Publication information

Geological Survey of Canada

Open File 8111

Indicator mineral signatures of the Halfmile Zn-Pb-Cu volcanogenic massive sulphide deposit, Bathurst, New Brunswick: Part 2 – till data

M.B. McClenaghan, G. Budulan, M.A. Parkhill, D. Layton-Matthews, and D. Crabtree

© Her Majesty the Queen in Right of Canada, as represented by the Minister of Natural Resources, 2016

doi:10.4095/

Publications in this series have not been edited; they are released as submitted by the author.

Recommended citation

McClenaghan, M.B., Budulan, G., Parkhill, M.A., Layton-Matthews, D., and Crabtree, D., 2016. Indicator mineral signatures of the Halfmile Zn-Pb-Cu volcanogenic massive sulphide deposit, Bathurst, New Brunswick: Part 2 – till data; Geological Survey of Canada, Open File 8111, 1 zip file. doi:10.4095/

System requirements

PC with 486 or greater processor, or Mac® with OS® X v. 10.2.2 or later; Adobe® Reader® v. 6.0 or later; video resolution of 1280 x 1024.

Trademarks

Adobe®, Acrobat®, and Reader® are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries.

Microsoft Word® and Excel® are either a registered trademark or a trademark of Microsoft Corporation in the United States and/or other countries

Contents

Till and bedrock samples were collected in 2007 and 2008 around the Halfmile Lake Zn-Pb-Cu VMS deposit, Bathurst Mining Camp, as part of the Geological Survey of Canada’s Targeted Geoscience Initiative-3 (TGI-3) (2005–2010). This report describes one component of the study, which examined the indicator minerals in till samples around the deposit. The Halfmile Lake VMS deposit is capped by a preglacial gossan that formed by chemical weathering and oxidation during the late Pliocene. The mineralogical and geochemical signatures of the glacial dispersal train down-ice (east) of the deposit reflect this gossan, including secondary minerals goethite, beudantite, and jarosite in the till. Chalcopyrite, pyrite, gold, and cinnabar are also present in the till down-ice of the deposit. The Zn-spinel gahnite, which is known to be an indicator of VMS mineralization, is also present in the local till; however, its bedrock source is not yet known.

Directory structure

of\_8111.pdf (Open File 8111)

readme-of\_8111.rtf (English version of this file)

Appendices\AppendixA\ AppendixA.xlsx (Till sample location data)

Appendices\AppendixB\AppendixB.xlsx (Heavy mineral concentrate grain counts for select minerals)

Appendices\AppendixD\ AppendixD2.xlsx (EMP analytical data for chalcopyrite grains)

Appendices\AppendixD\ AppendixD3.xlsx (EMP analytical data for beudantite grains)

Appendices\AppendixD\ AppendixD4.xlsx (EMP analytical data for goethite grains)

Appendices\AppendixD\ AppendixD5.xlsx (EMP analytical data for jarosite grains)

Appendices\AppendixD\ AppendixD6.xlsx (EMP analytical data for gahnite grains)

Author contact information

M.B. McClenaghan (Email: [Beth.McClenaghan@Canada.ca](mailto:Beth.McClenaghan@Canada.ca))

Geological Survey of Canada

601 Booth Street

Ottawa, Ontario

K1A 0E8

Availability information

This publication is available for free download through GEOSCAN (<http://geoscan.nrcan.gc.ca/>).

Terms of use

Information contained in this publication or product may be reproduced, in part or in whole, and by any means, for personal or public non-commercial purposes, without charge or further permission, unless otherwise specified.

You are asked to:

* + exercise due diligence in ensuring the accuracy of the materials reproduced;
  + indicate the complete title of the materials reproduced, and the name of the author organization; and
  + indicate that the reproduction is a copy of an official work that is published by Natural Resources Canada (NRCan) and that the reproduction has not been produced in affiliation with, or with the endorsement of, NRCan.

Commercial reproduction and distribution is prohibited except with written permission from NRCan. For more information, contact NRCan at [nrcan.copyrightdroitdauteur.rncan@canada.ca](mailto:nrcan.copyrightdroitdauteur.rncan@canada.ca).

Terms of use for data

View the licence agreement for data at <http://open.canada.ca/en/open-government-licence-canada>