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Qingxi Oilfield in Jiuxi Basin and Its Enlightenment for the Exploration in the Thrust Belts of Foreland Basins in Central and Western China

Located at the northern edge of Qilian Mountain folded belt in western China, Jiuxi Basin is a Mesozoic-Cenozoic foreland basin with Lower Cretaceous source rock and Tertiary-Cretaceous reservoirs. The basin is small but has one-hundred year^o-s exploration history. Several Tertiary anticline oilfields had been found in the thrust belt at the southern margin of the basin by 1953 with OIP 69.45 million tons and a peak production reached 1.40 million tons. Since then, the production declined to 0.4 million tons.

Recently the techniques of seismic survey in the mountain area improved the image of overthrust belt underneath the Qilianshan Mountain and hence the geological understanding. Qingxi field was discovered by Well Liu 102 in 1998 flowed oil from fractured reservoir of the cretaceous conglomerates and dolomitic mudstones at a rate of 100 ~ 200 tons per day. Sixteen wells had been drilled and proved the field with OIP up to 100 million tons.

The discovery in the mature explored basin remind us that the foreland basins, especially foreland thrust belts in central and western China could be very promising. Those areas include the southern margin of Jungar Basin, the northern margin of Tuha Basin, the piedmont areas of Longmenshan Mountain and Dabashan Mountain in Sichuan basin, the western margin of Ordos Basin. The paper presented the case history of Qingxi Oilfield and the basic features of petroleum geology in the thrust belts of the foreland basins in central and western China. The hydrocarbon potential are attractive based on evaluation.