X-shaped faults which resulted from horizontal compression of the Kula and India Plates and crustal gravity. They are developed from the depths of crust and possessed behaviours of compression and translation.

Since the Cretaceous, especially the Eocene epoch, the mainland of China was compressed by northeastward compression from the Xilong Projective body of the India Plate, thus a series of northeast convex-arc compressed zones were formed in southwest China on the north and east sides of the zones, a compresso-shear structural belt was resulted respectively to constitute a huge X-shaped structure in plane. The north sinictral shearing belt runs along a line of west Kulun, Altun, Yinshan and Yanshan Mountains in NEE stretch; the east belt with evidences of dextral shearing extends from the Beibu Gulf in the south to Yilan-Yitong in the north throuogh Hunan and the North China Plain in NNE striking.

Once the upper crust overlying the middle and lower plastic ones of the crust breaks, stress state on the hanging wall respoding to a cantilever with both underlying plastic materials as elastic base and the fault plane as free end under the combined efforts of both its own gravity and planar sliding. As a consequence, the nearer to the fault plane, the greater the subsiding amplitude, thus forming a listric basin. The basement of the basin subsided continuously to cause the underlying plastic materials to flow towards the heading wall or the elevated end of the hanging wall, which resulted in the structural framework of uplifts associated with basins. When the crust became thinner due to the lateral translation of the plastic materials beneath the basin, the asthenosphere materials must be upwarped and the lower materials of the lithosphere were compressed towards sides under gravity equilibrium, making the top surface of the asthenosphere to be mirror symmetrical to the bottom surface of the basin. Therefore, not that mantle diapirism is the cause of the formation of faulted basin but that the result of the formation. The above mentioned inference is also supported by earthquake activities.

川中至川南过渡带油气勘探新进展

四川石油管理局根据该局地质调查处的地震勘探成果，在川中至川南过渡带所钻的包24、23井，不久前分别试获工业性气流。实钻结果，目的层深度误差仅为地震预报深度的0.69%和0.88%，断层误差均在 10 m以内。这就为加快川中至川南过渡带的油气勘探步伐提供了有利条件。

到今年底，川中至川南过渡带地震勘探工作量可望突破10000km。与此同时，采取多种方法对野外资料进行精细处理和解释，这就为钻探提供了更为科学的依据。今年内，将又有两份勘探成果报告正式向国家提交。

近年来，钻探单位根据地质调查处所提供的勘探资料，在上述地带已先后打出一批具有工业价值的油气井。增加了这一区域的控制储量，扩大了含油气面积。

（屈永志）