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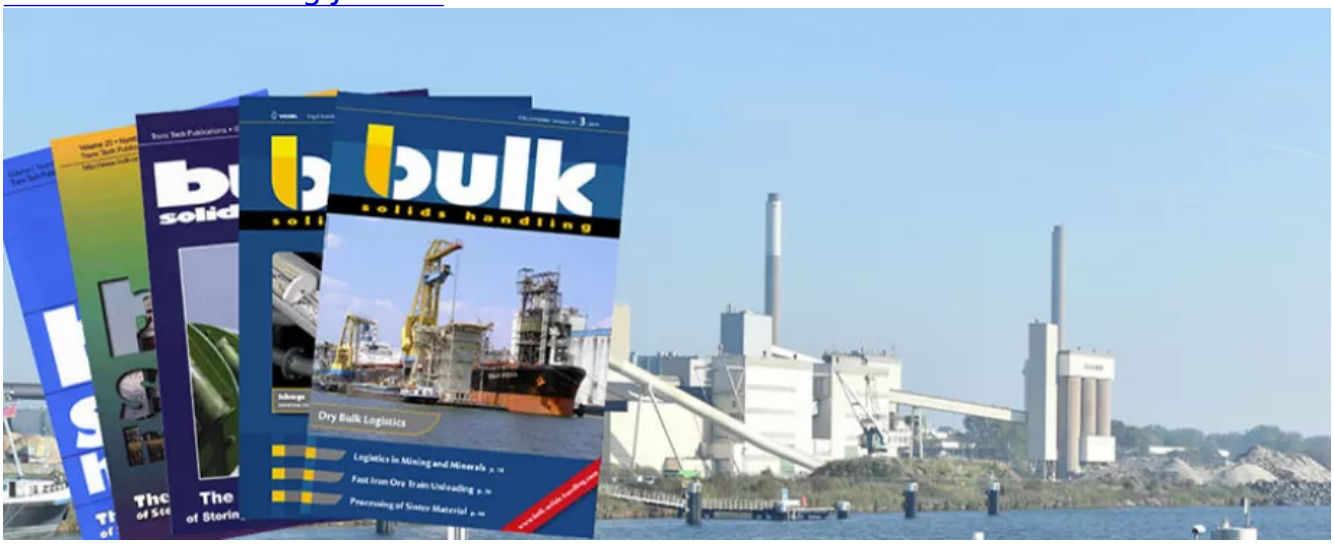

Technical Article

Output and Availability Factors of Bucket Wheel Excavators under Actual Mining Conditions

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The author defines the term "theoretical output" [bm³/h] as basic value for the assessment of the short and long time effective output [bm³/h] of bucket wheel excavators. Approximately 40 bucket wheel excavators operating in over burden on four continents, are analyzed on the basis of out puts actually obtained in performance tests and long term operation. Efficiency and availability are determined for all these machines. Finally, a comparison is made with s<realled "mobile equip ment" i.e., shovels and draglines.

1. Introduction

Such terms as "theoretical output", "effective output", "daily output" and "average output" are generally quoted without appropriate and realistic consideration of the particular mining conditions and the time factor. The output for the equipment is often estimated too optimistically. This applies especially to new equipment.

Information published on the subject matter is often vague and inaccurate.

Theoretical output calculations for bucket wheel excavators (BWEs), based on well established formulae, are of course necessary and are of value in

determining the average output of the equipment. Such calculations have however, no resemblance to actual "real life" operating factors.

In the following an analysis of the output, operating factors and availability of 40 bucket wheel excavators is presented without priority to size and location of the machines.