning Star	Burns	6L	Bay 2
J8890	Morning Star	Tills?	8L	South Drive
J8363	Morning Star	Maxwells	8L Sub	Slot 3
J8405	Morning Star	Kennys	7L Sub	West Wall
J8903	Morning Star	Burns	6L	Bay 3
J8913	Morning Star	Burns	6L	Burns Bay 1
J8939	Morning Star	Burns	6L	Bay 1
J8575	Morning Star	Burns	6L	6 Inter Burns stope resample
J9087	Morning Star	Tills	8L Tills	South drive
J8488	Morning Star	Maxwells	8L Sub	Slot 4 North wall
J8560	Morning Star	Maxwell/Stones intersection	8L Sub	Slot 4
J8391	Morning Star	Dickensons	3L Sub	Slot 6
J8859	Morning Star	Burns	6L	Burns Stope - Bay 1
J9002	Morning Star	Maxwells/Stones	8Sub	8 Sub South Drive
J8753	Morning Star	Stones	8L Sub	Stones Stope Nth
J8999	Morning Star	Maxwells/Stones	8Sub	8 Sub South Drive
J8686	Morning Star	Unnamed Reef	3L Sub Sth	Sample Station 9
J8672	Morning Star	Maxwell/Stones intersection	8L Sub	Slot 4
J8985	Morning Star	Burns	6L	Burns Stope - Far South
J8871	Morning Star	Burns	6L Burns	·
				Bay 1
J9095	Morning Star	Burns Dickensons/Shamrock	6L	Bay 1
J8730	Morning Star	intersection	3L Sub-Sub	Pillar Shamrock (front)
J9222	Morning Star	Tills	8L	South Drive South Face
J9081	Morning Star	Burns	6L	Bay 1

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Appendix One

The following sections are provided to ensure compliance with the JORC (2012) requirements for the reporting of new drill and sampling results for the Morning Star, Rose of Denmark and the other identified deposits.

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	
Sampling techniques	 Nature and quality of sampling (eg 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. 	 The Morning Star deposit has been sampled by a mixture of diamond drill holes and underground face sampling. Detailed analysis has been carried out regarding the disparity between drilled gold grades and those associated with bulk sampling and production data, the later which are generally significantly higher than overlapping drill results Drill core is cut in half using a diamond saw (100% of core recovered) and half of the core is submitted for analysis. Sample intervals are generally based on lithology, as the mineralisation consists of multiple narrow veins within a diorite host. Samples can be as narrow as 10 cm, but are generally from 30cm to 1m. Face samples were taken with hammer and chisel. Vein material generally breaks away easily from the diorite host rock. Zones of mineralisation defined by epithermal veining and brecciation, plus or minus sulphides or iron oxides after sulphides, are sampled separately. The underestimation of gold grades in drilling in comparison to face sampling data and production data at Morning Star has been well documented (eg Goodz et al, 2008 – "Resource Estimation and Grade Assignment – A Comparison Between Historical Production and Current Maxwell Mining Validation Case Study at Morning Star Gold Mine, Woods Point")
Drilling techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	 The Morning Star deposit has been an operating mine since the late 1800's. The bulk of the drilling was carried out by Gold Mines of Australia and subsequent operators, Short underground drillholes tend not to have survey information, but longer drillholes have surveys every 100ft (30m approx) Core orientations were not measured. Most of the drilling was carried out by company staff using company-owned drill rigs Approximately 467 diamond drillholes exist in the Morning Star drillhole database
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 	 The core is marked up and measured by senior field assistants and geologists. Core recovered (CR) is compared with the metres drilled (MD, recorded by the drillers in their 'run sheets') and a 'core recovery' percentage is calculated; CR/MD x 100 = % recovered. For the face sampling it is difficult to accurately measure recovery, but it is estimated that >90% of the sample is recovered.

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Criteria	JORC Code explanation	Commentary
	preferential loss/gain of fine/coarse material.	
Logging Sub-sampling	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. If core, whether cut or sawn	 Logs exist for all of the drillholes on the property. The long history of Mining and Exploration on the property has led to multiple sets of log codes, and the company is currently standardising this information The logging describes the dominant and minor rocktypes, colour, mineralisation, oxidation, alteration, vein type, core recovery, basic structure (hardness has not been logged). Some geotechnical logging has taken place, though in most cases the existence of extensive underground development has meant that geotechnical work has been more focused on underground exposures Core is sawn in half and one half (50%) is submitted for analysis.
techniques and sample preparation	 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 50% sampling of the core is considered appropriate for the mineralisation type; Core samples were assayed at the Gekko laboratory located in Ballarat, and at Onsite labs in Bendigo
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 (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	 A blank sample, a standard sample and a duplicate sample are randomly inserted for approximately every 20 samples that are submitted. Analyses at Onsite labs were by 25g fire assay, and analyses at Gekko labs were by 50g fire assay. Both techniques are considered appropriate for this style of deposit

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Criteria	JORC Code explanation	Commentary
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. 	 Higher sample values are subjected to re-assay All reported data was subjected to validation and verification prior to release
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 holes were picked up by surveyors The coordinates used are a local mine grid, rotated 48 degrees counterclockwise from true north The topography control is of a high standard
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. 	 Drilling has been carried out in fans from underground drill cuddies. Reported drill holes are spaced at approximately 20 metres Larger reefs are relatively continuous over large distances, though smaller reefs can be more discontinuous The traditional approach in mining at Morning Star has been to use drilling to establish the width and position of mineralised structures, and to place more emphasis on underground sampling for establishment of gold grade Sample compositing has not 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. 	 The drilling has been targeted to intersect mineralised veins at a steep angle, although some oblique holes have been drilled due to the locations of available drill sites. However, this has been taken into account in such a way as to eliminate sampling bias. No significant sample bias based on drill hole orientation is noted
Sample security	The measures taken to ensure sample security.	The chain of custody for samples was managed by Morning Star Gold NL, with an established set of procedures designed to maintain sample security
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No independent review has been undertaken of the announced drill results

Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement	Type, reference name/number, location and ownership including agreements or	 The Morning Star mine is located wholly within MIN5009. MIN5009 is 100% held by Morning Star Gold NL, in turn held 95% by Mantle

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Criteria	JORC Code explanation	Commentary
and land tenure status	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.	 There is a 1% Gross Sales Royalty for the first 5 years from first production The assets were acquired from receivers in 2015, under a deal involving stages cash payments of \$3.75m, of which \$2m is still pending The Morning Star mine is located approximately 90km southeast of Mansfield in Eastern Victoria, near the town of Woods Point. The Rose of Denmark lies wholly within MIN5299 and is 49% held in JV with Shandong Tianye
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	 The Morning Star Gold mine has been intermittently active since 1861, with a large number of owners and operators. The mine was operated by Gold Mines of Australia between 1930 and 1960, and then briefly operated by Morning Star Gold Mines NL until 1963. Production up to that point has been variably estimated to be between 630,000 and 830,000 oz Au at grades from 25-30 g/t Au. Mount Conqueror acquired the asset in 1993 and carried out exploration development under that name and then subsequently under the name of Morning Star Gold. The company went into suspension in June 2012 and receivership in 2014 There are historical workings of unknown age with open stopes and inclined shafts and drives in and around the mineralised quartz veins. The workings do not exceed a depth of ~20m.
Geology	Deposit type, geological setting and style of mineralisation.	 The project area lies within the Woods Point – Walhalla Synclinorium structural domain of the Melbourne zone, a northwest-trending belt of tightly folded Early Devonian Walhalla Group sandy turbidites. The domain is bounded by the Enoch's Point and Howe's Creek Faults, both possible detachment-related splay structures that may have controlled the intrusion of the Woods Point Dyke Swarm and provided the conduits for gold-bearing hydrothermal fluids. The local structural zone is referred to as the Ross Creek Faults Zone (RCFZ) Most gold mineralisation in the Woods Point to Gaffney's Creek corridor occurs as structurally-controlled quartz ladder vein systems hosted by dioritic dyke bulges. Morning Star is the classic example of this mineralisation style.
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:	Refer to tables 1 and 3

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Criteria	JORC Code explanation	Commentary
Data aggregation methods	 In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg 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. 	 In all previous ASX releases the assays are given 'un-cut' unless otherwise stated & weighted averaging of results is used: in which the average grade is the sum of the products of length and grade for each sample in the interval, divided by the total length of the interval. A nominal cutoff of 1g/t is used for identification of potentially significant intercepts for reporting purposes. Most of the reported intercepts are shown in sufficient detail, including gold maxima and subintervals, to allow the reader to make an assessment of the balance of high and low grades in the intercept. Metal equivalents are not used.
Relationship between mineralisatio n 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. 	 Mineralised structures at Morning Star are variable in orientation, and therefore drill orientations have been adjusted from place to place in order to allow intersection angles as close as possible to true widths. Exploration results have been reported as an interval with 'from' and 'to' stated in tables of significant economic intercepts. Tables clearly indicate that true widths will generally be narrower than those reported. An estimate of true width can be made based on the known strike
	If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').	of mineralised quartz veins or quartz breccias, although it should be noted that these features are not absolutely planar and anastomosing does occur, with variable strike and dip.
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.	See Tables 2 and 4 and figures 1 to 6
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.	 Every drillhole completed on the property has been reported, regardless of whether it has returned high or low grades. Higher grade drillholes are reported with significant detail, while lower grade drillholes generally have fewer reported intercepts. Holes with no economically significant intercepts are reported as such in each release of results, with the label "No Significant Intercept".
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	Results of an ongoing structural reappraisal of the mine are presented in some of the diagrams in this release

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Criteria	JORC Code explanation	Commentary
	density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	
Further work	 The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale stepout 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 exploration drilling from surface and underground is planned, along with face sampling in order to gain confidence regarding grades

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.) Section 3 does not pertain to this report.

Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.) Section 4 does not pertain to this report.

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