

Foreword

I am pleased to present the 2016 *Report of Activities* by the Manitoba Geological Survey (MGS)—our annual peer-reviewed volume of geological-project results by the MGS and its partners.

The reports in this volume address various aspects of Manitoba's geology and highlight the mineral wealth of the province. By providing comprehensive, objective and up-to-date geoscience information, the annual *Report of Activities* is one of the many ways the MGS supports the mineral and petroleum industries in Manitoba. The information presented in this volume provides a permanent record of geoscience conducted in Manitoba and is a key contribution to the accrued knowledge of Manitoba's geology and mineral resources—one of the main mandates of the MGS. In addition to providing quality geoscience information, MGS programming promotes resource development, informed land-management planning, Aboriginal engagement and mineral education to the public.

An MGS priority is to maintain and update a knowledge base that is not only accessible, but also relevant and understandable to all stakeholders seeking to participate in sustainable development of Manitoba's mineral and energy resources. For the first time, the *Report of Activities* is accompanied by 'plain language' summaries of geoscience results, to make this information more broadly understandable and accessible.

As is evident from the 'Table of Contents', the MGS undertook a wide variety of geoscience projects in 2016, some of which were done in collaboration with partners to maximize benefits by combining staff, expertise and resources. The projects range from regional mapping to site-specific investigations, detailed thematic studies and outreach. The differing scales and diversity of these projects reflect the growing capacity of the Survey to tackle increasingly complex geological problems posed by Manitoba's diverse geology.

Collaborative opportunities, industry and community requests, and anticipated economic benefits all factor in the selection of MGS projects and study areas, which can be categorized as follows:

- 'Brown field' projects improve and update the geological knowledge base of regions with known mineral potential. These projects are designed to advance established mineral belts by providing geoscience support for ongoing exploration and mining activities (e.g., in the Lynn Lake and Flin Flon–Snow Lake belts).
- 'Green field' projects expand the boundaries of known mineral belts through the application of geoscience to encourage exploration in adjacent regions. These projects support existing companies by identifying new opportunities on adjacent ground and also attract new entrants to Manitoba's exploration

sector. Examples of current green field project areas include the Oxford–Knee Lake greenstone belt, the Pikwitonei granulite domain, the Southern Indian Lake region, and petroleum evaluation of the Devonian Duperow Formation in southwestern Manitoba.

- 'Frontier' projects identify outlying regions with significant mineral potential and open new mineral belts by providing foundational geoscience information to stimulate exploration investments in underexplored regions. Examples of current frontier projects include hydrocarbon evaluation and surficial geology studies in the Hudson Bay Lowland and bedrock mapping at Bigstone Lake (west of Island Lake).

In 2016, the MGS continued collaborations with the Geological Survey of Canada under the auspices of two major federal programs: the second phase of the Geomapping for Energy and Minerals program (GEM-2) and the fifth iteration of the Targeted Geoscience Initiative (TGI-5) program. MGS's role in the current Hudson-Ungava Project under GEM-2 is to integrate the onshore Paleozoic sedimentary succession of the Hudson Bay Basin in Manitoba into a regional framework, in order to advance assessment of its hydrocarbon potential. Results from this project feed directly into long-term resource-development plans and strategies for Manitoba's far northeastern region. In recent years, Manitoba has benefited considerably from collaborative research initiatives under the TGI-3 (Flin Flon) and TGI-4 (Snow Lake) programs. With TGI-5, the focus has shifted to the Lynn Lake belt and the large region of undeveloped mineral potential east of Thompson, known as the Superior province, with emphasis on gold and nickel.

This has been another year of staff changes at the MGS, with the retirements of Donna Dault, who served 18 years in Marketing and Business Development; and Gerry Bengert, who worked 34 years in the Midland Lab and Rock Storage facility. New MGS hires in 2016 are Kyle Reid as Project Geologist with expertise in uranium geology, as well as considerable industry experience in the Flin Flon–Snow Lake belt; and Tomaz Booth, who provides renewed client services in the Mineral Resources Library.

The dedicated and careful work of all MGS staff, including geologists, cartographers, lab technicians, expeditors, Client Services staff and administration, went into the production of the *Report of Activities 2016*. 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 and applaud everyone in the MGS team for their valuable contributions.

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