EVALUASI KINERJA UNIT *CRUSHING PLANT* UNTUK OPTIMALISASI PRODUKSI BATUAN ANDESIT DI CV ANEKA SRI, KAMPUNG KEBON KELAPA, DESA RUMPIN KECAMATAN RUMPIN, KABUPATEN BOGOR PROVINSI JAWA BARAT

SARI

Berdasarkan kondisi di lapangan, target produksi yang direncanakan oleh perusahaan tidak tercapai. Hal ini bisa disebabkan adanya faktor hambatan serta faktor *losses material* yang terjadi pada saat proses pengolahan maupun saat pendistribusian material. Oleh karena itu perlu dilakukan suatu penelitian terhadap siklus unit *crushing plant* demi mengevaluasi kinerja alat yang digunakan agar target produksi perusahaan dapat tercapai.

Adapun metodologi penelitian yang digunakan yaitu dengan cara pengambilan data secara langsung di lapangan maupun pengambilan data sekunder yang terkait dengan pengolahan data penelitian yang dibutuhkan dari berbagai sumber terkait. Untuk pengolahan data dilakukan dengan cara memperhitungkan parameter *availability* dan efisiensi kerja alat, produksi masing-masing alat, *reduction ratio*, serta jumlah *losses materials* yang terjadi pada saat proses pengolahan berdasarkan data uji *belt cut*.

Berdasarkan hasil penelitian dan pengolahan data, diketahui rata-rata waktu hambatan tertinggi yaitu pada tahap *primary crushing* sebesar 111,41 menit/hari (*standby*) dan pada tahap *sizing* sebesar 8,40 menit/hari (*repair*). Untuk keadaan atau kondisi masing-masing alat serta efektivitas penggunaannya diketahui bahwa nilai E.U tertinggi yaitu pada tahap *secondary crushing* II dan tahap *sizing* sebesar 76,91%, nilai A.I tertinggi yaitu pada tahap *primary crushing* sebesar 98,11%, P.A tertinggi sebesar 98,55% (*primary crushing*) serta U.A tertinggi sebesar 78,28% (*sizing*).

Untuk hasil perhitungan produksi berdasarkan uji *belt cut* diketahui bahwa produksi *primary crushing* sebesar 83,40 tph, *secondary crushing* I sebesar 81,53 tph, *secondary crushing* II sebesar 47,04 tph, dan *sizing* sebesar 124,97 tph. Untuk nilai *reduction ratio* tertinggi diketahui yaitu pada alat *primary jaw crusher* sebesar 2,49 dan dikategorikan dalam kategori RR sedang.

Tidak tercapainya target produksi yang ditetapkan oleh perusahaan salah satu faktornya karena adanya *losses materials* tertinggi yaitu pada tahapan *sizing* sebesar 3,60 tph atau 2,80% dari jumlah *feed* yang masuk.

Kata Kunci: *Crushing Plant,* Produksi, *Losses Materials*, Efisiensi, *Reduction Ratio*

PERFORMANCE EVALUATION OF CRUSHING PLANT UNIT FOR OPTIMIZATION OF ANDICITE ROCK PRODUCTION IN CV ANEKA SRI, KEBON KELAPA, RUMPIN VILLAGE RUMPIN SUBDISTRICT, BOGOR DISTRICT WEST JAVA PROVINCE

ABSTRACT

Based on the conditions, the production target planned by the company was not reached. This can be caused by the factors of obstacles as well as the material loss factors that occur during the processing and distribution of materials. Therefore it is necessary to conduct a study of the crushing plant cycle unit in order to evaluate the performance of the tools used so that the company's production targets can be achieved.

The research methodology used is by collecting data directly in the field and taking secondary data related to the processing of research data needed from various related sources. For data processing is done by calculating the efficiency of the tool work, the production of each tool, the reduction ratio, and the number of material losses that occur during the processing based on belt cut test data.

Based on the results of research and data processing, it is known that the highest average obstacle time is the primary crushing stage of 111.41 minutes/day (standby) and the sizing stage of 8.40 minutes/day (repair). For the condition or condition of each tool and the effectiveness of its use it is known that the highest EU value is at the secondary crushing II and sizing stage at 76.91%, the highest AI value at the primary crushing stage is 98.11%, the highest PA is 98, 55% (primary crushing) and highest UA at 78.28% (sizing).

For the results of the calculation of production based on the belt cut test it is known that the primary crushing production is 83.40 tph, secondary crushing I is 81.53 tph, secondary crushing II is 47.04 tph, and sizing is 124.97 tph. The highest reduction ratio value is known as primary jaw crusher of 2.49 and categorized as medium RR.

Not achieving the production target set by the company one of the factors is due to the highest losses of materials in sizing stage of 3.60 tph or 2.80% of the number of incoming feeds.

Keywords: Crushing Plant, Production, Losses Materials, Efficiency, Reduction Ratio