

BUILT TO LAST

PROCESS MACHINERY BRINGS
TOTAL COST OF OWNERSHIP APPROACH

to the Design and Construction
of a **New Aggregate Plant**

An aerial photograph of a large-scale aggregate processing plant. The facility is situated in a quarry area with a prominent rock face in the background. The plant features a complex network of conveyor belts, large storage bins, and several large conical piles of sand and gravel. The machinery is primarily grey and yellow. The foreground shows a pile of dark, crushed rock.

When Process Machinery CEO, David Miles, learned that Bluegrass Materials wanted to upgrade a newly purchased quarry, he was excited about the opportunity. Not only would it be a great project, but it would also be a chance to work with the Baker family, the new owners and well-respected leaders in the aggregate industry.

Operating since the 1950s, the Bowling Green South Quarry still had 90 years of life left, but the plant was well past its prime and plagued by costly maintenance issues. Miles knew there would be a lot of competition for the job to design, fabricate and build the new plant, but he believed his team's 34-year history and its focus on delivering the best total value would set it apart.

"We listened to their goals and tried to provide the best engineered project we could offer them," says Miles. "They had a vision of what they wanted this plant to be, and we worked hard to give it to them. In the end, I think we brought the best solution to the table,

and at a good value, and that's why they decided to go with us."

The quarry manager, Bill Bob Lindsey, says he was tickled when Process Machinery got the job because of its reputation for doing quality work. He had been waiting to get a new plant for the past 20 years and was excited to be a part of the team sharing ideas about what the new plant should look like. But what he couldn't envision was how Process Machinery was going to design a system to deal with rock from four distinct ledges.

"The rock here presents some challenges," says Lindsey. "We have scrubber stone that's got to be kept separate; it can't be mixed with any other material, so we needed a way to bypass the surge. This may sound simple, but it's really very, very complicated. But they came up with a design that could do it."

The end result is a Process Machinery design creating an extremely flexible and comprehensive blending system

that allows the plant to make a full gamut of stone with a lot of blending combinations, as well as sand and lime products.

Fulfilling Bluegrass Materials' request for long-term reliability and simplified maintenance was an easier task, according to Miles. Because, he says, they specified Baldor•Reliance® motors and Baldor•Dodge® gearing, bearings and pulleys.

"This is an efficient plant that's built to last with products that offer reliability, durability and maintainability."

Dave Miles,
CEO, Process Machinery

"We stuck tried-and-true to our values and principles that we design all our plants around," says Miles. "And that means we specify Baldor and Dodge products. This has been our specification for more than 30 years, and we have great comfort with it. Recommending these products was just one more way we brought value to this project."

For the Bowling Green South Quarry project, Process Machinery selected Baldor's Dodge Torque-Arm II™ gearboxes, Imperial and Type E bearings, Mine Duty Extra pulleys, and Baldor•Reliance Quarry Duty and Severe Duty motors. Miles says they based all of these selections on proven quality and reliability.

"I can't deal with an inferior product, and I don't want any issues. The products have to perform the way I'm



Process Machinery designed and built an extremely flexible plant with a comprehensive blending system that allows the plant to make a full gamut of products. CEO David Miles says his company stuck tried and true to its values and principles when designing this new plant, and that meant specifying Baldor•Reliance and Baldor•Dodge products. By taking a total cost of ownership approach, Miles believes Bluegrass Materials has a plant that will run for a very long time.



Considered the industry standard, Baldor's Dodge Torque-Arm II shaft-mounted speed reducers were selected for the project because of the product's proven performance and long-term reliability. The patented sealing system uses an HNBR oil seal protected by a metal excluder seal with rubbing lip, making this reducer a perfect fit for the harsh-duty industry.



Baldor•Reliance Quarry Duty and Severe Duty motors are used throughout the Bluegrass facility. With heavy-gauge steel and cast-iron construction, these motors are designed to deliver reliable, rugged performance. Quarry Duty motors are Design C with increased starting torque, ideal for starting loaded conveyors.



Baldor's Dodge Imperial-E spherical roller bearings feature a patented locking system that provides a concentric grip to the shaft for superior holding, with Type E mounting dimensions. Proven Trident seals provide maximum sealing protection and are extremely effective for harsh and dirty environments.

told they will," says Miles. "And that's what I get from these Baldor•Reliance and Baldor•Dodge products. They work and work and work, and we don't have to go back to a job site and replace them. We have come to rely and trust these products."

Process Machinery also relies on Baldor's System-1™ group, a team that facilitates the design, quotation and order processing of multiple products for project support. Craig Hartlage, project manager for Process Machinery, says he has partnered with the System-1 group for more than 15 years, calling it his one-stop spot to get everything he needs from Baldor.

"Not only do they provide us with a quote for all the electrical and mechanical components," says Hartlage, "they also make sure the pulleys are

preassembled with the correct bushings, shaft and bearings to our specifications. This is a real time-saver for us because all our team has to do is mount the assembled package. The time we save helps us to increase the throughput in our shop."

Because Process Machinery builds in a "just-in-time" process, they also rely on the System-1 group to ensure that all of these packages and other components are delivered on time and in the right order. Hartlage says that being able to deliver a project more quickly helps set his company apart from other OEMs. And he says he relies on the System-1 group to perform.

"If we need components in a specific order, we tell them, and they work with us," says Hartlage. "We have no hesitation going after these large



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projects because the System-1 team understands what's expected, and they work to meet our need. It's a relationship that has worked for a lot of years."

No one is more pleased with the way the plant turned out than Lindsey. He says his life is a whole lot easier these days with a plant that's efficient and easy to maintain. He admits that it took him a while to get used to it but now enjoys coming up with a couple of little things every week to make the plant run even better.

"We got what we actually wanted," says Lindsey. "We're really happy with the plant. If I had to do this all over again, I would choose the same products, and I would lay it out the same way. I wouldn't change a thing."

That's just the reaction that Miles likes to hear from a customer. He is also pleased with the way the plant turned out and proud that the Bakers trusted them to deliver an innovative design, constructed with high-end motor and mechanical components.

"We know we are not the cheapest in the industry," says Miles. "But we like to think we offer the greatest value in the industry. This is an efficient plant that's built to last with products that offer reliability, durability and maintainability. By taking the total cost of ownership approach, Bluegrass Materials has a plant that will be running for a very long time."



Baldor's Dodge Mine Duty Extra Drum and wing pulleys feature the proven High Endurance (HE) integral one-piece end disc design that can handle loads up to four times higher than standard CEMA drum pulleys.