

**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 leveled 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**

- 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.
- Strategic Metals Ltd., 2008. Assessment Report Describing VTEM and Magnetic Geophysical Surveys at the Timber Property. Yukon Energy, Mines and Resources Assessment Report 95097.
- Copper Canyon Resources Ltd., 2010. 2010 Assessment Report on the Kiwi Project. Yukon Energy, Mines and Resources Assessment Report 95335.
- Eagle Plains Resources Ltd., 2010. 2010 Geological and Geochemical Report on the Dragon Lake Property. Yukon Energy, Mines and Resources Assessment Report 95415.
- Ryan, Shawn and RYG 45127 Yukon Inc., 2011. Assessment Report 2011 Exploration Program. Yukon Energy, Mines and Resources Assessment Report 95843.

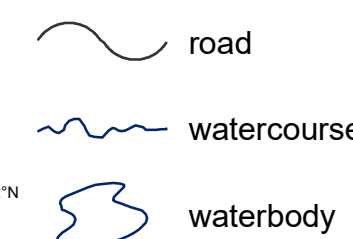
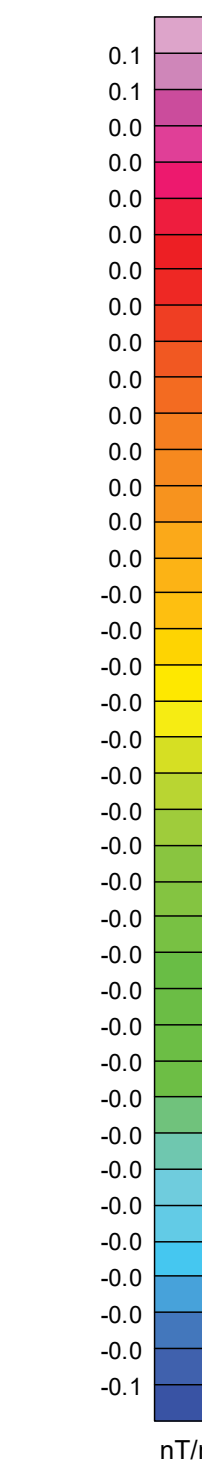
**RECOMMENDED CITATION**

Aurora Geosciences Ltd. and Bruce, J.O., 2020. First Vertical Derivative of the Reduced-to-Pole Magnetic Field Shaded Colour Contour Map (NTS 105J). *In*: Reprocessing of Yukon magnetic data for NTS 105J. Yukon Geological Survey, Open File 2020-18, scale 1:250 000, 4 sheets.

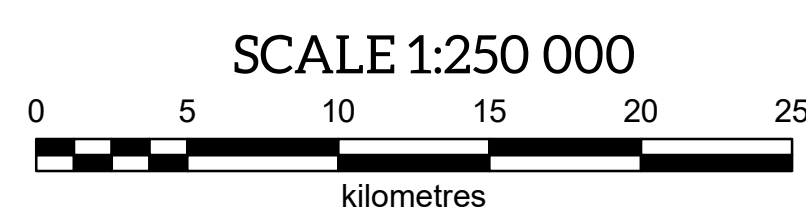
Any revisions or additional geological information known to the user would be welcomed by the Yukon Geological Survey.

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>.

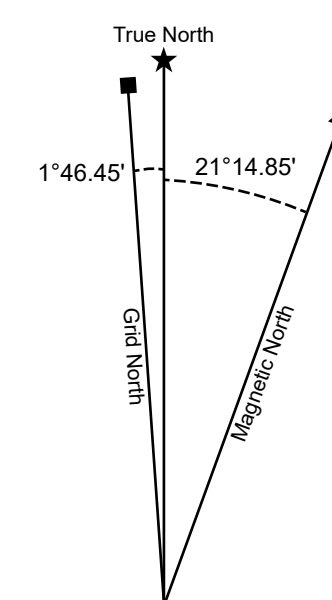


**FIRST VERTICAL DERIVATIVE OF THE REDUCED-TO-POLE MAGNETIC FIELD  
SHELDON LAKE (NTS 105J)  
YUKON**



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 22.9' West

105N LANSING RANGE	105O NIDDERY LAKE	105P SEKWI MOUNTAINS
105K TAY RIVER	<b>THIS MAP</b>	105I LITTLE NAHANNI RIVER
105F QUIET LAKE	105G FINLAYSON LAKE	105H FRANCES LAKE

Yukon Geological Survey  
Energy, Mines and Resources  
Government of Yukon

Open File 2020-18  
Sheet 3 of 4

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

by  
Aurora Geosciences Ltd.  
and  
J.O. Bruce