Monitoring using tiltmeter of the CO_2 Sequestration in Coal Seams Project (2)

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The CO_2 sequestration has been done in coal seams project on schedule from 2003 at Kawaminami area of Minami-Oyubari, Yubari City, Hokkaido. Precise deformation monitoring using the basic (Kyowa BKK-A-1D: 2 sets) and high resolution (Pinnacle 5500: 7 sets) tiltmeters have been applied to detect the distribution of subsidence volumetric deformation caused by injected CO_2 into coal bed. It is discussed the tilt variations due to noises in this report, such as acceptable accuracy of the tiltmeters, earth tide, ground vibration (earthquakes and so on), atmospheric temperature change and effects by rainfall and snowfall. These tiltmeters are set up in the mudstone basement named as the Horonai series (Paleogene). These beds are viscoelastic substance. After eliminating the effects due to noises, it can be discussed to monitor the tilt variations due to the effects of CO_2 injection in the coal seams.