

ABSTRACT

West Wanagon Area as location of research is located on the southwest of Grasberg Surface Mine, PT. Freeport Indonesia with Geographic Latitude 731520Mt - 732200mT and 9549140mU - 9549620mU, 53 South Zone (UTM) at elevation 3940-4165masl. The operational mining and productivity of Grasberg Surface Mine is very dynamics. Opeartional productivity Grasberg Surface Mine will plan mine closure on 2019 and for West Wanagon Re-Slope will mine closure on 2024 and must be continue based safely productivity. For achieved that's goals need Slope Optimization Program for ensure the final wall both of Grasberg and Wanagon is safe for longterm when we leave it.

Geological and Geotechnical rock condition at Wanagon area very contributed for Slope Optimization Program the final wall like Limestone Karstic Altered contributed Lip Offset; Limestone Marbleized contributed Humps or Hard Toe, and Geology Structure controlling the rock fall/ wall failure. Blasting modification include pattern, charging, geometry, and blasting technic, Open Echelon, Presplit and Trimshot for final results optimization slope design.

Evaluation the quality slope design is comparing between final wall before optimization (4165L & 4120L) with final wall after optimization (3940L). Based evaluation geotechnical mapping design achievement showing decrease variance the % values of *Unacceptable Result* -26% (from 4165L-4120L to 3940L) and Increasing Variance of % values *Good Result* 38% (from 4165L-4120L to 3940L). By field mapping at 4165L and 4120L still we founded *Boulder, Lip Offset* and *Hard Toe*, and it's not founded at final wall 3940L.

menunjukkan peningkatan nilai kualitas dinding akhir tambang dari sebelum program optimasi dibandingkan dengan sesudah program optimasi, baik meningkatnya nilai *Good Result* maupun berkurangnya *Unacceptable Result*. Dilihat dari nilai variance terlihat nilai positif (meningkat) sebesar 38% untuk hasil *Good Result* dan nilai *negative* (berkurang) untuk nilai *Unacceptable Result* sebesar -26%.

Evaluation the Quality Final Wall based Perfect Dig 1.5 Analyses at final wall 3940L showing the thickness of overdig/ underdig at final wall both of wall or bench include total volume. Wall Underdig more present (7 red blocks) than Wall Overdig (4 red blocks) and *Bench Underdig* more present 11 red blocks, compare with *Bench Overdig* 4 red block).