

Co-seismic pore pressure/groundwater level changes associated with the 2016 Kumamoto Earthquake (Mj7.3) in and around Mizunami Underground Research Laboratory

*Yasuhiro Asai¹, Hiroshi Ishii¹, Osamu Murakami¹

1. Tono Research Institute of Earthquake Science, Association for the Development of Earthquake Prediction

Clear exponential pore pressure/groundwater level changes associated with the 2016 Kumamoto Earthquake (Mj7.3) were observed at borehole observation sites “STG200 and STG200N” in Mizunami Underground Research Laboratory (MIU), and TGR350 borehole observation site located approximately 500m south of MIU, in the Tono region, central Japan (Hypocentral Distances are approximately 665km). Amount of pore pressure changes in STG200 and STG200N are 30 and 28 kPa-rise, respectively and groundwater level in TGR350 is 2.3m-rise. Although those are different features, co-seismic pore pressure /groundwater level changes were also observed at STG300 site in MIU and SBS105 site located approximately 1km north-east of MIU.

We will present the details of these pore pressure/groundwater level changes, and attempt to clarify the qualitative/quantitative model for the co-seismic pore pressure/groundwater level changes.

Keywords: The 2016 Kumamoto Earthquake (Mj7.3), Co-seismic pore pressure/water level changes, Tono region, Gifu, central Japan