

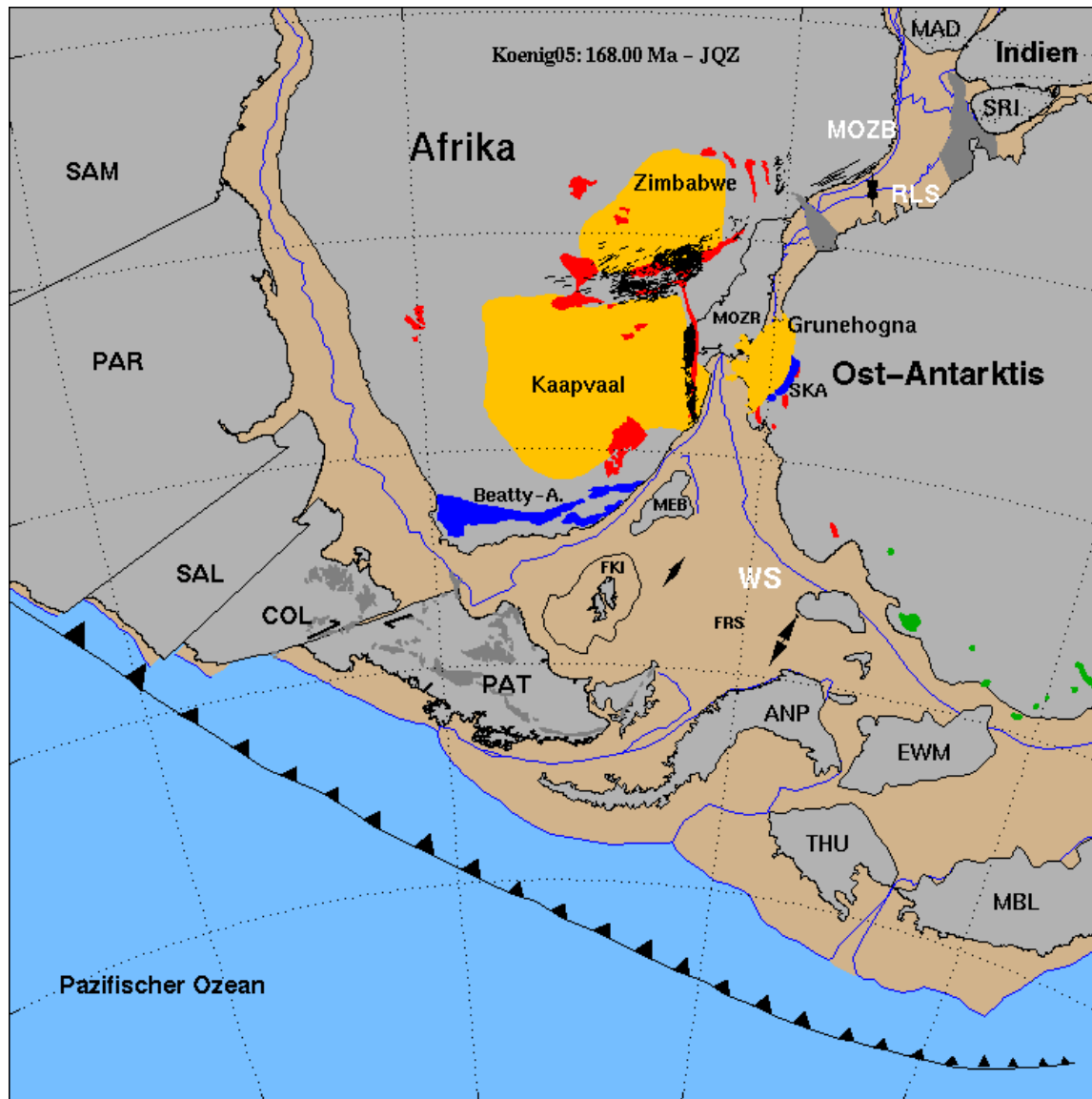
Refraction seismics across the Davie Ridge



Maren Baetzel

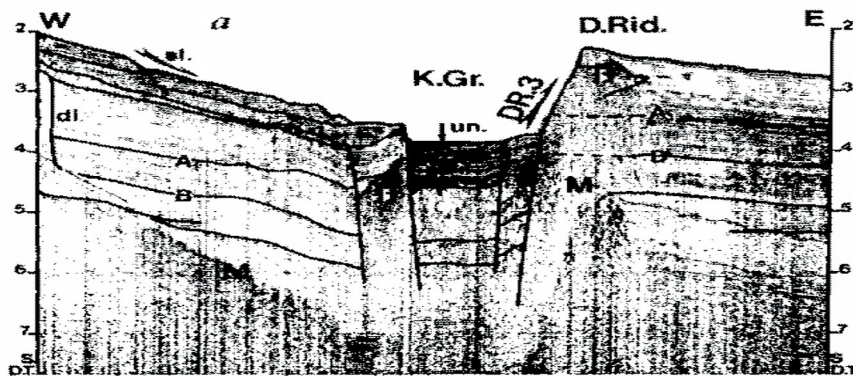
Hannover, 14.11.2014

Reconstruction of Gondwana break-up

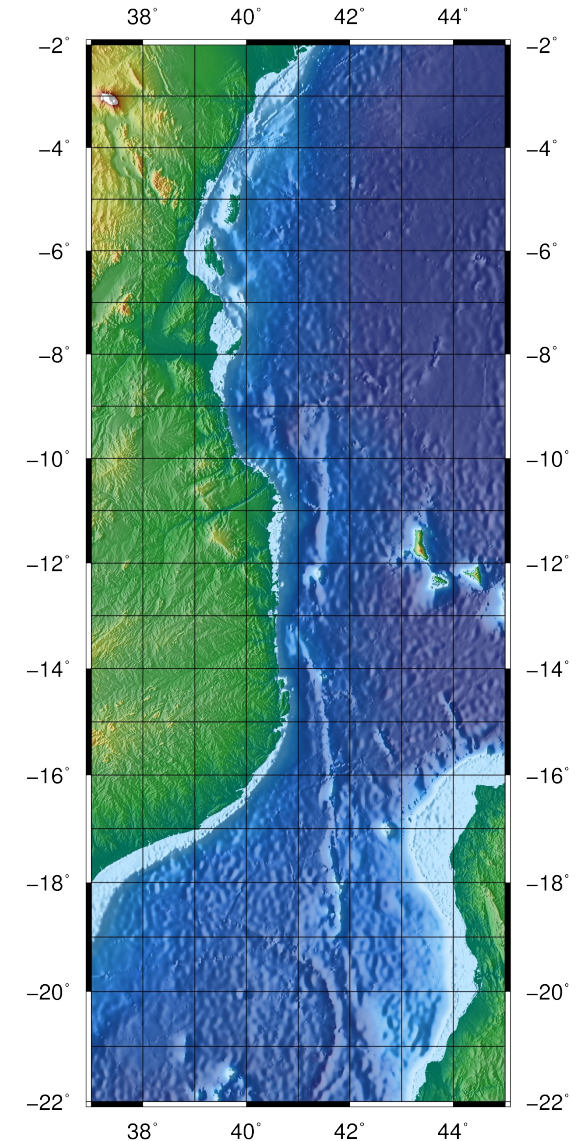


Scientific Aim

- Characterisation of rifts and deeper structure of the crust along the Davie Ridge
- Composition of the crust in the transitional area
- Offshore propagation of the eastern branch of East African Rift System

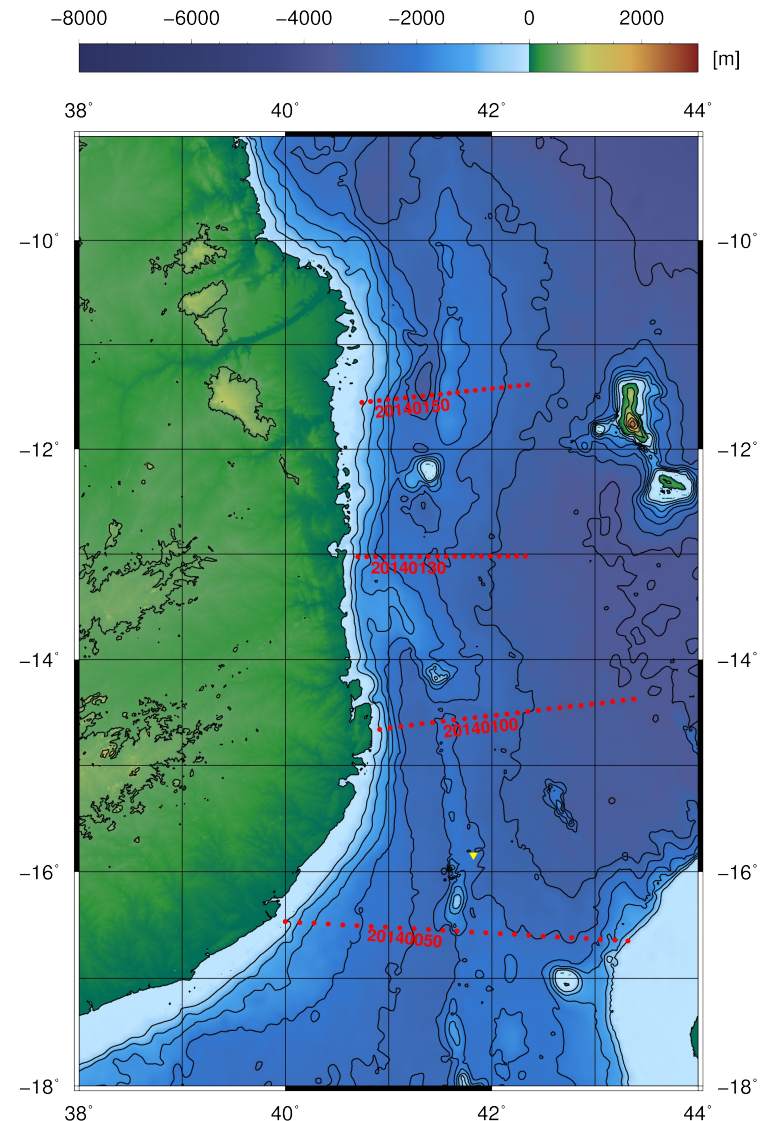


Mougenot et al., 1986



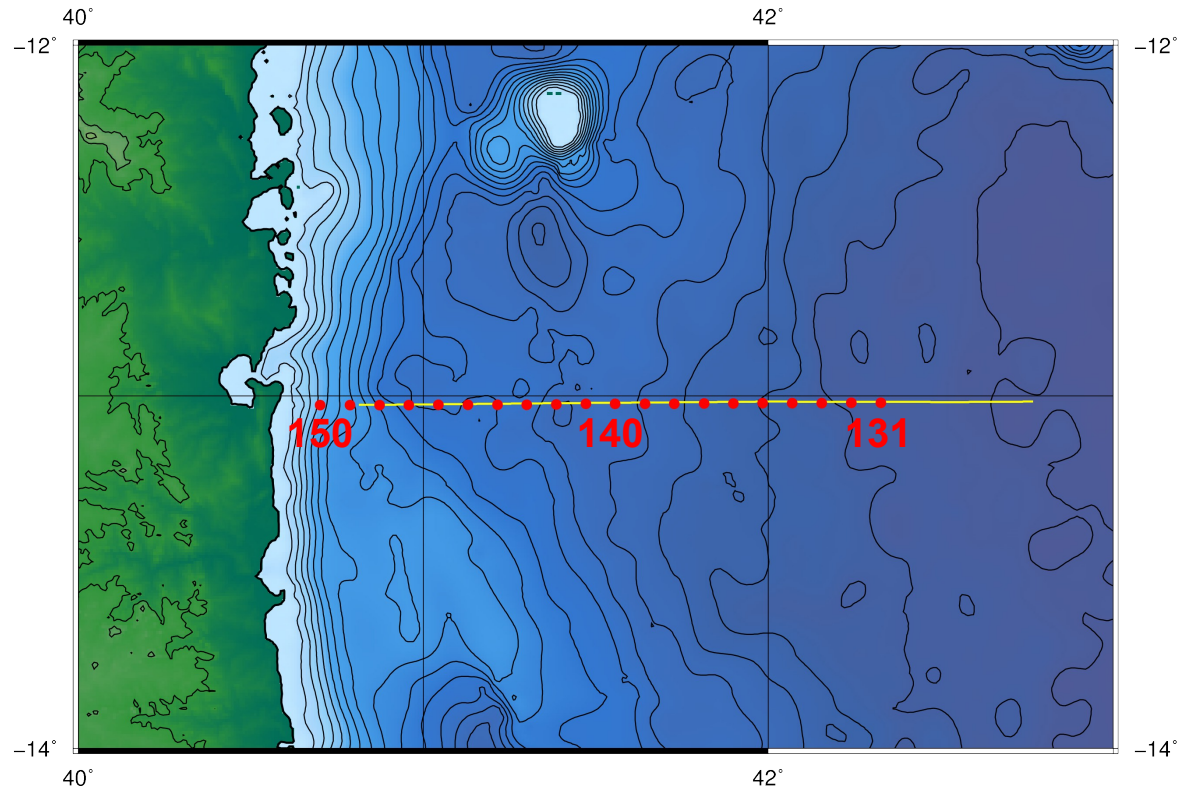
Database

- Cruise SO230 in January and February 2014
- 4 seismic refraction profiles
- In total 90 OBS/OBH
- Additional bathymetric, gravimetric and magnetic data



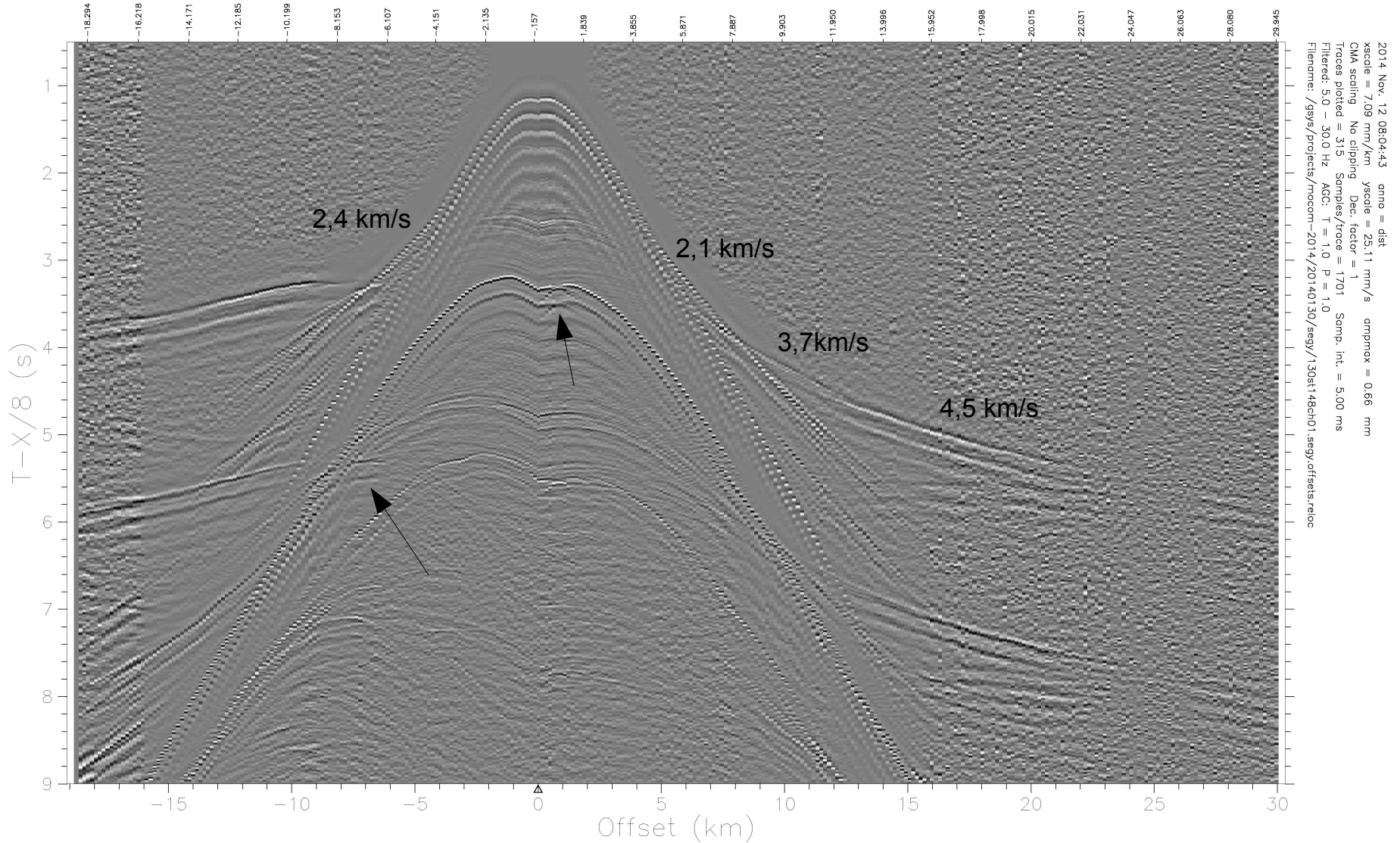
Profile 130

- 20 OBS / OBH
- Best data quality, data at all stations
- Reflection seismic line starts between OBS 149 and 148
- Prolongation of Davie Ridge between OBS 139 and 141



Station 148

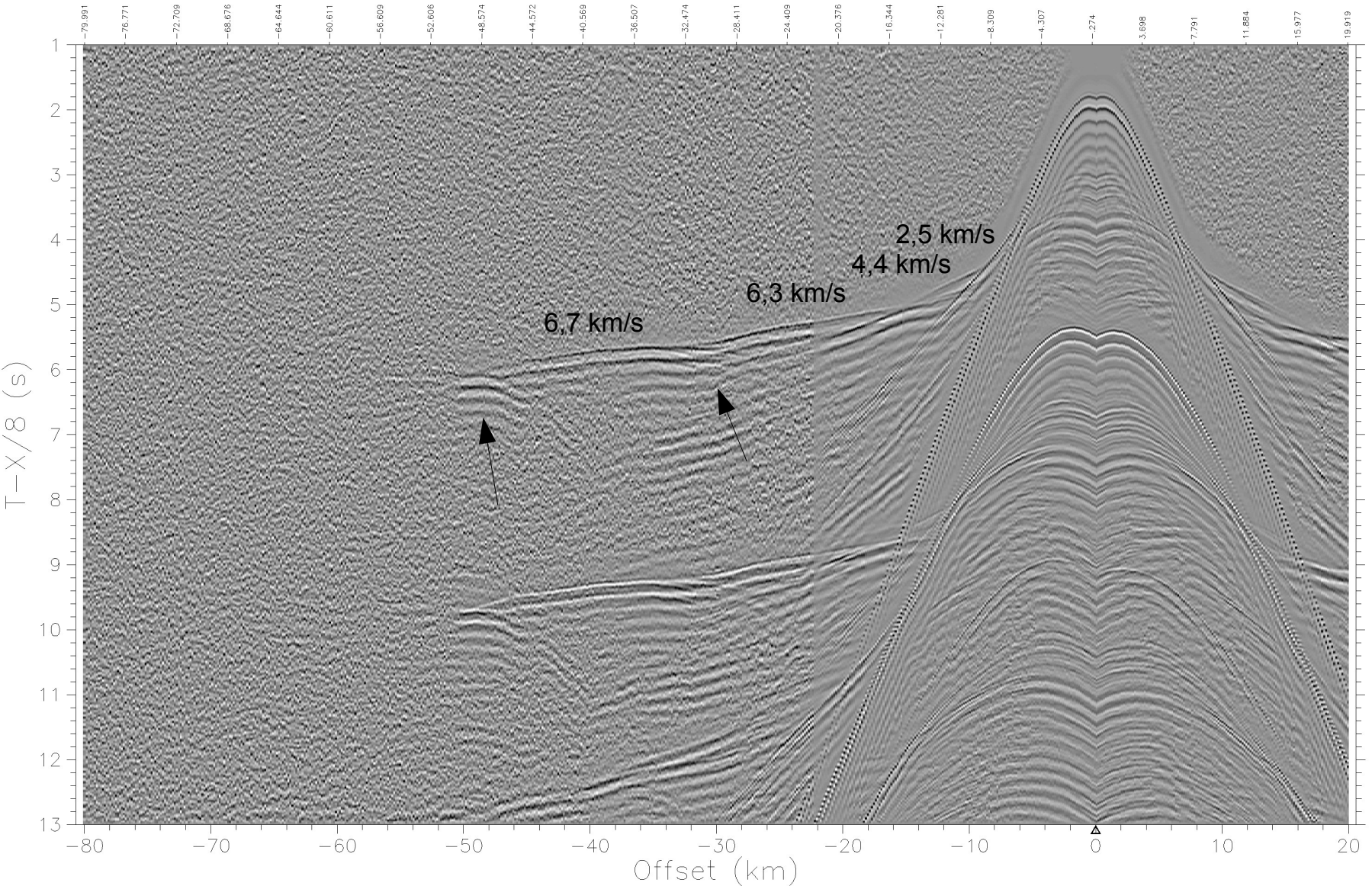
20140130 - OBS 148 Channel 01 177km (all)



Station 138

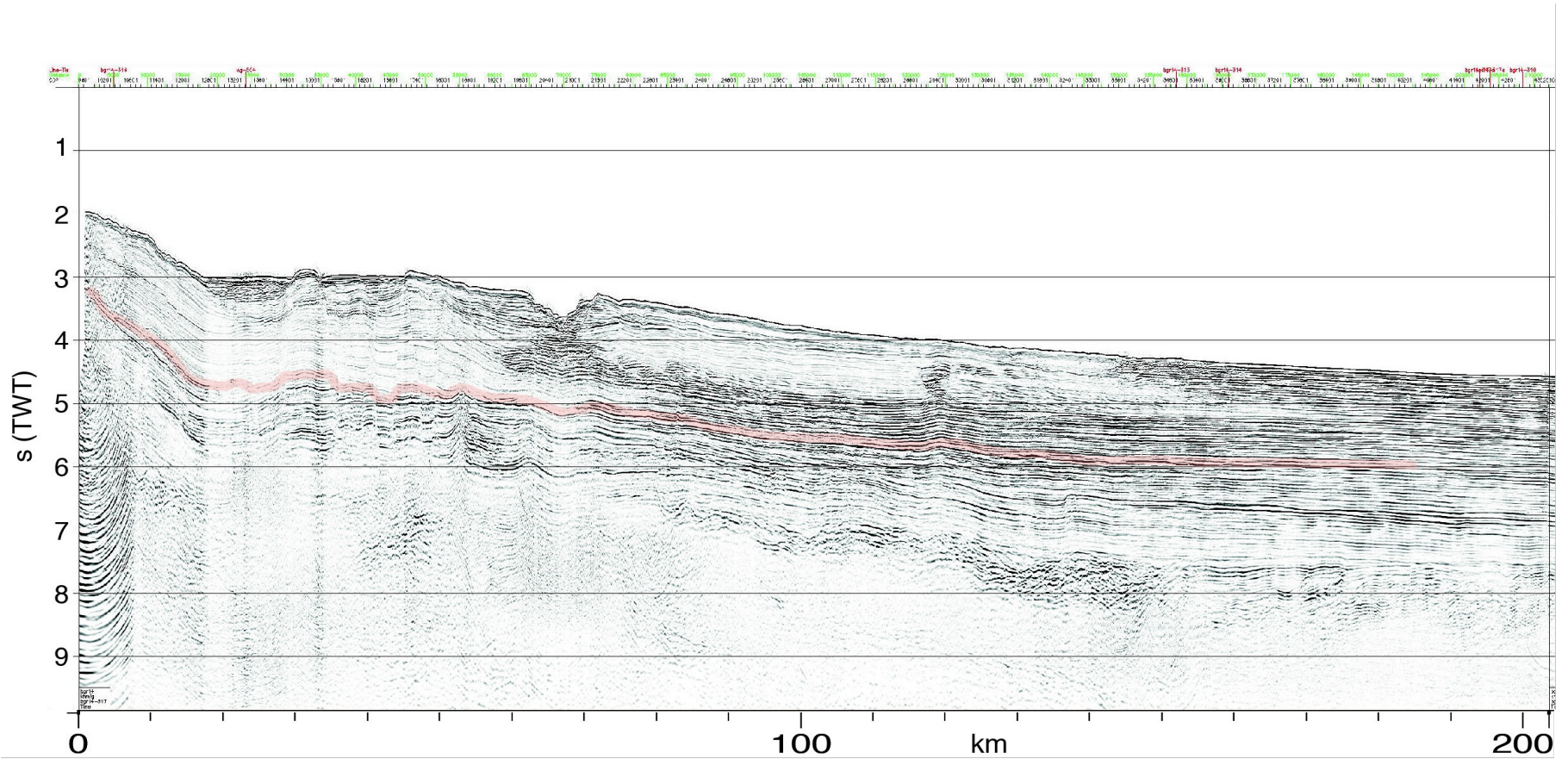


20140130 - OBS 138 Channel 01 177km (all)

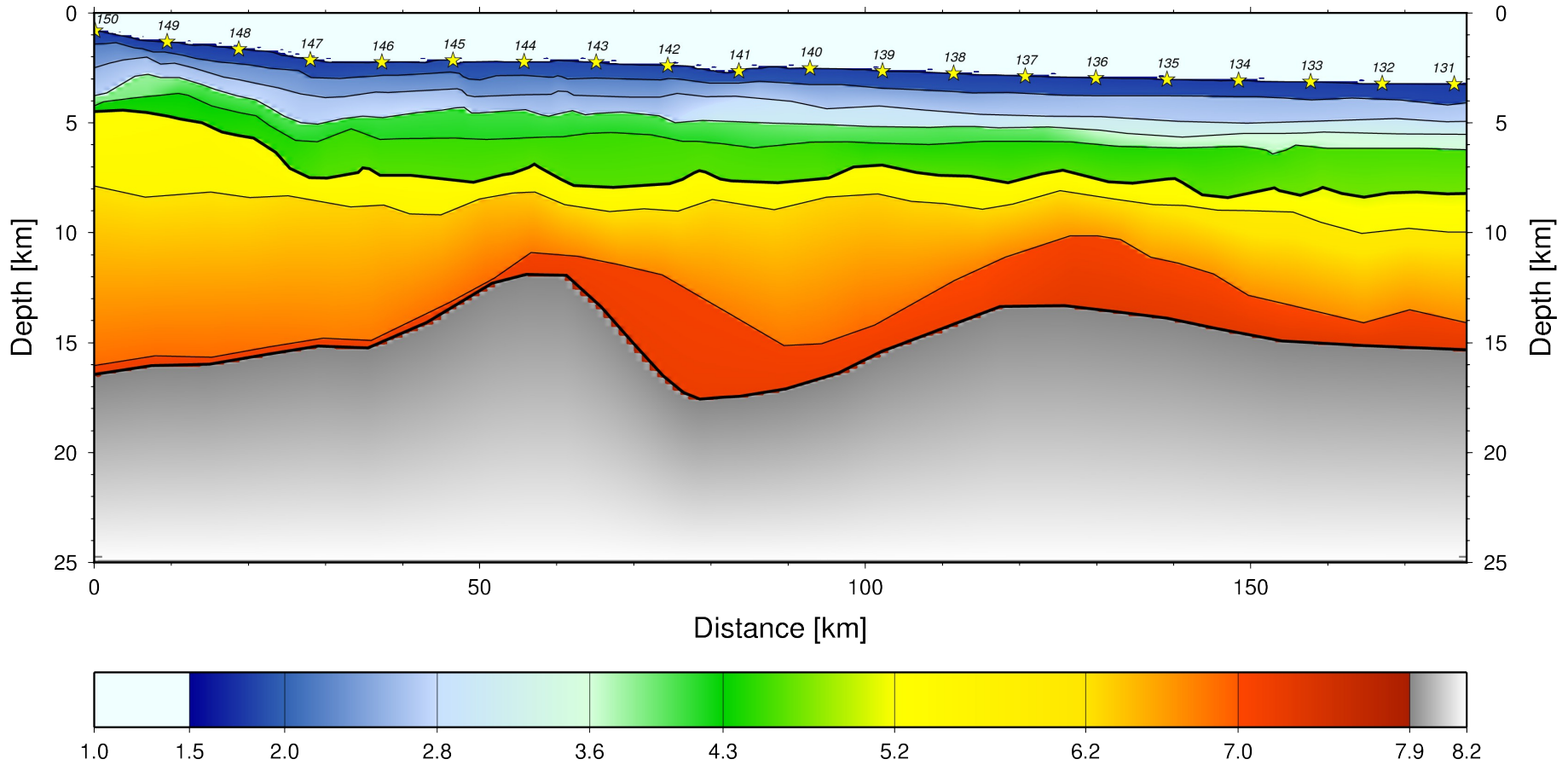


2014 Nov. 07 11:56:50 onno = dist
xscale = 3.46 mm/km yscale = 1779 mm/s omprmax = 0.32 mm
CMA scaling No clipping Dec. factor = 1
Traces plotted = 645 Samples/trace = 2401 Samp. int. = 5.00 ms
Filtered: 3.0 - 17.0 Hz AGC: T = 1.0 P = 1.0
Filename: /gsys/projects/mocom-2014/20140130/seg1/130st138ch01.segy.offsets.relloc

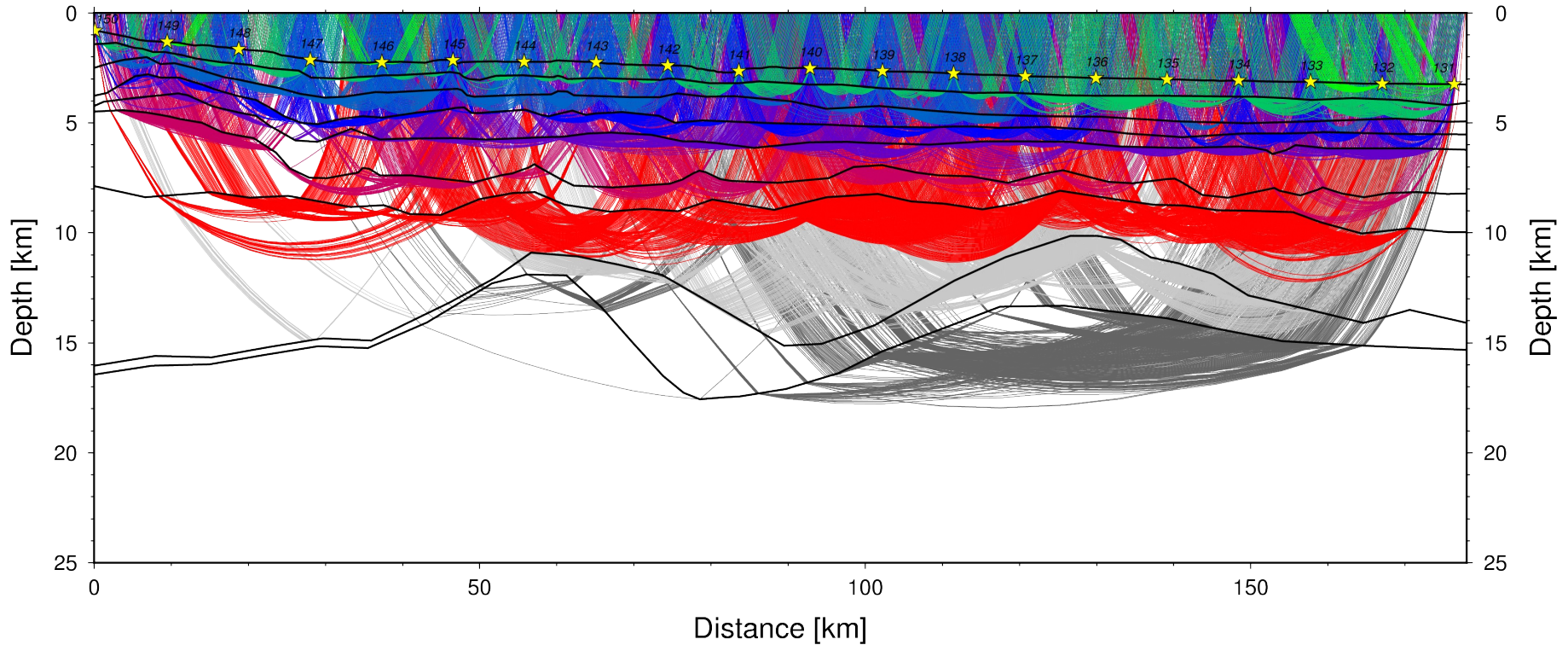
Comparison to reflection seismics



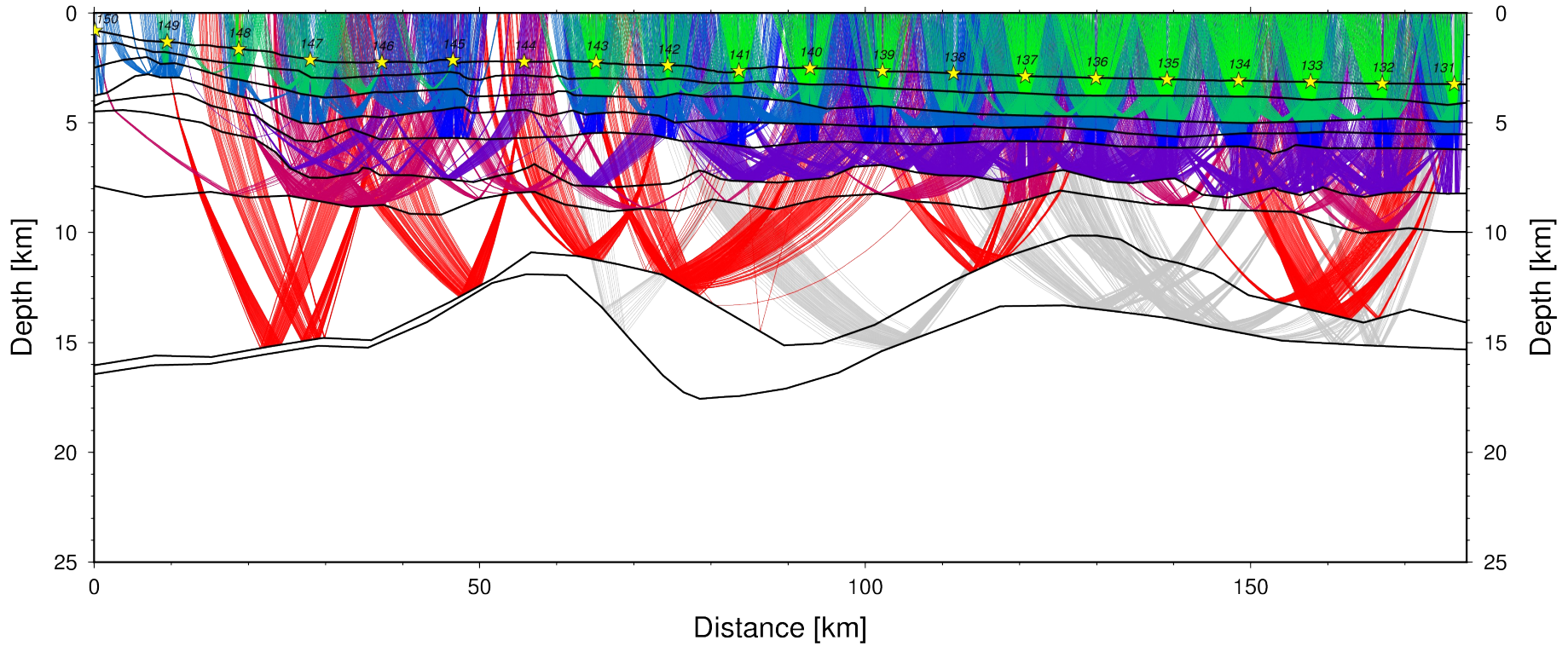
Velocity model



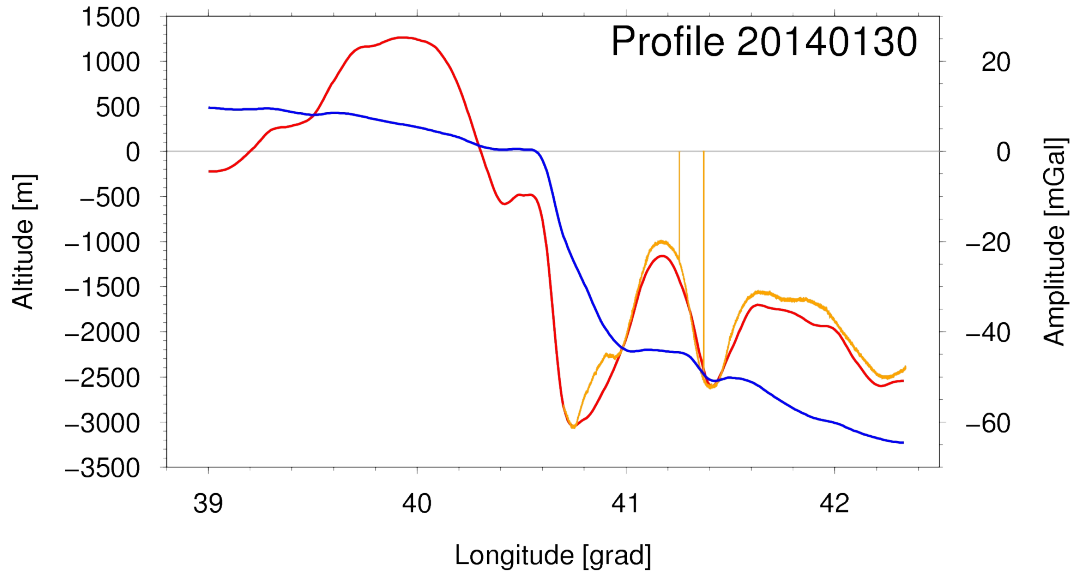
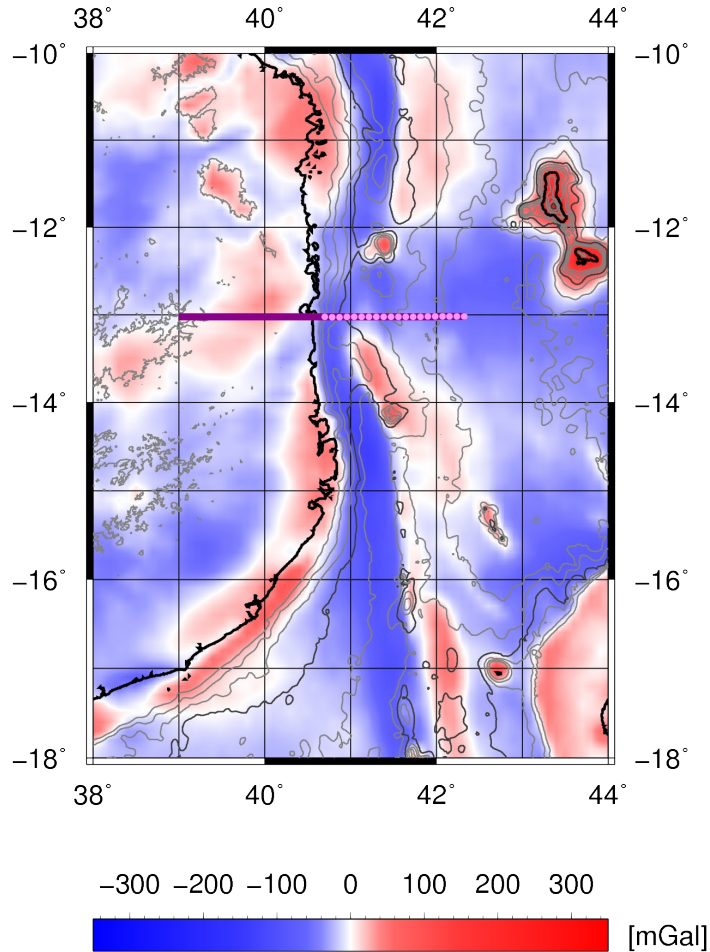
Raycoverage Refraction



Raycoverage Reflection



Further work / Open questions



Left

- OBS/OBH
- Plotted Profile

Top

- Topography
- Gravity Sandwell/Smith
- Ship Gravity

