ESTIMASI SUMBERDAYA *FINECOAL* DI *TAILING DAM* TAMBANG BATUBARA DENGAN PENDEKATAN METODE *ACOUSTIC DOPPLER CURRENT PROFILER* MENGGUNAKAN *RIVER SURVEYORS* M9
(Studi Kasus: Di Kecamatan Teluk Pandan, Kabupaten Kutai Timur, Provinsi Kalimantan Timur)

SARI

Penelitian dilakukan pada *tailing dam* 1 dan 2 yang berada di area konsesi perusahaan pertambangan batubara di Kecamatan Teluk Pandan, Kabupaten Kutai Timur, Provinsi Kalimantan Timur. *Tailing dam* tersebut menampung limbah hasil pencucian batubara yang mengandung *finecoal* dari *coal processing plant* atau disebut dengan *sludge coal*. Penelitian ini dilakukan untuk mendukung upaya perusahaan dalam pengelolaan dan pemanfaatan kembali limbah hasil pencucian batubara yang mengandung *finecoal*.

Pengambilan data di lapangan dilakukan dengan pendekatan metode *acoustic doppler current profiler* menggunakan alat *River Surveyors* M9, pendekatan tersebut dipilih karena kondisi *finecoal* yang menjadi target mengendap di bawah perairan. Dari hasil pengambilan data, menghasilkan data profil akhir *tailing dam*, sedangkan profil awal *tailing dam* didapatkan dari peta topografi perusahaan sebelum terjadi pengendapan *sludge coal*.

Dengan membandingkan antara profil awal dan profil akhir *tailing dam* diketahui ketebalan *sludge coal* di *tailing dam* 1 berkisar antara 0 – 16 m dengan luas penyebaran 84.047 m^2, sedangkan pada *tailing dam* 2 ketebalan *sludge coal* berkisar antara 0 – 12 m dengan luas penyebaran 197.239,316 m^2.

Dalam melakukan estimasi sumberdaya *finecoal* yang berada di *tailing dam* 1 dan 2, metode yang digunakan adalah metode penampang dengan menggunakan rumus prismoida. Jarak penarikan garis penampang untuk menghitung luas penampang di *tailing dam* 1 dan 2 adalah 25 m. Dari hasil penaksiran didapatkan volume total *sludge coal* sebesar 893.389,917 m^3, dengan nilai *recovery finecoal* dalam *sludge coal* sebesar 37,07 % dan nilai densitas *finecoal* sebesar 1,032 ton/m^3, maka didapatkan hasil estimasi sumberdaya *finecoal* pada *tailing dam* 1 dan 2 sebesar 341.777,391 ton.

Kata kunci: Sumberdaya *Finecoal, Acoustic Doppler Current Profiler, River Surveyors* M9, Metode Penampang.

ESTIMATION OF FINECOAL ON TAILING DAM IN COAL MINING RESOURCES WITH APPROACHES ACOUSTIC DOPPLER CURRENT PROFILER METHOD USING RIVER SURVEYORS M9
(Case Study: In Teluk Pandan Subdistrict, Kutai Timur District,
Kalimantan Timur Province)

ABSTRACT

The study was conducted on tailings dam 1 and 2 located in the concession area of coal mining company in Teluk Pandan Subdistrict, Kutai Timur District, Kalimantan Timur Province. The tailing dam accommodates waste from coal washing which containing finecoal from the coal processing plant, that is sludge coal. This research was conducted to support the company's efforts in management and reuse of tailing which containing finecoal.

Retrieval of data in the field was carried out with approach of acoustic doppler current profiler using the River Surveyors M9, the approach was chosen because finecoal conditions settled under the waters. From the results of data retrieval, existing profile data of tailing dam resulted, while the natural profile of the tailing dam was obtained from company's topographic map before sludge coal deposition occurred.

By comparing between natural profile and existing profile of tailing dam, thickness of sludge coal on tailing dam 1 is known to range between 0 -16 m with a spread area of 84.047 m^2, whereas in tailings dam 2 the thickness of sludge coal ranges from 0 - 12 m with a spread area of 197.239,316 m^2.

Estimating finecoal resources located in tailings dam 1 and 2, using the cross-section method with the the prismoida formula. The withdrawal distance of the crossing line to calculate cross-sectional area in tailings dam 1 and 2 is 25 m. From estimation results, total sludge coal volume was 893.389,917 m^3, with a recovery value of finecoal in sludge coal of 37,07% and finecoal density value of 1,032 tons/m^3, the results of finecoal resource estimation on tailings dam 1 and 2 were 341.777,391 tons.

Keyword: Finecoal Resources, Acoustic Doppler Current Profiler, River Surveyors M9, Cross-section Method.