

## Efficiency Key for California's K.R.C. Aggregate

K.R.C. Aggregate, Inc. has been producing aggregates for use in the construction industry, as well as decorative rock from their Clements, CA quarry since 1989 when Roc-San & Gravel Co. originally constructed the plant. In 1992, Roc-San & Gravel was purchased by Buelah, ND-based Knife River Coal Mining Company, the parent company under which they still operate today.

For the past 11 years, K.R.C. has focused on making significant changes in the amount of material they produce annually. The company has successfully increased their production by adding quarry equipment to their operation, reorganizing their existing systems and streamlining their work force, all while maintaining a safe working environment.

"We've taken our plant from roughly 400 tons per hour up to about 1,000 tons per hour by mostly rearranging or deleting parts of our system," said Kelly Isaman, plant operations supervisor for K.R.C. Aggregate.

Because the company's reserve can have as much as 38% waste, they opted to change some components of their system to better extract the sand and rock from the clays and silts. "We have taken many steps to improve the quality of our products, the latest of which was the addition of three twin 66 sand screws that were manufactured by McClanahan," he said.

With the exception of their three sand screws, nearly all of K.R.C. Aggregate's quarry equipment boasts starter motors manufactured by Round Rock, TX-based TECO-Westinghouse Motor Company. The motors were purchased through Industrial Electrical Company of Modesto, CA, a distributor of TECO-Westinghouse products.

According to Isaman, the company has experienced such consistent efficiencies from the motors that they order TECO motors on new equipment whenever possible.

"We've found that we don't have many problems with our TECO-Westinghouse motors compared to our equipment that has other brands of motors," said Isaman. "For around 90% of the equipment I order, I'll request that they come with TECO-Westinghouse motors because TECO Westinghouse's motors last much longer than the others we've tried."

K.R.C. currently owns and operates four 8 X 24 Svedala screens that are powered by dual motors. In the past, the company has tested various motors on the screens, but found that TECO-Westinghouse motors run longer and stronger than any other motor, said Isaman.

As a result of their satisfaction with TECO-Westinghouse's motors, K.R.C. has come to use a wide variety of the motors in everything from pumps and screens to crushers. "We have roughly 100 various sizes of TECO-Westinghouse motors on different equipment that range in size from 150 hp down to 15 hp," he said.

Altogether, they run 12 pumps made by either Denver Sala, GIW Industries or Ash, with three of their major pumps outfitted with TECO Westinghouse's AEHA medium-voltage series motors. "The AEHA is one of our medium voltage motors that has high torque, a heavy cast iron frame and copper rotor bars, which makes it perfect for K.R.C.'s application," said Lynn Marvin, field sales engineer for TECO-Westinghouse. K.R.C. also has 28 individual conveyors ranging in length from 150 ft. to 1,360 ft. for moving material throughout the quarry. "We also have 2 Telsmith crushers, a 57 and a 48 model," said Isaman. "One of the crushers is powered by a 300 hp TECO-Westinghouse and the other is powered by a 200 hp TECO-Westinghouse motor."

While K.R.C. doesn't own a trucking operation for hauling materials off-site, they do have a fleet of trucks and other heavy equipment for moving and transporting sand and clay within the quarry. A Caterpillar 245 excavator, 2 Caterpillar 988 loaders and a Caterpillar 980 loader are used to extract and transfer materials along with D9 and D8 Caterpillar dozers.

They also utilize a 560 International and three 40 ton articulate trucks, one manufactured by Caterpillar and two made by John Deere. A Clark truck rounds out the company's fleet, used most frequently for clean-up jobs around the quarry, said Isaman.

With an ever-growing operation under foot, K.R.C. Aggregate plans to continue creating efficiencies by increasing production levels and remaining loyal to several manufacturer brands that they've deemed reliable over the years. "If we need to buy any more equipment in the future, I'm sure I'll want to have TECO-Westinghouse motors put in those too," said Isaman.