

**NOTES**

Standardization of publicly available digital magnetic data from assessment reports was performed in 2019 and 2020. Residual magnetic field was calculated through removal of the IGRF. A levelled magnetic field channel was calculated by sampling the 1:250 000 compilation grid and taking the mean difference between the residual magnetic field and the overlapping points; this mean difference is applied as zero order datum shift to the residual data. This is repeated for each 1:250 000 compilation that the survey overlaps.

Up to four gridded products are produced for each survey (Residual Total Magnetic Field (TMI), Reduced-to-Pole Magnetic Field (RTP), First Vertical Derivative of the Reduced-to-Pole Magnetic Field (RTP\_VD) and Tilt Derivative of the Reduced-to-Pole Magnetic Field (RTP\_TDR) and these have pre-existing analogous 1:250 000 products from Open Files 2017-5 to 2017-59.

The outline of the assessment report data is extracted and eroded by a buffer, typically 200 m. The buffer is automatically reduced if it exceeds half the range of either the x or y coordinates. The eroded buffer is then windowed from each of the four corresponding 1:250 000 compilations.

Each assessment report grid is then blended with the compilation grid through averaging common points between the grids. By previously windowing out the eroded assessment report outline from the compilation, both fidelity to the higher quality assessment report data and a smooth transition to avoid edge artifacts are achieved. This is an appropriate approach when the assessment report data are of higher quality than the compilation. Mostly this is true due to the higher resolution of data that is typical of a property-scale survey compared to a government regional-scale survey. However this is not universally the case and for every assessment report each of the four new blended grids are compared with the unaltered compilation. Assessment report grids which upon blending lower the quality of the compilation are manually rejected. A log file of accepted and rejected assessment reports for each 1:250 000 sheet is maintained.

The Yukon Geological Survey created georeferenced \*.pdf maps of the shaded relief colour contour products for each 1:250 000 map sheet. The map data are provided as GeoTiff files.

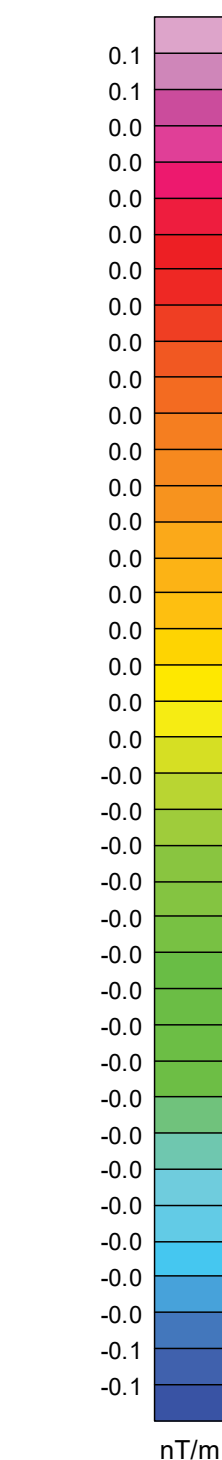
Funding for this project was provided by the Canadian Northern Economic Development Agency through their Strategic Investments in Northern Economic Development program.

**REFERENCES**

- Condor Geophysics, 2013. Selwyn Basin Geophysics: 30Hz Apparent Conductivity for parts of 105I, 105J, 105K, 105N, 105O and 105P. Yukon Geological Survey, Miscellaneous Report 9.
- Geological Survey of Canada, 2017. Canadian Aeromagnetic Data Base, Airborne Geophysics Section, Natural Resources Canada. Datasets: Nahanni Area C - Flat River, NWT (2005)
- Kiss, F. and Boulanger, O., 2016. Residual Total Magnetic Field, Aeromagnetic Survey of the Frances Lake Area, Yukon, NTS 105A/10 and parts of 105A/6, 7, 9, 11. Yukon Geological Survey Open File 2016-17; also Geological Survey of Canada, Open File 8063.
- Miles, W., Saltus, R., Hayward, N. and Oneschuk, D., 2015. Alaska and Yukon Magnetic Compilation, Residual total magnetic field. Geological Survey of Canada, Open File 7862.
- Goldspike Exploration Inc., 2013. 2013 Geochemical and Geological Report for the Summit Property. Yukon Energy, Mines and Resources Assessment Report 96513.

**RECOMMENDED CITATION**

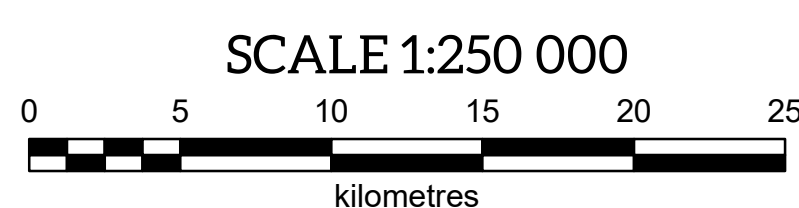
- Aurora Geosciences Ltd. and Bruce, J.O., 2020. First Vertical Derivative of the Reduced-to-Pole Magnetic Field Shaded Colour Contour Map (NTS 105I). *In*: Reprocessing of Yukon magnetic data for NTS 105I. Yukon Geological Survey, Open File 2020-17, scale 1:250 000, 4 sheets.
- Any revisions or additional geological information known to the user would be welcomed by the Yukon Geological Survey.
- Paper copies of this map and the accompanying report may be obtained from the Yukon Geological Survey, Energy, Mines and Resources, Government of Yukon, Room 102-300 Main St., Whitehorse, Yukon, Y1A 2B5. Email: geology@gov.yk.ca.
- A digital PDF (Portable Document File) file of this map, and available data, can be downloaded free of charge from the Yukon Geological Survey website: <https://yukon.ca/en/science-and-natural-resources/geology>.



- road
- watercourse
- waterbody
- Northwest Territories border

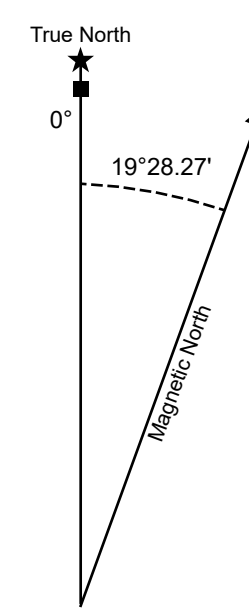


**FIRST VERTICAL DERIVATIVE OF THE REDUCED-TO-POLE MAGNETIC FIELD LITTLE NAHANNI RIVER (NTS 105I) YUKON**



1:250 000-scale topographic base data produced by CENTRE FOR TOPOGRAPHIC INFORMATION, NATURAL RESOURCES CANADA

ONE THOUSAND METRE GRID Universal Transverse Mercator Projection North American Datum 1983 Zone 9



Use diagram only to obtain numerical values APPROXIMATE MEAN DECLINATION 2020 FOR CENTRE OF MAP Annual change 22.8' West

105O NIDDERY LAKE	105P SEKWI MOUNTAINS	095M WRIGLEY LAKE
105J SHELDON LAKE	<b>THIS MAP</b>	095L GLACIER LAKE
105G FINLAYSON LAKE	105H FRANCES LAKE	095E FLAT RIVER

Yukon Geological Survey Energy, Mines and Resources Government of Yukon

Open File 2020-17 Sheet 3 of 4

**First Vertical Derivative of the Reduced-to-Pole Magnetic Field Shaded Colour Contour Map (NTS 105I) (1:250 000 scale)**

by Aurora Geosciences Ltd. and J.O. Bruce