RINGKASAN

PT. Hargo Willis Indonesia (PT HWI) merupakan salah satu perusahaan yang bergerak di bidang penambangan dan peremukan batu andesit. Di pabrik peremuk PT HWI terdapat dua unit peremuk dengan kapasitas masing – masing sebesar 52,5ton/hari dan 233,3 ton/hari. Dengan dua unit peremuk yang ada saat ini dapat menerima permintaannya 200 – 300 ton/hari. Produksi akan menjadi 468,8 ton/hari apabila peremuk ketiga sudah jadi dibangun. Akan tetapi, permintaan pasar meningkat hingga 1.100 ton/hari. Maka dari itu PT HWI berencana akan membangun pabrik peremuk baru di lokasi yang baru, karena lokasi yang ada sekarang ini tidak mencukupi bila ditambah unit peremuk lagi. Dalam pembangunan pabrik peremuk yang baru, diperlukan rancangan pabrik peremuk agar diperoleh alat – alat yang dibutuhkan agar diperoleh target produksi yang diinginkan, serta menentukan *setting* alat peremuk. Permasalahan yang terjadi ialah dibutuhkan rancangan pabrik peremuk yang baru untuk produksi sebesar 800 ton/hari dengan syarat, produk ukuran -20 + 10 mm yang dihasilkan persentase terbesar dari keseluruhan, lebih dari 28 %.

Dalam merancang pabrik peremuk yang baru, dibutuhkan beberapa data antara lain: distribusi ukuran batuan yang ada di *stockyard*, waktu kerja efektif, efisiensi tiap *deck screen*, dan lokasi didirikannya pabrik peremuk yang baru. Hasilnya, alat – alat yang digunakan antara lain *Hopper* dengan dimensi 4,5 m x 3,5 m x 1,7 m, *Vibrating Grizzly Feeder* merek LIMING, model FH1245, *Primary Jaw Crusher* merek LIMING, model PE900 x 1200, *Double Deck Vibrating Screen* merek KURIMOTO, model KI – H *Secondary Cone Crusher* merek LIMING, model HST250/H1 *Triple Deck Vibrating Screen* merek KURIMOTO, model KI, *Belt Conveyor* 1 dan 2 merek LIMING, *belt width* 650 mm dan *Belt Conveyor* 3 – 8 merek LIMING, *belt width* 500 mm. *Setting* yang digunakan pada *Jaw Crusher* 100 mm, sedangkan pada *Cone Crusher* 25 mm. Distribusi produk yang diinginkan -50 + 30 mm = 211,8 ton/hari, -30 + 20 mm = 161,3 ton/hari, -20 + 10 mm = 235 ton/hari, -10 mm = 192,5 ton/hari, sehingga total produksi yang dihasilkan = 800,6 ton/hari.

SUMMARY

PT. Hargo Willis Indonesia (PT HWI) is one of the companies engaged on andesite mining and crushing. At PT HWI crusher plant there are two crusher units with capacities of 52,5 tons/day and 233,3 tons/day respectively. With two crusher units currently available, they can receive requests from 200 to 300 tons/day. Production will be 468,8 tons/day if the third crusher has been built. However, market demand increased to 1.100 tons/day. Therefore PT HWI plans to build a new crusher plant in the new location, because the current location is insufficient if added to the crusher unit again. In the construction of a new crusher plant, a crusher plant design is needed to obtain the tools needed to obtain the desired production target, and determine the setting of the crusher. The problem that occurs is that a new crusher plant design is needed for production of 800 tons / day on the condition that the product size of -20 + 10 mm produced the largest percentage of the whole, more than 28%.

In designing a new crusher plant, some data is needed including: rock size distribution in the stockyard, effective working time, efficiency of each deck screen, and the location of the establishment of a new crusher plant. As a result, the tools used include Hopper with dimensions of 4,5 mx 3,5 mx 1,7 m, Vibrating Grizzly Feeder brand LIMING, FH1245 models, Primary Jaw Crusher brand LIMING, PE900 x 1200 models, Double Deck Vibrating Screen brand KURIMOTO, models KI - H Secondary Cone Crusher brand LIMING, Vibrating Screen brand KURIMOTO HST250 / H1 Triple Deck model, KI model, Conveyor Belt 1 and 2 brand LIMING, belt width 650 mm and Conveyor Belt 3-8 brand LIMING, belt width 500 mm. The setting used in Jaw Crusher is 100 mm, while for Cone Crusher 25 mm. Desired product distribution -50 + 30 mm = 211,8 tons/day, -30 + 20 mm = 161,3 tons/day, -20 + 10 mm = 235 tons/day, -10 mm = 192,5 tons/day, so that the total production = 800,6 tons/day.