Benchmark Metals Inc. Highlights Resource Expansion Potential with Innovative AI Techniques

23.01.2023 | Newsfile

Vancouver, Jan 23, 2023 - Benchmark Metals Inc. (TSXV: BNCH) (OTCQX: BNCHF) (WKN: A2JM2X) (the "Company" or "Benchmark") - is pleased to announce positive results for mineralization expansion utilizing machine learning and AI. The Company recently conducted first pass Maptek DomainMCF to evaluate, validate and expand mineralized gold and silver domains within the Cliff Creek and Dukes Ridge deposits. Utilizing machine learning in conjunction with detailed logging and geochemical alteration mapping, results indicate the potential exists to expand the Cliff Creek and Dukes Ridge deposits. Benchmark's flagship Lawyers Gold-Silver Project (the "Project") is located within a road accessible region of the prolific Golden Horseshoe area of north-central British Columbia, Canada.

John Williamson, Chairman and CEO, commented: "Artificial Intelligence methods were used to model gold-bearing trends within each of the deposits. The results are consistent with our prior interpretations and indicate areas of potential expansion within our current open pit models. This work will be used to further refine drilling plans for resource expansion initiatives in 2023. Further AI machine learning will be run with additional inputs to better define drill targeting in the coming months."

The independently generated Artificial Intelligence Gold Equivalent model provides a strong validation of Benchmark's exploration model and further underlines the significant potential for continued expansion of mineralization (Figure 1A & 2), as well as providing indications of several compelling new trends (Figures 1 & 2) that can be investigated with future drill programs. The advanced AI model generated by Maptek is an innovative approach to continue building significant value for the Lawyers deposit in both the pit and the underground resources with each successive drill program. The Cliff Creek and Dukes Ridge Deposits are controlled by major NW and WNW structural trends that form the basis of Benchmark's comprehensive exploration model which combines logged geological features, extensive structural data, and categorized mineralization domains to inform the Mineral Resource Estimate.

In addition to the newly developed AI model, independent new alteration and lithological models have been generated using multi-element geochemical data in order to provide more insight on mineralized domains and develop new exploration tools that can be used to identify and vector towards new mineralized zones and potentially expand high grade zones. There is excellent agreement between these models and the logged geology, as well as the mineralisation and structural models. The "High Potassium" geochemical grouping (Figure 1B) corresponds with the logged potassic alteration which envelopes the main mineralization zone and is closely associated with high grade Au-Ag intercepts. These alteration zones along the major NW and WNW faults show the same spatial orientation as the AI model and the Benchmark Resource Model, providing further evidence for the use of alteration mapping and multi-element geochemical data as an effective tool for expanding known mineralized domains and revealing new opportunities at the Lawyers deposit.

Figure #1 - Depth Slice of Cliff Creek and Dukes Ridge Deposits with AI Expansion Zones (A) and Geochemical Alteration Model (B)

To view an enhanced version of Figure #1, please visit:
https://images.newsfilecorp.com/files/6169/152055_43a59261e4879bb5_001full.jpg

Figure #2 - Cross Section looking NW at Dukes Ridge Deposit with AI Expansion Zones

To view an enhanced version of Figure #2, please visit:
https://images.newsfilecorp.com/files/6169/152055_43a59261e4879bb5_002full.jpg

DomainMCF - Machine Learning Tools

Maptek DomainMCF uses machine learning to generate domain boundaries direct from sample data for rapid creation of resource models. Using deep learning to predict categorical variables such as geological domains is a highly efficient process, requiring little in the way of input parameters, and can generate a result that includes a measure of prediction uncertainty. Geologists input drilling or other sampling data and obtain domain or grade models in dramatically less time than traditional resource modelling methods. The analysis utilizes professional expertise for interpretation and evaluation, supported by automated machine learning approach.

About Benchmark Metals

Benchmark Metals Inc. is a Canadian based gold and silver company advancing its 100% owned Lawyer's Gold-Silver Project located in the prolific Golden Horseshoe of northern British Columbia, Canada. The Project consists of three mineralized deposits that remain open for expansion, in addition to +20 new target areas along the 20-kilometre trend. The Company trades on the TSX Venture Exchange in Canada, the OTCQX Best Market in the United States, and the Tradegate Exchange in Europe. Benchmark is managed by proven resource sector professionals, who have a track record of advancing exploration projects from grassroots scenarios through to production.

Quality Assurance and Control

The technical content of this news release has been reviewed and approved by Michael Dufresne, M.Sc, P. Geol., P.Geo., a qualified person as defined by National Instrument 43-101.

ON BEHALF OF THE BOARD OF DIRECTORS

s/ "John Williamson"
John Williamson, Chief Executive Officer

For further information, please contact:
Jim Greig
Email: jimg@BNCHmetals.com
Telephone: +1 780 437 6624

NEITHER TSX VENTURE EXCHANGE NOR ITS REGULATION SERVICES PROVIDER (AS THAT TERM IS DEFINED IN THE POLICIES OF THE TSX VENTURE EXCHANGE) ACCEPTS RESPONSIBILITY FOR THE ADEQUACY OR ACCURACY OF THIS RELEASE.

This news release may contain certain "forward-looking statements". Forward-looking statements involve known and unknown risks, uncertainties, assumptions and other factors that may cause the actual results, performance or achievements of the Company to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Any forward-looking statement speaks only as of the date of this news release and, except as may be required by applicable securities laws, the Company disclaims any intent or obligation to update any forward-looking statement, whether as a result of new information, future events or results or otherwise.