Progress and Activities Report for the Nova Scotia Mineral Occurrence Database, 2025–2026

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The Geological Survey Division (GSD) of Nova Scotia's Department of Natural Resources maintains the Nova Scotia Mineral Occurrence Database (MOD), a digital inventory of metallic and industrial mineral occurrences within the province. The MOD provides a standardized compilation of geological information used to support mineral exploration, research, land-use planning, and government programs.

For GSD purposes, a mineral occurrence is defined as a location where naturally occurring concentrations of minerals, rock, or surficial material exceed typical background levels and are considered to be of geological or economic interest. Each record includes occurrence location, primary commodities, identified minerals and alteration types, geological descriptions, summaries of previous work, available geochemical analyses, and references to assessment reports and maps. The database is maintained as an evolving inventory through compilation of historical data, incorporation of new information, and field verification.

During the 2025–2026 fiscal period, work focused on modernization of the MOD through migration to a centralized server environment. Data transfer and restructuring of the database architecture are currently underway to improve end user accessibility, internal management, editing workflows, and long-term data stability. Release of the updated database platform is anticipated later in 2026.

Approximately 90 new mineral occurrences were added to the MOD during the reporting period. Existing records were reviewed and revised to improve positional accuracy, commodity attribution, and geological descriptions. At present, the MOD contains more than 3,300 mineral occurrences and over 2,000 geochemical sample locations. These totals do not represent all known occurrences in the province, and compilation work is ongoing. The database continues to be updated as new information becomes available.

Work during the reporting period also included development of standardized classification methods for mineral occurrences. New database fields for deposit group and deposit type were introduced and incorporates elements of the mineral deposit classification system outlined in Hofstra et al. (2021). Initial efforts carried out by the GSD focused on major past-producing deposits and historically significant occurrences and will be expanded to additional records in future updates. As updates continue, many mineral occurrences are expected to remain unclassified due to insufficient geological data or contextual information required to confidently assign a deposit model.

The bibliographic component of the MOD was substantially improved during the reporting period. References previously recorded as text citations were linked to available digital assessment reports and publications. Hyperlinks were added for more than 2,000 occurrences, providing direct access to supporting documentation through the database interface. These updates will be included in the next public release. The author gratefully acknowledges Carson Bowering for their assistance with this work.

Field visits were conducted to verify selected mineral occurrences, with priority given to sites associated with recent exploration activity or limited historical documentation. Photolog documentation was initiated to provide visual records of occurrence sites. Photologs consist of site photographs accompanied by brief descriptive summaries and are being prepared for integration into future database releases.

Upcoming work will focus on further standardization of mineral occurrence data. Planned initiatives include development of consistent inclusion criteria based on geological and geochemical thresholds, with evaluation of methodologies used by the Ontario, Manitoba and Québec geological surveys. Formal definitions distinguishing mineral occurrences, prospects, and mineral deposits will also be established to improve classification consistency and interoperability with provincial and federal geoscience datasets.

Ongoing development of the MOD improves access to standardized geological information and supports mineral exploration and resource assessment activities in Nova Scotia. Enhancements completed during the reporting period improve data consistency, accessibility, and spatial interpretation for industry, government, and research users.

References

Hofstra, A., Lisitsin, V., Corriveau, L., Paradis, S., Peter, J., Lauzière, K., Lawley, C., Gadd, M., Pilote, J., Honsberger, I., Bastrakov, E., Champion, D., Czarnota, K., Doublier, M., Huston, D., Raymond, O., VanDerWielen, S., Emsbo, P., Granitto, M., and Kreiner, D., 2021. Deposit classification scheme for the Critical Minerals Mapping Initiative Global Geochemical Database; U.S. Geological Survey, Open-File Report 2021–1049, 60 p. doi :10.3133/ofr20211049