

SARI

Evaluasi Potensi Likuefaksi Menggunakan Data *Cone Penetration Test* (CPTu)
Dan Faktor Pendukungnya di Daerah Wiradesa dan Sekitarnya, Kabupaten
Pekalongan, Provinsi Jawa Tengah

Secara geologi regional, wilayah Kabupaten Pekalongan tercakup dalam Formasi Aluvium (Qa). Tersusun dari endapan sedimen berumur Kuartar bersifat endapan lepas dan rentan terhadap resiko gerakan tanah. Wilayah ini merupakan salah satu wilayah berpotensi likuefaksi karena tersusun dari endapan sedimen berumur Kuartar bersifat lepas dan adanya Sesar Aktif Baribis-Kendheng yang terus bergerak hingga saat ini dengan kekuatan 6,5 Mw. Berdasarkan kedua hal tersebut, maka dilakukan penelitian potensi likuefaksi di daerah Wiradesa dan sekitarnya menggunakan metode uji penetrasi konus (CPTu) dengan rumus perhitungan menurut Youd dkk., (2001) dan Robertson dan Wride (1998) di 12 titik. Analisis dan perhitungan dengan skema gempa 6,5 Mw mendapatkan hasil bahwa Wiradesa dan sekitarnya termasuk daerah berpotensi likuefaksi pada kedalaman bervariasi di lapisan tanah bersifat *sand to silty sand*, *silty sand to sandy silt*, dan *clayey silt & silty clay*. Sehingga kontinuitas persebaran lapisan berpotensi likuefaksi tidak berada di semua kedalaman.

Kata kunci: Likuefaksi, CPTu, Gerakan Tanah, Wiradesa, Kabupaten Pekalongan

ABSTRACT

Evaluation of Liquefaction Potential Using Cone Penetration Test (CPTu) Data and Supporting Factors in the Wiradesa and Surrounding Areas, Pekalongan Regency, Central Java.

Based on regional geology, Pekalongan Regency is covered in the Alluvium (Qa) formation which is composed of Quaternary sedimentary deposits that are loose deposits and are susceptible to the risk of ground movement. This area is one of the potential liquefaction areas because it is composed of loose Quaternary-aged sedimentary deposits and there is the Baribis-Kendheng Active Fault which continues to move today with a force of 6,5 Mw. Based on these two things, research was carried out on the liquefaction potential in the Wiradesa area and its surroundings using the cone penetration test method (CPTu) with the calculation formula according to Youd et al., (2001) and Robertson and Wride (1998) at 12 points. The results showed that Wiradesa and its surroundings are areas with potential for liquefaction at varying depths in the soil layers which are sand to silty sand, silty sand to sandy silt, and clayey silt & silty clay. So that the continuity of the distribution of potentially liquefaction layers is not at all depths.

Keywords: *Liquefaction, CPTu, Land Movement, Wiradesa, Pekalongan Regency.*