

## **A Balanced Cross Section from Balkasar to Lillah across Central Salt Range, Kallar Kahar Punjab, Pakistan**

**Ehtisham Javed<sup>1</sup>, Humaad Ghani<sup>1</sup>, Irum Khan<sup>1</sup>, and Arsalan Saeed<sup>1</sup>**

<sup>1</sup>Department of Earth and Environmental Science, Bahria University, Islamabad, Pakistan

### **Abstract**

A balanced and restored structural model in this research suggests that the Salt Range Thrust (SRT) emanating from the basal detachment at crystalline evaporites interface evolved a blind thrust with staircase trajectory terminating in subsurface with tip line buried under the hanging wall ramp of the anticline or under Recent deposits of Punjab plain. Previously proposed trace of thrust did not demarcate any of such fault zones. The structure above the SRT was evolved as a multi bend fault bend fold with a series of anticlines and synclines in the crustal portion, which were partially eroded. In subsurface, ramp is present along the pre-existing normal fault in the basement, which is also interpreted in the previous work. In this research, in order to justify the well data and actual field characteristics of strata, the tapering of layers is interpreted to be present in the subsurface. Local thrust faults are present in the area, which are emanating as a splay faults from the SRT. Local scale normal faults and salt diapirism is observed and regarded to be genetically linked. The area has undergone about 40% of shortening.