Appendix - B

METHODOLOGY FOR FAULT-SLIP ANALYSES

- **T-Tecto**

It utilizes the Gauss method to sort out the heterogeneous fault slip data into the homogeneous fault subsystems (Zalohar and Vrabec, 2007) and the Right Dihedra Method (RDM) (Angelier, 1989, 1990) to calculate the stress tensor. The RDM is based on the Anderson's theory of faulting. The orientation of the maximum principal stress axis (σ1) is constrained to the (pressure) P-quadrant, while orientation of the minimum principal stress axis (σ3) is constrained to the tension (T) quadrant associated with a chosen fault. P- and T- quadrants are defined by orientation and slip sense of the fault planes. Considering that faults active in the same stress field have a common intersection of the P- and the T- quadrants enables constraining ~ direction of the principal stresses. The RDM applies on the homogeneous subsystems of faults. The Gauss method is based on fault-slip data inversion, which involves the concept of the best-fit stress tensor. T-Tecto identifies faults compatible with the stress tensor with a threshold angular misfit (Zalohar and Vrabec, 2007).

- **Win-Tensor (v5.8.7)**

The fault data are plotted in the Schmidt equal area projection. The stress tensor is computed using RDM for the total data set. Fault data that best fits the result is then sorted out. Inversion result of the fault slip data are presented as a projection. The software obeys Bott's (1959) assumption that a plane slips towards the maximum resolved shear stress. Compressional and extensional quadrants are deduced as per the orientation of the fault plane, the slip line and the sense of movement. Detail in Delvaux and Sperner (2003).

- **Faultkin (v 7.7.2)**

It graphically constructs the principal axes of extension and shortening for the input fault-slip data (Marrett and Allmendinger, 1990; Allmendinger et al., 2012). It uses the dynamic "P & T Dihedra Method" and the kinematic "P" (shortening) and "T" (extension) axes. The kinematic axes are displayed either as scatter plot or as contours. The direction of the principal stress axes can be calculated using linked Bingham distribution statistics function. Detail in Angelier and Mechler, (1977) and Angelier (1990).