



## MacDonald Mines Exploration Ltd.

### MACDONALD MINES BEGINS EXPLORATION AT ITS CHARLEVOIX SILICA PROPERTY

#### News Release

January 5, 2017

**Toronto, Ontario – January 5, 2017** - MacDonald Mines Exploration Ltd. (TSX-V: BMK) (“**MacDonald Mines**”, “**MacDonald**” or the “**Company**”) announces that it has mobilized personnel and equipment and has initiated an exploration program at its Charlevoix Silica Property located approximately 42 kilometres north of Baie-Saint-Paul, on the north shore of the Saint Lawrence River, in the Province of Quebec.

The Charlevoix Silica Property appears to be underlain by quartzite sequences with multiple quartzite outcroppings that may host an extension of Rogue’s Silicon Ridge high-purity quartzite horizons (*Figure 1*). The current exploration program will sample and describe, where exposed, the quartzite units on the property to further define their chemical and geometrical attributes.

Quentin Yarie, MacDonald’s President and CEO commented: “*MacDonald Mines is focused on safe-jurisdiction, infrastructure-rich projects. The Charlevoix Property is located in an environment proven to host high-purity silica resources. It is close to roads and infrastructure, and represents a great potential to increase shareholder value. The Sitec mine, only 15 kilometres away, has been operating for over fifty years and Rogue’s Silicon Ridge Project is adjacent to our property. We anticipate that the quartzite units of the Charlevoix Silica Property, interpreted to be part of the same regional quartz unit, will be similar to the high purity quartzite units found at the Sitec mine and those defined by Rogue<sup>1</sup>.*”

#### **Charlevoix Silica Property Details**

The geology on the Charlevoix Silica Property is similar to the geology of Rogue's Silicon Ridge Project and of the Sitec mine. Regionally, a large quartzite unit occurs along a SW NE trend that passes through the Sitec mine, Rogue’s Silicon Ridge Project and the Charlevoix Silica Property. The quartzite unit is formed of a series of quartzite sub-units that occur as folded layers, pods and lenses in the high-grade metamorphic rocks of the Grenville Province.

The Silicon Ridge Project hosts a measured and indicated resource of 9.7 Mt at 98.6% SiO<sub>2</sub> and an inferred resource of 1.6 Mt at 98.56% SiO<sub>2</sub> (NI 43-101 Technical report on the Silicon Ridge Mineral Resources Quebec – Canada, June 7, 2016).

The Sitec Silica Mine ("Sitec") is located within 15 kilometres of the Charlevoix Silica Property and has been in production for more than 50 years. It produces approximately 250,000 tonnes of silica a year and has an estimated future mine life of over 20 years. Silica from the Sitec Mine is shipped to plants in Bécancour, Chicoutimi and the United States. Silica produced at Sitec is used at foundries and glass factories as well as in the production of solar panels and high-tech components.

### **Silica Uses and Markets**

Quartzite commonly contains a high silica content with minimal impurities, typically less than 1%. Commonly referred to as high-purity quartz, the silica produced from this type of quartz is highly sought after as a component for the production of semiconductors, LCD displays, fuse quartz tubing, microelectronics, solar silicon applications and Silicon-Anode Lithium batteries.

CRU's, Silicon Metal Report, published on December 30, 2015, reports "the rise in global silicon demand is expected to be considerably higher, as consumption will continue to benefit from favourable developments in all of the major end-use sectors, most importantly the solar industry. The resumption of double-digit growth in solar-related consumption, together with continued solid gains in demand from the silicone industry, will be instrumental in fuelling a projected increase in total silicon consumption over the next five years at a rate that will be nearly double that of the world economy as a whole."

### **Private Placement Financing**

MacDonald Mines closed the first tranche of the non-brokered private placement offering announced on December 19, 2016 for gross proceeds of \$545,579.93 (*January 3, 2017 news release*) and may close additional tranches of the \$1,000,000 Offering in the coming weeks.

Funds raised from the financing will be used to undertake exploration programs on the Charlevoix Silica Property as well as the Wawa-Holdsworth Project, and for general working capital purposes.

The Offering is subject to the final approval of the TSX Venture Exchange.

### **Qualified Person**

Quentin Yarie, P Geo. is the qualified person responsible for preparing, supervising and approving the scientific and technical content of this news release.

### **About MacDonald Mines Exploration Ltd.**

MacDonald Mines Exploration Ltd is a mineral exploration company headquartered in Toronto, Ontario, Canada. Previously focused on Copper and Zinc (VMS), and Nickel exploration in the Ring of Fire area of the James Bay Lowlands of Northern Ontario, the Company recently acquired the Charlevoix Silica Property in Quebec, Canada and has entered into an option and joint venture agreement with Noble Mineral Exploration Inc. to advance exploration on Noble's Wawa-Holdsworth Gold and Silver Project in Ontario, Canada.

The Charlevoix Silica Property, adjacent to Rogue's Silicon Ridge and located only 15 kilometres from the Sitec Silica mine,

The Company's common shares trade on the TSX Venture Exchange under the symbol "BMK".

To learn more about MacDonald Mines, please visit [www.macdonaldmines.com](http://www.macdonaldmines.com)

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*<sup>1</sup> Readers are cautioned there is no guarantee that mineralization, resources and/or reserves hosted on the adjacent properties will be identified on the Charlevoix Silica Property.*

*This News Release contains forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as "may", "should", "expects", "plans", "anticipates", "believes", "estimates", "predicts", "potential" or "continue" or the negative of these terms or other comparable terminology. These statements are only predictions and involve known and unknown risks, uncertainties and other factors that may cause our or our industry's actual results, levels of activity, performance or achievements to be materially different from any future results, levels of activity, performance or achievements expressed or implied by these forward-looking statements.*

*Although the Company believes that the assumptions and factors used in preparing the forward-looking information in this news release are reasonable, undue reliance should not be placed on such information, which only applies as of the date of this news release. The Company disclaims any intention or obligation to update or revise any forward-looking information, whether as a result of new information, future events or otherwise, other than as required by law.*

Figure 1. Location of Charlevoix Silica Property

