

## ABSTRACT

*The research is worked on 15<sup>th</sup> pit, PT. Kayan Putra Utama Coal (PT. KPUC) which located in Separi Besar village, Samarinda, Kalimantan Timur. PT. KPUC use blasting to excavate overburden. Unsuccessful blasting will produce environmental effect, like ground vibration. Citizen on 500 m from PT. KPUC pit's that use blasting, has been disturbing by ground vibration. PT. KPUC determine a condition that on 500 m from blasting area, PPV (Peak Particle Velocity) value must  $\leq 2$  mm/s. An analyze of blasting geometry should be done to get PPV value  $\leq 2$  mm/s. The analysis start with record the PPV value of blasting activity on 15<sup>th</sup> pit. Then, monitoring to distance between PPV record location and blasting location PPV, and total charge/delay get scaled distance value. PPV value and scale distance can used to compute PPV predict equation. This equation can be used to predict PPV value on next blasting activity. The next step, calculate maximum charge/delay that permitted using Bertha equation (1985). Blasting geometry will design based on this maximum charge/delay. A new blasting geometry is use double deck technique, because this technique can divide total charge that use in one blast hole into two different charge/delay. By using, this new blasting geometry with double deck technique, blasting that done in 15<sup>th</sup> pit become a successful blasting activity, with no environmental effect like ground vibration.*

*Keywords : Citizen, Analyze, 15<sup>th</sup> Pit.*