

RINGKASAN

Perancangan pada penataan lahan pada Pit Harapan PT Hampan Mulya, Muara Teweh, Barito Utara, Kalimantan Tengah adalah daerah bekas penggalian batubara sehingga mengakibatkan ada perubahan bentuk alam dan juga ada perubahan kualitas lingkungan tanah. Penelitian tentang kualitas tanah pada lahan bekas tambang dilakukan agar dapat dilakukannya penilaian terhadap kemampuan lahan, serta kesesuaian lahan yang sesuai dengan persyaratan tanaman. Penelitian ini juga mengkaji terhadap jenis material *overburden* yaitu material *Potential Acid Forming* (PAF) dan *NonAcid Forming* (NAF).

Metode yang digunakan dalam penelitian ini adalah metode *deskriptif kualitatif*, pengujian sampel tanah di laboratorium serta perancangan penataan lahan. Berdasarkan hasil penelitian lokasi tambang termasuk dalam tipe iklim A atau iklim sangat basah. Kondisi sifat fisik lahan memiliki tekstur rata-rata pasir 5,8%, debu 46,27 % dan *clay* 48,17%. pH tanah penelitian rata-rata 4,86 dan termasuk dalam kriteria penilaian hasil analisa tanah dalam kategori rendah dan bersifat asam. C-organik memiliki rentan nilai 0,96-1,5% (rendah), N-Total memiliki rentang nilai 0,24-0,26% (sangat rendah), P-Bray berkisar antara 15,45-15,94 ppm, KTK Tanah memiliki nilai 19,48% (sedang). Pada lahan penelitian ini juga dilakukan uji sampel PAF dan NAF dari total 35 sampel yang diuji ditemukan 3 titik sampel yang berpotensi sebagai PAF atau sebesar 0,01. Dua titik sampel termasuk dalam *Potential Acid Forming -Low Capacity*, sedangkan satu sampel yang ditemukan PAF dianggap *Potential Acid Forming-Medium Capacity*. Sistem penanganan PAF yang diterapkan adalah dengan menimbun material PAF dengan tanah zona pengakaran kemudian akhirnya dilapisi dengan material NAF dan zona pengakaran.

Konservasi penataan lahan pada Pit Harapan yaitu menggunakan sistem teras yang dibagi dalam lima zona dan setiap zona memiliki tinggi jenjang 2 m² dengan panjang dan luas yang bervariasi di setiap zonanya sesuai dengan kondisi zona. Catchment area atau daerah tangkapan air hujan pada Pit Harapan terbagi menjadi dua di bagian utara dengan elevasi terendah 40 mdpl dan di bagian selatan dengan elevasi terendah 35 mdpl yang didapat berdasarkan data curah hujan dan peta topografi aktual pit pasca penambangan. Berdasarkan analisa kesesuaian lahan vegetasi yang sesuai dengan lahan area penelitian adalah sengon dan mahoni. Sengon dan Mahoni memiliki kelas kesesuaian lahan kelas S1, S2, dan S3 dan ini menunjukkan bahwa lahan dapat digunakan tetapi dengan perlakuan khusus sebelum dilakukan penanaman.

ABSTRACT

The design of the land arrangement at PT Hamparan Mulya's Pit Harapan, Muara Teweh, North Barito, Central Kalimantan is a former coal mining area, resulting in changes in natural shape and also changes in the quality of the soil environment. Research on soil quality on ex-mining land is carried out so that an assessment can be made of the land's capabilities, as well as the suitability of the land in accordance with plant requirements. This research also examines the types of overburden materials, namely Potential Acid Forming (PAF) and NonAcid Forming (NAF) materials.

The method used in this research is a qualitative descriptive method, testing soil samples in the laboratory and designing land management. Based on the research results, the mine location is included in climate type A or a very wet climate. The physical condition of the land has an average texture of 5.8% sand, 46.27% dust and 48.17% clay. The average pH of the research soil was 4.86 and was included in the criteria for assessing soil analysis results in the low and acidic category. C-organic has a value range of 0.96-1.5% (low), N-Total has a value range of 0.24-0.26% (very low), P-Bray ranges between 15.45-15.94 ppm, Land CEC has a value of 19.48% (medium). On this research land, PAF and NAF sample tests were also carried out. Of the total of 35 samples tested, 3 sample points were found to have the potential to be PAF or 0.01. Two sample points are included in Potential Acid Forming -Low Capacity, while one sample found by PAF is considered Potential Acid Forming-Medium Capacity. The PAF handling system applied is by filling the PAF material with root zone soil and then finally coating it with NAF material and the root zone.

Land management conservation at Pit Harapan uses a terrace system which is divided into five zones and each zone has a tier height of 2 m² with varying length and area in each zone according to zone conditions. The catchment area or rainwater catchment area at the Harapan Pit is divided into two in the north with the lowest elevation of 40 meters above sea level and in the south with the lowest elevation of 35 meters above sea level which was obtained based on rainfall data and the actual topographic map of the post-mining pit. Based on land suitability analysis, the vegetation that is suitable for the research area is sengon and mahogany. Sengon and Mahogany have land suitability classes S1, S2 and S3 and this shows that the land can be used but with special treatment before planting.