



## **MGX Minerals Provides Additional Details on Lithium Extraction from Oilfield Wastewater and the Future of Petrolithium**

VANCOUVER, BRITISH COLUMBIA / January 18, 2017 / **MGX Minerals Inc.** ("MGX" or the "Company") ([CSE: XMG](#) / [FKT: 1MG](#) / [OTC: MGXMF](#)) is pleased to provide additional details from the Company's recent extraction of lithium from heavy oil wastewater ([see press release dated January 3, 2017](#)) and an update on research and development. MGX continues to work with partners PurLucid Treatment Solutions Inc. ("PurLucid") and the Saskatchewan Research Council ("SRC") on multiple fronts.

PurLucid is working to integrate respective technologies and build an optimized pilot plant for deployment into Alberta's oilfields shortly. MGX has testing and analyses agreements with eight major and mid-tier oilfield operators, with the aim to install multiple pilot plant and small commercial units throughout 2017, as part of the Company's broader "petrolithium" deployment strategy throughout the Province of Alberta.

*"We are highly encouraged as we continue to analyze the initial results and achieve steady progress in optimization of the pilot plant," stated MGX President and CEO Mr. Jared Lazerson. "This may prove to be one of the most important developments in the energy industry since the commercial development of shale oil. In addition to the potential environmental benefits of producing reusable water, the extraction of lithium from oil production water now ties the future of big oil to the new energy industry. It is an amazing twist of fate that the largest existing production of lithium brine on a daily basis is coming from oil wells. Millions and millions of barrels of lithium brine bearing water are being produced every day in North America and MGX is committed to rapidly deploying and harnessing this vast petrolithium resource."*

### **Alberta Lithium Portfolio**

MGX is the largest holder of mineral permits covering known lithium- bearing brine areas in Canada with a land package encompassing nearly 500,000 hectares. All permits are focused on major oil and gas production areas of Alberta. Along with oil and gas, these areas currently produce more than one million barrels per day of wastewater. There is significant potential to produce more oil and wastewater should there be an opportunity for increased profitability on a per barrel basis due to lithium extraction. MGX is investigating the possibility, with its oil industry partners, that large areas of older oil production, as well as oil sands, may once again become viable due to the addition of value from extraction of the minerals contained in the wastewater.

As previously reported, MGX holds a patent pending proprietary process (U.S. Provisional Patent #62/419,011) for the extraction of lithium and other valuable minerals from oil brine ([see press release dated November 9, 2016](#)). It is the only patent of its kind and focuses on the rapid extraction of lithium and other valuable minerals from oilfield wastewater. Current conventional production of lithium from brine



takes up to 18 months due to the solar evaporation phase. MGX's process eliminates the solar evaporation step, reducing potential production to one day and representing a reduction of >99%.

### **Additional Details from Initial Lithium Extraction**

A representative sample of heavy oil evaporator blowdown wastewater ("EBD") wastewater, containing anomalous levels of lithium grading 87 mg/L, was transported from the Alberta oil fields to PurLucid's laboratory facilities in Edmonton for testing.

The pre-treatment step to create brine feedstock free of physical particulate resulted in an 18% loss of lithium, however the step removed nearly all hydrocarbons, silica and other solids. The primary processing of the brine included treatment to recover sodium chloride (NaCl), which represents a potentially saleable commercial product, and resulted in a minor 1% loss of lithium. An additional 16% of lithium was lost during the sulfur removal and magnesium oxide recovery step. After crystallization of the lithium carbonate 21% of lithium remained in the final brine. This portion represents a high probability of additional recovery through current optimization of the process. The final concentrate included 34.8 mg/L lithium, representing a 40% recovery rate, along with other potentially commercially-viable minerals including boron and vanadium.

Overall, the treatment process removed all suspended solids, including 99.7% of hydrocarbons and 99.9% of silica and other scale-forming minerals. Thus, upon process completion remaining water was suitable for reuse in steam generation.

Further optimization testing is currently underway using oil well wastewater from the Company's [Sturgeon Lake Project](#) versus oil sands wastewater. This may reduce loss during the initial filtration step due to the lower concentration of hydrocarbons and other impurities. Oil sands wastewater offers the advantage of significant environmental revenue for the treatment of this heavy oil wastewater, which has the potential to more than offset front end recovery losses, therefore both markets are being actively pursued. Primary areas of optimization involve reducing potential capital and operating costs in the handling of large volumes of wastewater and maximizing the positive economic impact of by-products including sodium chloride and calcium chloride.

The primary goal is to reduce overall physical plant components that minimize potential operating and capital costs optimized to high volume mid-grade lithium brine of Alberta. To date work has been successful and initial optimization results are expected at the end of January from PurLucid. Results from independent work at the Saskatchewan Research Council are expected by mid-February.



## Qualified Persons

The technical portions of this press release were prepared by Dr. Preston McEachern, CEO of PurLucid Treatment Solutions Inc., and have been reviewed by Andris Kikauka (P. Geo.), Vice President of Exploration for MGX Minerals. Mr. Kikauka is a non-independent Qualified Person within the meaning of National Instrument (N.I.) 43-101 Standards.

## Cautionary Statement

*MGX Minerals is actively working on advancing its Alberta Lithium Portfolio into production. However, readers are cautioned that the Company has not completed a pre-feasibility or feasibility study which establishes mineral reserves with demonstrated economic and technical viability. Further, the Company cautions readers that any potential production may not be economically feasible and historically projects taken to production without establishing reserves through a feasibility study have a much higher risk of economic or technical failure.*

## About MGX Minerals

MGX Minerals (CSE: XMG) is a diversified Canadian mining company engaged in the development of large-scale industrial mineral portfolios in western Canada. The Company operates lithium, magnesium and silicon projects throughout British Columbia and Alberta. MGX recently [released a maiden N.I. 43-101 compliant mineral resource estimate for its Driftwood Creek magnesium project](#), which outlined 8 million tonnes grading 43.31% magnesium oxide. In January the Company [received a 20-year Mining Lease for Driftwood Creek](#). Additionally, the Company is the [largest lithium brine land holder in Canada](#), controlling nearly 487,000 hectares of land representing over one million barrels of brine production per day. For further information, please visit the Company's website at [www.mgxminerals.com](http://www.mgxminerals.com).

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## Forward-Looking Statements

This press release contains forward-looking information or forward-looking statements including the completion of the rights offering (collectively "forward-looking information") within the meaning of applicable securities laws. Forward-looking information is typically identified by words such as: "believe",



"expect", "anticipate", "intend", "estimate", "potentially" and similar expressions, or are those, which, by their nature, refer to future events. The Company cautions investors that any forward-looking information provided by the Company is not a guarantee of future results or performance, and that actual results may differ materially from those in forward-looking information as a result of various factors. The reader is referred to the Company's public filings for a more complete discussion of such risk factors and their potential effects which may be accessed through the Company's profile on SEDAR at [www.sedar.com](http://www.sedar.com).