



TGS / PGS / Bain Geo **Newfoundland / Labrador / Nova Scotia Regional Crustal Study**

Building on the success of the joint project between TGS and BainGeo over the Gigante Mexico program, the team of TGS, PGS and BainGeo have created a Regional Crustal Study covering offshore Newfoundland, Labrador and Nova Scotia.

PROJECT PHASES:

The project involved the following phases (details on each Phase available):

- **Regional Crustal Study including:**
 - Gravity & magnetic data merge and enhancements
 - Gravity and magnetic modeling along key geological cross sections
 - Regional 3-D gravity inversion to derive depth to Moho, crustal thickness, limit of oceanic crust (LOC/COB/OCT)
 - Depth to: Curie Isotherm (bottom of the magnetic crust), Depth to magnetic/crystalline basement, and Basement terrane mapping from magnetic inversion

LICENSING FEES (Include deliverables):

Please contact your TGS representative for a price quote.

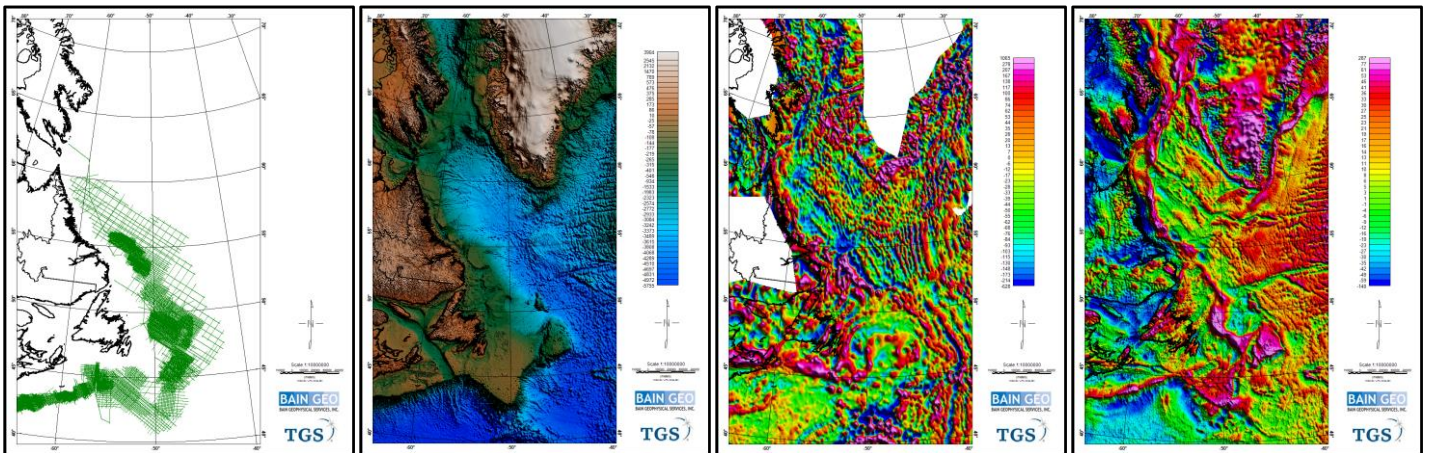
TIMING OF DELIVERABLES: These results are ready for immediate delivery!

We look forward to providing your team with results from this exciting project! Please contact Steve Whidden of TGS, or John Bain of Bain Geophysical.

Sincerely,

Steve Whidden (Steve.Whidden@tgs.com 403-781-6245)

John Bain (JBain@BainGeo.com, 832-467-1314)



TGS/PGS 2-D Seismic Data Location

Bathymetry / Topography

Merged Magnetic Data

Merged Gravity Data



List of Deliverables

- Grids are provided in a variety of formats, including:
Landmark ASCII, Geosoft (.grd), LCT (.lct) and ArcView (.flt)
- Images are provided as Geotif
- Polyline files are provided as Shapefiles
- PowerPoint summary report
- All grids use: WGS 84, UTM Zone 22 N, CM = -51°

Phase 1: Gravity & Magnetic Data Merge and Enhancements - Deliverables

Best available public domain gravity and magnetic data sets were merged, and a set of filter enhancements is provided. A minimum of 4 such enhancements for both gravity and magnetic fields selected from following based on highest information content:

- 1) Regional/residual fields - grid
- 2) Reduced-to-pole magnetic anomaly - grid
- 3) Derivatives, gradients, upward/downward continuations, tilt, etc. - grid

Phase 2: Gravity and Magnetic Modeling Along Key Geological Cross Sections - Deliverables

A series of geological cross sections spanning Newfoundland, Labrador and Nova Scotia were modeled in 2-D, tied to geological and geophysical constraints, using the gravity (TGS/PGS) and magnetic (public domain) fields. Deliverables include screen captures of the starting, ending and key decision points during the modeling, in a final Report (PowerPoint).

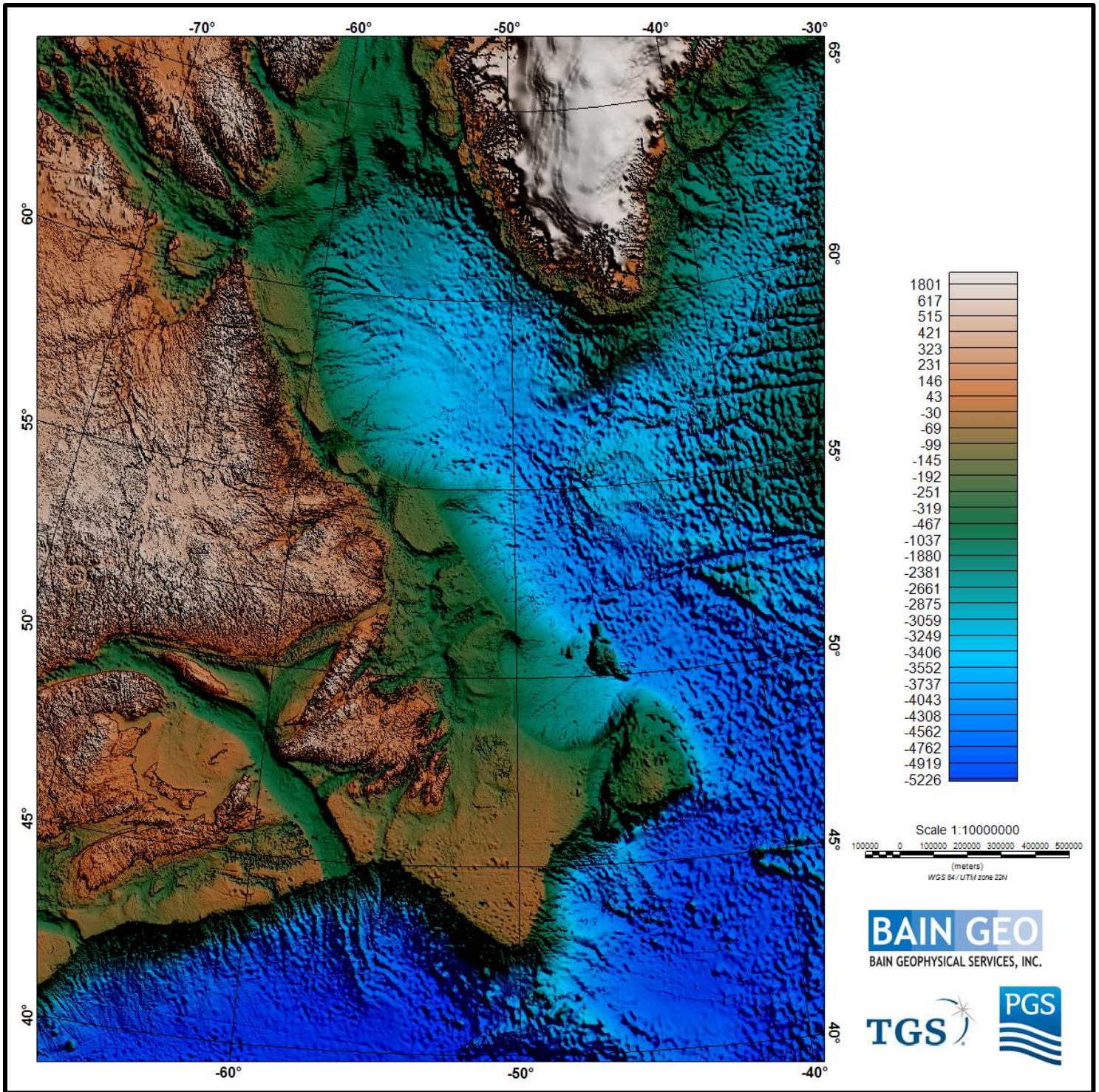
Phase 3: Gravity Inversion for Crustal Thickness - Deliverables

- 1) Depth to top crust used for gravity inversions (inversions used merged TGS/PGS gravity data extended using public domain data) - grid
- 2) Depth to Moho - grid
- 3) Crustal thickness (thickness between top basement to Moho) - grid
- 4) "Residual crustal thickness" (crustal thickness minus predicted volcanic melt) - grid
- 5) Limit of Oceanic Crust (LOC, COB) - Shapefile

Phase 4: Depth to Magnetic Basement / Curie Depth (bottom of magnetic crust), Magnetic Terrane - Deliverables

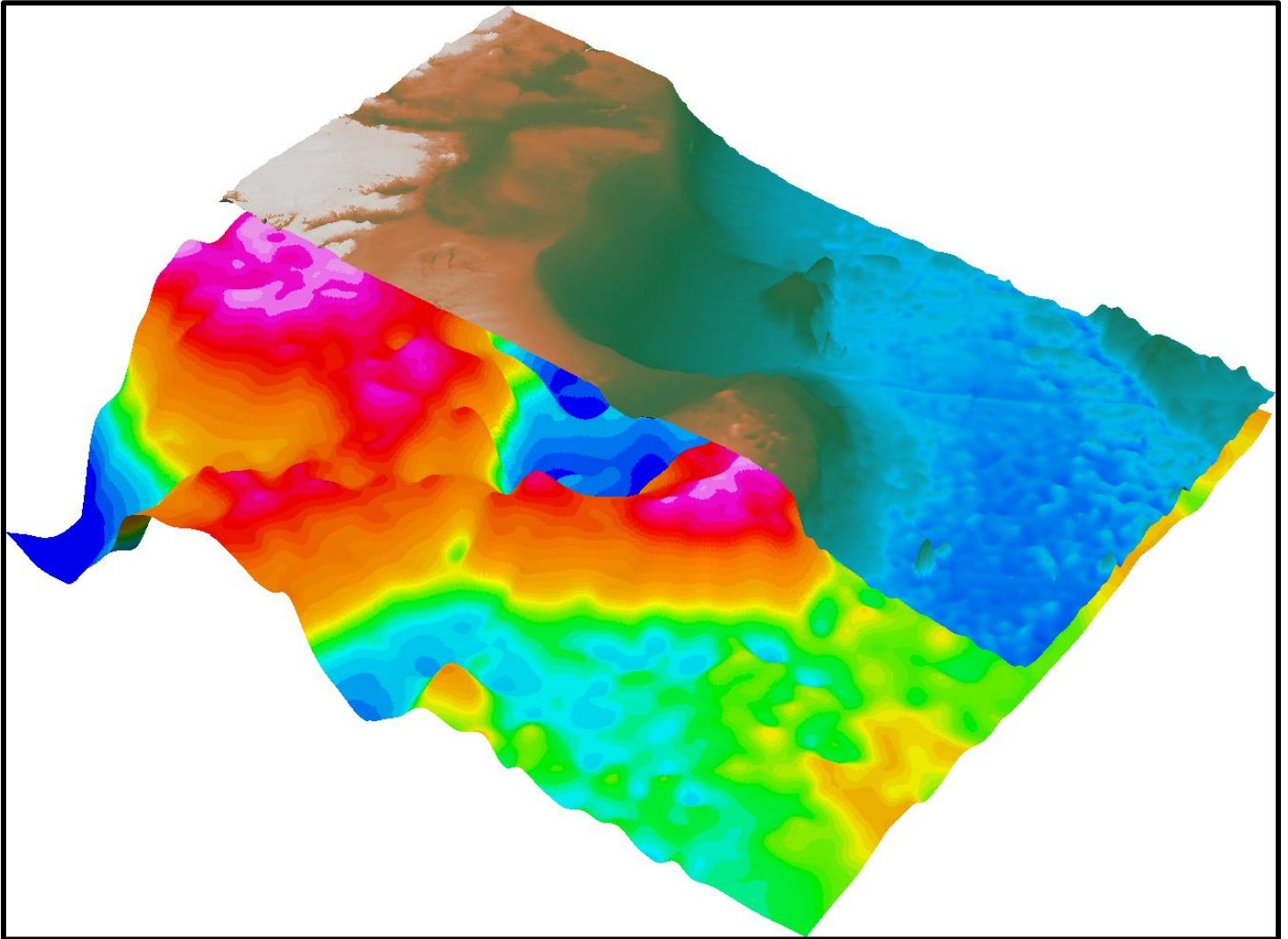
Depth to magnetic basement, depth to Curie temperature (bottom of magnetic crust) and magnetic basement terrane inversions (all using merged public domain magnetic data) will be provided as the following:

- 1) Depth to magnetic basement - grid
- 2) Depth to Curie temperature isotherm (bottom of magnetic crust) - grid
- 3) Magnetic susceptibility from magnetic inversion (using the depth to magnetic basement horizon) - grid
- 4) Terraced magnetization - provided as a guide for basement terranes – grid
- 5) Depth to magnetic basement edited depth points – Excel, Shapefile

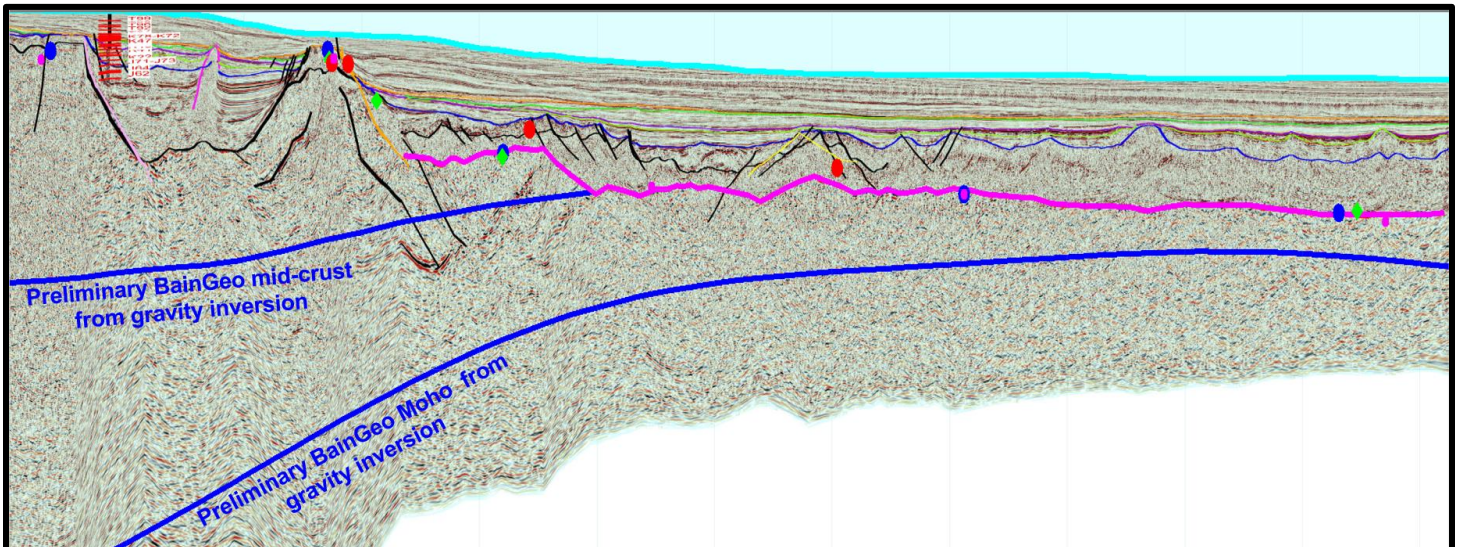


TGS / PGS / BainGeo Project Study Area Bathymetry / Topography

Source: GEBCO Compilation Group (2019) GEBCO 2019 Grid (doi:10.5285/836f016a-33be-6ddc-e053-6c86abc0788e)



Depth to Magnetic Basement Over Central Focus Area, With Overlying Bathymetry



Depth to Magnetic Basement, Depth to Mid-Crust and Moho From Gravity Inversion