INTISARI

CV. Artha Pratama Jaya (APJ) adalah perusahaan tambang yang menjual produk batubara sebagian besar sebagai ekspor. Dari total sepuluh pengapalan batubara untuk tujuan ekspor yang dilakukan terdapat empat kejadian terikutnya material asing (*impurity*) dalam pengapalan batubara, yaitu pengapalan batubara pada bulan Nopember 2016, Maret 2017, April 2017, dan Oktober 2017. Sedangkan pada pengapalan batubara tujuan permintaan domestik, tidak ada laporan terhadap kejadian terikutnya material asing.

Perusahaan menyadari bahwa dengan adanya kejadian terikutnya material asing khususnya benda asing berbahan metal pada pengapalan batubara, berdampak pada kerugian materiil karena pembeli menerapkan penalti bahkan menolak (*reject*) batubara yang sudah terkirim karena khususnya material asing logam dapat menurunkan kualitas produk batubara dan merusak peralatan alat bongkar dan muat pembeli batubara. Dampak akhir terikutnya material asing dalam pengapalan batubara adalah turunnya kepercayaan pembeli terhadap perusahaan, hal ini juga berpengaruh terhadap turunnya citra perusahaan terhadap pembeli dan calon pembeli.

Pengendalian kualitas produk batubara dilakukan dengan penerapan Metode *Mistake Proofing* atau Poka Yoke. Ada dua pendekatan yang digunakan dalam konsep Poka Yoke, yaitu *Prevent Mistakes* dan *Detect Mistakes*. Analisa akar permasalahan mengapa material asing (*impurity*) terjadi dengan menggunakan instrumen penelitian wawancara dengan teknik 5*why's* kepada masing-masing Supervisor Produksi, Supervisor Mekanik, dan Supervisor *Port & Maintenance* dalam proses produksi dari pit sampai coal processing plant (CPP).

Diagram Pareto digunakan untuk menganalisa laporan keluhan pembeli batubara terhadap kejadian terikutnya material asing (*impurity*) dalam pengapalan batubara. Hasil analisa Diagram Pareto diketahui proses produksi yang sering terjadi *impurity*, dan objek material asing yang sering terikut dalam pengapalan batubara dan berdampak pada kerugian pembeli batubara dan perusahaan.

Rancangan Poka Yoke yang dilakukan pada proses produksi di pit melalui fungsi kontrol dan peringatan yaitu dengan pembuatan SOP, peningkatan ketrampilan pengawas dan operator melalui pemberian training. Sedangkan pada proses pengolahan batubara di CPP, tipe Poka Yoke yang diterapkan adalah fungsi kontrol, peringatan, dan penghentian operasi secara otomatis. Perbaikan proses pencegahan sistem peringatan adalah dengan memasang alat pendeteksi dan pemisahan metal serta penghentian operasi pengolahan secara otomatis pada *delivery conveyor* sebelum *barge load conveyor*.

Kata kunci: Pengendalian kualitas, *Mistake Proofing*, Poka Yoke, *impurity*, Diagram Pareto

ABSTRACT

CV. Artha Pratama Jaya (APJ) is a mining company that sells coal products mostly as exports. Of the total ten coal shipments for export purposes carried out there were four events, the follow-up of foreign material in coal shipping, namely coal shipping in November 2016, March 2017, April 2017, and October 2017. There were no reports of the occurrence of foreign material in shipping coal for domestic demand

The company realizes that with the subsequent occurrence of foreign material, especially foreign materials made of metal in coal shipping, it has an impact on material losses because the buyer applies the penalty and even rejects the coal that has been sent because in particular unusual metal materials can reduce the quality of coal products and damage equipment loading and unloading coal buyers. The impact of the final arrival of foreign materials in coal shipping is the decrease in buyer trust to the company, this also affects the decline in the company's image to buyers and prospective buyers.

Quality control of coal products is carried out by applying the Proofing Mistake Method or Poka Yoke. There are two approaches used in the Poka Yoke concept, namely Prevent Mistakes and Detect Mistakes. The root cause analysis of the problem impurity occurs by using a research interview instrument with a 5 why's technique to each Production Supervisor, Mechanical Supervisor, and Port & Maintenance Supervisor in the production process from the pit to the coal processing plant (CPP).

Pareto diagrams are used to analyze complaints from coal buyers on the subsequent occurrence of impurity in coal shipments. The Pareto diagram analysis results show that production processes often occur impurity, and foreign material objects that are often included in coal shipping and have an impact on the loss of coal buyers and companies.

The Poka Yoke design carried out in the production process in the pit through the control and warning functions, such as by making SOPs, improving the skills of supervisors and operators through training. Whereas in the coal processing at CPP, the Poka Yoke type that is applied is the function of control, warning, and automatically shut down operation. The improvement of the warning system prevention process is to install metal detectors and separation devices and shut down processing operations automatically on the delivery conveyor before barge load conveyor.

***Keywords**: Quality control, Mistake Proofing, Poka Yoke, impurity, Pareto Diagram*