

**“PERENCANAAN SISTEM PENYALIRAN DARI
STOCKPILE BATUBARA KE *SETTLINGPOND* DI PT.
MEGA PRIMA PERSADA, KECAMATAN LOA KULU,
KABUPATEN KUTAI KARTANEGARA,
KALIMANTAN TIMUR”**

Oleh
Aditya Puja Andita Boga
114130116
INTISARI

Penelitian dilakukan di Kecamatan Loa Kulu, Kabupaten Kutai Kartanegara, Provinsi Kalimantan Timur. Penambangan Batubara di Kecamatan Loa Kulu ditambang oleh PT. Mega Prima Persada menggunakan sistem tambang terbuka (*open pit mining*). Tujuan dari penelitian ini yaitu menentukan rencana system penyaliran di lokasi penelitian, dan memberikan perencanaan desain drainase yang sesuai dengan kondisi lingkungan.

Data primer didapatkan dengan metode survei dan pemetaan lapangan. Pengambilan sampel tanah dan air digunakan metode analisis laboratorium. Parameter jenis tanah dilakukan dengan pengambilan sampel tanah pada dua titik di area penelitian. Daerah tangkapan hujan (DTH) ditentukan melalui daerah air limpasan. Kondisi kolam pengendapan dilakukan pengukuran luas kolam, dengan meteran. Tekstur tanah dilakukan pengamatan kondisi tanah. Pengelolaan *stockpile* dilakukan pengamatan kondisi genangan air. Kecepatan pengendapan dilakukan pengamatan hasil endapan pada kolam desain drainase dilakukan dengan metode manning dengan melihat daerah tangkapan hujan. Sampel tanah dianalisis laboratorium, didapatkan karakteristik tanah sehingga dapat ditentukan penentuan jenis drainase yang akan digunakan untuk system penyaliran. Sampel air kolam pengendapan dianalisis laboratorium dan pengambilan pH dilapangan, didapatkan air masuk ke kolam pengendapan bersifat asam.

Hasil penelitian dengan melihat dari curah hujan disekitar lingkungan Kecamatan Loa Kulu termasuk dalam iklim basah, dikarenakan iklim basah menimbulkan dampak air limpasan tinggi mengakibatkan genangan pada area *stockpile* dan air asam tambang tidak dapat di olah di kolam pengendapan. Hasil perencanaan system penyaliran dibuat drainase. Model system penyaliran teknis yang digunakan trapesium untuk yang terbuka dengan 2 saluran yang terdapat pada *stockpile* PT. Mega Prima persada dan Room F, kemudian pipa untuk yang gorong – gorong, dengan kedalaman drainase 1 yaitu 0,51 meter dan drainase 2 yaitu 0,23 meter, lebar dasar drainase 1 yaitu 0,51 meter dan drainase 2 yaitu 0,23 meter. kemiringan jenjang tidak lebih dari 45°. Drainase terbuka digunakan lapisan bio membran, untuk drainase yang melalui jalan menggunakan system gorong – gorong dengan diameter 0,3 meter. Arahan pengelolaan dilakukan, dengan pendekatan sosial, ekonomi dan institusi untuk terwujudnya pembangunan berkelanjutan.

Kata Kunci : Drainase Terbuka, Kerusakan Lingkungan, Penambangan Batubara, *Stockpile*

**“THE DRAINAGE PLANNING ON COAL STOCKPILE
TO SETTLING POND PT MEGA PRIMA PERSADA AT
LOA KULU SUB DISTRICT, KUTAI KARTANEGARA
REGENCY, EAST BORNEO PROVINCE”**

By

Aditva Puja Andita Boga

114130116

ABSTRACT

The research was conducted in Loa Kulu Sub District, Kutai Kartanegara Regency, East Borneo. Mining coal in Loa Kulu Sub District mined by PT. Mega Prima Persada using open pit mining system. The purpose of this study to determine drainage system in study sites, and provide drainage design accordance with environmental conditions.

Primary data were obtained by survey method and field. Soil and water sample were used for laboratory analytic method. The soil type parameter were determined by sampling on two study area. Catchment area were determined by run off. Settling pond condition done by measuring pond area with measurer. Soil texture were observed the soil condition. The stockpile management were observed the run off condition. The sedimentation speed was done by observation from the result of sedimentation at the pond, drainage design were using manning method with observation on catchment area. Soil sample were analyzed by the laboratory, soil characteristic were used for determined the drainage type for drainage system. Water sample from settling pond were analyzed by laboratory and pH were sampled from the field, result is water into settling pond is acid.

Result of research from the sub district Loa Kulu catchment area observation is classified in wet region, because the run off is high and causing water puddle on stockpile area and acid mine drainage cannot be processed at settling pond. Result from drainage planning to make drainage. Drainage model system would be using open trapezium with 2 tunnel at stockpile PT. Mega Prima Persada and room F, pipe for water channel, with drainage depth 1 is 0,51 meter and drainage 2 is 0,23 meter, drainage base width 1 is 0,51 meter and drainage 2 is 0,23 meter. The slope is not more than 45°. Open drainage using bio membrane, for the road is using water channel with diameter 0,3 meter. Management directives are conducted, with social, economic and institutional approaches to sustainable development.

Key Word: Open Drainage, Environmental damage, Mining Coal, Stockpile