

**Seismic Imaging Of an Intracrustal Deformation In the Northwestern Margin Of the South China Sea: the Role Of a Ductile Layer In the Crust**

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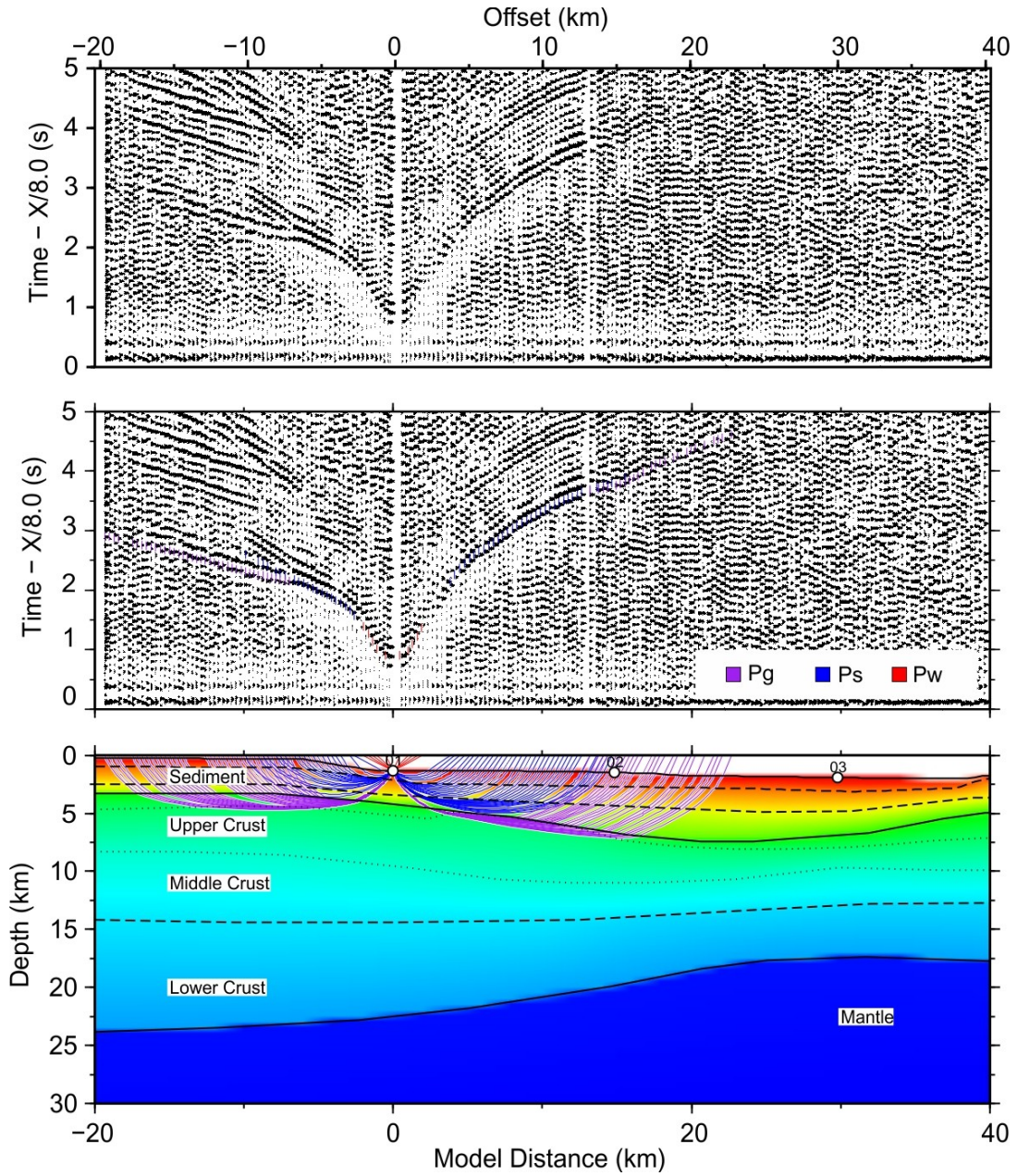
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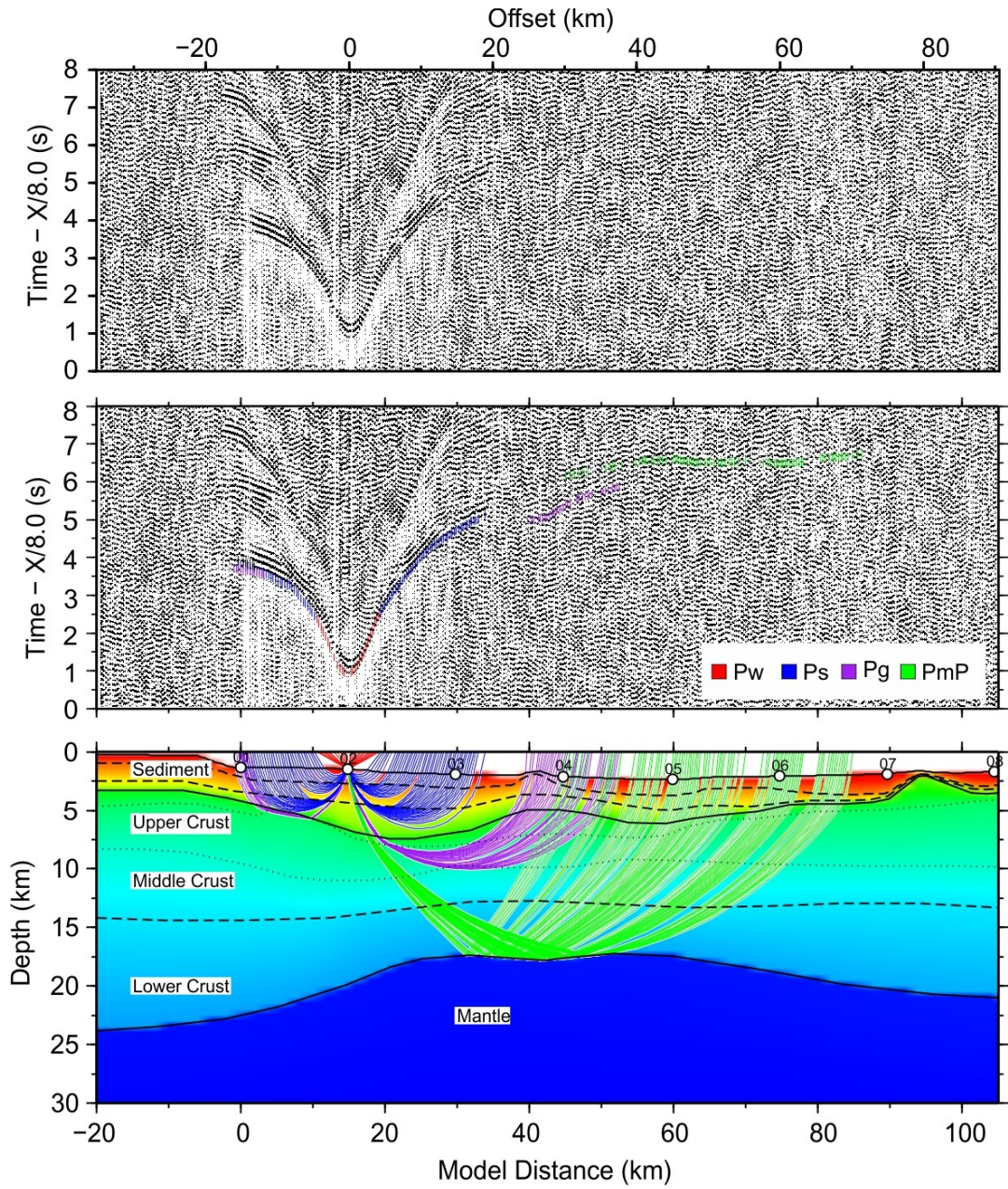
Figures S1 to S23

**Introduction**

The supporting information contains the figures of the forward modeling of each OBS profile. In each figure, the upper panel shows the original seismic profile, the middle panel shows the profile overlain by the calculated traveltimes for the picked phases, and the lower panel shows the velocity model with the seismic ray paths. The phases in each figure are named in the following way: direct water phase (Pw), refracted phases in the sediments (Ps), the crust (Pg) and the upper mantle (Pn), sedimentary reflections (PsP1, PsP2), reflections from the basement (PsP3), reflections from the mid-crustal interface (PcP) and the Moho (PmP).

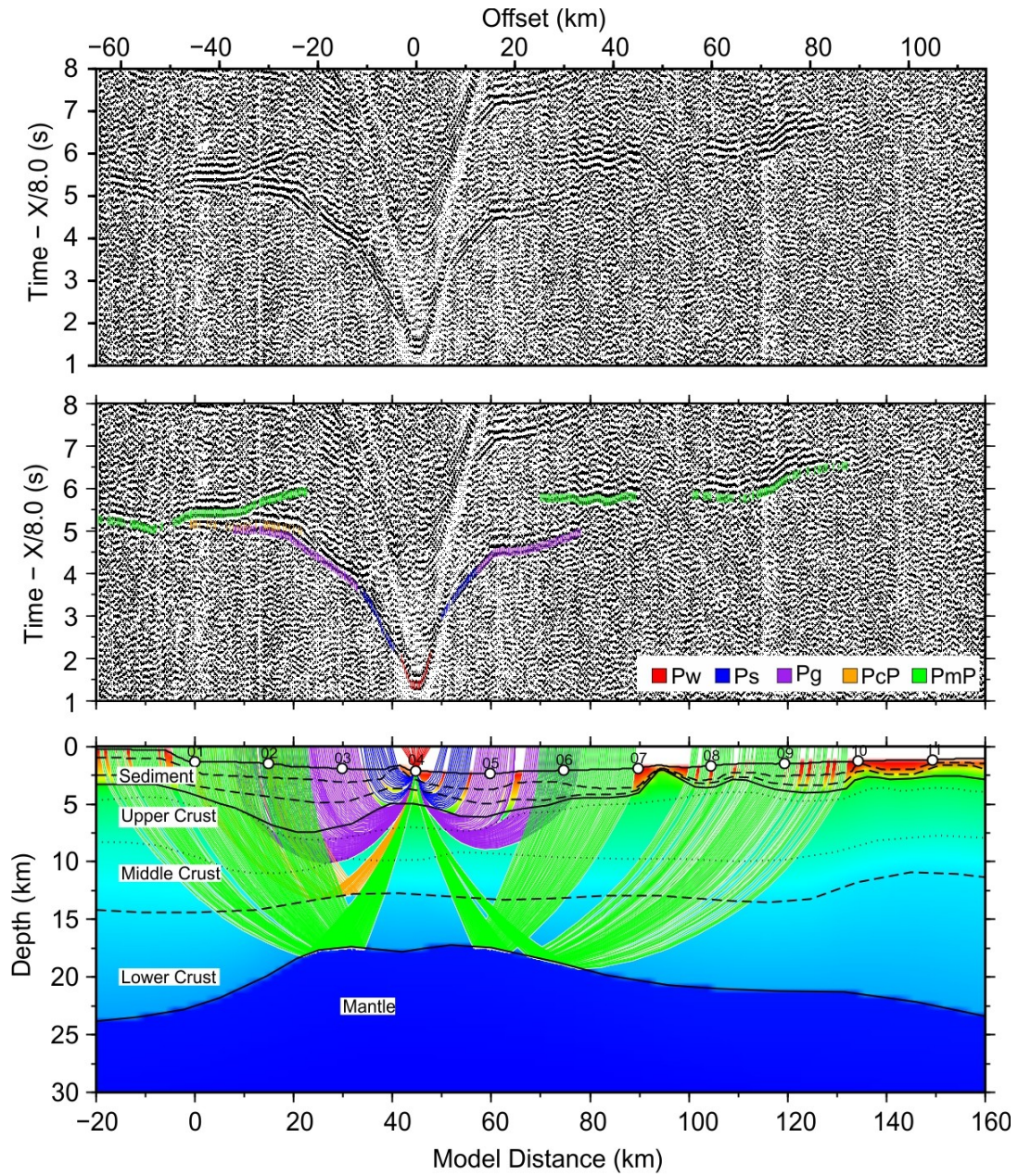


**Figure S1.** Seismic profile and forward modeling of OBS01



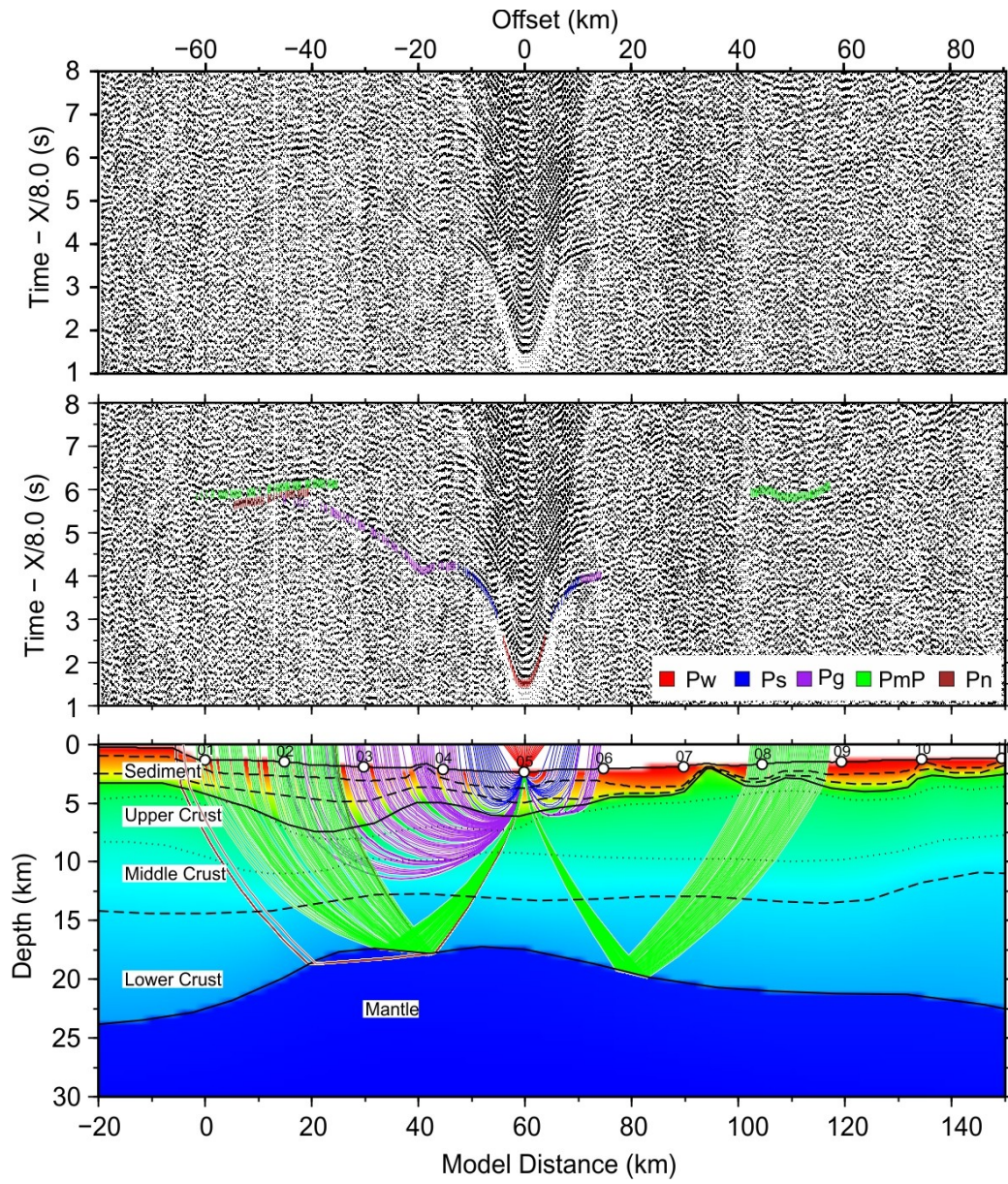
**Figure S2.** Seismic profile and forward modeling of OBS02



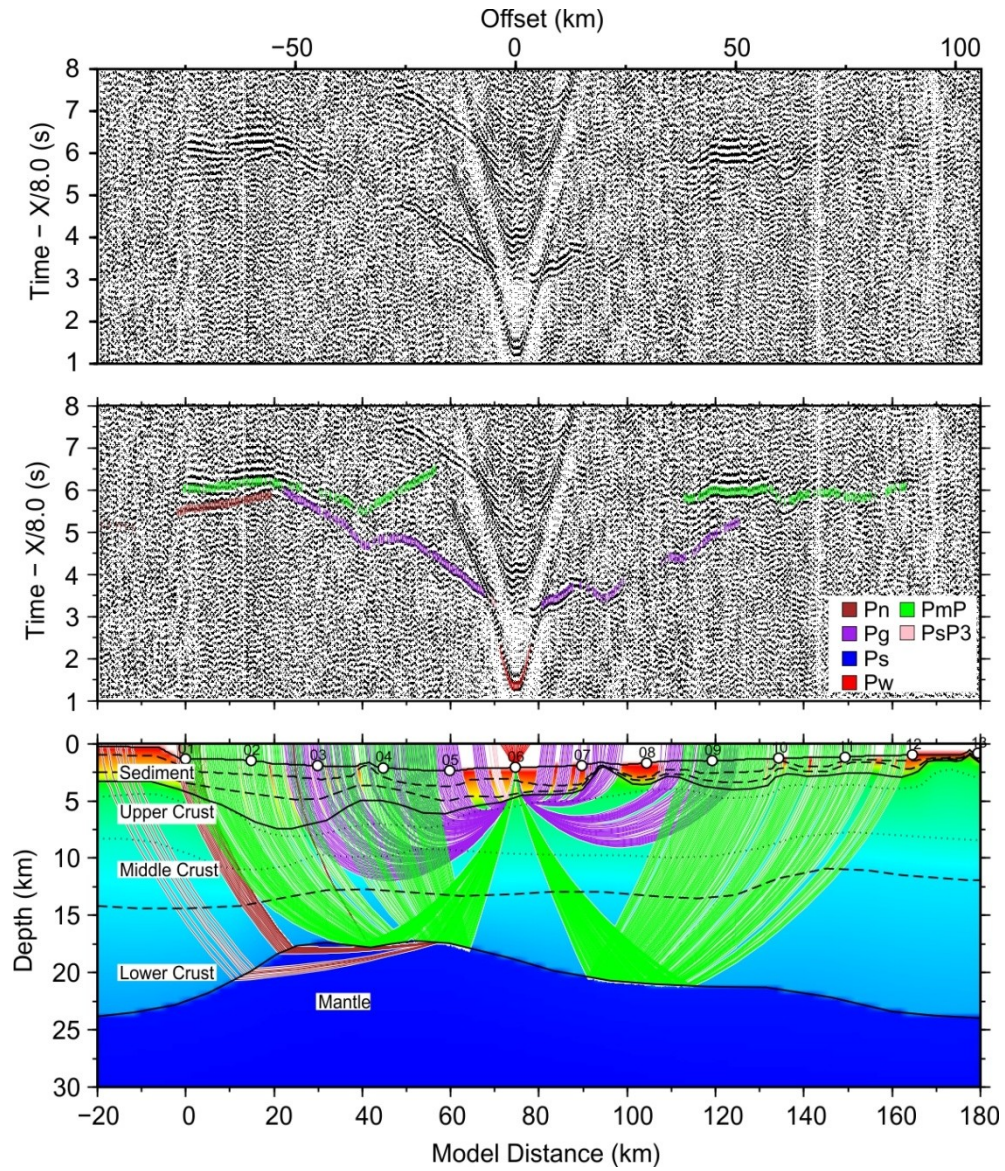


**Figure S3.** Seismic profile and forward modeling of OBS04



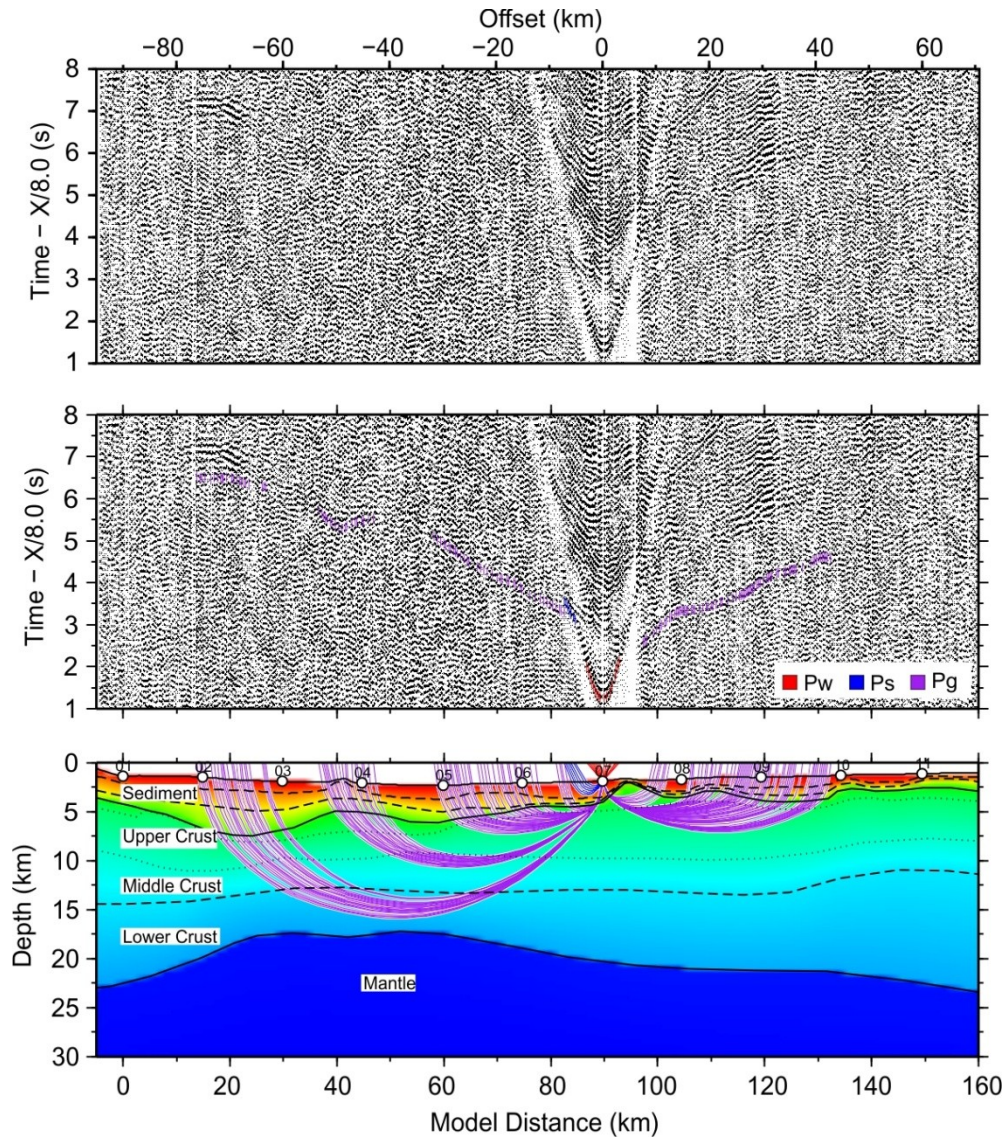


**Figure S4.** Seismic profile and forward modeling of OBS05

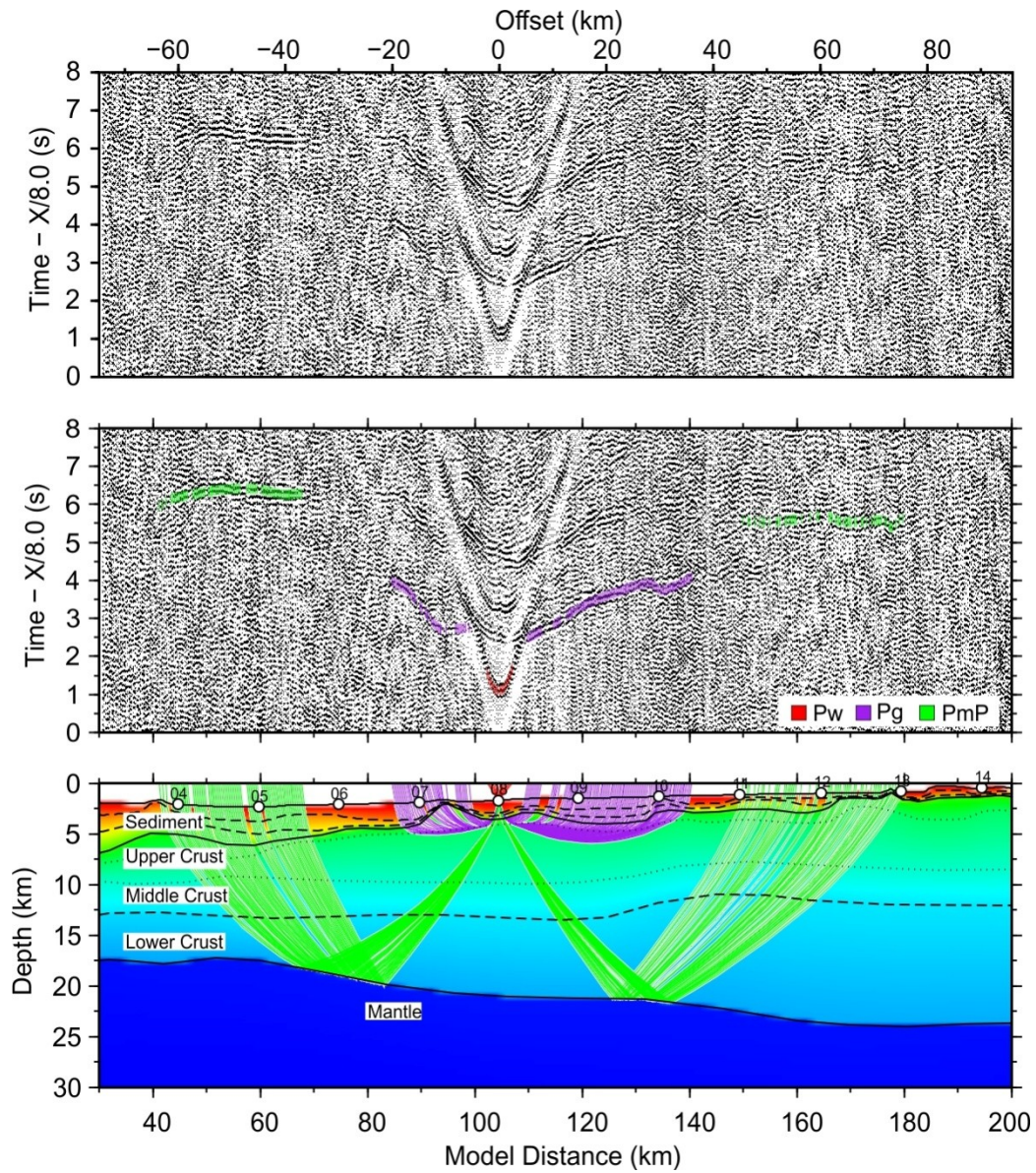


**Figure S5.** Seismic profile and forward modeling of OBS06



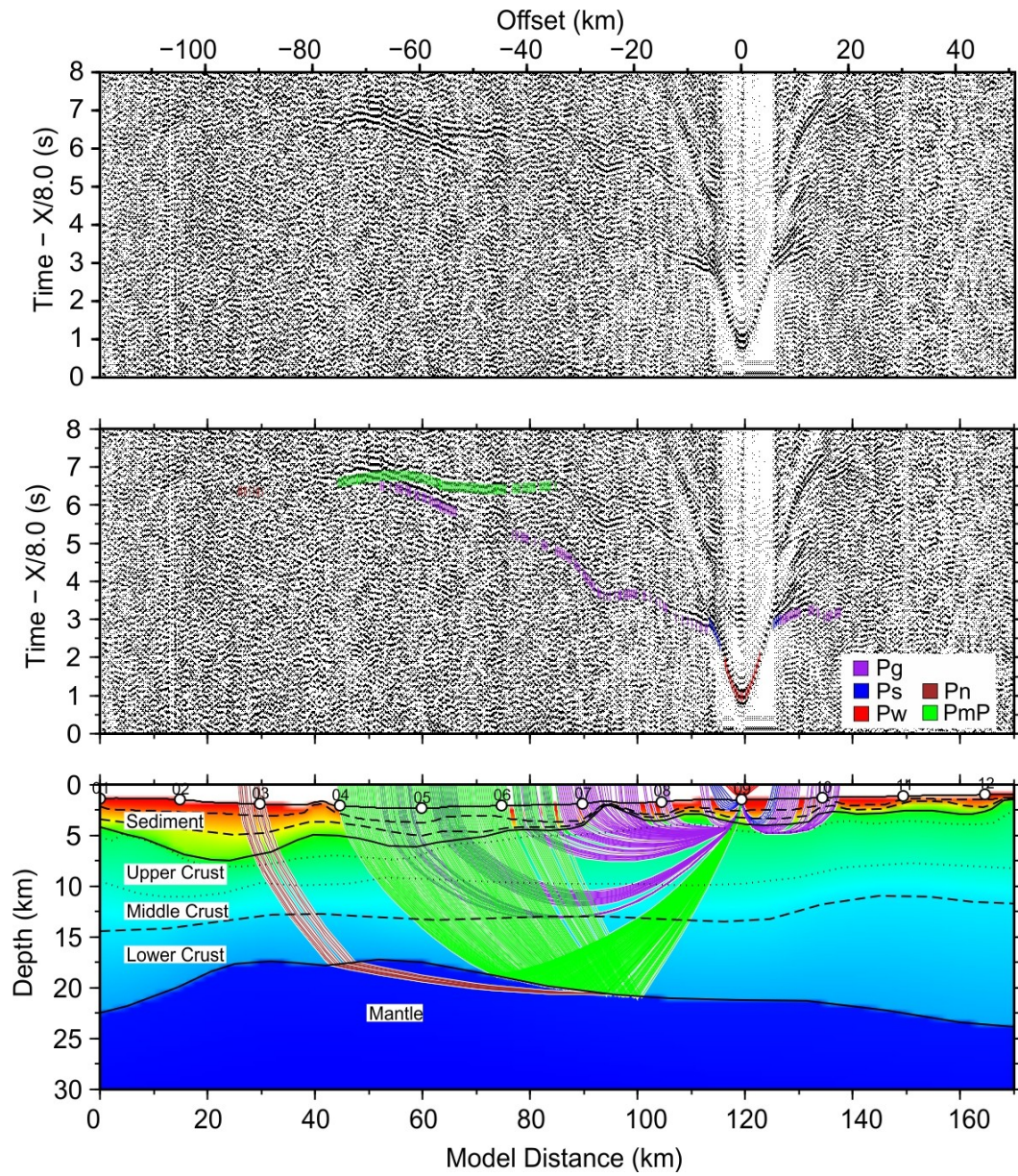


**Figure S6.** Seismic profile and forward modeling of OBS07

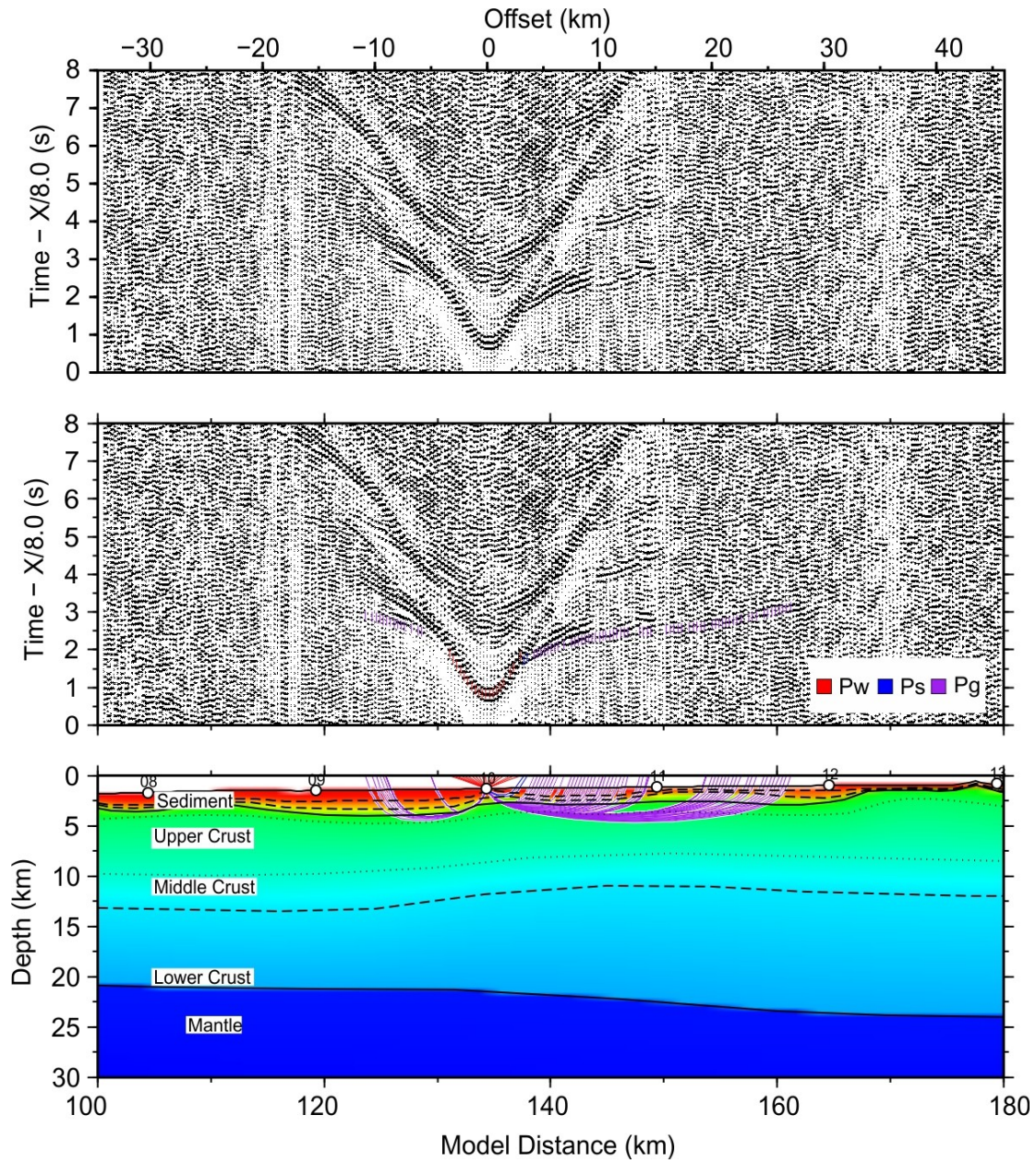


**Figure S7.** Seismic profile and forward modeling of OBS08



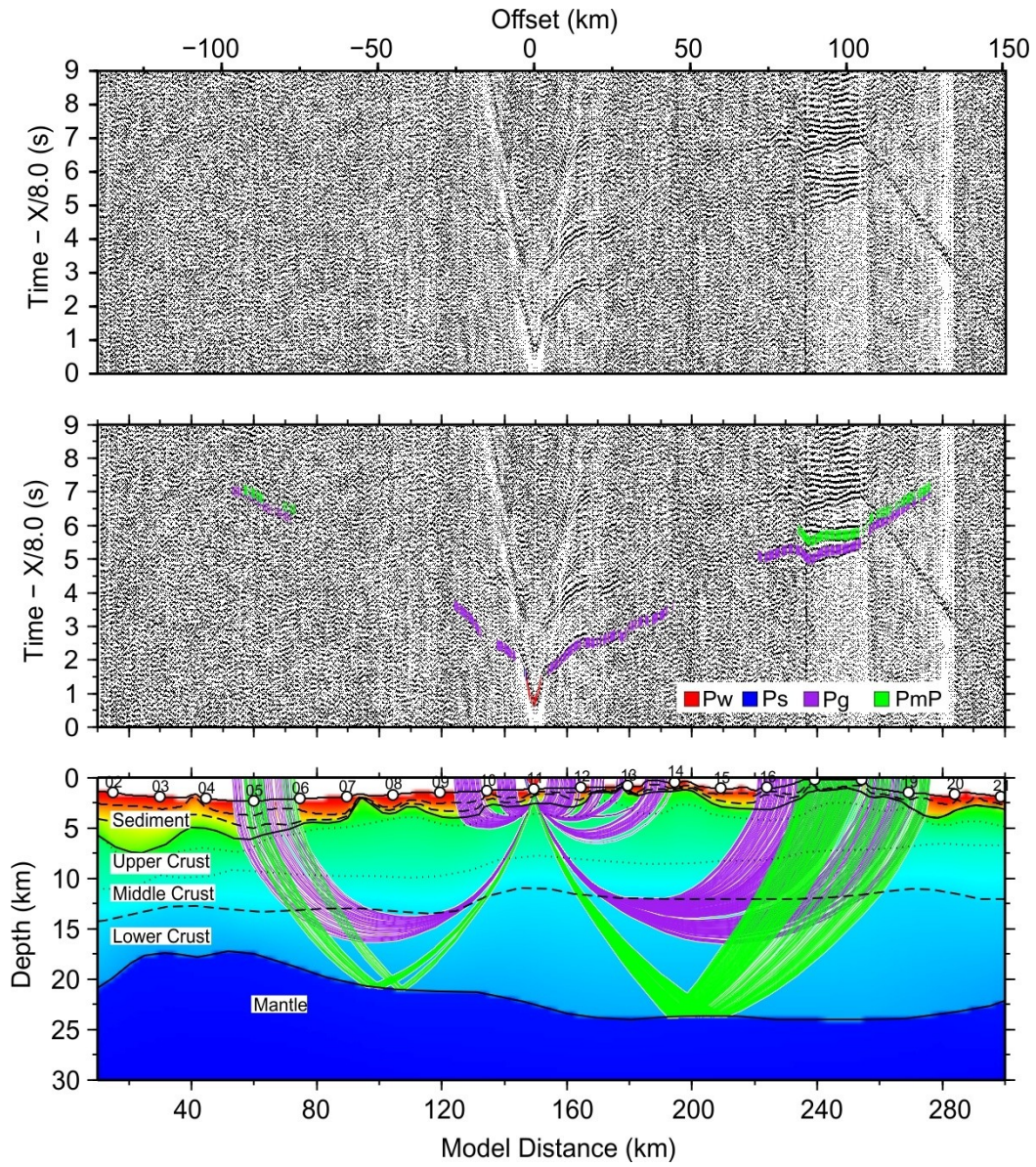


**Figure S8.** Seismic profile and forward modeling of OBS09

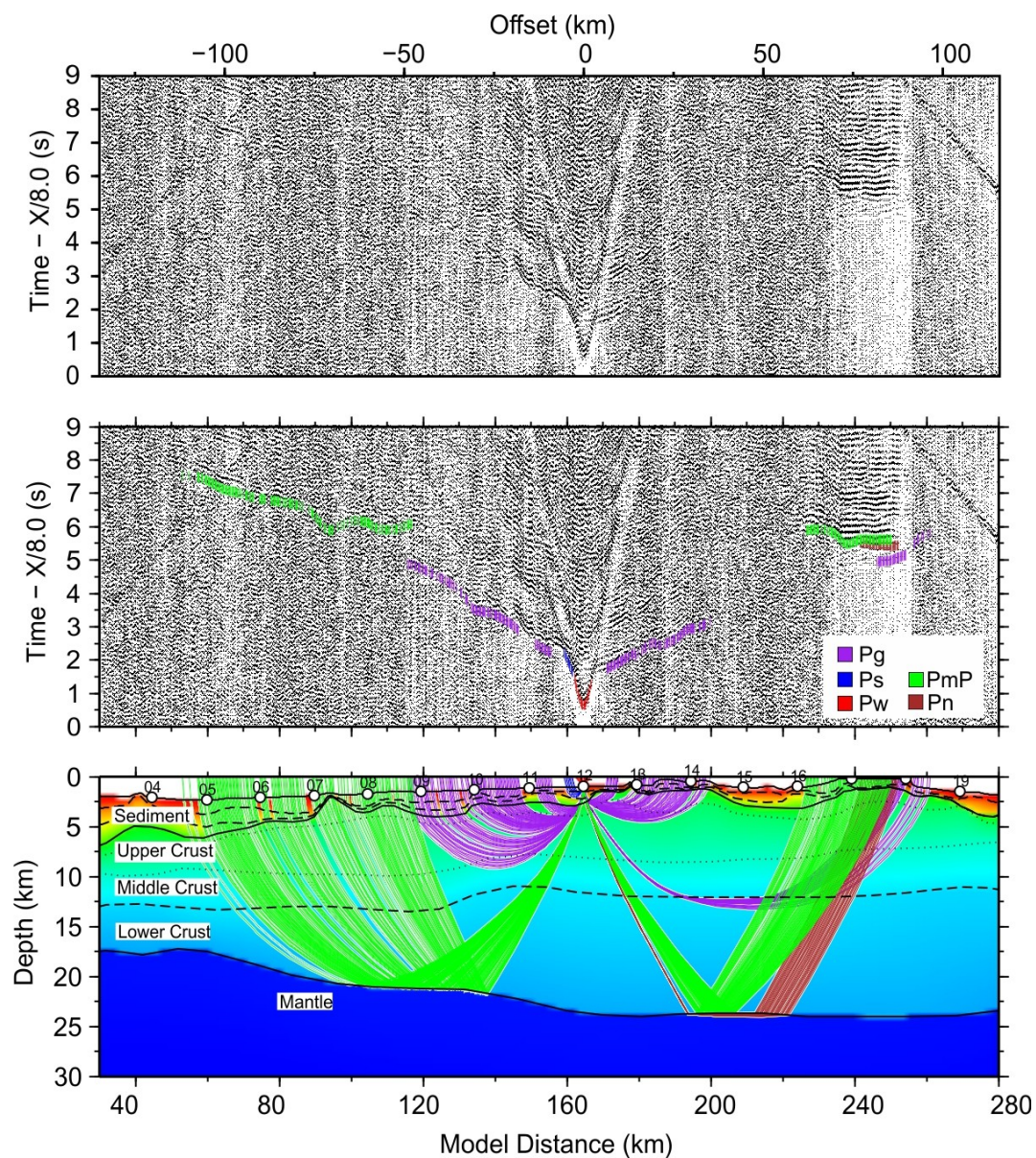


**Figure S9.** Seismic profile and forward modeling of OBS10



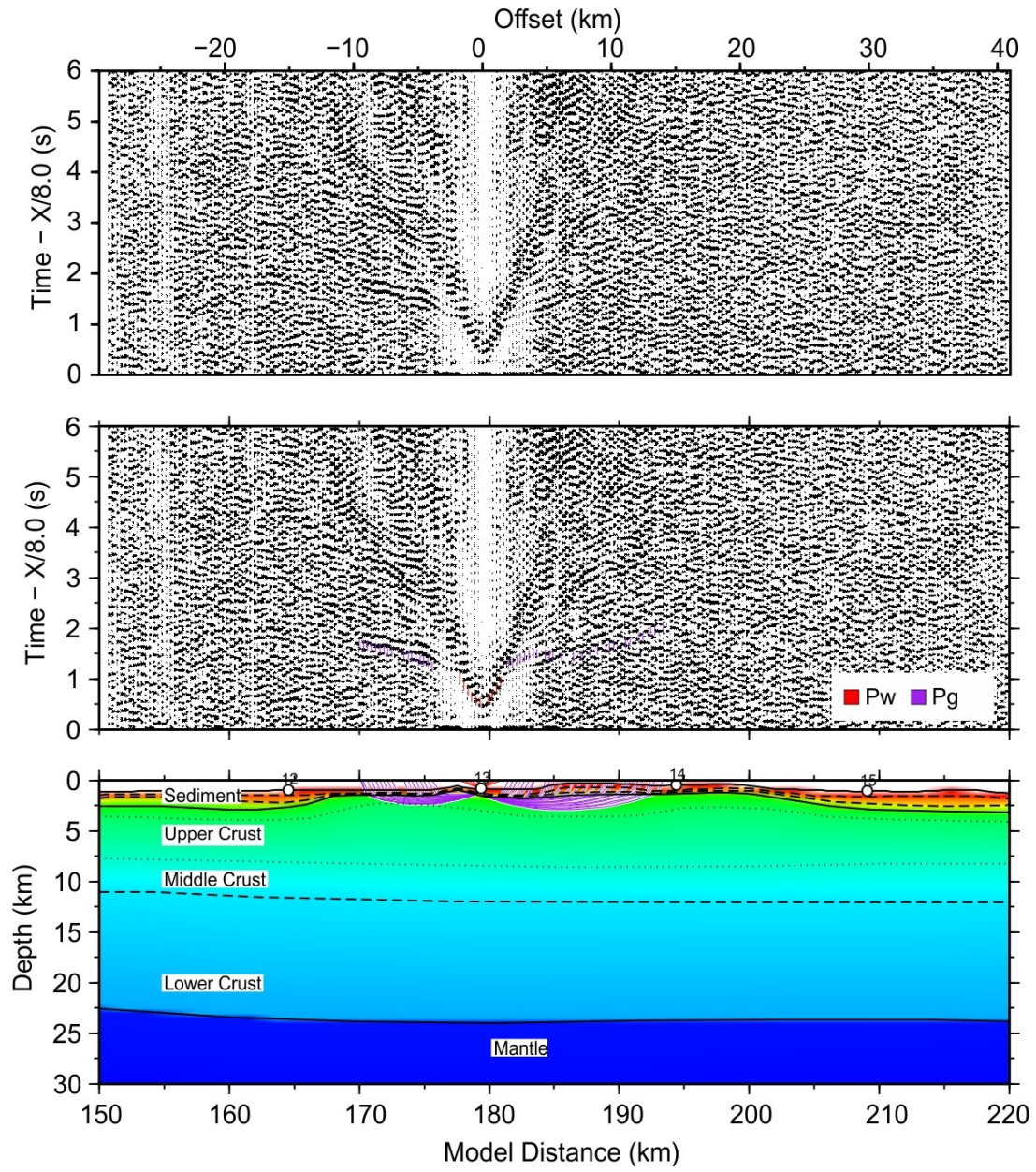


**Figure S10.** Seismic profile and forward modeling of OBS11

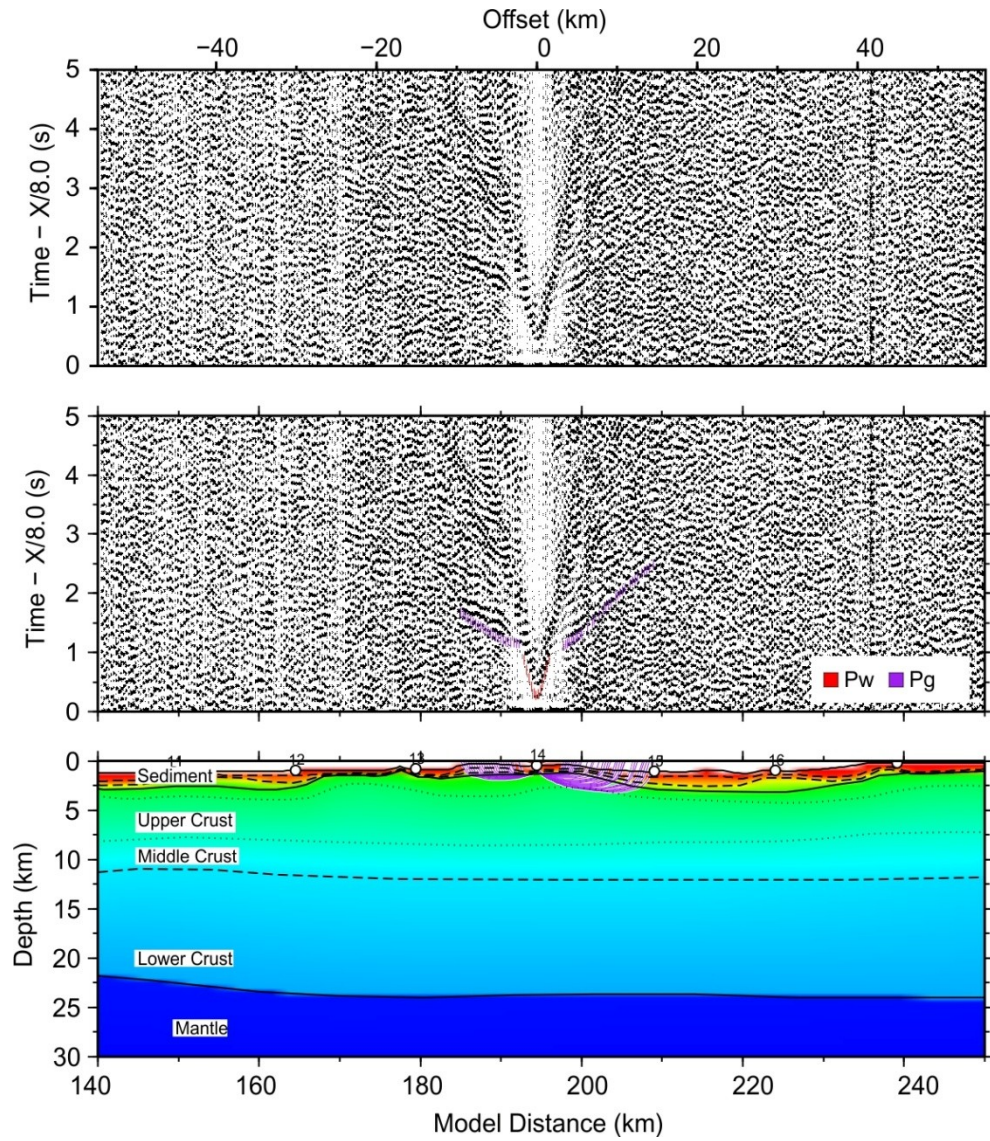


**Figure S11.** Seismic profile and forward modeling of OBS12



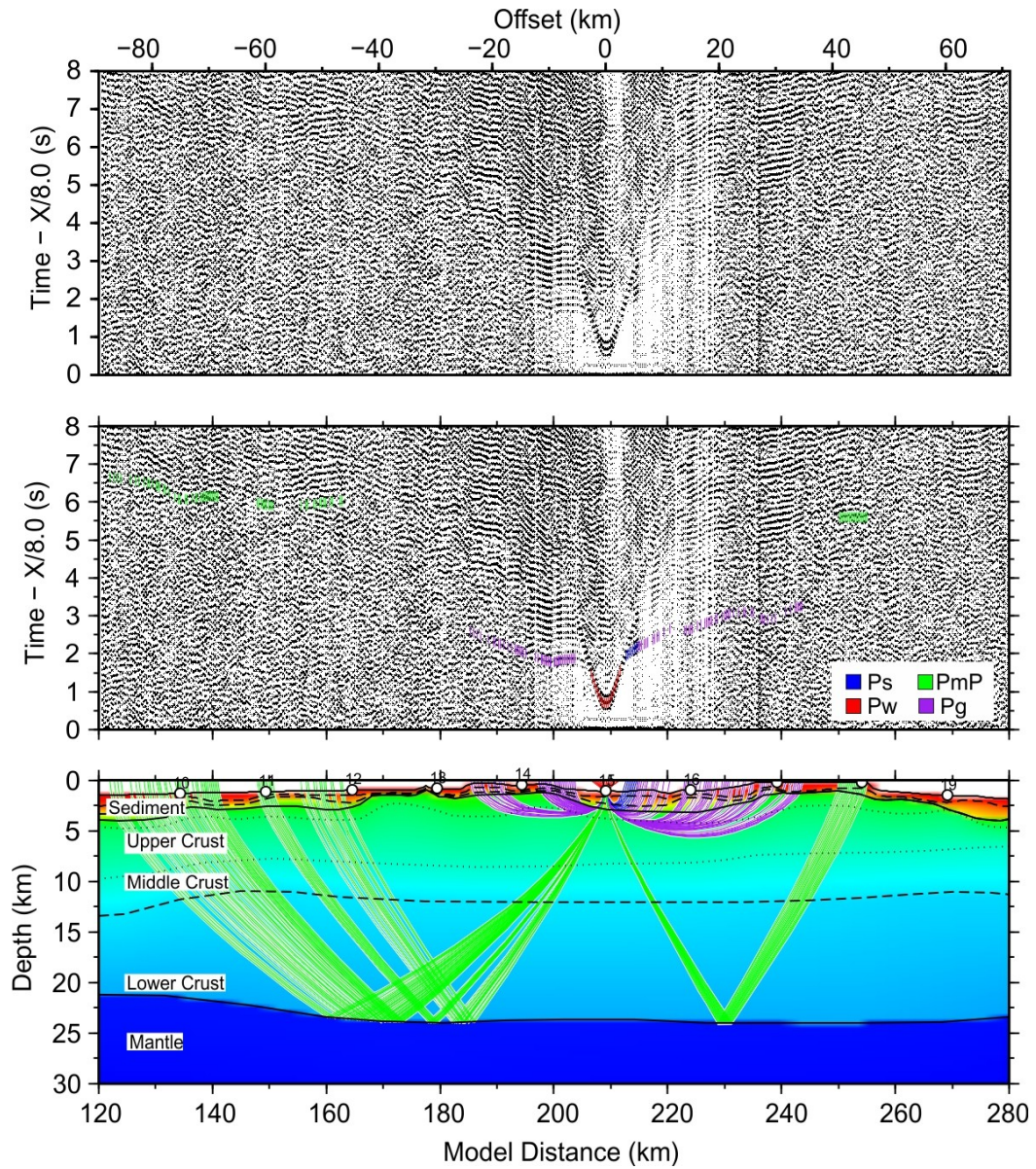


**Figure S12.** Seismic profile and forward modeling of OBS13

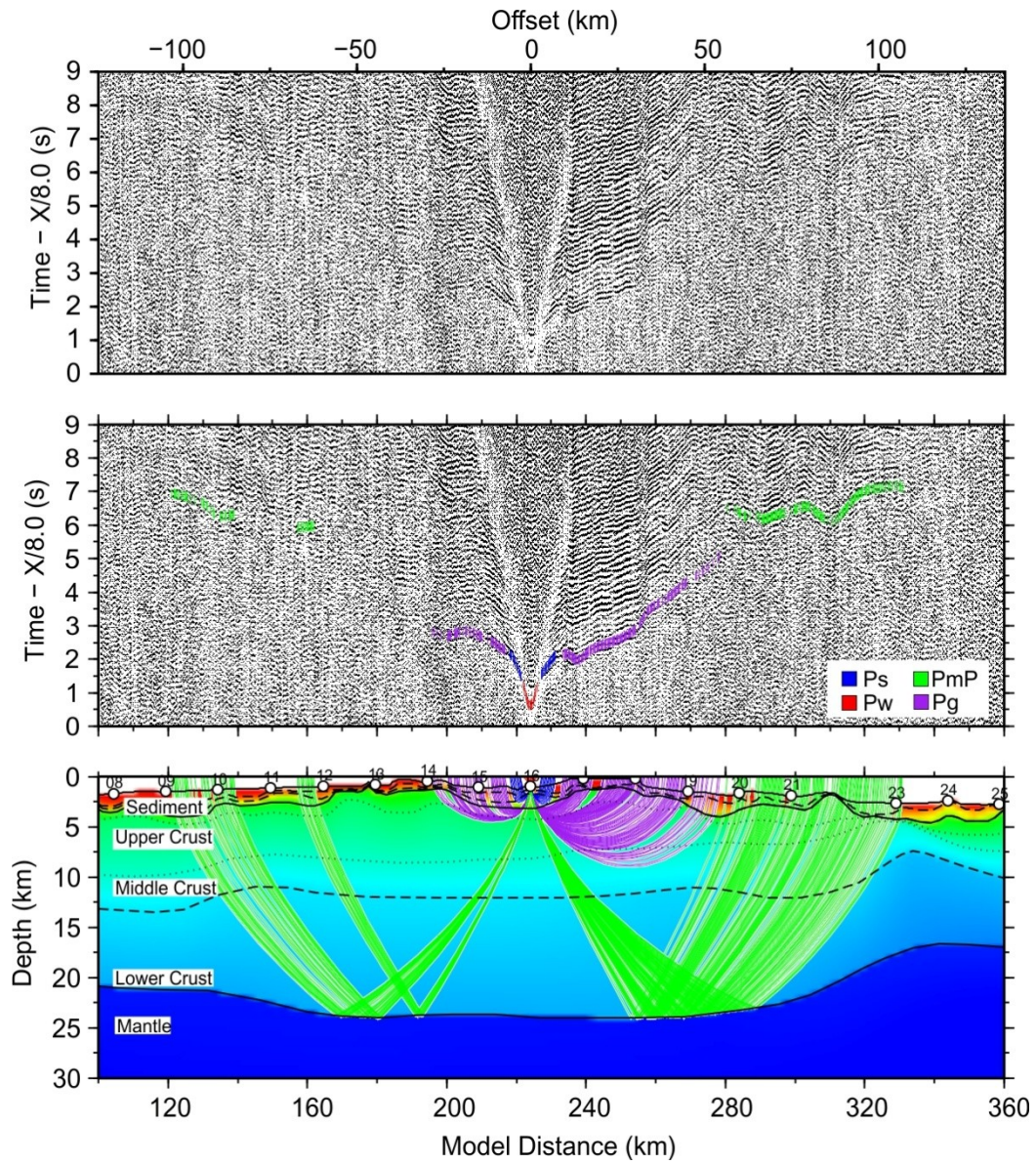


**Figure S13.** Seismic profile and forward modeling of OBS14



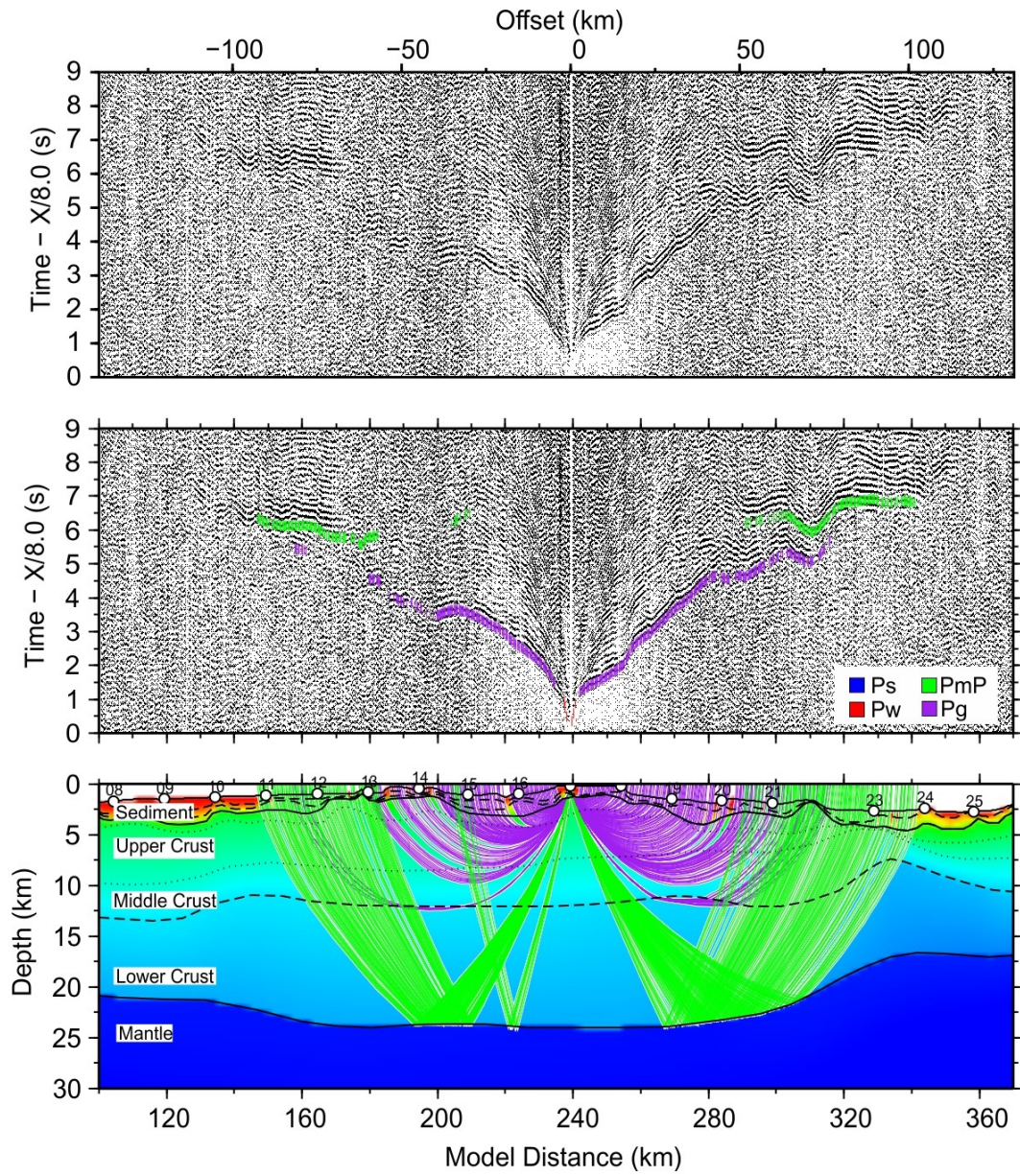


**Figure S14.** Seismic profile and forward modeling of OBS15

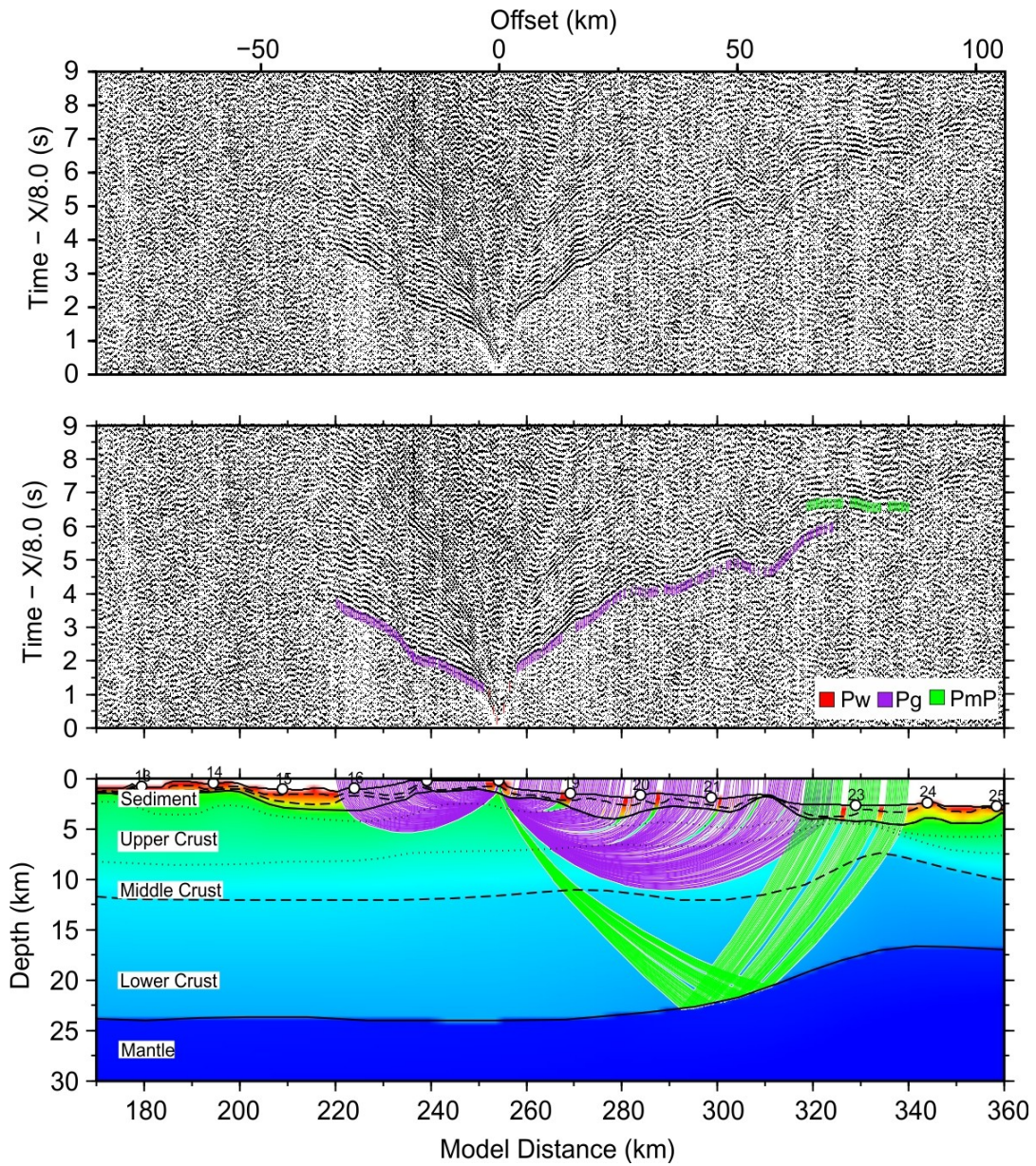


**Figure S15.** Seismic profile and forward modeling of OBS16



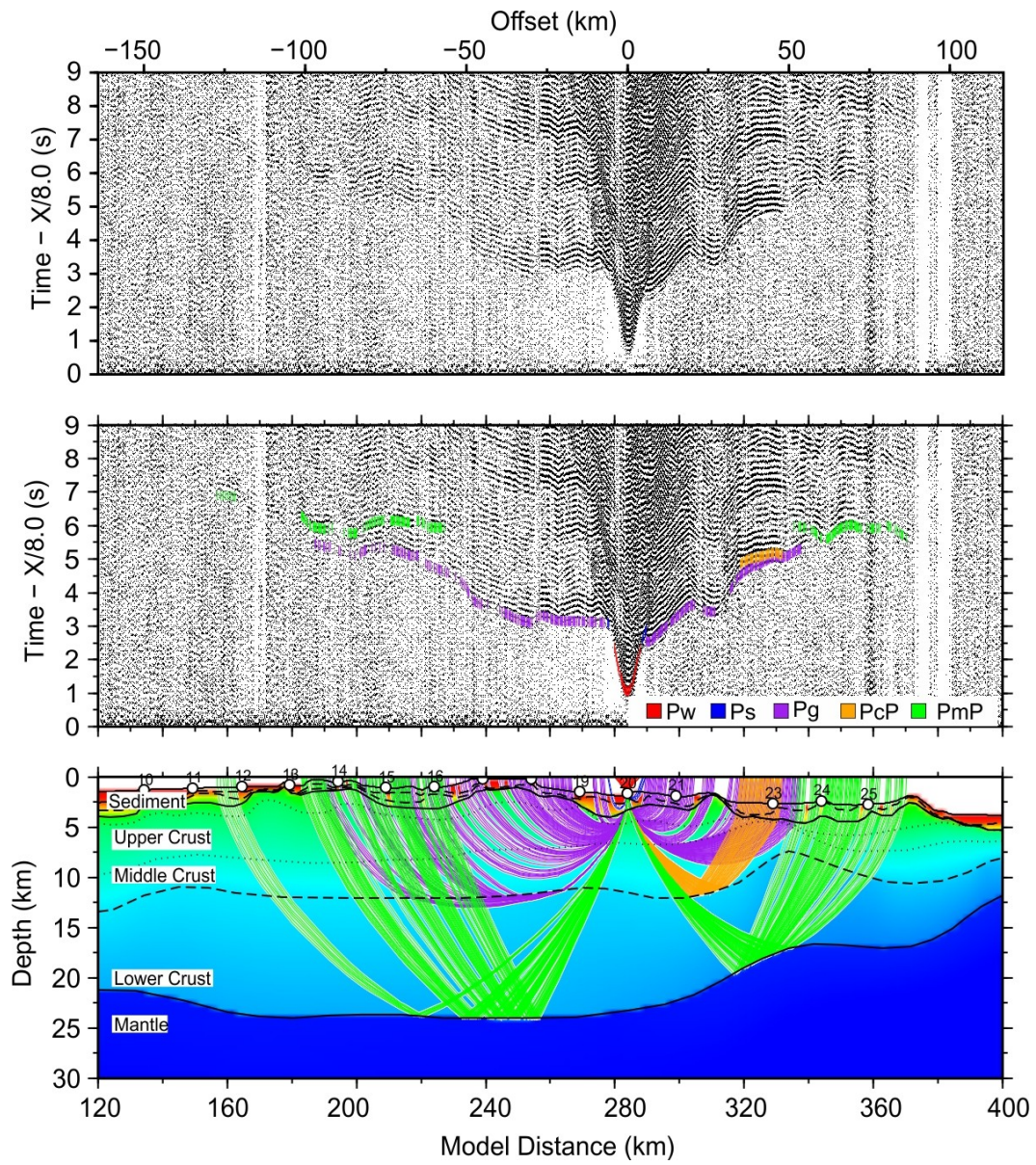


**Figure S16.** Seismic profile and forward modeling of OBS17

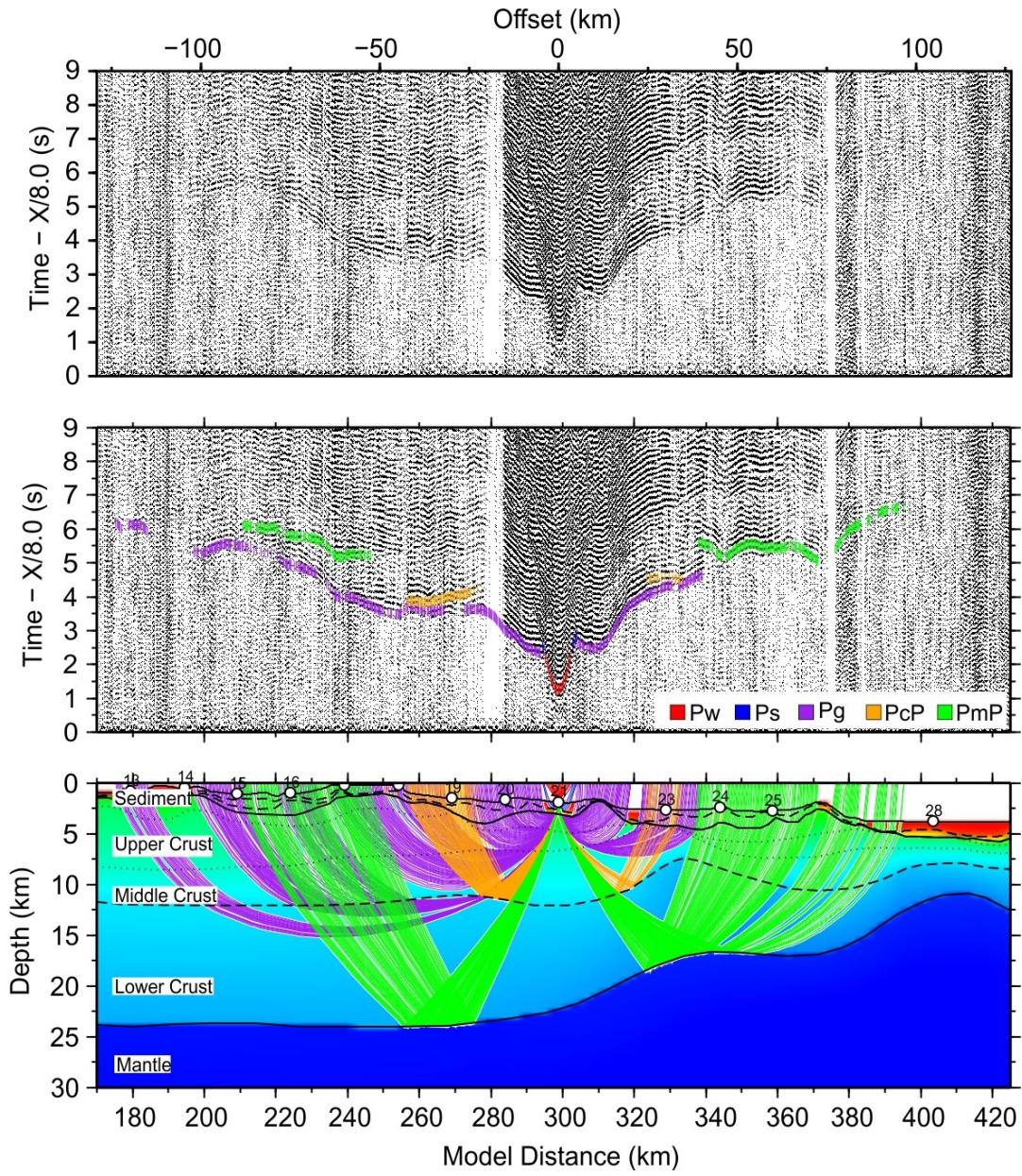


**Figure S17.** Seismic profile and forward modeling of OBS18



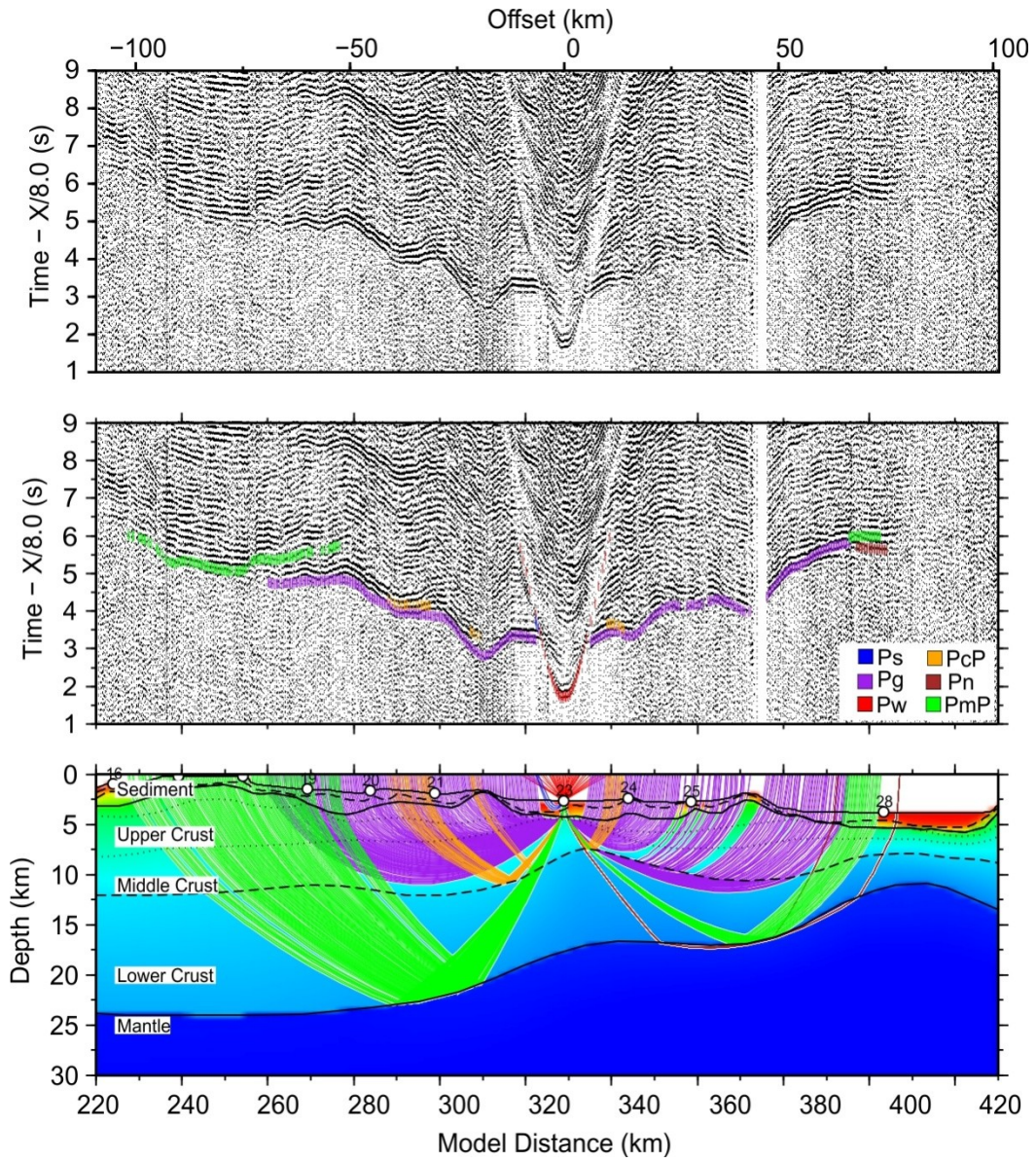


**Figure S18.** Seismic profile and forward modeling of OBS20

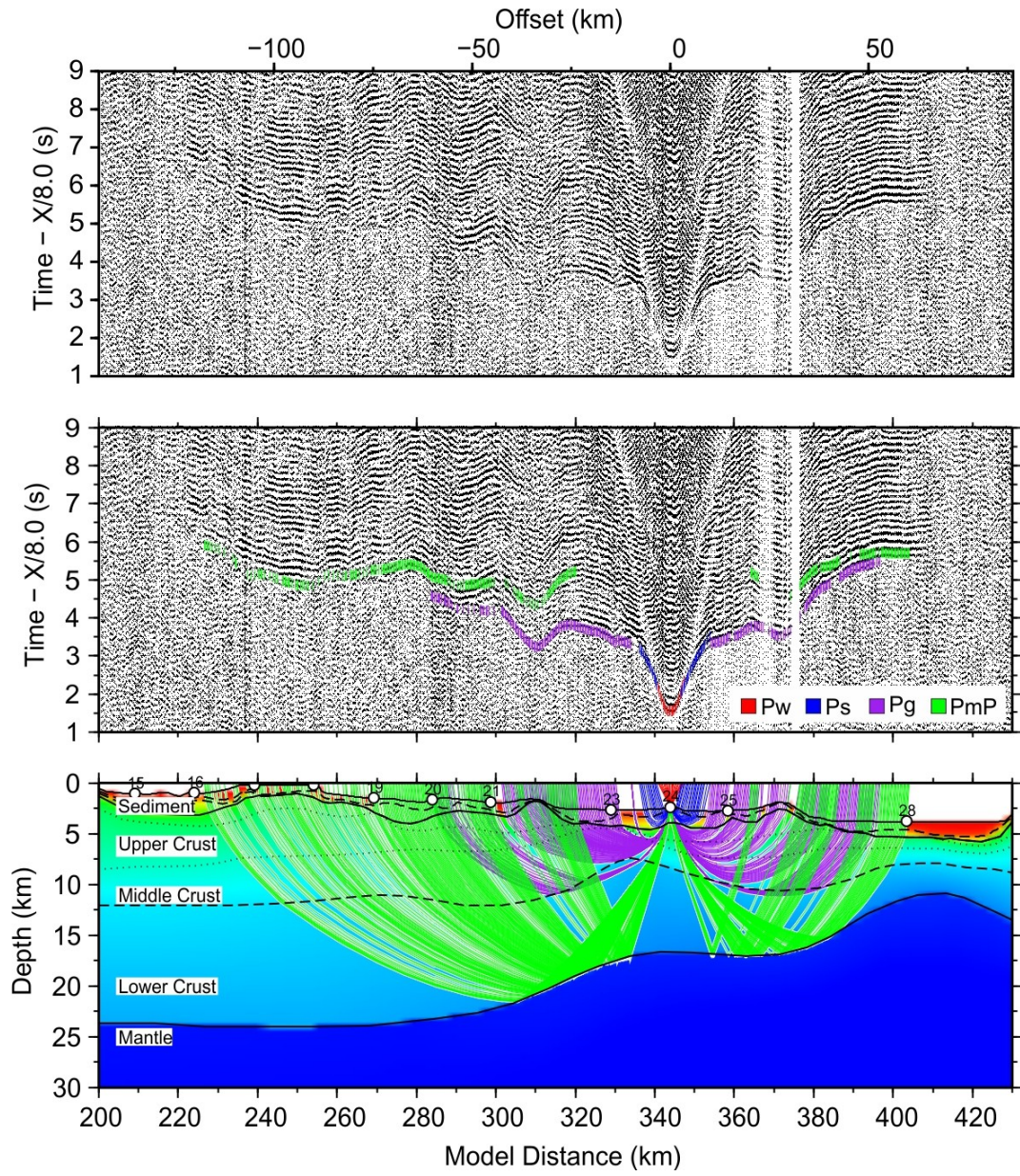


**Figure S19.** Seismic profile and forward modeling of OBS21



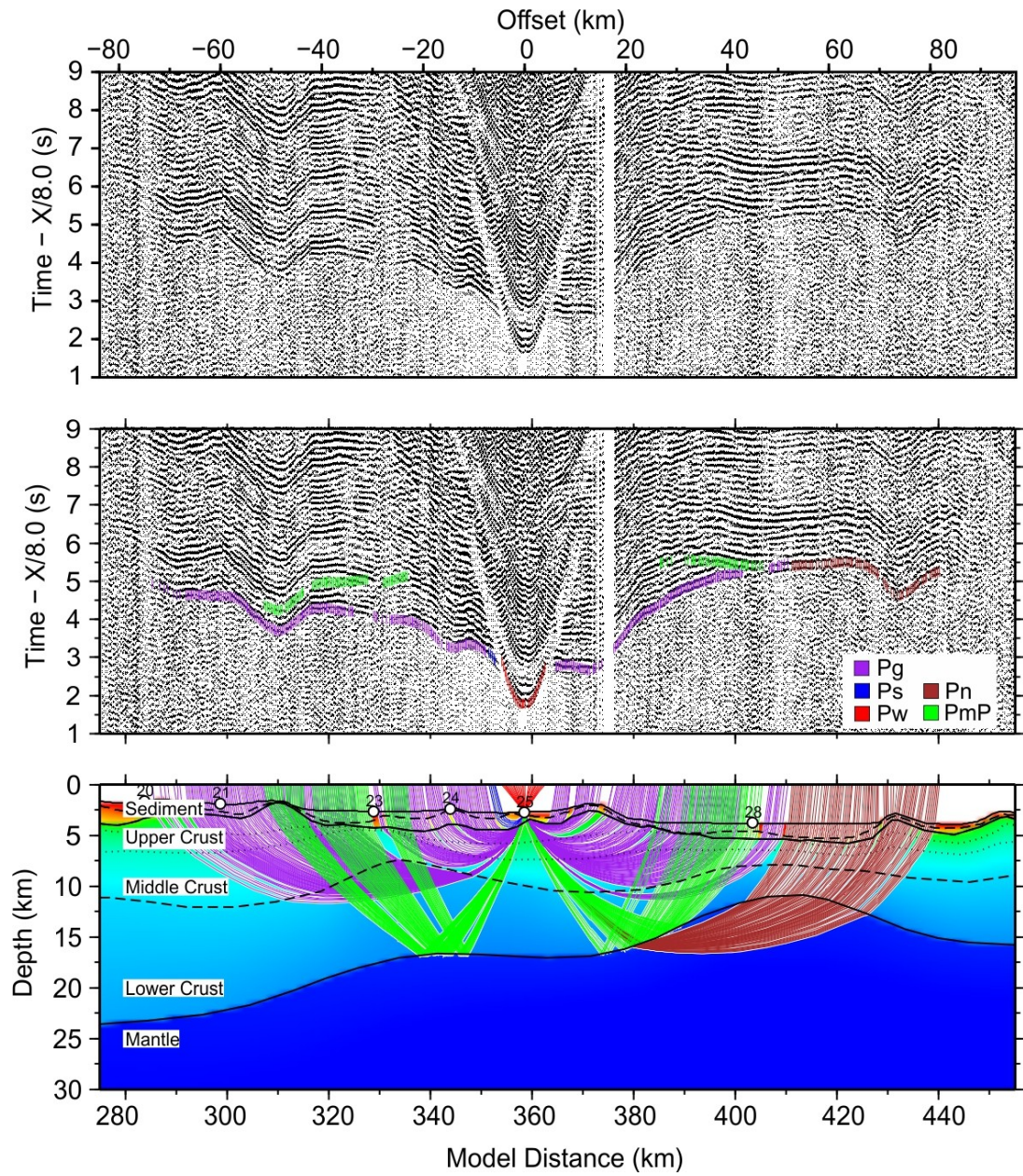


**Figure S20.** Seismic profile and forward modeling of OBS23

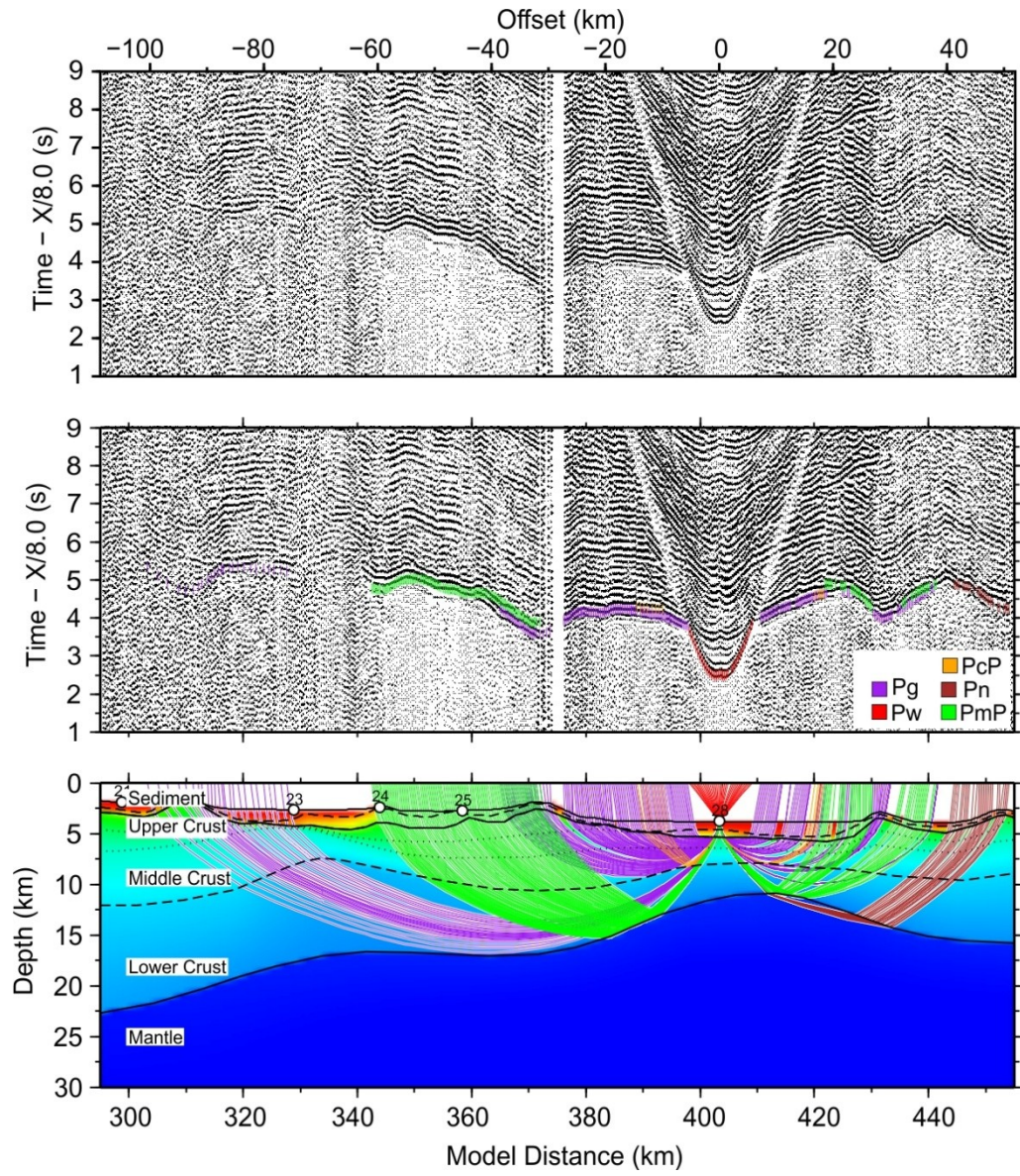


**Figure S21.** Seismic profile and forward modeling of OBS24





**Figure S22.** Seismic profile and forward modeling of OBS25



**Figure S23.** Seismic profile and forward modeling of OBS28