



Supporting Information

For

**Cenozoic Relative Movements of Greenland and North America by
Closure of the North Atlantic-Arctic Plate Circuit: The Labrador
Sea, Davis Strait, Baffin Bay, and Eureka Orogen**

Annabel Causer¹, Graeme Eagles², Lucía Pérez-Díaz³, and Jürgen Adam¹

¹ Earth Sciences Department, Royal Holloway University of London, Egham, TW20 0EX, United Kingdom

² Alfred Wegener Institut, Helmholtz Zentrum für Polar und Meeresforschung, Bremerhaven, Germany

³ Department of Earth Sciences, Oxford University, Oxford, OX1 3AN, United Kingdom

Table of Contents

Figure S1.....	2
Figure S2A.....	3
Figure S2B.....	4
Figure S2C.....	5
Figure S3.....	6
Figure S4.....	7

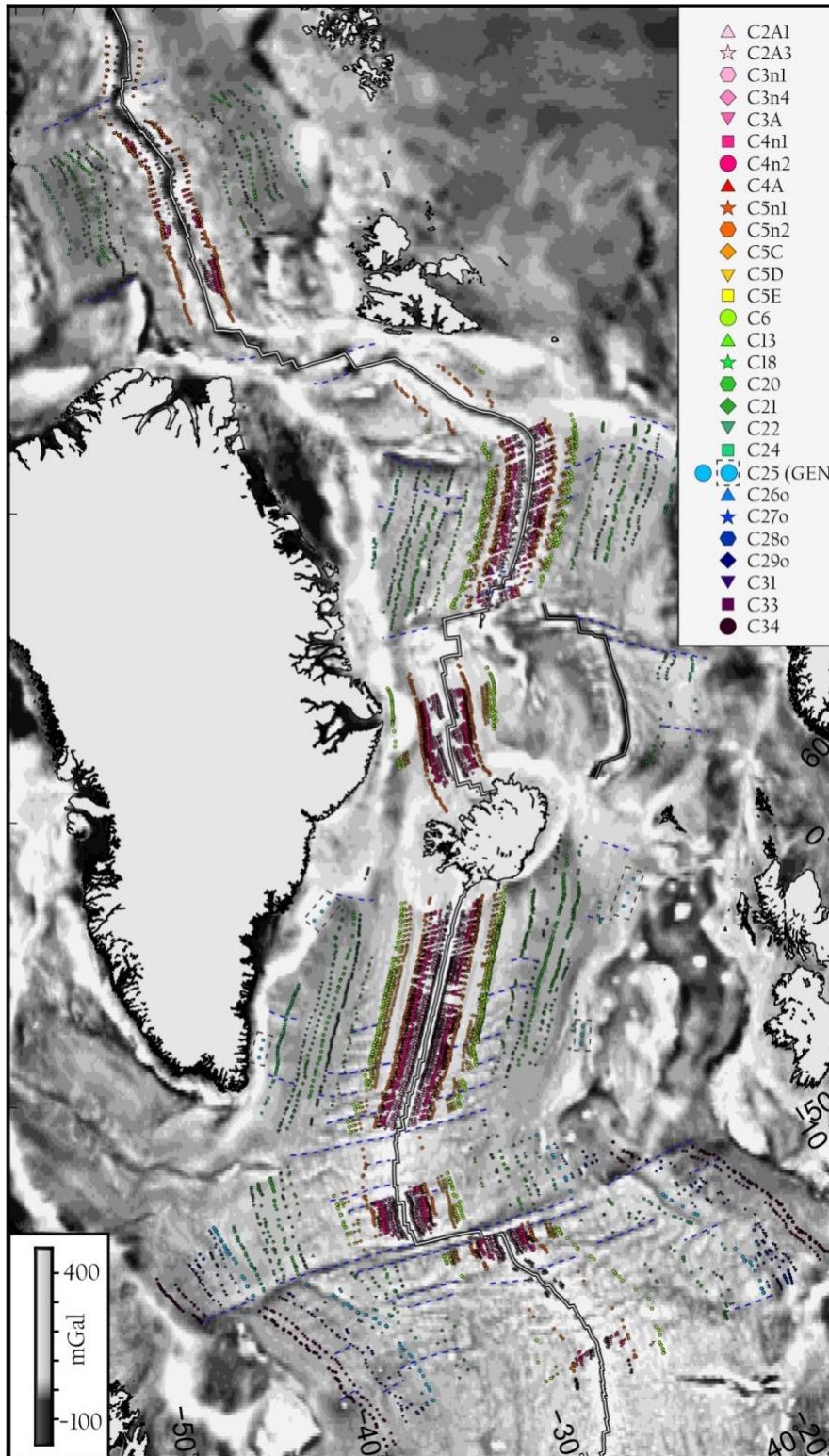


Figure S1: All magnetic anomaly picks for both models. Background: merged Sandwell et al. (2014) and Gaina et al. (2011) gravity grids. Double lines: modern plate boundaries from Bird et al. 2003 and abandoned Ægir Ridge crest interpreted from the gravity background image. Dashed blue lines: fracture zones.

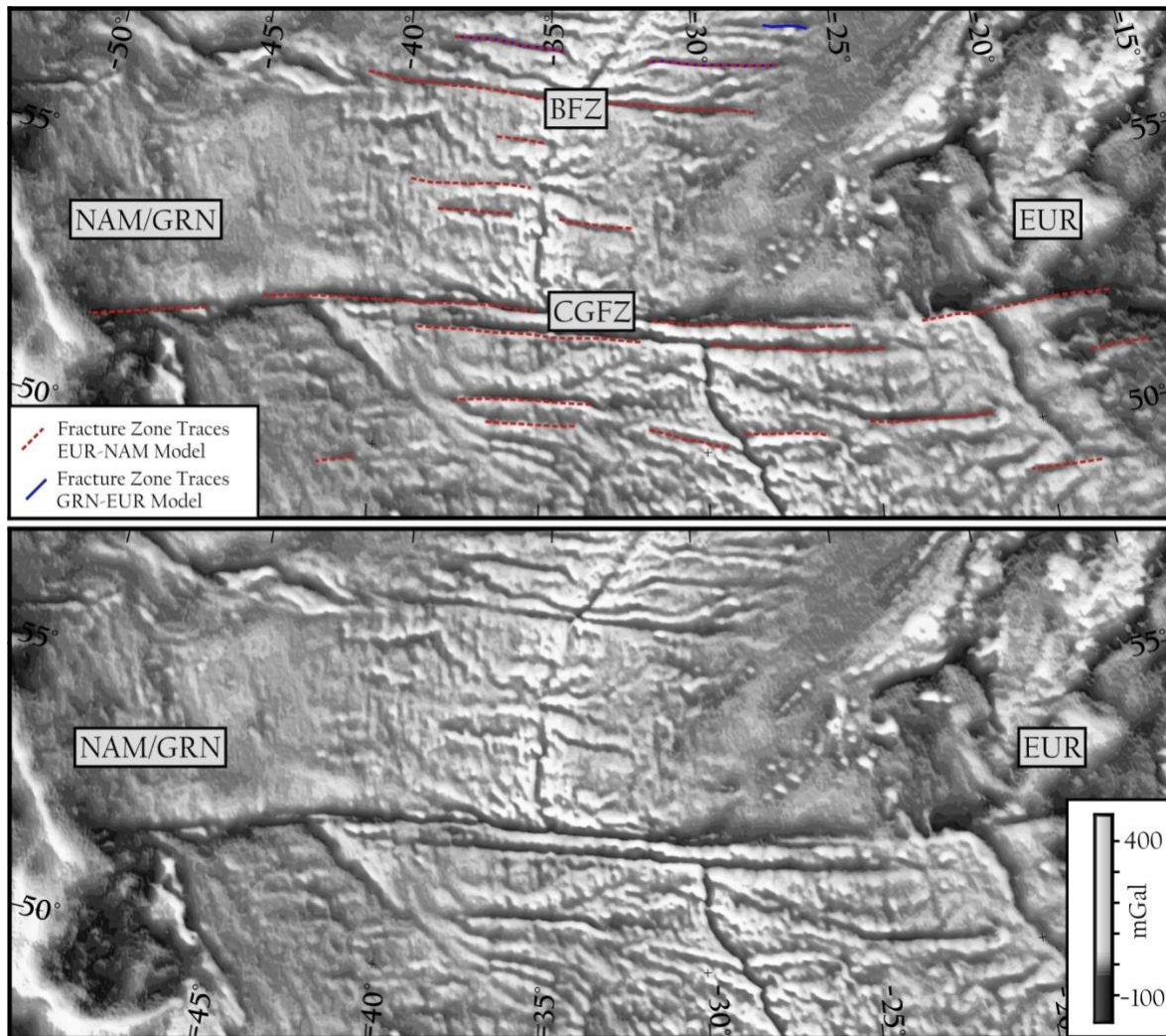


Figure S2A: FZ traces (top; red for EUR-NAM, blue for GRN-EUR model) interpreted from Sandwell et al. (2014) gravity (uninterpreted bottom).

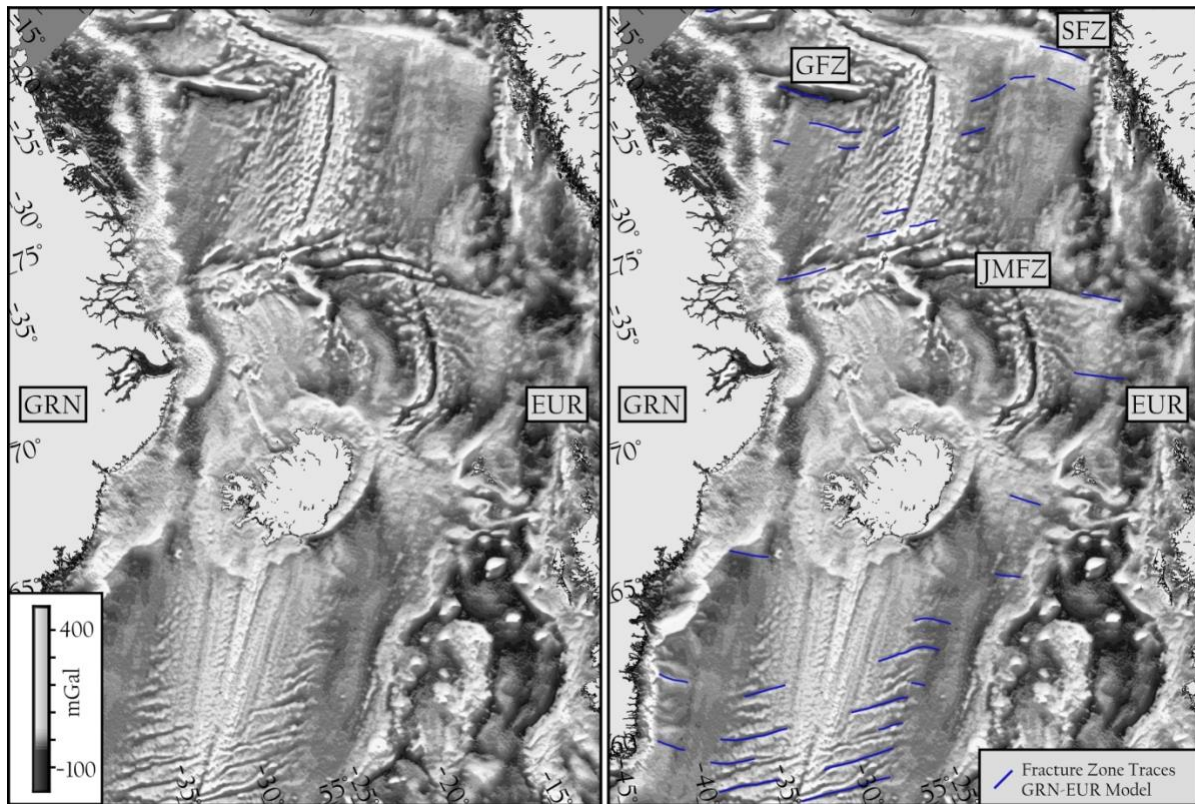


Figure S2B: FZ traces (right; red for EUR-NAM, blue for GRN-EUR model) interpreted from Sandwell et al. (2014) gravity (uninterpreted left).

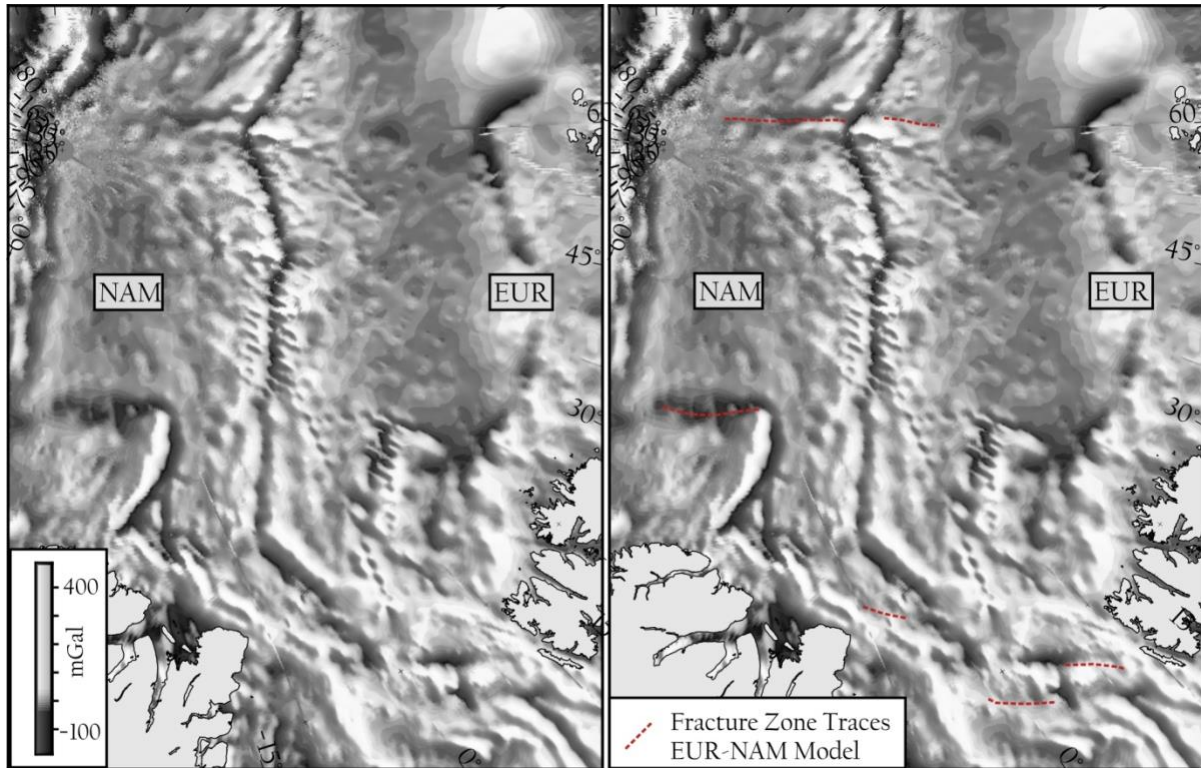


Figure S2C: FZ traces in Arctic Ocean (right; red for EUR-NAM model) interpreted from Gaina et al (2011) ship gravity compilation (uninterpreted left).

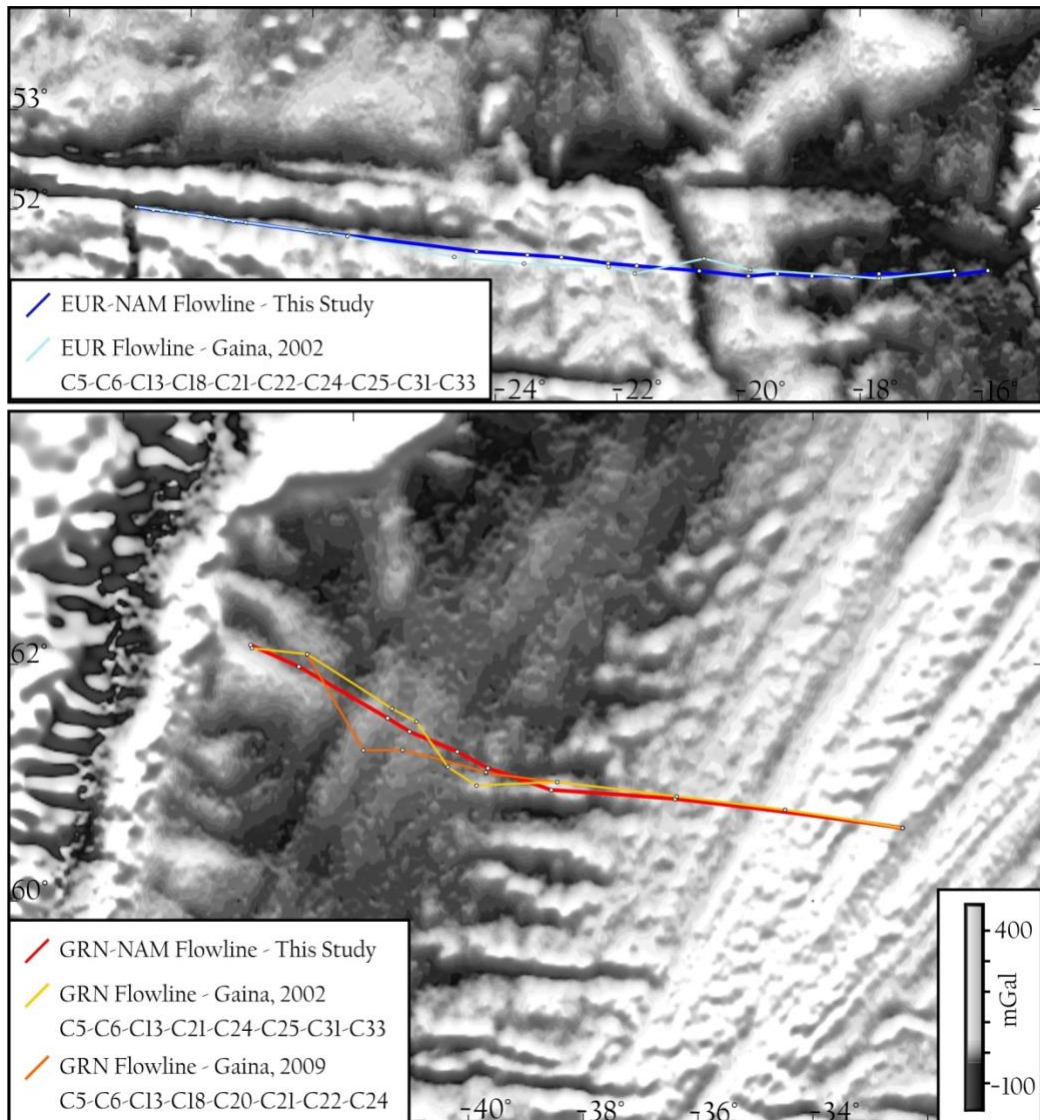


Figure S3: Comparison of representative flowlines in new models from this paper and equivalent predecessor models. Note that the implied plate motion histories of the predecessor models are usually neither as smooth as in the corresponding new model nor the accretionary flowlines observable in the background gravity data images (Sandwell et al., 2014).

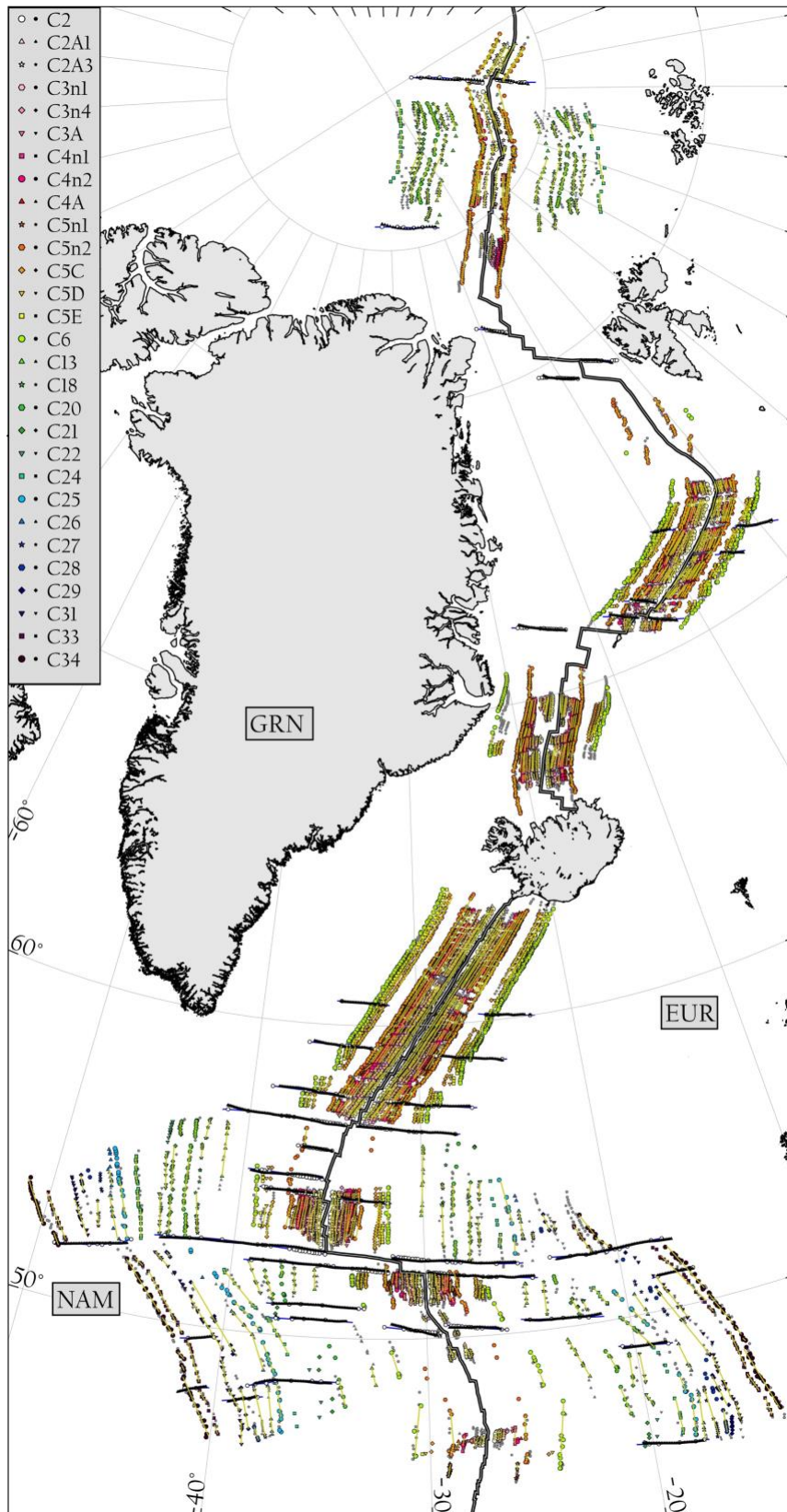


Figure S4:

Enlargement of figure 4 from the main text, a visual representation of fits in the EUR-NAM model. Coloured symbols: fixed isochron picks as in Supplementary Fig. S1. Grey symbols: isochron picks after rotation in model. Yellow lines: great circle fitting targets based on isochron pick groupings. Small black triangles: accretionary flowline picks from Supplementary Fig. S2. Blue lines: synthetic flowline segments designed to fit them. Double lines: modern plate boundaries from