

# Track-Mounted Jaw Offers Coal and Aggregate Producer Versatility With Overburden

When Mepco, Inc., a third generation, family-owned coal mining company based in Morgantown, W.Va., decided to begin mining aggregate in 1996, it seemed like a natural extension for the operation. Mepco mines coal both underground and on the surface.

“We have been surface mining coal for more than 30 years,” says Mepco President James Laurita, Jr. “At the time, because we always blasted the rock away to get to the coal, we began to analyze the overburden to see if we could market a portion of it as a limestone product. We decided if it proved to be valuable, then adding an aggregate operation could ultimately make our coal operation more profitable.” In 1996, the newly formed Mepco division of Laurel Aggregates opened its first quarry adjacent to one of Mepco’s surface coal operations, under Laurita’s guidance.

Laurel Aggregates’ first operation was a relatively small quarry. From 1996 to 2002, the company only grew to become a 180,000 ton-per-year operation. In 2002, however, Laurel Aggregates purchased a large quarry nearby, and installed state-of-the-art equipment with production capabilities of up to 3 million tons per year. At the same time, the reserves had been depleted in Laurel Aggregates’ original small quarry, but pockets of stone at the adjacent surface coal mine remained.

“In our smaller quarry we had used a jaw, a cone and a VSI, plus three sets of screens and a lot of conveyors,” notes Laurita. “All of this equipment was considered mobile, or portable, but by today’s standards, it was fairly difficult to move. All of the equipment was mounted on wheels. It typically cost us about \$60,000, and took a month, to move the equipment when we needed to.”

Laurita says the sites where the stone was located at its surface coal mine were estimated to produce under 100,000 tons of aggregate each. “We looked at the economics of moving the plants we had, and we realized this wouldn’t

work for us in the future.”

Laurita wanted mobile equipment that could crush in one location for two or three months, then move to the next location. In addition, he liked the idea of the more automated, versatile plants that are available today. And, because another newer division within the company could use the equipment for site development work, portability was a priority.

After evaluating the lines of portable plants available, Laurita chose to narrow his search to include only track-mounted plants. A track-mounted plant is often easier to move onsite, or to a different location, than a plant mounted on rubber tires. “If you’re moving to a different site altogether, you can load the plant on a low-boy in the morning, and be crushing by afternoon,” Laurita says. “Or, if you are moving within the site, a track-mount plant is more versatile and capable, too. A plant mounted on rubber tires needs a good road to move onsite. A track-mount plant is not restricted by these conditions.”

But Laurita also wanted a heavy-duty machine. “I’m a mining engineer, third generation in the industry. I’ve designed and built a lot of coal handling equipment over the years, and the coal business can be very demanding, very hard on equipment,” Laurita says. “And one thing I’ve noticed over the years, is that coal equipment tends to be built beefier and heavier than aggregate equipment – especially portable aggregate equipment.” Laurita explains that most coal equipment is built to be used for 20 to 30 years. In comparison, as he was evaluating track-mounted aggregate



*Laurel Aggregates’ President James Laurita chose a track mounted jaw plant for portability onsite, as well as the flexibility to easily move to another site using a low-boy trailer.*

processing equipment, Laurita came to the conclusion that most of the track-mount equipment available is built primarily for contractors – in construction and demolition and recycling.

“It all seemed pretty lightweight to me – easy to move, built for the contractor to maybe use for two or three years, and then get rid of it,” Laurita said.

Because of the time demands involved in running several company divisions, Laurita turned the actual “legwork” for his equipment search over to Laurel Aggregates’ General Manager Bob Guzik. “We did a lot of reading, made calls to end users, and I went to see the products that we liked in actual operations,” Guzik says.

Over the course of a year, Guzik viewed several track-mounted crushers. “There were a few I went to see that I didn’t even have to get out of the truck to know they were light-duty machines,” he says. Then Guzik talked to Dick Fallon at Irwin, Pa.-based Murrysville Machinery Co. And Fallon put together a trip that included not only a visit to see a Pioneer track-mounted jaw crusher manufactured by Kolberg-Pioneer Inc. (KPI), an Astec company, in operation, but also a visit to the Kolberg-Pioneer factory in Yankton, S.D.



*A top size material of 3" x 0" flows from the Pioneer Rocky Trax jaw to a track-mounted screen. The Rocky Trax operates at a 1" closed-side setting. From the jaw, the 1" x 0" material goes to a second portable screen, where three more products are sized, for a total of five products. Production rates for Laurel Aggregates' Rocky Trax are 125 TPH at a 1" CSS in limestone.*

"We went to see the Pioneer Rocky Trax™ in operation in Salt Lake City, Utah," Guzik says. "And then on the way back, we visited the factory, and I was very impressed with that portion of the trip. I talked to eight different people who were involved in different phases of the manufacturing process with the Rocky Trax jaw plant. They were able to answer questions, and go over the various points of the machine. I saw the size and depth of what KPI does overall... I left Yankton with a lot of confidence that KPI is a company that will back up what it's selling."

Guzik was also pleased with the construction of the Rocky Trax jaw plant. "When I was in Salt Lake City, the application for that Rocky Trax plant was recycle, and I made an offhand comment to that effect – that what I was looking wasn't indicative of what we needed because it was recycle, and not hard material being crushed. The operator for that company actually overheard my comment, and corrected me – he said they HAD crushed hard rock with the Rocky Trax, and it handled hard rock very well. I was impressed, because that comment was unsolicited." Guzik explains that his visit to the factory strengthened his confidence in the Rocky Trax's capability with hard rock.

But he still wasn't satisfied that the Pioneer track-mounted jaw plant could meet Laurel Aggregates' needs. So Guzik talked to the engineers and application specialists at Kolberg-Pioneer about

customizing the plant. "I brought several points up, such as the grizzly section," Guzik says. "I wanted the option of putting a different size grizzly section on the plant. I didn't like that if I wanted to replace it, I would have had to dismantle a large amount of the crusher. They took my comment and modified the design so that the grizzly can be replaced without having to dismantle anything else – giving me the option to make a change without a lot of downtime."

"Ultimately, I went with the Rocky Trax," Guzik says. "It really was the whole package that sold me in the end. I liked the build of the machine – the heaviness of the (steel)

used. I liked the factory's willingness to customize the design. I was pleased with the partnership they had with their distributor – they kept Murrsville Machinery involved throughout the process. And I could tell KPI stands behind their equipment – they would be there for us down the road."

"Bob came back to me with his suggestion, and I was impressed that the Pioneer Rocky Trax really seemed to be a quarry-duty, or mine-duty machine. Something we could use for the next 10 to 20 years," Laurita says. Laurita followed Guzik's advice, and purchased the Pioneer 2649 Rocky Trax Jaw Plant sight unseen. The company purchased the plant in March 2003, and it was delivered in April.

In addition to the grizzly section modifications, total factory customizations on Laurel Aggregates' Rocky Trax jaw plant included hydraulic hopper extensions for loading versatility in using an excavator or a front-end loader and a dust suppression system. Once the plant was delivered, Guzik requested some additional customizations, which Kolberg-Pioneer provided, including an additional piece bolted to the hopper extension, a retrofit guard for the motor and a retrofit of the grease fittings for easier maintenance. "They met each request quickly," Guzik says. "I've been very pleased with the factory support we've received."

Outside of these modifications, the Rocky Trax is a track-mount plant featuring

a Pioneer 2649 Vanguard series jaw crusher, which has a dual wedge jaw with hydraulic adjust CSS and replaceable jaw die retention lips on the base and pitman; a variable speed vibrating feeder; and a step deck grizzly for scalping and separating fines. It is a self-contained system that requires no external power resources. The Rocky Trax allows an 11'-5" loading height for its 15'-long feed hopper. The unit also has a 48" x 36'-6" end delivery conveyor for crusher discharge; and optional bypass, equipped with an optional cross-belt magnetic conveyor for use in recycle applications and an optional 24" x 15', field replaceable, reversible side delivery conveyor with hydraulic fold for travel, which is interchangeable with a "fines" collecting hopper. Engineered with fully hydraulic controls for the feeder, jaw crusher, tracks and conveyors, Rocky Trax is powered by a 250 HP, Tier II compliant diesel engine. Its control system includes a radio remote and an auxiliary control box with a 25' control cable.

With the purchase of the Rocky Trax track-mounted jaw plant, a track-mounted screen plant, and a second portable screen plant, Laurel Aggregates is able to produce up to five products in its original smaller quarry, and through processing the overburden in its nearby surface coal plant.

"We eliminated the cone, the VSI and all of the conveyors we had previously," Laurita says. "We essentially are running now with a jaw and two screens."

A top size material of 3" x 0" flows from the Rocky Trax jaw to the track-mounted screen. The Rocky Trax operates at a 1" closed-side setting. From the jaw, the 1" x 0" material goes to a second portable screen, where three more products are sized, for a total of five products, including #3, #4, #8, #57 and a sand product. Production rates for Laurel Aggregates' Rocky Trax are 125 TPH at a 1" CSS in limestone. The Rocky Trax 2649 Jaw can produce as much as 300 TPH in recycle applications.

"A 1" closed side setting is unusual," notes Laurita, "but because we are crushing a softer limestone right now, the factory has approved the jaw for this CSS. We are producing 1,000 tons per day, or 20,000 tons per month with the Rocky Trax. It's worked very well for us, and we feel it's producing as much or more than the factory said it would. All in all we're very pleased with it."