



**GEOLOGICAL SURVEY OF CANADA  
OPEN FILE 7412**

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sulphide deposit, Rouyn-Noranda, Quebec**

**T. Monecke and H.L. Gibson**

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## Introduction

The discovery of the Horne volcanic-rock-hosted massive-sulphide deposit in 1923 was an outstanding event in the history of the Canadian mining industry, not only because of the size and grade of this giant base and precious metal deposit, but also because the exploration that ensued ultimately led to the discovery of the Noranda mining camp. In total, 20 massive-sulphide deposits have been mined in the camp (Gibson and Galley, 2007) and recent exploration success indicates that significant discoveries can still be made in one of Canada's most mature base-metal and gold camps.

The Horne deposit was mined from 1927–1976 and 1986–1989. The mine produced 260 t of Au and 1.13 Mt of Cu from 53.7 Mt of ore grading 6.1 g/t Au and 2.22% Cu (Kerr and Mason, 1990). This makes the Horne deposit the largest gold producer of its class in the world (Mercier-Langevin et al., 2011).

To better constrain the processes of gold enrichment at Horne, a Geological Survey of Canada Targeted Geoscience Initiative (TGI-3) Abitibi Subproject was undertaken to study the volcanology, stratigraphy, lithogeochemistry, and geochronology of the host-rock succession of this giant volcanic-hosted massive sulphide deposit (Monecke et al., 2008). The present Geological Survey of Canada Open File represents an electronic archive of six geology maps that have been prepared as part of this field-based research.

## Surface Mapping

Detailed mapping was conducted in five areas exposing the host rock stratigraphy of the Horne deposit. Emphasis was placed on the documentation of the volcanic facies relationships. Mapping was conducted at a scale of 1:200. Outcrop outlines were established through the construction of 1 m x 1 m surface grids that were georeferenced using a GPS (typical accuracy of  $\pm 4$  m). The topographical base maps were obtained by a combination of GPS-supported surveys and air photo interpretation. Information from two historic maps dated August 1929 was used in the preparation of the surface geology maps of the Tunnel Zone and A Zone areas (see Monecke et al., 2011).

## List of Maps

The present Geological Survey of Canada Open File includes the following six maps:

- Sheet 1: Index map, Horne Block, Quebec
- Sheet 2: Horne West Area, Horne Block, Quebec
- Sheet 3: Railroad Area, Horne Block, Quebec
- Sheet 4: Core Shack Area, Horne Block, Quebec
- Sheet 5: Tunnel Zone Area, Horne Block, Quebec
- Sheet 6: A Zone Area, Horne Block, Quebec

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