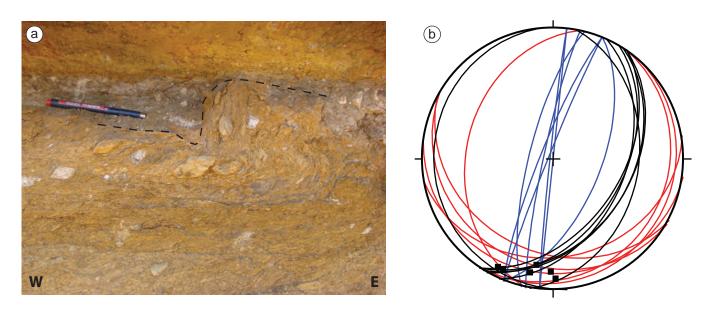
## **GSA Data Repository Item 1.**

Part A) Photograph of west-verging asymmetric fold within the scaly fault gouges that define the upper margin of the Zuccale fault core at Punta di Zuccale (Figure 3). The foliation in the fault gouges is defined by the presence of clay-rich seams and a preferred orientation of large survivor grains. A large majority of the folds within the core of the Zuccale fault have geometries consistent with regional, top-to-the-east movements, However, this set of west-verging folds are found only in the Punta di Zuccale area where the Zuccale fault dips to the west. We suggest that these folds may have formed due to minor late-stage, top-to-the-west movements following regional doming.

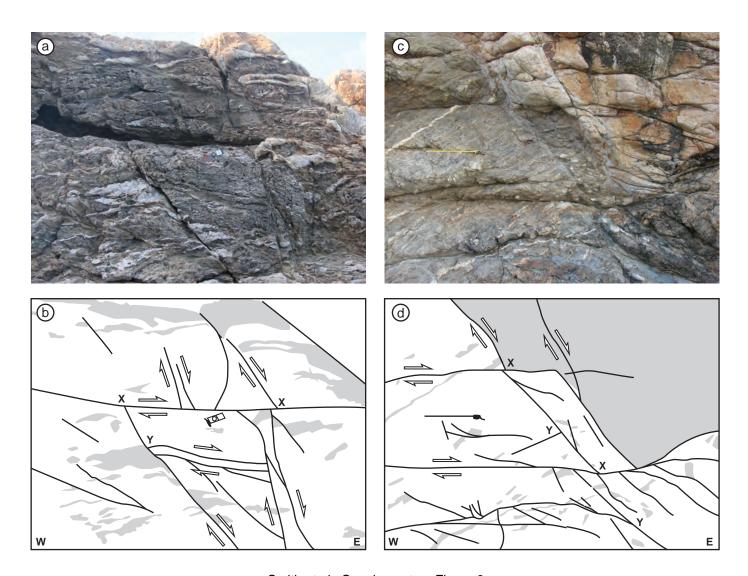
**Part B)** Lower-hemisphere, equal-area stereonet of west-verging fold data (n=7). All of the folds are found within the upper fault gouges and have fold axes (black squares) that are subperpendicular to the mean transport direction determined by slickenlines from the fault core. Black great circles are fold hinges, blue circles represent the western limb of the folds, and red circles the eastern limb.

## **GSA Data Repository Item 2.**

Parts A-D) Photographs and sketches showing two examples of mutual cross-cutting relationships between small-displacement sub-horizontal faults and east-dipping faults within the footwall of the Zuccale fault. The sketches highlight the principal fault networks and the distribution of igneous sheets (grey shading) within the basement. The fault intersections labelled X are examples of high-angle faults cross-cut by low-angle faults. The fault intersections labelled Y show low-angle faults cross-cut by high-angle faults.



Smith et al., Supplementary Figure 1 B30200\_Supplementary\_Figure\_1



Smith et al., Supplementary Figure 2 B30200\_Supplementary\_Figure\_2