

ABSTRAK

Perencanaan tata letak merupakan cara pengaturan fasilitas-fasilitas pabrik untuk menunjang kelancaran proses produksi. Dalam tata letak pabrik meliputi perencanaan dan pengaturan letak mesin, peralatan, aliran bahan dan orang-orang bekerja pada masing-masing stasiun kerja. PT. Pilar Cakrawala mempunyai penyimpanan *buffer stock* Part *Hammer Weight* yang belum diproses pada sistem *Barrel* masih satu lokasi dengan area penyimpanan *part* proses gantung. Serta produktivitas pada proses *Line barrel* yang tidak maksimal diakibatkan tidak idealnya hasil produksi proses *barrel* yang seharusnya 14 kali proses dalam 1 *line* perharinya, PT. Pilar Cakrawala sendiri memproses 14 kali dengan menggunakan 3 *line barrel* dalam satu shift. Tahap penyelesaian penelitian ini menggunakan metode *Algoritma Blocplan* untuk mencari *layout* dengan *adjust score* tertinggi, dan kemudian mensimulasikan *layout* awal dengan usulan *layout* perbaikan menggunakan *software* ProModel. Setelah mencari *layout* usulan perbaikan terdapat perbandingan jarak *material handling* yang awalnya 47,94 m menjadi 25,8 m, dikarenakan dalam *layout* perbaikan *line Barrel 3* sudah tidak digunakan dan dimensi pada *line Barrel 1* dan 2 berubah sesuai dengan kebutuhan kapasitas produksi saat ini. Dalam hasil simulasi ProModel terdapat perbandingan yang signifikan yang awalnya output produk 5.186 dalam 1 shift pada *barrel 1* menjadi 5.600 pcs per 1 shift dalam *barrel 1*.

Kata kunci : Perancangan tata letak, tata letak produksi, metode *Algoritma Blocplan*, simulasi ProModel.

ABSTRACT

Planning the layout is a way of setting the factory facilities to support the production process. In the factory layout includes planning and layout settings machinery, equipment, material flow and the people working at each work station. PT. Pilar Horizon has a storage buffer stock Part Hammer Weight pending on the system Barrel is co-located with the storage area part process of hanging, as well as the productivity of the process Line barrels are not optimal result is not ideally the production process of the barrel that should be 14 times the process in one line per day PT. Pilar horizon itself to process 14 times using a 3 line line barrel in one shift. The stage of completion of this study using Blocplan algorithm to search the layout to adjust the highest score, and then simulate the initial layout with the proposed layout improvements using ProModel software. After looking layout of the proposed improvements contained within material handling ratio that was originally 47.94 m to 25.8 m, due to the repair line layout Barrel 3 has not been used and the dimensions of the line Barrel 1 and 2 change according to the needs of current production capacity. In ProModel simulation results are significant initial comparison of its 5186 product output in one shift on the barrel 1 to 5,600 pcs per 1 shift in the barrel 1. due to the repair line layout Barrel 3 has not been used and the dimensions of the line Barrel 1 and 2 change according to the needs of current production capacity. In ProModel simulation results are significant initial comparison of its 5186 product output in one shift on the barrel 1 to 5,600 pcs per 1 shift in the barrel 1. due to the repair line layout Barrel 3 has not been used and the dimensions of the line Barrel 1 and 2 change according to the needs of current production capacity. In ProModel simulation results are significant initial comparison of its 5186 product output in one shift on the barrel 1 to 5,600 pcs per 1 shift in the barrel 1.

Keywords: *Layout design, production layout, Blocplan algorithm method, ProModel simulation*