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An investigation of factors contributing to low face time at Impala 14 Shaft trackless mechanised section: case study

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Abstract

Face time refers to the total time spent by employees performing production mining activities at their working places to achieve the monthly set production targets. Various factors negatively influence face time. Therefore, the focus of this study was to investigate the factors contributing to low face time, which would assist in planning for current and future operations.

An in-depth literature review was conducted to gain insight from others who did similar research in the past. The literature reveals that mining is progressing deeper and further from the shaft. This results in distant working places, which leads to employees travelling long distances. The literature also revealed the issue of long queues and overcrowding of employees at the shaft bank before entering the cage. To address the low face time, the use of lean principles was used to identify different categories of non-value adding activities.

The descriptive quantitative observation study was conducted using convenience sampling on 66 employees of section 147 trackless mechanised mining working at 24th level. Data were collected by conducting a time and motion study to quantify the time spent by section 147 participants in each activity between clocking-in at the bank, getting to the face and returning to surface. Collected data were analysed by the Statistical Package for Social Sciences (SPSS), version 23, software.

The findings indicated that the activities contributing the most to low face time are queuing for the cage, time spent on walking to and from the working places, long safety meetings and resting before entering the working place. All the identified areas of concern can be addressed by changing the shaft schedule, sorting out the transportation systems, ensuring that the transport is operated on time and studying alternative transport systems, including trackless, to allow the smooth running of the shaft.

It is also recommended that capacity analysis of number of employees and the capacity of the different elements using theory of constraints model could be a useful step.