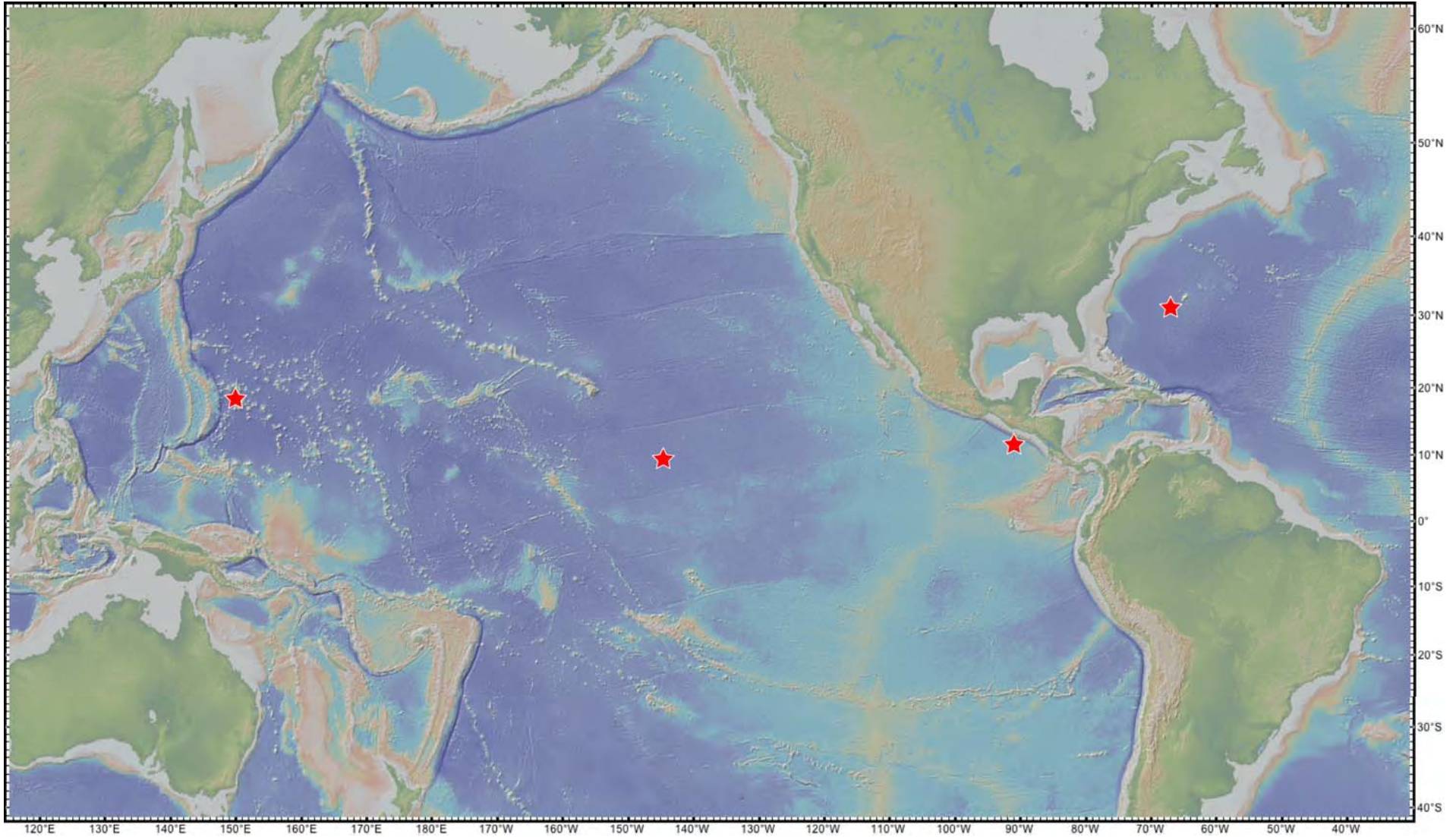
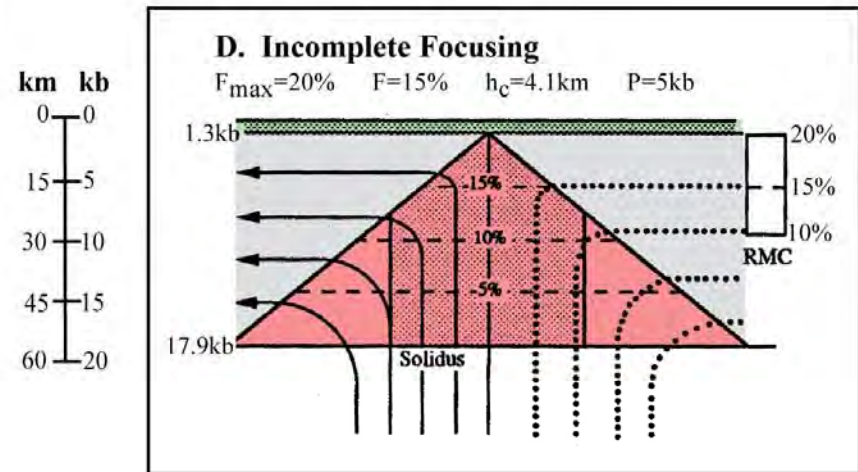
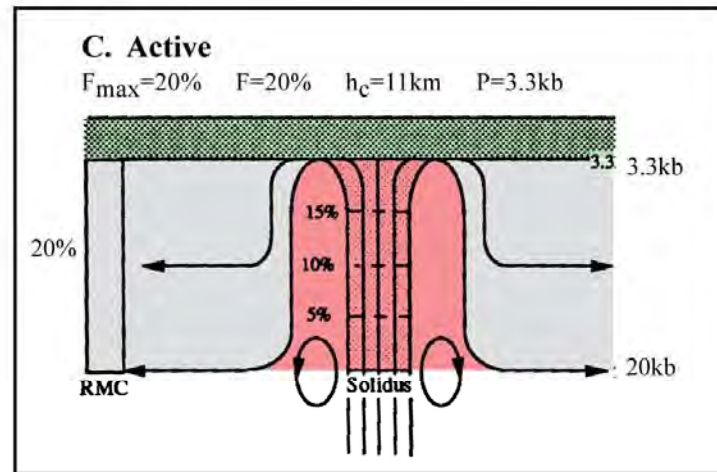
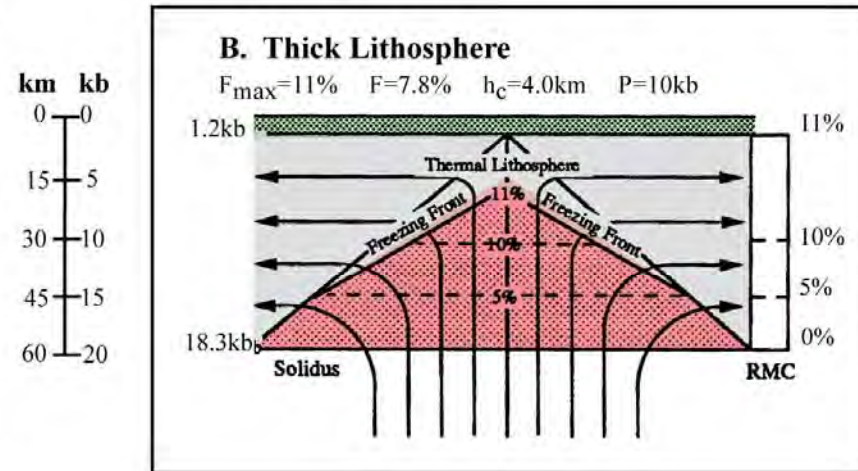
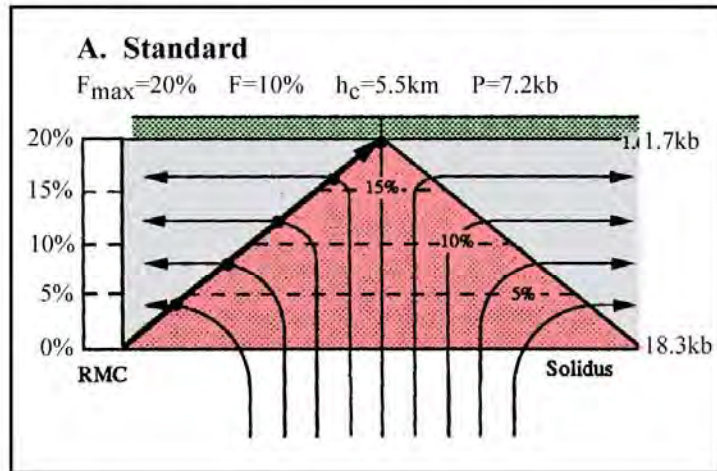


Upper mantle structure from long-offset studies



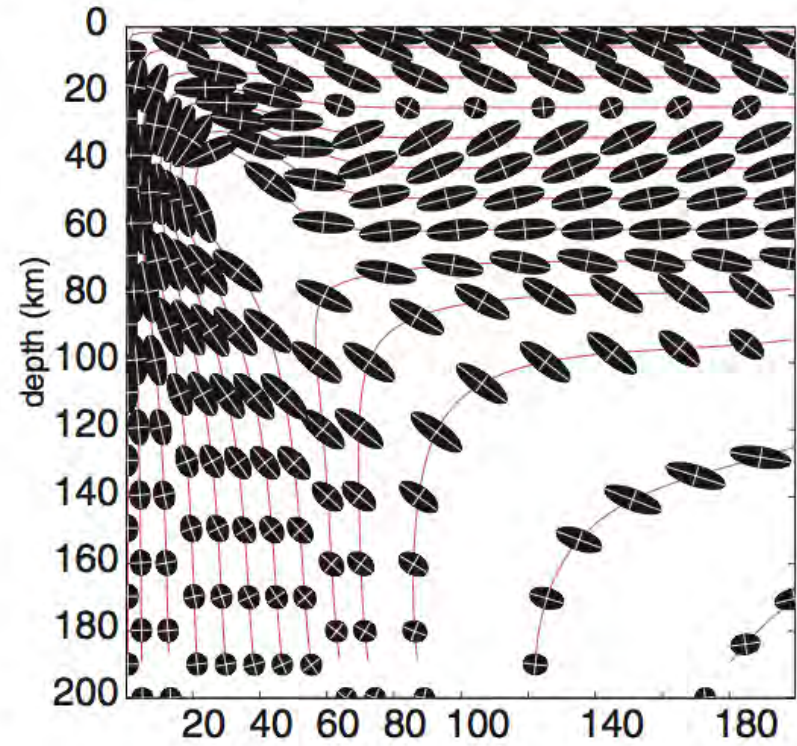
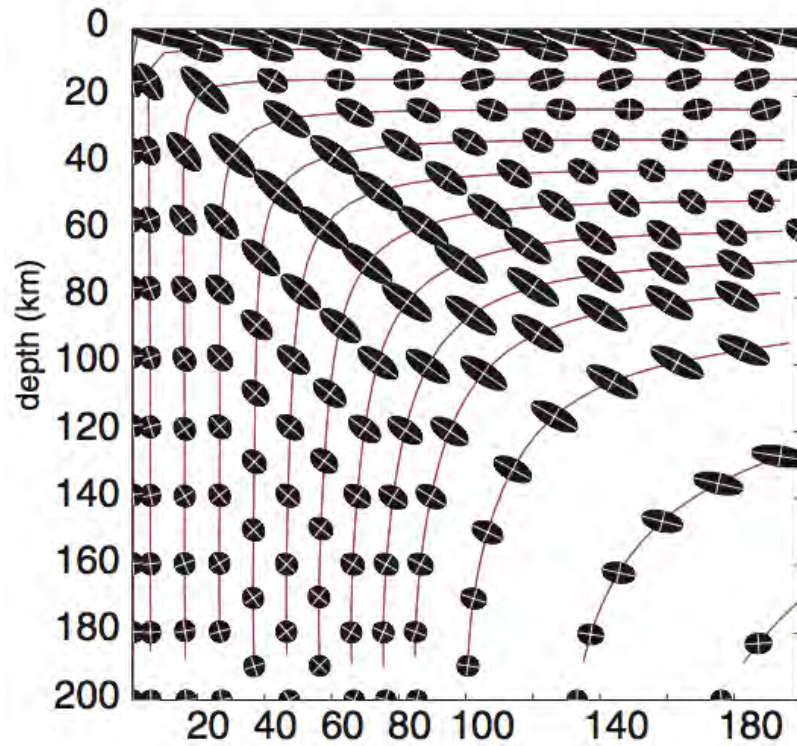
Structure related to melting and melt extraction



F, mean extent of melting,
P, mean pressure of melting,
h_c, crustal thickness, and
F_{max}, maximum amount of melting.

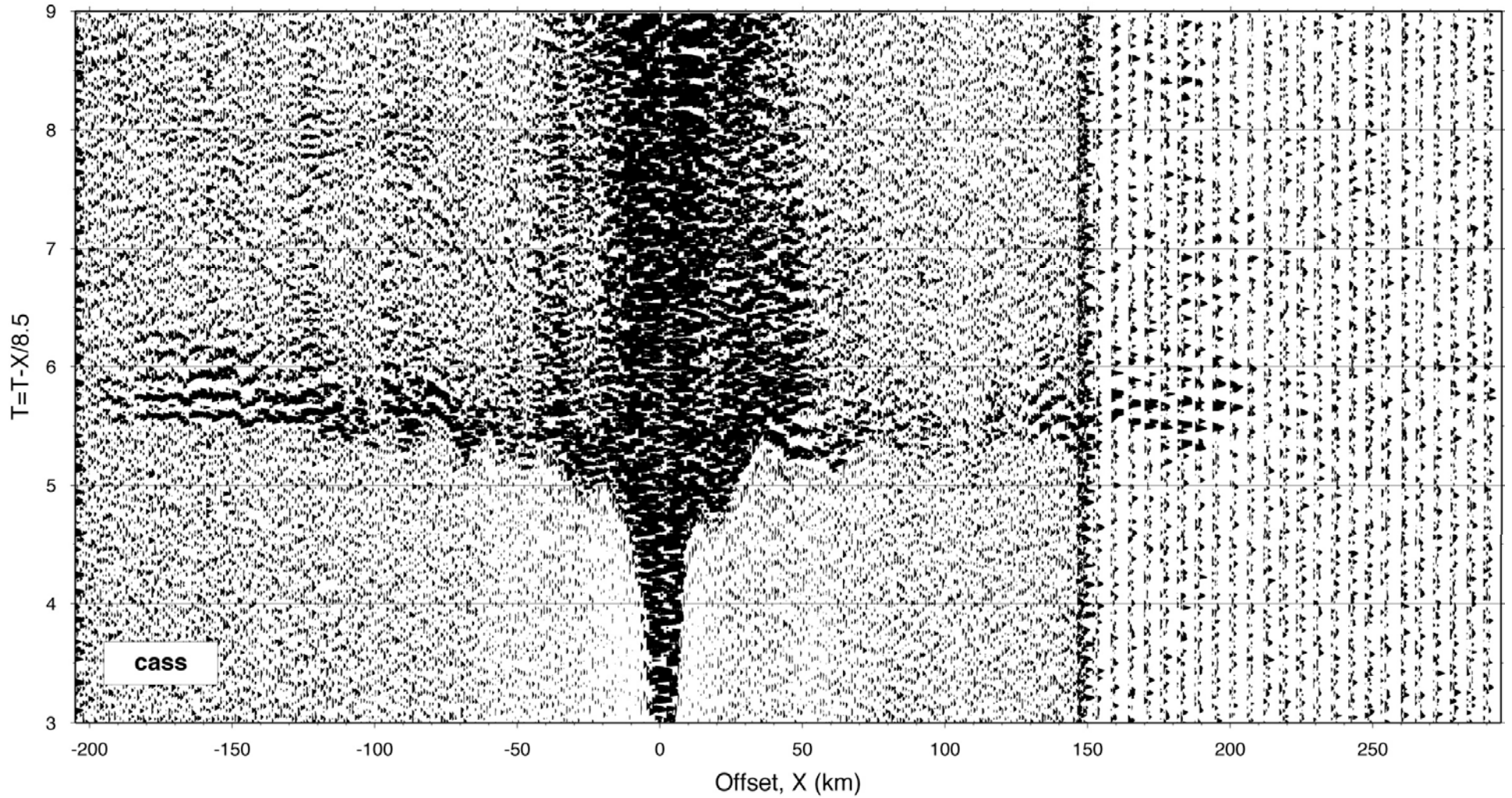
(Langmuir, Klein, & Plank, 1993)

Structure related to strain history



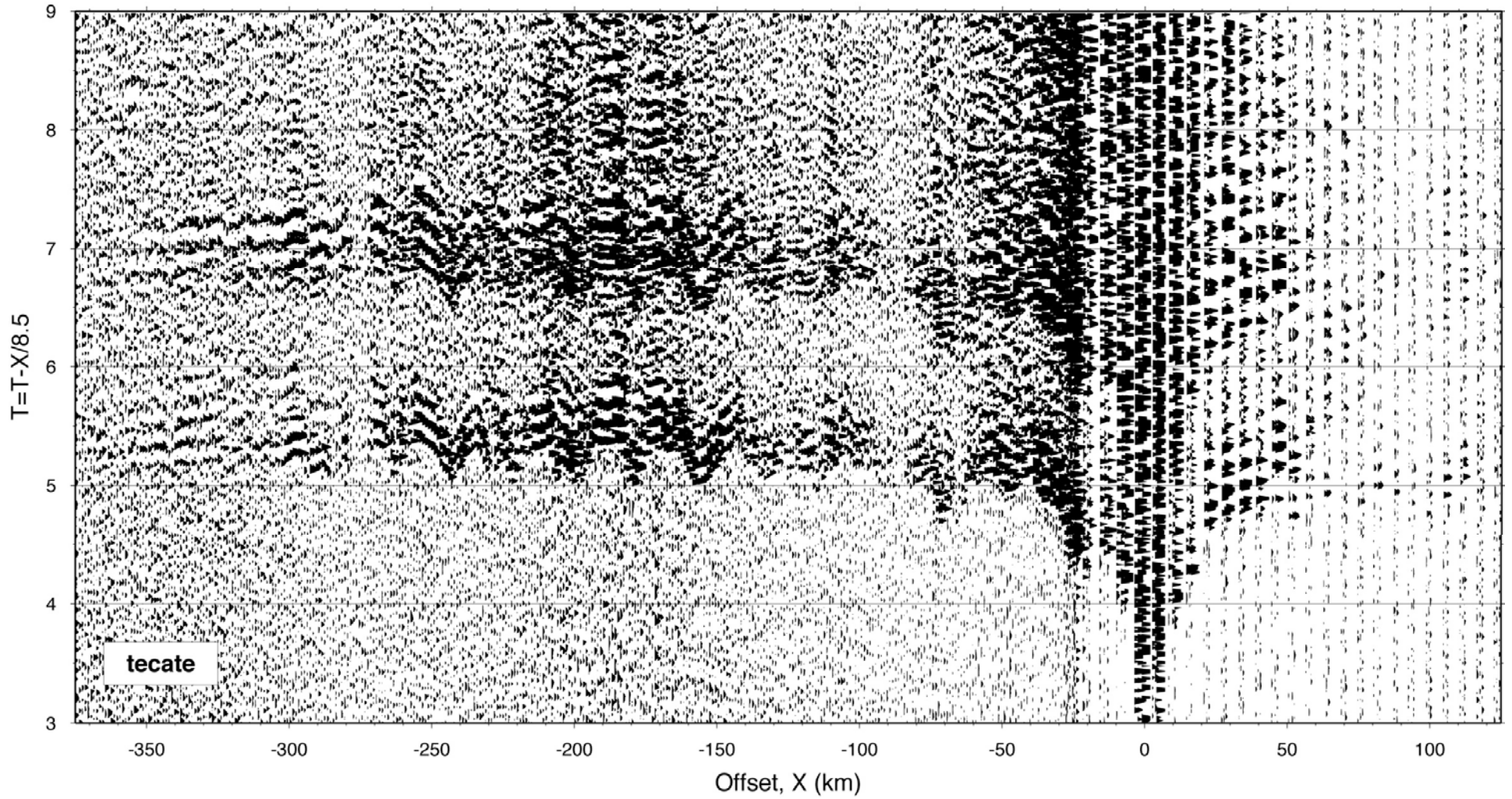
(Blackman and Kendall, 2002)

Western Atlantic: Cretaceous lithosphere
EW0106

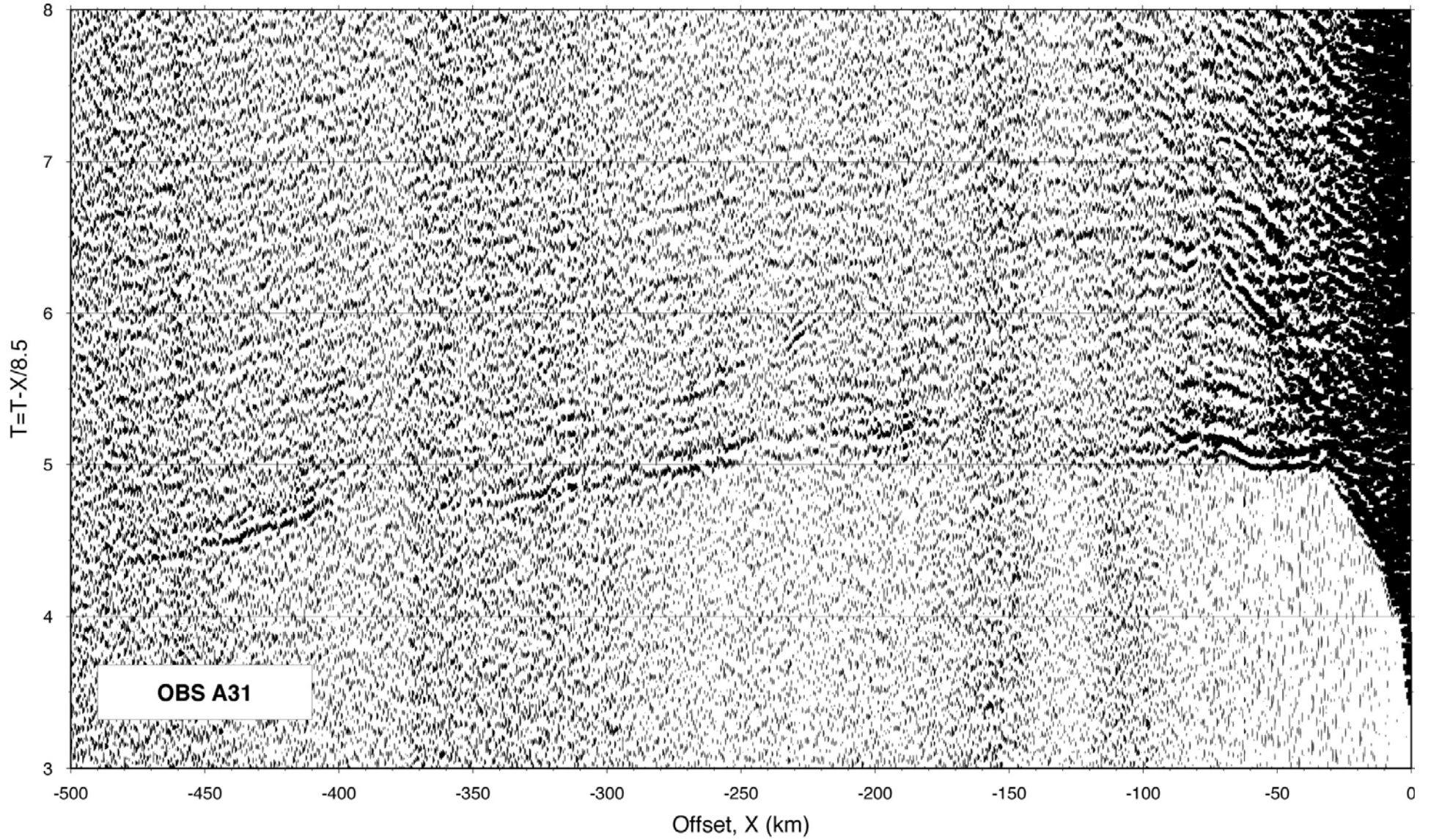


Western Atlantic: Cretaceous lithosphere

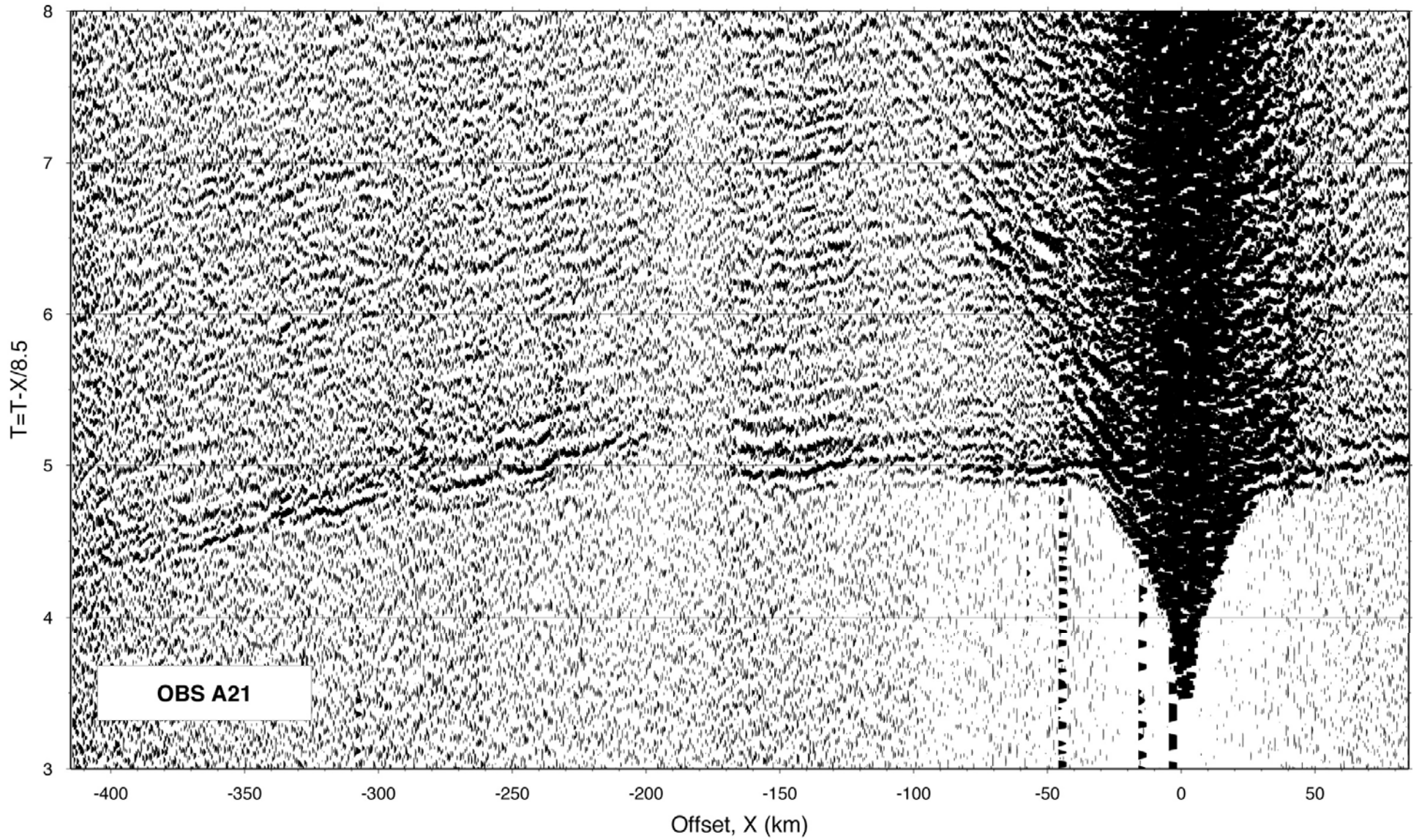
EW0106



Central Pacific: Cretaceous lithosphere
MGL1115

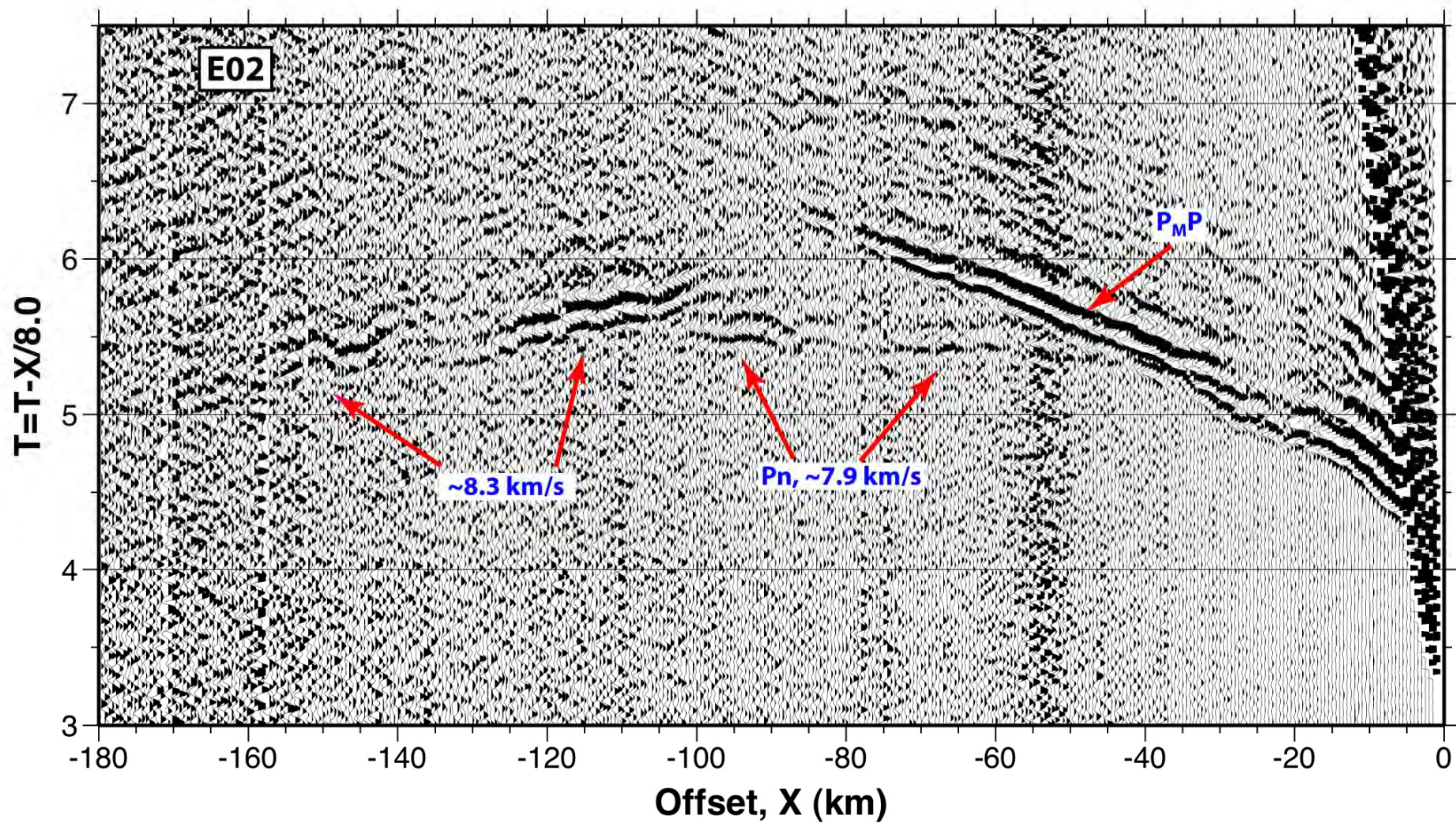


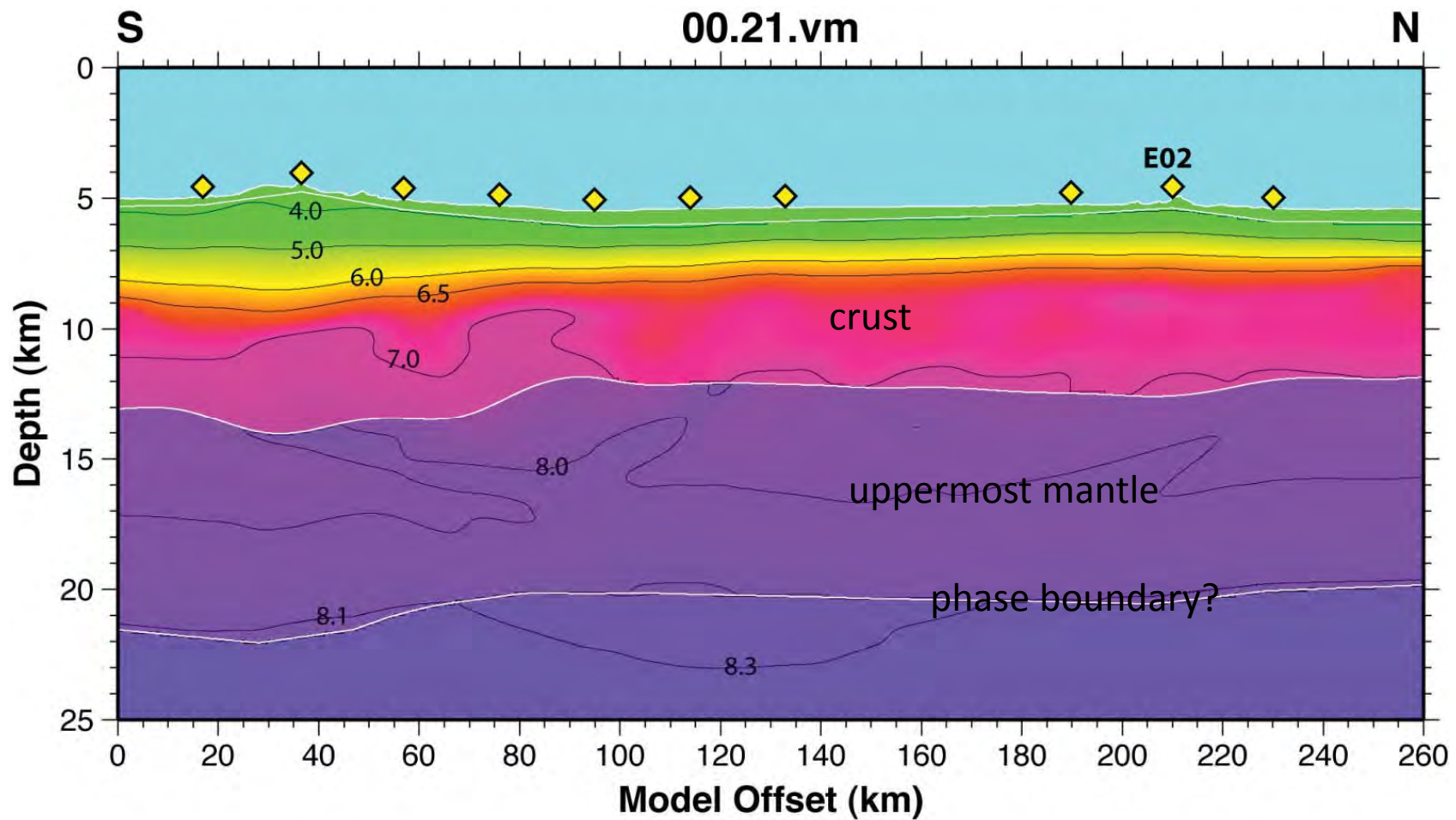
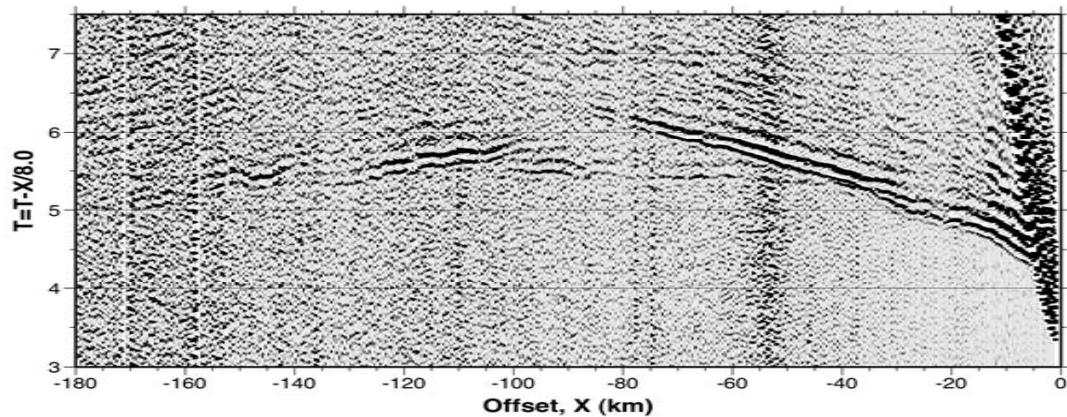
Central Pacific: Cretaceous lithosphere
MGL1115



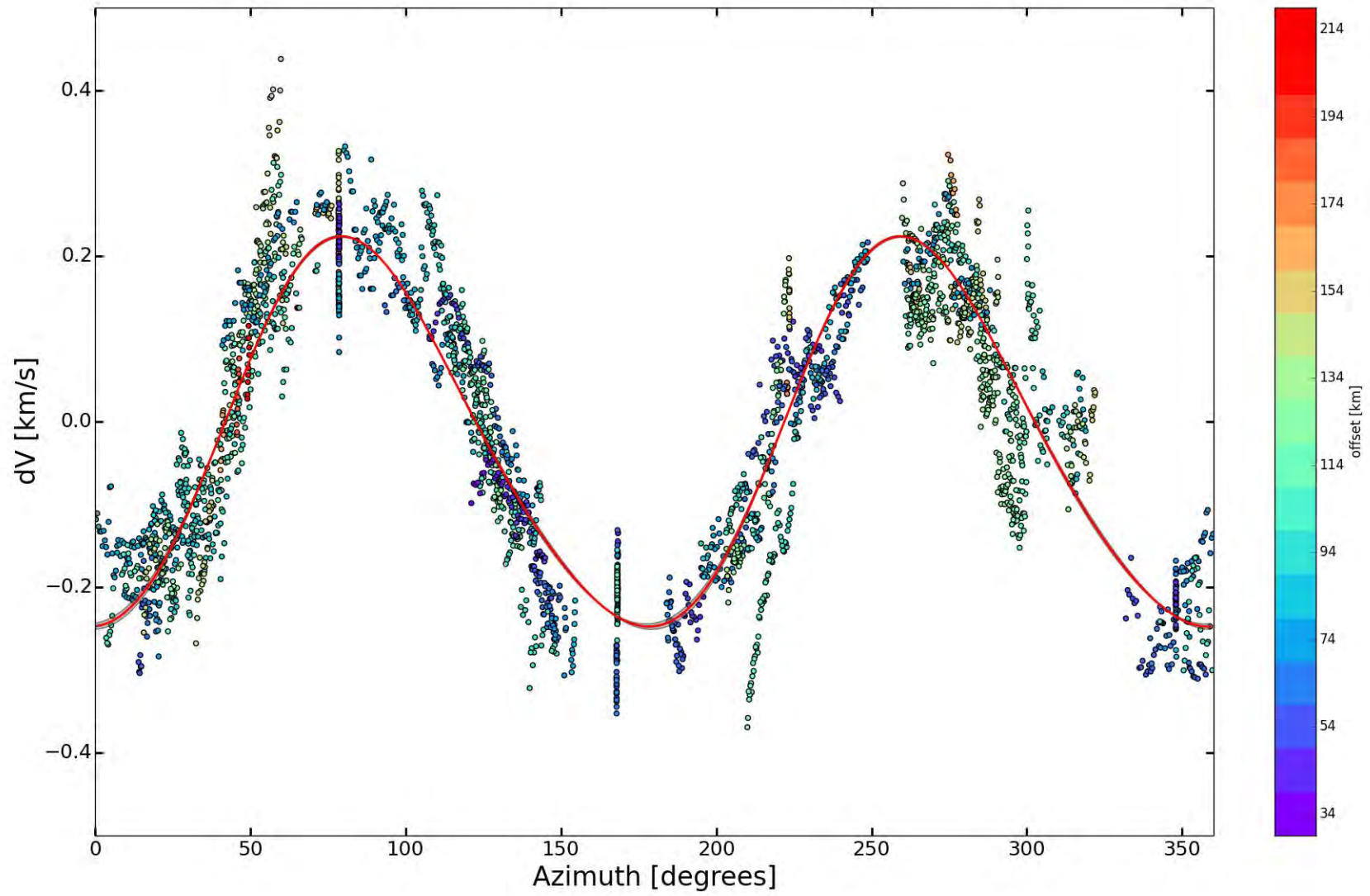
Western Pacific: Cretaceous-modified Jurassic lithosphere

MGL1204

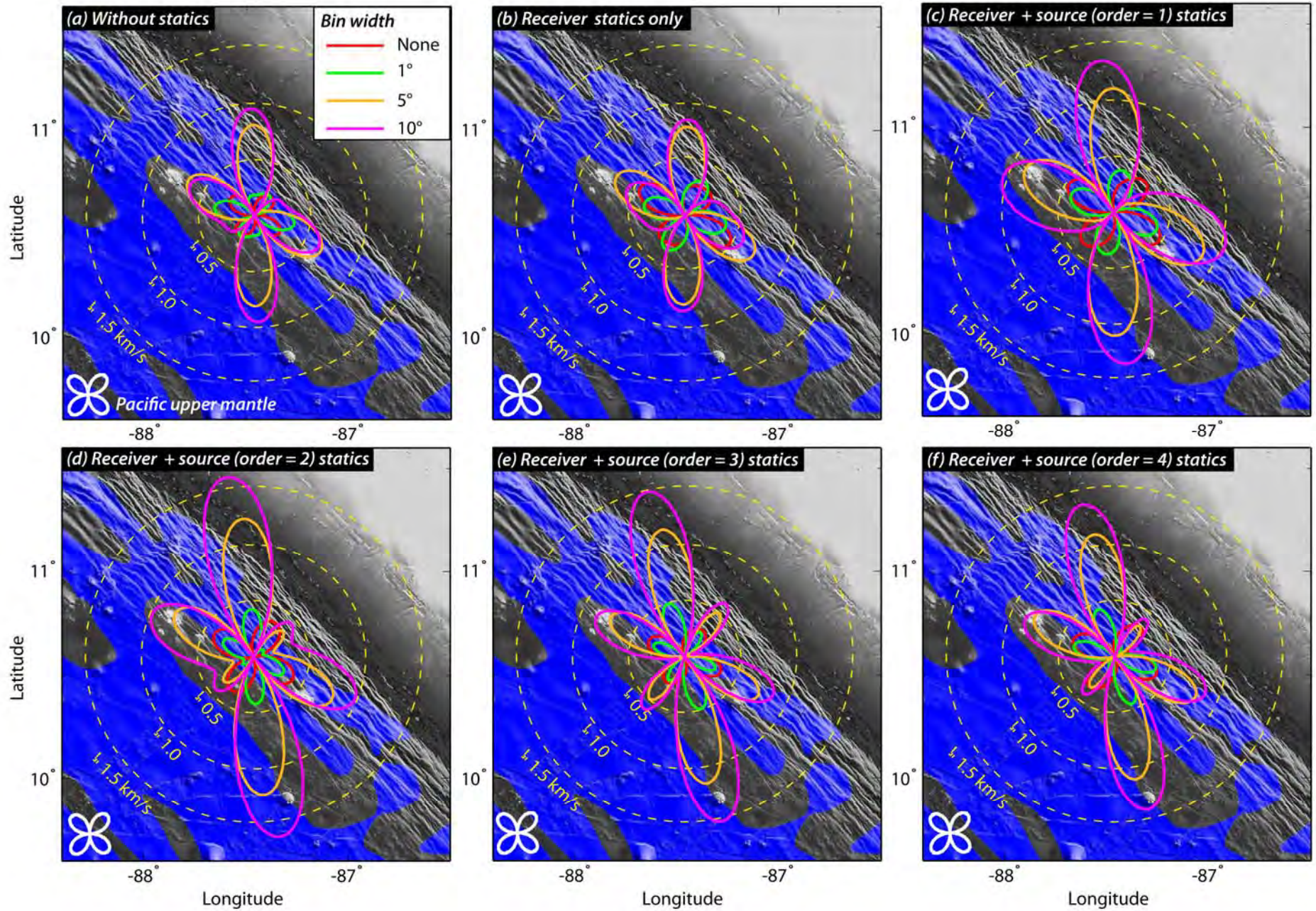




Pacific Upper mantle anisotropy

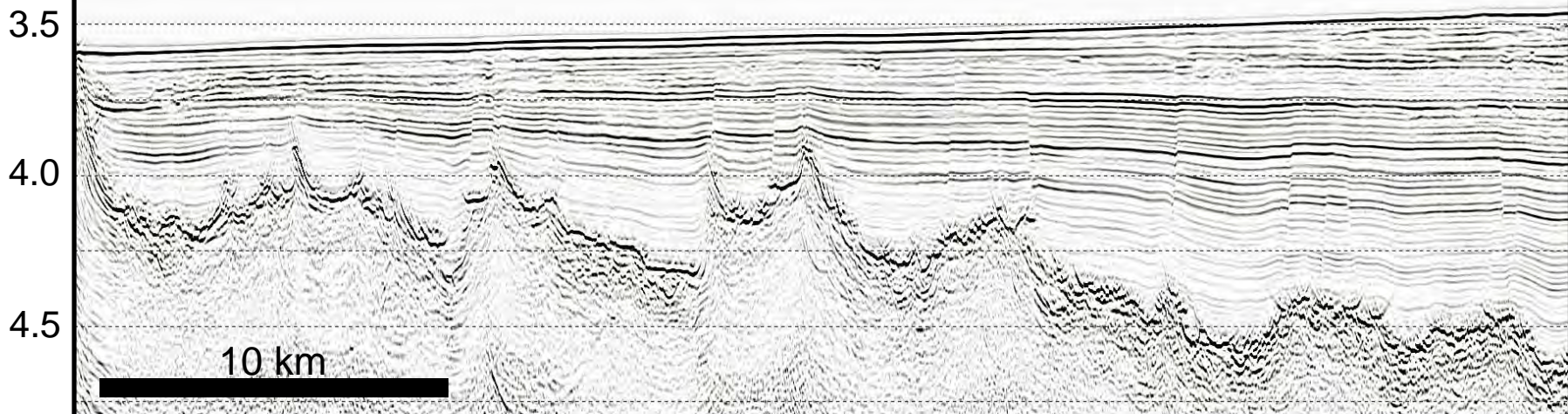


Bending-fault-influenced anisotropy

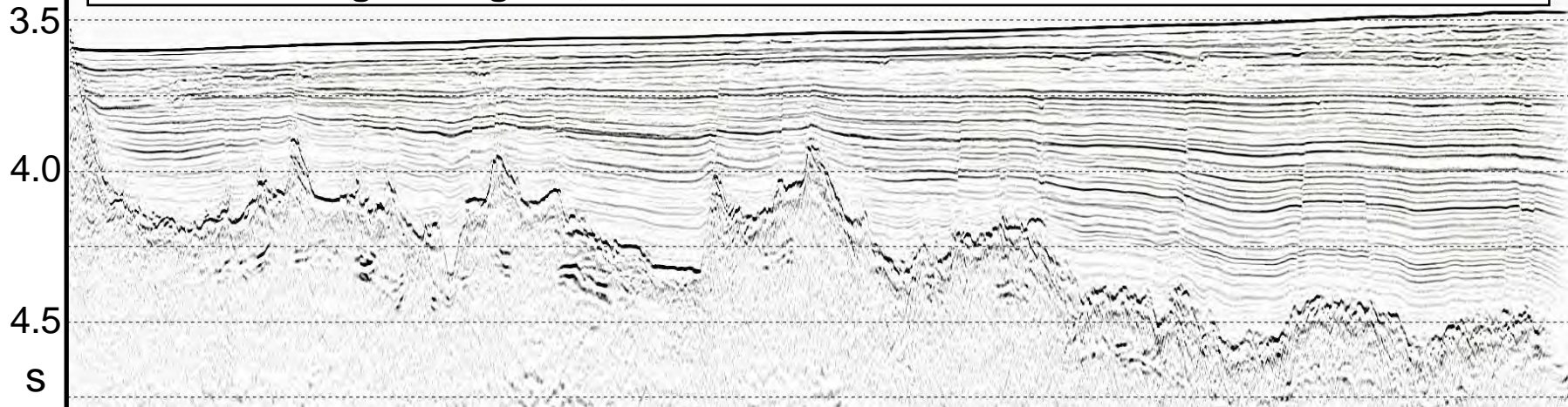


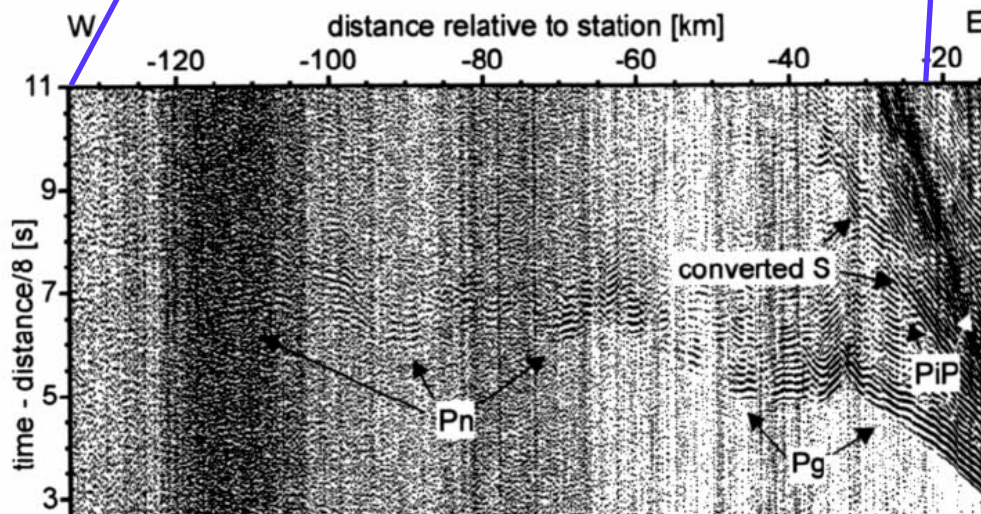
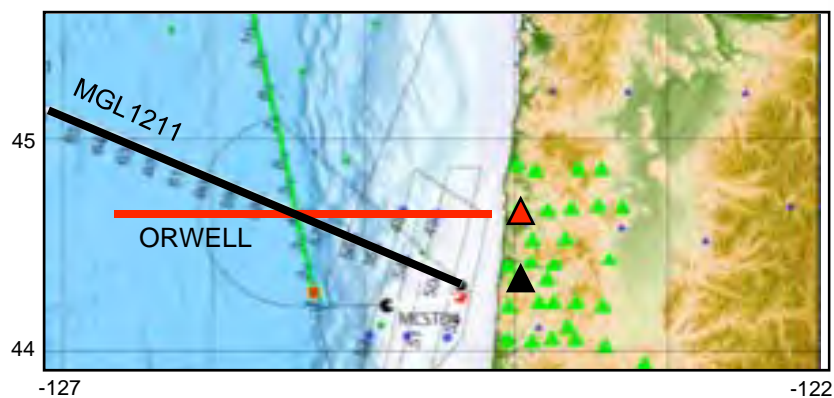
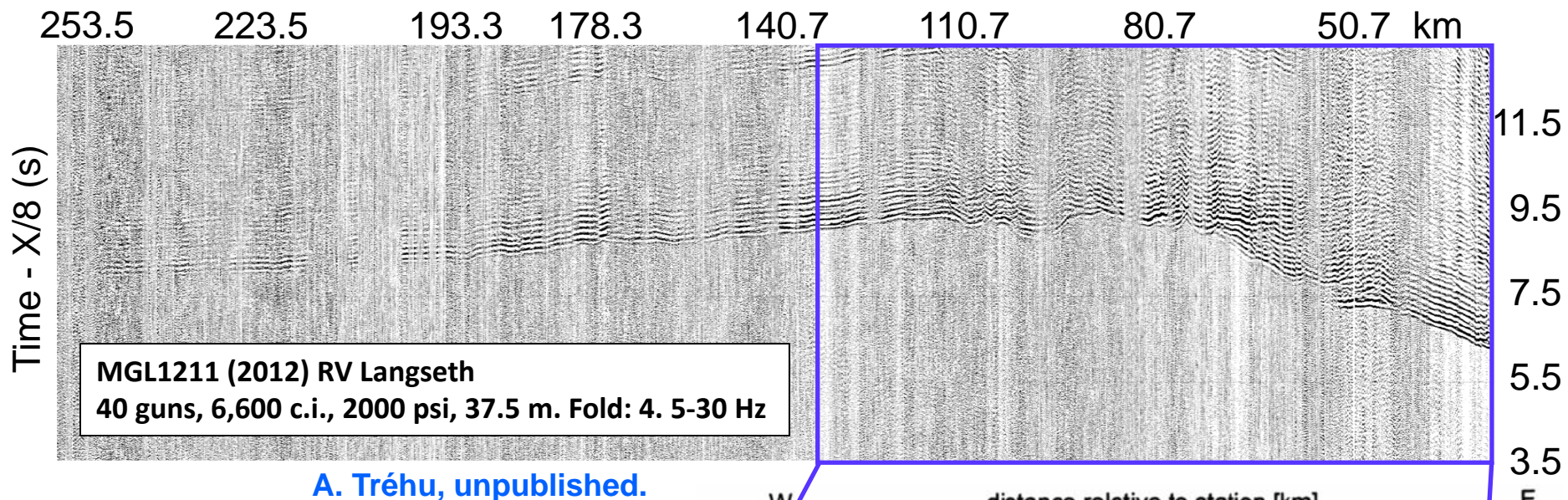


2012 RV Langseth 40 guns, 6,600 c.i., 2000 psi, 37.5 m. 636 channels. Fold: 105



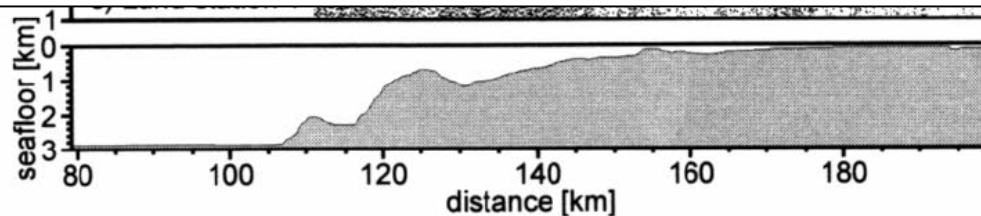
2001 RV Ewing 10 guns, 3,005 c.i. 37.5 m. 480 channels. Fold: 80

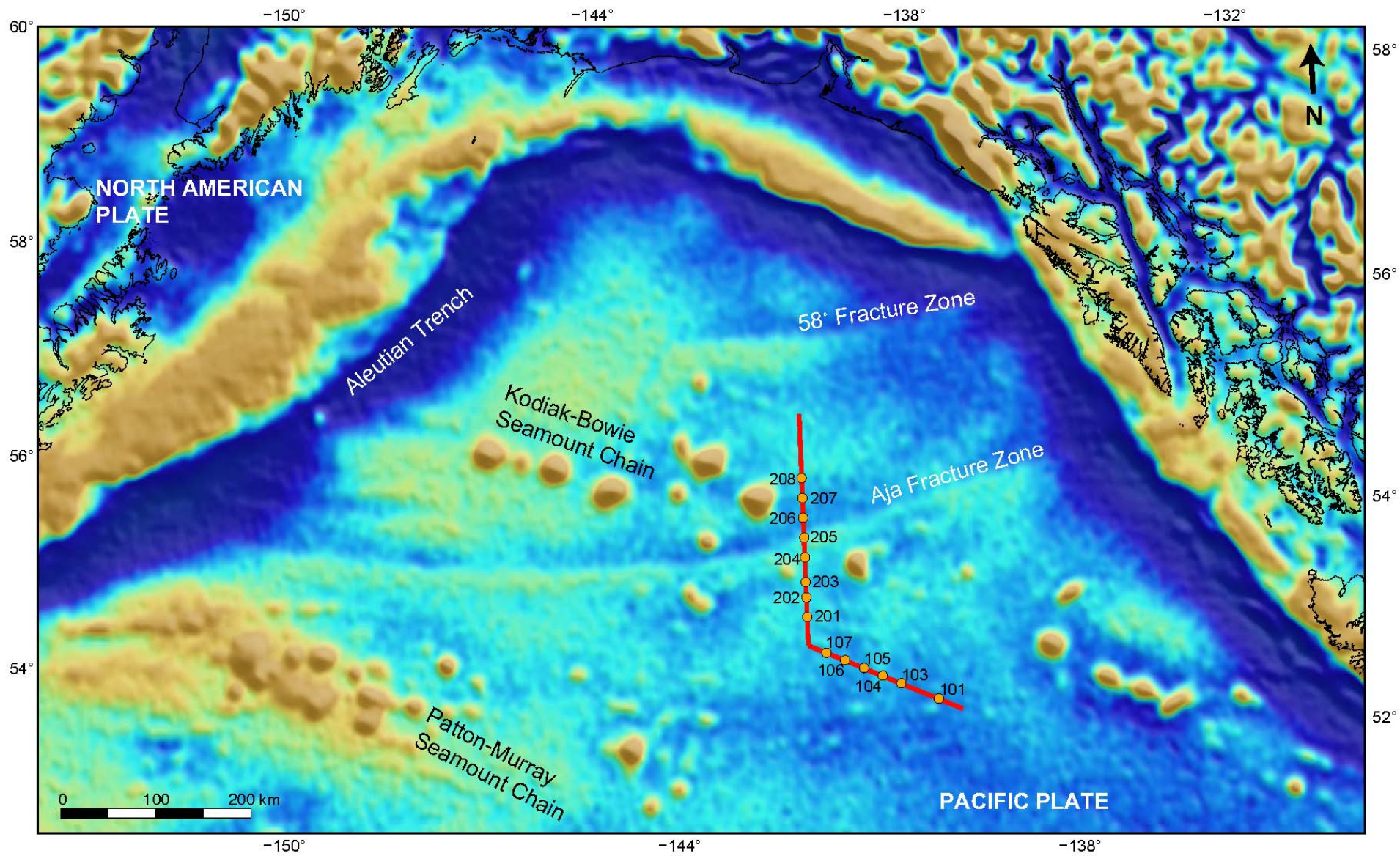


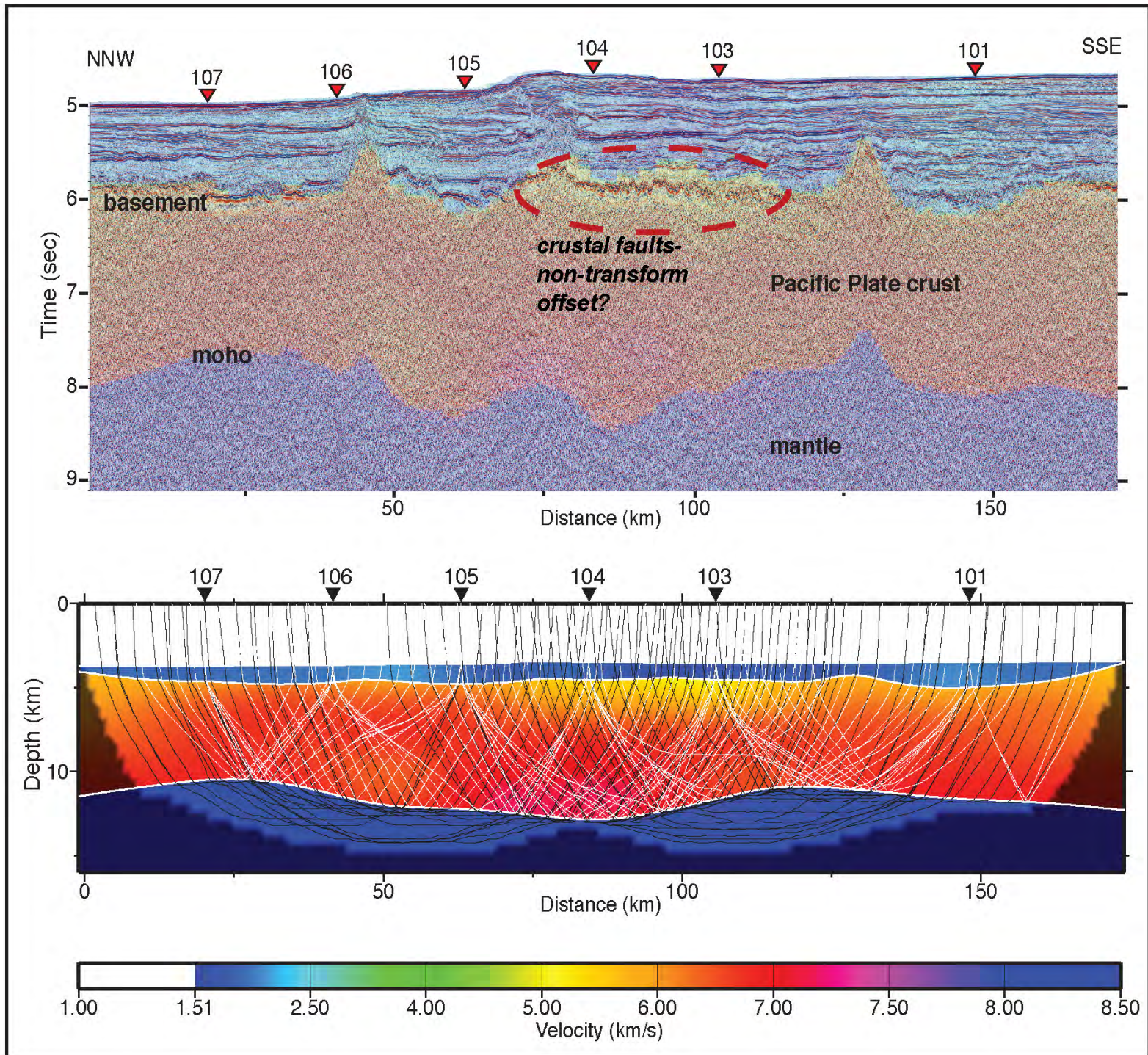


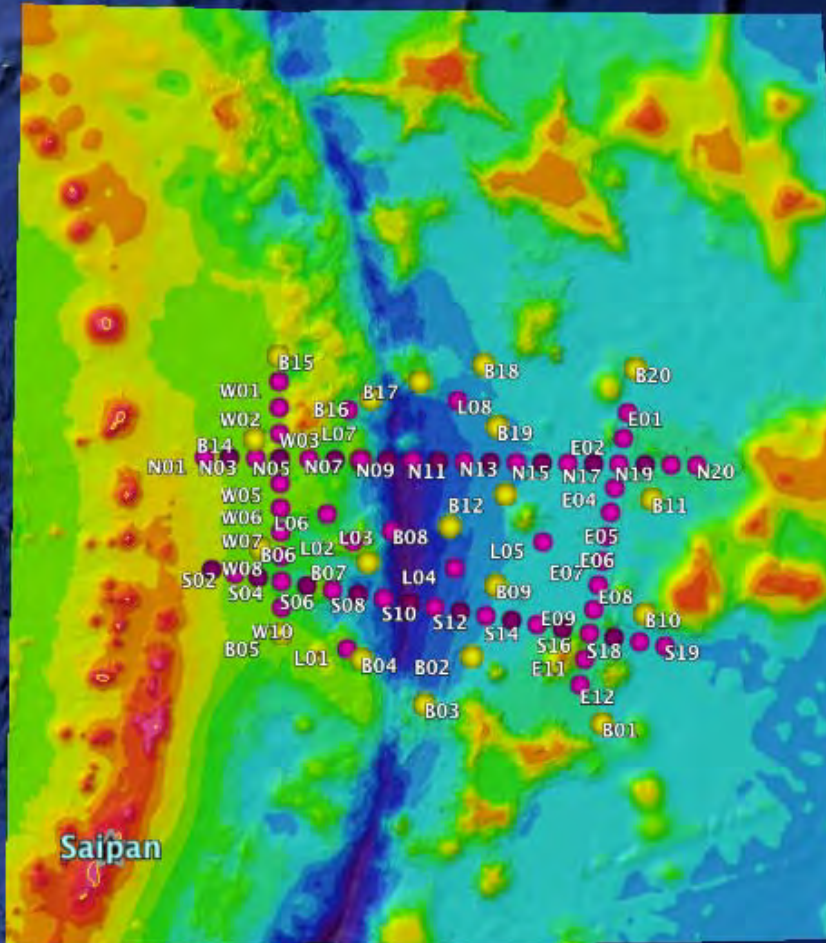
ORWELL (1996) RV Sonne. 16 guns, 6,350 c.i., ~140 m?. Fold: 1. 2-6-16-24 Hz

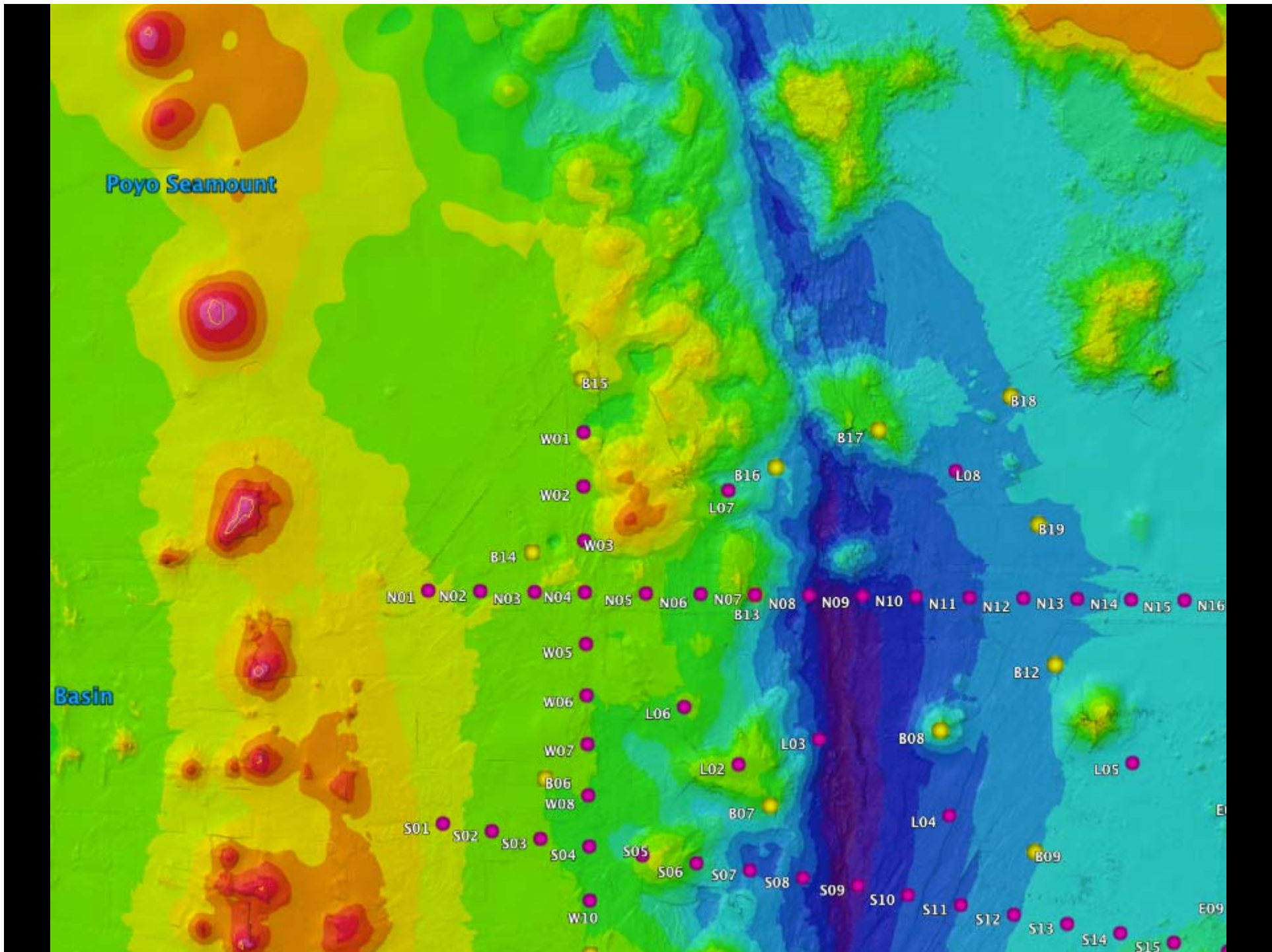
Gedom et al., 2000

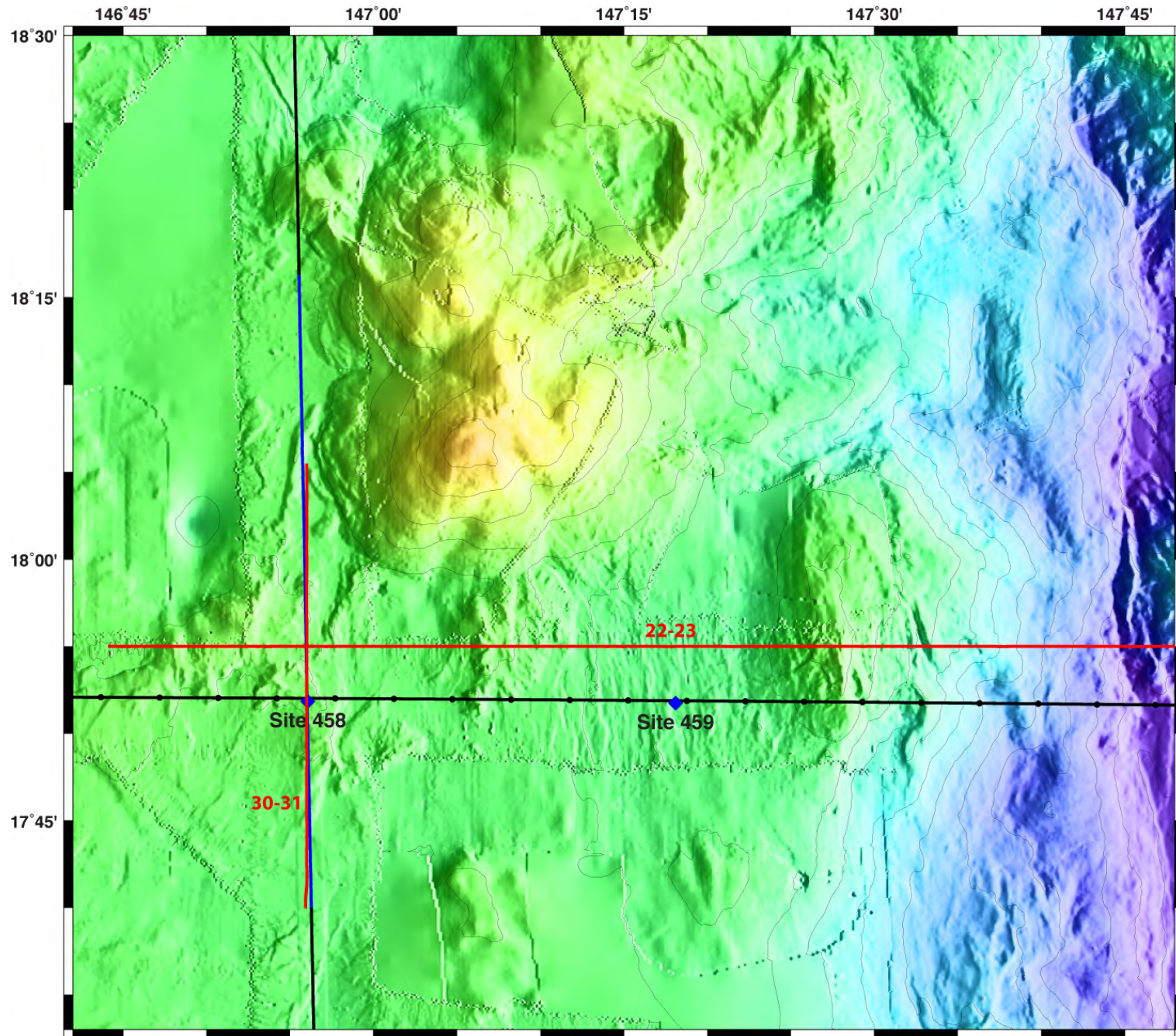


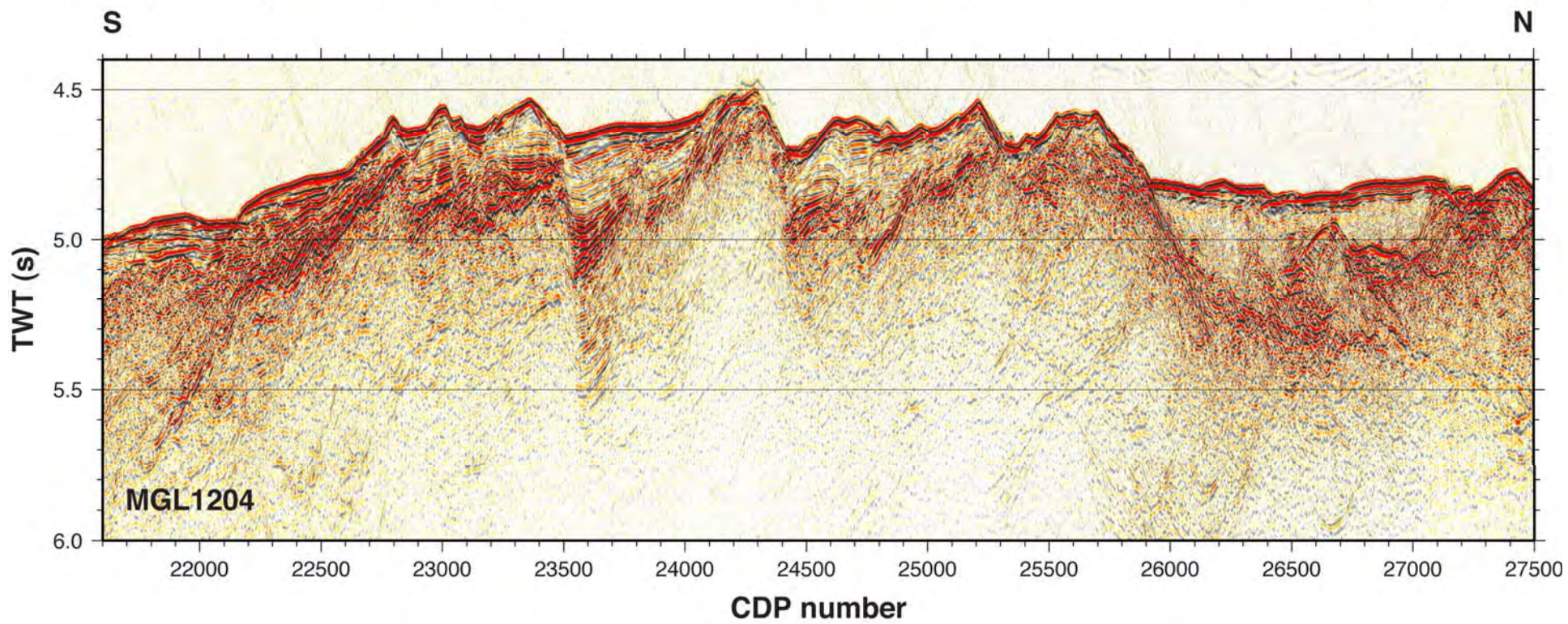
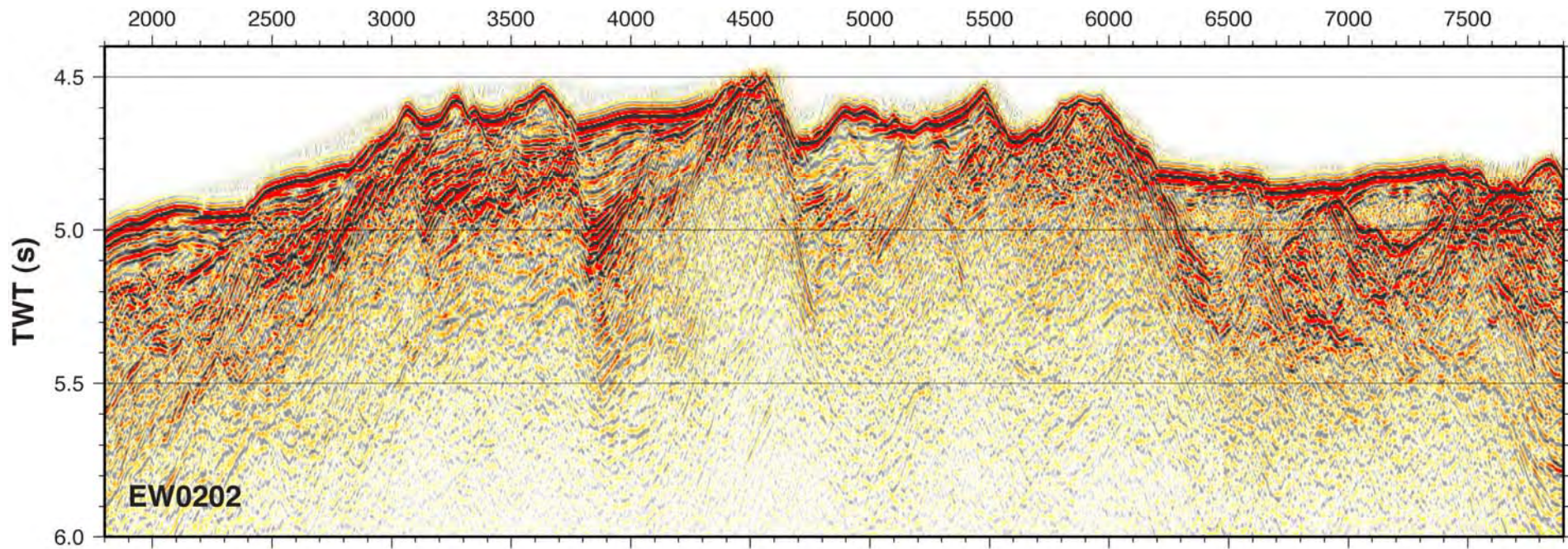


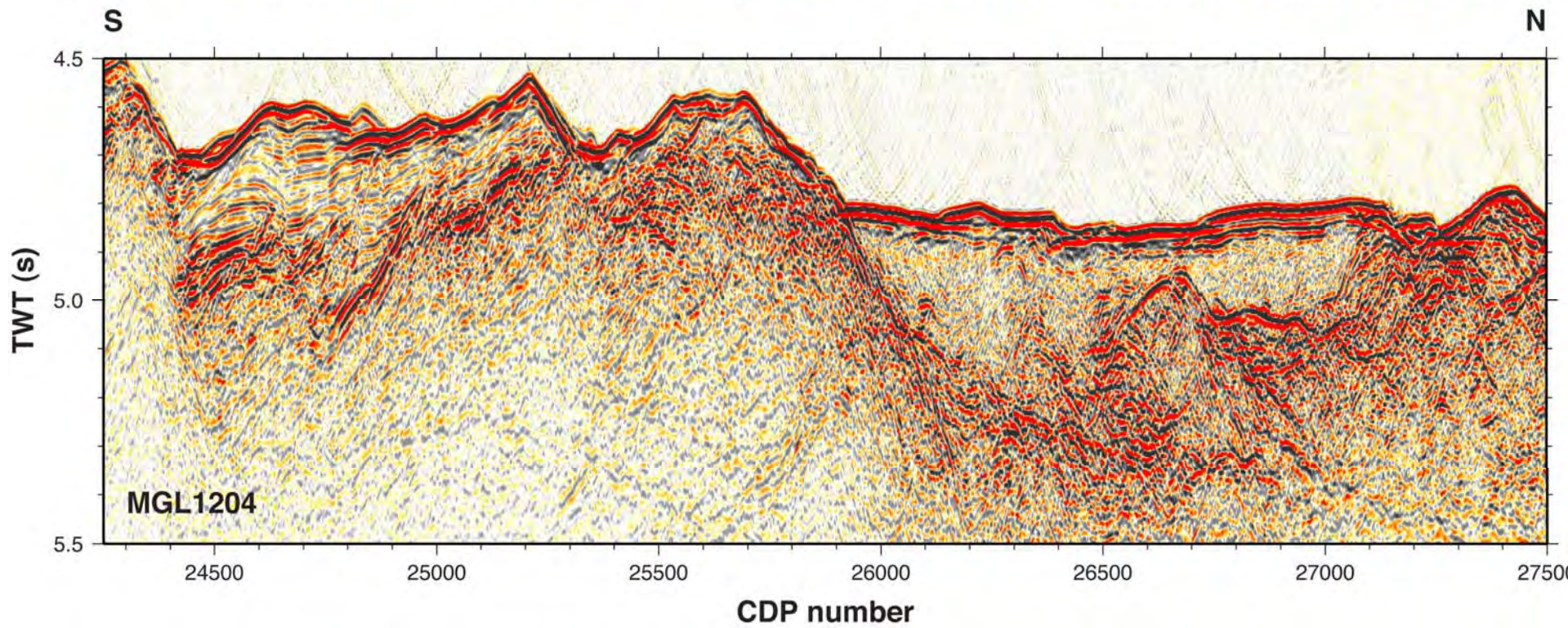
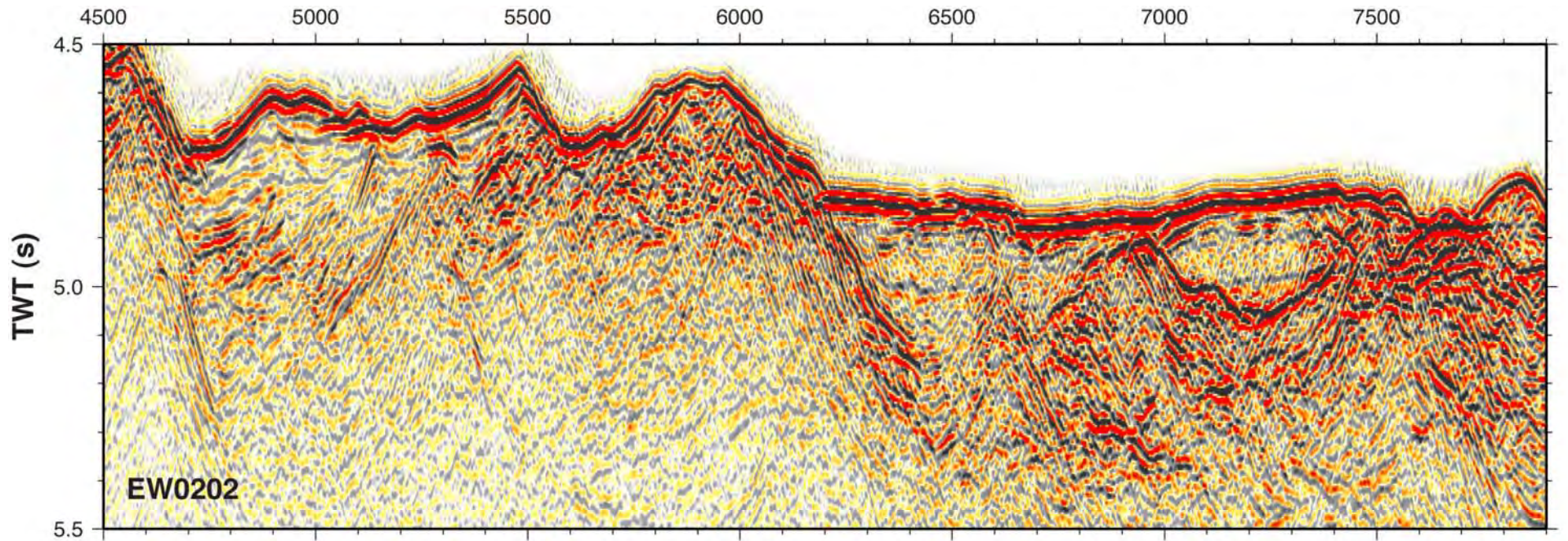


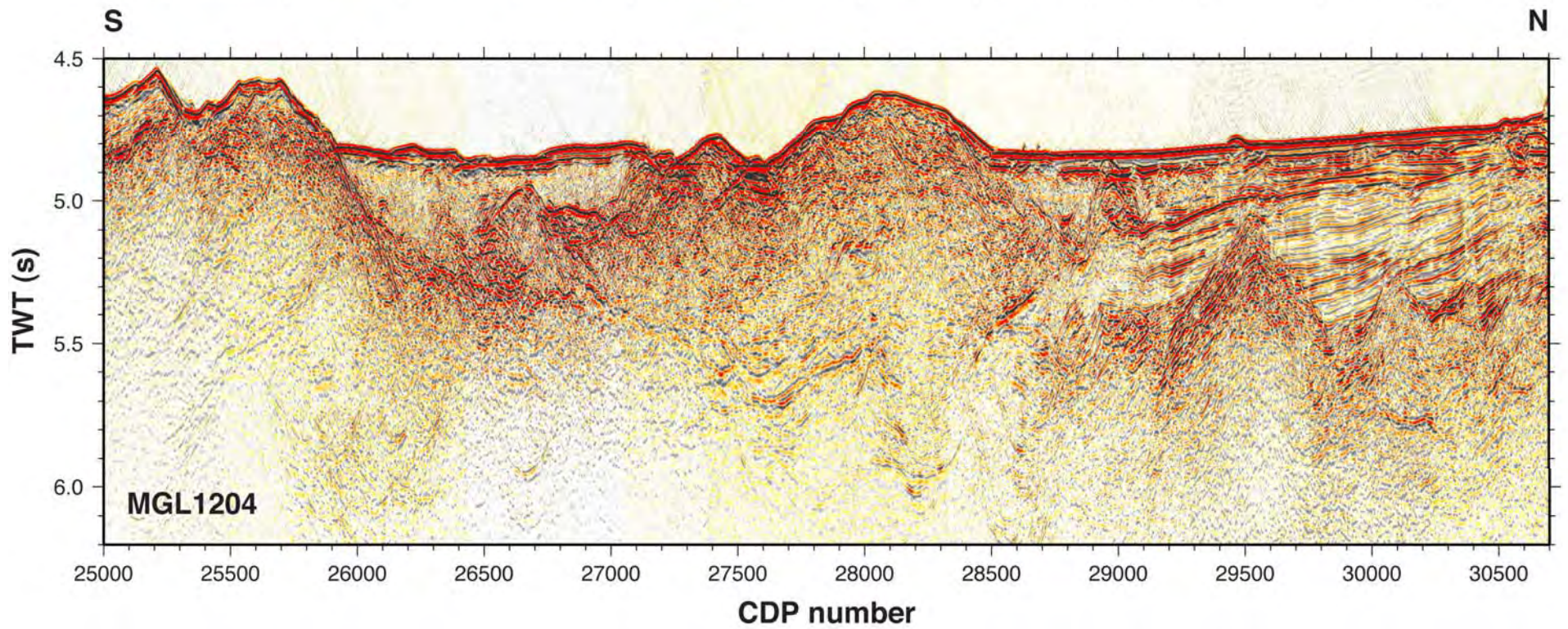
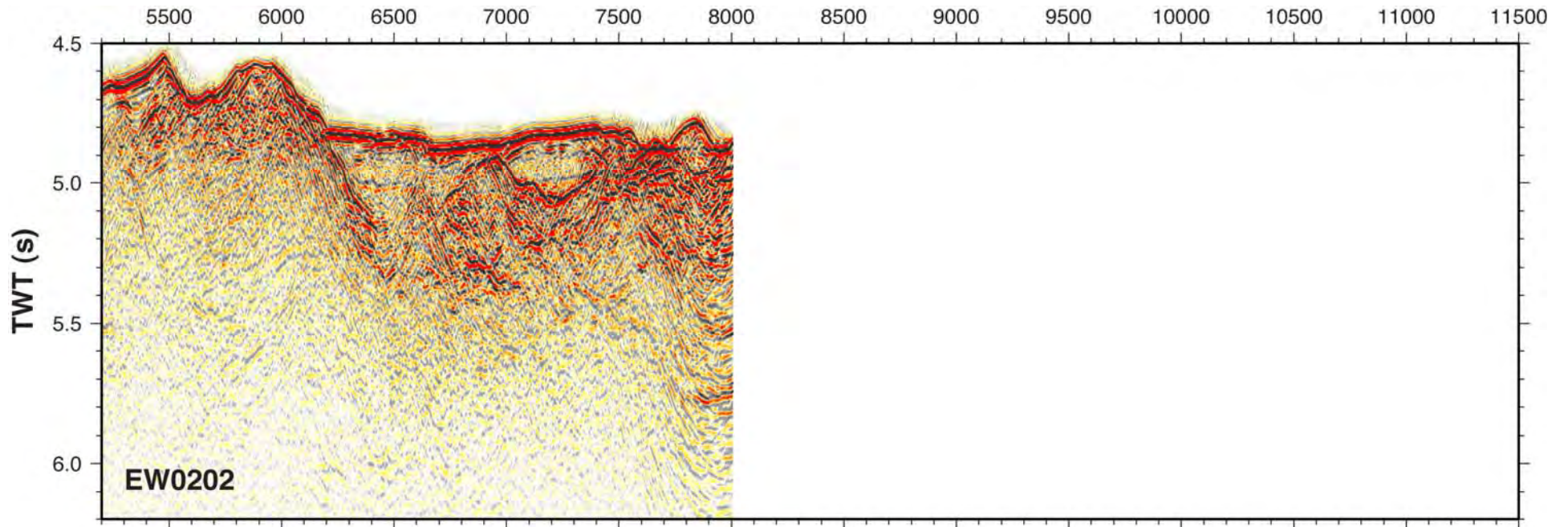


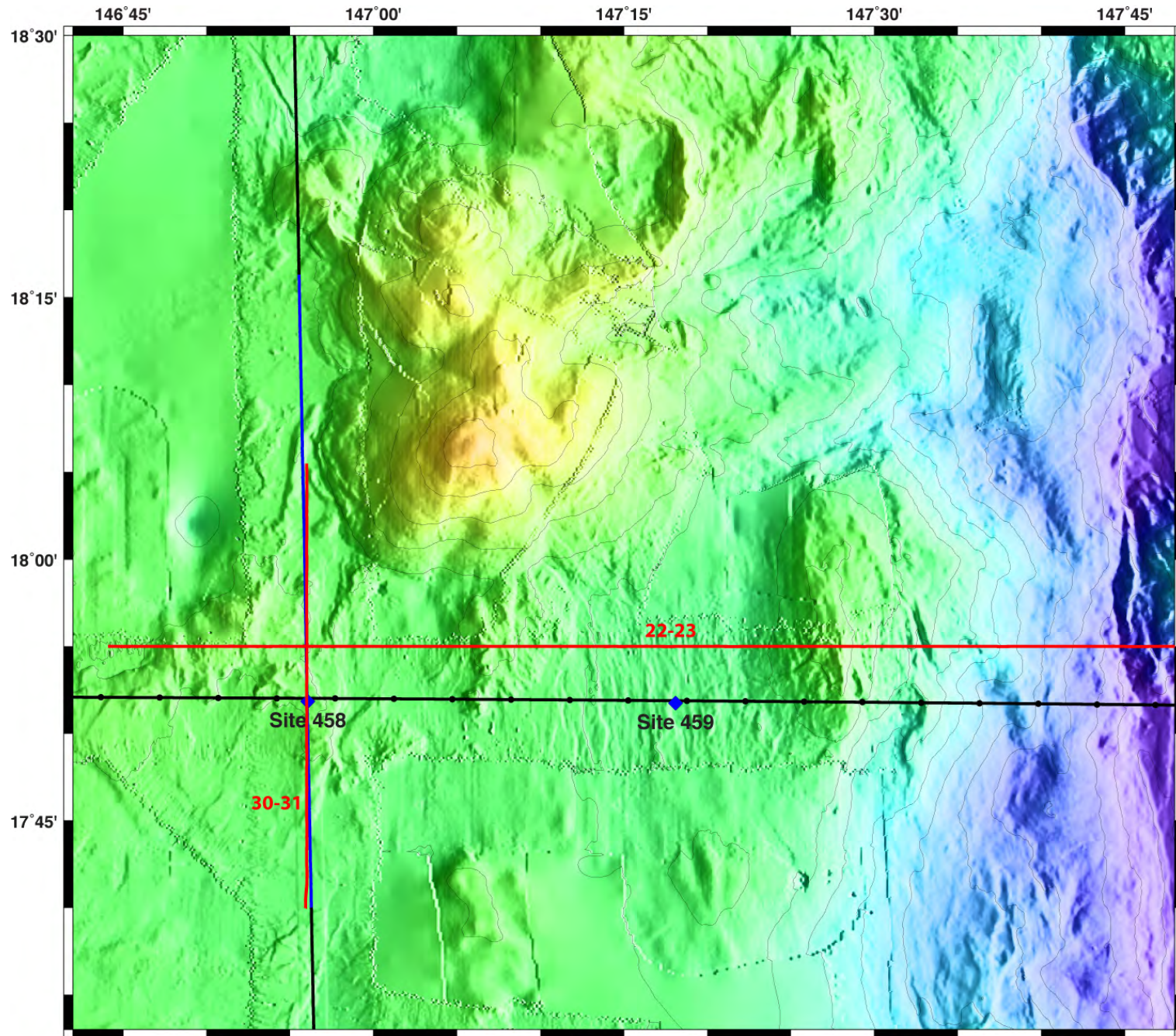


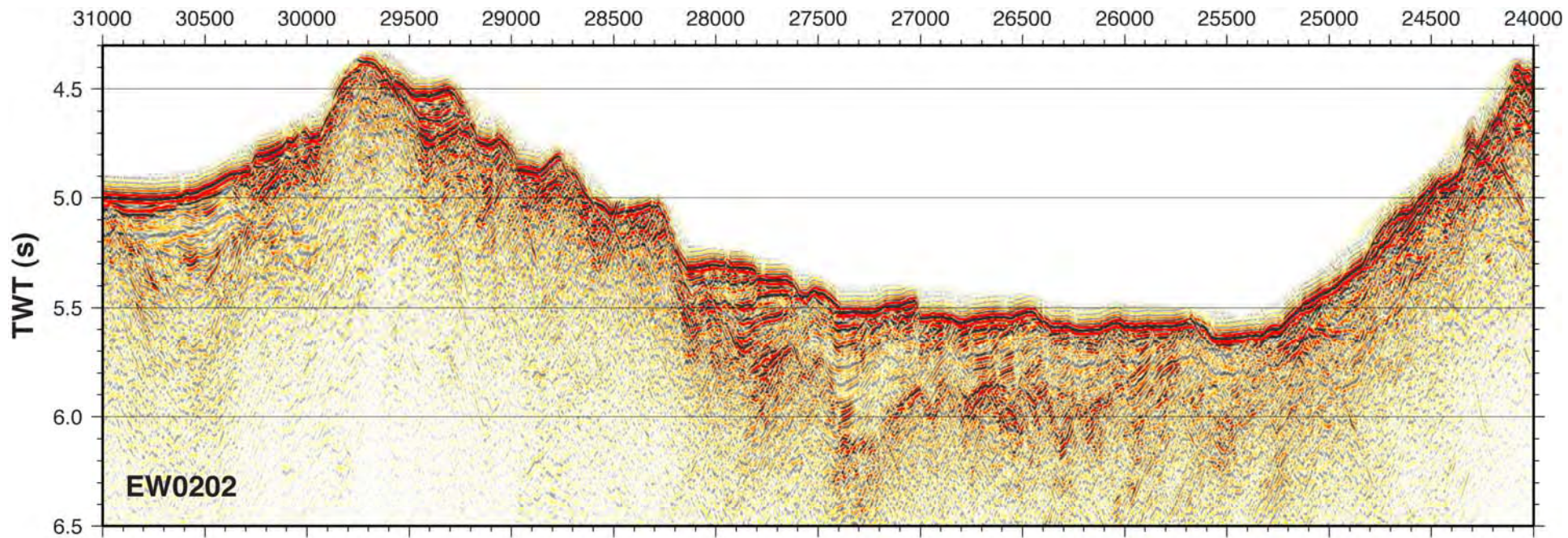






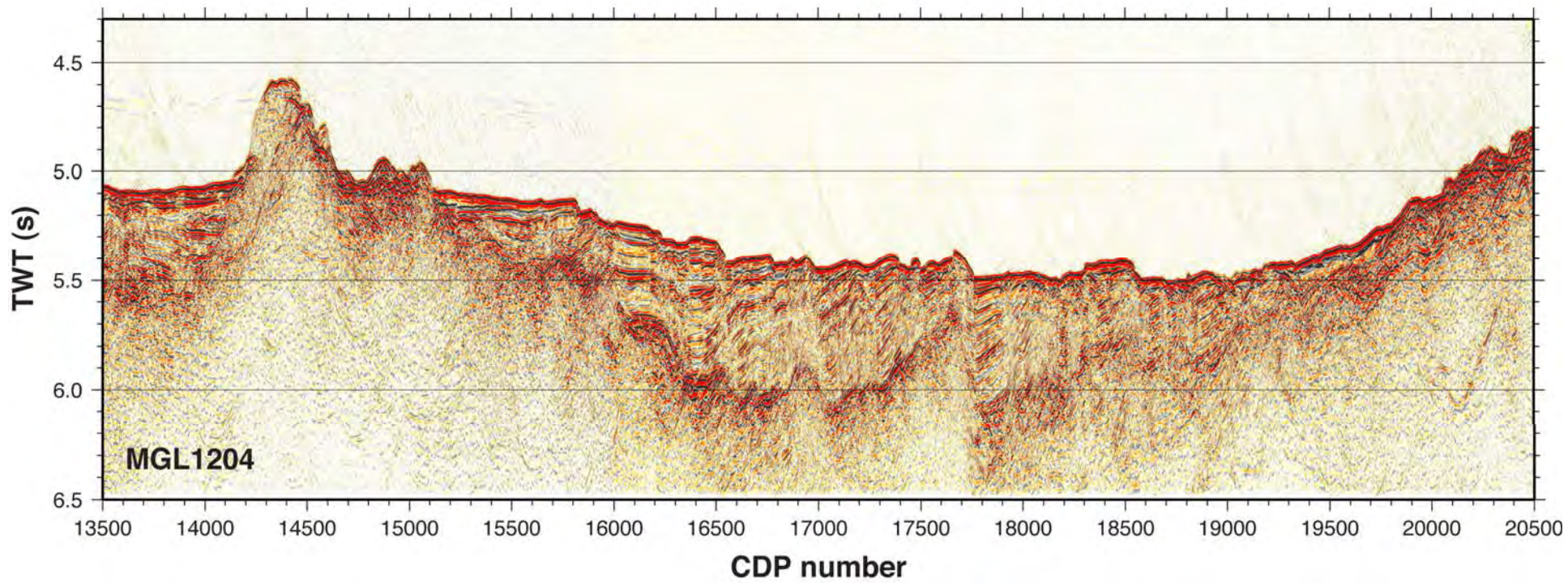


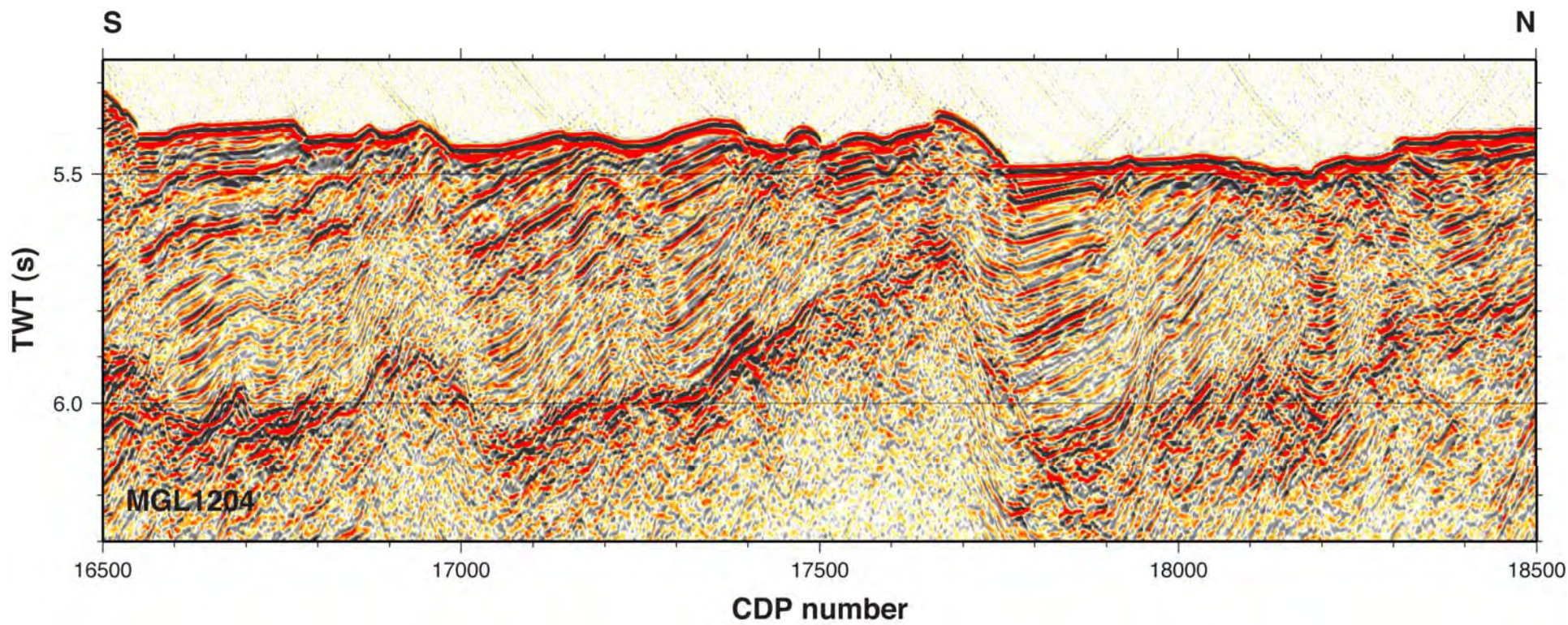
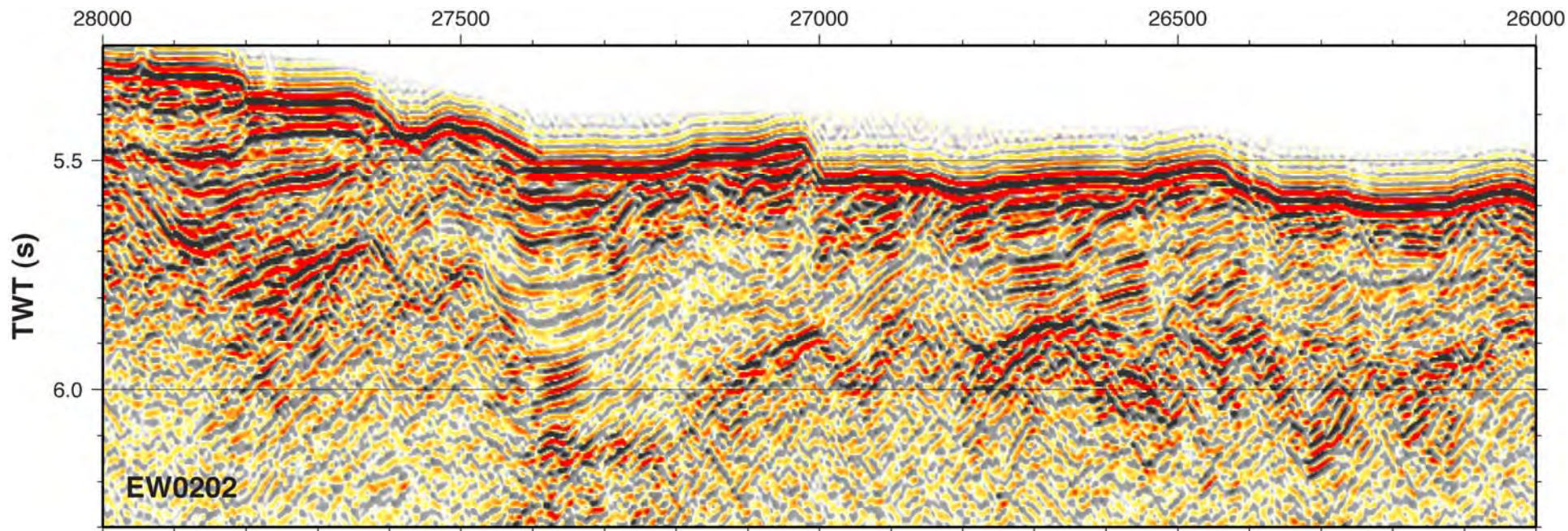




W

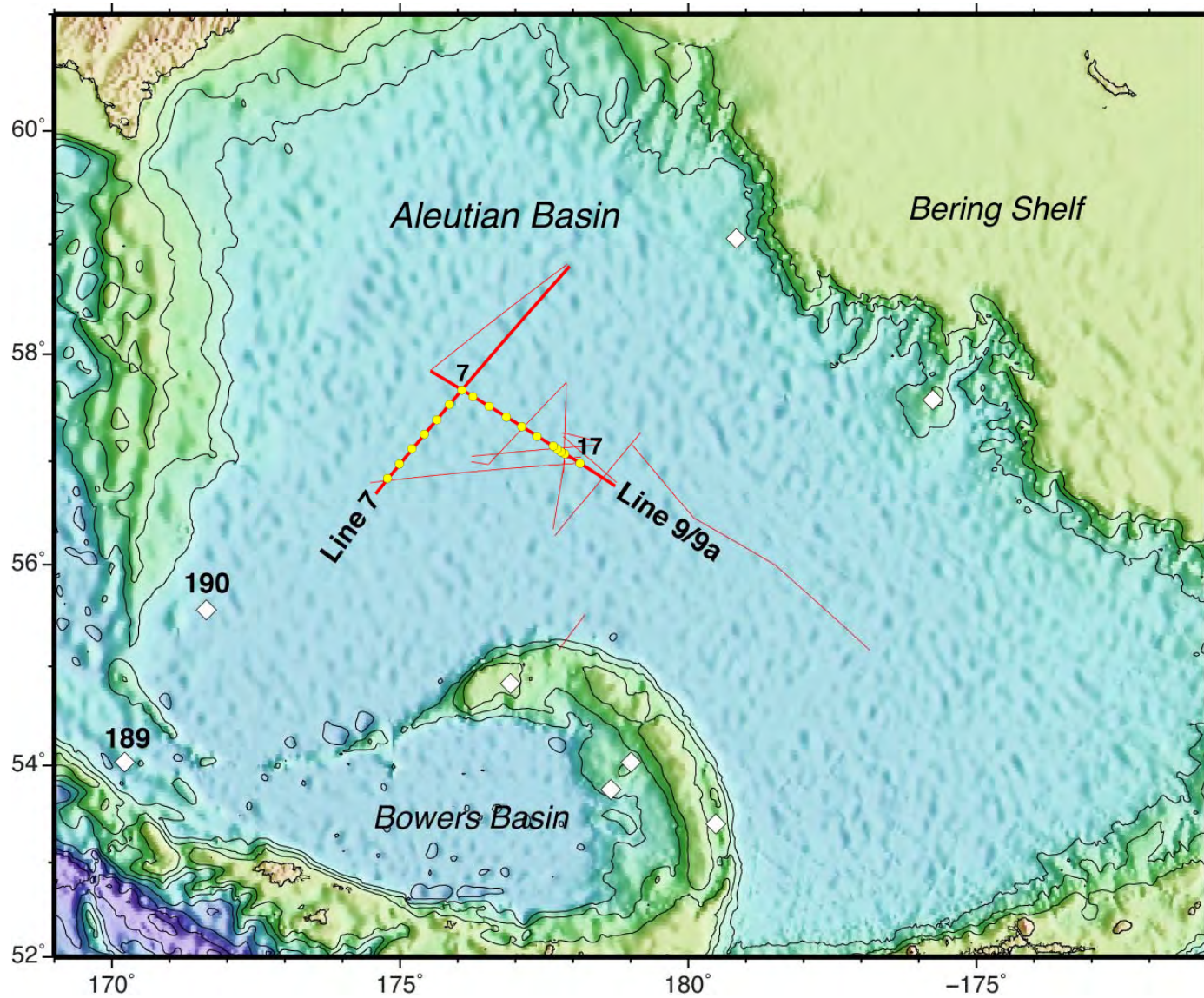
E



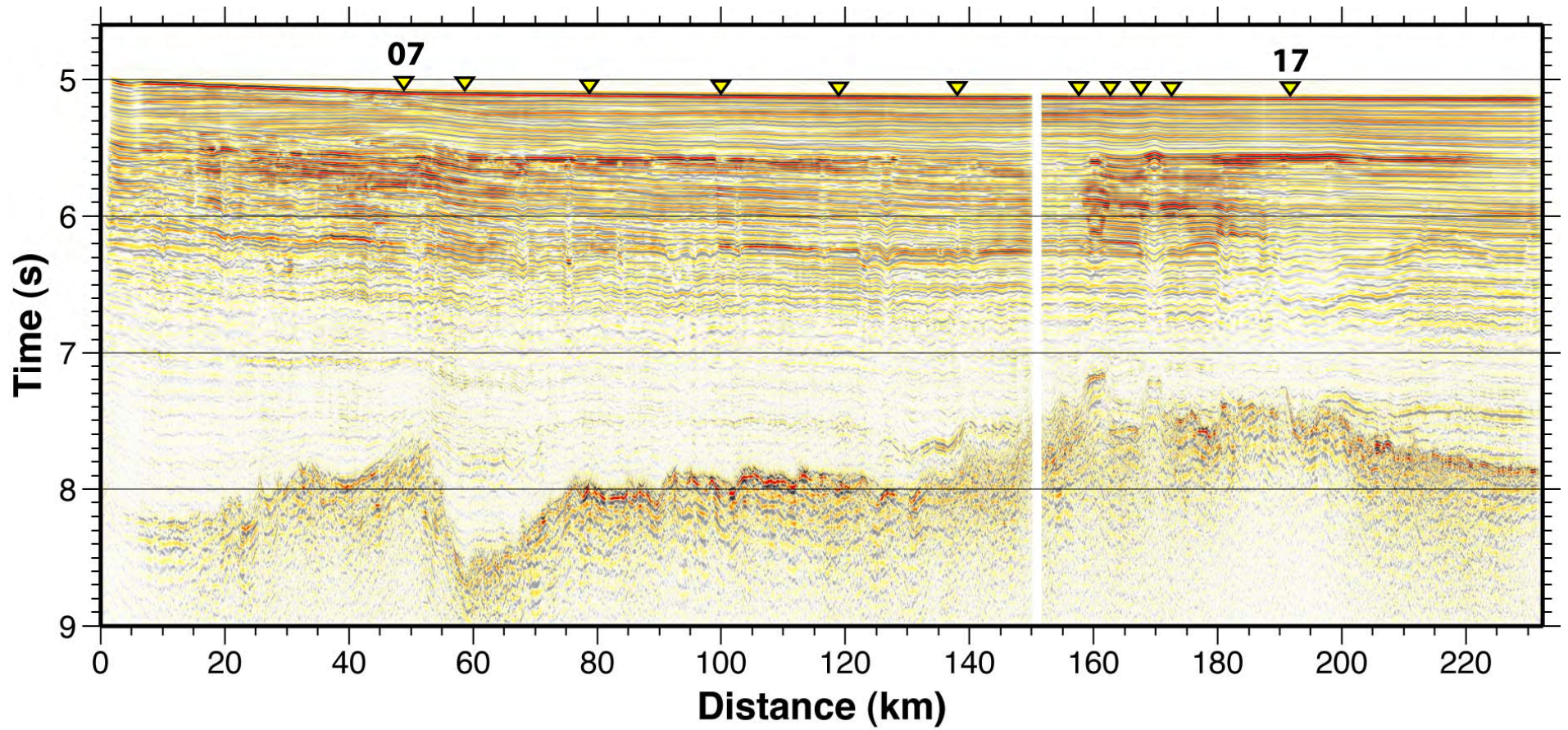


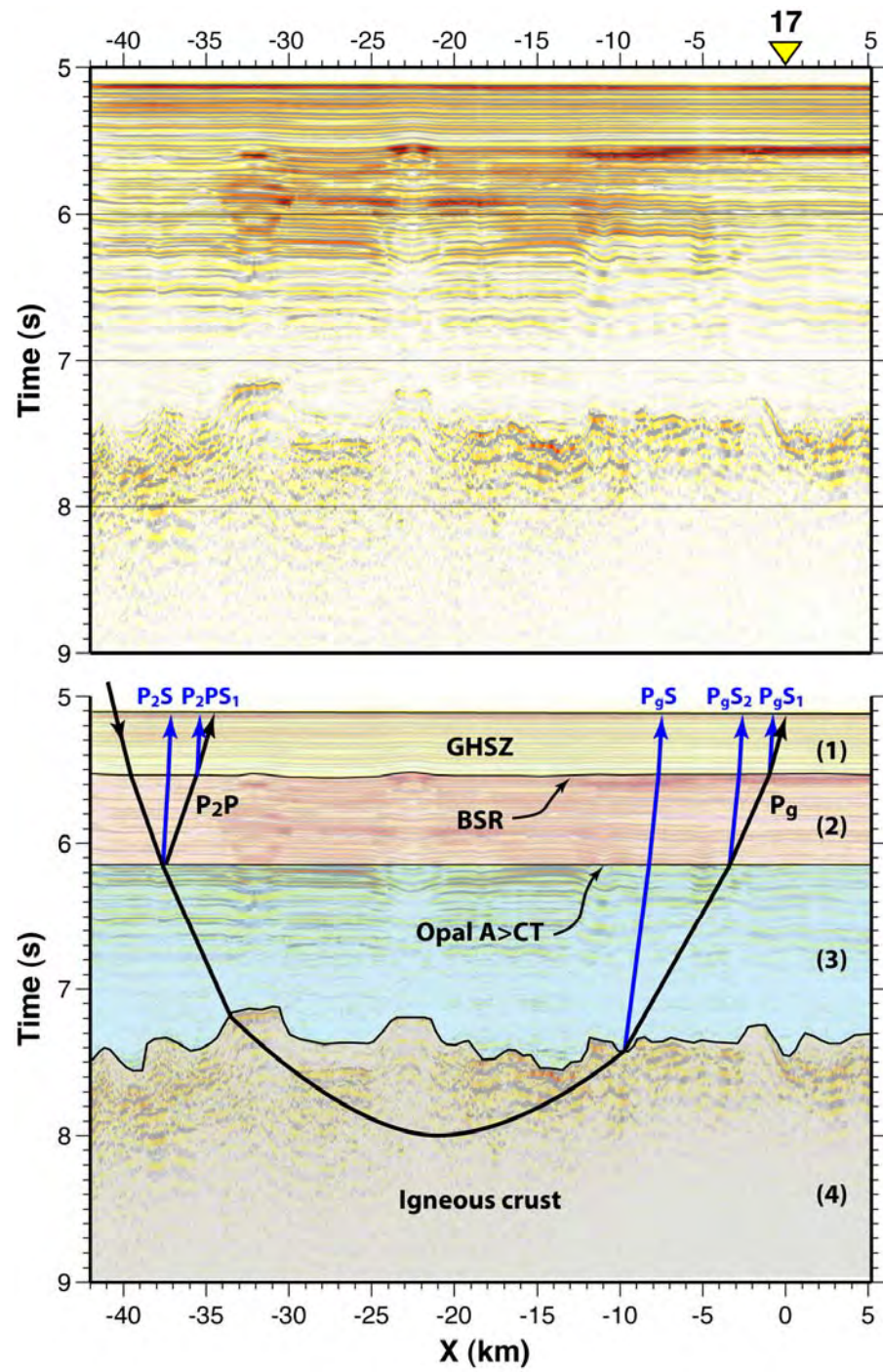
Aleutian Basin (MGL1111): USGS, Barth et al.

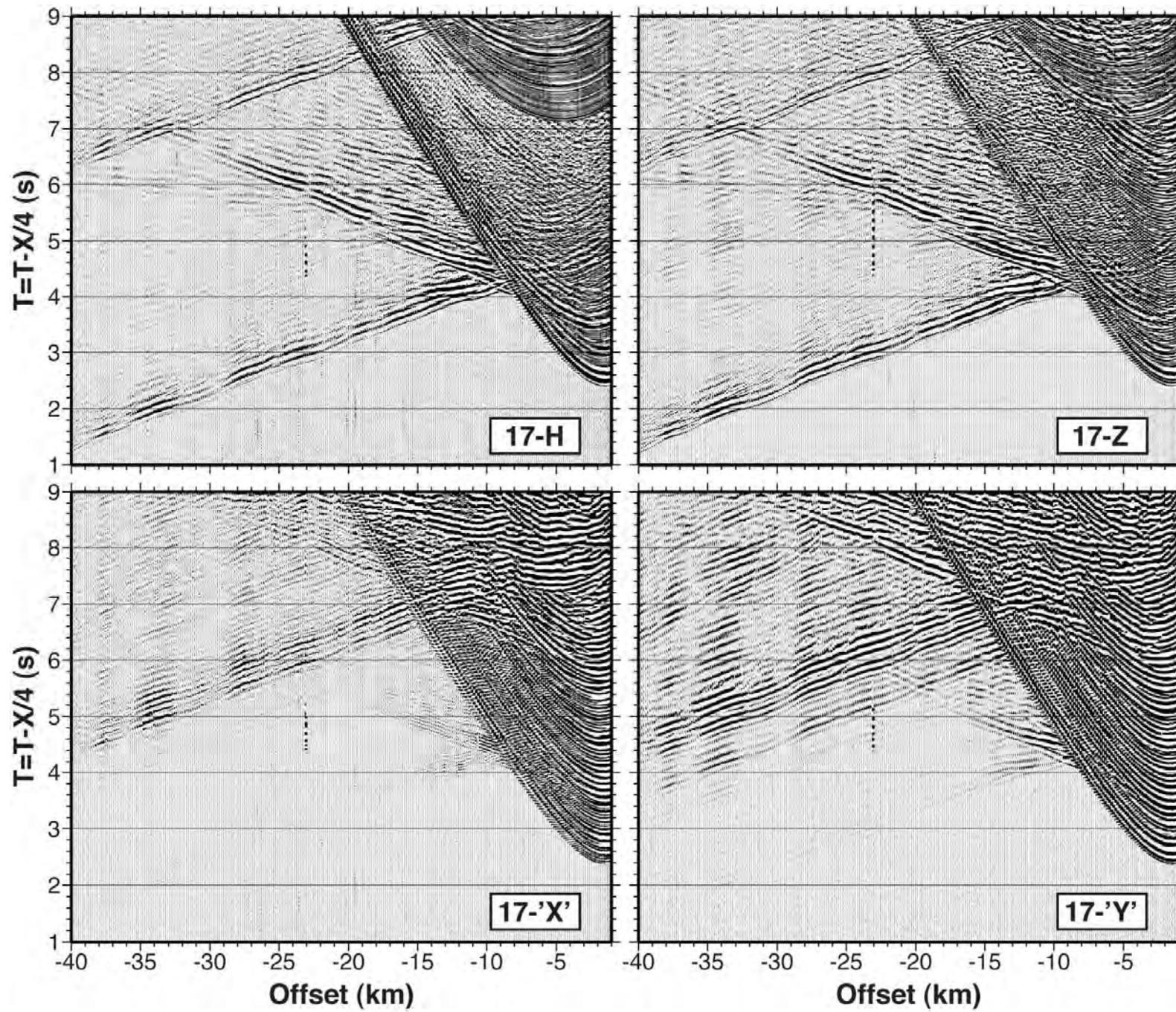
The value of *high-res MCS* plus a *deep-penetrating source* for shallow targets

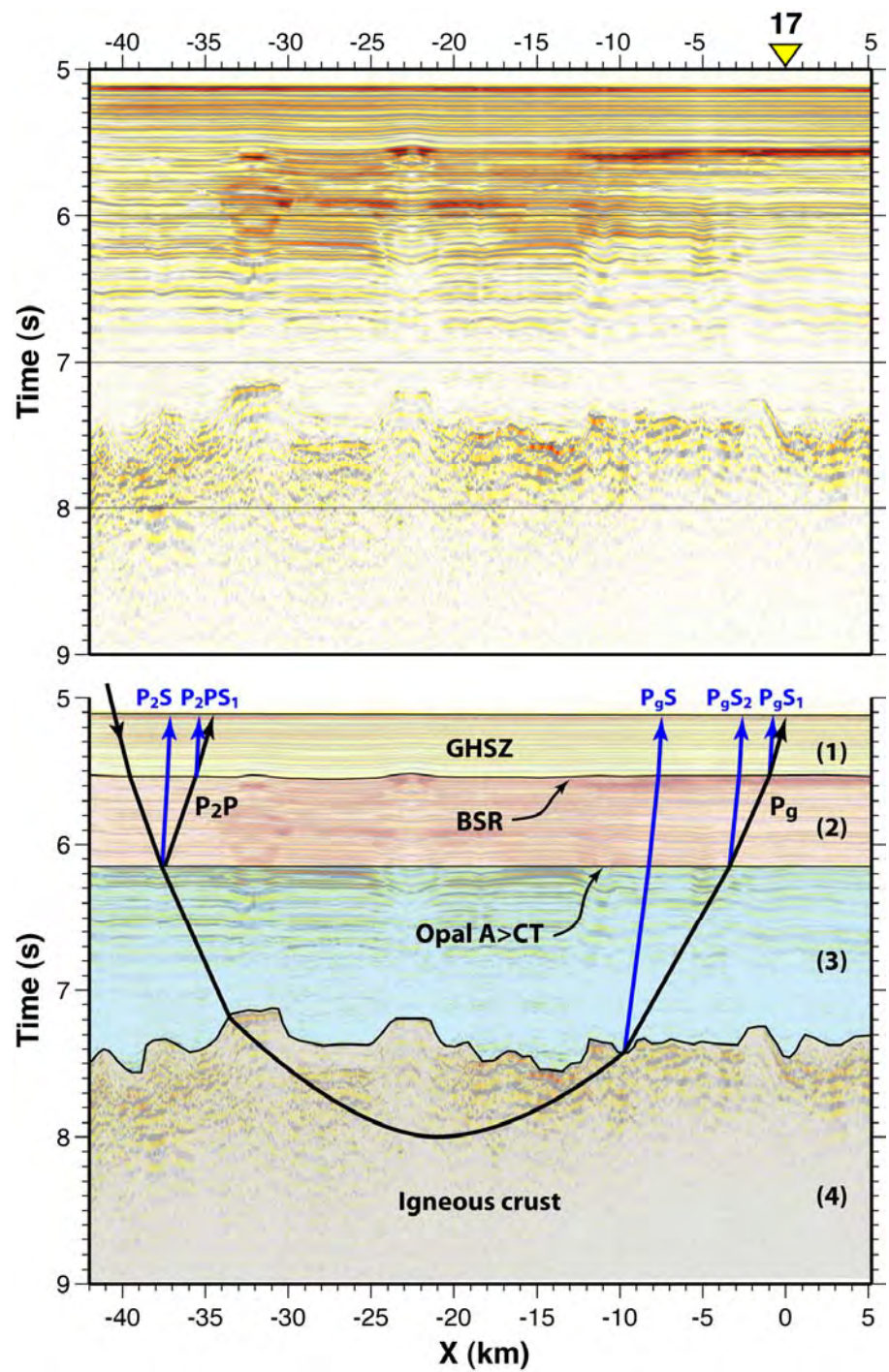


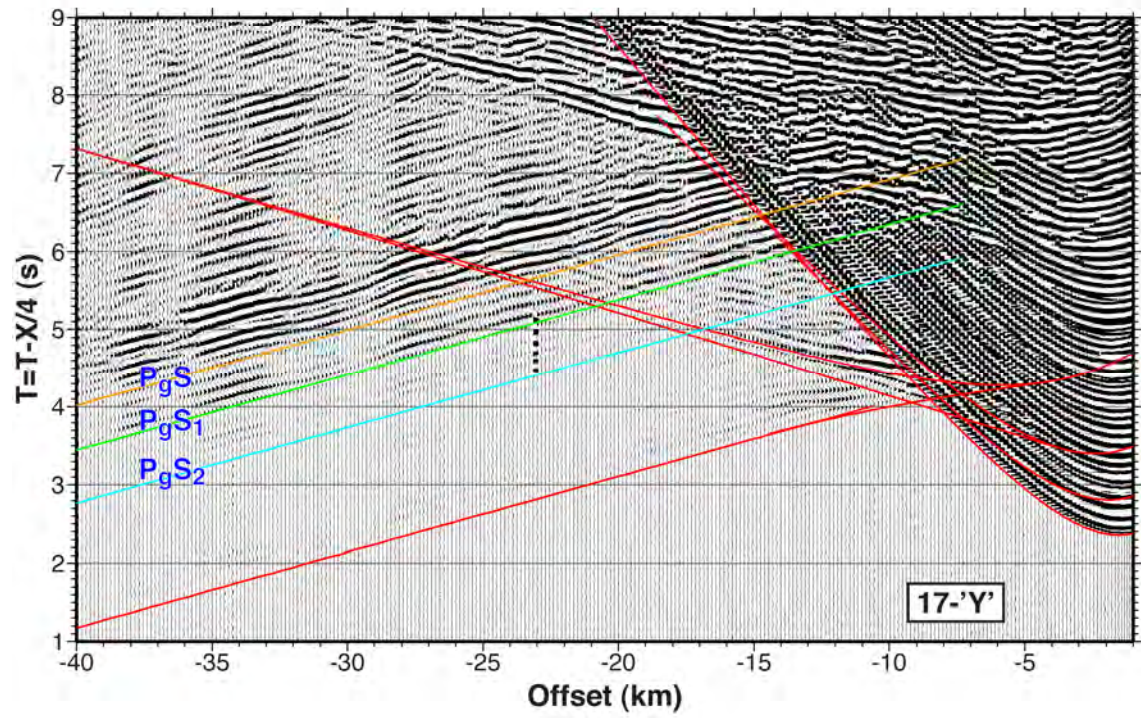
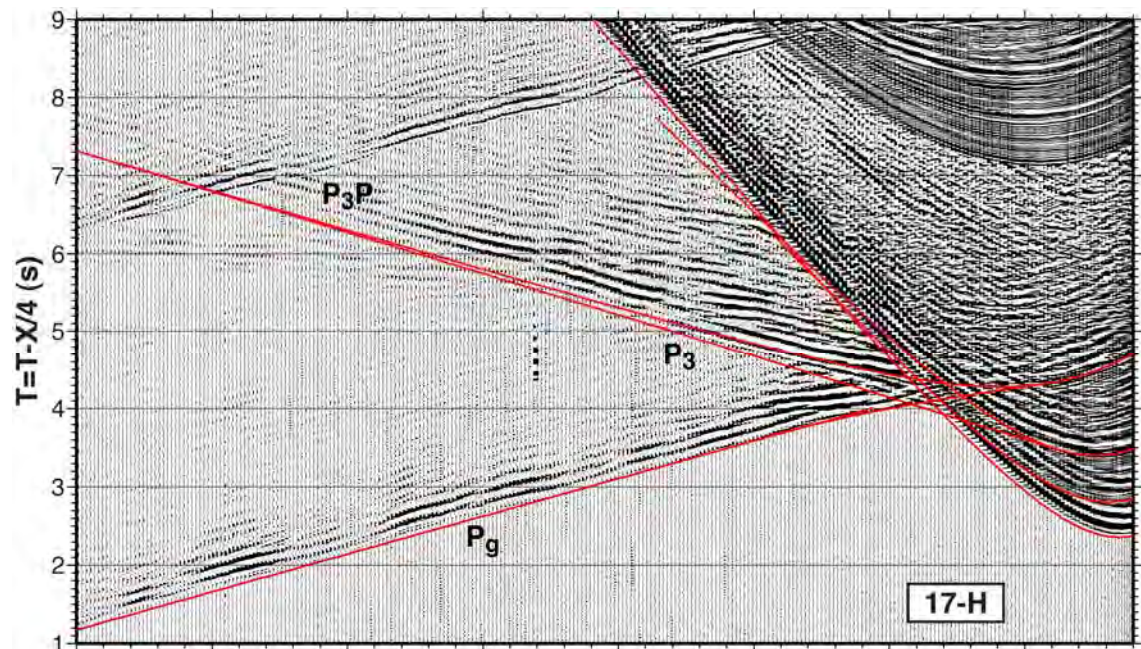
MGL1111: Line 09/09A



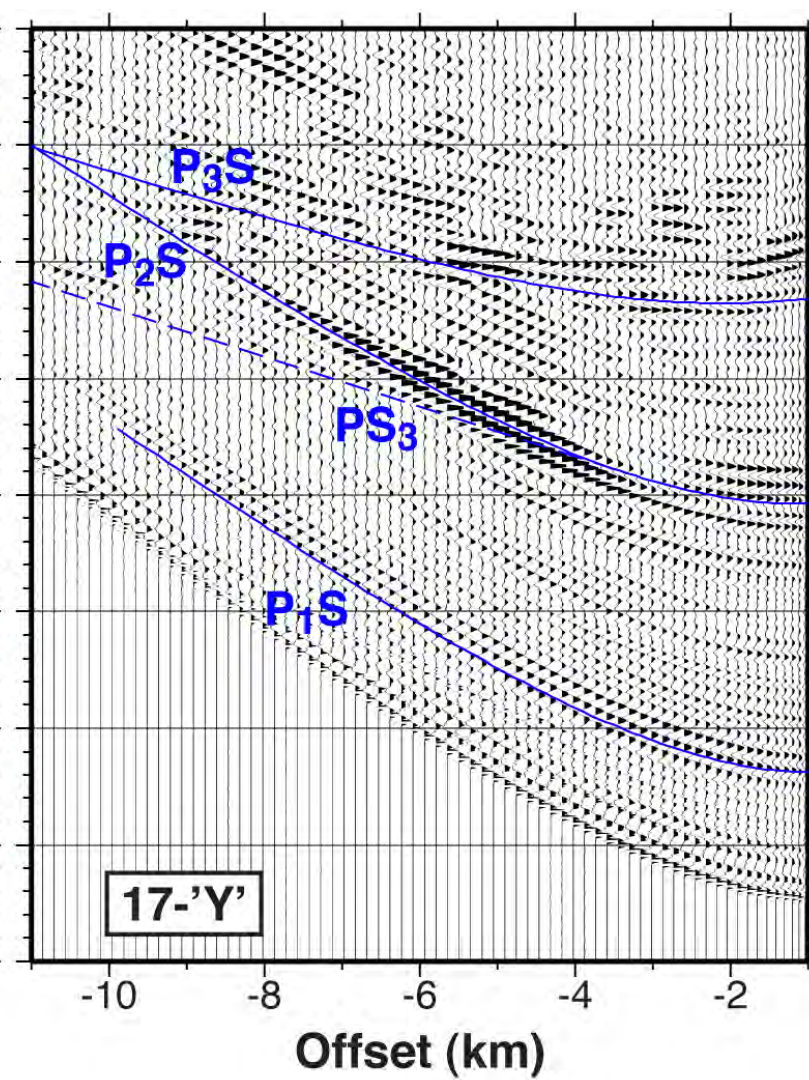
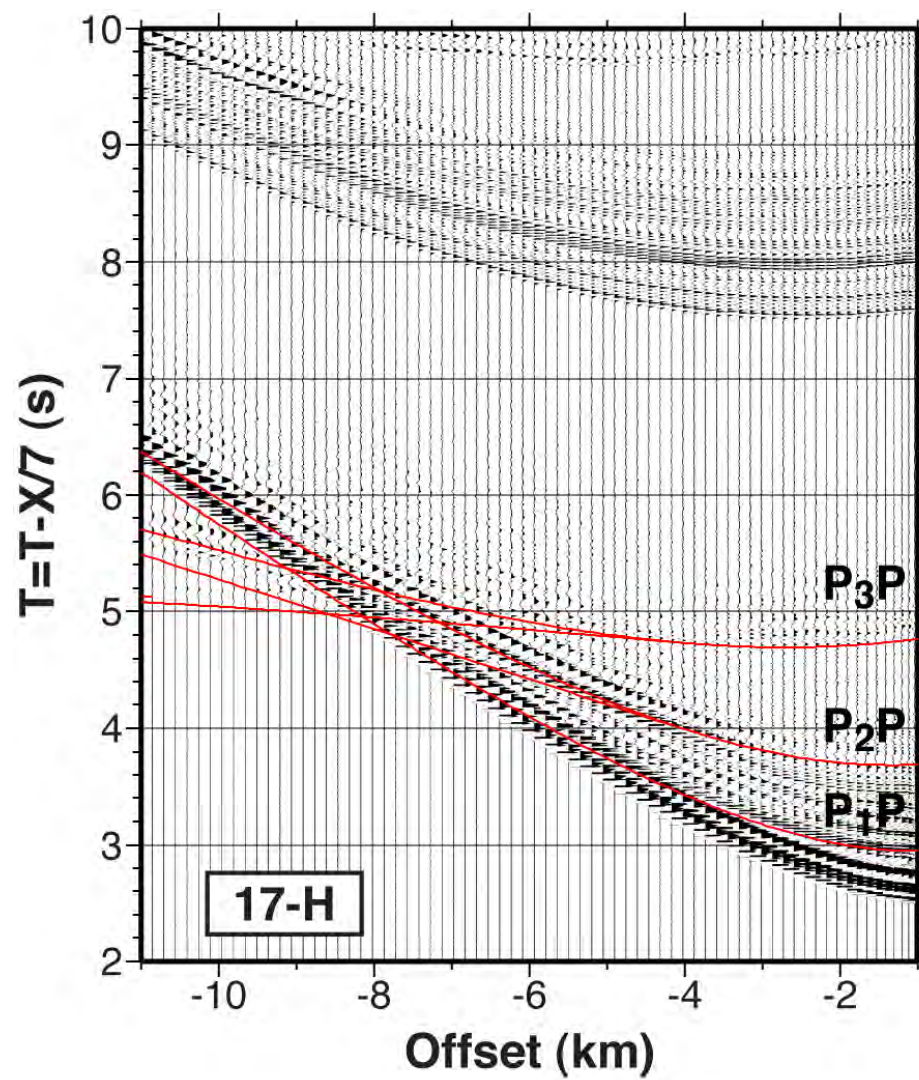






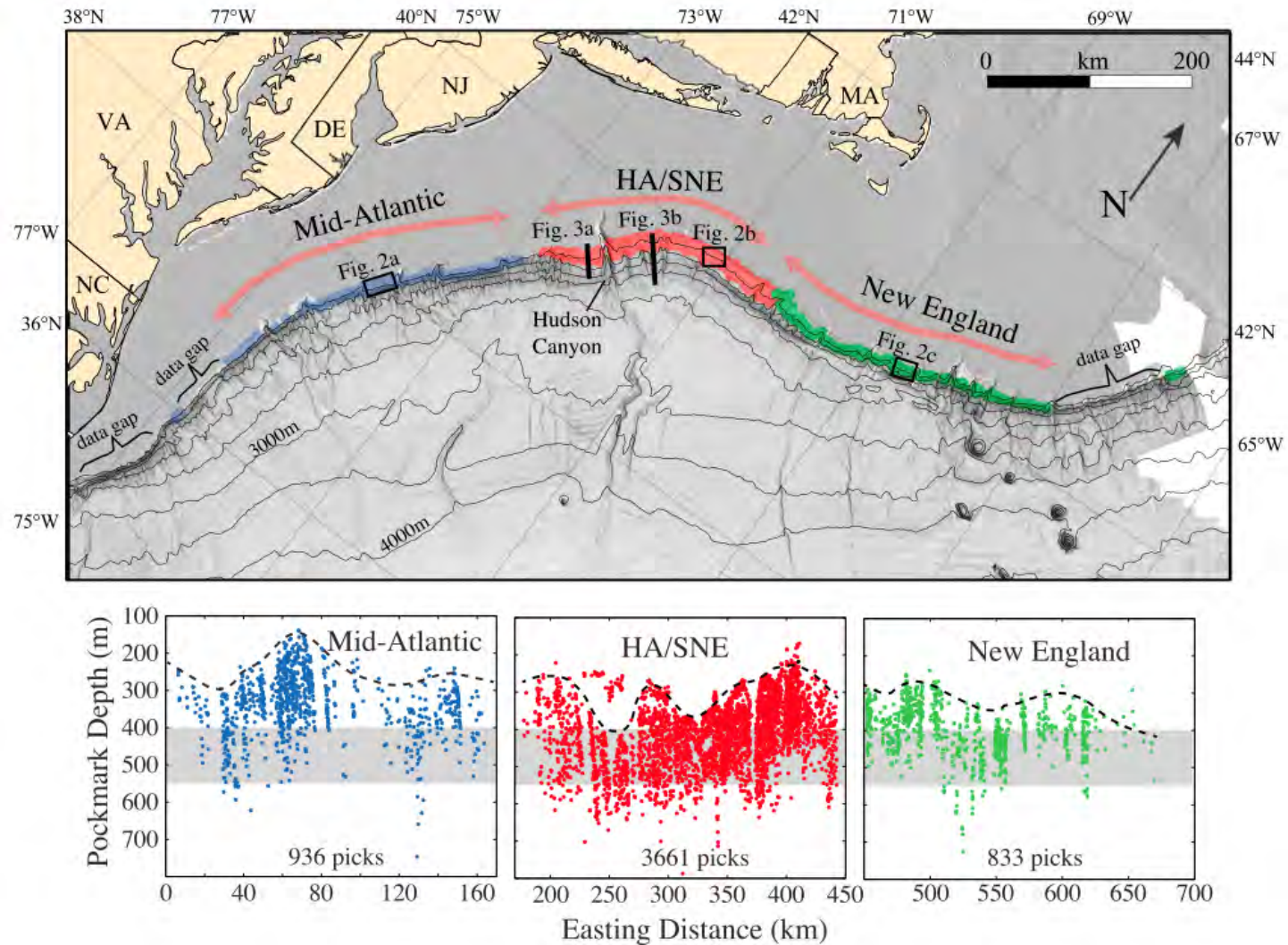


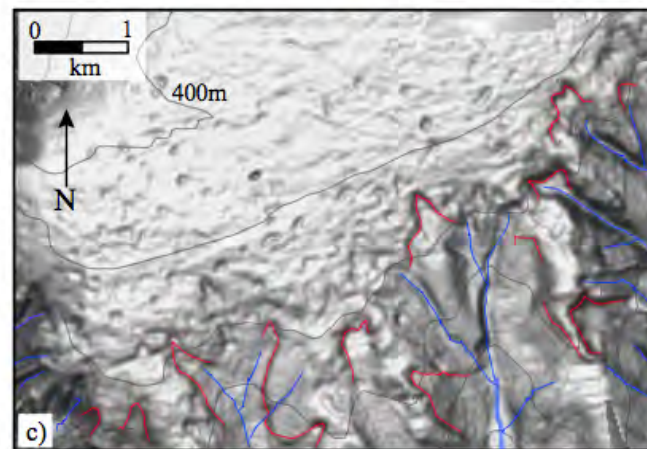
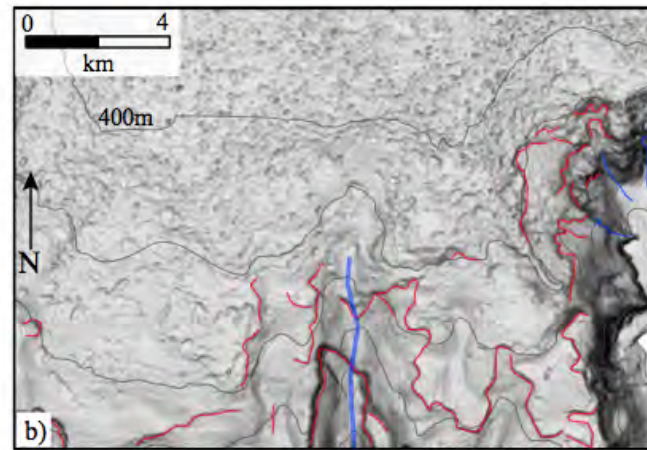
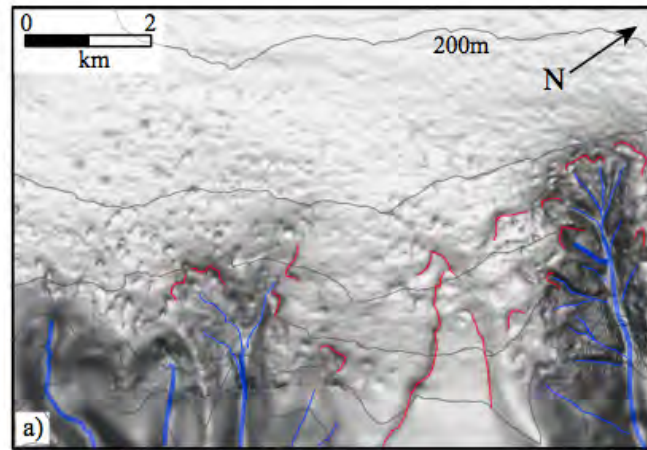
Offset (km)

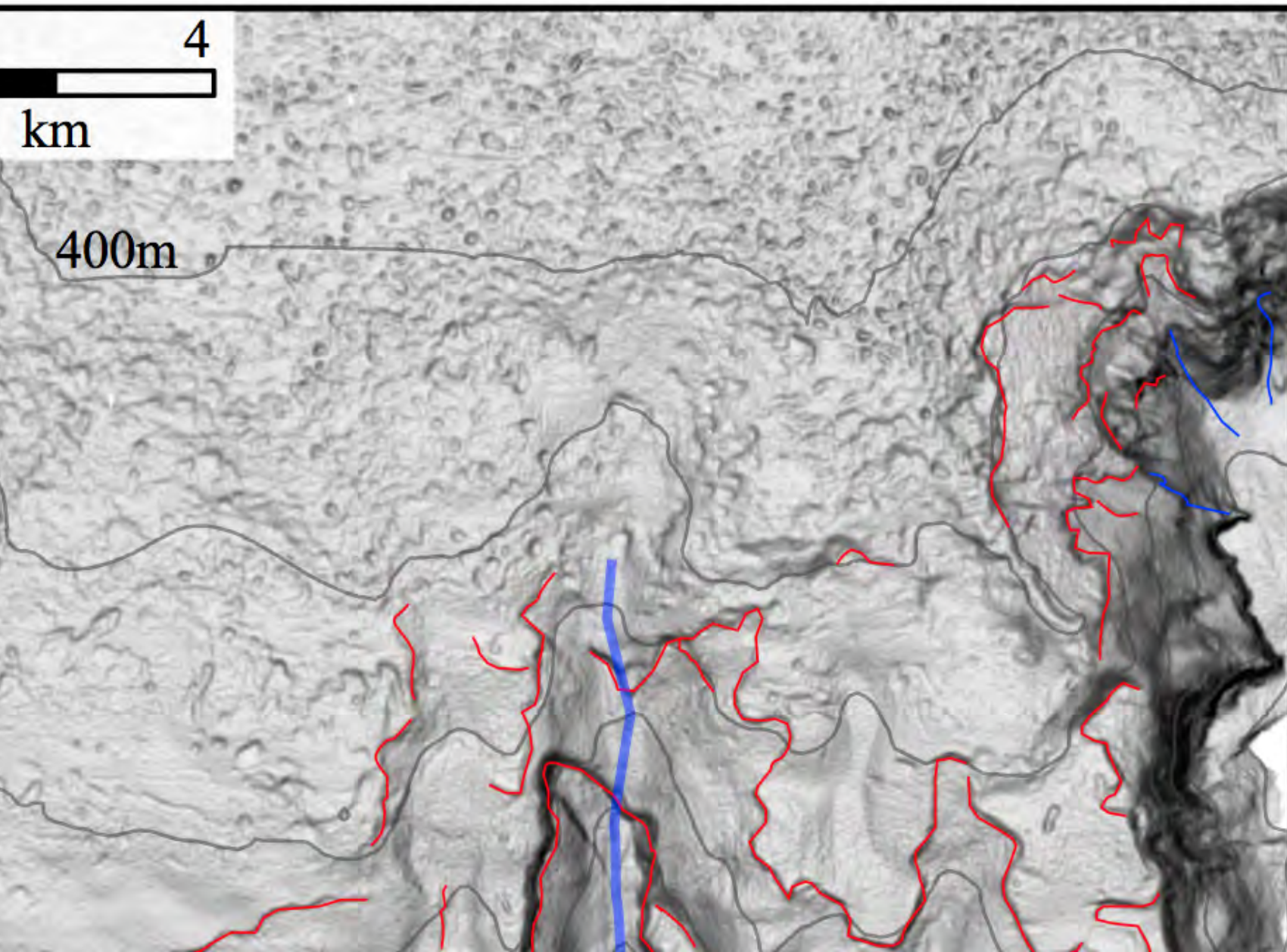


Seabed fluid expulsion along the upper slope and outer shelf of the U.S. Atlantic continental margin

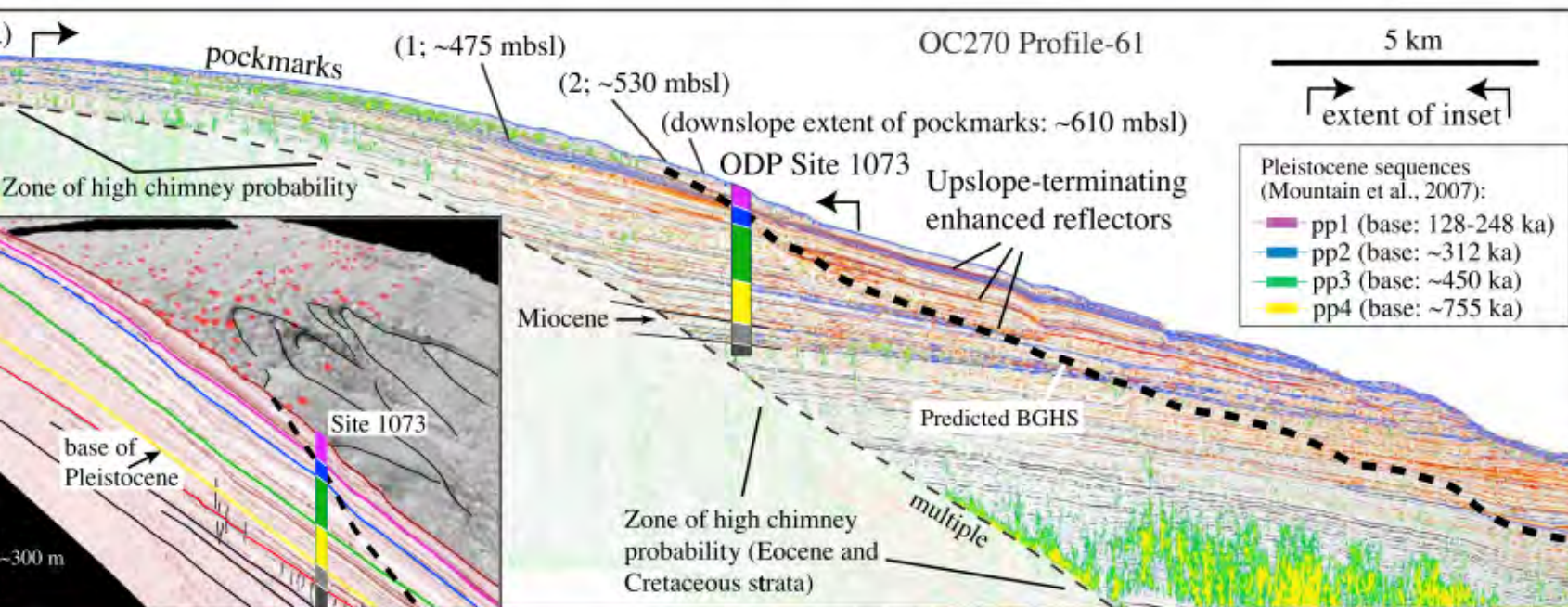
D. S. Brothers,¹ C. Ruppel,¹ J. W. Kluesner,² U. S. ten Brink,¹ J. D. Chaytor,¹ J. C. Hill,³
B. D. Andrews,¹ and C. Flores¹







BROTHERS ET AL.: U.S. ATLANTIC MARGIN FLUID EXPULSION



Spread methane leakage from the sea floor along the northern US Atlantic margin

J. Ruppel², M. Kodis³, D. Brothers⁴ and E. Lobecker⁵

