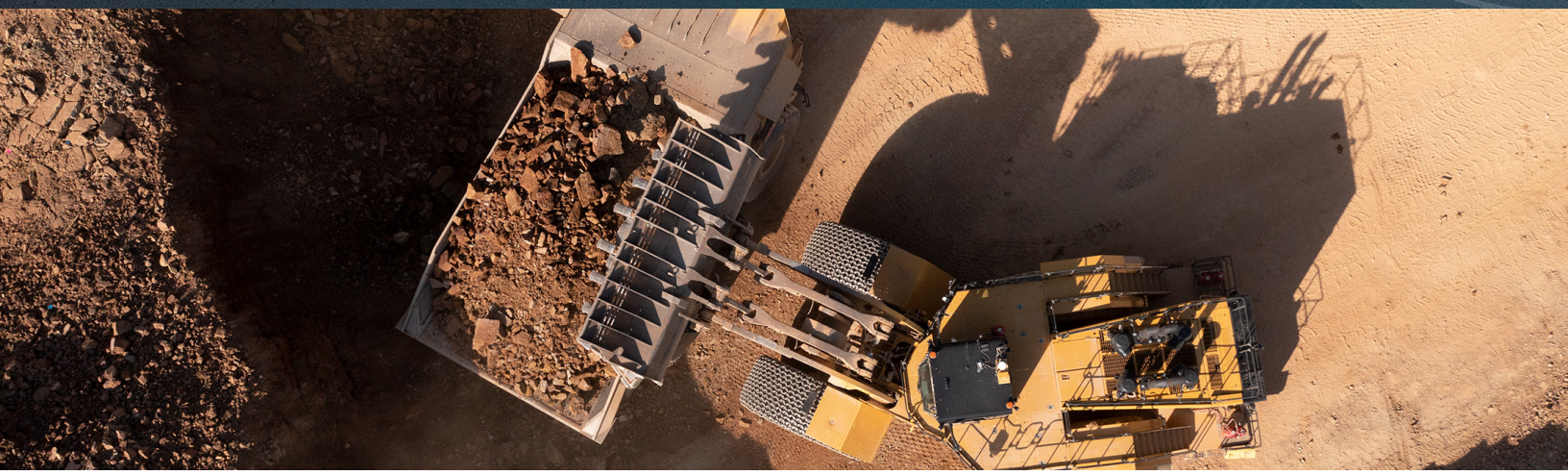
PRODUCTION RECORDING — FINDING OPPORTUNITIES HIDDEN WITHIN EVERY SHIFT



Every mining operation has opportunities hidden within every shift. But how do they find those opportunities if they're not accurately measuring what's happening during that shift? From payload to dig rates to operator breaks — every activity has an impact on productivity and an opportunity to be improved.

Cat® MineStar Edge™ Production Recording helps sites find those opportunities by giving them visibility to the entire mining operation. When paired with Equipment Tracking, it delivers an accurate and automated near-real-time solution that measures and reports on every aspect of the load-haul-dump cycle without requiring any operator input. The result is a boost in productivity and a reduction in the overall operating costs of managed assets: mine, material and machines.

Cost-effective and easy to use

For many sites, traditional comprehensive fleet management systems can be too complex and cost-prohibitive, requiring significant investments in time and money to set up and maintain. Production Recording, however, is an easy-to-use subscription-based solution that delivers the key functionality all sites require: accurate, real-time production data.

Boost efficiency and increase production

Production Recording helps mines of all types and sizes improve the efficiency of their operations and increase their overall tonnes produced. The data it provides identifies opportunities,

TAKE ADVANTAGE OF THE OPPORTUNITIES

Missed production targets. Every mine has production goals such as total tonnes moved, dig rate, rate of material put through crusher, etc. All impact management's ability to measure progress toward production. Accurate information allows them to course-correct — in real time — to ensure the operation is on target.

Payload compliance. Under-loading trucks means not getting maximum value from the truck or the cycle, which impacts cost per ton. Over-loading can impact component life, boost maintenance costs and increase unplanned downtime. Finding a balance equates to more effective machine utilization over the course of a shift.

Shift changes / long operator breaks. The goal of an efficient mining operation is to effectively use all resources. Shift change and operator breaks, while necessary, must be managed to reduce the impact they have — keeping operators productive and reducing machine idle time.

Misplaced loads. When material is dumped in the wrong location, mines take an immediate hit to their profitability. For example, if waste is dumped into the crusher or ore is dumped into the waste pile, the result is lost revenue. And if the blend is inaccurate, the finished product will result in less profit.

allows sites to make changes within the shift, and delivers insights on how those changes will impact production if implemented.

The accuracy of the data gives personnel such as Pit Supervisors, Mine Managers and Install Technicians the confidence they need to make quick, real-time decisions related to operational execution. Data can be accessed on a mobile tablet device as well as through a web-based application. A production dashboard provides information on the operation, including defined materials, active load and dump areas, active load and haul equipment, and active crushers. The dashboard enables viewing of hourly production metrics as well as cumulative shift-to-date production metrics for the site, material, load and dump areas, equipment, and the crusher.

Beyond the shift, Production Recording allows sites to continually monitor and make operational decisions and implement training that will allow them take advantage of the opportunities they uncover.

FEATURES & BENEFITS

- Monitors and provides highly accurate data on load and dump counts, tonnes moved and Bank Cost Per Meter/ Bank Cost Per Yard.
- Provides the ability to track progress against plan in real time throughout the shift.
- Allows users to drill down to see the performance of entities such as individual machines, areas, routes, materials and operators.
- Calculates and visualizes the expected production at the end of the shift for the site and individual entities including site, load and dump areas, routes, loading tools and trucks, and material.
- Enables sites to review production records from the point of view of the material transaction and movement from the load face to the dump, including the times, machines and operators involved.
- Delivers accurate transactional records that can be used as a source of truth for material movements.

29%
REDUCTION
in underloads

17%
REDUCTION
in shift change time

25%
INCREASE
in production

"It became very apparent to us that during every shift change, we were losing somewhere a little over an hour to an hour and 15 minutes of productive time. So because of that, we chose to go to a hot seat change-out, where we don't park equipment until the relief shift is out in the field, ready to get on that equipment. So we gained another hour of production there … and we've seen a 10 to 15% increase in production from that simple change."

— Marc Kenley, Project Manager, Rasmussen Valley Mine

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