



**MANTLE MINING**  
ASX: MNM & MNMOA

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**ASX Release**

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## **Exergen's Global CHTD Patents.**

**Mantle Mining Corporation Limited (ASX: MNM) the Company,** is pleased to provide an update on the relevance, and importance to Mantle's activities, of the global patents held by Exergen in relation to their Continuous Hydrothermal Dewatering (CHTD) technology.

### **Highlights of Exergen's Patents & CHTD Benefits:**

- The successful development of a coal drying and export project by Exergen and Mantle, based on Bacchus Marsh coal, will be a substantial step forward in delivering cleaner energy fuels.
- In India, for example, Exergen expects that its CHTD coal would be used in state of the art power stations of the type that can already meet new emissions standards for future power stations announced by the Victorian Government.
- Exergen is also working towards demonstrating the use of Exergen CHTD fuel in a Direct Injection Coal Engine (DICE), which may match gas-fired power station emissions and also enable future CO<sub>2</sub> capture.
- At commercial export scale, the Exergen process has an added benefit of capturing up to 16 gegalitres of water per annum that can be readily treated and potentially used for other purposes.
- CHTD has been proven at 4 tonnes per hour scale on Victorian and Indonesian coals with moisture contents ranging between 35% and 65% already successfully trialed.
- Bacchus Marsh coal under application by Mantle for co-development with Exergen has moisture contents in the 55% to 65% range.
- Depending on requirements of its overseas markets, Exergen expects to deliver final products with moisture contents between 10% and 25%.
- Exergen's technology is patented worldwide including in Australia, Indonesia and China, all globally significant coal trading countries.

**For further information:**

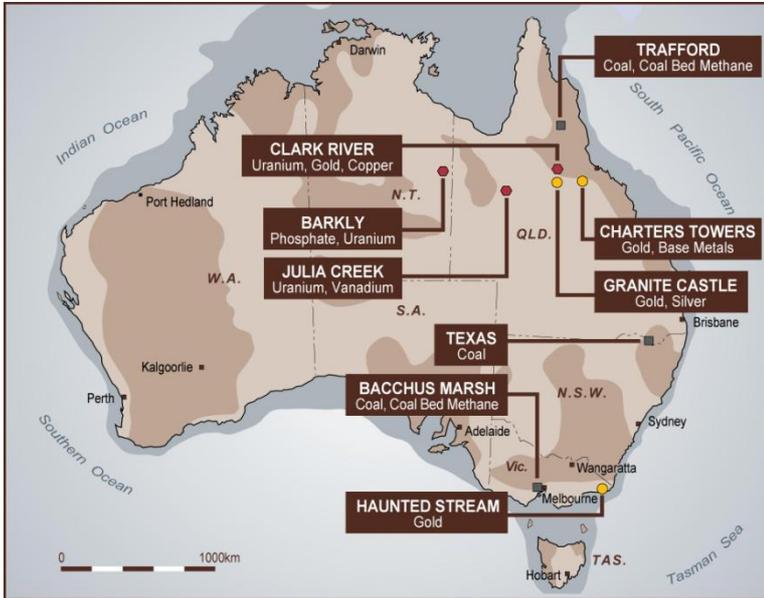
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**MANTLE MINING CORPORATION LIMITED'S COMPANY PROJECT PORTFOLIO:**



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

The Bacchus Marsh Coal & CBM Project area contains a large Exploration Target<sup>4</sup> of brown coal. The Company has executed a non-binding MOU 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, Thies and Sedgman.

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. A drilling program has 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 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 exciting new thermal coal drilling intercepts located variously to the south and north.

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 Barkly Phosphate Project area sits in the Georgina Basin strategically located between Minemaker's (ASX: MAK) Wonarah deposit and Phosphate Australia's (ASX: POZ) Highland Plains deposit. The Company has completed a broad spaced scout drill program over most of its large tenement holdings.

The Julia Creek and Clarke River Project areas are prospective for uranium and base metals. Value accretion from these projects is being sought from joint venture activity thereby allowing the Company to focus its own resources on its highest priority projects whilst maintaining exposure to any upsides delivered through joint venture.

1, 2, 3 & 4: Mineral Resources and Exploration Targets Tables, and Competent Persons Statements are detailed below.



**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
Additional shears (7km)			
<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 report contained the following statement: "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. Great Britain 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. Mantle purchased the Great Britain tenement from Glengarry in 2007 and the Resource statement was 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, and contained the following Competent Persons Statement: "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 & CBM Project:**

<b>Mount Mulligan Black Coal Exploration Target</b>						
<b>Target</b>	<b>Tonnes</b>	<b>TM %</b>	<b>Ash %</b>	<b>VM %</b>	<b>FC %</b>	<b>CV MJ/kg</b>
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. The report noted that: “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, with only two holes effectively testing the basin”. Upon subsequent review of the geological data and drill hole logs available and in consultation with Mantle’s consultant geologists, it is 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 and CBM Project:**

<b>Bacchus Marsh Brown Coal Exploration Target</b>						
<b>Target</b>	<b>Tonnes</b>	<b>TM %</b>	<b>Ash %</b>			
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. The report noted that: “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.”

**EXPLORATION RESULTS COMPETENT PERSONS STATEMENT:**

The information in this report that relates to Exploration Results 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.

**FORWARD LOOKING STATEMENTS:**

This report may include statements deemed “forward-looking statements”. Although the Company believes the expectations expressed in such statements are based on reasonable assumptions, such statements are not guarantees of future performance and actual results may differ materially.