

## RINGKASAN

PT. Trubaindo Coal Mining mempunyai rencana melakukan kegiatan penambangan Batubara dengan target produksi 540.000 ton/tahun di *Pit 3000 Block 3 South Block 1*. Produksi Batubara tersebut menghasilkan tanah penutup (*overburden*) sebesar 6.415.000 m<sup>3</sup> sehingga perlu dilakukan penataan tanah penutup di area disposal. Desain disposal yang baik dapat dibentuk dengan membuat rancangan teknis disposal yang sesuai dengan rencana pengupasan tanah penutup di *Pit 3000 Block 3 South Block 1* PT. Trubaindo Coal Mining. Rancangan disposal yang dibuat disesuaikan dengan arah kemajuan penambangan Batubara. Penimbunan pada area disposal dibuat dengan pola *Valley Fill*.

Dari hasil penelitian ini didapatkan Volume Lapisan Tanah Penutup yang akan ditimbun dari *Pit 3000 Blok 3 South Block 1* ke disposal berjumlah 6.639.587 bcm. Lapisan tanah penutup yang akan ditimbun tersebut mempunyai faktor pengembangan (*swell factor*) 0,85 dan persen penyusutan (% *shrinkage*) 8,55 % maka dilakukan perancangan teknis disposal dengan 4 *quarter* dimana masing-masing kapasitas area disposal pada *quarter 1* adalah 1.641.749 ccm, *quarter 2* sebesar 1.938.920 ccm, *quarter 3* adalah 1.958.190 ccm, dan *quarter 4* adalah 1.604.553 ccm. Rancangan disposal dibutuhkan peralatan dengan kebutuhan sebagai berikut, *quarter 1* tahun 2017 alat muat yang dibutuhkan sebanyak 6 unit dengan rincian *Excavator Komatsu PC 1250* 2 unit, *Excavator Hitachi ZX 870* 2 unit dan *Excavator Komatsu PC 300* 2 unit. Total alat angkut yang dibutuhkan 36 unit terdiri dari *Komatsu HD 465* 19 unit, *Terex TR 60* 7 unit, dan *Nissan CWB 45A* 10 unit. *Quarter 2,3* dan 4 dengan tipe alat muat dan alat angkut yang sama dengan *quarter 1* namun total alat muat dan alat angkut yang berbeda yaitu *quarter 2* jumlah alat muat 7 unit dan alat angkut 33 unit, *quarter 3* jumlah alat muat 6 unit dan alat angkut 25 unit serta *quarter 4* jumlah alat muat 5 unit dan alat angkut 19 unit.

Kata kunci : *overburden, disposal, desain, swell factor, % Shrinkage*

## **ABSTRACT**

*PT. Trubaindo Coal Mining planning to conduct coal mining with annual production target of 540.000 tons/year in Pit 3000 Block 3 South Block 1. This coal production has resulted overburden removal as much as 6.415.000 m<sup>3</sup>. Therefore the overburden needs to be managed properly in the disposal area. Good disposal design could be arranged with disposal technical design that match with overburden removal plan in Pit 3000 Block 3 South Block 1 PT Trubaindo Coal Mining. Layout disposal design adjusted with coal mining pushback. Dumping pattern in disposal area conduct with valley fill pattern.*

*From the research result, obtained volume overburden that will be dumped from Pit 3000 Block 3 South Block 1 to the disposal area is as much as 6.639.587 bcm. The overburden that will be dumped has swell factor of 0,85 and shrinkage factor of 8,55%, therefore it's conduct the disposal design with 4 quarter which in each disposal capacity in disposal area 1 is 1.641.749 ccm, quarter 2 is 1.938.920 ccm, quarter 3 is 1.958.190 ccm, and quarter 4 is 1.604.553 ccm. Equipment that needed in disposal designing as follows, quarter 1 in 2017, 6 units of digger with details 2 units of Excavator Komatsu PC 1250, 2 units of Excavator Komatsu ZX 870, and 2 units of Excavator Komatsu PC 300. Total hauler needed is as much as 36 units, that is 19 units of Komatsu HD 465, 7 units of Terex TR 60, and 10 units of Nissan CWB 45A. Equipment of digger and hauler in quarter 2,3, and 4 is as the same as in quarter 1 but different quantity of both digger and hauler. Which is in quarter 2, amount of digger is 7 units and hauler is 33 units; in quarter 3, amount of digger is 6 units and hauler is 25 units; and in quarter 4, amount of digger is 5 units and hauler is 19 units.*

*Keywords : Overburden, disposal, design, swell factor, % shrinkage*