

MANGANESE CARBONATE POTENTIAL EMERGES AT DOM SILVERIO

HIGHLIGHTS

- Exploration programs have commenced at the Dom Silverio manganese Project, located in Minas Gerais, Brazil.
- Sampling program underway from existing Project stockpiles and mineralisation across more than 14km of manganese strike.
- The Company is also undertaking a logging and pXRF program on diamond drill core which formed part of the basis for the Foreign Estimate:
 - **61.8Mt @ 21.1% Mn oxide and 37.2Mt @ 20.7% of Mn carbonate¹**

Cautionary Statement: A competent person has not done sufficient work to classify the foreign estimates as mineral resources or ore reserves in accordance with the JORC 2012 Code; and it is uncertain that following evaluation and/or further exploration work that the estimates will be able to be reported as mineral resources or ore reserves in accordance with the JORC 2012 code. The Company is not aware of any new information concerning the report. Nothing has come to the attention of the Company that causes it to question the accuracy or reliability of the foreign exploration results, but the Company has not independently validated the foreign exploration results and therefore is not to be regarded as reporting, adopting or endorsing the foreign exploration results.

- The Company is also collecting samples from the stockpiles to commence metallurgical test work, to include:
 - Mineralogical analysis to guide the development of a metallurgical test work program;
 - Mineral processing test work to produce separate raw mineral concentrates, such as high-grade manganese carbonate and manganese oxide; and
 - Benchtop metallurgical studies for the lowest-cost route from raw mineral concentrates to battery-grade Mn sulphate;
- Due diligence is ongoing with the Company now having access to more than 70 years of Project information from the Agência Nacional de Mineração (ANM), Brazil's national mining agency.
- The Company has begun to receive assay and other historical exploration information which will inform the Due Diligence process as well as provide guidance for the upcoming exploration programs.

¹DES ASX Announcement: DES Enters Agreement for Large High-Grade Manganese Project (25th November 2024)

MANGANESE CARBONATE POTENTIAL

- Dom Silverio has a reported high-grade carbonate foreign estimate of **37.2Mt @ 20.7% Mn**, with initial sampling and mapping programs highlighting widespread manganese carbonate potential (Fig. 1).
- An initial review of the potential to produce battery-grade manganese sulphate has highlighted the potential for carbonate ore to be the lowest-cost feedstock ore for manganese sulphate suitable for Electric Vehicle (EV) batteries.
- Battery EV cathodes containing battery-grade manganese sulphate are the fastest growing battery chemistry segment², with EV battery cathodes trending towards a manganese-dominant chemistry.²
- Dom Silverio is located in Brazil, the fastest growing EV market in the world and the gateway to Latin America, with BYD and Great Wall Motor announcing plans to manufacture EVs in Brazil.³
- Brazil is a tier-1 location for integrated mining, processing and refining. In January 2024, Brazil introduced an import tax on battery-electric and plug-in hybrid to stimulate local EV manufacturing.



Figure 1 – Stockpile samples from Dom Silverio (Left), highlighting the carbonate (pink material). DeSoto geologists investigating and sampling the more than 14,000t of stockpiles at Dom Silverio.

²IEA Global Critical Minerals Outlook 2024

³Reuters April 2024

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Commenting on the Manganese Carbonate Potential, MD Chris Swallow:

“The Company’s investment thesis for acquiring the Dom Silverio Project has been built on its belief that manganese carbonate may be the lowest-cost, lowest carbon emitting feedstock for producing battery-grade manganese sulphate, supported by the growing demand for EV batteries which have battery chemistry which is trending towards manganese-rich cathodes.

On the exploration side, the Company is sampling and mapping existing stockpiles and areas identified in the Foreign Estimate provided to the Company and will include the areas of identified manganese carbonate.

To produce battery-grade manganese sulphate competitively outside of China, the Company identified a number of key precursors for any project. Location mattered: Minas Gerais is a key hub for metal refining and processing.

The Project thesis is also supported by EV tailwinds. Brazil is the fastest growing EV market in the world and the gateway to the rest of Latin America. In terms of government support, Brazil has implemented a number of tariffs to encourage the local manufacture of EV’s; both BYD and Greatwall have announced plans to manufacture in Brazil.

The combination of a high-grade carbonate feedstock, access to world-class mining, processing and refining skills and the EV tailwinds of manganese-rich battery chemistry demand from Brazil and Latin America, make the potential for battery-grade manganese sulphate production at Dom Silverio an attractive proposition.”

DeSoto Resources Limited (ASX:DES or ‘Company’) is pleased to announce that exploration programs have commenced at the Dom Silverio Manganese Project, located in Minas Gerais, Brazil.

Initial sampling, mapping and reconnaissance programs are underway on site with a bulk sample to be taken and the Company to undertake metallurgical test work. Post due diligence period, the Company is looking to progress its exploration program, with expected geophysics and Resource definition drilling programs.

The Company’s view that the future of EV batteries requires manganese-rich cathode material has been informed by a review of the available flowsheets and potential processing routes conducted on behalf of DeSoto by CSIRO.

The Company views manganese carbonate as a potential low-cost preference to manganese oxide because of the opportunity to bypass the calcining process, which may consume as much as 50% of the energy cost required for the production of battery-grade Mn sulphate. Also key, the use of carbonate is a low-carbon intensive reaction, with manganese oxides often requiring the combination of high heat and coking coal⁴ (figure. 2), a relatively high-carbon emitting process.

Through its exploration and testwork, the Company will investigate the lowest-cost pathway to battery-grade sulphate production from both carbonate and oxide ores at Dom Silverio, including amenability to leaching and impurity removal.

The Company will continue to update market on its progress with exploration and testwork as well as the due diligence process at Dom Silverio.

⁴Sprott Research (June 2022)

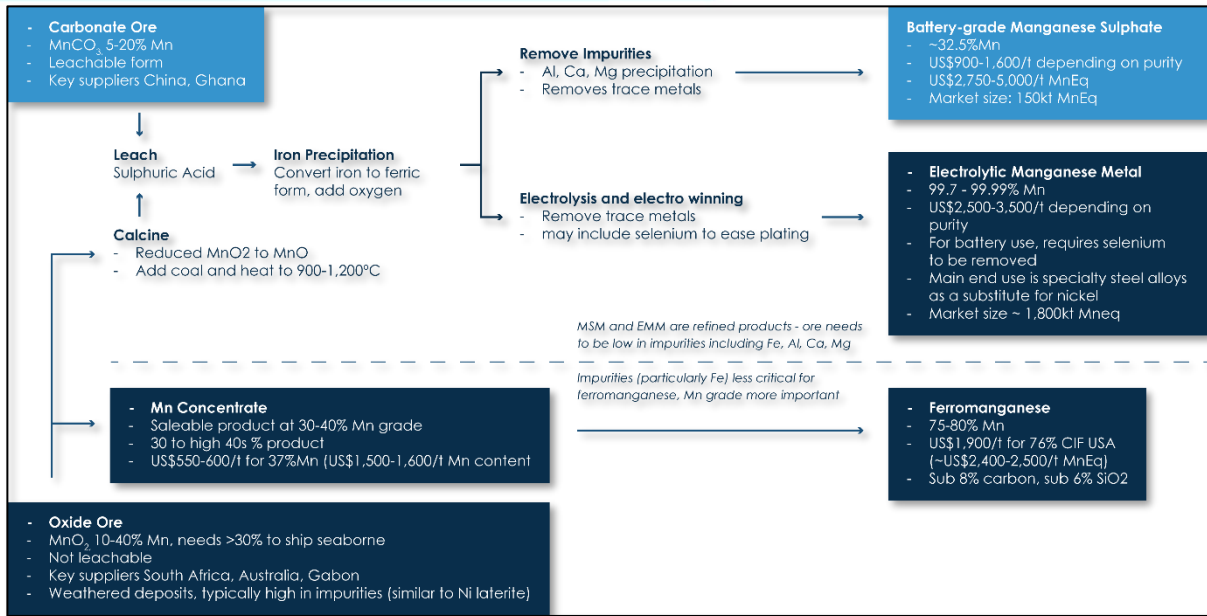


Figure 2 – Flowsheet for production of battery-grade manganese sulphate, highlighting the different processing routes between manganese oxide ore and manganese carbonate ore.

ABOUT DOM SILVERIO MANGANESE PROJECT

Located 110km east of Belo Horizonte on the east edge of the “Iron Quadrangle” in Minas Gerais State (Figure. 3), Brazil, Dom Silverio is an established mining district with more than 70 years of manganese production, most notably as a supplier to U.S. Steel as part of the United States armament efforts during World War II.

Dom Silverio contains a Non JORC-compliant Foreign Estimate of 61.8Mt @ 21.1% Mn Oxide and 37.2Mt @ 20.7% Mn carbonate with historical production of high-grade metallurgical manganese oxide ore grading 42% Mn (after sorting).

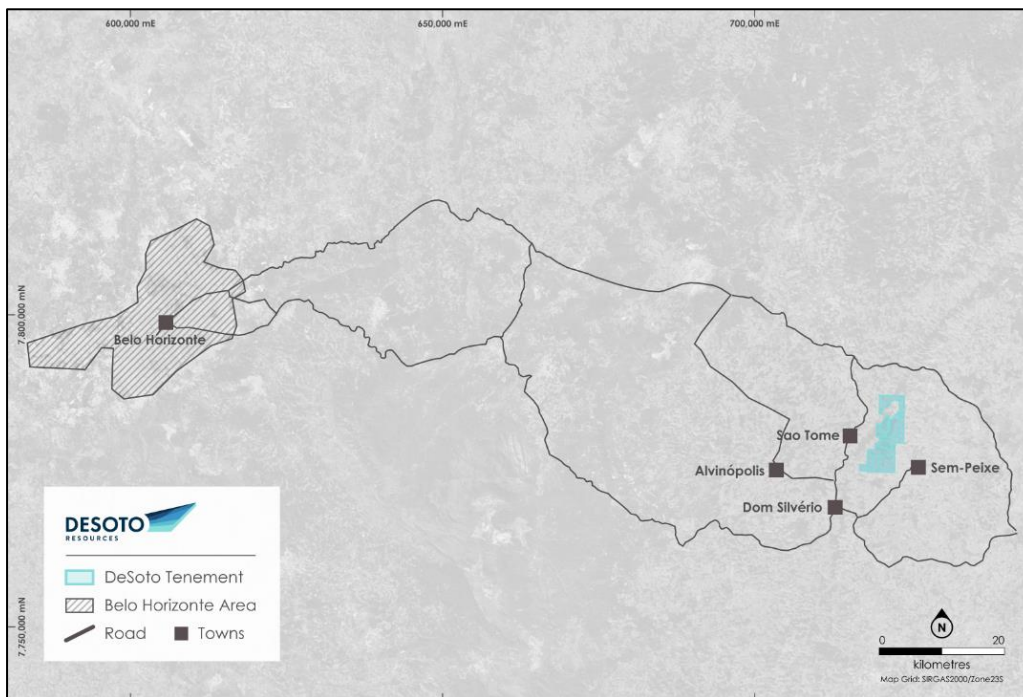


Figure 3 – Location of the Dom Silverio Manganese Project, located in Minas Gerais, Brazil.

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For further information visit our website at Desotoresources.com or contact:

Chris Swallow
Managing Director
P: +61 412 174 882
E: cs@desotoresources.com

This release is authorised by the Board of Directors of DeSoto Resources Limited.

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COMPETENT PERSONS STATEMENT

The information in this report that relates to exploration results is based on and fairly represents information and supporting documentation prepared by Mr Nick Payne.

Mr Payne is an employee of the company, is a member of the Australian Institute of Geoscientists and has sufficient experience of relevance to the styles of mineralisation and types of deposits under consideration, and to the activities undertaken to qualify as Competent Persons as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Payne consents to the inclusion in this report of the matters based on this information in the form and context in which they appear.

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