Datashare 54:

Cenozoic fault systems in southwest Qaidam Basin, northeastern Tibetan Plateau: Geometry, temporal development, and significance for hydrocarbon accumulation

Lei Wu, Ancheng Xiao, Dade Ma, Hongge Li, Bo Xu, Ya Shen, and Liguang Mao

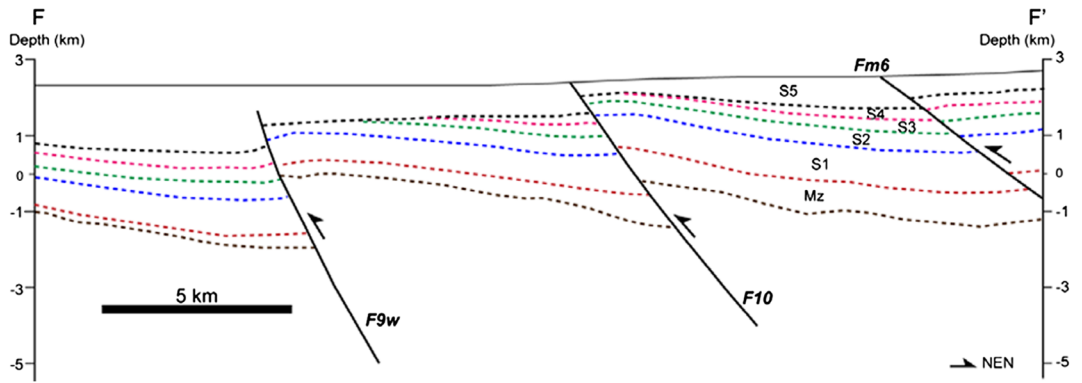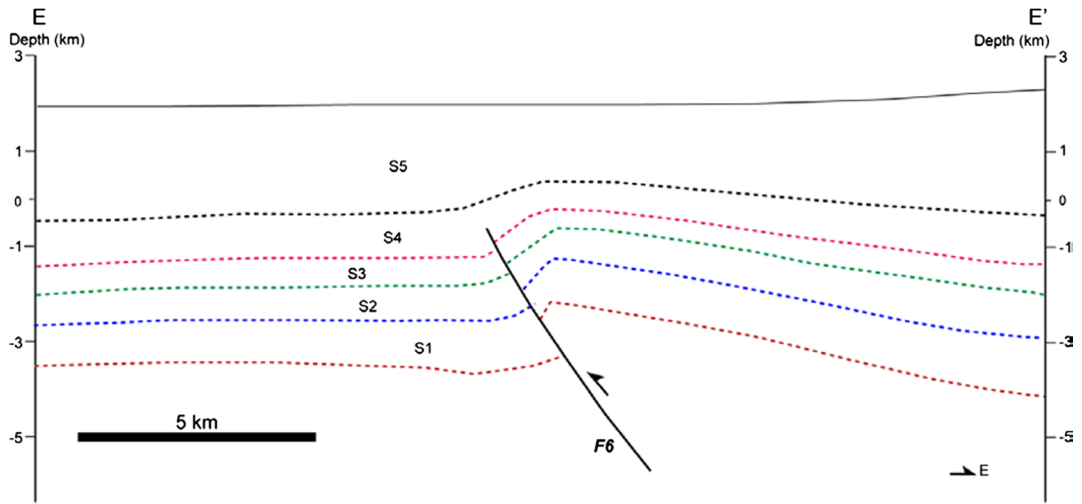## APPENDIX: SEISMIC PROFILES IN DEPTH DOMAIN

Dip angles of faults should be measured on seismic profiles in depth domain. To convert the profiles from the original time domain to depth domain, a velocity model should be created. We collected numerous vertical seismic profile (VSP) and acoustic-velocity logging data in the southwest Qaidam Basin (partly shown in Figure S1a), and accordingly obtained the fitted curve for the depth–two-way travel-time (TWTT) relation (Figure S1b), which we used to convert seismic profiles from time domain to depth domain. The converted profiles are shown in Figure S2. Then the dip angles are easily measured on these profiles because of the lack of vertical or horizontal exaggeration, and the results are listed in Table 1.
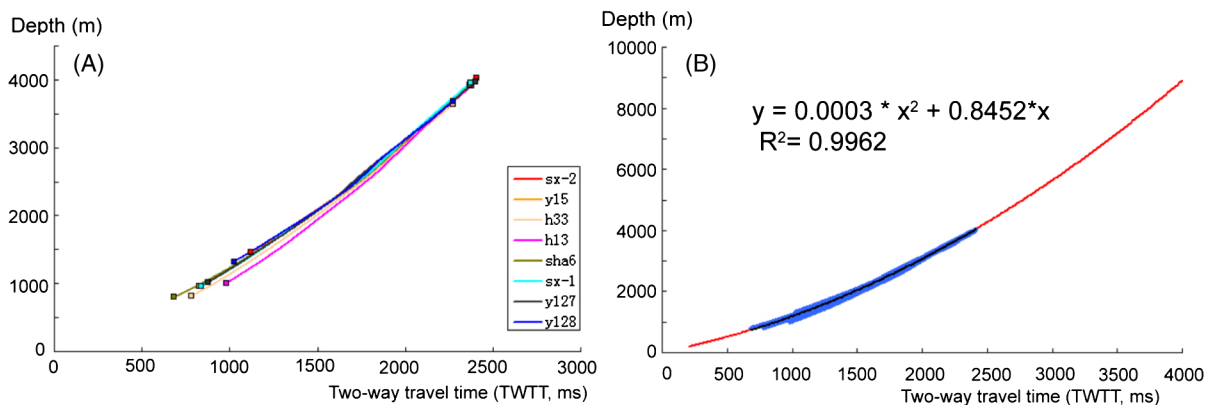
Figure S1. (a) Depth–TWTT relation in major wells in southwest Qaidam Basin. (b) The fitted curve for depth–TWTT relation which we used to convert seismic profiles from time domain to depth domain.
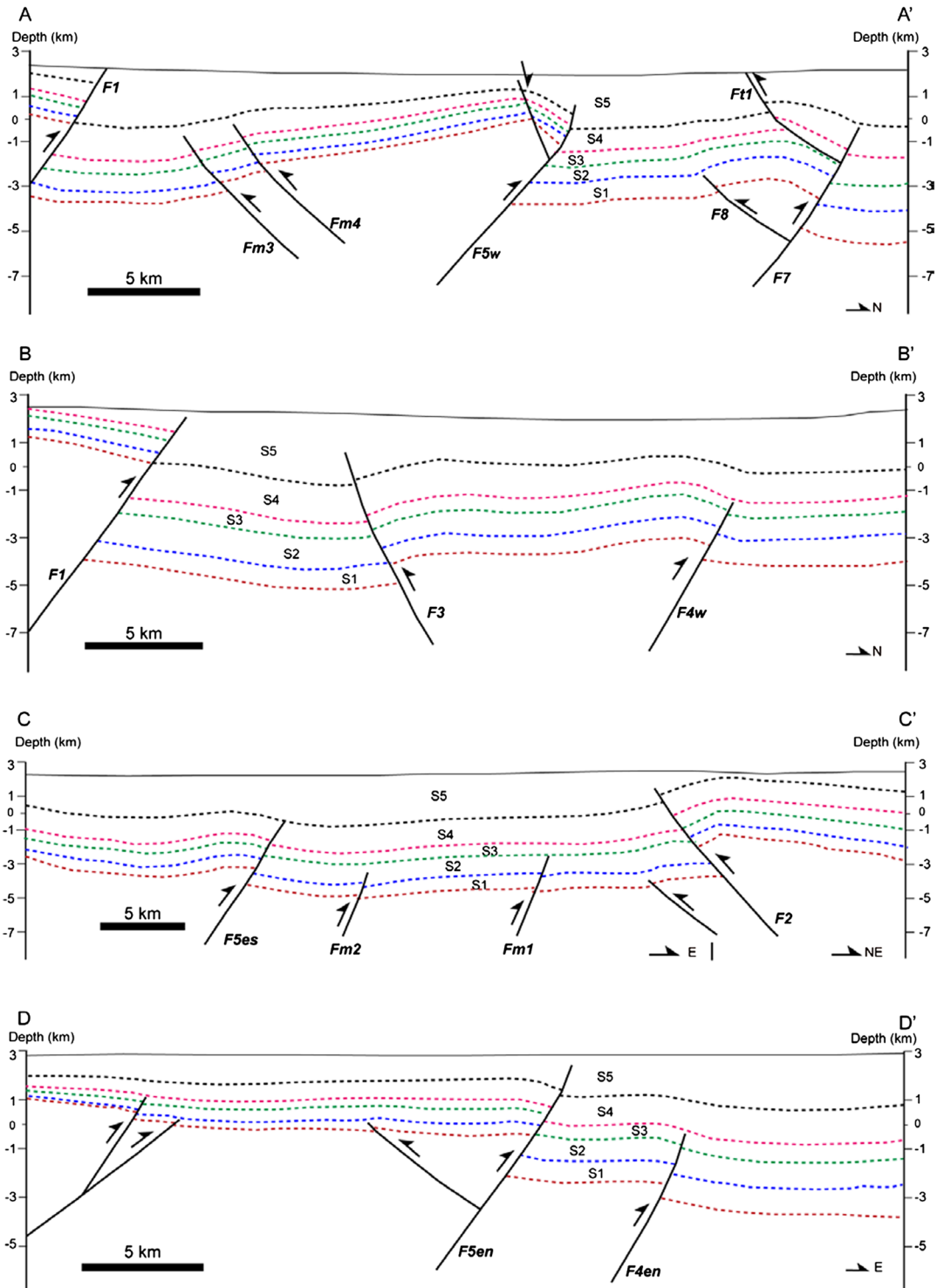
Figure S2. Seismic profiles in depth domain. Symbols of fault and stratigraphic units are same as those in their corresponding profiles in time domain shown in Figures 5–10. Note the lack of vertical or horizontal exaggeration.

Figure S2. Continued.