



ASX Release

4 July 2013

**BLACK RANGE MINERALS LIMITED**

Suite 9  
5 Centro Ave  
Subiaco WA 6008  
Australia  
Tel: +61 8 9481 4920  
Fax: +61 8 9226 2027

**Australian Stock Exchange  
Symbol: BLR**

**Contact:**

Mike Haynes  
Managing Director

**E-mail:**

info@blackrangeminerals.com

**Directors / Officers:**

Alan Scott  
Mike Haynes  
Ben Vallerine  
Duncan Coutts  
Ian Cunningham  
Bev Nichols

**Issued Capital:**

1,667.6 million shares  
50.7 million unlisted options

**\$2 MILLION FACILITY FOR COMMERCIALISATION OF  
ABLATION AND AGREEMENT EXECUTED COVERING  
URANIUM ORE STOCKPILE**

- Major shareholder agrees to provide a loan of up to \$2 million to complete the construction of the semi-commercial scale 5tph Ablation Unit and to continue to advance the development of the 90.9 million pound Hansen/Taylor Ranch Uranium Project
- Funds to be provided via an unsecured convertible loan facility, repayable in cash or shares at \$0.01 per share
- Funding mechanism provides the Company flexibility to minimise dilution and to take advantage of any future share price appreciation
- Construction of the 5tph Ablation Unit progressing very well
- Infrastructure now being installed at the Ablation JV's manufacturing facility in Wyoming, so ore can be transported from multiple deposits to the facility to streamline initial testwork with the 5tph Unit
- Agreement executed providing BLR the right to a 70% interest in revenue from the "October" uranium ore stockpile in Colorado, which is expected to be one of the first sources of ore for initial trials with the 5tph Ablation Unit

Black Range Minerals Limited ("**Black Range**" or the "**Company**") is very pleased to advise that it continues to make very good progress with the commercialisation of the proprietary Ablation ore concentration technology ("**Ablation**"). Black Range holds a 50% interest in Ablation through a joint venture with Ablation Technologies LLC (the "**Ablation JV**"). It is anticipated that Ablation will have a very positive effect on the economics of developing not only the Company's 100% controlled 90.9 million pound Hansen/Taylor Ranch Uranium Project (the "**Project**") but also many other sandstone-hosted uranium deposits around the world (see below).

For the past few months the Ablation JV has been constructing a semi-commercial scale Ablation Unit, with nominal capacity of 5tph (the "**5tph Unit**"). This 5tph Unit will be used to undertake large-scale tests on samples of ore from deposits that are potentially amenable to Ablation, to demonstrate the economic viability of the technology.

The 5tph Unit comprises six modules:

- A feed/slurry-mix tank;
- 3 interconnected Ablation modules;
- A grain size classification (screening) module; and
- A dewatering module

The slurry-mix tank and Ablation units are expected to be completed and fully operational within several weeks. Indeed initial hydraulic flow tests were successfully undertaken on the three interconnected Ablation modules last week (see Figure 1; and for a video of this testwork in

progress please visit [www.blackrangeminerals.com](http://www.blackrangeminerals.com) under "Latest News"). Remaining parts for the screening and dewatering modules are on order from major suppliers. The entire system is expected to be operational for commencement of testwork in late July/early August.

Previously the Ablation JV had been contemplating undertaking initial large-scale tests by physically transporting the 5tph Unit to individual test sites across the US. In order to streamline this testwork, and to facilitate undertaking tests on multiple samples from different locations/deposits in a timely and efficient manner, surface infrastructure is now being installed at the Ablation JV's manufacturing facility in Casper, Wyoming so that initial tests can be undertaken there, rather than incurring the time and expense of relocating the 5tph Unit to different sites.



**Figure 1 – Initial hydraulic flow tests being undertaken on the 3 x interconnected Ablation modules that will comprise part of the 5tph Ablation Unit that is nearing completion.**

It is envisaged that clients will initially run tests on bulk samples of ore through the 5tph Unit in Casper. This will enable demonstration/confirmation of the performance of Ablation on different ore-types over a sustained period, while also enabling characterisation of both the fine-grained "high-grade ore" product as well as the uranium-depleted "clean sand" product that can be expected to be recovered from different deposits. Following such initial tests, it is anticipated that clients may elect to mobilise the 5tph Unit to individual deposits to undertake further testwork or enter into agreements to utilise larger-scale units. As such the 5tph Unit has been deliberately designed to be readily transportable; capable of relocation on two semi-trailers.

### **\$2 Million Funding Facility**

In order to ensure the Company has sufficient funds to continue the commercialisation of Ablation while also continuing to advance the development of the Project, the Company is pleased to advise that it has entered into a loan agreement with its major shareholder and cornerstone investor, Azarga Resources Limited ("Azarga").

Azarga has agreed to provide up to \$2 million of funds by way of an unsecured convertible loan facility (the "Facility"), which will be repayable in cash or in shares at \$0.01 per share. The Company is under no obligation to draw-down any or all of the Facility, but can do so in amounts of up to \$750,000 in the first month and thereafter up to \$500,000 per month. The term of the loan is 24 months and it is only convertible to shares at maturity, if not redeemed prior. Further Facility details are provided in the attached Schedule, including redemption amounts and conversion conditions.

This Facility provides the Company surety that it can continue to advance its business in a timely manner, while also providing the Company flexibility to minimise dilution and to take advantage of any future share price appreciation.

## **Agreement Covering the October Uranium Ore Stockpile**

The Company is very pleased to advise that it has entered into a definitive development agreement covering the “**October**” uranium surface ore stockpile in western Colorado, with unlisted company Nuvemco LLC (“**Nuvmco**”), which holds extensive mineral rights over uranium properties in Colorado, USA (the “**October Agreement**”).

The October stockpile comprises circa 10,000 tons of uranium ore that was mined prior to 1972 but never transported to a processing facility. Previous production from the October underground mines comprised more than 50,000 tons at average grades of 0.31%  $U_3O_8$  and 0.91%  $V_2O_5$ . The average grade of the October stockpile is yet to be determined, but is expected to be in the range of 0.075% to 0.25%  $U_3O_8$ .

Nuvmco LLC holds approved permits that allow for the removal of the entire October ore stockpile.

Extensive Ablation testwork has been undertaken on samples from the October stockpile during the past few months. These samples averaged 0.13%  $U_3O_8$  and 0.25%  $V_2O_5$ , however these grades may not be representative of the entire stockpile.



**Figure 2 – October uranium ore stockpile in western Colorado, USA.**

Importantly, recoveries of >90% of both the uranium and vanadium into a fine-grained “high-grade ore” product were achieved with Ablation. Equally importantly, virtually all of the uranium was removed leaving a coarse-grained, “clean sand” product after Ablation. Hence it is anticipated that a very benign coarse-grained product will result following remediation of the ore stockpile with Ablation.

The October Agreement provides the Company the right to Ablate the entire ore stockpile at any time during the next 3 years. The Company intends initially transporting circa 100 tons of the stockpile material to Casper, Wyoming, where it will run initial large-scale Ablation tests to better characterise the results of Ablation on this particular ore type. Providing satisfactory results are returned, the Company intends Ablating the entire October ore stockpile. Both Nuvmco and Black Range will contribute to the costs involved in Ablating and remediating the stockpile, on agreed terms. Black Range will receive a 70% share of the revenue from sales of fine-grained, high-grade ore recovered during Ablation. As partial consideration for the October Agreement, the Company has agreed to issue Nuvmco 2 million shares within 28 days of execution.

The October Agreement is highly strategic, as it not only provides the Company with potential for near-term revenue, it will also ensure that the Ablation JV can demonstrate the efficacy of the 5tph Unit in a timely and controlled manner. Numerous other parties have expressed considerable interest in utilising the 5tph Unit, including many that have previously engaged the Ablation JV to undertake testwork with the currently operable 0.5tph pilot unit with considerable success.

### **Background on Ablation**

Ablation was patented by Ablation Technologies LLC (“**ABT**”), a company based in Wyoming, USA. It is a low cost method of separating uranium mineralisation by applying a physical, grain-size separation process, to ore slurries. No chemicals are added in the process, yet very high mineral recoveries can be achieved with considerable mass reduction, using grain-size classification to separate a high-value, high-grade ore product from a coarse-grained barren “clean sand” product. Application of Ablation is expected to have a

very positive effect on the development of many uranium deposits, globally, because it is expected to significantly reduce both the capital and operating costs for many projects; while timelines to obtain mine permits may also be reduced.

Extensive testwork has shown that, from amenable sandstone-hosted uranium ore types, typically more than 90% of the uranium mineralisation can be separated into ~10% of the initial sample mass. Recent development work on a secondary upgrade circuit has seen recoveries in test work exceed 99%.

In April 2012 Black Range released the results of a scoping study that indicated the best way to develop the Project is to utilise underground borehole mining and Ablation. The scoping study demonstrated the robust nature of the chosen development scenario, with operating costs of approximately US\$30/lb U<sub>3</sub>O<sub>8</sub> and capital costs, based on off-site uranium milling, estimated to be less than US\$80 million.

Shortly thereafter, in light of the substantial benefits of utilising Ablation at the Project, while also recognising the potential to apply this process elsewhere, the Company reached agreement with ABT to jointly commercialise the Ablation process. Black Range and ABT agreed to establish a 50:50 joint venture (the "**Ablation JV**"), with Black Range agreeing to fund commercialisation. The Ablation JV holds the rights to utilise Ablation at all mineral deposits (not just for uranium), globally. Applications of Ablation other than for uranium are yet to be assessed, but it is anticipated that additional opportunities could arise.

Abundant testwork, on samples from numerous sandstone-hosted uranium deposits around the world, has confirmed that Ablation will have widespread applications. The Ablation JV is advancing negotiations with numerous parties that have successfully commissioned first-pass test work on samples from their deposits, whom are now interested in undertaking more extensive field trials. These opportunities provide the Ablation JV potential near-term revenue streams.

### **About Black Range Minerals Limited**

Black Range is listed on the Australian Securities Exchange (ASX: BLR) and is focused on growth through acquisition, exploration and development of uranium projects. Its growth strategy is underpinned by its 100% interest in the high-grade Hansen/Taylor Ranch Uranium Project, located northwest of Cañon City, Colorado, USA, which has a JORC mineral resource estimate (Indicated and Inferred) of approximately 90.9 million pounds U<sub>3</sub>O<sub>8</sub> at a very robust grade of 600 ppm (0.06%) U<sub>3</sub>O<sub>8</sub>, making it one of the largest uranium projects within the USA. Black Range is seeking to secure permitting for the Project by 2016 and commence production shortly thereafter.

The mineral resource estimate for the Project is summarised in the table below:

<b>JORC Classification – Mineral Resources</b>	<b>Million Tonnes</b>	<b>Grade (ppm)</b>	<b>Million Pounds U<sub>3</sub>O<sub>8</sub></b>
<b>At 250ppm U<sub>3</sub>O<sub>8</sub> (0.025%) Cut off</b>			
Indicated	28.93	620	39.75
Inferred	40.06	580	51.18
Total	68.99	600	90.92
<b>At 750ppm U<sub>3</sub>O<sub>8</sub> (0.075%) Cut off</b>			
Indicated	7.71	1210	20.52
Inferred	8.86	1190	23.33
Total	15.58	1200	43.85

Mineral resources at the Project comprise a series of deposits, the largest and most advanced of which is the 39.4 million pound Hansen Uranium Deposit (the grade of mineralisation at this deposit is 640ppm (0.064%) U<sub>3</sub>O<sub>8</sub>). The Hansen Deposit was discovered in 1977 and fully permitted for mining in 1981. More than 1,000 holes were drilled and three feasibility studies completed. However, due to the collapse of the global benchmark uranium price, the Hansen Deposit was never brought to production. Black Range is

targeting initial production from the Hansen Deposit as it is the largest and most technically advanced of all of the deposits within the Project.

In addition Black Range holds a 50% interest in a joint venture with Ablation Technologies LLC, whereby the two companies are jointly developing the Ablation methodology for applications to mineral deposits, particularly uranium deposits. Ablation is a low cost method of concentrating uranium mineralisation by applying a physical, grain-size separation process, to ore slurries. No chemicals are added in the process, yet very high mineral recoveries can be achieved with considerable mass reduction, to separate a high-value, high-grade ore product from a coarse-grained barren "clean sand" product.

### **Competent Person's Statement**

*The information in this announcement that relates to Mineral Resources at BLR's Hansen/Taylor Ranch Uranium Project is based on information compiled by Mr Rex Bryan who is a member of the American Institute of Professional Geologists. Mr Rex Bryan compiled this information in his capacity as a Principal Geologist of Tetra Tech. Mr Rex Bryan has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration and to the activity that 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 Rex Bryan consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*

### **Caution Regarding Forward Looking Statements**

*This announcement contains forward looking statements which involve a number of risks and uncertainties. These forward looking statements are expressed in good faith and believed to have a reasonable basis. These statements reflect current expectations, intentions or strategies regarding the future and assumptions based on currently available information. Should one or more risks or uncertainties materialise, or should underlying assumptions prove incorrect, actual results may vary from the expectations, intentions and strategies described in this announcement. The forward looking statements are made as at the date of this announcement and the Company disclaims any intent or obligation to update publicly such forward looking statements, whether as the result of new information, future events or results or otherwise.*

## SCHEDULE – KEY FACILITY TERMS

Principal	\$2 million
Maturity Date	24 months from date of first advance
Redemption	At the election of Black Range, but subject to automatic redemption in the event the Company raises an aggregate of more than \$10,000,000 in new debt and equity
Interest Rate / Redemption Amount	If the loan is repaid at any time (from the date of the advance) (i) up to but not including 6 months - 110% of the drawn amount needs to be repaid; (ii) not less than 6 months and not more than 12 months - 115% of the drawn amount needs to be repaid; or (iii) after 12 months - 130% of the drawn amount must be repaid
Conversion	If the loan has not been repaid by the Maturity Date, then 130% of the drawn amount will convert to Black Range shares at a conversion price of \$0.01 per share. Such conversion will be subject to receipt of requisite shareholder and regulatory approvals