

ASX Release 7 December 2017

UPDATE - ROSE OF DENMARK GOLD MINE

Mantle Mining Corporation Limited (ASX: MNM) ('Mantle' or 'the Company') provides the following update:

Highlights

- Rose of Denmark ('RoD') is a key part of the Company's strategy to develop a second potential source of accessible high grade ore to complement the Company's development at its Morning Star gold mine
- Extensive data review, geological mapping and sampling work on RoD completed
- New geological theory identified for the structural controls of gold mineralisation:
 - A significant sandstone structure surrounds the dyke (which hosts the gold mineralisation) enabling the formation of the dyke bulge
- This theory has assisted in the identification of planned drill targets and the drill program design which has been completed
- Discussions continue with Shandong/Minjar regarding their continued future involvement

CEO Mr Tom de Vries said "As previously announced, the Rose of Denmark gold mine is an important part of the Company's strategy to explore and develop additional ore supply for future production. Furthermore, trial mining by the previous operator showed that the Rose of Denmark ore was able to be processed through our Morning Star processing plant without modification.

"The identification of a new theory regarding the structure and geological controls at the Rose of Denmark mine is both an exciting development and a key factor in proceeding with exploration drilling and defining any potential ore body.

"Further targets have been identified as part of our geological mapping project and this work will now be extended to other projects in the Company's extensive tenement area."

Background

As noted in the Company's ASX Release dated 18 October 2017, the Company is in a joint venture on MIN 5299 (including the Rose of Denmark mine) with Shandong Tyan Home Co Ltd via its wholly owned subsidiary, Minjar Gold Pty Ltd.

The Rose of Denmark gold mine is located 12 Km from Woods Point, the location of the high-grade Morning Star gold mine and processing plant. Situated on the same line of workings and just north of the A1 mine operated by Centennial Mining Limited (ASX:CTL), it has a style of mineralisation possibly amenable to mechanised mining similar to that conducted at the A1 mine (to be confirmed by diamond drilling).

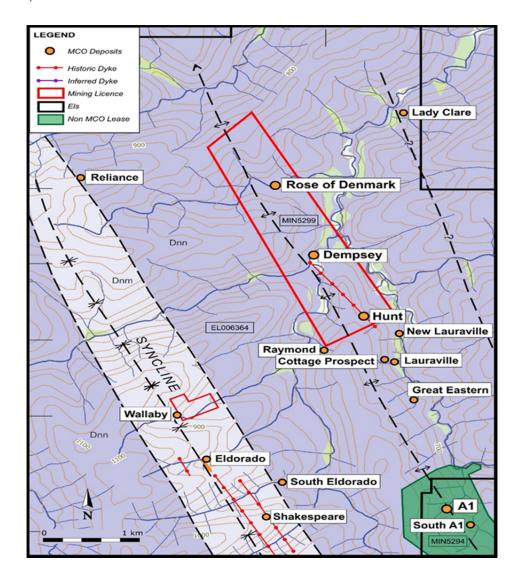
The Rose of Denmark gold mine represents a second potential source of easily accessible ore and an independent source of secondary plant feed for the Morning Star processing plant, which has

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been shown by prior operators to be capable of processing ore without modification. A recently refurbished 500m long by 2.4m by 2.8m wide adit at the Rose of Denmark mine provides access to the mine and is driven on the main gold-bearing mineralisation.

Figure 1 The Company's MIN 5299 tenement, showing the Rose of Denmark mine, which is on the same line of workings as the A1 Mine and other deposits.



Prior Development

The Rose of Denmark adit had been developed along a north south steeply dipping dyke vein for over 500m in length and is wide enough to accommodate mechanised mining equipment. The dyke maintains a width of between 1.5m to 2m for approximately 300m where previous mine operators encountered a dyke bulge with the dyke blowing out to more than 25m in width.

With strong gold grades encountered in the adit some 50m before the bulge, a winze was developed to follow the higher grade ore. This led the original miners to set up an engine room and to sink a shaft to a depth of 200m in the bulge. They then mined approximately 42,000 tonnes for 20,000 Oz gold in and around the keel of the dyke bulge – equating to a gold grade of approximately 15 g/t. The adit was subsequently pushed further north past the dyke bulge but failed to encounter economic mineralisation thereafter. Mining ceased in 1920.

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Morning Star Gold NL ('MSG') opened the adit in 2010, bypassed several blockages and commenced an underground drilling program. This work revealed an immediate bulk sample trial mining target subject to drilling with minimal start up effort. MSG mined and processed a bulk sample of approximately 300 tonnes through the existing process plant in Woods Point in early 2012, which reportedly averaged 8 g/t gold.

Recent Data Review, Mapping and Sampling

The Company recently completed a detailed data review, geological mapping and sampling program at the Rose of Denmark mine, to gain an understanding of the controls on mineralisation, particularly in the immediate 20-30m zone above and below the adit, as well as to determine other potential targets nearby. This information has enabled the design of a targeted diamond drilling program that is now underway.

In addition, the Company's expanded geological team has a new theory that a significant sandstone structure surrounding the dyke (which hosts the gold mineralisation) has enabled the formation of the dyke bulge, as explained below.

The mapping program has identified a steeply plunging, tightly folded syncline and anticline with the dyke hosted in the anticlinal hinge (Refer to Figures 2 and 3).

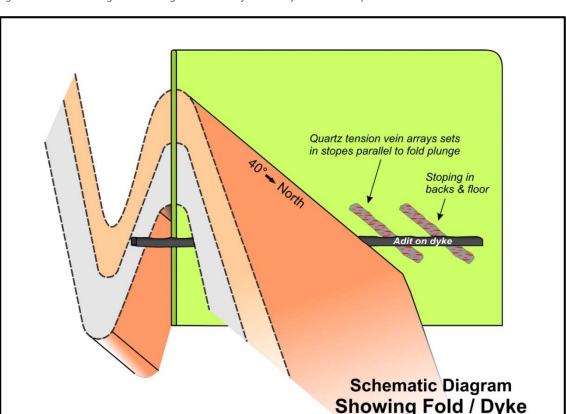


Figure 2 Schematic diagram showing the anticline fold and dyke relationship

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Relationship and Stoping Orientations



The Walhalla group sediments are predominately thinly bedded silty sands and muds, where the changing bedding planes have caused strong lineations (or corrugations) on the dyke contact and which have caused significant tension veining to be formed during subsequent movement (refer Photo 1). Within the stoped areas, strong wall lineations are apparent which influence the gold bearing Tension Veins Arrays (TVA's) throughout the dyke (refer Photo 2).

The higher-grade ore shoots were clearly identified by the early miners who exploited these zones in the mine to achieve better than 8 g/t head grades above the adit and averaged 15g/t for the mined tonnage associated with the dyke bulge.

Photo 1 Tensional veining on the west wall of Rose of Denmark adit



Photo 2 Steep plunging bedding dyke intersection lineations in the west wall of RoD adit



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Mapping has identified a significant massive sandstone unit as the dyke bulge is approached and it is apparent that this unit would not be folded like the thinly bedded sediments adjacent. It is postulated that this has created a significant space under the massive unit which has allowed the dyke bulge to form (refer Figures 2 and 3). Additionally, it can be seen from Figure 2 that the bulge plunges north at the same orientation as the sediments.

The adit continues past the engine room to the north for approximately 300m. Development ceased at this point and very little mining has occurred north of the dyke bulge.

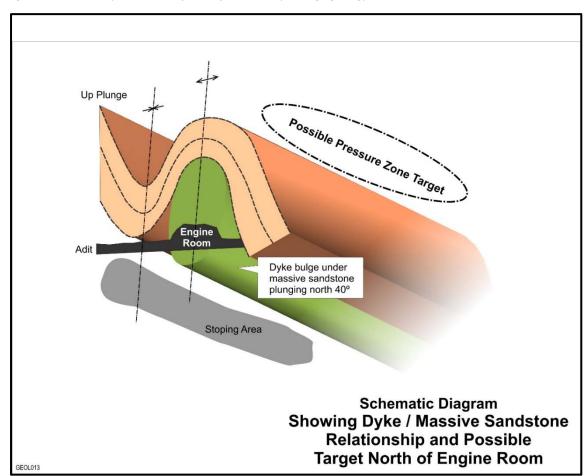


Figure 3 Schematic representation of Rose of Denmark dyke bulge geology

Mineralisation:

The gold and sulphide mineralisation encountered in the Rose of Denmark mine is anecdotally quite coarse and is consistent with historical records of other mines in the district. Chip sample values have been erratic and from past programs ranged from 0.1 g/t to 800 g/t. Trial mining is required to better define the gold grade.

Conclusion

The Company's geological team has identified key controls on the mineralisation at the Rose of Denmark mine. This has enabled the identification of immediate exploration targets, which can be tested by a diamond drill program, the design of which has been completed by the Company's geological team.

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About Mantle Mining:

Mantle is focused on the return to production of the Morning Star mine - an advanced high-grade gold project, with significant infrastructure including processing plant, a strategic tenement footprint, and prospectively, well positioned for near-term trial mining.

In addition, Mantle intends to develop its adjoining tenements in the Walhalla to Jamieson gold district (particularly the prolific Woods Point Dyke Swarm) into low cost high grade gold production projects.

For Further Information:

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Competent Persons Statement:

The information in this report that relates to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by John Cahill Bsc Geol MAIG. John Cahill is a member of the Australian Institute of Geoscientists (AIG) 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". John Cahill 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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Appendix One

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 (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.	 Face samples at the Rose of Denmark were taken with hammer and chisel and scaling bar. Vein material is hard and difficult to easily obtain material. No chip and face sampling results are included in this release. 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") Similar work is to be carried out at the Rose of Denmark. Gold is very coarse and nugget with the Morning Star Gold company reporting fluctuating results in 2012.
Drilling techniques		Drilling is to be by diamond coring utilizing LTK 60 (NQ) sized drillcore
Drill sample recovery		• N/A
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	• N/A

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Criteria	JORC Code explanation	Commentary
	or quantitative in nature. Core (or costean, channel, etc) photography. The total length and percentage of the relevant intersections logged.	
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 	• N/A
Quality of assay data and laboratory tests	 the material being sampled. 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. 	N/A
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. 	• N/A

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Criteria	JORC Code explanation Commentary
Location of data points	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.
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. N/A
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.
Sample security	The measures taken to ensure sample security. N/A
Audits or reviews	The results of any audits or reviews of sampling techniques and data. N/A

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 Rose of Denmark lies wholly within MIN5299 and is 49% held in JV with Shandong Tianye

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Criteria	JORC Code explanation	Commentary
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	 The Rose of Denmark mine was reopened by Morning Star Gold in 2011 – 2012. The original adit was stripped out to ~2m in width over 300m in length. Limited mapping and channel sampling was undertaken and results have been reported previously. A drilling program was commenced but was cut short by lack of funds in 2012. This drilling is also being assessed currently and results will be included in mantles ongoing work.
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. Rose of Denmark is typical of the districts 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:	• N/A
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. 	• N/A

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Criteria	JORC Code explanation	Commentary
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. 	• N/A
	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').	
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	Diagrams are schematic representations of observed field geology and are interpretive in nature.
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.	• N/A".
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	Results of an ongoing geology and structural interpretations of the mine are presented in some of the diagrams in this release
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. 	Exploration drilling from underground is planned, along with further face and bulk sampling in order to gain confidence regarding grades

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Section 3 Estimation and Reporting of Mineral Resources

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