

## ABSTRACT

One of removal activity in area PT. Berau Coal is overburden removal. This activity preceded loosening process with boring and blasting method. Effect from blasting activity to the environment that is air blast and ground vibration. Blasting activity in pit C2 produce air blast and ground vibration that have risk to environment if it is not controlled carefully.

PT. Berau Coal decide limitation of PPV based on Kep/49/Men.LH/11/1996 and Indonesia National Standard 2010, limitation Peak Particle Velocity decided by PT. Berau Coal that is less than 3 mm/s.

Measuring ground vibration using seismograph be obtained bigness data peak particle velocity, and then analysed using U.S Bureau Of Mines and Regression Power method. From that method analysis had equation  $PPV=1933 \cdot Ds^{-1.53}$  and having determination coefficient 79,6 %. That equation used for predictive a maximum charge for 800m distance and 102 Kg is used for maximum charge for 800m.

Air blast Measured to know the effect for the environment, because up till now PT. Berau coal did not do that. Analysis air blast to the environment still under limiting 140 dB, the biggest air blast during measuring is 100,6 dB.

Several factor that have influence ground vibration that is distance, explosive charge/delay and the condition of rock structure. Blasting in the same distance with increasing explosive charge will result bigger peak particle velocity. Blasting with increasing explosive charge in the same distance will result bigger peak particle velocity. Beside ground vibration factors air blast have some factor too. That is wind direction, wind speed and temperature. If wind blow to the area measurement so can make air blast bigger.