

## JUNE 2016 QUARTERLY ACTIVITIES REPORT

Mantle Mining Corporation Limited (ASX: MNM, Mantle or the Company) is pleased to provide the following update on its activities for the quarter ended 30 June 2016.

### Highlights:

- **A major strengthening of the Board has been undertaken and key management restructured and streamlined to most effectively support operations,**
- **Norton Gold Mine development activities have been substantially advanced;**
  - A Bulk sampling program was completed and detailed definition and engineering design for process plant specification advanced,
  - Site services, offices, ablutions and other essential site infrastructure mobilised,
  - Engineering design for Water Storage Facility (WSF) and Tails Storage Facility (TSF) initiated along with major hazard management system development.
- **Morning Star Gold NL acquisition has been completed, first payments made, and the site taken over. Major activities commenced to return the mine to “production ready”;**
  - Mine redevelopment plans have been detailed out and site works advanced,
  - A detailed geologic database has been developed and 3D modelling is ongoing focussing on “Whole of Mine” for Resource base update with specific definition of, and focus on, the first target mining area – Donaldsons zone.

### Mantle’s Managing Director, Ian Kraemer, noted;

“The last 3 months have been an extremely exciting time for the Company. The Board has been substantially strengthened and senior management reorganised and streamlined to provide efficient and effective corporate services in support of our progress toward gold production.”

“Final process plant definition design and pre-construction activities have been accelerated at the Norton Gold Mine, the Morning Star mine acquisition process completed and the first two payments made. The Morning Star mine site has been taken over and detailed plans initiated with site works ongoing to progressively bring this major opportunity back into gold production.”

***Strengthening the Board:***

In preparation for Mantle's emergence as Australia's newest gold producer a number of improvements to Mantle's organisational structure have occurred in the last quarter. Three new board members have been appointed. The Company welcomes Mr Robert Barraket as Non-Executive Chairman, Dr Richard Valenta as Executive Director and Mr Ian King as Non-Executive Director, to the Board:

- Mr Barraket is the Chairman of Barraket Stanton Lawyers in Sydney and has more than 50 years' experience, particularly with international and Australian mining and mineral exploration companies. Mr Barraket is also the Chairman of Pacific Rim miner and explorer Axiom Mining Limited.
- Dr Valenta is the former Managing Director of Chesser Resources and an experienced gold mining executive. He has over 30 years' experience in Australia and internationally including key roles in the discovery and advancement toward production of a number of significant gold projects. Dr Valenta holds a PhD from Monash University.
- Mr King is a Founding Director of Sydney-based boutique corporate advisory business, BBB Capital. He has more than 25 years' experience in investment banking and corporate advisory services across a broad range of sectors including mining and resources.

After having served as Founding Chairman and Director of the Company, Mr Martin Blakeman and Mr Stephen de Belle respectively, have resigned from the Board. The Board thanks Mr Blakeman and Mr de Belle for their valuable contributions during their time in office and wishes them well in their future endeavours.

***Norton Gold Mine Development:***

During the quarter, important progress was made towards restarting Norton Gold Mine, including:

- Completion of a bulk sampling program which included crushing, screening and sampling for analysis on site – refer to ASX release dated 24 May 2016;
- Ore sorter trials completed and gravity circuit trials in progress ahead of final process flowchart definition and detailed engineering design;
- Road construction works, Site Administration area cleared, earthworks undertaken, Site offices and ablutions block acquired and located on site with further construction activities in progress along with preparation of first mining areas commenced (Pictures 1 and 2);
- Hydrogeologic and Dam wall Engineering Design underway for Tailings Storage Facility (TSF) and Water Storage Facility (WSF) to allow accelerated construction of TSF and WSF.
- Security fencing around the Mining Lease (ML) commenced and preparations for processing plant pad construction underway.

**Picture 1:** Site administration area construction. **Picture 2:** Never Never pit preliminary earthwork



***Morning Star Gold NL Acquisition:***

In August 2015, the Company agreed terms with the relevant parties to acquire, subject to shareholder approval, a 95% shareholding interest in Morning Star Gold NL. During the quarter, important steps were made to secure the acquisition:

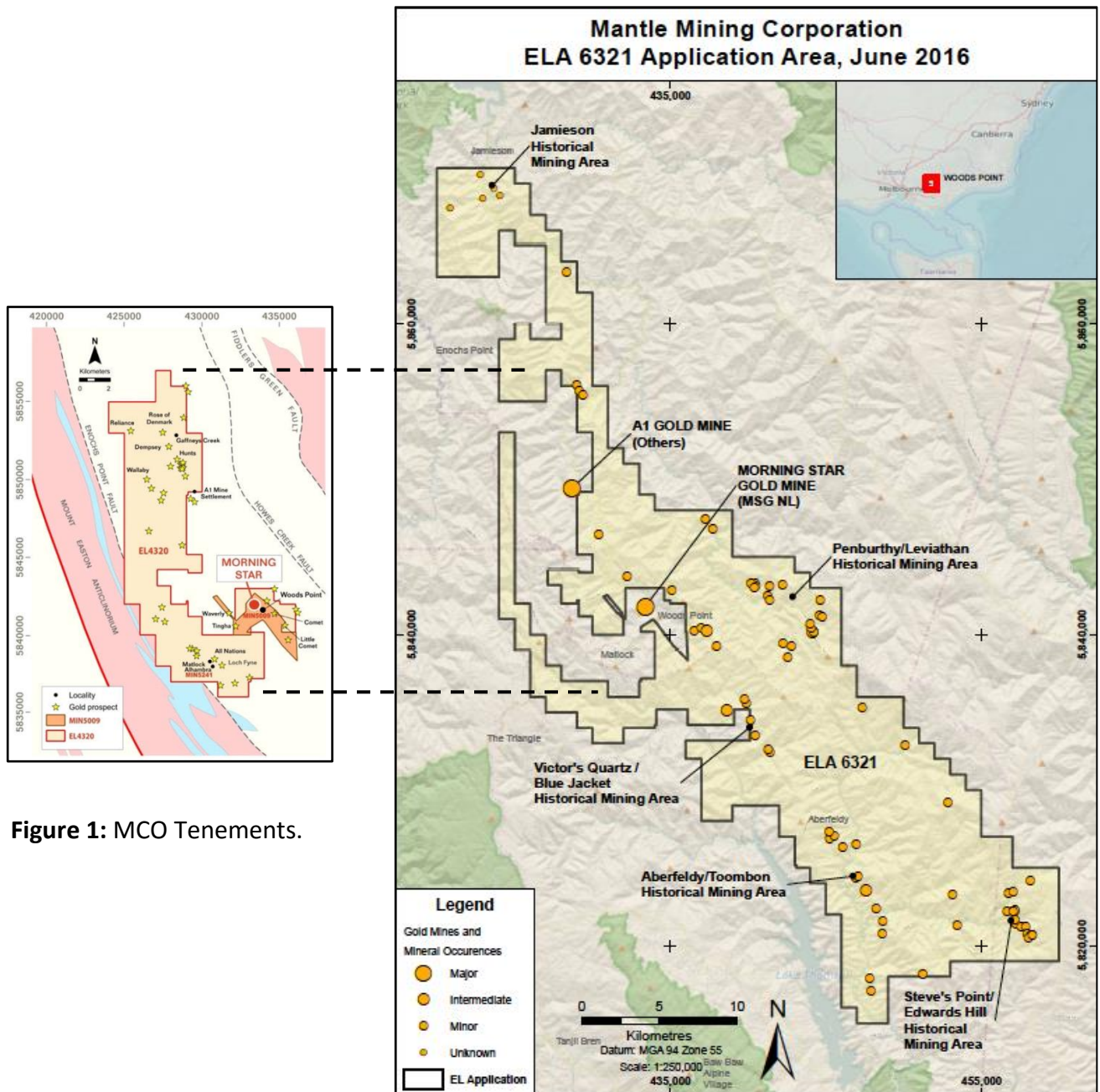
- At a meeting on 29 April 2016 in Sydney, the shareholders of Morning Star NL approved the acquisition of a 95% interest in their company by Mantle;
- The first payment for the acquisition was made on 10 May 2016;
- The second payment of \$1 million was made on 1 July 2016;
- The balance of the acquisition payments of \$1 million each are payable on 31 October 2016 and 28 February 2017.

***Morning Star Gold Mine Development:***

Progress towards bringing the mine to a “production ready” status is steadily being made, while Mantle’s position in the area has been consolidated with the application for a new Exploration Licence (EL):

- Bringing existing infrastructure into compliance with environmental and statutory requirements;
- Work on data review, new database and new models of the upper level reefs is continuing;
- Preparation for a whole-of-mine Risk Management and Safety Management Review by an external consultant has commenced;
- Rehabilitation of surface services underway;
- Definition of required metallurgical test work for processing plant modification is underway.

After the end of the Quarter, refer to ASX release dated 6 July 2016, the Company announced that it had submitted an application for a major exploration licence over the remaining northern extent of the gold field. The application has been accepted by the relevant authority with no competing applicants (Figures 1 and 2)



**Figure 2: New Exploration Licence Application area.**



***Organisational Improvements:***

The Board has embarked on a review of key people, functions, tasks and processes to improve efficiency and generate cost savings from non-essential projects and functions. This includes a winding back of commitments to non-core projects and a consolidation of back office administration functions in Brisbane. This review is consistent with the Board's philosophy of prioritising the deployment of shareholders' funds to the development of its key projects:

- Mine Managers have been appointed at Norton Gold Mine and Morning Star Gold Mines and the first mine employees engaged to assist with preparations for returning the mines to production;
- The Corporate Management team has been reorganised and streamlined to manage the increased corporate workload. An office leased in Brisbane to improve connectivity of the management team and provide effective operations support;
- New safety, training and governance systems are being put in place to manage the Company's statutory obligations, protect its workers and to reduce risk and liabilities. A major principal safety audit at Norton Gold Mine commenced early in the current quarter, led by an external Safety Management System expert.

***Capital Raising Activities:***

During and subsequent to the June 2016 quarter, the Company continued to receive strong support from both new investors and existing shareholders for its various capital raising activities which included:

- Completion of Tranche Two of the two tranche placement announced on 30 November 2015 under which the Company raised \$1.7 million via the issue of approximately 170 million shares and 125 million options during May 2016.
- Completion of a new placement to investors qualifying under Section 708 of the Corporations Act (s708 Investors) during May 2016, under which the Company raised \$1 million upon the issue of 100 million shares at an issue price of 1 cent per share.
- Announcement of a new three tranche placement to s708 Investors during June 2016 under which the Company issued a further 110 million shares at a placement price of 1 cent per share to raise a total placement amount of \$1.1 million. The placement was structured and of the moneys raised, approximately one third was received during the June quarter under Tranche 1, with the remaining funds for Tranche 2 and 3 due to be received in July and August respectively.
- Completion of a placement to an s708 Investor on 7 July 2016 for a further 20 million shares at a placement price of 1 cent per share to raise a total of \$200,000.
- Announcement of an additional placement on 26 July 2016 under which the Company received firm commitments from s708 investors to raise a further \$1.5 million upon the issue of 100 million shares at an issue price of 1.5 cents per share.

***Cash Position & Use of Funds:***

As at 30 June 2016, the Group had a cash balance of \$1.291 million as outlined in the accompanying Appendix 5B.

In addition, the Company has received, or is due to receive, during the September 2016 quarter a further \$2.542 million in subscription moneys from investors who participated in the Company's recent capital raisings as noted above.

The Company is also in the process of finalising its submission to the Australian Taxation Office to access rebates under the Australian Government's Research and Development Tax Incentive scheme. In line with the Company's successful submissions of previous years, and based on the quantum of eligible expenditure incurred by the Company during the 2015-16 financial year, the Company is anticipating a cash rebate in the order of \$400,000, however this remains subject to ATO assessment.

The funds raised will provide further working capital to advance the Company's key projects to production:

**At Morning Star**, all works described above will continue,

- The second payment, \$1 million, for acquisition of Morning Star Gold NL was paid on 1 July 2016 and the third payment of \$1 million has been secured, due end October 2016. The final \$1 million payment is due end February 2017.

**At Norton**, definition design trials ahead of final detailed engineering design leading to ordering of the processing plant is expected to be completed in the current quarter.

- Completion of aforementioned site services and ongoing preliminary site earthworks, including all required road works,
- Completion of the detailed engineering design for Tailings Storage Facilities (TSF) and Water Storage Facilities (WSF) including full site Hydrogeologic Study are expected early in the current quarter,
- Construction activities in relation to the WSF, TSF and pre-stripping of the Frampton high-wall and preparation of the Never Never open-cut,
- Detailed implementation of all requisite major risk management systems, requisite site safety and training procedures ahead of start of mining activities.

For further information, please contact:

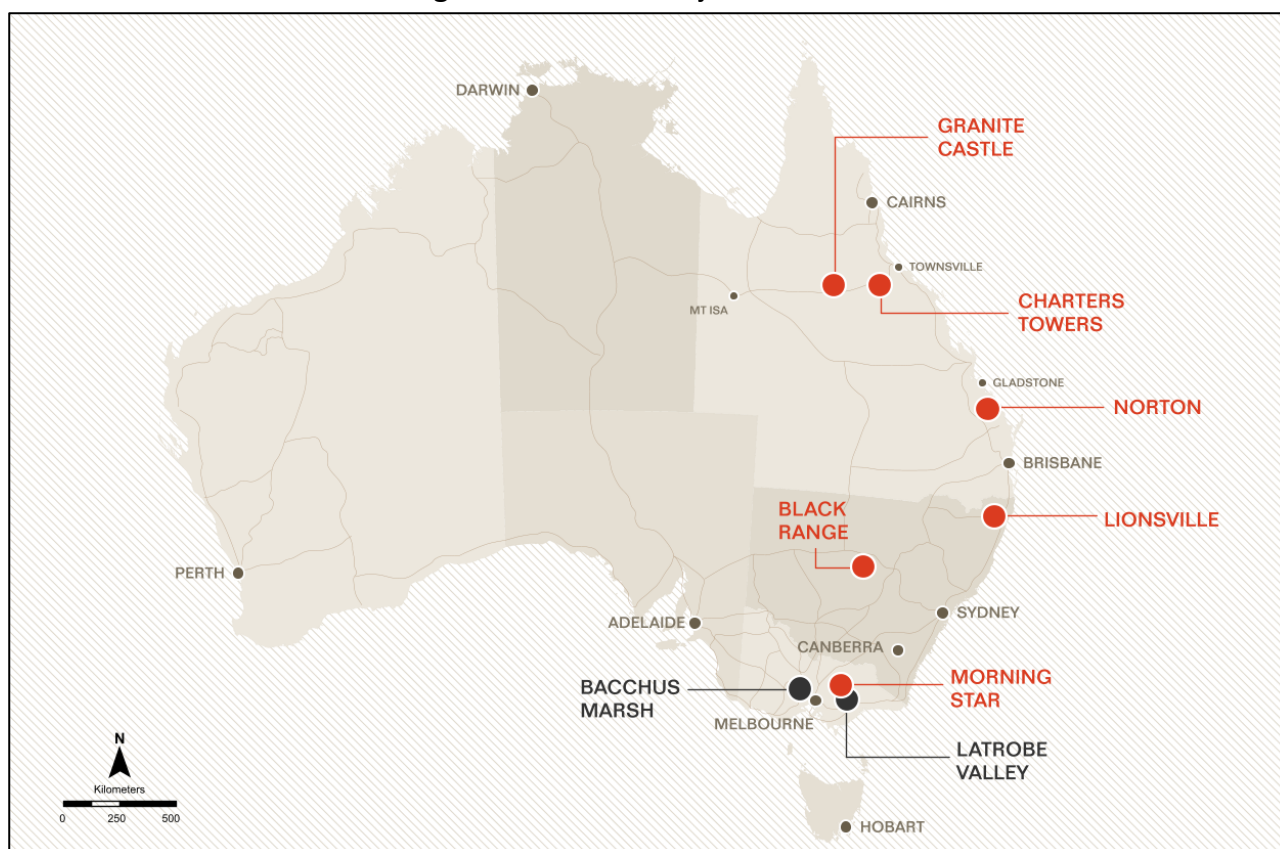
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### **Competent Persons Statement:**

The information in this report that relates to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr Mark Maxwell and Mr Stuart Moore, both Employees of Mantle Mining Corporation Ltd. Mr Maxwell and Mr Moore are both Members of the Australasian Institute of Mining and Metallurgy and both have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are 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”. Mr Maxwell (for Coal) and Mr Moore (for Minerals) consent to the inclusion in the report of the matters based on their information in the form and context in which it appears.

### **Mantle’s Projects and Tenements:**

**Figure 3: Mantle’s Project Locations.**



**Table 1: Mantle's Tenement Schedule.**

Tenement	Project	Name	Grant Date	Expiry Date	Area	Interest (%)
MIN 5009 <sup>3</sup>	Morning Star	Morning Star	21/09/1990	Renewal	657 Ha	95
EL 4320 <sup>3</sup>	Morning Star	Morning Star	16/11/2008	Renewal	101 km <sup>2</sup>	95
MIN 5299 <sup>3</sup>	Morning Star	Rose of Denmark	10/11/1981	Renewal	211 Ha	47
MIN 5560 <sup>3</sup>	Morning Star	Wallaby	17/12/2013	16/12/2018	10 Ha	95
ML 80035 <sup>1</sup>	Norton	Norton	04/04/1996	30/04/2017	22 Ha	90
EPM 14388	Charters Towers	Charters Towers	24/02/2005	23/02/2020	7 sub blocks	100
EPM 14179	Granite Castle	Range Creek	25/11/2004	24/11/2017	6 sub blocks	100
EPM 15527	Granite Castle	Oaky Creek	30/11/2007	29/11/2019	25 sub blocks	100
MDL 2005	Granite Castle	Range Creek	application		1,935 Ha	100
EL 6074	Lionsville	Lionsville	06/05/2003	Renewal	4 units	100
EL 5878 <sup>3</sup>	Black Range	Overflow	24/07/2001	Renewal	3 units	13
EL 5294 <sup>2</sup>	Bacchus Marsh	Bacchus Marsh	23/03/2011	Renewal	154 graticules	50
EL 5210	Latrobe Valley	Yalungah	03/06/2009	02/06/2019	25 graticules	100
EL 5336	Latrobe Valley	Jeeralang	30/04/2015	29/04/2020	274 graticules	100
EL 5337	Latrobe Valley	Thorpdale	20/04/2011	Renewal	79 graticules	100
EL 5338	Latrobe Valley	Baromi	30/04/2015	29/04/2018	3 graticules	100
EL 5428	Latrobe Valley	Mirboo	01/06/2015	31/05/2020	15 graticules	100
EL 5429	Latrobe Valley	Callignee	01/06/2015	31/05/2020	21 graticules	100

1. Norton is 10% held by Avanti Mining and Contracting Pty Ltd.

2. Bacchus Marsh is 50% held by Exergen Pty Ltd.

3. Morning Star is 100% held by Morning Star Gold NL, in turn held 95% by Mantle. MIN 5299 is a Joint Venture wherein Morning Star Gold NL holds 49%.



## Mantle's Mineral Resources:

**Table 2:** Morning Star Mineral Resource (95% held by Mantle).

Class	Tonnes	Au (g/t)	Au (oz)		
Measured Underground	22,000	20.9	15,000		
Indicated Underground	259,000	15.6	130,000		
Inferred Underground	1,734,000	10.4	582,000		
<b>Total Underground</b>	<b>2,015,000</b>	<b>11.2</b>	<b>726,000</b>		
Measured Surface	736,000	2.0	47,000		
Indicated Surface	973,000	2.2	56,000		
Inferred Surface	1,079,000	2.3	80,000		
<b>Total Surface</b>	<b>2,608,000</b>	<b>2.2</b>	<b>184,000</b>		

The information in Table 2 is extracted from the report entitled "Mantle Secures Major Gold Opportunity" created on 8 August 2015 and is available to view on [www.mantlemining.com](http://www.mantlemining.com)

As relates Table 2, the Mineral Resource estimate is not Mantle's estimate and Mantle has not done sufficient work to report the estimate in accordance with the 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (JORC Code). Mantle is not aware of anything to suggest that the assumptions underpinning the estimate have materially changed and has commenced work to validate the Mineral Resource and disclose it in accordance with the 2012 edition of the JORC Code. Investors should treat the estimate with caution until validated.

**Table 3:** Norton Mineral Resource (90% held by Mantle).

Class	Tonnes	Au (g/t)	Au (oz)	Ag (g/t)	Ag (oz)
Indicated	107,000	6.2	21,100	15	50,300
Inferred	141,000	3.9	17,700	12	52,600
<b>Total</b>	<b>248,000</b>	<b>4.9</b>	<b>38,800</b>	<b>13</b>	<b>103,000</b>

The information in Table 3 is extracted from the report entitled "Norton Gold Mine Resource Estimate" created on 15 May 2015 and is available to view on [www.mantlemining.com](http://www.mantlemining.com)

**Table 4:** Granite Castle Mineral Resource.

Class	Tonnes	Au (g/t)	Au (oz)	Ag (g/t)	Ag (oz)
Measured	111,000	4.3	15,500	58	205,800
Indicated	250,000	3.6	28,800	71	567,900
Inferred	403,000	2.5	32,900	56	727,200
<b>Total</b>	<b>765,000</b>	<b>3.1</b>	<b>77,200</b>	<b>61</b>	<b>1,500,900</b>

The information in Table 4 is extracted from the report entitled "Improved Confidence Levels for Granite Castle Resource" created on 28 May 2008 and is available to view on [www.mantlemining.com](http://www.mantlemining.com)

**Table 5:** Charters Towers Mineral Resource.

Class	Tonnes	Au (g/t)	Au (oz)		
Inferred	1,535,000	2.2	109,000		
<b>Total</b>	<b>1,535,000</b>	<b>2.2</b>	<b>109,000</b>		

The information in Table 5 is extracted from the report entitled "Disclosure Document" created on 2 October 2006 and is available to view on [www.mantlemining.com](http://www.mantlemining.com)

**Table 6:** Bacchus Marsh Mineral Resource (50% held by Mantle).

Class	Tonnes (Billion)	TM (%)	Ash (% db)	VM (% db)	FC (% db)	TS (% db)	GDSE (MJ/kg)
Inferred	1.6	56.3	10.4	47.2	42.4	3.4	24.5
<b>Total</b>	<b>1.6</b>	<b>56.3</b>	<b>10.4</b>	<b>47.2</b>	<b>42.4</b>	<b>3.4</b>	<b>24.5</b>

The information in Table 6 is extracted from the report entitled "Victorian Brown Coal Resources Update" announced on 1 December 2015 and is available to view on [www.mantlemining.com](http://www.mantlemining.com)

**Table 7:** Latrobe Valley Mineral Resource.

Class	Tonnes (Million)	TM (%)	Ash (% db)	VM (% db)	FC (% db)	TS (% db)	GDSE (MJ/kg)
Inferred	225	61.3	7.6	50.7	41.7	0.4	23.6
<b>Total</b>	<b>225</b>	<b>61.3</b>	<b>7.6</b>	<b>50.7</b>	<b>41.7</b>	<b>0.4</b>	<b>23.6</b>

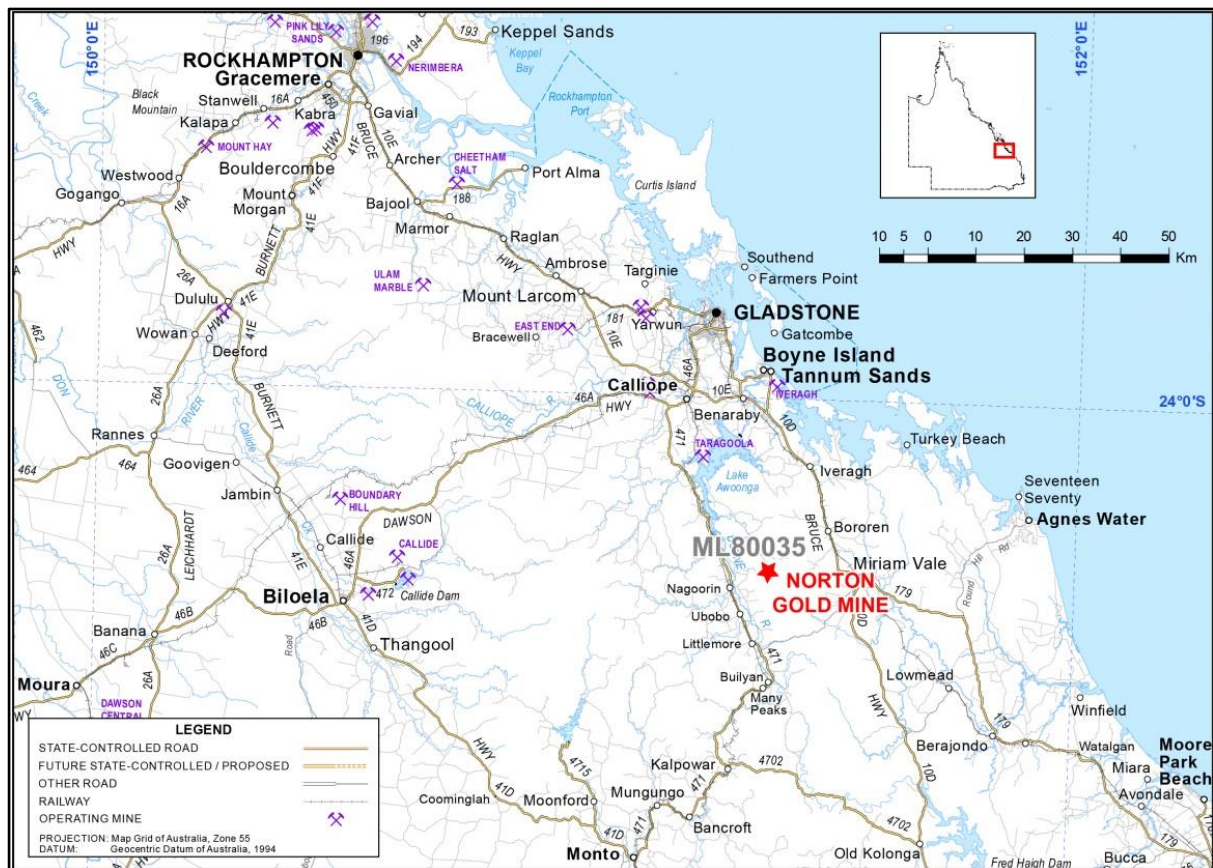
The information in Table 7 is extracted from the report entitled "Victorian Brown Coal Resources Update" announced on 1 December 2015 and is available to view on [www.mantlemining.com](http://www.mantlemining.com)

In relation to Tables 3 through 7, the Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and, in the case of estimates of Mineral Resources or Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.

## The Norton Gold Mine Overview:

The Norton Mine is located less than 100 km south of the port city of Gladstone, Queensland (Figure 4).

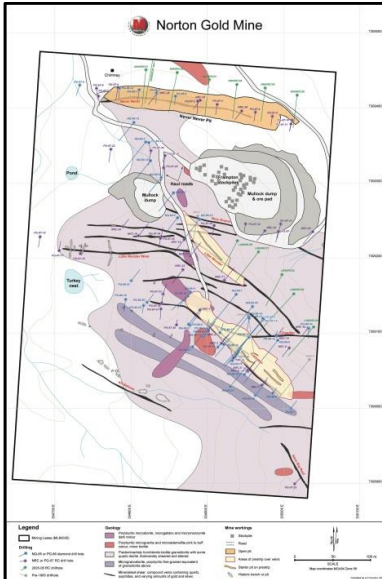
**Figure 4: Norton Gold Mine project location.**



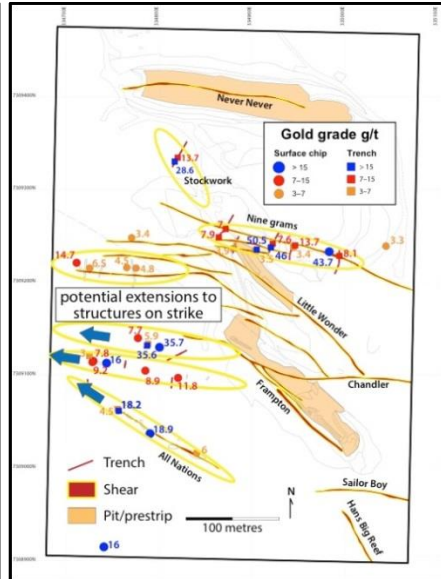
At Norton, gold is contained in high grade, sub-vertical shears, which outcrop near surface. A program of trenching was undertaken to progress geologic understanding of the major mineralised veins not currently included in the Resource estimate.

Results show the presence of gold mineralisation in structures where not previously confirmed. These results support the potential for improvement in the Norton project life and economics and provide focus for targeted exploration and resource drilling (Figures 5 and 6).

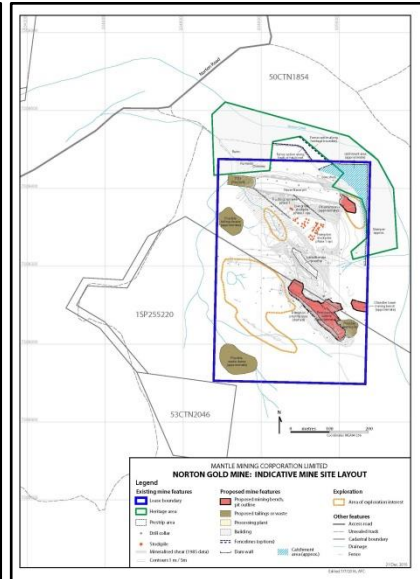
**Figure 5: Previous mining.**



**Figure 6: Trench locations.**

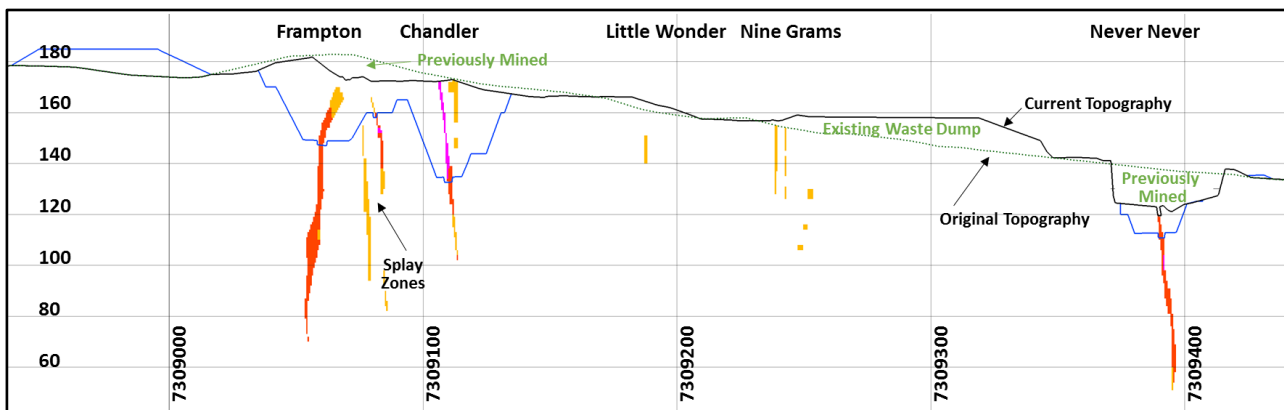


**Figure 7: New mine layout.**



In 2015, a gold Resource Base was calculated and a detailed mine design undertaken. Mining is proposed to maximum depths of 30 m, similar to the existing 25 m depth at Never Never (Figures 7 & 8).

**Figure 8: Norton Gold Mine proposed mining cross-section.**



Bulk sampling grab-sample analysis indicated similar grades to previous sampling and also indicated a smooth transition from the stockpile processing to the initial mining of the Frampton Shear – see ASX release dated 13 July 2016.

Although final processing plant design is dependent on the gravity trials of the bulk sample at Gekko Laboratories (currently underway), preparations for the plant location and concrete pad construction are underway.



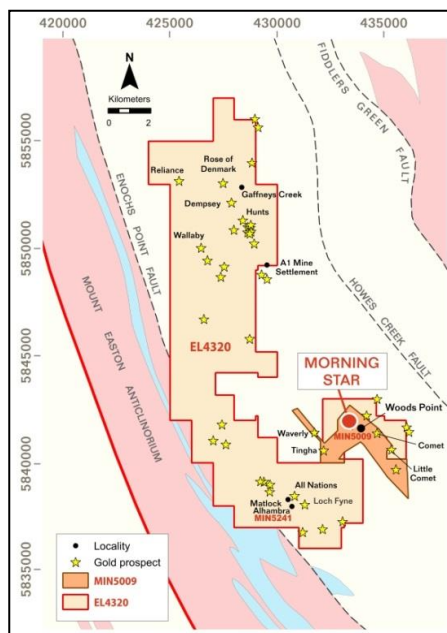
## Morning Star Gold NL Overview:

The Morning Star gold mine is located near the town of Woods Point approximately 120 km northeast of Melbourne (Figures 9 and 10).

**Figure 9:** Morning Star gold mine location.

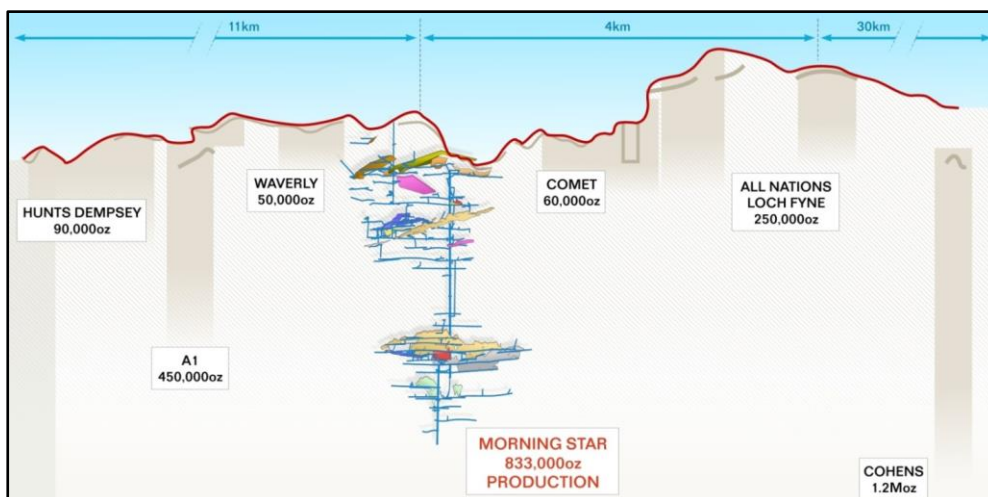


**Figure 10:** Tenements and mines.



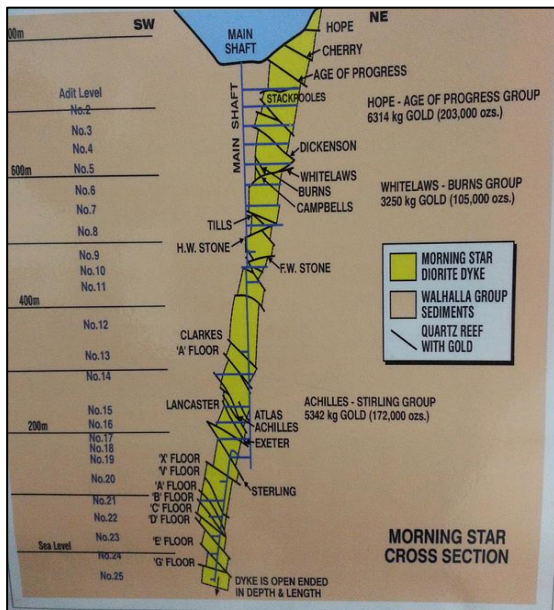
Historic mining occurred in the upper levels of the mine and Gold Mines of Australia (WMC Ltd) operated the mine between 1934 and 1959 (predominately in the deeper levels). Morning Star is reported to have produced 883,000 oz Au at an average grade of 26.6 g/t Au over its lifetime. It closed in 1960 when gold price was fixed at \$35/oz, and was allowed to flood (Figure 11).

**Figure 11:** Regional gold mines with historic production (A1 and Cohens held by others)

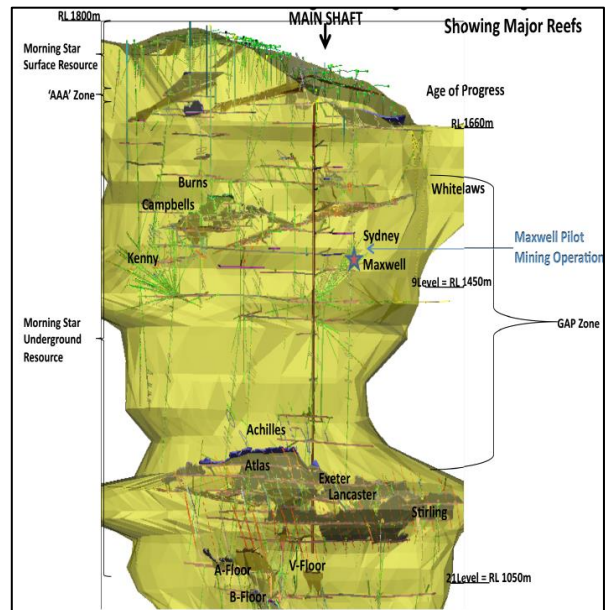


The mine exploits narrow quartz veins deposits hosted in a diorite dyke that is 700m long by 120m wide. The quartz veins are stacked and range up to 2m thick. Historic workings continue underground for 815m below the surface, to 25 Level, and the dyke remains open at depth (Figures 12 and 13).

**Figure 12: Morning Star dyke cross section.**

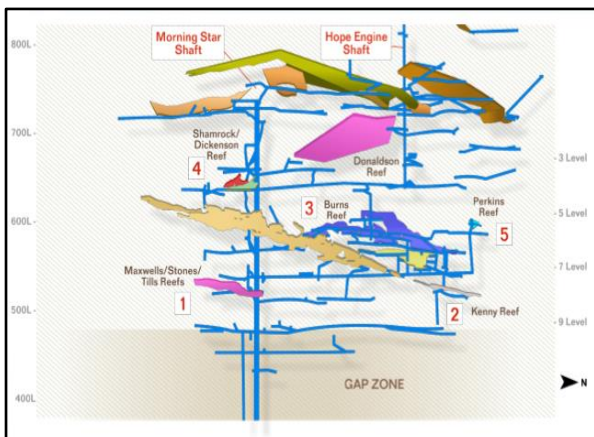


**Figure 13: Morning Star dyke long section.**



Morning Star Gold NL acquired the assets in 1992 and a new headframe and winder have been installed. The mine has been pumped out, the shaft refurbished to 10 Level and development drives rehabilitated in the upper levels. Initially, production was targeted from remnant stopes above 10 Level short distances from the refurbished shaft. Donaldson's Reef, on 2 Level, is only 100 m from the shaft, and Kenny's Reef, on 9 Level, has already been accessed to enable bulk sampling for metallurgical purposes (Figure 14).

**Figure 14: Production targets in upper areas of the mine. Picture 3: Morning Star process plant.**





A new beneficiation plant was installed and a paste backfill plant built. Supporting infrastructure includes a water treatment plant, surface and underground power supplies and various site offices, workshops and a miner's camp (Picture 3). Numerous other dyke hosted mines exist on the Morning Star Gold NL tenements (Figure 10).

Gold at Morning Star is traditionally free milling allowing for production of a high grade concentrate from simple gravity processing. The plant is located centrally to other historically and currently operating gold mines that suffer from a lack of such infrastructure.

Morning Star Gold NL's Rose of Denmark (under Joint Venture) and Wallaby mines in particular hold substantial potential as additional future production sources (Pictures 4 and 5).

**Picture 4:** Reopening the Rose of Denmark.



**Picture 5:** Stopping in Rose of Denmark.



**The Charters Towers Gold Project:**

The Charters Towers Gold Project is located around the township of Charters Towers in north Queensland. Mantle's tenement (EPM 14388) contains two main project areas; Great Britain and Puzzler/Balfes Creek.

During the quarter, mapping and structural interpretation of the area was completed. Expected outcomes from this work include a refined geologic model and definition of new drill targets intended to contribute to a JORC 2012 update to the present gold Resource.

**Granite Castle Gold Project:**

During the quarter, Mantle withdrew an existing application for a Mineral Development Licence (MDL493) that covered only a portion of its Granite Castle deposit, and replaced it with a revised application (MDL2005) covering the entire Granite Castle deposit area as currently held by Mantle.

**Lionsville Gold Project:**

Mantle acquired a 100% of Lionsville Gold Pty Ltd from Avanti Mining and Contracting Pty Ltd: Lionsville is an historic gold province in Northern NSW that has seen little modern exploration. Consideration for the acquisition was \$10,000 for the cash bond and transfer costs.

**Black Range Gold Project:**

Morning Star Gold NL is the holder of a 13% interest in a portion of the Black Range Project near Cobar in central west NSW, along with 87% holder Heron Resources. The project is centred around the historically high grade Overflow underground gold mine.

**Bacchus Marsh & Latrobe Valley Coal to Renewables Projects:**

Mantle continued to develop alternative commercialisation strategies for its lower emission coal products and coal to solar hydro projects in VIC. A renewal application was submitted for the Bacchus Marsh tenement and partial relinquishment applications were lodged for the recently granted Latrobe Valley tenements.

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