



PROBLEM SOLVED™ PAPER

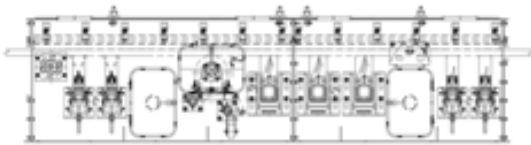
SOLUTION: Martin® Washbox™ Cleaner

INDUSTRY: Mining

LOCATION: Climax Molybdenum Company Parshall, Colorado



Designed to fit in the tight spaces between the conveyor's structure, the custom-engineered Martin® Washbox™ Cleaner is 124 inches (3,607 mm) long.



To provide complete removal of carryback and water, the belt washing station incorporates a number of belt cleaners.



The belt washing station drains into a collection box from which the slurry is pumped for addition to the cargo of PC3 Conveyor.

PROBLEM

Crushed molybdenum ore is transported across the continental divide to the processing plant on overland belt conveyors operating at speeds up to 1200 fpm (6.1 m/sec). As the 10.5-mile (16,000-meter) long conveyor passes through a forest preserve, the operation was concerned about the escape of carryback.

SOLUTION

To provide effective belt cleaning in the challenges of the operation's high altitude and cold climate conditions, Climax Molybdenum Company worked with Martin Engineering to develop a special belt washing station. This system was installed on the return side of PC2 Conveyor in the operation's transfer house. The custom-engineered belt washing system incorporates two water spray bars, a rotating brush cleaner, three belt cleaners and two air knives to remove carryback and any remaining water. The system is designed to allow slide-out/slide-in maintenance on any of the components to reduce cleaning system downtime. A sophisticated control system allows the activation of any of the washbox's cleaning systems. The slurry of material and water removed from the belt is collected below the belt washing station in a sump box. This box is equipped with a pump to place the material on the PC3 Conveyor to be conveyed to the process plant. If desired, the system was designed to allow the plant to settle the solids from the slurry and then reuse the water for belt washing.

RESULTS

With the custom-engineered Martin® Washbox™ Cleaner installed on the Henderson PC2 Conveyor, Climax Molybdenum's Henderson operation is demonstrating improved cleaning performance. This helps the operation remain a "good neighbor" for its scenic Rocky Mountain surroundings.