

*Lafarge Bath Plant*

# concrete connection

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bringing materials to *life*

# A Message from the Plant Manager

Running a business of any size in these trying economic times is a challenge. It is no different in the cement industry.

With fewer construction projects starting up in the U.S., the demand for our product is not as high as we've been used to. The change in our market has been difficult for all of us. And while there will undoubtedly be tough times ahead, ultimately, there is a light at the end of the tunnel and we are fully

confident that our industry will recover and we will be able to return to previous production levels.

Of course a downturn is never a pleasant thing and our plant is undergoing its share of challenges. What has impressed me the most during this difficult time is how our employees have rallied together to ensure that we can continue to meet the challenges in front of us and lay a solid foundation for the better times that we know are on the horizon.

I have always believed that a strong team can overcome any obstacle. The Lafarge team continually proves me right. And I know that the company and our community will both be stronger in the long run because of the spirit our employees are showing now.

With hope for a brighter future,

Michael Klenk,  
Lafarge Bath Plant Manager

## And the Winner Is...



The Lafarge Bath Plant prides itself on its commitment to the environment and on the high environmental standards set in their day-to-day operations. Over the last 12 months, those high standards have been recognized as among the best in North America, by their parent company, by their peers and by a leading environmental advocate.

- The Lafarge Bath Plant was the only Canadian cement plant to be recognized for superior performance at the 2009 Cement Industry Energy & Environmental Awards in Ottawa in May. The plant placed second among over 200 North American cement plants in the Environmental Performance, Outreach and Overall Environmental categories and was a finalist for the Innovation Award. The awards ceremony was sponsored by the Cement Association of Canada, the Portland Cement Association and Cement Americas magazine.
- Lafarge North America recognized the Bath plant's commitment to sustainability by naming it the winner of the 2008 Lafarge North America Environmental Award.
- And the Wildlife Habitat Council renewed the plant's Wildlife at Work certification in recognition of the efforts of Lafarge employees, who often come in on their own time to ensure the success of the company's ongoing wildlife habitat initiatives.

*Pictured Left: A Leopard frog found waiting for lunch to come by on Lafarge Property.*



“I really liked the fact that Lafarge was such a large company with so many operations around North America and the rest of the world. I saw there was a great opportunity for advancement and the potential of being able to work in some interesting place was also a big draw.”

## Employee Spotlight: Dave Yokom

In every issue, we like to shine the spotlight on one of our employees to give you a chance to get to know the people behind the plant. In this issue, we'd like to introduce you to Quarry Coordinator David Yokom, the man who engineered the move to our new quarry area.

**Q: What did you study in school?**

A: I graduated from Queen's University in 2005 with a Master's Degree in Mechanical and Materials Engineering.

**Q: Why Engineering?**

A: My dad was an engineer, and I enjoyed problem solving as well as math. Plus, engineers know how to party!

**Q: What brought you to Lafarge?**

A: While finishing my Master's, I attended a job fair at Queen's. Lafarge had a booth there and I was impressed with what they had to offer. I really liked the fact that Lafarge was such a large company with so many operations around North America and the rest of the world.

I saw there was a great opportunity for advancement and the potential of being able to work in interesting places was also a big draw. For a new engineer, I also found it important to be given the proper training and tools when I started my professional career - Lafarge was able to offer that.

**Q: What was your first job here?**

A: I started in the Cement Professionals program in the New Works Department. (This is a program for recent grads to familiarize them with cement making processes.)

After doing that for two years and learning a huge amount of stuff about the cement industry and engineering in general, I moved to a more senior role as Project Engineer. In early 2008, I was assigned to the West Quarry Development project as Site Supervisor.

“I enjoy the experiences and opportunities that are presented to me.”

**Q: What do you like best about Lafarge?**

A: I enjoy the experiences and opportunities that are presented to me. In my first three years here, I've been able to manage projects of all shapes and sizes, including a \$12-million project. Now I have a lot of opportunities to manage in the field. These experiences are invaluable.

**Q: What do you do when you're not at work?**

A: I really enjoy playing sports with the Kingston Sports and Social Club. I pretty much play every sport they have to offer so it keeps me active during the week. My favourite sport is soccer though. I'm pretty much a born striker. If things don't work out with my engineering career I always have a professional soccer career to fall back on.

# A Cleaner, Greener Quarry



Top: An aerial view of the Bath plant and quarry; the West Quarry location is circled.

Above: The crusher in its current location in the west quarry.

The Bath Plant's new limestone quarry will dramatically cut down on the waste the plant produces. Because limestone is the key ingredient in the cement-making process, the plant's ability to mine its own good quality limestone is critical to its success.

"The old portion of the quarry was almost mined out of cement-quality limestone, so we needed to open up a new part of the quarry," says Project Manager David Yokom.

## Busting the Dust

The \$12-million project allows Lafarge to mine a higher quality of limestone, which, in turn, allows the plant to generate less waste.

Yokom explains that the limestone in the old eastern part of the quarry contained higher levels of chlorine, which can accumulate in the cement-making process unless released by removing a portion of the cement kiln's internal materials, forming a by product called Cement Kiln Dust (CKD).

Because chlorine levels in the new West Quarry limestone are so low, Yokom says they now generate much less CKD and are on the way to meeting Lafarge's zero-CKD goal for North America. "This is a much greener operation," he says.

## Getting Started

The project started when a study identified a viable limestone source about one kilometre west of the original quarried area, but still within the licensed area. The Project Team broke ground in February of 2008.

The first step was to clear out several acres of overburden - the soil that had covered the ground. Although the Project Team removed hundreds of trees from the new site, they were able to preserve some of them and replant them elsewhere on the property, adding to the 10,000s of trees planted at the plant over the years.

With the site cleared and the overburden removed, it was time to start blasting. The Team opened up a 14-metre pit, removing 400,000 tonnes of stone.

## Mobile Crusher moving to the new quarry.



### Limestone on the Move

Perhaps the biggest logistical problem surrounding the new quarry was getting the limestone back to the plant. The new site is a full kilometre away from the previous site, which is where the conveyor system that transports the limestone to the plant is located.

The Team decided to move the quarry's mammoth limestone crusher to the new site and build a new conveyor to move the limestone back to the old quarry.

### Going Underground

To make the new conveyor work, the Team had to negotiate a set of complicated logistics. The conveyor had to go underneath the nearby rail siding and a power line that feeds the entire plant. They built a 150-metre underground tunnel from the old quarry to the new one.

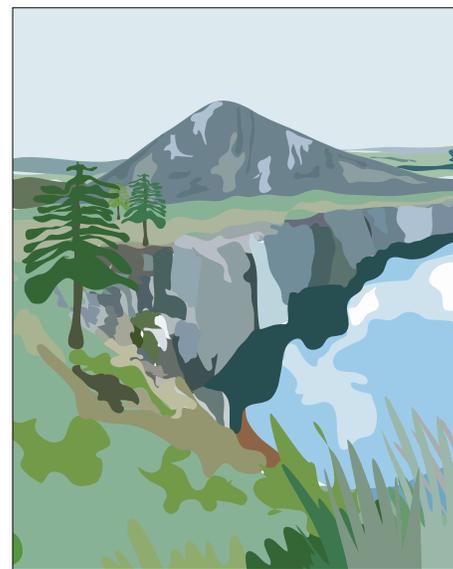
### Moving the Monster

The Team knew that the enormous mobile crusher could never make the three-kilometre journey to the new site on its own. Someone would have to move it. They hired 2009 Canadian Business of the Year Winner Mammoet to do the job - the same firm moving windmills onto Wolfe Island. The firm used a flatbed transporter with over 100 hydraulically-powered wheels to support the crusher's weight. Although the trip was less than three kilometres, it took over four hours to complete. "It was a complicated ride," says Yokom. "It was like parallel parking a building."

With the tunnel installed and the crusher in its new home, the West Quarry was ready for mining. Lafarge employees mined their first piece of limestone on December 15th, 2008.

### What's Next?

The old quarry area still contains lots of mineable limestone, but because the West Quarry limestone is of higher quality, Lafarge has temporarily shut down mining operations at the old site. Yokom says when the time comes, many decades from now, they plan to flood the old quarry and turn it into a lake.



*Many decades from now, Lafarge plans to flood the old quarry and turn it into a lake.*

Lafarge would like to thank the many contracting and engineering firms who helped us move to the West Quarry including: Mammoet, Bayshore Mechanical, Morven Construction, Martin Electric, McNally's, and many others.



*A few months ago, plant workers rescued this orphan fawn (pictured left) after its mother was killed in a traffic accident. Bath workers contacted the Sandy Pines Wildlife Centre in Napanee who took the fawn in and nursed it back to health and the plant's adopted fawn has now grown into a healthy doe as pictured above.*

## Home Sweet Habitat

Did you know that Lafarge is the only cement manufacturer in the world to form a partnership with one of the world's leading environmental protectors?

It's true. In 2000, Lafarge became the World Wide Fund for Nature (WWF)'s leading industrial conservation partner and agreed to make a series of practical commitments to ensure continued respect for people and the environment. These commitments include:

- **Continual reduction of CO<sub>2</sub> emissions**
- **Developing a plan to reduce water consumption**
- **Increasing biodiversity whenever possible**
- **Promoting sustainable construction practices, products and systems throughout the building - construction chain**

The corporation also devised Sustainability Ambitions 2012, a vehicle to extend the partnership by setting ambitious targets for all plants to reach in the next few years with respect to health and safety, CO<sub>2</sub> emissions and quarry rehabilitation.

The Bath plant shares the parent company's passion for sustainability and supports it in many ways, the most visible of which is the plant's commitment to preserving and enhancing the lands surrounding the property as wildlife habitats.

**Plant employees have earned recognition from the Wildlife Habitat Council for their efforts - often on their own time - to make these lands more welcoming to their non-human neighbours.**

One of their most visible efforts is a native tree and shrub planting program in partnership with Scouts Canada.

Because these plants have been part of the ecosystem for so long, they provide food and shelter to literally hundreds of species of insects, birds and mammals. And they require far less fertilizer and water than their non-native counterparts.

Other initiatives include building bird boxes and bat boxes and planting additional forage grasses and wildflowers to attract bees.

### Supporting Sustainable Habitats Everywhere

The plant's commitment to sustainable habitats extends beyond its own borders. Lafarge recently donated \$20,000 to the Cataraqui Region Conservation Authority toward the purchase of the Bayview Wetland Area, just north of Amherstview.

Home to 379 species of vascular plants and numerous animal species, the Wetland had been owned by the estate of the late Judge William Henderson. The Conservation Authority decided to buy the property to protect it from development and to enable botanical and zoological research to continue there.

**"We had an opportunity to acquire it and we did so with the help of local businesses and individuals," said CRCA General Manager Steve Knechtel. "Lafarge was one of the significant donors. They helped make the purchase possible. We couldn't have done it without them."**

## Building a Better Bath

Thanks in part to a generous donation from Lafarge, the Village of Bath is about to undergo a renaissance.

The three-year Bath Revitalization Project aims to restore the village's main street to its former glory with a heritage-themed renovation. "It's a very involved project," says Andy Fitzgerald, Chair of the Bath Community Revitalization Committee. "We want to become a destination point."

The first of the project's four stages involved organizing supporters into committees to identify tasks and get started on them.

The second stage, which is now underway, involves the physical improvements to the town's public areas, including renovations currently underway in Centennial Park. "We're also working on buying new street furnishings - benches and lighting and that sort of thing," says Fitzgerald. "We want to become more attractive to pedestrians and entice cars to want to stop here."

Next up is the economic development stage, in which the village will try to secure government funding to help local business owners spruce up their storefronts. The final phase will be a concentrated marketing push, including a sleek new website and signage on Highway 401.

To pay for it all, the committee is hoping to raise \$95,000 over the three-year period: \$65,000 from local businesses and \$30,000 from the community. The money will be matched by the Ontario Ministry of Agriculture, Food and Rural Affairs.

Halfway through the campaign, they've raised an impressive \$23,000 from the community and \$53,000 from local businesses, including \$20,000 from Platinum Sponsor Lafarge. "Lafarge has been incredibly supportive of our effort," says Fitzgerald. "They were one of the first businesses to come on board and they came in at the highest sponsorship level. They also gave us a subsidized rate on the concrete for the building projects. They're a tremendous community partner."



*Workers in Bath creating the beautiful paving shown in the picture to the right.*



## Biomass Update

As part of its commitment to sustainability, the Lafarge Bath Plant is taking a step toward converting part of its operation to run on biomass fuels.

**Biomass fuels** - any natural materials, like plants, that are consumed as fuel - are an energy-efficient, locally-grown alternative to fossil fuels.

Over 140 people came to a public meeting in the spring to discuss the project. Plant officials incorporated their comments into the application to secure the needed government approvals. Those approvals have since been secured and the processing system is designed, with initial construction now underway.

Meanwhile, with the help of area farmers, the biomass crops have been harvested and the first 400 bales are at the plant and ready for use. The biomass fuel demonstration run originally slated for this fall will now take place in the spring of 2010.

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Lafarge North America, Bath Plant is committed to being an environmentally responsible organization.

This newsletter is printed on Enviro100 - 100% post-consumer recycled, Environmental Choice Certified, Processed Chlorine Free paper made with bio gas energy

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Printed by  
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