



A Tradition of Excellence Built on a Dream



By Eda Galeno

Fifty years ago, Ted Purington Sr. and his wife Judy formed Maine Drilling & Blasting (MD&B) in their kitchen. As the business grew, Ted and Judy expanded their operations throughout their property in Gardiner, Maine. Today, Maine Drilling & Blasting is celebrating well over 2 million controlled blasts for various projects, including highways, site development, quarries, houses, lots, utilities and marine work.

Keepings with the Times

Through the past five decades, the business has seen many changes, both externally within the blasting industry and internally within the expanding office walls and service territories. Second-generation Chairman and CEO Bill Purington has been at the helm to steer the company successfully through those changes and adaptations.

“Just like our society and the world as a whole, the industry has changed,” Purington says. “Since we began, the drilling and blasting industry has evolved from pneumatic to hydraulic and from valves to electronic controls and intelligence.”

Purington recalls when hydraulics were introduced and when blasting components were less technology oriented. “Many of the products that are used today are initiated, controlled and managed through technology, allowing for huge degrees of programming and accuracy, which benefits productivity gains,” he explains. “People in the industry said these changes would put us out of business. But through it all, Maine Drilling & Blasting has been a pioneer.”

MD&B has continually met and overcome changes and challenges by developing and incorporating new programs and services into the company. It established an Engineering Department to enhance technology for its drillers and blasters, and the company created an Equipment Services Group to maintain its wide range of equipment in state-of-the-art condition. MD&B was the first contractor in the country to construct and operate its own bulk explosives blending and loading plant; it created innovative training programs for employees; and it orchestrated several acquisitions and reorganizations, ultimately extending its reach beyond Maine into the Mid-Atlantic region.

MD&B's Foundation Services Group complements its drilling and blasting services, while providing great value to its clients. By utilizing its fleet of drills and experienced craftspeople, MD&B installs rock anchors, dowels, guy anchors and micropiles for a variety of construction needs. The company has installed and post tensioned more than 5,200 rock anchors for 318 tower foundations at 19 wind projects throughout New England and installed more than 3,450 rock anchors for transmission lines, substations and hydroelectric projects. Outside of the energy sector, MD&B has performed numerous projects at marine terminals, rock stabilization sites, wastewater treatment plants, building foundation support, bridges and communication tower sites. Purington cites the embracement of technology as a major factor in the company's success. "We use technology on many fronts with drills and explosives, but technology is also used heavily within the organization for communication purposes," he says. "This industry has been slow to embrace technology, but we are recognizing productivity gains through its many uses."

Looking to the Future

Throughout the first 50 years, Purington has watched the company grow through many accomplishments. So when asked to choose a highlight, he pauses and says, "I think the greatest highlight during my career has been the opportunity to meet the next challenge, whether it be a large technical project, a new geographic region or an expansion of a market. Those things are always exciting. But they were not strictly

exciting to me independently. The real excitement came from within the company—people who joined the business along the way. The people with whom we collectively addressed each challenge and opportunity."

Although MD&B began as a family business, Purington refers to the employees as an extended family—an important part of the company's growth, expansion and development. And as such, an Employee Stock Ownership Plan (ESOP) was established in 2004.

"Here we are 12 years later, and the employee percentage of ownership in the company has grown to 31%," Purington says. "So there's still forward opportunity. As the company moves to 51% ownership, there are going to be real recognized gains for employees that participate."

"Our employees have an awful lot of pride in the company," he continues. "Many have been here over 20 years; some have been with the company since the 80s. They, too, have seen changes and evolution in the industry, but they also have seen a company that cares about its employees. We have a powerful team and a lot of talent in the organization."

Referring to the company culture, Purington adds, "A common element is the way everyone thinks about the company and represents it. My dad founded this business on commitment and hard work, honesty and quality of service. That culture still thrives here today. It's what Maine Drilling & Blasting is recognized for. I'm proud of what we've accomplished in the past, and I believe very strongly that the next generation here at Maine Drilling & Blasting has a bright future." ■

The Start of a New Era

Maine Drilling & Blasting recently announced a positive progression into its third generation of leadership with a new appointment. Daniel M. Werner Jr., former senior vice president, assumed the title of president of the MD&B Group of Companies, stepping into the role previously held by Bill Purington, now chairman and CEO.

With a strong foundation and rich history, Werner sees a bright future for the company by staying rooted to the fundamentals of what enabled the company's success as a leader in the drilling and blasting industry.

"For the company to be celebrating its 50th anniversary, there are a lot of things that have been done very well," Werner says. "The company has a recipe for success with the employees, the customers and the areas that it serves.

Remaining rooted to the values that have made us who we are today but evolving continually with the markets we serve provides a formula for perpetuating the company into the future."

A Constant Evolution

From humble beginnings, the company now touts nearly 400 employees. In addition to the corporate office in Gardiner, Maine, MD&B has offices in New Hampshire, Vermont, New York, Massachusetts, Connecticut and Pennsylvania. This allows the company to offer drilling and blasting services to the construction and quarry markets along with a variety of specialty services throughout the Northeastern and Mid-Atlantic United States. Those services include rock anchors, hoe ramming, value engineering, public



Pictured are (back row, from left) Ted Purington Jr., executive vice president; Bill Purington, chairman/CEO; (front row, from left) Mitchell Green, senior vice president; Dan Werner, president; John Capasso, MD president; Tim Maynard, CFO; and Todd Barrett, regional vice president.

relations, pre-blast surveys and product distribution.

What has fueled the company's success and set it apart from the

PHOTO: COURTESY OF MAINE DRILLING & BLASTING

competition? “We truly feel our programs are far and above what is offered elsewhere in the industry,” Werner says. Those programs range from internal training and development programs to the value-added services offered to clients.

MD&B ensures that all of its employee owners are highly trained by providing evolving and continual in-house instruction. “I think our driller training programs create the best equipment operators in the industry,” Werner says. “We hold ourselves to strict measures of the highest standards in the industry. Our blaster training programs are a systematic approach that takes blaster trainees as well as accomplished blasters through reoccurring and new training to improve and perfect their technical skills.”

The training doesn’t stop there. MD&B’s distribution group benefits from specific training with programs for bulk truck drivers and low bed operators. Everyone is trained for their specific expertise. There’s quarry

training and training for administrative skills. But perhaps the most important training is safety. Safety training is a continual process in which everyone participates. Setting MB&D further apart from the competition is its Leadership Development Program. Employee owners at MD&B benefit from the program both personally and professionally. Subsequent to his military training in explosives, Werner himself rose from the ground up at the company, having spent the past 14 years learning the business.

“Our Leadership Development Program provides a feeder system to the future leadership of MD&B so there is a continual evolution perpetuating the success of the company,” he says. “As we move into the future, it’s an evolving process with no end in sight, and the Leadership Development Program challenges the participants to rise to a higher standard, which in turn benefits our customers.”

“To start as a general laborer in the company and work through the program

to be president of the organization shows that the program is effective,” he adds. “With the right work ethic and dedication, employees can rise to the highest levels of the company.”

Werner cites the fact that MD&B is an employee-owned company as a unique benefit to its customers. “When customers understand that we are an employee-owned company, they understand that decisions are being made in the best interest of customers—not a single project, but the longevity of our relationship with customers,” he says. “We understand that we need to perform on all projects, now and into the future. All employees have a vested interest in the success of the organization as we move forward.”

“From an employee perspective, to be able to control your destiny and contribute to a team that you have a vested interest in is a strong motivator,” he adds. “To know that the success of the team will reward you on a personal level as you work to retirement is a strong motivator to employee owners.” ■

Blasting into the Future

For the past 50 years, Maine Drilling and Blasting has been setting earth-shattering standards. Having earned its reputation as one of the safest, most experienced rock blasting and drilling companies in the Northeast and Mid-Atlantic, the company has performed more than 2 million controlled blasts for highways, site development, quarries, houses, lots, utilities and marine work.

Its extensive experience includes some of the most aesthetic pre-split faces; assistance in the planning and development of more than 200 quarries; installation of rock anchors over water, under stadium seating and 50 feet above highways; and it has mechanically broken hundreds of thousands of cu yds of rock with its hoe rams.

Todd Barrett is MD&B’s regional vice president overseeing the Western

and Mid-Atlantic regions, which include Vermont, New York, Pennsylvania, Maryland, Delaware, West Virginia and Virginia. “The only thing consistent about our work is the inconsistency of each blast,” he says. “Each job has different blasting operations, but they all require a lot of attention to detail. We’re on our ‘A’ game at all times.”

Each blast has its own set of challenges, but the MD&B team has faced and overcome many obstacles during the blast procedure. “Sometimes, there are environmental areas that are protected or animals that can’t be moved,” Barrett explains. “Once, we had to work around a protected snake den. We had snake wranglers on the property to keep them away from the blast and check the equipment each morning to make sure the snakes didn’t get into the equipment or the blasting mats.”



Pictured is the controlled blasting of more than 5,000 cu yds of ledge 20 ft off the existing Goldwin Smith Hall at Cornell University.

Clearly, it’s never just another day on the job for the MD&B team.

The Klarman Hall Project

In upstate New York, MD&B was charged with removing ledge for the Klarman Hall Project, the first

PHOTO: COURTESY OF MAINE DRILLING & BLASTING

new humanities building on Cornell University's main campus in 100 years. The new building is located within the wingwalls and connects to the existing Goldwin Smith Hall Building. The initial challenge faced by the blast crew was maintaining the integrity of the existing building, as well as controlling ledge displacement and vibration on the soldier pile walls supporting East Avenue.

There were other considerations, too. "One risk is ejection of rock out of the blast, and another is vibration and displacement, which can cause structural deficiencies in a building close to where you're blasting," Barrett says. "When you're blasting closer than within 20 ft off an existing functioning educational building, you risk undermining the existing building if you break the rock back too far." MD&B used perimeter control techniques and controlled drilling and blasting methods to prevent undermining the existing building. "When a blast goes off, it looks instantaneous," Barrett adds. "But each explosive hole is timed milliseconds apart to create movement and direction of rock."

Wet site conditions created additional challenges for the project team. "Wet conditions can pose problems based on the explosive product you're using," Barrett explains. "When your pattern is small and the explosives are in close holes, seams with water travelling through them can cause water hammer, a situation where explosives are detonating in one hole and the shock wave pushes water to the next hole, rendering that explosive unusable so it doesn't detonate."

With students working nearby throughout the project, both concerns needed to be carefully addressed through preplanning. Taking geology into consideration, and with the support of MD&B's Technical Service Group, the project team designed blasts to contain the explosives and limit vibrations.

When all was done, MD&B cleared more than 5,000 cu yds of rock from the site for the building's new addition.



MD&B's West Side Ledger project in Portageville, N.Y., involves blasting a 90-ft rock cut in 6-ft to 15-ft lifts to create a notch for a new bridge abutment. The company will be installing rock dowels the entire way down to support the ledge.

Genesee River Bridge

In Portageville, N.Y., a major railroad bridge over the Genesee River needed to be replaced to increase efficiency on that route. The current bridge was built in 1875 and strengthened in 1903 and 1940. The weight and speed of trains operating over the bridge are restricted to ensure safe operation. The bridge is functionally obsolete.

A new 963-ft bridge is under construction on a parallel alignment 75 ft south of the current bridge. The existing bridge will remain in service during the construction of the new bridge. The new bridge will feature a 483-ft steel arch over the Genesee River. The river runs through a canyon that is more than 200 ft deep at this location. The foundations of the arch will be set back into the canyon walls. American Bridge Co., the general contractor, has subcontracted with MD&B to blast and stabilize the pockets for the foundations.

"We had vibration restrictions because of the existing bridge, but that wasn't our major challenge," Barrett says. "What complicated things for us was very limited access to the work area."

Due to the blast locations, the work area could only be accessed via cranes that lowered the drill and workers to the worksite in man baskets. "We had a

90-ft ledge cut on each side of the river, which needed to be blasted for the new bridge abutments. Due to project limits as well as environmental concerns, we could not blast the entire rock cut at once, and therefore had to take the ledge cut down in 6- to 15-ft lifts," Barrett says. "We also drilled and installed rock anchors at every level to maintain the stability of the rock face."

After each blast, the construction crew lowered an excavator, filled the bucket, hoisted the material out and cleared the lift for further use by MD&B's crew.

Environmental concerns also came into play during this project. It was critical that no rock from the blast contaminate the river 50 to 100 ft below. MD&B used rubber tire blasting mats for containment purposes on the project that ultimately displaced 13,000 cu yds of rock. The frequency of blasting was also limited due to a nearby eagle's nest.

Route 17 Relocation

When blasting to clear a million yards of shale and sandstone off a hillside for the Route 17 relocation in New York, it was inconsistent geology that posed a challenge.

"The shale breaks easily, and the sandstone is harder," Barrett explains. "Because of the varying geologies, we



MD&B designed and produced the radius pre-split intersections, leaving a stable, eye-catching rock intersection.

needed to change the way we loaded our explosives in order to break the rock effectively.”

Mother Nature inflicted some harshness of her own during the project. The MD&B team worked through challenging winter circumstances, including large amounts of snow and whiteout conditions. Although it didn't change the actual blast, it created difficulties transporting explosives to the jobsite and movement around the work area.

The human factor also came into play on this project. Homeowners at the top of the rock-cut harbored concerns. Sensitive to those around their blasting areas, MD&B has an internal pre-blast survey department that reaches out to addresses concerns, explain the blasting

process, answer questions and provide assurances.

“The pre-blast survey department also documents any preexisting conditions of structures or houses prior to our blast,” Barrett adds. “We're a responsible company and want to be known as a good neighbor. After all, our crews are made up of employees local to the communities in which we work.”

In the end, MD&B designed and produced the radius pre-split intersections, leaving a stable, eye-catching rock intersection.

West Point Military Academy

At West Point Military Academy in New York, it was necessary for MD&B to blast rock 60 ft from the structurally failing, 100-plus-year-old Campus Chapel, while maintaining the chapel's integrity. The chapel's age and condition required vibration and displacement levels well under the normal thresholds. “Vibration levels were limited to 25% of the industry standard of 2 inches per second,” Barrett says. “We had to stay at 0.5 inches per second.”

“We were blasting for new cadet housing. The existing housing was several decades old, and the academy was losing enrollment due to living conditions. Controlled blasting for 135,000 yds of mass rock and 60,000 sq ft of line drilling/pre-split made way for the construction of a new Cadet Barracks,” Barrett explains. “The more modern barracks and campus structures had rooflines below eye level during most of the work, creating additional exposure level for the throw of the blasts.”

MD&B implemented state-of-the-art electronic detonation systems to have precise controls on the charges. Blasting

occurred down around the chapel, mess hall, classroom buildings and cadet housing.

“Electronic blasting caps are a specialty product in the industry,” Barrett explains. “They're more costly than other caps, but we use them in special applications that are vibration sensitive. Sections of rock were removed in levels. We drilled pre-split to an overall depth of about 40 or 50 ft and took about 15 ft off at a time from the top. Vibration was a concern for every blast, and nothing was blasted full depth.”

Algonquin Incremental Market (AIM) Pipeline

The MD&B team is currently working on the AIM Pipeline, which poses a unique set of challenges. The project involves removing an old 26-in. gas line and replacing it with a 42-in. high-pressure gas main. Complicating matters, the majority of MD&B's work is conducted adjacent to an existing 30-in. gas main that's still in service.

MD&B is charged with making a larger, wider and deeper trench for the new line. But its work is further complicated by the fact that it doesn't know where ditch rock is located until the existing pipe is removed from the ground.

If the crew hits rock, it could need seven or eight drill rigs to meet its production expectations of 1,000 linear ft of trench daily. Quickly mobilizing that equipment would be an impossible task for many drilling companies. But pulling that equipment from nearby locations is a demand that is met with ease for MD&B.

Although MD&B has control over the blasts and its equipment, it has no control over residents' political opposition to natural gas that has added to the length of time it takes to secure necessary permits. “Normally, it would take us six weeks to get a blasting permit; here, it has taken us up to four months,” Barrett says.

Regardless, the Connecticut stretch of the pipeline has been completed, and MD&B recently began work on the New York section. ■



Controlled blasting for 135,000 yds of mass rock and 60,000 sq ft of line drilling/pre-split makes way for the construction of a new Cadet Barracks at West Point Military Academy Campus in New York.