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# R.E. Pierson Materials Corp.: Middleport plant produces high quality concrete sand for regional use

**Sand & Gravel • Dredging**
**Screening Equipment**

# R.E. Pierson Materials Corp. - Middleport plant produces high quality concrete sand for regional use

*by Jon M. Casey*

*The THOR T36-500 telescopic radial stacker keeps concrete sand stockpiled, ready for customers.*

When it comes to high quality concrete sand, R.E. Pierson Materials Corp., Middleport, PA plant produces some of the best material in the region. Coming from a family-owned company who has built a reputation over the past 30 years in the construction and site preparation contracting business, the venture into aggregate and sand production a little over seven years ago, has developed into a thriving business known for its quality material, especially concrete sand. With two locations in Pennsylvania, Elizabethtown and Middleport, Pierson Materials Corp. is providing quality sand and aggregate products to a growing, mid-state market.

Recently, we were invited to visit the company's Middleport operation where they have recently completed extensive upgrades to the plant. Their new Terex Cedarapids JS4552 primary jaw crusher was installed in 2015. "We have been in the process of upgrading the plant since 2012," said Darren Landis, quarry general manager for both operations.

"When I came onboard with R.E. Pierson Materials three years ago, Mr. Pierson and his son Richard, Jr., were looking to make upgrades and improvements to the plants, to prepare them for a more efficient and profitable future. The Piersons had acquired the Middleport site from a previous family who owned it, with the goal of establishing a materials division for Pierson that would produce high quality concrete sand, aggregates and stone." Since then, the progress has been impressive.

*Each of these twin Godwin 12-inch pumps delivers 4300 gallons per minute of water. Middleport has five ponds totaling more than 10 million gallons of water reserve for quarry needs.*

**Plant layout and production**

Landis began by saying that the Middleport Plan sits atop the Llewellyn sandstone and Pottsville conglomerate formations, which contains approximately 80 percent natural sand. He explained that by being in the sand, sandstone and even an occasional coal formation, their deposits can be "quite" unpredictable. Because of that unpredictability and the nature of the material, they built a lot of flexibility into their plant as a way to stay productive during these variations.

"Our process begins with our primary feeding machine, an Hitachi EX1100, filling two CAT 773D haul trucks that bring the material up from the face dumping it into a 20-foot Deister feeder that feeds the new Terex Cedarapids JS4552 primary jaw crusher. We have a third CAT 773D that we keep in reserve in case we need it," he added.

In the scalping and crushing circuit, they have built a lot of flexibility into their system. They are running twin scalping screens, one a 6x16 Deister double deck and the other a 6x16 Telsmith triple deck. Both screens are feeding or being fed by their 66 Telsmith (secondary) and their 57 Telsmith tertiary platform.

They made this their first main option in the process because of the nature of their material. They realized that their crusher run material (2A) is primarily sand and much more valuable as such. With that in mind, they built in the option of gating the crusher run to the main surge pile to be processed into sand or to be conveyed out to be stockpiled and sold as state 2A.

Another change they made was to place a reversing belt under their Telsmith screen for more flexibility when the material from the deposit changes. When they run into an area that has coal, coal shale or other undesirable material that prevents them from turning it into marketable sand, they can reverse the flow to produce 2A instead of losing the crusher run made off both the screens. They can make sand from at least one of the screens.

Landis said another change that has helped with

R.E. Pierson 4

## R.E. Pierson from 3

roduction is with the two 100-ton surge bins posi-ioned over the 66 and 57 crushers. They found that hey had a market for their R4 material. With that in nind, they came up with a way to pull R4 material rom their 66 feed bin, just by adding a chuted gate ystem. At the end of the circuit is their primary urge pile collecting the complete discharge from heir tertiary and the crusher run materials. The verall live surge area of their surge is approximately ,000 tons. That is the starting point of the "Wet" cir-uit of the plant. He added that until they install their tatic ballast scalping circuit, they are tem-orarily using an EXTEC E7 portable to screen their 24's and ballast.

On the "wet side" of the plant, material goes to a EMCO 800 Sandmax VSI crusher and is conveyed p to twin 8x20-foot Deister triple deck wet screens hat produce washed 8's and 57's. Everything else is lumed out to a 400 ton per hour Greystone lassifier, and then processed through two twin crew McLanahan sand screws. Right now, they are p to about 200 tons per hour of sand production. Material is stockpiled with 30-inch belt conveyors nd fixed stackers, with the exception of the finished oncrete sand that is stockpiled with a THOR T36-00 radial stacker.

Material is sold to local contractors and concrete roducers in the area. Chris Emich is the company ales manager for the quarry segment of R.E. Pierson. he Middleport plant is open year round with pro-essing running from approximately April to late lovember when Mother Nature cooperates. They mploy twelve workers at this location, headed up by im Allen, who oversees operations as the site super-ntendant.

**Special features of the Middleport Plant**

As we toured the plant, Landis said he is extreme-y happy with the maintenance and repair facility hat they recently added. It allows for large equip-nent repair, including maintenance and service to aul trucks and repair and maintenance to crushers nd other processing equipment. "There is a rotating rane between two of the bays, with one bay having a teel reinforced floor with a pit built into the floor so hat crushers can be set on the floor with a por-ion of the unit able to extend down into the pit, for asier maintenance and repair. We have put this uilding to good use performing a number of fabrica-ion jobs, conveyor and crusher screen repairs dur-ng last year's winter shutdown," he said.

"Deister came out and did a complete rebuild of the creens for us in the field. In spite of some challeng-ng winter weather conditions, they completed the job n a very timely manner, even working outside in the old. As part of the upgrade, we replaced the screens n both units with Polydeck screen systems. We have een very happy with the way they have worn since hen. We have only had to replace three or four pan-ls since we made the switch. They have done a great ob."

Water supply and maintaining the environment round the plant is of primary importance to Pierson Materials as well. "We made it a point to have plenty of water for our needs," Landis added. "We have five ponds that total over 10 million gallons of water supply. We have the option of pumping water with either of the twin 12-inch Godwin turbine pumps that produce 4300 gallons per minute each. One of our ponds (Pond 1) is dedicated to fines removal and it is configured in a U-shape to give the returning water time to release the sediments in the sand slurry that come from the washing process. By recovering our water with this design, we are able to provide our-selves clean wash water without the use of floccu-lants. We use distance for segregating our water."

For more information on R.E. Pierson Materials Corp. visit their website at www.repierson.com or call Darren Landis at 570-277-0335.

*When the need arises, Pierson's crew uses this EXTEC portable screen plant to screen out ballast material.*

*Darren Landis explains some of the more recer upgrades to the Middleport plant.*

*Twin McLanahan 44-inch sand screws process 200 tons per hour of material coming out of the Graystone 12 X 48 classifier.*

*Conveyors from the primary (L) and secondary (R) crust ers move material into hoppers that feed Telsmith 66 gyrasphere and Telsmith 57 SBS crushers, respectively.*

*Weighmaster, Gaylene Schafer, enjoys her responsibili-ies dealing with customers.*

*An operator moves ballast material onto a stockpile that could be used for snow and ice control.*