



## MANTLE MINING

ASX: MNM

## DIRECTORS

Mr Martin Blakeman  
Non-Executive Chairman

Mr Ian Kraemer  
Managing Director

Mr Peter Anderton  
Non-Executive Director

Mr Stephen de Belle  
Non-Executive Director

## COMPANY SECRETARY

Mr Winton Willesee

## PRINCIPAL PLACE OF BUSINESS AND REGISTERED OFFICE

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## ASX Release

31 March 2011

## Pilot Plant Trial a Success.

Mantle Mining Corporation Limited (ASX: MNM) Mantle, is pleased to advise of laboratory analysis confirmation of successful transformation of a bulk sample of Bacchus Marsh coal at Exergen's CHTD\* Pilot Plant.

### Highlights:

- A Continuous Hydro-Thermal Dewatering (CHTD\*) bulk trial was recently undertaken on a sample of Bacchus Marsh brown coal,
- Laboratory analyses have shown that decarboxylation (coal transformation releasing moisture) has successfully occurred,
- Subsequent secondary drying and pressing of a small sample of representative, low moisture briquettes has also been achieved,
- Run of Mine (ROM) coal feed moisture content of 56.7% was reduced to a sample briquette moisture content of 9.5%,
- Mantle has recently been granted Exploration Licence EL 5294 at the historic Bacchus Marsh deposit. EL 5294 contains an Exploration Target# of 1 to 2 Billion tonnes of brown coal,
- A drill program is in advanced stage of design for implementation later this year in order to define a JORC Compliant Resource#.



Figure 1: ROM coal (56.7% moisture), CHTD Pilot Plant Processing and resulting briquettes (9.5% moisture).

### More Information:

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# The potential quantity and grade of the Exploration Target is conceptual in nature. There has been insufficient exploration to define a Mineral Resource, and it is uncertain if further exploration will result in the determination of a Mineral Resource.

\* CHTD is in the development stage and is yet to be demonstrated at commercial scale. There is no guarantee that the technology will be proven at commercial scale, or that the Bacchus Marsh deposit will ultimately be developed.

EL 5294 contains the historic Bacchus Marsh brown coal deposit. The deposit is located 50km to the west of Melbourne and a similar distance north of the port of Geelong (Figure 2). Based on a detailed review of historic drilling, Mantle is of the view that EL 5294 contains an Exploration Target<sup>#</sup> between 1 and 2 billion tonnes of coal (Figure 3).

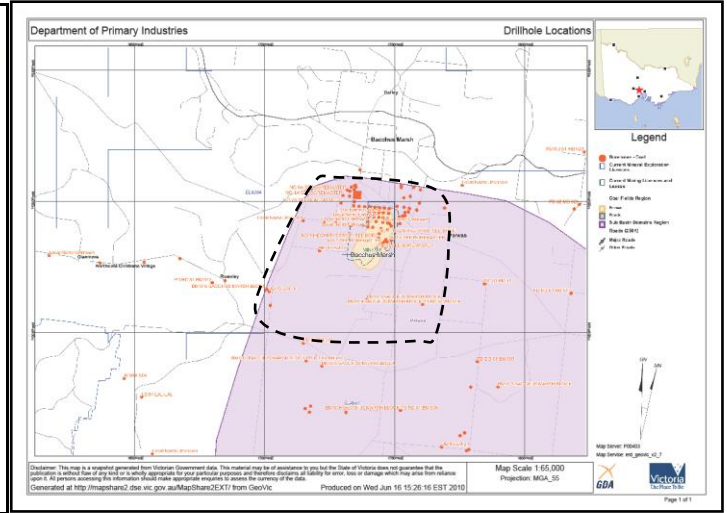
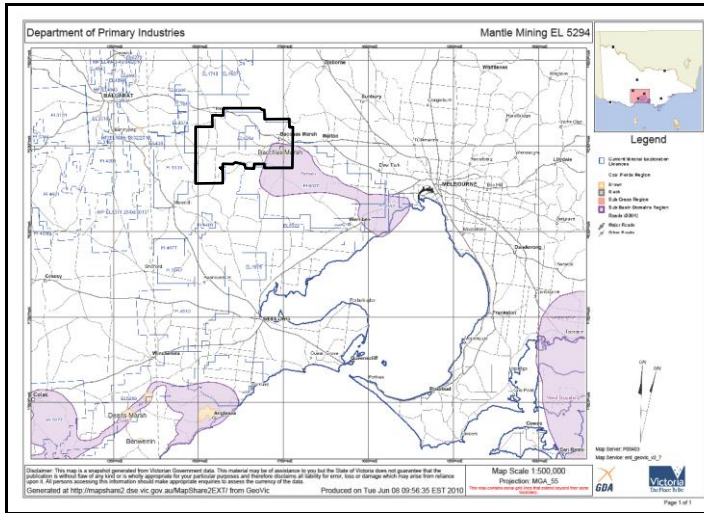


Figure 2: Bacchus Marsh EL 5294 with Victorian Coal Fields.

Figure 3: EL 5294 Exploration Target area with Maddingly Mine.

Drill log data for 156 historic drill holes have been digitized and the seam thickness in each drill hole has been applied using a 2km search radius (Figure 4). The calculated result, at 1.8 billion tonnes, is at the upper end of the Exploration Target<sup>#</sup>. Section A-C (Figure 4) has been plotted to show the relative thickness and continuity of the seam (Figure 5).

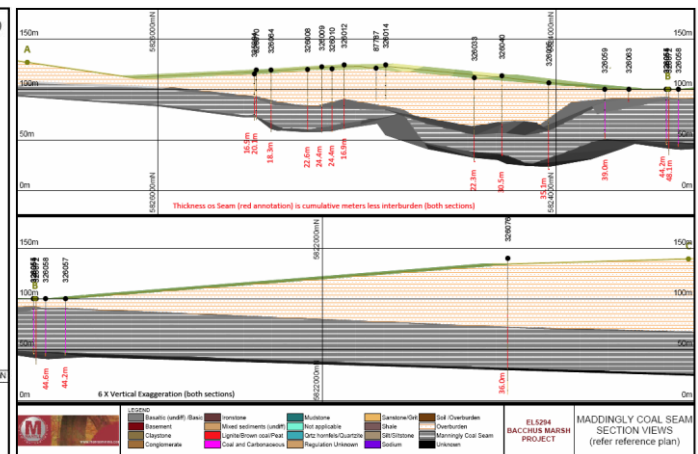
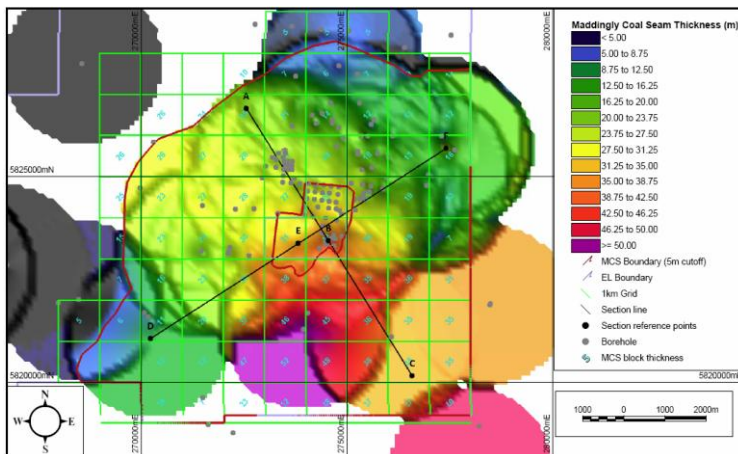


Figure 4: Exploration target area tonnage calculation parameters.

Figure 5: Section A-C (Vertical scale exaggerated 6:1).

EL 5294 has recently been granted for an initial 5 year period. Mantle has recruited a full time Exploration Manager – Coal who’s prime responsibility is to drive the exploration program at Bacchus Marsh. A drill program is in advanced stage of design for implementation later this year in order to define a JORC Compliant Resource<sup>#</sup>.

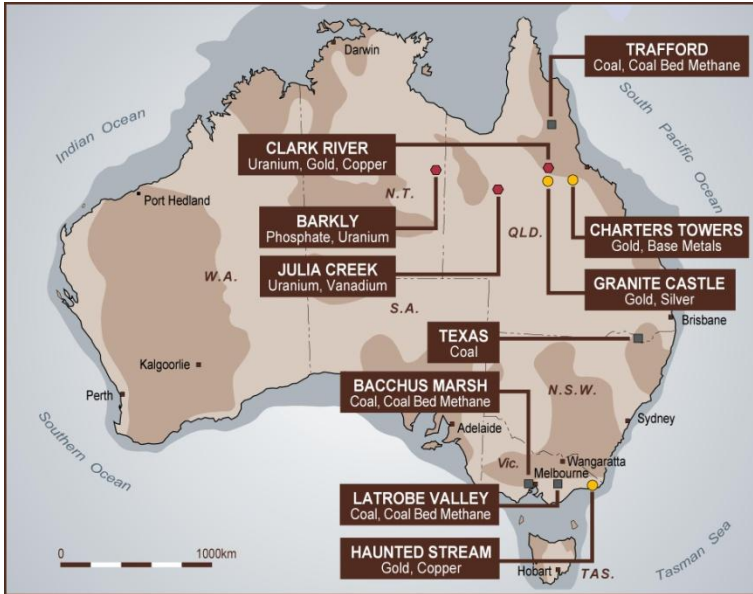
**COMPETENT PERSONS STATEMENT:**

The information in this report that relates to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr Ian Kraemer and Mr Stuart Moore, both Executives of Mantle Mining Corporation Ltd. Mr Kraemer is a Fellow, and Mr Moore is a Member, 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 Competent Persons as defined in the 2004 Edition of the “Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves”. Mr Kraemer (for Coal and Coal Bed Methane) and Mr Moore (for Base & Precious Metals, Phosphate and Uranium) consent to the inclusion in the report of the matters based on their information in the form and context in which it appears.





**MANTLE MINING CORPORATION LIMITED'S COMPANY PROJECT PORTFOLIO:**



- Granite Castle Gold & Silver (QLD)
- Charters Towers Gold (QLD)
- Haunted Stream Gold (VIC)
- Trafford Coal & CBM (QLD)
- Bacchus Marsh Coal (VIC)
- Latrobe Valley Coal & CBM (VIC)
- Texas Coal (QLD)
- Barkly Phosphate (NT)
- Clarke River Gold & Uranium (QLD)
- Julia Creek Uranium (QLD)

The Granite Castle Gold & Silver Project area contains a JORC Compliant (Measured, Indicated and Inferred) gold and silver Resource<sup>1</sup>. Mineralisation occurs in a single 600m long shear. Over 6km of additional shears have been located, with drill holes and/or rock chip samples at similar grades to the JORC Compliant shear.

The Charters Towers Gold Project area contains the Great Britain JORC Compliant Inferred gold Resource<sup>2</sup> as well as a number of historic mines, including Day Dawn West, immediately west of Citigold's (ASX: CTO) proposed "City" mining area. The Gromac/Puzzler area is prospective for deposits of copper, gold, silver and molybdenum.

The Haunted Stream Gold Project area is prospective for gold/copper including many historical, high-grade, gold mines along the Haunted Stream fault corridor. Anomaly 4 is a major target for possible deep vein gold or porphyry copper-gold mineralisation and deep drilling intersected multiple shear zones with visible base metals.

The Trafford Coal & CBM Project area contains a large Exploration Target<sup>3</sup> of black coal. The Company is negotiating with the traditional custodians of Mt Mulligan towards an Indigenous Land Use Agreement (ILUA) and has commenced proceedings in QLD's Supreme Court to enforce an agreement for the assignment of the tenements.

The Bacchus Marsh Coal Project area contains a large Exploration Target<sup>4</sup> of brown coal. The Company has executed a Pre-JVA with Exergen Pty Ltd to develop the deposit utilising Exergen's patented coal drying technology to upgrade the coal for export. Exergen's partners include Tata Power, Itochu, Thiess and Sedgman.

The Latrobe Valley Coal & CBM Project area is prospective for both black and brown coal including many historical mines within the Gippsland Basin. The tenements immediately abut the main Latrobe Valley depression.

The Texas Coal Project area is prospective for both thermal and coking coals of a similar quality to Surat and Bowen Basin coals. The tenements are adjacent to the NSW border and along strike from known coking coal deposits and thermal coal drill intercepts located to the south and north.

The Barkly Phosphate Project area sits in the Georgina Basin between Minemaker's (ASX: MAK) Wonarah deposit and Phosphate Australia's (ASX: POZ) Highland Plains deposit. Historic phosphate intercepts exist within the tenements.

The Clarke River Project area is prospective for uranium, base and precious metals. The Julia Creek Project area has been sufficiently tested and is being relinquished.

1, 2, 3 & 4: Mineral Resource and Exploration Target tables and associated Competent Persons Statements on next page.



## MINERAL RESOURCES, EXPLORATION TARGETS and COMPETENT PERSONS STATEMENTS:

### 1. Granite Castle Gold & Silver Project:

Granite Castle Gold and Silver Resource Estimate @ 0.2 g/t Au lower cut-off					
Class	Tonnes	Au g/t	Au Ozs	Ag g/t	Ag Ozs
Measured	122,614	3.99	15,727	53.3	209,941
Indicated	264,021	3.44	29,198	67.6	574,182
Inferred	460,443	2.32	34,375	50.4	746,680
<b>Total</b>	<b>847,078</b>	<b>2.91</b>	<b>79,301</b>	<b>56.2</b>	<b>1,530,803</b>

Granite Castle Gold and Silver Exploration Target			
Target	Tonnes	Au g/t	Ag g/t
Below Granite Castle JORC Resource	300,000 – 400,000	2.5 – 3.5	55 - 70
<b>Total</b>	<b>300,000 – 400,000</b>	<b>2.5 – 3.5</b>	<b>55 - 70</b>

Statements in this report relating to the Granite Castle Gold and Silver Mineral Resource are based on a report provided to the Company by Hellman and Schofield Pty Ltd, dated 16<sup>th</sup> May 2008 and first released to the ASX by Mantle on 28<sup>th</sup> May 2008: "The information in this report that relates to Mineral Resources is based on information compiled by Dr William Yeo, a full time employee of Hellman and Schofield Pty Ltd. Dr Yeo is a Member of the Australasian Institute of Mining and Metallurgy and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity he is undertaking, to qualify as a Competent Person as defined in the 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Dr Yeo consents to the inclusion of the matters based on his information in the form and context in which it appears in this report." The report also covered mineralised structures below the resource and quantified a contained exploration potential (Exploration Target) within those structures. Note that the potential quantity and grade of the Exploration Target is conceptual in nature, that there has been insufficient exploration to define a Mineral Resource, and that it is uncertain if further exploration will result in the determination of a Mineral Resource

### 2. Charters Towers Gold Project:

Great Britain Gold Resource Estimate @ 0.5 g/t Au lower cut-off				
Class	Tonnes	Au g/t	Au Ozs	
Inferred	2,128,000	1.8	125,000	
<b>Total</b>	<b>2,128,000</b>	<b>1.8</b>	<b>125,000</b>	

Statements in this report relating to the Great Britain Gold Mineral Resource are based on a report provided to Glengarry Resources Ltd by Resource Evaluations Pty Ltd dated August 2004 and independently confirmed by Ravensgate Minerals Industry Consultants and included in Mantle's 2006 Prospectus as released to the ASX by Mantle on 2<sup>nd</sup> October 2006. The Resource Evaluations Pty Ltd report was compiled by Mr Mark Drabble, a Member of the Australasian Institute of Mining and Metallurgy and Mr Gerry Fahey, also a Member of the Australasian Institute of Mining and Metallurgy: "This report was completed under the overall supervision and direction of Gerry Fahey and the 3D modelling and Mineral Resource estimation was carried out by Mark Drabble both of whom are Competent Persons as defined by the Australasian Code for the Reporting of Mineral Resources and Ore reserves (JORC Code) 1999 edition and who consent to the inclusion in this report of the matters based on his information in the form and context in which it appears."

### 3. Trafford Coal Project:

Mount Mulligan Black Coal Exploration Target						
Target	Tonnes	TM %	Ash %	VM %	FC %	CV MJ/kg
Mulligan Sub-basin	100 Million – 500 Million	2 - 3	11 - 18	28 - 34	50 - 70	26 - 28
<b>Total</b>	<b>100 Million – 500 Million</b>	<b>2 – 3</b>	<b>11 - 18</b>	<b>28 - 34</b>	<b>50 - 70</b>	<b>26 - 28</b>

Statements in this report relating to the Mt Mulligan Coal Exploration Target are based on data provided to the Company by the vendors of the project, as first released in a report to the ASX by Mantle on 25<sup>th</sup> September 2007: "Under the Guidelines for the Estimation and Reporting of Australian Black Coal Deposits (1999), Mount Mulligan had an identified Class 1 deposit of 144m tonnes and an identified Class 2 deposit of 507m tonnes". Upon review of the geological data in consultation with Mantle's consultant geologists, it was considered appropriate that the range of the Exploration Target be considered as 100m to 500m tonnes. Information in this report that relates to Exploration Results is based on information compiled by Mr Ian Kraemer an Executive of Mantle Mining Corporation Ltd. Mr Kraemer is a Fellow of the Australasian Institute of Mining and Metallurgy and has sufficient experience which is 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 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Kraemer consents to the inclusion in the report of the matters based on his information in the form and context in which it appears. In addition, Mr Kraemer notes that the potential quantity and grade of the Black Coal Exploration Target is conceptual in nature, that there has been insufficient exploration to define a Mineral Resource, and that it is uncertain if further exploration will result in the determination of a Mineral Resource.

### 4. Bacchus Marsh Coal Project:

Bacchus Marsh Brown Coal Exploration Target					
Target	Tonnes	TM %	Ash %		
Parwin Sub-basin	1 Billion – 2 Billion	35 – 61	4 - 11		
<b>Total</b>	<b>1 Billion – 2 Billion</b>	<b>35 – 61</b>	<b>4 - 11</b>		

Statements in this report relating to the Bacchus Marsh Brown Coal Exploration Target are based on preliminary review of existing data and drill hole logs as first released in a report to the ASX by Mantle on 17<sup>th</sup> June 2010: "Information in this report that relates to Exploration Results is based on information compiled by Mr Ian Kraemer an Executive of Mantle Mining Corporation Ltd. Mr Kraemer is a Fellow of the Australasian Institute of Mining and Metallurgy and has sufficient experience which is 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 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Kraemer consents to the inclusion in the report of the matters based on his information in the form and context in which it appears. In addition, Mr Kraemer notes that the potential quantity and grade of the Brown Coal Exploration Target is conceptual in nature, that there has been insufficient exploration to define a Mineral Resource, and that it is uncertain if further exploration will result in the determination of a Mineral Resource."