

# Bath Plant

March 2005

Issue

## In this issue:

### A Message from the Plant Manager

### Extreme Makeover: Home Edition; Lafarge lends a hand and much more

### About Lafarge

### Scrap Tires as Fuel

### Welcome new staff!

### Insert:

### Behind the scenes of the Winter Turnaround

### When it all Began



## A Message from the Plant Manager

On behalf of the employees of Lafarge's Cement Manufacturing Plant in Bath, I am pleased to bring you the first edition of the "Concrete Connection." In this newsletter and the ones to follow. You'll obtain a deeper understanding of the work your friends and family provide as well as getting an inside look at the behind the scenes work of our plant. As you get to know us and the products we produce, I believe you will find that we share the same values and are proud to be a part of your community.

First, I should introduce myself as the Plant Manager. I have been with Lafarge for over 8 years. I worked at three Lafarge plants prior to joining the Bath team in August 2004. I have worked my way up, starting as Maintenance Manager, then Operations Manager and now as Plant Manager. My wife, two daughters and I truly enjoy living in this area, as we have been treated so kindly by our neighbours. We enjoy exploring the many great waterways and lakes in eastern Ontario during the summer weekends on our boat.

In this newsletter you will read about the history of the Bath Plant, opening over 30 years ago. It will provide an update on our proposed project to use scrap tires and alternative energy sources to fuel our plant, and a look at just what exactly happens behind closed doors when the plant shuts down once a year to prepare for the busy period ahead. Fan ABC's Extreme Makeover: Home Edition will want to see our follow up inside this issue to the recent February 13<sup>th</sup> episode.

You may be surprised to hear that our plant employs a team of about 120, from Loyalist Township, Greater Napanee, Belleville, Prince Edward County, and Kingston. We pride ourselves on being very community oriented as cement is used in local building projects and we hire the services of local trades persons and service companies for a total economic benefit of over \$100,000,000 per year.

The past year was an exciting one at the Bath plant! The year began with the start of an important alternative fuels project, which brought us many opportunities to meet our neighbours and to enjoy getting to know you. As the year progressed, we spent over \$7 million in upgrades and are proud to announce two new production records: 1,002,100 tonnes of cement shipped and 961,820 tonnes of clinker (cement before gypsum is added). Please join me in celebrating the accomplishments of your friends and family members who work here.

We also had a busy year helping our community grow. We donated the cement for the Napanee sports centre, we supported many heritage projects, and we continued our community involvement as a major supporter of the fireworks, the Canada Day parade, tree planting with local schools. I look forward to sharing more details on this work in the future.

# Extreme Makeover: Home Edition; Lafarge lends a hand and much more



Rick Wheeler, Concrete Quality Control Manager in Denver, spent about 30 minutes talking to the show's star, Ty Pennington, on-camera. Lafarge's unique technical expertise brought the project ahead of schedule, an unusual experience for the design team as regular viewers will know.

Fans of ABC's Extreme Makeover: Home Edition may recall seeing Lafarge on the Sunday, February 13, 2005 episode. This was this first time the Extreme Team stretched beyond one house and one family. Two families from Arvada, Colorado, both previously homeless, received the opportunity to start new lives in a ranch-style duplex built by the design team in a special two-hour show.

Lafarge was on site for this project and donated 35 yards of high early strength concrete for the caissons, 30 yards for the exterior flatwork, and 40 yards of Agilia® self-consolidating concrete for the walls. In addition Lafarge also donated 30 yards of Artevia™ colored concrete for the basketball court and granite boulders for a children's

Agilia® concrete is designed to reach high early strength and be virtually self-consolidating when placed. A typical wall would be stripped and backfilled within three days, but for this special project, the Agilia® mix wall was stripped and backfilled in three hours, putting the Extreme team ahead of schedule.

"We are delighted to donate our most innovative products to help speed the construction of this worthy project," said Bob Cartmel, President of Aggregates Concrete & Asphalt, Western U.S. Division.

## About Lafarge

With sales and manufacturing operations in 75 countries, Lafarge is the largest comprehensive building materials company in the world employing over 77,000 employees. The Bath plant is one of seven Lafarge cement manufacturing plants in Canada.

## Did you know?

- o Concrete uses less energy in its manufacture than all other man made building products
- o Concrete is the world's most widely used building material. Annual global production of concrete is about 5 billion cubic yards.
- o 82% of the plant's cement is shipped to Lake Ontario terminals, 8% is shipped by rail, with the rest trucked to local customers.
- o Concrete roads last twice as long, and reduce fuel consumption by 7-11%, compared to asphalt roads



# Behind the scenes of the Winter Turnaround

The winter turnaround is an annual maintenance period during the winter construction slowdown, when the plant is shutdown and retooled for the coming months.

The days start early during the winter turnaround for Greg Moore, a Millwright in the maintenance department. A typical day starts at 7:00 am with a review of the night's progress and planning for the day ahead. After which, a "toolbox safety meeting" arrives, where safety questions and incidents are discussed and then it's off to work, but only after completing the safe work permit and locking out equipment. The day's work might, for example, involve dismantling the coal mill feeder in order to check tolerances and inspect the equipment to ensure it is ready to go for months of continuous operation.

"There is a considerable amount of coordination with other experienced workers, whether it's an electrician to disconnect a motor or a process operator who needs to use the equipment," says Moore.

The day doesn't end until 7:00 p.m. and then it's off to home to rest up for another busy day.



"The message we get and give is that safety is a high priority, there is no tolerance for unsafe work in a busy shutdown," says Moore.

The plant's recently appointed Maintenance Manager, John McKay sees the winter turnaround as a once per year opportunity to do a comprehensive, end to end overhaul of the plant. Virtually every piece of equipment is inspected and repaired if needed and new equipment is installed. Major work included replacing one third of the kiln's specialized refractory brick at a cost of \$800,000. Other activities included inspection and maintenance for the crusher, raw and finish mills, kiln support, conveyors, and pollution control equipment. Within the detailed inspection program, 25% of the activities relate to preventing equipment failure. The

winter turnaround cost over \$4,000,000 and lasted over three weeks.

The annual event involves hundreds of people from Lafarge and local companies and has been completed without any lost time or restricted work injuries. "We are fortunate to have such a committed, motivated team at the Bath plant" said a tired but satisfied McKay as he looked back on the outage period.



The winter turnaround is completed in time for the docks to re-open once the ice breaker finishes its work

The winter turnaround was an opportunity to install some capital upgrades on the electrostatic precipitator. This unit acts as an electronic filter to control dust emissions from the kiln. The upgrade will increase the filter's reliability and its performance, ultimately reducing dust emissions over previous years.



# When it all Began

After purchasing the Canada Cement Company, Lafarge decided to invest in a new plant in Ontario. In July of 1970, Canada Cement Lafarge announced the construction of a 1,000,000 tonne/year cement manufacturing plant in Bath, Ontario.

Why Bath? The plant's location was ideal in many ways. The large site (9.1 square kilometers or 2251 acres) had over 300 years of high quality limestone reserves located just 9 ft below the soil surface. Rail lines were only 5 km away and the site was very close to the Lake Ontario shore with its deep, navigable waterway. The site was also within commuting distance for the long-serving employees of the Point Anne plant, near Belleville. The plant was slated to close when the new plant started up.

Rick Insley, of the plant's physical testing laboratory, remembers starting as a summer student in 1974 and then moving on to full time work as a yard worker.

"I had a lot of fun as an 18 year-old joining a close knit group who had worked together for most of their lives," says Rick.

Rick's father was one of the Point Anne employees who transferred to the new plant with a 40 year career spanning the two plants. Rick recently reached the 30 year mark in his career with Lafarge and is one of many second generation employees working at the plant.

The Bath plant was designed to produce 1 million tonnes/year of cement using a 655 ft long, 19 ft diameter kiln. This is enough cement to build a 2-lane highway to Nova Scotia every year. Easily seen from Highway 33, this kiln is one of the largest kilns in North America standing two storeys high and longer than two football fields! The plant was designed to use the "dry method", using dramatically less energy than the older "wet method" designs.

In order to mix all of the ingredients as thoroughly as possible, the plant was built with a large enclosure (the "barn" as it's known at the plant) to keep the piles of raw material out of the wind and to allow these piles to be efficiently mixed. Unlike other cement plants, the plant was designed to be set back from the road. This design

decision coupled with the "barn" kept the less aesthetically pleasing quarry and storage operations out of sight of passing motorists along Highway 33, boaters on Lake Ontario, and residents of Amherst Island.

What's next for the Bath plant? Lafarge is optimistic about the future of the Bath plant and continues to invest heavily in plant upgrades. The biggest long term challenge facing the plant is the expected decline in fossil fuels over the coming decades. To prepare itself, after approval by the Ministry of the Environment, the Bath plant will join other cement plants around the world in adding scrap tires, plastics, used oil, cellulose, and meat and bone meal to its traditional mix of coal and petroleum coke in current use at the plant.



The plant as it appeared in 1973



The plant as it appears now (2005)



Control Console design based on late 60's Ford Mustang Side Mirror for modern high tech appearance



Control Console today

# Scrap Tires as Fuel

*The Bath plant uses large amounts of energy to fire the large kiln to a temperature one quarter as hot as the sun. The plant uses coal and petroleum coke today but is seeking to join the ranks of the hundreds of cement plants around the world who safely and routinely use "alternative fuels" such as scrap tires and many others. Not only reducing energy costs, keeping cement prices low, these plants also reduce fossil fuel use and keep energy containing materials out of landfills.*

In March of 2004, the plant announced its local implementation of Lafarge's sustainable development initiative. One of the tenets of sustainable development is the conservation of energy.

"Lafarge is very aware of looming world wide energy shortages and is seeking a responsible role to play in reducing fossil fuel consumption" says Rob Cumming, Resource Recovery Manager

During its preliminary review, the Ministry of the Environment has indicated that new, strict emission standards will be applied to the plant should it grant approval.

"Based on other approvals for similar projects, both in Ontario and elsewhere in North America, we will be required to test our emissions after we implement alternative fuels to ensure we comply with the new emission standards," says Nick Veriotes, Environmental Coordinator.

The proposal is nearing the end of the approval process. In Ontario and other jurisdictions, this review is a highly public and exacting process. California and other states have already approved the use of scrap tires. It all begins with a public

February of 2004; both the Ministry of the Environment and Lafarge itself publicized the project and collected community comments, concerns, and questions.

"Thank you to everyone who took the time to learn about the project and to become involved in the process" says Cumming. Using the community's and the Ministry's comments and questions, the company drew on its own experience and commissioned expertise to address the questions. These questions and answers were forwarded by the Ministry in the fall of 2004 to eleven government agencies for review. A final opportunity was then provided to Lafarge for response to any new issues raised during the agency review. This extensive process was completed in December, 2004. The next step is in the hands of the Ministry notes Cumming.

The most common questions were about the impact of the alternative fuel sources on air emissions. Based on extensive worldwide cement industry experience, Lafarge has calculated its post-implementation emissions and published the results at the three public information sessions held in 2004.

"The plant's emissions are well below the Ministry's health regulations and they will remain at these low levels when we implement alternative fuels. We work at the plant and our families live in this community, we hold the plant to a high level of environmental performance," says Glenn Widish, Operations Manager.

As a result of community concerns Lafarge has committed itself to reporting its new emission results to the public and to the Ministry of the Environment after alterna-

The proposal is to replace coal and other fossil fuels with scrap tires, used oil, shredded materials from plastic and cellulose, and meat and bone meal. All of these fuels have been used extensively and safely in cement kilns throughout the world.



## Did you know?

- o Over 2000 people were directly consulted
- o Lafarge has adopted many recommendations
- o Scrap tires have been used as fuel worldwide for over 30 years and now one in five tires are used as fuel in US cement plants
- o Alternative fuels are safely used on every continent

# Welcome new staff!

2005 started out fresh with the addition of two new employees joining our plant community.

We first welcomed John McKay and his family in January. John transferred from our Woodstock, Ontario plant and is continuing his expertise as Maintenance Manager at our Bath location, a plant twice as large as the Woodstock location.

"I have enjoyed the challenge of this new role and my family and I are enjoying the many good things the area has to offer," says John.



With the busiest maintenance period of the year starting in a few short weeks after his transfer, John's welcome and learning period was short lived.

In February, the Bath plant was also pleased to welcome Patrick Bourgeois and his family. Prior to joining Lafarge, Patrick was a Plant Manager for General Cable in St. Jerome, Quebec. He has been brought in to study our business processes and ultimately help us become more efficient. His presence is an important investment in our future.

"People are very friendly, it's a great place for children," says Patrick of the area.



P.O.Box 160, Hwy 33  
Bath, ON K0H 1G0