

Engineering Expertise is Worth Its Weight in Higher Crushing Productivity & Profit

Those producers who have done their homework will end up with the most cost-efficient and profitable crushing operations. In many cases, they have consulted with equipment manufacturing and design engineers as to individual components and to the bigger picture of overall plant design and production goals. This occurs before the purchase - and after the sale, they benefit from engineering support that makes day-to-day productivity a reality.



The Olathe Aggregate operation includes a Pioneer[®]4654 HSI, a Pioneer 5260 HSI and a Pioneer 6' x 20' three-deck screening plant.

Take, for example, the challenge faced by Olathe Aggregate Company, a subsidiary of Asphalt Sales Co., Inc. The task at Olathe Aggregate was to start up a new crushing operation to feed the company's asphalt plant with properly-sized stone from an 87-acre limestone quarry located in Olathe, Kansas. Previously, the company had contracted out its crushing business until unreliable delivery forced management to consider its own crushing operation. Accordingly, the crushing operation required easily -maintained, reliable equipment that could keep up with production at the asphalt plant and eliminate downtime caused by inconsistent aggregate deliveries.

Olathe Aggregate Company requested assistance from their local equipment dealer. Together, they traveled to the Kolberg - Pioneer facility for advice from engineers and applications specialists in designing the optimum crushing operation.

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Initially, feed size and required capacity were the two most important points to consider. However, that was certainly only a part of the analysis. Other factors included

finished product size and whether the desired product required additional crushing stages. Pioneer applications specialists plugged these parameters into a computerized flow analysis system. They also conducted material lab tests before making any purchase recommendations.

The equipment had to be the "right fit" and had to cost-effectively deliver between 340 to 400 tons per hour of 1" minus crushed limestone rock.

The Kolberg-Pioneer team designed a custom operation that began with material being fed to a portable Pioneer 4654 Horizontal Shaft Impactor where a vibrating grizzly separates the material and appropriately-sized rock bypasses the primary crushing operation. The crushed material then rejoins the bypassed material and is conveyed to a Pioneer 6' x 20' three-deck screening plant.

The +1" oversize material is separated and sent directly to a Pioneer 5260 Horizontal Shaft Impactor. After secondary



crushing, this material is then re-circulated back to the screening plant where product is sized and stockpiled.

The plant design allows easy access for maintenance. The Olathe Aggregate quarry manager claims that he can practically walk into the rotor and breaker bars and reach everything.

He adds that on other competitive primary crushers, the side door openings are tight or may require removing the entire top of the crusher to get at the rotor and breaker bars.

The quarry manager also likes the crusher's hydraulic bridge breaker that prevents large rocks from jamming the crusher. He remarks that with other plants, he practically had to blast jammed rock.

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Averaging one screen change per month, the Olathe Aggregate crew can typically remove the existing screens on both sides within 2 hours and have new screens ready for production within 3 to 4 hours.

The versatility of the Pioneer operation has also allowed Olathe Aggregate to produce road base and efficiently handle recycled asphalt. The company now produces more than 3,000 tons of

aggregate daily for its asphalt plant and its additional aggregate customers during the quarry's typical 8 months of annual operation.

Although, examining components feature by feature is absolutely necessary, harnessing engineering talents to create the most efficient complete crushing operation from initial design and lay out, through installation and into production is even more important. Kolberg-Pioneer and its dealers offer the expertise and commitment to work with contractors through the entire process.

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