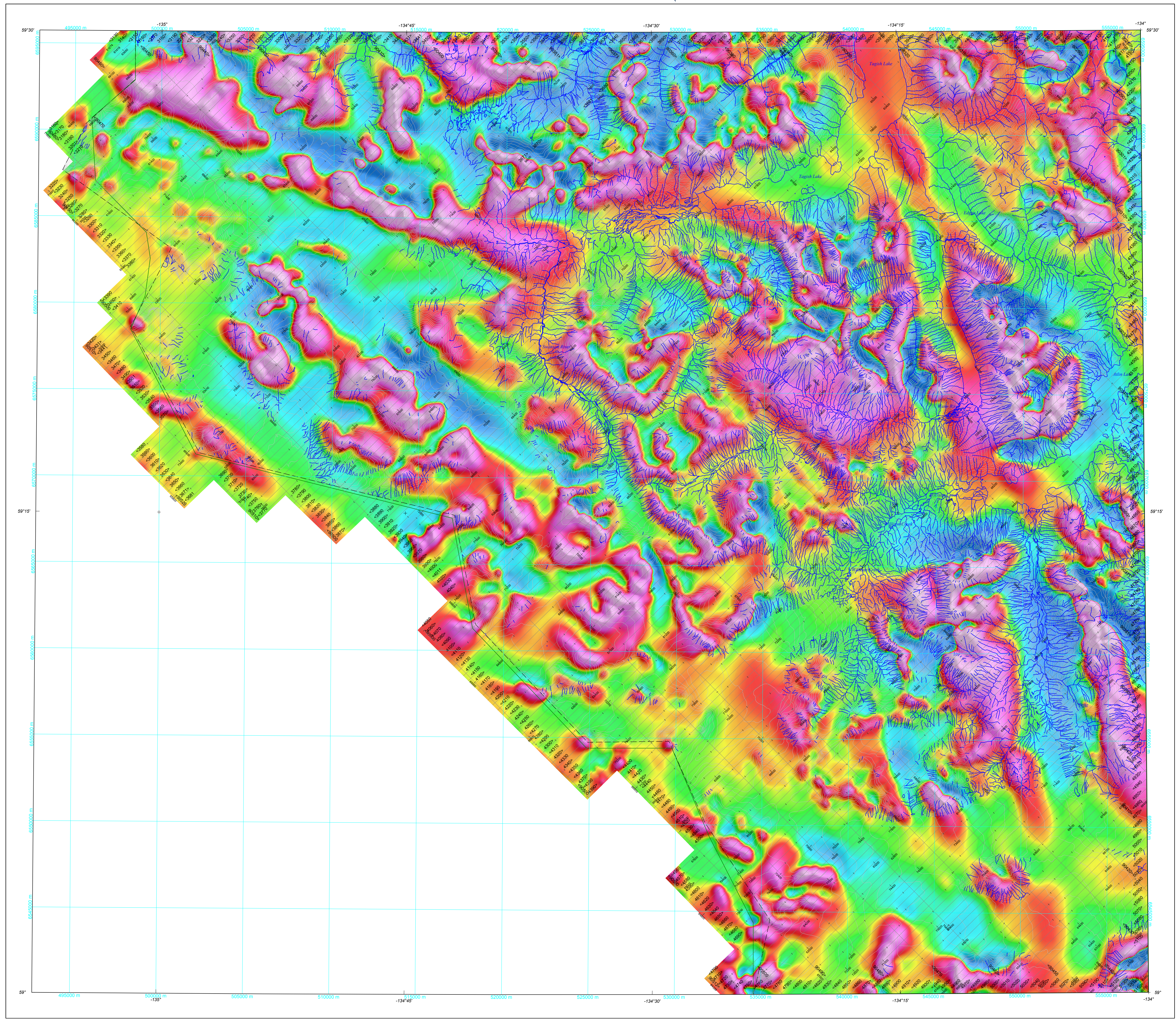


FIRST VERTICAL DERIVATIVE OF THE MAGNETIC FIELD



First Vertical Derivative of the Magnetic Field

This map of the first vertical derivative of the magnetic field was derived from data acquired during an aeromagnetic survey carried out by Goldak Airborne Surveys from March 10, 2017 to July 6, 2017. The nominal traverse and control line spacings were, respectively, 400 m and 2400 m, and the airplane flew at a nominal terrain clearance of 150 m. Traverse lines were oriented 45°E with orthogonal control lines. The flight path was recovered following post-flight differential corrections to the raw Global Positioning System (GPS) data. The survey was flown on a pre-determined flight surface to minimize differences in magnetic values at the intersections of control and traverse lines. These differences were computer-analysed to obtain a mutually levelled set of flight-line magnetic data. The levelled values were then interpolated to a 100 m grid. The International Geomagnetic Reference Field (IGRF) defined at the average GPS altitude of 1950 m for the current mid-survey date of 2017/06/08 was removed. Removal of the IGRF, representing the magnetic field of Earth's core, produces a residual component related almost entirely to magnetizations within the Earth's crust.

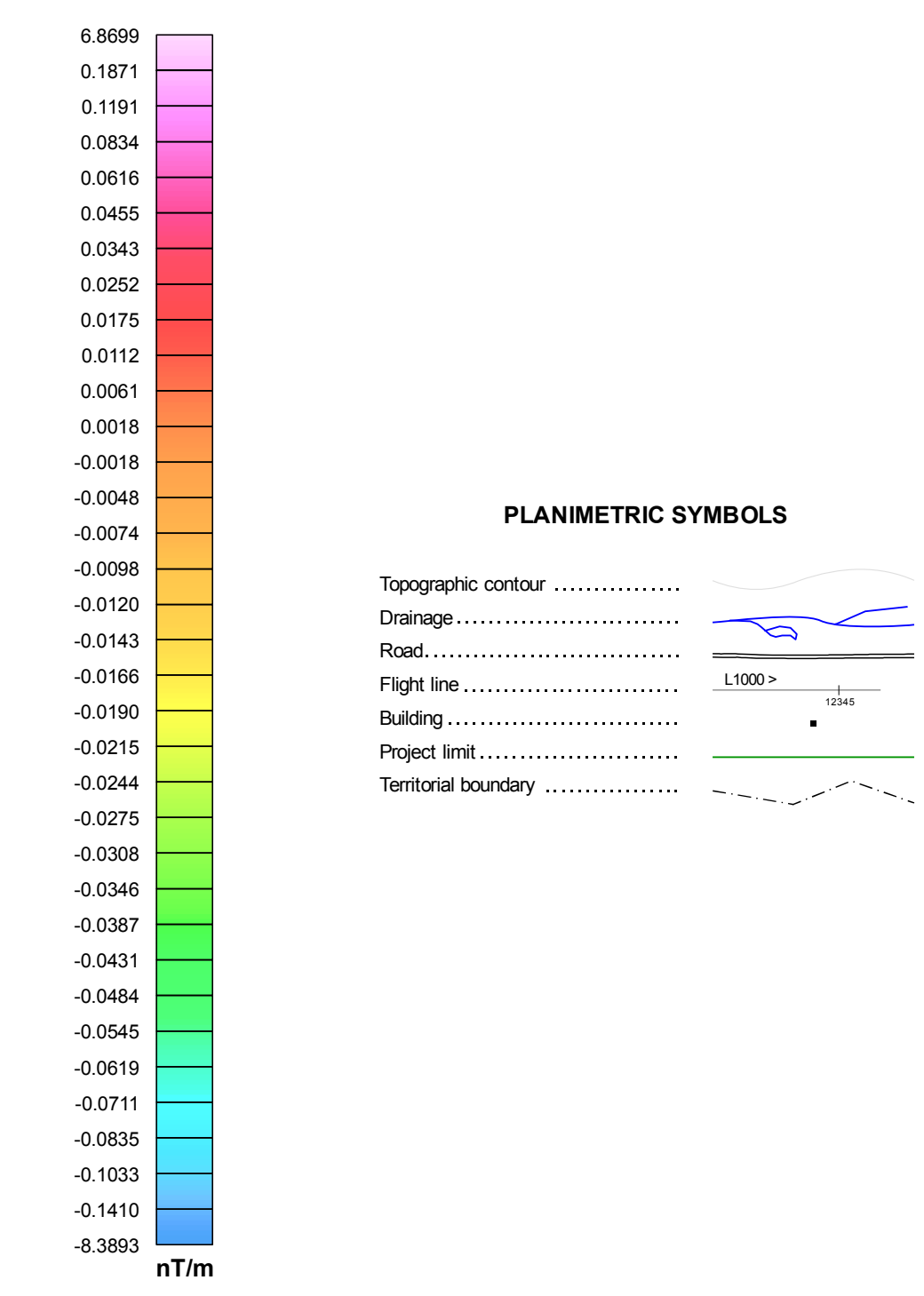
The first vertical derivative of the magnetic field is the rate of change of the magnetic field in the vertical direction. Computation of the first vertical derivative removes long-wavelength features of the magnetic field and significantly improves the resolution of closely spaced and superposed anomalies. A property of first vertical derivative maps is the coincidence of the zero-value contour with vertical contacts at high magnetic latitudes (Hood, 1965).

This publication is available for free download through GEOSCAN (<http://geoscan.nrcan.gc.ca/>). Corresponding digital profile and gridded data as well as similar data for adjacent airborne geophysical surveys are available from Natural Resources Canada's Geoscience Data Repository for Geophysical Data at http://gdr.geoscan.gc.ca/index_e.html. The same products are also available, for a fee, from the Geophysical Data Centre, Geological Survey of Canada, 601 Booth Street, Ottawa, Ontario K1A 0E8. Telephone: (613) 947-3337, email: NRCan.infogdc-infogdc.RNC@canada.ca.

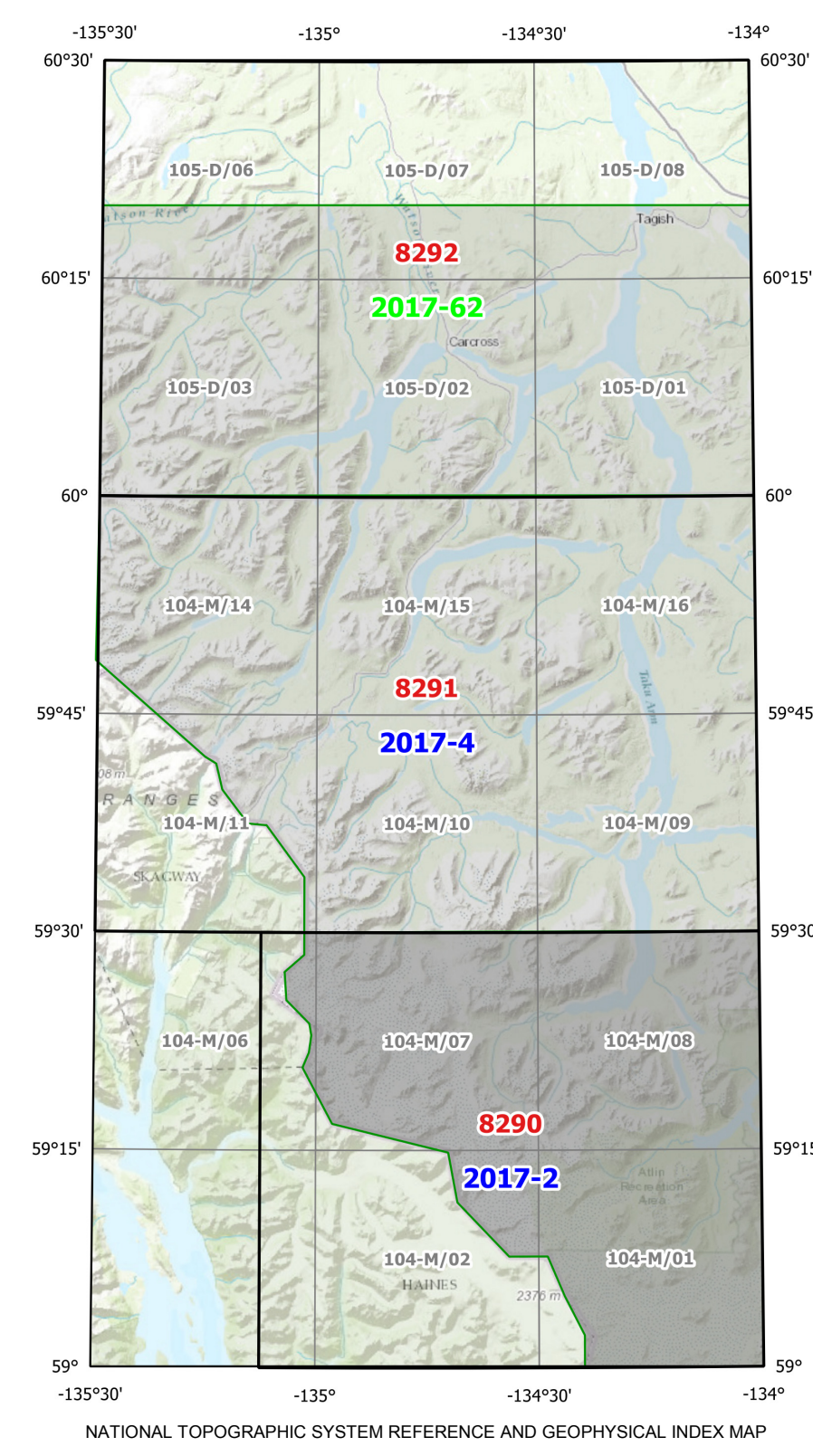
These data are also available for free download from the British Columbia Geological Survey, <http://www.empr.gov.bc.ca/mining/Geoscience/Pages/default.aspx>, PO Box 9333 Stn Prov Govt, Victoria, BC V8W 9N3. Telephone: (250) 952-0372, email: Geological.Survey@gov.bc.ca.

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Hood, P.J., 1965. Gradient measurements in aeromagnetic surveying; Geophysics, v. 30, p. 891-902.

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GSC Open File Numbers in Red
BCGS Geoscience Map Numbers in Blue
YGS Open File Numbers in Green



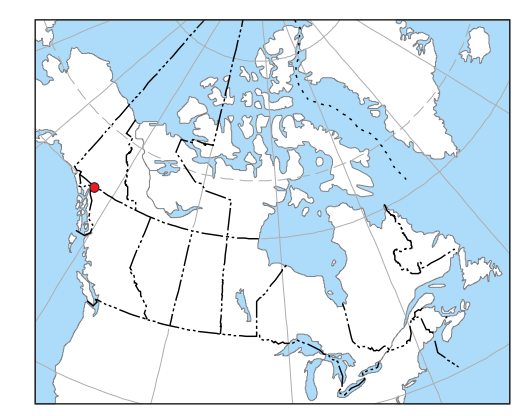
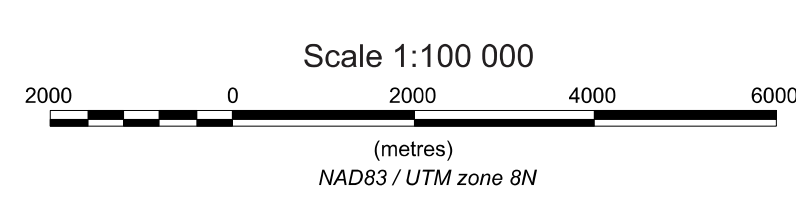
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GEOLOGICAL SURVEY OF CANADA OPEN FILE 8290
BRITISH COLUMBIA GEOLOGICAL SURVEY GEOSCIENCE MAP 2017-2, SHEET 2 OF 2
FIRST VERTICAL DERIVATIVE OF THE MAGNETIC FIELD

AEROMAGNETIC SURVEY OF THE LLEWELLYN AREA

NTS 104-M/8 and parts of 104-M/1, 2, 6, 7
BRITISH COLUMBIA

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GEOLOGICAL SURVEY OF CANADA
COMMISSION GEOLOGIQUE DU CANADA
2017

GEOSCIENCE MAP
2017-2
BRITISH COLUMBIA GEOLOGICAL SURVEY
2017

SHEET MAP MAP SHEET SUMMARY
1. Residual Total Magnetic Field
2. First Vertical Derivative of the Magnetic Field

AEROMAGNETIC SURVEY OF THE LLEWELLYN AREA

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