

# **BLENDING OPTIMIZATION OF GOLD WITH DIFFERENT GRADE TO SATISFY PRODUCTION TARGETS WITH LINEAR PROGRAM SIMPLEX METHOD AT PT CIBALIUNG SUMBERDAYA (PT CSD), DISTRICT CIMANGGU, PANDEGLANG PROVINCE BANTEN**

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## **ABSTRACT**

PT Cibaliung Sumberdaya (PT CSD) is an investment company domestic is engaged in underground gold mining, with a majority stake owned by PT Antam Tbk. 99,15% and 0,85% Antam Resourcindo (ARI).

Reserves on PT CSD have varying ore grades, to simplify the processing, at the time of placement on the ROM pad ore are grouped based on content value, C1 to grades above 7 grams/ton (gpt), C2 for grades 2-7 gpt, and C3 to grades in under 2 gpt. The blending process ore the processing is necessary to satisfy production targets by companies which are gold grading 7,33 gpt over. Blending simulation conducted by PT CSD using the method of trial and error .

The simulation process blending with the simplex method by limiting the existing problems , such as the capacity limitations of the tool SAG Mill is 580 tons and the results are 7,33 gpt target grade levels , the completion of the equation is done with accuracy of up to 0,001 , which means that the weight optimization of ore is done with thoroughness up to 1 kg .Process of blending simulation with the simplex method, at a grade of 10,95 gpt needed 425,9544 tons, the gradel of 4,46 needed 96,5105 tons and grade of 1,07 gpt needed 57,822 tons.

Production in August mills produce 50,11 kg of concentrate , the calculation of the simplex method produces gold weight greater than simulated by trial and error, which amounted to 39,98 kg whereas the simplex calculation of 57,17 kg dore bullion

***Keywords: blending simulation, tonnage, grade, optimal***