RINGKASAN

PT. Jasapower Indonesia merupakan salah satu anak perusahaan dari PT. Adaro Energy Tbk, yang bergerak di bidang penyedia jasa pertambangan khususnya terkait dengan pengelolaan material tanah penutup yaitu *Pit Crushing Conveying System* (PCC). Masalah yang terjadi di PT. Jasapower Indonesia yaitu rancangan penimbunan pada *quarter* satu dan dua tahun 2017 tidak sesuai dengan target penimbunan, sehingga untuk merancang penimbunan *quarter* tiga dan empat harus sesuai bentuk penimbunan yang telah dicapai pada *quarter* sebelumnya. Selain itu, semakin bertambahnya kemajuan penimbunan berdampak pada daerah tangkapan hujan semakin bertambah. Berdasarkan masalah-masalah tersebut, diperlukan rancangan *disposal* dan rancangan drainase. Penelitian yang dilakukan di PT. Jasapower Indonesia bertujuan untuk menghitung jumlah volume tanah penutup, membuat rancangan *disposal*, menghitung debit air limpasan, membuat rancangan saluran terbuka dan gorong-gorong. Metodologi penelitian yang digunakan yaitu studi literatur, studi lapangan, pengolahan data dan analisis hasil pengolahan data.

Hasil penelitian menunjukkan bahwa volume tanah penutup yang dipindahkan menuju *disposal* pada *quarter* tiga dan empat tahun 2017 berjumlah 5.384.010 bcm. Hasil rancangan *disposal* untuk mengakomodir volume tanah penutup pada *quarter* tiga bulan Juli sebesar 488.760 lcm dengan volume pemadatan 451.859 ccm, *quarter* tiga bulan Agustus 1.288.289 lcm dengan volume pemadatan 1.191.032 ccm, *quarter* tiga bulan September 1.324.406 lcm dengan volume pemadatan 1.224.413 ccm, *quarter* empat bulan Oktober 1.403.739 lcm dengan volume pemadatan 1.297.756 ccm, *quarter* empat bulan November 1.072.812 lcm dengan volume pemadatan 991.814 ccm, *quarter* empat bulan Desember 908.745 lcm dengan volume pemadatan 840.135 ccm. Hasil rancangan didapatkan sebanyak 9 saluran terbuka. Saluran terbuka (D7) memiliki debit maksimum yang terletak di Tenggara *disposal* dan jalan jupiter dengan debit 0,**77** m^3/det memiliki dimensi d = 0,81 m; h = 0,70 m; b = 1,74 m; B = 0,81 m; a = 0,93 m. Hasil rancangan gorong-gorong didapatkan 4 gorong-gorong berdiameter yaitu : G1 = 0,37 m; G2 = 0,70 m; G3 = 1,13 m; dan G4 = 0,52 m.

Kata kunci: *disposal*, drainase, *pit crushing conveying*, rancangan dan tanah penutup.

ABSTRACT

PT. Jasapower Indonesia is one of PT. Adaro Energy Tbk subsidiaries, engaged in mining service, especially overburden management of Pit Crushing Conveying System (PCC). Problems happened in PT. Jasapower Indonesia is that the disposal design in the first and second quarters of 2017 is not in line with the disposal targets, so the disposal design of the third and fourth quarters should match the progress made in the previous quarter. Besides, the increasing disposal advanced resulted in the increasing catchment area. Based on these problems, it is necessary to design the disposal and drainage design. Research conducted at PT. Jasapower Indonesia aims to calculate the amount of overburden volume, create a disposal design, calculate runoff water discharge, create an open drainage and culvert. The research methodology used is literature study, field study, data processing and analysis of data processing result.

The results of the study, the volume of overburden to be moved to the disposal in the third and fourth quarters of 2017 amounted to 5.384.010 bcm, the disposal design result to accommodate the top soil volume in the third quarter of July amounted to 488,760 lcm with compaction volume of 451.859 ccm, the third quarter of August 1,288 .289 lcm with compaction volume 1,191,032 ccm, the third quarter of September 1,324,406 lcm with compaction volume 1,224,413 ccm, the fourth quarter of October 1,403,739 lcm with compaction volume 1,297,756 ccm, the fourth quarter of November 1,072,812 lcm with compaction volume of 991,814 ccm, the fourth quarter of December 908,745 lcm with compaction volume 840,135 ccm. The open drainage design, based on the design features, has 9 open channels located in the disposal area. The open channel (D7), located in the Southeast disposal and jupiter road, has a maximum debit with 0.77 m^3/sec with dimensions d = 0.81 m; h = 0.70 m; b = 1.74 m; B = 0.81 m; a = 0.93 m. There are 4 culvert from the result of culvert design diameter, G1 = 0.37 m, G2 = 0,70 m, G3 = 1,13 m, and G4 = 0,52 m.

Keywords : disposal, drainage, pit crushing conveying, design and overburden.