The search for diamonds in Canada

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Canada's Archean terrane has excellent potential for diamonds. Together with the somewhat less prospective adjacent younger Precambrian terrane, these rocks extend across much of the Canadian Shield and under the Phanerozoic cover of the Plains, Hudson Bay, and Arctic. Early world exploration relying on recognition of diamond in alluvial sediments led to production from India, Brazil, and Africa. Over the past century, advanced science and technology, and large investments, have led first to Russia, and now Canada, joining Africa as leading producers of high-quality gems. Progress in Canada accelerated after 1960, first in Ontario and the Arctic, then Saskatchewan in 1988, and most importantly the Chuck Fipke/Stew Blusson discovery at Lac de Gras that was announced in 1991. Canadian exploration relies on analysis of tectonics, indicator minerals, geophysical surveys, and multiple stages of drilling and bulk sampling, similar to other regions. Very different from other regions, however, is Canada's surficial environment, in which recent glaciation has caused fresh labile indicator minerals to be transported hundreds of km from source, having been transported by glacial processes that cross watershed boundaries.

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