

SUPPORTING INFORMATION

Deep lithospheric structures along the southern central Chile margin from wide-angle *P*-wave modelling

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Figures S1, S2, and S3

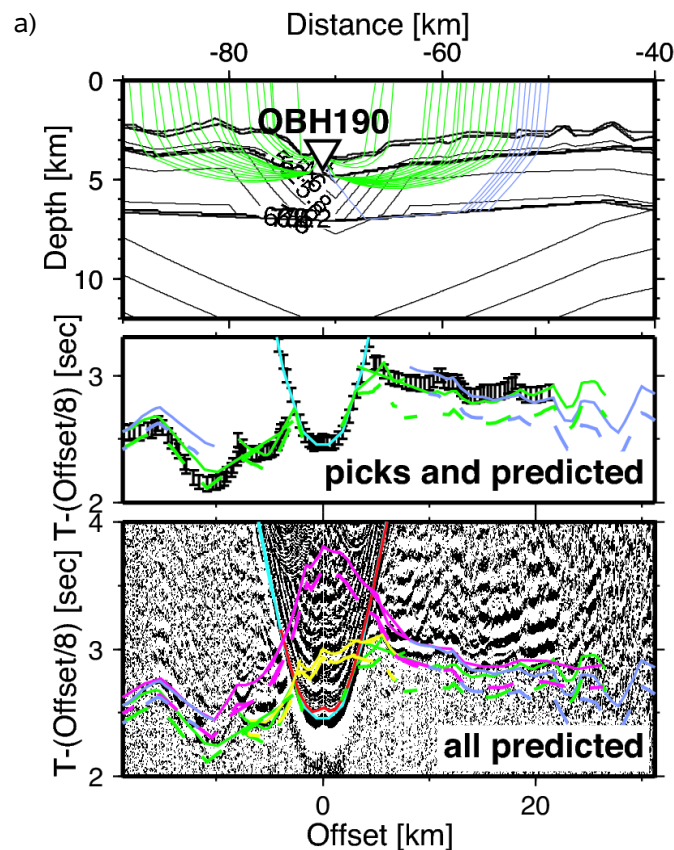


Figure S1. Examples of data fits for TIPTEQ Corridor 4. Locations are shown in Fig. 2. Bottom panels show seismic data with predicted arrivals (continuous lines) of all possible *P*-wave phases overlain. Central panels show actual picked and corresponding predicted arrivals plus dashed lines representing model changes as explained below. Top panels show model ray paths only to the picked arrivals, highlighting which phases actually constrain which part of the model, and only every second to fourth ray path is drawn. (a) OBH 190, spreading centre (dashed: predicted arrivals without velocity reduction); (b) OBH 187 oceanic crust at model-km -45 km (dashed: predicted arrivals with 5.5 km thick crust); (c) OBS 165, shelf at model-km 70 (dashed: predicted arrivals with strong horizontal velocity gradient shifted 20 km seaward); (d) OBS 163, shelf at model-km 100 (dashed: predicted arrivals with fore-arc basin 500 m shallower).

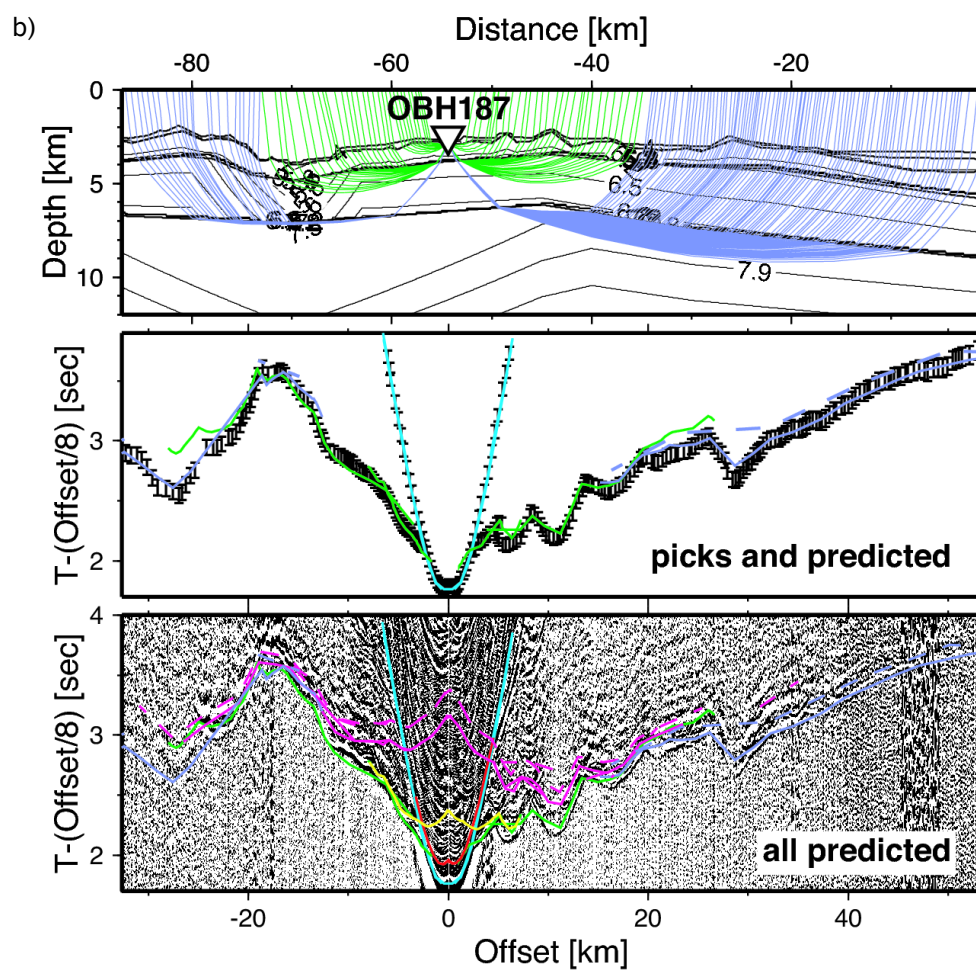


Figure S1. (Continued.)

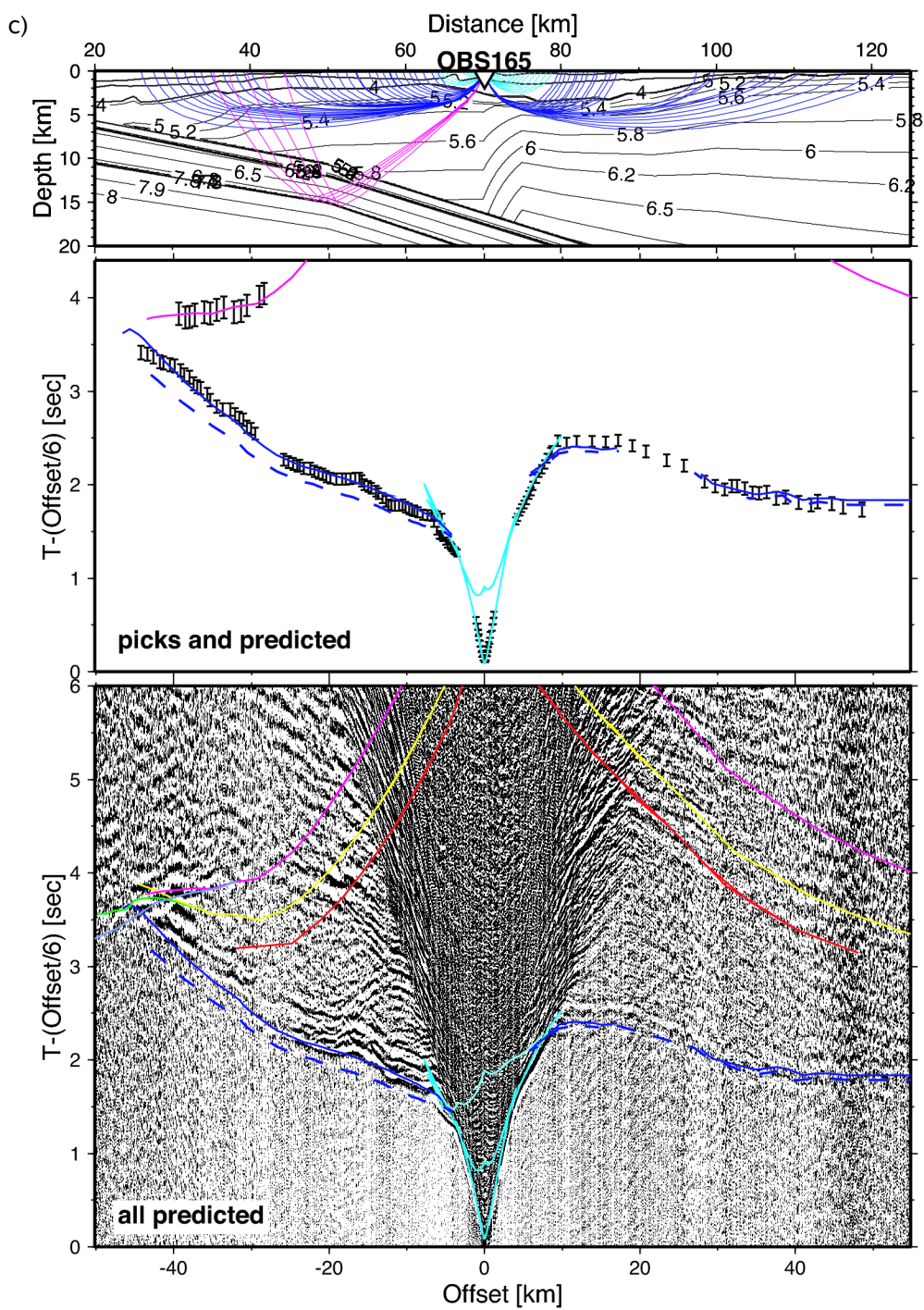


Figure S1. (Continued.)

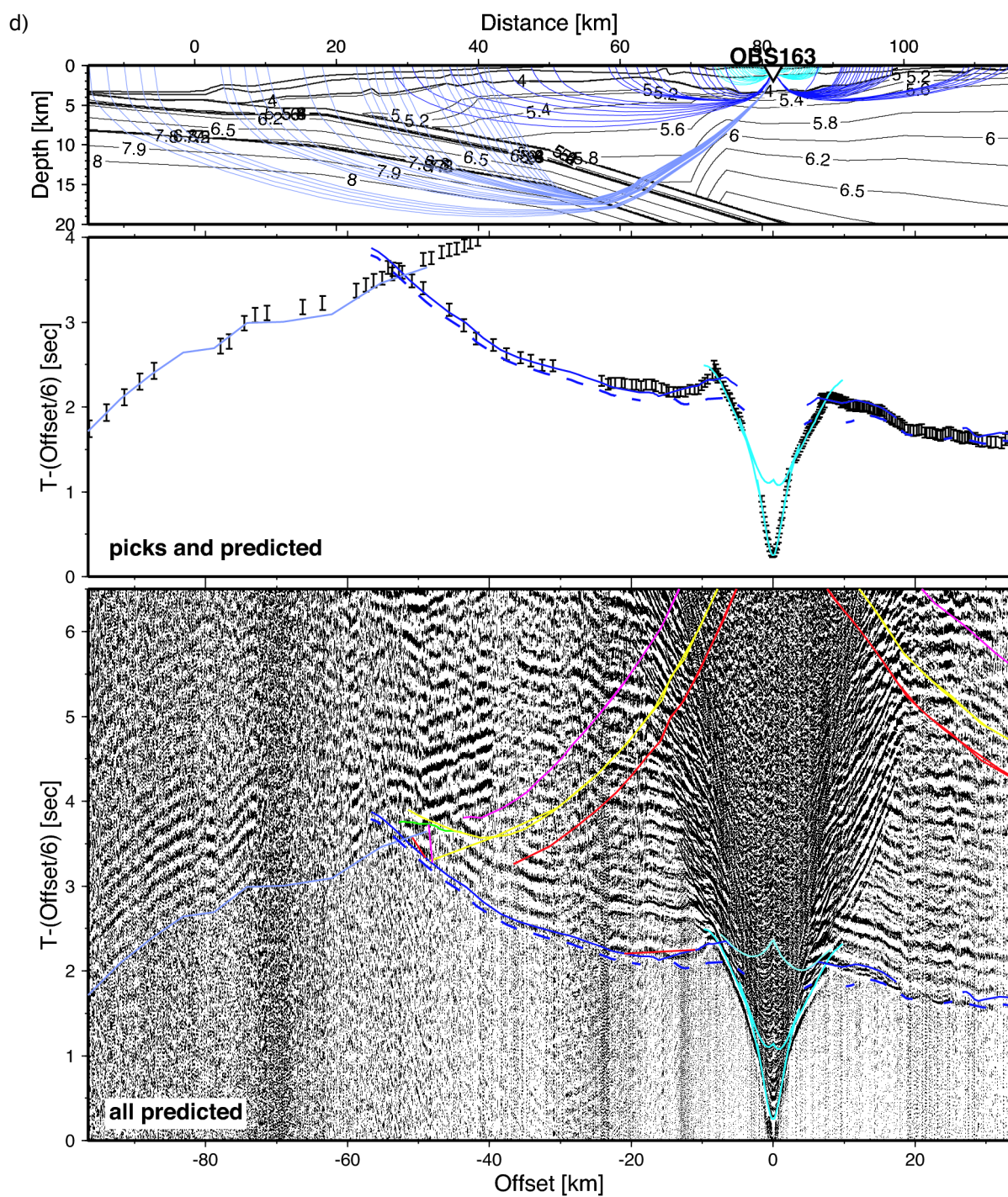


Figure S1. (Continued.)

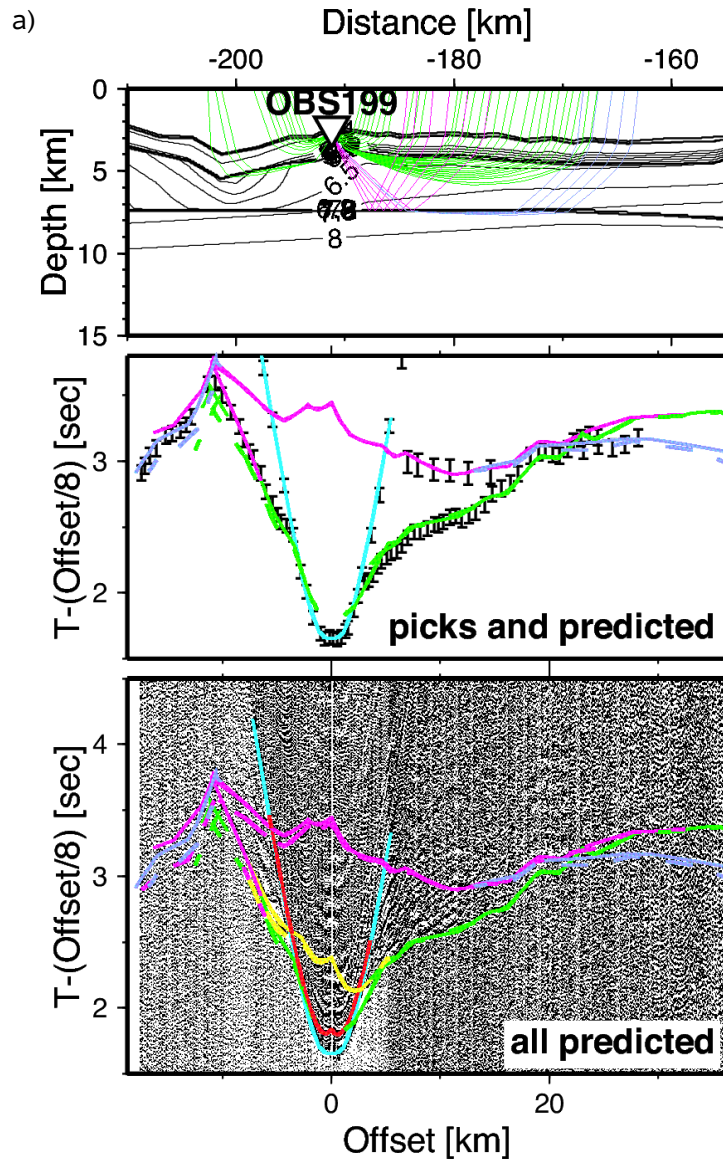


Figure S2. Examples of data fits for TIPTEQ Corridor 3. Locations are shown in Fig. 2. See Fig. S1 for a general description. (a) OBS 199, at spreading centre (dashed: predicted arrivals without velocity reduction); (b) OBS 194, plate thickening across spreading ridge at model-km 150 (dashed: predicted arrivals with constant, thin crustal thickness); (c) OBH 104, lower oceanic crustal speed-up (dashed: predicted arrivals without high V_p); (d) OBS 89, trench (dashed: predicted arrivals with Moho up to 500 m shallower at trench); (e) OBS 85, fore-arc high (dashed: predicted arrivals with upper continental plate velocities around 4.5 km/s); (f) OBS 73, shelf at model-km 100 (dashed: predicted arrivals without fore-arc basin).

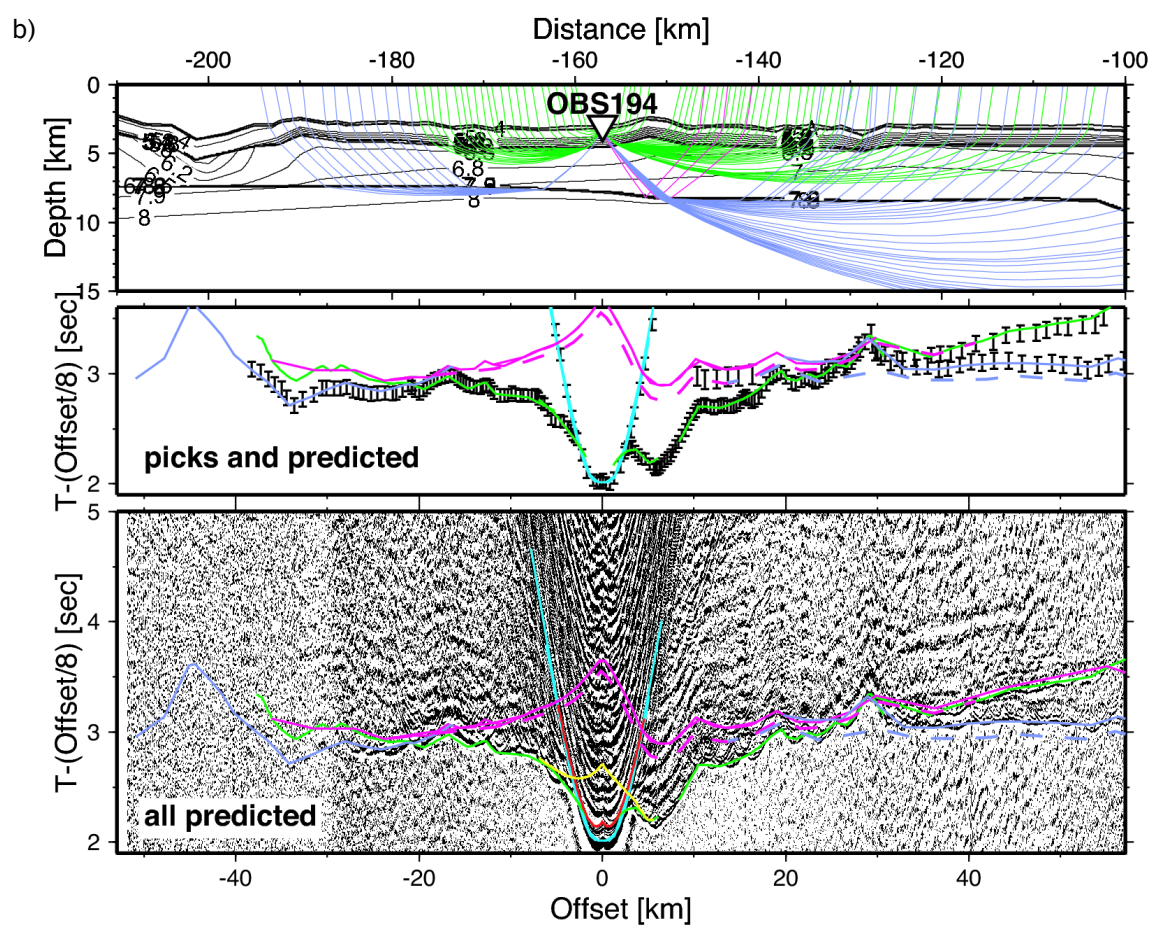


Figure S2. (Continued.)

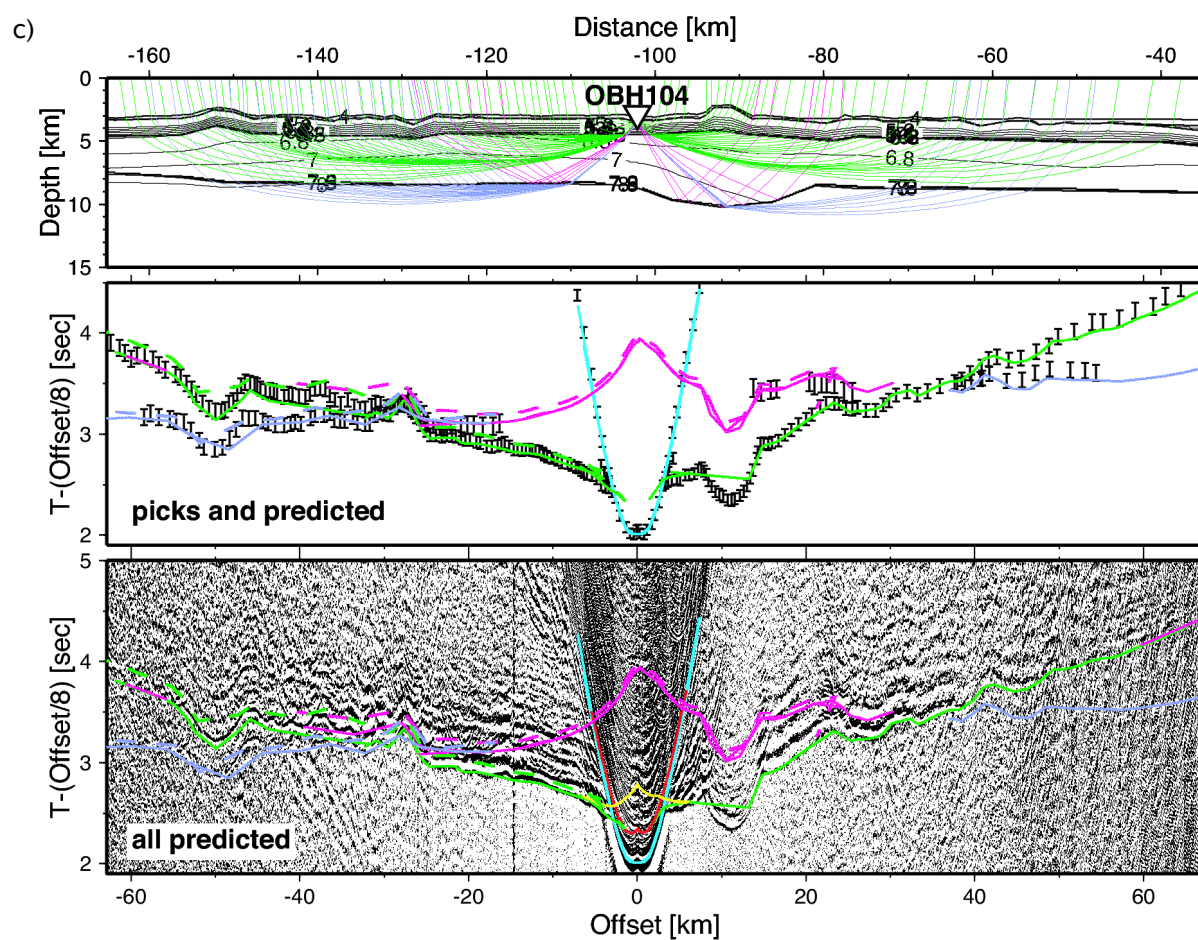


Figure S2. (Continued.)

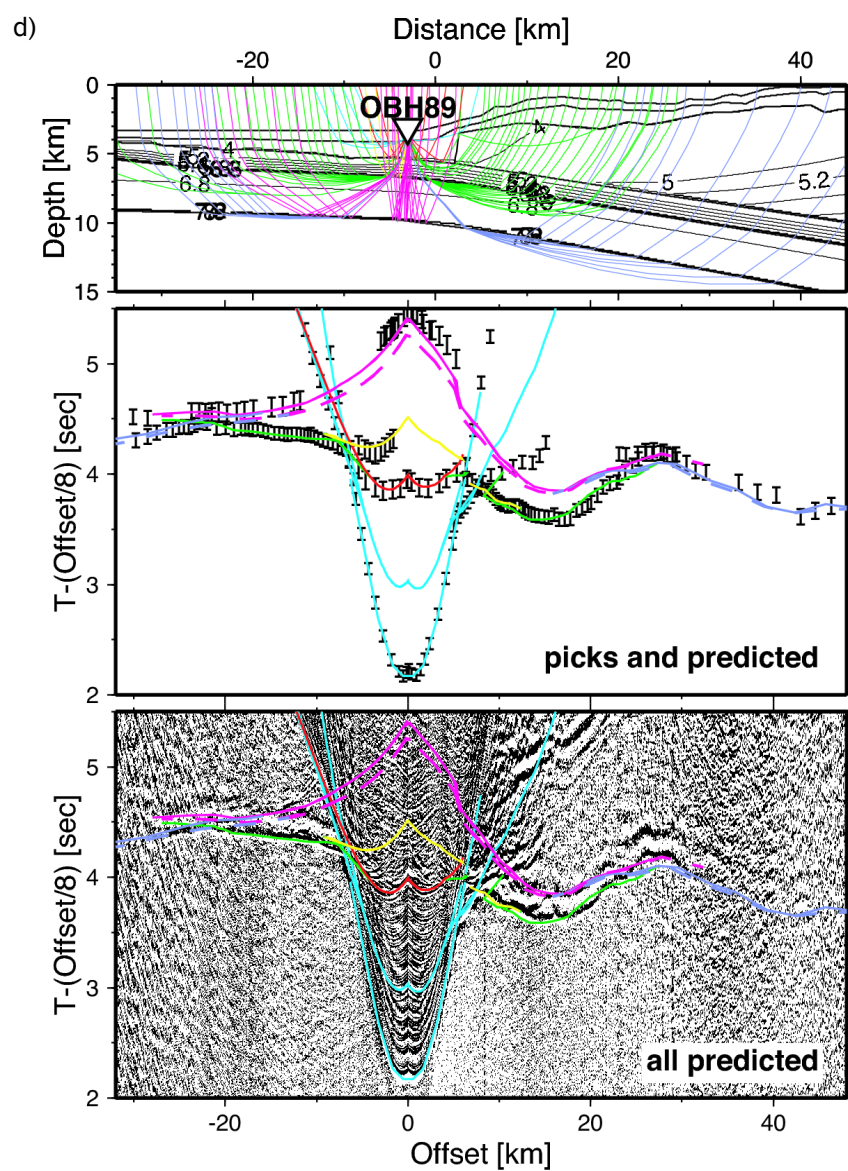


Figure S2. (Continued.)

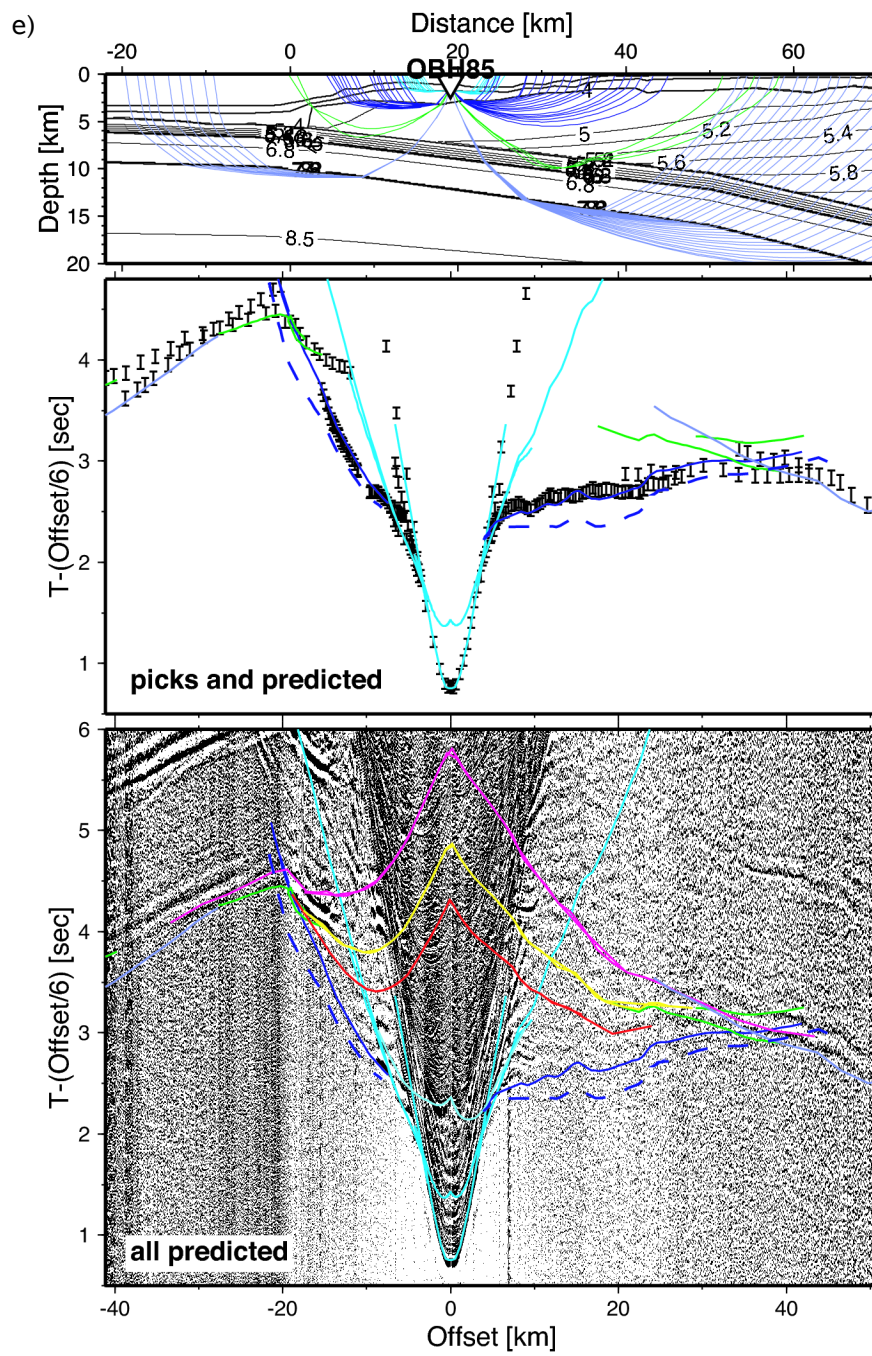


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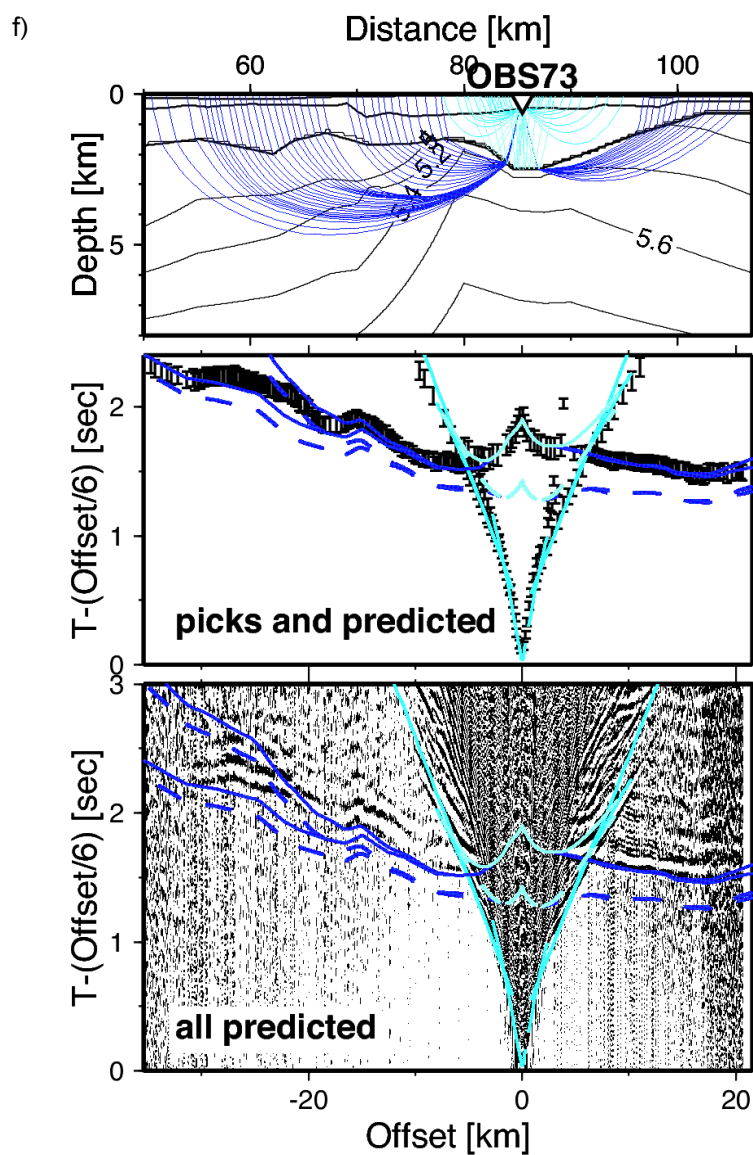


Figure S2. (Continued.)

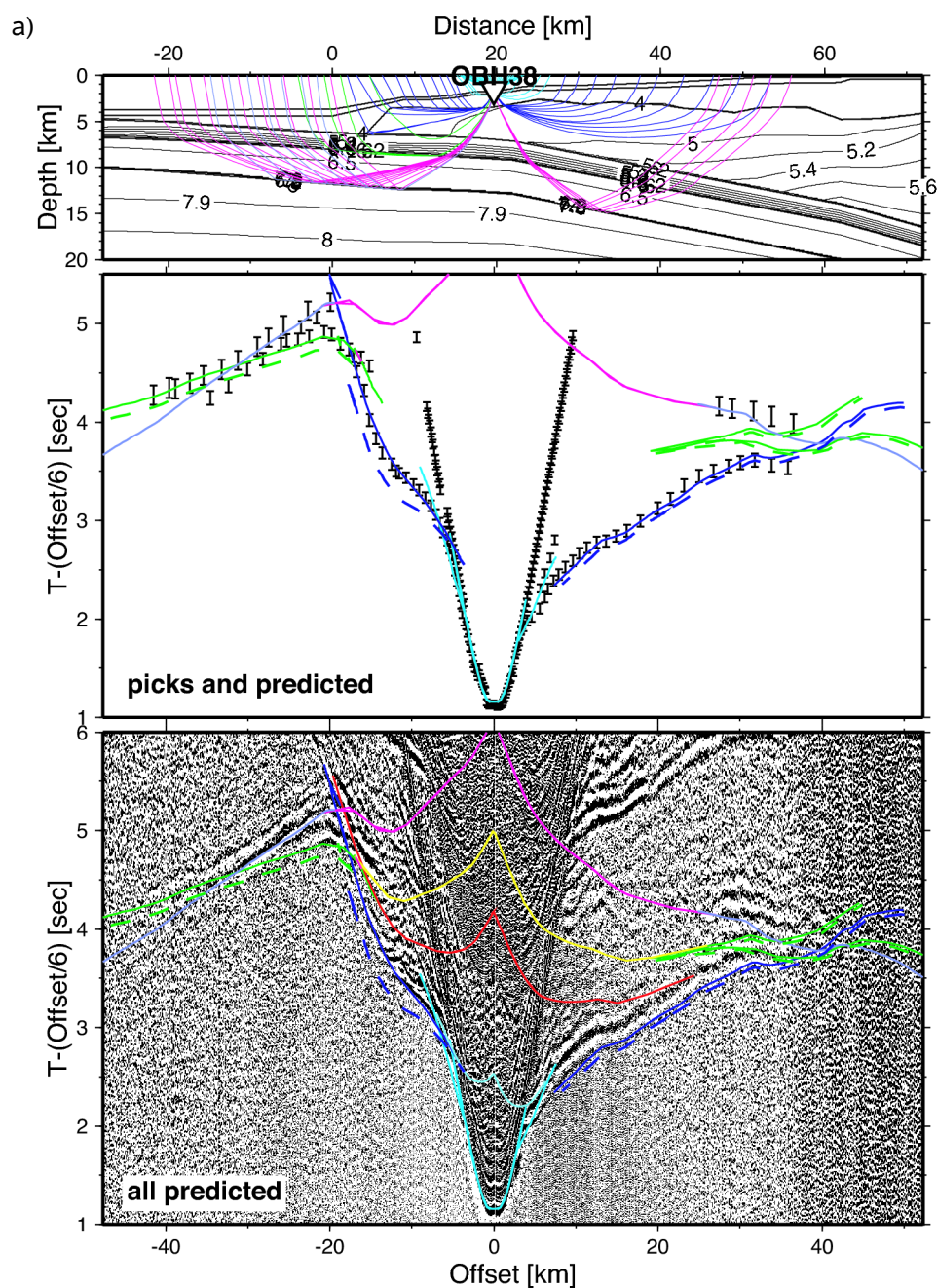


Figure S3. Examples of data fits for TIPTEQ Corridor 2. Locations are shown in Fig. 2. See Fig. S1 for a general description. (a) OBH 38, accretionary frontal structures (dashed: predicted arrivals without seawards velocity reduction); (b) OBH 31, deep fore-arc basin (dashed: predicted arrivals with basin up to 500 m thinner).

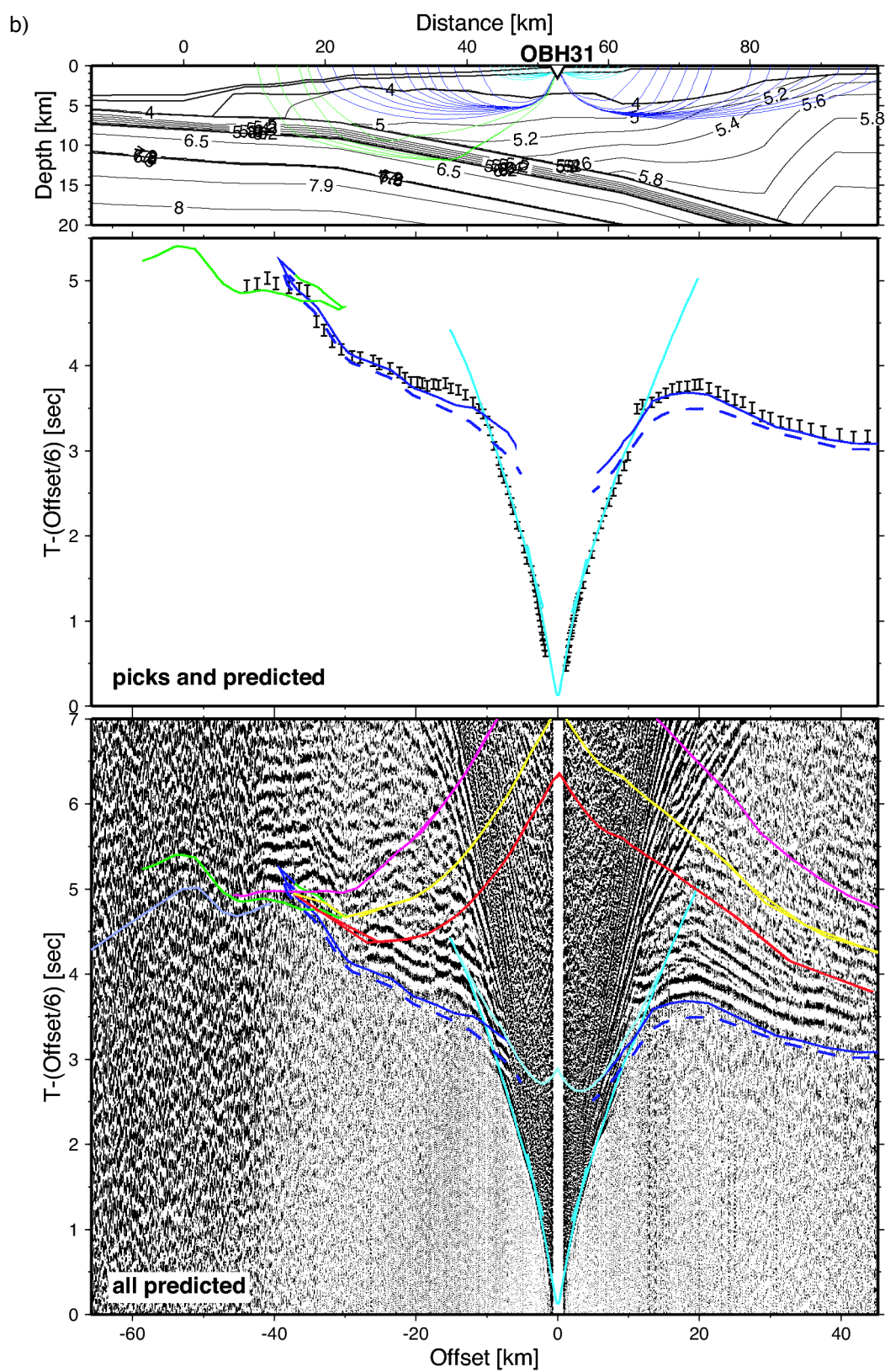


Figure S3. (Continued.)