



Mining

This use case demonstrates how Qnum Analytics can empower mining entities to maximise the product yield (OUTPUT) of an operation. Qnum Analytics' OI Platform helps dry bulk operations isolate and control waste and inefficiencies in their mining processes to drive enhanced visibility and control from Mining Pit to the Gate (Sales).

Overview

An open-pit mining operation who is a leading supplier of construction materials had been battling to meet output targets for a few years. The mining operation had been looking for solutions to increase product yield as means to maximise the return on the high investment in the blasting and processing of raw materials.

The mining operation must invest a significant amount of money at the beginning of each month to blast rock which is the core input material in production processes. The major frustration was that over years the operation had been forced to blast additional rock during the month to ensure that output targets are met.

Qnum Analytics was requested to analyse the end-to-end mining operation and highlight the impact of process inefficiencies and material handling blind spots on the operation's inability to meet expected output targets.

Results

The OI Platform, which is a Software-as-a-Service (SaaS) platform designed to provide real-time stock visibility, continuous stock reconciliation, and the AI-driven identification and elimination of process inefficiencies was implemented for a 2-month trial.

Bottom-line impact:

- 22% increase in monthly production output.
- Stock write-off losses reduced from 2500 tons to 278 tons. Resulting in \$124,432 savings in 2 months
- 45% reduction in blasting costs due to the increased production output



Approach

1. The mining operation enlisted the assistance of Qnum Analytics to assist in resolving the process inefficiencies that were resulting in sub-optimal product yield.



2. The mining operation requested a 2-month paid trial of the OI Platform. The success criteria for the trial were to provide:

- End-to-end visibility of operational productivity
- Uncover the source of inefficiencies and discrepancies
- Empower the mining operation with reports and dashboards that help control in real-time process inefficiencies and improve sales.



3. At the end of the trial period:

- The baseline operational yield was compared against the sales outputs over the 2-month period.
- The General Manager was able to continuously reconcile inventory using the built-in process controls which allowed for the proactive management of operational productivity.
- The mining operation was able to proactively isolate inefficiencies and losses

Concluding remarks:

The following operational management shortcomings were identified as the root cause of the sub-optimal yield frustrations:

- The mining operation had no integrated systems to track the end-to-end production process which limited the ability to identify inefficiencies and proactively optimise the operation.
- Material handling exceptions were not closely tracked which opened opportunity for product theft and damage.
- The stock survey methods that were applied relied on incorrect assumptions which caused the operation to unnecessarily recognise inventory shrinkage losses.

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