PROBLEM SOLVED™ PAPER

SOLUTION: Martin® Durt Tracker™ Primary, Martin® SQC2S™ Secondary Cleaner

INDUSTRY: Mining

LOCATION: Minera Del Norte Unidad Hercules, Coahuila, Mexico

Prior equipment intended to clean the belt allowed too much carryback, causing excessive spillage.

A Durt Tracker™ with two SQC2S™ following directly behind clear difficult carryback.

The SQC2S™ clears residual carryback not captured by the primary cleaner and returns it to the cargo flow.

PROBLEM

Due to high humidity, Minera Del Norte Unidad Hercules had problems with carryback on its main 13 m-long (42 ft), 914 mm-wide (36 in.) iron-ore conveyor running at a speed of 1.2 mps (250 fpm). Gritty spillage caused rolling components to seize, resulting in misalignment and safety issues. With a transport capacity of 362 tph (400 stph), operators reported product loss to be around 10% to 30%. Two workers were assigned to clean around the conveyor twice per week, as well as monitor and maintain the system, replacing components when needed. In addition to the lost product and excessive downtime, increased labor and maintenance expenses severely affected the cost of operation.

SOLUTION

The Martin Engineering team was asked to analyze the system and offer solutions using the Walk the Belt™ program. Technicians installed a heavy-duty cleaning system utilizing a Martin® Durt Tracker™ primary cleaner and two Martin® SQC2S™ secondary cleaners. With independent blades set on a rigid steel mandrel, the Durt Tracker employs a Twist Tensioner™ to retain a tight seal on the belt while gliding smoothly over the splice. Incorporating individually-cushioned tungsten carbide blades, the SQC2S withstands punishing applications, like high-speed belts and high-tonnage loads with tacky carryback. Together, the units efficiently discharge cargo, offering high equipment life and low maintenance.

RESULT

Since installation, workers report an operating efficiency of up to 94% based upon product loss. Cleaning has been reduced to only once per month, drastically reducing the cost of labor. "We are very satisfied with the results," said a manager close to the project. "Especially in the reduction of maintenance, which has allowed us to designate manpower to other activities. With less spillage and fewer rolling components locking up on us, we have increased safety for all of the staff working on or around the conveyor." Managers continue working with Martin Engineering on other similar projects to improve efficiency.

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