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Of course, like any new plant, there were “bugs” to work out, but overall, Shelton says he has been happy with the system. “It’s easy to set up, easy to service and easy to operate,” he says. And his comfort level with the Fast Pack has grown over the past several months to a point that, as a true hands-on manager with years of experience in crushing rock, he began to experiment with the factory recommended parameters of the plants. “Cones and gyratory crushers are new to me,” he admits, “But I’m figuring it out.”

“I started with changing the steel (wear liners) past the recommended hours,” Shelton says. “And I changed the screens so that I’m sending the #7s back to recrush and make more #8s. But I didn’t want to pulverize the material. We already get a good amount of fines. So I went to using a fine (wear) liner, versus an ultra-fine. I send the near-size material back to the cone and I nick it a little – I open the closed-side setting just a little – and I’m crushing more rock on rock.”

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— Phil Shelton, Plant Manager
Junction City Mining / Anderson Columbia Co.

Shelton says he ran his calculations in a simulator first, which showed he could produce the material he wanted, while increasing the life of his wear parts. In practice, his theory seems to be working, as well.

“The granite here is abrasive material,” Shelton notes. “With the ultra-fine manganese liners, we found the #4s were taking out the top end of the liner. But when we switched to the fine liner, and closed up the closed-side setting to run the finer #6 material first, which took out the bottom of the manganese, we then could open up the closed-side setting, bring in the larger material, and it then took out the top of the manganese. It unloaded faster, and in a sense, we were doubling the life of the manganese.”

Shelton continues, “I’ve been watching and paying close attention to how it’s wearing. I do this with the primary gyratory crusher, too. Where I was producing 800,000 to 900,000 tons previously on a set of liners, I now get 1.5 million tons. So those figures right there prove we’ve almost doubled the life of the liners.”

When the spec material is ready to leave the Junction City Mining facility, it mostly ships by rail. The material is “flood loaded” – a process in which the rail cars never stop

Whitaker's Fast Pack Equipment and Products at a Glance

- JCI K400 Cone Crusher
- JCI 8203 8' x 20' Three-deck Horizontal Screens
- (2) Kolberg Closed Circuit Conveyors
- (3) Kolberg Series 11 Stacking Conveyors
- Products: #7s, #8s, M10s

moving as they load. Almost 100 railroad cars per day leave the mine, with 200,000 to 220,000 pounds of material each. Junction City Mining has two rail engines of its own, which take the material offsite to hook up to the CSX and Norfolk and Southern Railroad lines in the area.

“I’d say our tons per year easily match Georgia plant averages,” Shelton says. “We can run with the best of them – which is saying a lot.”



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Rock and Roll

Junction City Mining Makes More Spec, Reduces Operating Hours, with Portable Plant Purchase

Opening a new aggregate mining operation can be a huge undertaking for any company. But there are advantages with newer operations, especially when experienced management is “calling the shots.”

Talbotton, Ga.-based Junction City Mining sits on a fault line where granite and clay become limestone and sand. Its Heath Quarry is a strategically located subsidiary of Anderson Columbia Co., which supplies mostly granite aggregate material to customers in Georgia, Alabama and Florida, as well as Anderson Columbia’s own asphalt plants. Anderson Columbia itself is a family-owned business, with headquarters in Lake City, Fla. Initially formed in 1999, the Junction City Mining facility was not completed until 2001. The site has



In order to produce more spec stone, Junction City Mining added a portable plant to its tightly organized system of stationary plants.

100 years of material reserves. With 60 full-time employees, Junction City Mining produces seven major product types with fully modern, state-of-the-art equipment. Plant manager Phil Shelton has worked in quarries most of his life. He knows

aggregate; he knows equipment; he knows how to make it produce — and he doesn’t believe in sitting behind a desk.

All of Junction City Mining’s equipment is less than five years old. With a primary gyratory crusher, a



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secondary cone, tertiary cone and twin finishing cones, as well as screens, conveyors, washing equipment and loadout equipment, the facility is a tightly organized system of stationary plants.

“When we opened the site, our tonnages were low,” Shelton says. “We were running more #4s and #6s than the plant could sell. So we were looking at bringing in a contract crusher to crush additional material, but instead we decided to buy a portable crusher to use onsite, even though we’re a stationary facility.”

At the time, Shelton had been onsite only six months, and had not yet been promoted to plant manager. “The plant manager at the time, Joey Anderson, asked my opinion, though,” Shelton says. “He asked if a portable plant could help us produce more of our best-selling

spec material, and I thought it could.”

The company began to research portable equipment, and quickly narrowed its search to include several Fast Pack portable plants manufactured by Yankton, S.D.-based Kolberg-Pioneer (KPI) and Eugene, Ore.-based JCI, both Astec companies. The Fast Pack is new plant design that can economically provide quicker moves, with lower transportation costs, than traditional portable plant designs. A complete Fast Pack system, which can consist of primary, secondary and tertiary crushers, screens and conveyors, has been proven to tear down in less than three hours, and set up in a new location in less than four hours. In addition, a complete Fast Pack system can offer production capacity in excess of 500 tph, which is almost unheard of for a portable plant.

Why would a stationary facility with no intention of moving such portable equipment have any interest in this series of plants?

According to JCI/KPI Territory Manager Leon Luadzars, “We could have provided Junction City Mining with efficient stationary cone crushers and additional screen capacity, but adding new stationary equipment can typically take considerable time – up to several months to manufacture and install. Junction City needed additional production in a matter of weeks.”

JCI/KPI suggested the use of a partial Fast Pack – what’s known at KPI and JCI as the tertiary, or “back half” of a complete Fast Pack system – because it could be manufactured over the course of several weeks, and running in a matter of days, if not hours. The tertiary section of a Fast



By experimenting with the screen cloth and the factory-recommended wear liner and closed-side setting parameters of the new cone plant, Junction City Mining was able to adjust material production, and increase the life of its wear parts to almost twice their normal limits.



According to Junction City Mining Plant manager Phil Shelton, the Heath Quarry was able to reduce its operating hours by 30% after it purchased the Fast Pack system by Kolberg-Pioneer and JCI.

Pack system includes a JCI K400 Cone Crusher with remote adjust for the closed side setting, JCI 8’ x 20’ three-deck horizontal screen, two Kolberg closed circuit conveyors and three Kolberg stacking conveyors.

“Another benefit of the Fast Pack is that its setup would not disturb the main stationary plant production schedule,” adds Luadzars.

There are unique features to the Fast Pack, which set it aside from traditional portable plants. Some of these differences include individual power units for each component that allow them to run independently; hydraulic setup and adjustment for each component, which eliminates the need for auxiliary equipment and cribbing timbers; and onboard discharge and transfer conveyors. A small, flexible “Profibus” cable, the diameter of a typical 110V household extension cord, connects the cone to the screen and the screen to each of

the conveyors, eliminating the need for bulky cable to connect each component individually to a control trailer.

Shelton says Junction City worked to get additional permits in place to run the Fast Pack plant at the Heath Quarry. “We’re at our limit equipment-wise with the Fast Pack in place,” he says. “Any additional equipment purchases will result in a need for additional permitting.”

Once it was built, JCI/KPI had the Fast Pack tertiary half set up and running at Junction City Mining over the course of several days in October 2003, and it began to produce three products. According to Shelton, the Fast Pack is run independent of the main plant. The Fast Pack is fed with the main plant’s overabundant #4s, #6s and contaminated #7s, using a front-end loader, Shelton says. The end products are #7s, #8s and M10s.

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