

Arizona

Cinderella Story



**A NEW CRUSHER
AUTOMATION CONTROL
SYSTEM IS BEHIND A TOTAL
TRANSFORMATION AT AN
ARIZONA CINDER MINE.**

Perkins Cinder has more than tripled its production – from 150-tph to a whopping 500-tph. Just a few months prior, the crew was concerned about keeping up with demand. Daylight-to-dark work days were merely about playing catch-up. “Now it’s a matter of getting enough trucks in the gate to haul out product. It’s an awesome feeling to finally be ahead of the game,” says Foreman Josh Tatum.





Josh Tatum operates the 52SBS crushing plant at Perkins Cinder.

Located in Show Low, Arizona – a place where feuding families once settled disputes by showing the lowest card – the Perkins operation is mining a cinder cone which sits on the southern edge of the Colorado Plateau in east-central Arizona, a region that lies above a site of localized melting, or a “hot spot” fixed deep within the Earth’s mantle, suggest geologists. The Perkins cinder cone is part of the White Mountain volcanic field. Cones such as these were formed when

gas-charged, frothy blobs of basalt magma once erupted as a lava fountain. The cones are composed of moderately-compacted red and black cinders that require some primary crushing to break apart larger blobs, called “bombs.”

The Arizona construction market is booming and Perkins Cinder serves a regional market with material for building construction, road base and landscaping. Large projects such as a current golf course contract for



50,000 tons of ½” minus material are the impetus behind its goals to increase capacity and uptime, lower costs-per-ton, and monitor daily results.

NO MAGIC WAND, JUST SOLID AUTOMATION TECHNOLOGY

The recent production transformation at Perkins Cinder didn’t stem from a magic wand, but rather from the installation of a Telsmith 44SBS cone crusher combined with a new TRAC10™ crusher automation control system – a tool that allows the operation to automatically adjust crusher settings; monitor liner wear, lubrication and hydraulic system conditions;

automatically adjust for overload protection; and much more. We've never had an onboard computer like this before," says Tatum. "So at first I was hesitant – because all those sensors and electronics can be a disaster in this industry – but the way this system is put together, everything just fits like a glove," he says.

Tatum says the TRAC10 is user friendly and its learning curve was made easier by Shamus Coughlin, a Telsmith electrical engineer who remained onsite to provide training for the operators and crew. "On the first day he took us through it, then he had us tinker with it until we felt comfortable. Soon we came to realize that if you have a knowledgeable crusher operator, and you also have

the TRAC10, it's simply like having another valuable helping hand that literally monitors everything right while you are running," says Tatum.

NO DOWNTIME, JUST AUTOMATIC ADJUSTMENTS & MONITORING

Tatum says the biggest gain they've seen is the elimination of costly downtime, which at 500-tph, adds up to big bucks very quickly. "With the TRAC10, you can adjust your crusher settings while you're running. With our previous crusher, we had to shut down, and pull everything apart. We'd be down for an hour. Now we just hit a couple of buttons. We can adjust several times a day if we need to. It's saving us thousands of dollars," he says, adding that in the past, they would avoid adjusting crusher settings just so they could keep running. "Well, that just meant that it would take longer to crush everything down to size," he says.

The elimination of guesswork is another big factor. "The TRAC10 will tell us in just seconds how much life we have left in our liners. Before we just had to guess if they were getting thin or if we needed to go ahead and replace them," says Tatum. "It also takes the guesswork out of maintenance. We can monitor how many hours we've been running, as well as knowing our startup and shutdown times. This is all valuable in determining our scheduled maintenance. Before, we had to read our hours off our generator and since it runs longer than the crusher, many times we were changing our oil long before we needed to," he says.

NO PRESSURE, JUST SMOOTH OPERATION

Importantly, explains Tatum, "The TRAC10 makes this cone bullet proof. If there is a major problem, it will shut itself down to prevent damage to the crusher. Or, if I'm running a lot of clay, the



A Telsmith 6' X 20' triple deck horizontal screening plant sizes stone for stockpiling.

crusher will automatically open itself up enough to release pressure."The system also monitors oil temperatures and pressure. Instead of getting a temperature gun to shoot the temperature of your oil, now we have all these sensors and alarms to tell us if there is a problem. We don't have to worry about it anymore" In the end, he says, this means less day-to-day job pressure and more consistent production.

NO OLD PROBLEMS, JUST NEW SOLUTIONS

The new processing setup at Perkins Cinder replaces a decades-old Telsmith 48S cone crusher and an older, smaller 5-ft x 16-ft screen. For optimum product sizing the new setup is utilizing a 6-ft x 20-ft Telsmith screen. The operation produces the following products (from a top feed size of 6" minus):

- 1 1/2" X 3/4"
- 3/4" X 1/2"
- 1/2" nominal minus
- 3/4" to 1" ABC

Telsmith Regional Sales Manager Joe Weaver, who's spent most of his life operating crushers in the

western U.S., assisted in application consultation and setup. Based nearby, he is extremely familiar with the types of processing challenges faced by Arizona-based producers. "The material at Perkins Cinder is highly abrasive, yet fairly friable and with a relatively low compressive strength. With abrasive material like this, I knew it would be important for them to be able to adjust the crusher frequently and to track liner wear. The 44SBS is actually a smaller machine than their previous 48S cone crusher; however it out-performs it by a wide margin. The good news is that we are achieving the results we planned on," says Weaver.

"Since our production has tripled once we installed the new equipment, our goal is to eventually pick up additional work with outside crushing," says Tatum. "That says something about the dramatic changes we've seen. We already had the best crew. Now we have the best crusher. Just to see our owner's face (Kay Perkins), when he first saw what this machine is doing – he knew we had made a good decision. The TRAC10 takes a good crusher and makes it a great crusher. The way they work together makes it well worth the investment," he says.

