

**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**

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.

International Barytex Resources Ltd., 1998. Data Compilation and Interpretation of Airborne EM Anomalies. Yukon Energy, Mines and Resources Assessment Report 93989.

Strategic Metals Ltd., 2007. Assessment Report Describing Geophysical Surveys, Geochemical Sampling and Prospecting at the HY Property. Yukon Energy, Mines and Resources Assessment Report 95014.

Eagle Plains Resources Ltd., 2010. Geological, Geochemical and Geophysical Report for the SPROGGE (Justin) Property. Yukon Energy, Mines and Resources Assessment Report 95316.

Precipitate Gold Corp. and Strategic Metals Ltd., 2011. Assessment Report Describing Airborne Geophysical Surveys at the Reef Property. Yukon Energy, Mines and Resources Assessment Report 95437.

Northern Tiger Resources Inc., 2011. 2011 Exploration Activity on the 3Ace Property: Drilling, Geochemical, and Geophysical Surveys, Little Hyland River. Yukon Energy, Mines and Resources Assessment Report 95790.

Northern Tiger Resources Inc., 2011. 2011 Airborne Geophysical Survey, Spade Property. Yukon Energy, Mines and Resources Assessment Report 95853.

Northern Tiger Resources Inc., 2011. 2011 Airborne Geophysical Survey, Flush Property. Yukon Energy, Mines and Resources Assessment Report 95854.

Northern Tiger Resources Inc., 2011. 2011 Airborne Geophysical Survey, Royal Property. Yukon Energy, Mines and Resources Assessment Report 95855.

Aben Resources Ltd., 2012. 2012 Diamond Drilling, Geological, Geophysics and Geochemical Report for the Justin Property and VF Property. Yukon Energy, Mines and Resources Assessment Report 96319.

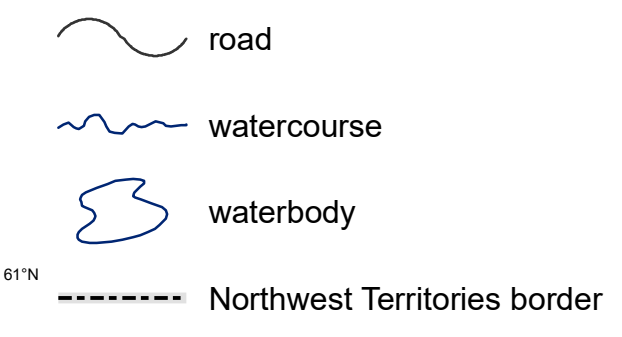
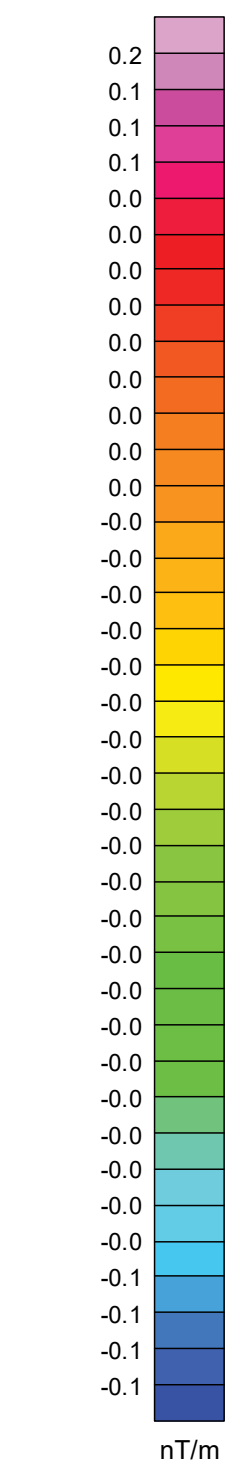
**RECOMMENDED CITATION**

Aurora Geosciences Ltd. and Bruce, J.O., 2020. First Vertical Derivative of the Reduced-to-Pole Magnetic Field Shaded Colour Contour Map (NTS 105H). In: Reprocessing of Yukon magnetic data for NTS 105H. Yukon Geological Survey, Open File 2020-16, scale 1:250 000, 4 sheets.

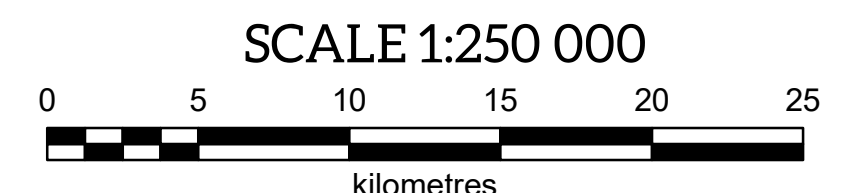
Any revisions or additional geological information known to the user would be welcomed by the Yukon Geological Survey.

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>.

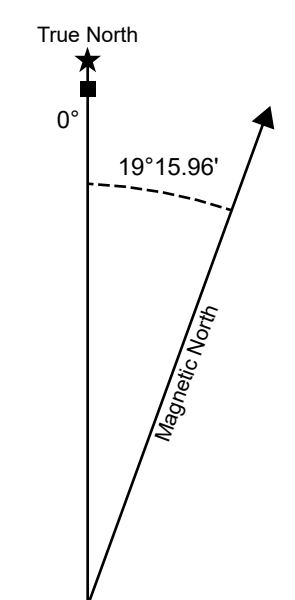


**FIRST VERTICAL DERIVATIVE OF THE REDUCED-TO-POLE MAGNETIC FIELD  
FRANCES LAKE (NTS 105H)  
YUKON**



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 21.4' West

105J SHELDON LAKE	105I LITTLE NAHANNI RIVER	095L GLACIER LAKE
105G FINLAY'S ON LAKE	<b>THIS MAP</b>	095E FLAT RIVER
105B WOLF LAKE	105A WATSON LAKE	095D COAL RIVER

Yukon Geological Survey  
Energy, Mines and Resources  
Government of Yukon

Open File 2020-16  
Sheet 3 of 4

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

by  
Aurora Geosciences Ltd.  
and  
J.O. Bruce