

McLanahan Helps Irish Salt Mining & Exploration Crush Its Salt Production Goals



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Derek Moore
Irish Salt Mining &
Exploration

On snowy winter days throughout the United Kingdom, Ireland, Europe and even the United States, roads are being kept clear thanks to salt processed at the Irish Salt Mining & Exploration facility in Carrickfergus, Northern Ireland.

The three-square mile Irish Salt complex is on the coast of the Irish Sea, and the processing of salt occurs more than 1,200 feet (365 meters) below ground where a series of drivable tunnels nearly 60 miles (96 km) long winds its way throughout the mine. Here, Irish Salt produces up to a half million tons of salt per year.

“Our knowledge of our customer needs is based on decades of meeting tough demands during some very difficult winters,” said Alwyn McCreanor, Company Administrator for Irish Salt. “And to meet those needs, it is important that we have processing equipment we can rely on.”

Challenge

Irish Salt has been a strong believer in Roll Crushers manufactured by McLanahan Corporation since the 1970s. They originally purchased two double roll crushers, which for years crushed material to spec and required little maintenance, and added a triple roll crusher to the system in the 1980s.

To process the material, large chunks of salt are transported via haul trucks to a feeder after being blasted from the mine’s interior walls and then to a series of five crushers. The salt is run through the crushers to be processed down to a 6.3 millimeter product suitable for road use.

Irish Salt officials say they need to keep their machines running, with as little downtime as possible. This can be a challenge due to the intense stress salt can put on machinery. They also need a closed-loop system that can recycle and re-process any oversized product that doesn’t fit the screen sizes for separation. In addition, McCreanor noted that the equipment must be easy to operate.

“The system has got to be easy to use and effective,” states McCreanor. “If it doesn’t work when you push a button, then the rest of it really doesn’t matter.”



Over the decades, Irish Salt used their existing McLanahan equipment to its full capacity and in 2011 needed to replace the entire set of McLanahan Crushers. At that time, McLanahan engineers worked closely with Irish Salt to design a high-capacity system that could work within a small footprint.

“When it came time to change out our McLanahan Roll Crushers, we had one request,” McCreanor said. “We said, ‘Give us exactly what we have already.’”

Solution

Today, the secondary, tertiary and quaternary levels of crushing are handled by McLanahan’s Triple Roll Crusher, followed by three McLanahan Double Roll Crushers. The crushers feature heavy-duty fabricated steel frame design, abrasion-resistant steel-plate liners and easy-to-maintain parts. This design has allowed Irish Salt to enjoy decades of productive service from their crushers.

McCreanor said the machines provide a strong return on investment with a low operating cost and by generating minimum fines. Mine Manager Derek Moore also noted that the strong designs stand up to the toughest salt processing applications while being safe and easy to operate.

Both men appreciate that if needed, the equipment is versatile, allowing adjustments in roll speeds and gap settings to meet most any application requirements.

Results

The plant operates five days a week and the updated crushers help them produce roughly 500,000 tons of road salt per year.

“The Triple Roll Crusher brings the product down to about 2” (50mm),” said Moore. “Then it goes through the Twin Roller that brings the product down to ¾” (19mm), and then the finishing crushers have a smooth and ribbed drum, that brings it down to the 6.3 mm we need.”

The dry, condensation-free environment in the mine helps keep the equipment reliable, which Moore said he appreciates. He also said the McLanahan machines do not require much maintenance.

“They are a very simple machine,” Moore said. “In the summer months when we’re down, we give them a check over, check the drums to see how even they’ve worn, but overall, it is very little maintenance. We have an automatic system in them, and basically there’s one man operating the whole plant here. That’s how simple the system is – you hit the button in the morning to start her up. Then at the end of the shift, you hit the “Stop” button to stop her. She doesn’t normally give you any problems during the day.”

If someone were to seek his advice on investing in a McLanahan Crusher, Moore stated: “With our experience, they are very easy to assemble, and they produce a consistent product in a very small space.”

Moore said that the relationship with McLanahan continues to be strong and it has been easy to work together any time he needs something.

“We just make a phone call and they’ll come back with the correct answer to our issues,” Moore said. “Then it’s only a matter of doing the tweaking as they instruct, and then the plant is up and running again.”

McCreanor said that he enjoys the long and productive relationship that Irish Salt has had with McLanahan, noting “We’ve been very impressed with McLanahan. They’re a family-owned business, like we are, and we think we’re of a like mind.”

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