

McLanahan Feeder-Breakers, Double Roll Crushers Provide Continuous Reliability At Westmoreland Kemmerer Mine



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Jerry Schinke
Westmoreland Kemmerer, Inc.

Westmoreland Kemmerer, Inc. is a 13,400-acre, bituminous coal mine located in Kemmerer, Wyo. The mine has been active since 1897, first as an underground operation and then moving to surface mining in the 1950s. The Kemmerer mine currently operates two tipples, called Elkol and Sorensen, and ships their coal to their customers by rail and truck.

Much of the coal processed at the Kemmerer mine is used for generating energy at power plants and trona mines. In 2018, Westmoreland processed their 200 millionth ton of coal from the site.

Challenge

In the early 2000s, the Kemmerer mine was experiencing issues with their crushing system at the Elkol tipple, which was then their only truck dump. They had a vibratory feeder that kept plugging up all the time, which required them to blast the large chunks of coal with dynamite before they entered the crushing circuit.

They were also experiencing issues with their sampling system when they met McLanahan. Looking to replace their antiquated equipment with new, lower maintenance machines and to increase their production and capacity, Westmoreland spent two days with McLanahan visiting truck dumps and systems around Wyoming that utilized McLanahan equipment. After this trip, Westmoreland Kemmerer decided to replace their old machines with McLanahan crushing and sampling equipment.

Solution

In 2007, Westmoreland Kemmerer upgraded their Elkol tipple to a new truck dump and installed a McLanahan Feeder-Breaker and Double Roll Crusher. With this new setup, the coal enters the tipple in a range of sizes, from almost dust to around 4-foot cube blocks. The Feeder-Breaker, which replaced the vibratory feeder that kept plugging up, breaks the large coal chunks to 8" in diameter, then the Double Roll Crusher further reduces the coal to 3" or less.

As the sized coal leaves the Double Roll Crusher on a conveyor belt, it passes through a Two-Stage



Sampling System consisting of a primary Cross Belt Sampler, Sample Hammermill and secondary Falling Stream Sampler.

"We sell our coal through the quality that we obtain out of those samples," Production Superintendent Jerry Schinke explained, "so the better quality coal we get from the samples, the more we can charge for the coal."

The Cross Belt Sampler is installed on Westmoreland Kemmerer's conveyor belt and automatically collects a sample of coal from the entire width of the moving conveyor belt at designated intervals. The sample collected from the primary sampler is then conveyed to a 2024 Sample Hammermill, where the particle size is reduced prior to being discharged through a Falling Stream Secondary Sampler. The Falling Stream Sampler moves through the material flow at a constant speed to collect the final sample. The final sample is collected for Westmoreland Kemmerer's personnel to take to the lab for analyzing, while the material that is not collected as a final sample is conveyed back to the main conveyor, where it is automatically rejected back into the process flow.

"We don't have to touch them," Schinke said of the automated samplers. "We just push a button, tell it what size it is, and it takes care of the rest."

Three years later, in 2010, McLanahan provided an identical crushing system for Westmoreland Kemmerer's new Sorensen tippie, along with two more Two-Stage Sampling Systems. The system's Feeder-Breaker, Double Roll Crusher and Two-Stage Sampling Systems provide the same functions as the equipment at the Elkol tippie but for the other end of the mine.

Results

Schinke is pleased with the performance of the McLanahan Feeder-Breakers, Double Roll Crushers and Samplers.

"This McLanahan Double Roll Crusher system," Schinke said about the Elkol tippie, "we run about 1,350 tons an hour through it. The other one, at the other end of the mine, I put considerably more through that, anywhere upward of around 1,700 tons an hour."

"That will more than outrun this train," Schinke continued, referencing the train cars being loaded to the coal to their customers. "It meets my expectations completely."

The McLanahan equipment more than meets just Schinke and Westmoreland's expectations, it also helps them meet Environmental Protection Agency (EPA) requirements.

"We don't have near as much dust out of the coal as we did with the previous crusher that we had in there, so it meets the EPA standards a whole lot better and cheaper than the other system," Schinke explained.

Schinke is especially impressed with the reliability of the equipment over the years. Aside from a few preventative and routine maintenance procedures, Schinke said they haven't had any issues with the machines.

"The crushers, we have not touched this one crusher in 12 years," he said. "You can't beat that for reliability."

Westmoreland Kemmerer also discovered that reliability was not just a feature of McLanahan machines. Continued support from McLanahan has also been something Westmoreland can count on through the years.

"I have a good relationship with the McLanahan people," said Schinke. "I call them up, they help me out. It's as simple as that."



SCAN TO SEE VIDEO

