

PUBLICATIONS

Data Repository Items

DRI2021014

Litho-geochemical database, Sm-Nd isotopic data and U-Pb geochronological data for the Wuskwatim–Granville–Laurie lakes corridor, Manitoba (parts of NTS 63O, P, 64A–C)

by L.A. Murphy, H.V. Zwanzig and C.O. Böhm

Microsoft® Excel® file accompanies:

Murphy, L.A. and Zwanzig, H.V. 2021: Geology of the Wuskwatim–Granville lakes corridor, Kisseynew domain, Manitoba (parts of NTS 63O, P, 64A–C); Manitoba Agriculture and Resource Development, Manitoba Geological Survey, Geoscientific Report GR2021-2, 94 p.

DRI2021021

Bedrock geochemical data of the Ralph Lake area, Lynn Lake greenstone belt, northwestern Manitoba (parts of NTS 64C14)

by X.M. Yang

Microsoft® Excel® file supplements:

Yang, X.M. 2021: Bedrock mapping at Ralph Lake, Lynn Lake greenstone belt, northwestern Manitoba (part of NTS 64C14): preliminary results and geological implications; *in* Report of Activities 2021, Manitoba Natural Resources and Northern Development, Manitoba Geological Survey, p. 40–58.

DRI2022001

Whole-rock geochemistry results of Cretaceous shale outcrop samples from the Pembina Hills area, southwestern Manitoba (NTS 62G1, 2, 8, 10)

by M.P.B. Nicolas

DRI2022002

Bedrock geochemistry from the Stuart Bay–Chickadee Lake area (east of Wekusko Lake), north-central Manitoba (parts of NTS 63J12, 13)

by K.D. Reid

Microsoft® Excel® file supplements:

Reid, K.D. 2019: Bedrock geological mapping of the Puella Bay area (Wekusko Lake), north-central Manitoba (part of NTS 63J12); *in* Report of Activities 2019, Manitoba Natural Resources and Northern Development, Manitoba Geological Survey, p. 42–51.

Reid, K.D. 2021: Results of bedrock geological mapping in the Stuart Bay–Chickadee Lake area (east of Wekusko Lake), north-central Manitoba (parts of NTS 63J12, 13); *in* Report of Activities 2021, Manitoba Natural Resources and Northern Development, Manitoba Geological Survey, p. 29–39.

DRI2022003

Compilation of Sm-Nd isotope results from the Manitoba Geological Survey 2021/2022 field season

by Manitoba Geological Survey

DRI2022004

Till-matrix geochemistry data from the Gillam area, northeastern Manitoba: additional 2021 data (NTS 54D7, 9, 11)

By M.S. Gauthier and T.J. Hodder

DRI2022005

Till-matrix geochemistry data from the Churchill–Little Churchill rivers area, northeastern Manitoba (part of NTS 54E)

By T.J. Hodder and M.S. Gauthier

DRI2022006

Till-matrix geochemistry data from the Machichi–Kettle rivers area, far northeastern Manitoba (parts of NTS 54A–C)

By T.J. Hodder and M.S. Gauthier

DRI2022007

Whole-rock geochemistry results of pegmatites from the Superior province (parts of NTS 53L10, 11, 14, 15)

By T. Martins

DRI2022008

Laser-ablation inductively coupled plasma–mass spectrometry analyses of detrital zircon grains from metasedimentary rocks of the Ospwagan group, Thompson nickel belt, Manitoba (parts of NTS 63O8, 9; 63P12)

By C.G. Couëslan

DRI2022009

Field-based ice-flow indicator data from the Split Lake and Fox River belt areas, northeastern Manitoba (parts of NTS 53M15, 16, 54D2, 4, 64A2)

by M.S. Gauthier and T.J. Hodder

Microsoft® Excel® file supplements:

Gauthier, M.S. and Hodder, T.J. 2022: Surficial geology mapping and till composition of the western Fox River greenstone belt area, northeastern Manitoba (NTS 53M15, 16, parts of 53N13, 54C4, 54D1): year two; *in* Report of Activities 2022, Manitoba Natural Resources and Northern Development, Manitoba Geological Survey, p. 96–109.

DRI2022010

Kimberlite-indicator-mineral data derived from glacial sediments (till) in the western Fox River greenstone belt area, northeastern Manitoba (NTS 53M15, 16)

by T.J. Hodder and M.S. Gauthier

Microsoft® Excel® file supplements:

Gauthier, M.S. and Hodder, T.J. 2022: Surficial geology mapping and till composition of the western Fox River greenstone belt area, northeastern Manitoba (NTS 53M15, 16, parts of 53N13, 54C4, 54D1): year two; *in* Report of Activities 2022, Manitoba Natural Resources and Northern Development, Manitoba Geological Survey, p. 96–109.

DRI2020011

Till-fabric measurements and statistics from sections near the confluence of the Hayes and Gods rivers, northeastern Manitoba (part of NTS 54C7)

by T.J. Hodder and M.S. Gauthier

Microsoft® Excel® file supplements:

Hodder, T.J. and Gauthier, M.S. 2022: Quaternary stratigraphic investigations near the confluence of the Hayes and Gods rivers, northeastern Manitoba (part of NTS 54C7); *in* Report of Activities 2022, Manitoba Natural Resources and Northern Development, Manitoba Geological Survey, p. 110–120.

GeoFiles

GeoFile 1

Digital compilation of surficial point and line features for Manitoba, including ice-flow data

by M.S. Gauthier, A. Santucci and G.R. Keller

GeoFile 2

Manitoba till-matrix geochemistry compilation: silt plus clay (<63 µm) size-fraction by inductively coupled plasma–mass spectrometry after an aqua-regia or modified aqua-regia digestion

by M.S. Gauthier

GeoFile 3

New edition of the 1:250 000 scale Precambrian bedrock geology compilation map of Manitoba

by Manitoba Geological Survey

GeoFile 4

Compilation of litho-geochemistry from Precambrian rocks in Manitoba

by Manitoba Geological Survey

GeoFile 5

Updates to the Manitoba Mineral Deposits Database, east-central and northern Manitoba (parts of NTS 53; 54; 64)

by M.L. Rinne

Geoscientific Papers

GP2022-1

Characterization of ultramafic-hosting metasedimentary rocks and implications for nickel exploration at Phillips Lake, Thompson nickel belt, central Manitoba (part of NTS 63O1)

by C.G. Couëslan

GP2022-2

Quaternary stratigraphy and ice-flow indicator data for the Gillam region, Manitoba (parts of NTS 54C, D, 64A)

by M.S. Gauthier, T.J. Hodder and M. Ross

Geoscientific Report

GR2021-2

Geology of the Wuskwatim–Granville lakes corridor, Kisseynew domain, Manitoba (parts of NTS 63O, P, 64A–C)

by L.A. Murphy and H.V. Zwanzig

Open Files

OF2022-1

Palynological analyses of sub-till sediments from four sites in the western Hudson Bay Lowland region (parts of NTS 53O; 54A, C, D)

by A.S. Dalton, S.A. Finkelstein, T.J. Hodder and M.S. Gauthier

OF2022-2

Bedrock geology of Manitoba

by Manitoba Geological Survey (scale 1:1 000 000)

Preliminary Maps

PMAP2022-1

Bedrock geology of the Halfway Lake area, central Manitoba (parts of NTS63O1, 2)

by C.G. Couëslan (scale 1:25 000)

PMAP2022-2

Bedrock geology of the Fox mine–Snake Lake area, Lynn Lake greenstone belt, northwestern Manitoba (part of NTS 64C12)

by X.M. Yang (scale 1:10 000)

Surficial Geology Compilation Maps

Updated maps can be downloaded at <https://manitoba.ca/iem/geo/surficial/digitalcompilation.html>

EXTERNAL PUBLICATIONS

- Benn, D., Linnen, R., and Martins, T. 2021: Evaluating white mica as an indicator mineral for lithium bearing pegmatites, Wekusko Lake pegmatite field, Manitoba, Canada; *in* Targeted Geoscience Initiative 5: grant program final reports (2018-2020), Geological Survey of Canada, Open File 8755, p. 45–58, URL <<https://doi.org/10.4095/328982>>.
- Benn, D., Martins, T. and Linnen, R. in press: Fractionation and enrichment patterns in white mica from Li pegmatites of the Wekusko Lake pegmatite field, Manitoba, Canada; *The Canadian Mineralogist*.
- Breasley, C.M., Linnen, R.L., Barker, I.R., Groat, L.A. and Martins, T. 2022: Utilizing X-ray computed tomography to visualise lithium silicate minerals: insights into mineralization at the Tanco pegmatite, Manitoba; AME Roundup 2022, January 31–February 3, 2022, Vancouver, BC, poster presentation.
- Breasley, C.M., Martins, T., Linnen, R.L. and Groat, L.A. 2022: Textures and trace element geochemistry of spodumene at the Tanco Pegmatite, Manitoba, Canada; 2022 Goldschmidt Conference, July 10–15, 2022, Honolulu, Hawaii, poster presentation.
- Couëslan, C.G. 2022: Affinity and petrogenesis of the Huzyk Creek metal-enriched graphite deposit: a metamorphosed metalliferous black shale in the Trans-Hudson Orogen of Manitoba, Canada; *The Canadian Mineralogist*, v. 60, no. 6, p. 1–28.
- Couëslan, C.G. 2022: Genesis of the Paleoproterozoic Huzyk Creek polymetallic graphite deposit, and the potential benefits of high-grade metamorphism of metalliferous black shales; Geological Association of Canada–Mineralogical Association of Canada, Joint Annual Meeting, May 15–18, 2022, Halifax, Nova Scotia, Volume of Abstracts, v. 45, p. 75.
- Gauthier, M.S. 2022: Using radiocarbon ages on organics affected by freshwater—a geologic and archaeologic update on the freshwater reservoir ages and freshwater diet effect in Manitoba, Canada; *Radiocarbon*, v. 64, no. 2, p. 253–264, URL <<https://doi.org/10.1017/RDC.2022.30>>.
- Gauthier, M.S. and Hodder, T.J. 2022: Glacial terrain zones reveal patchy erosion and deposition; Quaternary Research Association Annual Meeting 2022, January 5–7, 2022, Sheffield, U.K., oral presentation.
- Gauthier, M.S., Breckenridge, A. and Hodder, T.J. 2022: Patterns of ice recession and ice stream activity for the MIS 2 Laurentide Ice Sheet in Manitoba, Canada; *Boreas*, v. 51, no. 2, p. 274–298, URL <<https://doi.org/10.1111/bor.12571>>.
- Gauthier, M.S., Brewer, V., Hodder, T.J., Lian, O.B. and Schaarschmidt, M. 2022: Laurentide Ice Sheet withdraw and advance in the Roseau River area of southern Manitoba, Canada; American Quaternary Association Biennial Meeting (AMQUA 2022), June 7–11, 2022, Madison, Wisconsin, poster presentation.
- Haynes, S., Nicolas, M.P.B., MacCormack, K., McKenzie, B., Lynch, G., Hills, D., Coutts, K. and Watson, N. 2022: Building a strong foundation: progress on the 2027 Geological Atlas of the Western Canada Sedimentary Basin; Geoconvention 2022, June 20–22, 2022, Calgary, Alberta, Program with Abstracts and poster presentation, URL <https://geoconvention.com/wp-content/uploads/abstracts/2022/73339-building-on-a-strong-foundation_-progress-on-the-2.pdf> [October 2022].
- Martins, T. and Nicolas, M.P.B. 2022: Lithium – Manitoba leading the way; *Northern Prospector* 2022-2023, p. 14–15.
- Martins, T., Benn, D. and Linnen, R. 2022: Cs enrichment in white mica from Manitoba Li-bearing pegmatites. Is it always a product of fractional crystallization?; GAC-MAC-IAH-CNC-CSPG Joint Meeting, May 15–18, 2022, Halifax, Nova Scotia, Program with Abstracts and oral presentation, URL <<https://halifax2022.atlanticgeosciencesociety.ca/technical-program/>> [September 2022].
- McMartin, I., Gauthier, M.S. and Page, A.V. 2022: Updated post-glacial marine limits along western Hudson Bay, central mainland Nunavut and northern Manitoba; Geological Survey of Canada, Open File 8921, 19 p., URL <<https://doi.org/10.4095/330940>>.
- Nicolas, M.P.B. 2022: Helium potential of southwestern Manitoba; Williston Basin Petroleum Conference 2022, May 17–18, 2022, Regina, Saskatchewan, Program with Abstracts and oral presentation.
- Nicolas, M.P.B., Hills, D., Watson, N., Lynch, G. and McKenzie, B. 2022: Geological Atlas of the Western Canada Sedimentary Basin 2027: compiling the world’s most comprehensive geological atlas; Williston Basin Petroleum Conference 2022, May 17–18, 2022, Regina, Saskatchewan, Program with Abstracts and poster presentation.

Polat, A., Frei, R., Deng, H., Yang, X.M. and Sotiriou, P. 2022: Anatomy of a Neoproterozoic continental arc-backarc system in the Cross Lake-Pipestone Lake region, northwestern Superior Province, Canada; *Precambrian Research*, v. 370, art. 106556, URL <<https://doi.org/10.1016/j.precamres.2021.106556>>.