

Terex Trucks shows true grit in Ireland

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Irish Salt Mining and Exploration's Carrickfergus mine plays a vital part in keeping the UK's road network open during winter, with Terex Trucks surefooted articulated dump trucks hauling extracted salt – whatever the weather.

Salt has been among the earth's most abundant and essential minerals since the dawn of time. Composed primarily of sodium chloride (NaCl), it is known as rock salt, or halite in its natural, crystalline form.

In 2015, total world production of salt reached 273 million tonnes, according to market research company Statista, with the top five producers being Canada, China, Germany, India and the US.

Situated to the north of Belfast, Northern Ireland, Irish Salt Mining and Exploration's (ISME) Carrickfergus mine was developed specifically to mine de-icing rock salt for winter road maintenance. Founded in 1965, ISME is positioned in a prime location, thanks to its proximity to the coast, as well as the construction of a ship loading terminal, which enables the company to develop a successful export market.

The company's 55-strong workforce currently produces between 300,000 to 500,000 tonnes of road salt per year, and provides local authorities across the UK with rock salt to help keep the road network open during the icy winter months. Scottish local authorities are its biggest customer, followed by Ireland and then the rest of the UK. "Our job is simple," says Moore. "We make the roads safer!"

Rock solid progress

Mining at Carrickfergus uses the 'room and pillar' dry mining method. There are five seams of salt, but ISME only mines one extensively, due to the thickness of the seams. (This is because 3.5m (12ft) of salt must be left above the excavated rooms as a support.)

At its deepest point, the mine reaches 305m (1,000ft) below ground. "The deeper you get, the larger the pillars," explains Moore. "But on average the room sizes are 15.3m (50ft) wide and 9m (30ft) high. In the older part of the mine, they are just 6.7m (22ft) high, while the pillars are 39.6m (130ft) square in the newest part of the mine, and 27.4m (90ft) square in the older parts."

The geology of the area is fairly simple too. There are no gases or moisture to contend with, which makes mining a simpler process too. Moore explains: "We drill; we cut; we blast; we muck out."

During mining, the salt bed is undercut then drilled and blasted. Blasting happens at the end of each 10-hour shift, usually around 17.30, and sees three faces advance 3m (10ft) each time. The next morning's first job is roof scaling, using a rotary cutting head designed specifically for the purpose.

The broken salt is then loaded into one of ISME's seven Terex Trucks haulers, including two new TA400s, and hauled to the crushing plant. Crushing and screening are completed underground before the finished product is transported, via a 2km-long network of conveyors, to the surface.

The salt, ready for use, is then treated with an anti-caking additive and stored undercover for dispatch by sea from the company's own quay, or by road.

'Nothing's too much trouble for our Terex Trucks haulers'

ISME's newest machine, a 38-tonne capacity TA400 with a six cylinder Scania DC13 Tier 4 Final engine, arrived on site in February 2016. It was supplied by local dealer Sleator Plant, who is based in Newtownabbey, County Antrim, and Moore says he is extremely pleased with the machines and after sales support.

"Aaron McCaul, aftersales manager at Sleator Plant is our main contact," says Moore. "Nothing is ever too much trouble for him and the team, no matter what the time of day."

Moore says the company looked at other options before purchasing its newest hauler, but it was the 'simple' nature of Terex Trucks' haulers that won the day.

"Their simplicity is one of the major factors about the TA400 that we really like," says Moore. "It's easy to maintain and service, so we are confident that it's going to keep working. We find that once you have too many computers involved in running your machines then problems can start occurring."

Before choosing its latest machine ISME not only visited the Terex Trucks facility in Motherwell, Scotland, but also saw the machines in action at an open cast mine in Scotland and at a product demonstration in Malaga.

"We wanted something that's robust and comfortable for the drivers," explains Moore. "At the same time, fuel efficiency and environmental concerns played a part in choosing the right truck. And, of course, the back-up we get from the dealer also impacted our final decision."

As part of its aftersales service, Sleator Plant provided a trainer who showed the operators the changes that had been made to the new machine, as well as explaining the new maintenance routine to the workshop staff.

There have been no problems running any of the machines. ISME keeps the trucks clean as an added safety precaution to reduce the risk of fire, while adhering to the maintenance and servicing schedule, as well as doing daily and monthly checks. The company operates its own workshop to carry out routine maintenance and servicing, with larger jobs, such as an engine overhaul, being carried out by Sleator Plant.

Keeping to the mine's speed limit is a key factor in reducing wear and tear, as well as minimizing fuel consumption. But the working conditions are still extreme, with the trucks having to cope with corrosive salt and dust, not to mention the temperatures inside the mine.

"With all machines, it's common that as they age there can be problems with the chassis because they really do take a pounding, but our oldest haulers are still operating after 25 years," Moore adds.

More than a match for these conditions, the new TA400 is proving to be a success with ISME's employees. "Truck driving is seen as one of the most important jobs in the mine, so it's vital the operators have as much comfort as possible," he continues. "When you get in, you don't want to get out!"

Source: Terex Truck

Terex TA 400 On LECTURA Specs