An earthquake of Ms7.1 took place in Yushu, Qinghai province on April 14, 2010. The epicenter is located at 33.2°N, 96.6°E, with the focal depth of 14km. This event is the largest one after Wenchuan earthquake on May 12, 2008 in China mainland. This earthquake located at the Ganzi-Yushu fault zone within southern boundary of Bayanhar block, which is also the northern boundary fault zone of the Sichuan-Yunnan rhombic block southeastwards escaping. As focal Mechanism, surface rupture and aftershock activity show that the NW causative fault is left-lateral strike-slip with high dip coincided with Ganzi-Yushu fault zone. We resurveyed absolute gravity with 3 points, and the results showed: ①The gravity all increased, 11.9×10⁻⁸m•s⁻² in Yushu, 16.4×10⁻⁸m•s⁻² in Guza and 1.8×10⁻⁸m•s⁻² in Xichang; ②This is may be a proof that the earthquake left-lateral dislocation played an impelling effect to southeastwards flow mass of Tibetan plateau, especially northern section of Sichuan - Yunnan rhombic block, but the southern section weakened for the reason that Gongga Mountain barrier the south-southeastwards mass movement.