



ASX Release: 25 February 2021

Magnum appoints GR Engineering Services Limited to lead the Direct Shipping Ore (DSO) review for the Buena Vista Magnetite Project

HIGHLIGHTS

- **The Buena Vista resources contain significant zones of high-grade magnetite**
 - **Magnum has appointed GR Engineering Services Limited to confirm these high-grade zones can be upgraded to a market ready DSO product**
 - **Accelerated development at Buena Vista via a DSO development provides an exciting opportunity for Magnum to benefit from the bullish outlook for iron ore including the growing recognition that magnetite is the “green” iron ore of the future**
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Further to Magnum Mining & Exploration’s (“Magnum”) ASX announcement on the 10th of February 2021 it is pleased to confirm it has contracted GR Engineering Services Limited (“GRES”) to lead the DSO study for the Buena Vista magnetite project.

The Buena Vista project is located approximately 160km east-north-east of Reno in the state of Nevada, United States. Buena Vista is an advanced magnetite iron ore project where in excess of A\$34 million has been spent on the project over the past decade.

Historical studies and permitting for the long-term production of a magnetite concentrate with no deleterious impurities have already been completed and now only require updating to 2021 costs and pricing.

In the early stages of the current feasibility study update, it was recognised that the Buena Vista resource contains a number of high-grade magnetite zones that typically assay +50% Fe with minimal impurities.

Historical metallurgical test work demonstrates that these high-grade magnetite zones can be easily upgraded with a dry crush. As a consequence, these zones have the potential to produce a high-grade Direct Shipping Ore (“DSO”) quality product without the need to go to a fine grind which is required for the average ROM ore.

GRES will review the historical metallurgical work to understand the potential %Fe product that can be delivered via a dry crush of the high-grade zones including the Iron Horse prospect. The GRES

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work scope also includes the option to confirm these outcomes, if recommended, via new metallurgical test work.

GRES will also provide capex estimates for the DSO plant and equipment and opex costs for the operational phase of the project. These updates will underpin revised financial analysis. If, as expected, a simple crushing and screening circuit can be used it will result in much lower capex and significantly cut the timeline to first production from the project. Importantly, this provides the project with an earlier opportunity to take advantage of the latest bank forecasts for ongoing bullish Iron Ore prices.



Figure 1: Massive magnetite outcrop

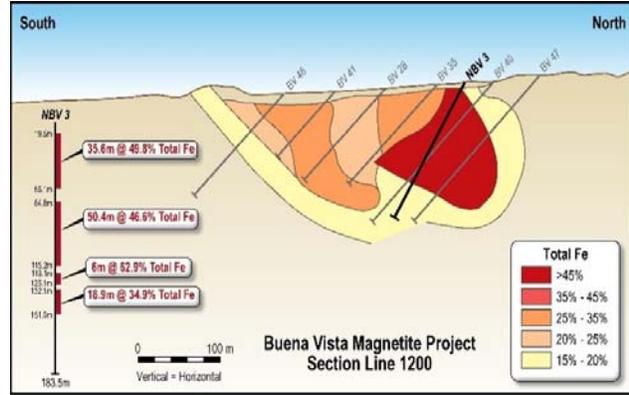


Figure 2: Section 1200 showing massive magnetite Zone

Any DSO operation would pre-empt the larger (wet) magnetite concentrate operation at Buena Vista and thereafter be integrated with this potential larger, and long-life, high grade concentrate operation.

The Buena Vista project, which was discovered in the late 1890's, has a history of successful DSO operations. As an example, in the late 1950's to early 1960's in the order of 900,000 tonnes of magnetite ore with an estimated grade of 58% Fe was produced and sold in the market.



Figure 3: Massive magnetite in drill core

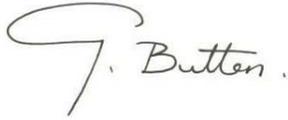


Figure 4: Massive lump magnetite

It is expected that a ready market for a Buena Vista DSO product will be available, particularly as magnetite becomes more important as a low impurity and green iron ore alternative for steel mills looking to reduce their greenhouse gas emissions.

This announcement is authorised for release to the market by the Board of Directors of Magnum Mining & Exploration Limited.

Magnum Mining and Exploration Ltd



Grant Button
Company Secretary

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Competent Persons Statement

The information in this announcement that relates to Exploration Results, Mineral Resources and magnetite grades at Buena Vista complies with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code) and has been compiled and assessed under the supervision of Mr Howard Dawson, Non-Executive Director of Magnum Mining and Exploration Limited. Mr Dawson is a member of the Australian Institute of Geoscientists and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the JORC Code. Mr Dawson consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears. Mr Dawson has reviewed this announcement and considers all of the technical information provided to be an accurate representation of the Buena Vista project and the extensive technical work completed.