

Diamond

MANITOBA STRATEGIC MINERALS



Through its surficial geology program, the **Manitoba Geological Survey** continues to support diamond exploration by providing practical guides to drift prospecting. Results of this work are available at: manitoba.ca/iem/geo/surficial

In 2016, bedrock mapping and sampling by the Manitoba Geological Survey resulted in the **discovery of diamonds** in the Oxford Lake-Knee Lake greenstone belt of the Superior craton, representing the first confirmed occurrence of diamonds in Manitoba. The diamonds are hosted by Archean sedimentary rocks that may have been derived from coeval lamprophyric volcanism.

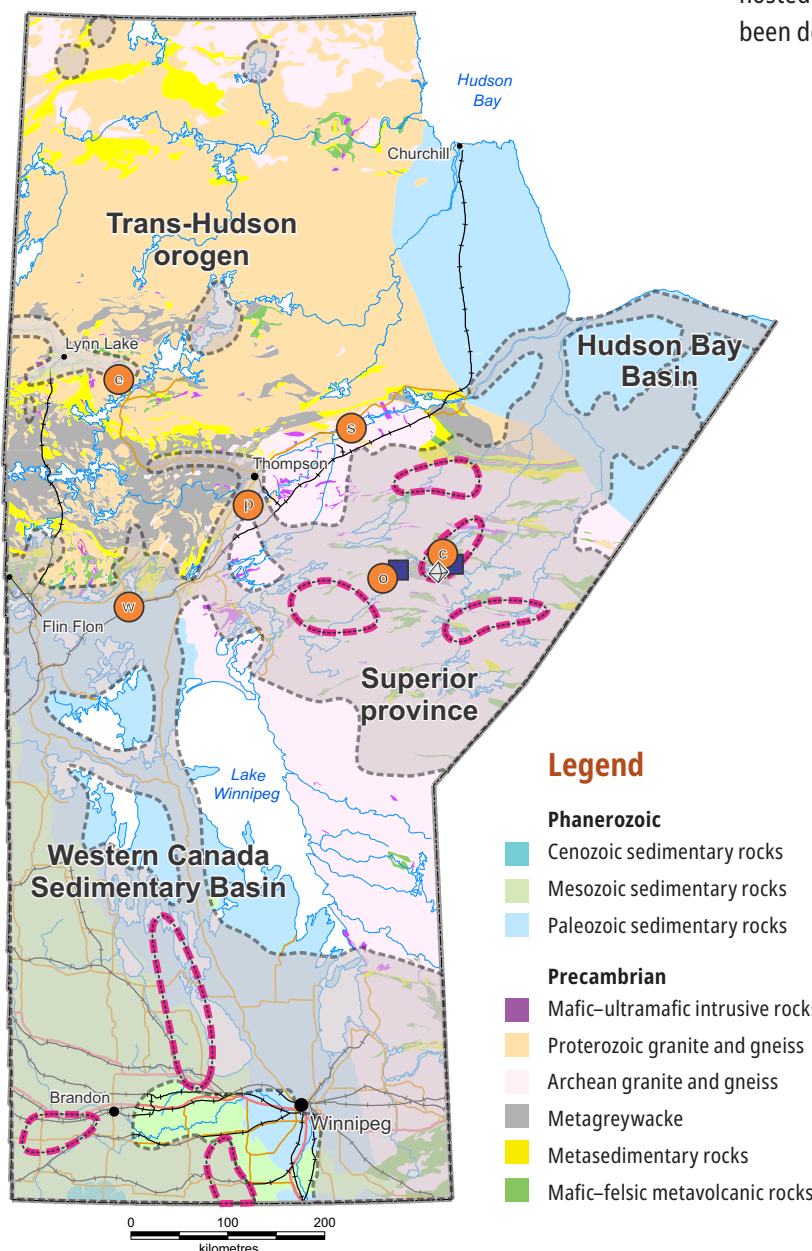
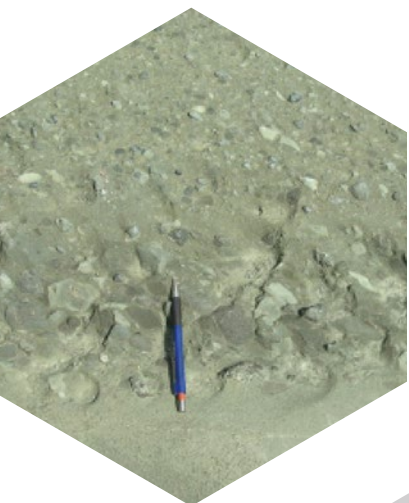


Figure 1: Geological map of Manitoba showing locations of selected diamond deposits.

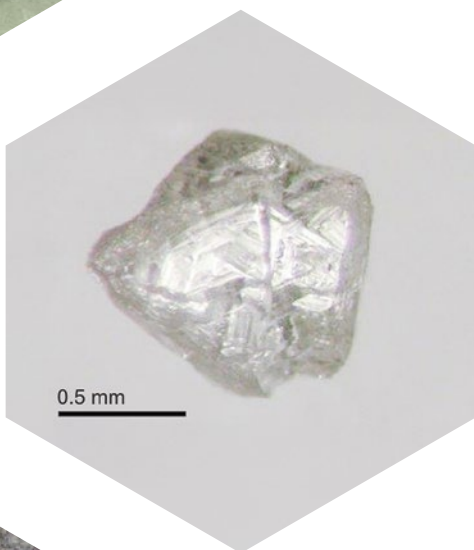


Figure 2: Geologist at Knee Lake.



Diamondiferous
conglomerate

Microdiamond



Pelletal lapilli

Kimberlite-indicator Minerals

Sampling of surficial sediments in parts of Manitoba has revealed a wide range of kimberlite-indicator mineral (KIM) suites, with promising results in the Hudson Bay Lowland, the northern Superior province, and at Southern Indian Lake in the Trans-Hudson orogen. KIM sampling programs are ongoing in several parts of the province to expand and improve the data coverage.

More detailed information, including public domain KIM data and an integrated anomaly map designed for kimberlite exploration is available at:
manitoba.ca/iem/geo/diamonds

Carbonatite Occurrences

Carbonatite dikes have now been identified in several parts of Manitoba indicating crustal-scale ascent of mantle-derived magmas, some of which may be spatially associated with kimberlite.

Lamprophyre Occurrences

The discover of diamondiferous volcanogenic sedimentary rocks at southern Knee Lake (Superior province) has renewed exploration activity in a region long identified as having strong potential for diamonds. Diamondiferous conglomerates at Knee Lake were deposited in shallow marine settings and contain distinctive cored clasts similar to 'pelletal lapilli' formed in the root zones of kimberlite pipes, suggesting an association with diatreme volcanism.



Manitoba is home to world-class deposits and high mineral potential in extensive underexplored terrains.

Learn more at **manitoba.ca/minerals**

Contact Information

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