

Foreword

On behalf of the Manitoba Geological Survey (MGS), it is my privilege to present the *Report of Activities 2022*—the annual peer-reviewed volume of geoscience project results by the MGS and its partners.

With the creation of the Department of Natural Resources and Northern Development in February of 2022, the Stewardship and Resource Development (SRD) Division comprises the Manitoba Geological Survey; Forestry and Peatlands Branch; Lands and Planning Branch; Mining, Oil and Gas Branch; Consultation and Reconciliation Unit; and Business Development Services. The Manitoba Geological Survey regained its status as a branch that represents a consolidation of all geoscience-related services that SRD provides. The MGS consists of five sections: (1) Precambrian Geoscience (Christian Böhm, Chief Geologist); (2) Sedimentary Geoscience (Michelle Nicolas, Chief Geologist); (3) Geoscience Data Management (Greg Keller, Manager); (4) Rock Libraries and Laboratory (Colin Epp, Manager); and (5) the Resource Centre (Peggy Syljuberget, Manager).

The MGS conducts a wide range of investigations, which include the examination of exposed bedrock, subsurface and surficial sediments including sand, gravel and organic deposits throughout Manitoba. It also provides geoscience support for the regulatory framework and tenure systems managed by SRD, which includes oil field-pool code designations, geoscientific review of oil and gas licences and applications, borehole licence reviews, aggregate inquiries and land-use designations. By incrementally developing and advancing a detailed understanding of Manitoba's geology and geological processes, the MGS provides foundational data and unbiased technical support to inform government policy and decision-making, mineral exploration, and land-use management.

This year's 12 articles cover a diverse thematic and geographic range from greenstone belts with Ni-Cu-PGE potential, collaborative geoscience projects focusing on critical minerals, re-interpretation of old data using today's knowledge and technologies, geoscience database innovation, to state-of-the-art surficial geoscience. Some examples include renewed research and mapping of the potash layers across the basin, where better geoscientific understanding has increased the potential distribution of the potash members in Manitoba. A new bedrock-mapping project initiated at Halfway Lake in the Thompson nickel belt focuses on potentially new Ni-Cu sulphide deposits. Furthermore, the MGS is studying pegmatitic intrusions in the Kisseynew domain and the Bird River greenstone belt for their potential to host economic levels of critical minerals, including lithium.

Continued improvements to Manitoba's Mineral Deposits Database (MDD) resulted in the identification of thousands of new mineral occurrences located throughout the province. Because the new MDD captures a wide range of commodities, including several newly added critical minerals, the MGS anticipates that future updates will allow for comprehensive assessments of Manitoba's critical-mineral potential. By extracting key information from historical documents and adding newly available exploration data, the ongoing MDD update project is filling important gaps in Manitoba's mineral occurrence data and mineral potential assessments. A more comprehensive mineral occurrence dataset directly supports land-use and related economic development planning (e.g., parks and infrastructure planning within government, MGS project planning, community economic development strategies), and may trigger renewed or new exploration interest in certain areas.

Over the last year, the MGS saw several staff changes. We continue to build capacity with the hiring of Peggy Syljuberget as Manager of the Resource Centre. After more than 35 years with the MGS, Len Chackowsky set off for retirement. Len's contribution to the Geoscience Data Management section (GDMS) of the MGS will be missed, along with his fabulous sense of humour. The GDMS also lost a talented GIS specialist when Ashley Santucci left the MGS for warmer climes earlier this year. Thank you to Christine Custodio and Elena Kozak, both of whom moved to other departments, for their work as the Mining, Oil and Gas System Administrator, supporting the Manitoba Oil and Gas Well Information System (iMaQs), Petrinex and other MGS/MOG legacy systems. Finally, after six years of providing support to both staff and clients in the Resource Centre, we bid farewell to our Resource Centre specialist, Tomaz Booth.

The production of the Report of Activities, together with a wealth of other MGS publications, is not possible without the dedicated efforts of all geologists, GIS specialists, lab technicians, summer students and administrative and Corporate Services staff. Bob Davie and his team from RnD Technical provided outstanding professional technical editing services, and Craig Steffano managed report production and publication layout. I sincerely thank everyone from the MGS team for their valuable contributions.

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