

# 1938 Primary Jaw Crusher Still Running Strong in Ohio Sandstone Deposit After 63 Years

*In 1938 Walter Best founded Best Sand and placed a Pioneer 2036 Jaw Crusher in the northern Ohio Sharon Conglomerate Sandstone Deposit near Chardon. At the beginning of a new century, Best Sand — and its original Pioneer primary jaw — still produce high purity silica sand from the same deposit.*

It ought to be put on display someday,” says Ralph Randles about his company’s 63-year-old Pioneer 2036 jaw plant. “But for now, it continues to crush a million tons a year for us without a problem.”

Randles is plant manager for Chardon, Ohio-based Best Sand. Best Sand was established in 1938, and that same year founder Walter Best installed the Pioneer 2036 jaw. The company changed hands in 1978 when it was purchased by Bill Conway. In 1987, it became a division of Fairmount Minerals, a private, employee-owned company. But the Pioneer jaw still operates out of the original deposit, a 240 million-year-old sandstone deposit known as the Sharon Conglomerate. Since 1938, Randles estimates the Pioneer jaw crusher alone has seen at least 20 million tons of silica sandstone.

## Sand for International and Domestic Markets

Best Sand produces high purity silica sand for various industries. Customers of Best Sand use its product to make such things as castings for engine blocks, automobile windshields and glass containers, golf course bunkers, turf mixes for athletic fields, grout and concrete fillers and extenders, and abrasives for sandblasting.

“Our sand is shipped all over the world, even as far as the Middle East,” Randles notes. “Here and abroad it is used for such things as water treatment systems, in both potable and sewage treatment, and as fracturing sand for oil and gas wells.”

In addition to the Pioneer primary jaw, Best Sand uses a horizontal shaft impact crusher for secondary processing. Randles estimates the Pioneer jaw handles 200 to 225 TPH and the entire crushing circuit crushes about 325 TPH and up to 6,000 tons per day.



*This Pioneer 2036 Jaw, built in 1938, is still running at the Sharon Conglomerate sandstone deposit near Chardon, Ohio. Production rates for the primary jaw are 200 to 225 TPH in abrasive silica sandstone.*

Best Sand uses a wet processing system with a primary screen and two secondary screens. The company has slurry pumps and cyclones, and a large classifying screw at the end of the process. Most of the sand product is dried before it is sold, although some of the product — such as sand going out to golf courses or for turf mixes or filtration — is sold damp.

## Jaw Passes the Test of Time

“If you look at the casting right here, It’s amazing to me that there are no cracks anywhere on this crusher,” says Randles. He explains that while it

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*Best Sand Plant Manager Ralph Randles estimates the 63-year-old Pioneer 2036 Jaw has crushed at least 20 million tons over the years. Conscientious maintenance and proper lubrication have kept the primary jaw running well, he says, helping the plant to crush up to 6,000 tons per day.*

is very abrasive, silica sandstone fractures easily. An NPK hydraulic breaker breaks up the largest pieces of stone. The product going to the primary jaw is then met by a grizzly feeder, which only sends stone over 3" to the jaw. After it goes through the primary jaw, the 1" minus material is wet processing plant, and 1" plus material is sent to the impact crusher.

"The Pioneer jaw runs beautifully," Randles says. "We've gone through a lot of jaw dies, but no more than any other jaw. Also, it's been rebuilt several times over the years, but we utilize auto lubrication, and I believe conscientious maintenance has kept it running well over the years." Randles says in his 17 years with the company, the Pioneer jaw was torn down completely just one time to replace bearings and other parts. "But other than replacing wear parts, proper lubrication and attention to preventive maintenance have been the key to keeping the jaw running well," he adds.

According to Randles, Best Sand currently produces one million tons of sand per year. "What we crush in one day is probably about what they crushed in a whole month when this jaw was new," he says. "I know 17 years ago, we produced more like a half million tons per year, and who knows about the earlier years? Maybe a quarter million tons per year. So if you add it all up..." Randles punches numbers into his calculator. "You have about 34 million tons

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*"You have about 34 million tons coming out of this site over the years. Because it's scalped, and the jaw hasn't seen every one of those tons, I think it's safe to say that it's seen at least 20 million tons over the past 63 years."*

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### **Looking to the Future**

Randles says the next step for Best Sand may include replacing the Pioneer jaw. "After 63 years, it's actually become a little undersized for our growing needs," he admits. The company is looking at the feasibility of an in-pit crushing system with a portable crusher. Currently it hauls rock up to a mile to get it to the crushing circuit. Randles says he feels the benefits of a portable crusher will eventually pay for the initial expense.

"We're not looking to increase our capacity," Randles notes, "we'll max out with a 300 to 400 TPH crusher. But we are looking to add portability to our operation."

And what crusher manufacturer is at the top of Best Sand's list? "We're looking right now at possibly purchasing a Pioneer 36 x 48 jaw and keeping the horizontal shaft impactor as our secondary crusher. A second phase of our plan could include improving the secondary crusher someday," says Randles.

### **Preserving a Piece of History**

"It would be shame if we lost track of this old Pioneer jaw when it comes time to replace it," he continues. "I hate to think it will end up in someone's junk heap. I'm hoping to clean it up a little, paint it and possibly place it on display —

maybe even here at Best Sand. It really has — and is a part of — history."