



NOVA SCOTIA

Come to life

by Susan Corning

Great product, people and location. These are classic ingredients for success in business, and ones that the folks at Martin Marietta Materials in Auld's Cove appreciate. The company is a leading producer of construction aggregates—crushed stone, sand and gravel—used to make concrete and asphalt for roads, buildings and infrastructure.

Martin Marietta Materials Canada Limited has operated the Porcupine Mountain Quarry at Auld's Cove, near the Canso Causeway, since 1995. In fact it was the construction of this causeway joining Cape Breton Island to mainland Nova Scotia that led to quarrying in the area in the first place.

Before the 1950s, people travelling between Cape Breton and the mainland had to cross the Strait of Canso by ferry—a journey often treacherous or impossible in winter due to drift ice and currents. A vast amount of stone was needed to create this land bridge, and nearby Porcupine Mountain, looming 500 feet upward and sitting next to the water, was chosen as the source.

Blasting of the eastern face of the Porcupine Mountain revealed a large reserve of high-quality Devonian granite—not suited for ornamental products, but just right for use in construction.

Construction of the causeway had two spin-offs that would enhance the area's development opportunities in the future. During the building phase as the causeway lengthened toward the Cape Breton side, the powerful tidal waters were funneled through an increasingly smaller gap. The force of the water scoured the seabed, making this deep-water channel even deeper—from its previous maximum of 187 feet to 218 feet. The second benefit was the completed causeway's effect as a barrier to winter drift ice coming from the Gulf of St. Lawrence, creating a year-round ice-free port on its south side.

Over 10 million tonnes of stone were removed by the time the causeway was finished in 1955; but this was just a small portion of the mountain's reserve. The potential was there—a large granite formation next to a deep-water ice-free port—yet the quarry was idle until it was purchased by Nova Construction of Antigonish in 1978.

In 1995, Martin Marietta Materials Inc., a company listed on the New York Stock Exchange and headquartered in Raleigh, North Carolina, bought the quarry operation, providing it with access to new markets and funds to modernize equipment and infrastructure.

Administrative Manager Dan Fougère, who has worked with Martin Marietta Materials since 1998, says the company hired the existing workforce when it bought the quarry, and looked at ways to modernize infrastructure to improve economies of scale.

One key upgrade was the construction of a \$10-million steel and concrete wharf in 2005 to accommodate Panamax and Capesize vessels with capacities of up to 70,000 tonnes.

The company purchased new equipment to allow for increased production. “We have moved to larger loaders and haul trucks,” says Fougère. “For example, ten years ago we used 35-tonne haul trucks and now we use 100-tonne. That helps achieve economies of scale.”

Also, he says they have kept up with technology, introducing tools like remote-controlled equipment, cameras, and laptops. “We can measure and track operations better,” he says, “like tonnes per hour and mechanical down-time. That can help with efficiency.

“It’s a simple business, but you can still use technology to manage it better,” says Fougère.

Fougère says productivity and “through-put”—the amount of material mined and shipped—has increased dramatically over the past 13 years. In 1995, their throughput was 1.2 million tonnes. Since 2005, the quarry has managed 4.0 million tonnes or greater each year. This puts Porcupine Mountain among Canada’s top aggregate producers.

It’s also one of the top producers in Martin Marietta Materials’ network of over 285 quarries, distribution yards and plants in the United States, Canada and the Bahamas. “And that’s for a couple of reasons—the reserves, the work schedule and our ability to ship high volumes to market by ship,” he says.

Porcupine Mountain is an expansive formation of granite, says Fougère. The quarry covers approximately 765 acres, with most of the operation taking place on the top and behind the mountain face. “It’s a high-quality, durable granite well-suited for use in asphalt and concrete mixes,” he says. With reserves of over 300 million tonnes of granite, the company estimates the reserves will last at least another 50 years.

The quarry operates 24 hours a day, seven days a week. They produce material nine months a year, and in mid-December stop for planned maintenance. However, because of the ice-free port, they can ship 12 months a year.

The quarry’s location next to a water distribution route gives it a cost advantage over operations that have to ship granite by truck or rail, says Fougère. In fact, Fougère says he doesn’t know of any other aggregate quarry with such easy access to water. “We have unusual topography here—a mountain quarry site next to a deep water ice-free year round shipping port,” he says.

And with the ability to load 60,000 to 70,000 tonnes at a time onto a ship, Fougère says they can move the aggregate as fast as they can mine it. “Not a lot of quarries can say that,” he adds.

There is one more important ingredient that Fougère says contributes to the operation’s success—the quality of its workforce. Martin Marietta Materials employs 100 people at the Porcupine Mountain quarry. Most of these employees, including him, come from Northeastern Nova Scotia. Fougère says the company is proud of both the loyalty and work ethic of its employees.

On August 23, 2008, the company congratulated the workers for a significant achievement in workplace safety—they reached 1,000 days without a lost-time incident. “In an operation running 24/7, that means 704,000 person-hours,” says Fougère. “In our business, that’s quite an accomplishment.

“I can’t say enough about the quality of our people. We have a great workforce. That has contributed to our success over the years.