

**ANALISIS PERENCANAAN DESAIN DAN KEEKONOMIAN TRANSFER STOCKPILE
MATERIAL PRODUK SCREENING STATION DARI BAHODOPI BLOK 1
DI SITE PETEA, PT. VALE INDONESIA, TBK. KECAMATAN NUHA,
KABUPATEN LUWU TIMUR, PROVINSI SULAWESI SELATAN**

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ABSTRAK

Dalam upaya menjaga agar produksi tetap berjalan, PT. Vale Indonesia, Tbk. Merencanakan pembukaan *site* baru dengan nama Bahodopi Blok 1 dan merupakan perencanaan jangka panjang (*Long Term Planning*) yang akan mulai beroperasi pada tahun 2025 mendatang. Sehingga, perlunya pembuatan infrastruktur seperti WOS (*Wet Ore Stockpile*), MHR (*Mine Haul Road*), dan lainnya serta analisis keekonomian. Jenis penelitian ini adalah penelitian terapan yang bertujuan untuk memberikan rekomendasi terhadap suatu perencanaan proyek yang menggunakan pendekatan sistematis untuk mengumpulkan, menganalisis, dan menginterpretasikan data dalam bentuk angka dan statistik. Penelitian ini menggunakan metode *Pit Topography* untuk mengestimasi volume desain menggunakan bantuan *software* maptek vulcan 9.0 dan metode CBA (*Cost-Benefit Analysis*) menggunakan bantuan *software* excel untuk menghitung kelayakan ekonomi (NPV, ROR, IRR, dan *Payback Period*), dan perhitungan sensitivitas. Perencanaan jangka panjang proyek transfer *stockpile* yang terdiri dari perencanaan WOS (*Wet Ore Stockpile*) dan MHR (*Mine Haul Road*) harus mempertimbangkan aspek teknis berupa Standar Operasional Prosedur (SOP) dan geometri desain. Dari hasil desain dan perhitungan di dapat total volume sebesar 444,689.301 m³. Hasil analisis kelayakan investasi dengan *discount rate* 7,5% per tahun diperoleh nilai *Net Present Value* sebesar US\$1,933,772.10, *Rate of Return* sebesar 153%, *Internal Rate of Return* sebesar 28% dan *Payback Period* yakni 3.40 tahun, sehingga investasi layak dilaksanakan. Hasil analisis sensitivitas menghasilkan parameter yang sangat berpengaruh terhadap nilai NPV adalah harga nikel.

Kata kunci: Desain transfer *stockpile*, Kelayakan ekonomi, Analisis sensitivitas

**ANALYSIS OF DESIGN PLANNING AND ECONOMICS OF TRANSFER STOCKPILE
MATERIAL SCREENING STATION PRODUCTS FROM BAHODOPI BLOK 1 AT SITE
PETEA, PT. VALE INDONESIA, TBK. NUHA DISTRICT, EAST LUWU DISTRICT,
SOUTH SULAWESI PROVINCE**

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ABSTRACT

In an effort to keep production running, PT. Vale Indonesia, Tbk. Planning to open a new site with the name Bahodopi Block 1 and is a long term planning (Long Term Planning) which will start operating in 2025. So, there is a need to create infrastructure such as WOS (Wet Ore Stockpile), MHR (Mine Haul Road), and others as well as economic analysis. This type of research is applied research which aims to provide recommendations for project planning that uses a systematic approach to collect, analyze and interpret data in the form of numbers and statistics. This research uses the Pit Topography method to estimate the design volume using Maptek Vulcan 9.0 software and the CBA (Cost-Benefit Analysis) method using Excel software to calculate economic feasibility (NPV, ROR, IRR, and Payback Period), and sensitivity calculations. Long-term planning for a stockpile transfer project consisting of WOS (Wet Ore Stockpile) and MHR (Mine Haul Road) planning must consider technical aspects in the form of Standard Operating Procedures (SOP) and design geometry. From the design and calculation results, a total volume of 444,689,301 m³ was obtained. The results of the investment feasibility analysis with a discount rate of 7.5% per year obtained a Net Present Value of US\$1,933,772.10, a Rate of Return of 153%, an Internal Rate of Return of 28% and a Payback Period of 3.40 years, so the investment is feasible. The results of the sensitivity analysis produce a parameter that greatly influences the NPV value, namely the nickel price

Keywords: Stockpile transfer design, Economic feasibility, Sensitivity analysis