McLanahan System Helps Kilgore Companies Improve Fines Recovery

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Mike Sosa
Kilgore Companies

In late 2010, Kilgore Companies, a subsidiary of Summit Materials, was formed through the merger of Harper Contracting, Altaview Concrete, Kilgore Paving, EnerCrest Products and Triple C Concrete.

Combining these companies has led to a significant presence in the Western United States. At their site in Bluffdale, Utah, just south of Salt Lake City, Kilgore processes two different types of concrete sand, as well as stone and gravel. They produce 750,000 tons of sand and gravel yearly, and sell their materials to users throughout the Salt Lake Valley.

Challenge

Like so many other sand and gravel operations, Kilgore Companies uses a wash plant to process the raw feed material and make a concrete sand product. However, they found that they were losing a lot of potential product, including product sized sand through the overflow of the existing screw washer.

"We were losing a lot of our fines into our pond instead of being able to capture that and make it a sellable product," said Mike Sosa, Foreman at Kilgore.

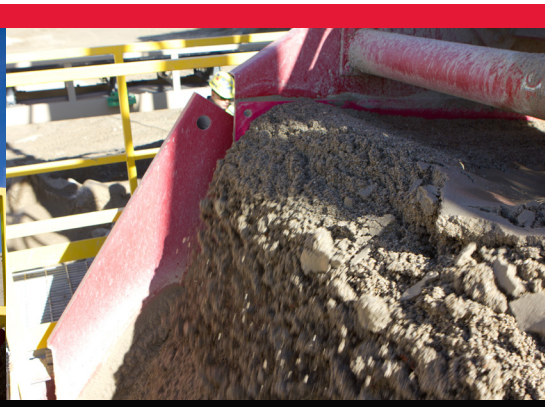
The loss of this valuable sand product meant that they were also losing out on potential profits. So to combat this issue, they decided to look for a solution that would allow them to do more with their material.

Solution

To improve their sand recovery, Kilgore reached out to McLanahan Corporation and got to work with Craig Rautiola, Regional Sales Manager – Aggregate Processing.

"After Kilgore reached out to us, we brought the samples back to our lab, determined how much product size sand was in the material, and with the provided flow rates, were able to custom engineer this system for Kilgore," said Rautiola.

As a result, McLanahan was able to engineer a system that would fit Kilgore's existing screw washer and sump without forcing them to greatly increase their physical and environmental footprint.



“McLanahan did come out, and we at Kilgore showed them our samples and all of our production, and they came up with this solution,” said Sosa. “McLanahan built this specifically for this plant.”

The new system, which started up in mid-2014, includes a McLanahan pump, a Separator™ and a Dewatering Screen at the screw washer’s product discharge chute. McLanahan was able to engineer the system to utilize the customer’s existing sump. Overflow from the screw is collected in the sump, from which the McLanahan rubber-lined pump feeds the Separator™. The Separator™ then makes a cut at 200 mesh and discharges the recovered solids of +200 mesh back into the sand product on the Dewatering Screen, which further dewaters the screw washer product and Separator™ product, producing a drip-free sand.

McLanahan engineers also took into consideration Kilgore’s need to produce two different spec products. The result is a plant that can easily change spec sizes with the turn of a valve on the Separator™ overflow pipe.

“The McLanahan system it gives us the capability to fine up the bottom end in recapturing our waste product,” said Sosa. “There’s basically a valve that is on the separator and all we do to switch between products is turn the valve one way or another. It really it is that simple.”

Results

Since the start-up of this new fines recovery product scavenger system, Kilgore has seen many benefits and improvements to their operation.

They have been able to increase their tonnage on the belt by over 30 tons per hour, and are producing a dryer product at 85 percent solids – an improvement of ~10 percent less moisture in the product. Kilgore is also able to retrieve more saleable material instead of sending it to ponds, helping to increase their product yield and profitability.

“Kilgore wanted to be able to utilize the waste product for a saleable material. Also, with us making our two different specs it helps to be able to control that bottom end a lot better,” said Sosa.

Increasing their product yield by 10 percent means less solids reporting to the pond. As a result, Kilgore employees now spend less time cleaning out their pond.

“At Kilgore, what we’ve done in the past is dug it out, usually with some sort of a long reach track hoe,” Sosa continued. “What McLanahan and what their products have done is made it to where we don’t have to go up there as often. Instead of having to clean our ponds out once a week, we’re now doing it once every two weeks.”

Overall, Kilgore has been very happy with their decision and finds the system is easy to operate and maintain.

“The McLanahan system is quite simple maintenance wise. You have very few moving parts and the parts that you do need to service regularly are easily accessible,” finished Sosa. “The McLanahan system that we put in – and like I say looking over all the options – was, in my opinion, the smartest way to address the problem we were having and to simplify the process that we do here.”