

ABSTRACT

Kelompok Penambang Sedyo Rukun is a sole proprietorship engaged in the sand and stone mining sector which has a mining business license (Izin Usaha Pertambangan) covering an area of 4,9 Ha. This mining area is administratively located in Sungai Progo area, Banaran Village, Galur Sub District, Kulon Progo Regency, Daerah Istimewa Yogyakarta Province. Kelompok Penambang Sedyo Rukun applies surface mining as their mining system and quarry as their mining method. The resulting mining products are sand and stone with the total of mineable reserved is 209.372 m³ and production plan itself every year is 45.000 m³. The mining business license of Kelompok Penambang Sedyo Rukun lasts for 5 years mine life. The price of each product is based on Governor of Daerah Istimewa Yogyakarta Decree Number 328/KEP/2019, with Rp100.000,00./m³ for sand and Rp45.000,00./m³ for stone.

This research is conducted due to the absence of economic feasibility study and sensitivity analysis in Kelompok Penambang Sedyo Rukun. In order to continue the mining activity, it is necessary to carry out an economic feasibility study to determine the rate of return and profit from the investment made. Based on the results of economic study, the company is expected to be able to decide whether the mine planning is feasible or not.

The purpose of this research is to analyse the economic feasibility and determine whether the mining activity is feasible or not. by calculating the cost of outcome and the amount of income in a cashflow and calculating the sensitivity analysis to observe the effect from the parameter of fuel cost and sale price fluctuation. The capital structure used to analyse the feasibility and sensitivity in this research is 100% from equity capital with $i^* = 15\%$.

The result of feasibility study uses Net Present Value (NPV), Internal Rate of Return (IRR) and Payback Period (PBP) as its methods. Based on the calculation result, the amount of Net Present Value (NPV) is Rp1.613.874.643,87., Internal Rate of Return (IRR) is 45%, and Payback Period (PBP) at 2,15 years. The sensitivity analysis result of fuel cost and sale cost fluctuation show that the sand and stone price fluctuation has the bigger cost changing value than the fuel cost fluctuation. The percentage change of NPV value is 120,139% when there is an incremental sale price parameter at 20% and NPV value is -132,072% when there is a decreasing fuel cost parameter at -20%. From this sensitivity analysis between two parameters, it can be proven that the parameter of sale price fluctuation to Net Present Value is more sensitive than the parameter of fuel cost fluctuation. Therefore, every change of sale price should be anticipated.

Keywords : NPV, IRR, PBP, Economic feasibility and sensitivity.

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(Farifa Durri Adestya)

DAFTAR ISI

	Halaman
ABSTRAK.....	v
<i>ABSTRACT</i>	vi
KATA PENGANTAR	vii
DAFTAR ISI.....	viii
DAFTAR GAMBAR	x
DAFTAR TABEL.....	xii
DAFTAR LAMPIRAN.....	xiii
BAB	
I PENDAHULUAN.....	1
1.1 Latar Belakang.....	1
1.2 Rumusan Masalah.....	1
1.3 Tujuan Penelitian	2
1.4 Batasan Masalah	2
1.5 Metode Penelitian	2
1.6 Manfaat Penelitian	3
II TINJAUAN UMUM	4
2.1. Lokasi dan Kesampaian Daerah Penelitian.....	4
2.2. Iklim dan Curah Hujan.....	6
2.3. Kondisi Geologi	7
2.4. Kegiatan Penambangan.....	12
III DASAR TEORI.....	15
3.1. Aspek Teknis.....	15
3.2. Aspek Ekonomi.....	19
IV HASIL PENELITIAN.....	33
4.1. Rencana Teknis Penambangan	33
4.2. Rencana Ekonomis Penambangan	37
V PEMBAHASAN	49
5.1. Analisis Kelayakan.....	49
5.2. Analisis Sensitivitas	50
VI KESIMPULAN	55
6.1. Kesimpulan	55