

# **ANALYSIS OF GROUND VIBRATION DUE TO BUILDING STRUCTURE IN BLASTING ACTIVITIES AT PT DAHANA (PERSERO) JOB SITE PT HARITA PANCA UTAMA (HPU) – TANITO, LOA IPUH ,DISTRICT TENGGARONG, KUTAI KARTANEGARA REGENCY, PROVINCE EAST KALIMANTAN**

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## **ABSTRACT**

PT Dahana (Persero) is a state-owned company engaged in blasting services in all sectors such as mining and military, became a contractor at PT Harita Panca Utama (HPU) - Tanito in Loa Ipuh Village, District Tenggarong, Kutai Regency, East Kalimantan Province. Vibration due to blasting can cause damage to the building structure residential areas surrounding the mining area. For that there must be surveillance and prevention of blasting vibration effect is by measuring the vibration of blasting in accordance with thresholds KEPMEN LH No. 49 In 1996, Standart Vibration Levels based on ISO 7571: 2010.

Measurements of ground vibration by using the tool Blastmate III and processed using software Blastware to determine the value of Peak Particle Velocity (PPV) maximum acceptable infrastructure in the research area, then determine stuffing optimum for various distance measurements in order to produce a PPV which is below the threshold value according to ISO 7571: 2010.

The measurement results obtained lowest PPV of 0.6 mm / s and the highest PPV is 8.3 mm / s. Results of ground vibration predictions based curve PPV comparison with the scaled distance (SD) obtained the formula  $PPV = 2.951 (SD) - 1.4914$ , the best formula for PPV's prediction who close to the actual is USBM.

**Keywords:** *Blastware, Peak Particle Velocity (PPV), USBM, Weight of Explosive.*