

**RESIDUAL MAGNETIC FIELD
St. John Island - Castors River Map Area**

12/14 (east) and 12/15 (west)

MAP 2009-85
OPEN FILE NFLD/3076

L.A. Cook and G.J. Kilfoil

Residual Magnetic Field

This map was derived from data acquired during an aeromagnetic survey carried out by NOVATEM Inc. The survey was flown during the period October 1st, 2008 to May 16th, 2009, using a Cessna-185 aircraft C-FARU. The aircraft was equipped with two Geometrics cesium vapour magnetometers with a sensitivity of 0.005 nT, installed in wingtip pods. Total field data were sampled at 10 Hz. The nominal traverse and control-line spacing were, respectively, 200 m and 2000 m, and the aircraft flew at a nominal terrain clearance of 30 m. Traverse lines were oriented N75W with orthogonal control lines. The flight path was recovered following post-flight differential corrections to the raw Global Positioning System data and inspection of ground images recorded by a vertically mounted video camera. 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-analyzed to obtain a mutually levelled set of flight-line magnetic data. The levelled values were then interpolated to a 50 m grid.

The International Geomagnetic Reference Field (IGRF) defined at the precise position of the aircraft and for the respective date of flight was then removed. Removal of the IGRF, representing the magnetic field of Earth's core, produces a residual component related essentially to magnetizations within the Earth's crust.

Digital versions of this map can be downloaded, at no charge, from the Newfoundland and Labrador Resource Atlas (<http://gis.geosurv.gov.nl.ca/>), and from the Geological Survey of Newfoundland and Labrador On-Line Open File page: <http://www.nr.gov.nl.ca/mines&en/geosurvey/publications/openfiles/>. Corresponding digital profile and gridded data for this survey, as well as for airborne surveys flown over adjacent areas, are also available from the Newfoundland and Labrador Resource Atlas.

Nalcor: <http://www.nalcorenergy.com/>
Department of Natural Resources: <http://www.nr.gov.nl.ca/>
Energy Branch: <http://www.nr.gov.nl.ca/mines&en/ov/>
Geological Survey: <http://www.nr.gov.nl.ca/mines&en/geosurvey/>
E-mail: pub@gov.nl.ca

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Maps released as part of Open File NFLD/3076 are (refer to index map below):

Map Area (NTS)	Residual Magnetic Field	First Vertical Derivative of the Resid. Mag. Field
Gros Morne (12H/12)	Map 2009-71	Map 2009-72
St. Paul's Inlet (12H/13)	Map 2009-73	Map 2009-74
Indian Lookout - Portland Creek (12/03 east, 12/04 west)	Map 2009-75	Map 2009-76
Bellburns (12/05)	Map 2009-77	Map 2009-78
Bellburns (12/06)	Map 2009-79	Map 2009-80
Torment River (12/10)	Map 2009-81	Map 2009-82
Port Saunders (12/11)	Map 2009-83	Map 2009-84
St. John Island - Castors River (12/14 east, 12/15 west)	Map 2009-85	Map 2009-86

Note

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ISOMAGNETIC LINES	PLANIMETRIC SYMBOLS
250 nT	Topographic Contour
50 nT	Power Line
10 nT	Drainage
2 nT	Road
Magnetic Low	Flight Line

Scale 1:50 000
NAD83 / UTM zone 21N

Digital Topographic Data provided by Geomatics Canada, Natural Resources Canada

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