
CHAIN REACTION

A SERIES OF CASE STUDIES ON SASKATCHEWAN'S
INDUSTRIAL AND MINING SUPPLY CHAIN

FORTIS MINING ENGINEERING & MANUFACTURING

CASE STUDY # 0 0 3



Fortis: Putting the brakes on reel handling

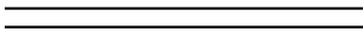
You're thousands of feet under the surface in a Saskatchewan potash mine. You're there to replace the existing mineshaft cables ("ropes"). The spools are six feet wide, eight feet high, and weigh more than 40,000 pounds. If you think size is your main challenge, wait until the reel starts spinning.



Structurally, the most critical component of any mine is the shaft. Using up to six ropes per hoist, it's the transportation lifeline for personnel, equipment and product. The value of the shaft time can be as high as \$1000 per minute. Replacing those cables – re-roping – has always been a major task, but for decades

As a mining service company, Fortis is responsible for replacing miles of rope each year. Clarke's concept for the Fortis Mobile Reel Handler arose from practical experience, guided by "gut instinct" as well as the operational need for greater efficiency and safety. Commenting on the ingenuity of John Wolf, the fabricator who worked with him on the Mobile Reel Handler development, Clarke says, "We didn't build it on a computer first. John's been doing it from a fabricator's perspective. In fact, some of what he does is reverse engineered after it's created."

"Dealing with a local company... is quicker and more efficient. You've got access not only to the equipment but also the engineering expertise behind it."



the procedures for doing it were variable from one mine to another, even from one crew to another. Manhandling the cables was awkward, using various equipment to transport and position the massive reels. When the rope began unwinding, there was a real danger of it spinning out of control, knotting up, and snapping at times. When mistakes happened, days of valuable operation would be lost. Far more importantly, serious injuries sometimes occurred. Nobody knows the risks and the process better than Garry Clarke, owner of Fortis Mining Engineering and Manufacturing, and the Northern Strands Group of Companies.

The process of development based on real-world experience continues. The first Mobile Reel Handler was mounted on a two-wheel trailer. It introduced a major advancement in roping safety: a brake system that could control the rope as it was being unwound. Garry and John watched their prototypes in action; they asked for input from the miners who worked with it; they tweaked and tested. Always, there were the three principal goals for handling reels: transport, control and predictability. "We could see how we could make improvements, such as in the turning radius, and in how to pick up the reel," says John. The next major advancement was a motorized vehicular unit in 2014, but the process of continuous improvement has never stopped.



Improved safety



Durability



Greater efficiency





The newest Fortis Mobile Reel Handler is a low-profile self-propelled unit with 41,000 pounds lifting capacity, LED lights, and independent hydraulic arms for lifting the reels. It is also easy to lower, in two parts, down the shaft – a feat that is not as simple as it sounds, demanding that each part is weighted properly. Once the Mobile Reel Handler is down the shaft and assembled, a single operator can pick up the reel using the machines’ two arms, transport it to its underground destination, and then unroll it with full control. During the entire process, the operator never needs to leave the driver’s seat.



PHOTO:
The Fortis Mobile Reel Handler has continued to evolve in its design for superior performance.



ISO 9001 & 14001 and OHSAS 18001 Certified Company

Fortis Mining Engineering & Manufacturing

(306) 242-4427

info@fortiscorporation.com

www.fortiscorporation.com





The Fortis Mobile Reel Handler now permits much safer handling of massive reels of hoist rope within the tight confines of underground mines, enabling mining companies to establish and consistently follow procedures that before now were inconsistent and carried a much higher risk of personal injury, equipment damage and expensive interruption of operations.

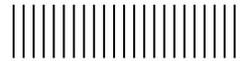


PHOTO:

The Mobile Reel Handler achieves the three goals of transport, control and predictability.

In addition to ease of handling, the Mobile Reel Handler has also enabled Fortis and the mining companies to establish consistent policies and procedures for roping shafts. The Mobile Reel Handler is not only “the right tool for the job” but in fact the only piece of equipment that should be used. Ropes can now be replaced more efficiently and much more safely.

That’s important to Derek Peever, project coordinator at the Rocanville West

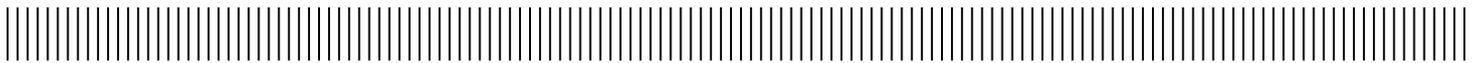
Expansion Project, who says the Fortis Mobile Reel Handler is “by far the best” for roping the shafts at the potash mine. “It’s much safer,” says Peever, “and the best way to transport the reels, with low ceilings in places and where space is at a premium.”

Peever also points to the advantages of dealing with a local company to service his mine. “Often in mining, you don’t know what you’re going to need until you need it. Dealing with a local company like Fortis is

quicker and more efficient. On top of that, you’ve got access not only to the equipment like the Mobile Reel Handler but also the engineering expertise behind it.”

“Design thinking” is heralded as the way of the future by many business gurus, but for Garry Clarke and his team at Fortis, the idea of observing and listening first, then finding solutions, is ingrained in the company. There is no doubt they share the same goals as the companies they serve.

No doubt, either, that the advancements at Fortis will continue. ❖



SIMSA is the Saskatchewan Industrial and Mining Suppliers Association, representing Saskatchewan based companies who provide goods and services to industrial projects.

811 - 56 St. E.
Saskatoon, SK
S7K 5Y9

(306) 343-0019

simsaadmin@sasktel.net

www.simsa.ca