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Mines

GEOCHEMICAL DATA FOR THE DEER LAKE BASIN MAP AREA (NTS 12H/03), NEWFOUNDLAND

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Open File 012H/03/2333

**St. John's, Newfoundland
February, 2021**

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SUMMARY

This Open File release consists of whole-rock geochemical data for 12 rock samples collected in the Deer Lake Basin map area (NTS 12H/03), Newfoundland (Figure 1). Details of the analytical methods used are provided by Finch *et al.* (2018).

NOTES ON THE DATABASE

This data release contains whole-rock geochemical analyses of lithological units collected in 2015. This open file places data in the public domain; no interpretation of the data is included in this report.

The compilation includes for each sample the location in UTM coordinates (NAD 27, Zone 21), a brief lithological description, and major- and trace-element data (Appendix A). Analyses of standards are included in a separate file (Appendix B). The data are available in comma separated value format (*.csv files) from the Geofiles website link (*see* Appendices). A list of abbreviations used in the report is provided in Table 1.

The analytical methods used for each element are listed in Table 2. The Geochemical Laboratory of the Geological Survey of Newfoundland and Labrador analyzed major elements using ICP-OES following lithium metaborate/tetraborate fusion. FeO was measured by the titration method and LOI by the gravimetric method. Some trace elements were analyzed using ICP-

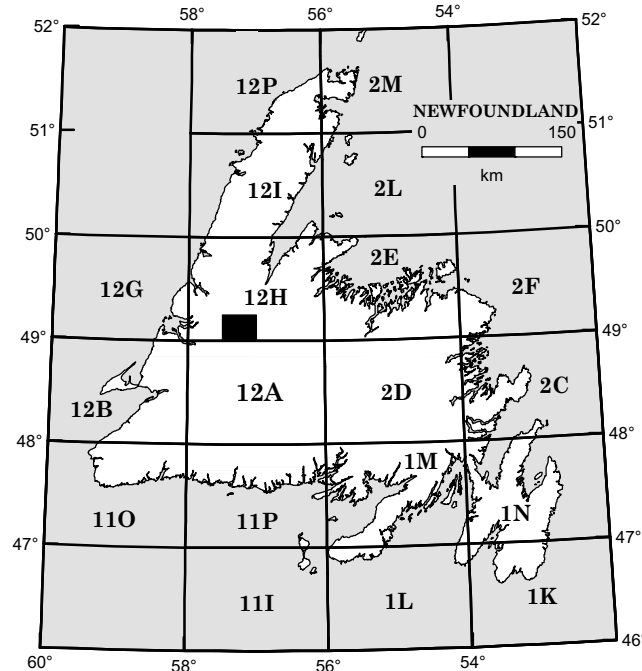


Figure 1. Location map of the study area.

OES following four-acid digestion; additional trace elements, including REE, were analyzed by ICP-MS after lithium metaborate/tetraborate fusion. Silver was analyzed using ICP-OES following nitric acid digestion. Fluoride was determined by ISE after sodium carbonate and potassium nitrate fusion. These analytical procedures are described in Finch *et al.* (2018). Trace elements, including REE, were also analyzed by the external commercial laboratory Activation Laboratories, using ICP-MS following lithium metaborate/tetraborate fusion.

Negative numbers indicate the concentration of the specific element in the sample was below the detection limit. Major elements are reported in weight percent, and trace elements are reported in ppm.

Table 1. List of abbreviations

Abbreviation	Explanation
Fe ₂ O ₃ ^T	Total measured iron
ICP-OES-4ACID	Inductively Coupled Plasma-Optical Emission Spectrometry following HF-HCl-HNO ₃ -HClO ₄ acid digestion
ICP-OES-FUS	Inductively Coupled Plasma-Optical Emission Spectrometry following lithium metaborate/tetraborate fusion
ICP-OES-HNO ₃	Inductively Coupled Plasma-Optical Emission Spectrometry following nitric acid digestion
ICP-MS-FUS	Inductively Coupled Plasma-Mass Spectrometry following lithium metaborate/tetraborate fusion (GSNL Geochemical Laboratory)
FUS-MS	Inductively Coupled Plasma-Mass Spectrometry following lithium metaborate/tetraborate fusion (Activation Laboratories)
ISE	Ion-selective electrode
LOI	Loss-on-ignition
negative detection limit	Below detection limit
pct	Percent
ppm	Parts per million
REE	Rare-earth elements
wt_pct	Weight percent

Table 2. Analytical methods for the elements

Element	Analytical Method
SiO ₂ , Al ₂ O ₃ , Fe ₂ O ₃ ^T , MgO, CaO, Na ₂ O, K ₂ O, TiO ₂ , MnO, P ₂ O ₅ , Cr, Zr, Ba	ICP-OES-FUS
Fe ₂ O ₃	Calculation
FeO	Titration
LOI	Gravimetric
As, Be, Cu, Li, Mn, Ni, Pb, Rb, Sc, Ti, V, Zn	ICP-OES-4ACID
F	ISE
Ag	ICP-OES-HNO ₃
Co, Ga, Ge, Sr, Y, Nb, Mo, Cd, Sn, Cs, La, Ce, Pr, Nd, Sm, Eu, Tb, Gd, Dy, Ho, Er, Tm, Yb, Lu, Hf, Ta, W, Tl, Bi, Th, U	ICP-MS-FUS
V, Cr, Co, Ni, Cu, Zn, Ga, Ge, As, Rb, Sr, Y, Zr, Nb, Mo, Lu, Ag, In, Sn, Sb, Cs, Ba, La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Hf, Ta, W, Tl, Pb, Bi, Th, U	FUS-MS

REFERENCE

Finch, C., Roldan, R., Walsh, L., Kelly, J. and Amor S.
2018: Analytical methods for chemical analysis of geological materials. Government of Newfoundland and Labrador, Department of Natural Resources, Geological Survey, Open File NFLD/3316, 67 pages.

APPENDICES

Appendices are available as digital comma-separated value files (.csv) through this link.

Appendix A: Major Element and Trace Element Data

Appendix B: Standards