



telemotive[®]
Industrial Controls



**GEORGE
MOVES
450 TONS
A DAY - *(by hand.)***



SAND

A commodity that most of us rarely think about unless we get it in our shoes at the beach. Yet sand, or specifically, silica sand, is a vital component of the many products we encounter every day such as glass, fiberglass and fiber optics. Silica sand is also used for filtering in municipal water plants; for casting metal in a foundry; the making of high tech polymer modified cements and in agriculture for soil treatment. The product is also used for running tracks on baseball fields and to the consternation of golfers, it fills the sand traps on golf courses.

One of the major sources of high quality silica sand is found in the upper Illinois River Valley where a vast ancient seashore was

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laid down in the Ordovician period some 450 million years ago. The remnants of this prehistoric beach are found near the surface through a large section of the midwest and is known as St. Peter Sandstone. This stone, of pure white quartz, can be dramatically experienced at The Illinois Starved Rock State Park near Utica, Illinois where water has carved huge canyons and created a hikers' paradise. Utica, Illinois, situated north of the Illinois river some 110 miles southwest of Chicago, is located on the historic Illinois and Michigan Canal, and is the location of one of four Unimin Corporation mines in Illinois. While sand mining in the Utica area dates back over one hundred years, Unimin, a Connecticut based privately held corporation, has operated the silica sand mine in Utica since 1980.

Unimin employs fifty people at the 1000 acre facility and utilizes

the latest technology for safe and environmentally sound processing of silica sand. The sand is thoroughly washed with water before entering the processing plant for drying and screening. The water is recycled to retention ponds that form a rich habitat for fish, birds and other wildlife. The techniques used in sand mining pose no direct threat to the environment and are among the cleanest and safest types of mining in Illinois. Once processed, the snow white product is then loaded into covered hopper rail cars for delivery to the end users. The plant is served daily by the CSX Railroad operating over the former Rock Island Railroad mainline.

Rail car loading at the Unimin mine is performed on a custom built loading platform that allows safe and efficient access to the tops of the rail cars. According to Randy Klimek, the Unimin Production and Shipping Supervisor, "safety is the watchword at Unimin". Safety at the loading platform is implemented by a combination of properly trained personnel; carefully designed railings and hand holds; and a safety harness system required to be worn by all personnel when working on the elevated car loading platform.

Safety and efficiency is further enhanced by the use of a Model 8000 Telemotive Radio Control System to operate a Model 4300 Trackmobile® for spotting the rail cars under the loading platform. The 152 horsepower

Trackmobile, with Telemotive remote controls, was supplied by the Voss equipment company of Harvey, Illinois, and with 48,200 lbs. of tractive effort can move up to 16 fully loaded rail cars with ease. Unimin Plant Manager, David Saegart, stated that "The use of radio remote control allows the operators to more easily spot the rail cars under the loading spout and speeds up the loading process without compromising safety". Incorporating specifically designed software and the hardware of an exclusive Telemotive pneumatic interface, the Model 8000 radio control system operates all the functions of the Trackmobile, including remote engine start and stop, all forward and reverse speeds, high idle for maintaining train brake pressure, throttle, warning horn and bell, spotter and train brakes and coupler knuckle control. The versatility of the Telemotive 8000 Locomotive Radio System is demonstrated by the fact that the same system that runs the 152 horsepower Trackmobile could also be applied to a 6000 horsepower diesel locomotive, with little additional modification.

Unimin is pleased with the operation of their Telemotive system and the Trackmobile it controls and will be adding more such units to their other mines in the future. The Unimin Utica mine is an excellent example of how modern radio control technology can be applied to a mature mining process to increase productivity, enhance safety, and help deliver a 450 million year old product to the industrial marketplace.

