

# Build

*Customer Relationships. Better Products. Safer Environments.*

## FAST INFORM

### CEMENTOS ARGOS ACQUIRES LAFARGE ASSETS IN S.E. U.S.

Lafarge recently sold several facilities in the southeast United States to Colombia-based Cementos Argos for \$760 million. Assets sold include the Harleyville, SC, and Roberta, AL, cement plants, a cement-grinding station in Atlanta, GA, and associated supporting cement terminals. Bruno Lafont, Lafarge chairman and chief executive officer, says, "The transaction creates value for our shareholders while maintaining a strong network of operations for future growth in North America." Lafarge's North American operations now include 21 cement and grinding plants with a combined annual capacity of 19 million tons.

### LAFARGE PORTLAND CEMENT USED IN WASHING MACHINES



Laundry appliances aren't the first thing that come to mind when

thinking of applications for Lafarge products. But Wisconsin Flowgate & Culvert Company, a division of Wisconsin Valley Concrete Products, uses Lafarge portland cement to produce a concrete counterweight used to make Speed Queen washing

*continued on page 4*



Lafarge contributed to the sustainable construction of a new John Deere marketing and sales center.

## Lafarge Helps John Deere Achieve LEED Gold Certification

**John Deere**—manufacturer of agricultural and turf equipment—recently built a new marketing and sales center in Olathe, KS, to support its sales branches and dealerships in the United States, Canada, Australia, and New Zealand. The company's goal was to achieve Gold Certification for the facility under the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED®) Green Building Rating System.

A **Lafarge cross-business team** comprised of Cement, Aggregates & Concrete, and Systech in the Kansas City area offered a solution that coupled cement and concrete with a construction waste management service. Lafarge, general contractor The Weitz Company, and John Deere worked together to divert 95 percent of the project's waste from the landfill, contributing to LEED Gold Certification. Construction waste from the project was repurposed as fuel to manufacture cement at Lafarge's Sugar Creek, MO, plant. Using

Lafarge products in the construction of the John Deere project essentially created a "closed-loop system."

**To further contribute** to LEED certification, Lafarge provided Type I/II portland cement with a recycled content of 24 percent and a recovered energy content of 32 percent, according to a third-party verified ISO standard (ISO-14021). Additionally, 1,500 tons of fly ash were used for soil stabilization, further contributing to the LEED materials and resources credit category.

**Construction of** the 126,150 square-foot John Deere center began in 2010. The first employees moved into the new facility in early September 2011.



## JOIN US...

Lafarge Cement will participate in these 2012 industry events. Please stop by to learn the latest information about our product and service innovations.

### World of Concrete

Las Vegas, NV  
January 23-27, 2012  
Booth #N1125

### American Institute of Architects National Convention

Washington, DC  
May 17-19, 2012  
Booth #1203

# Lafarge Leading on Innovative Cement Manufacture, Sustainable Construction

**Our industry** has been working for more than five years to introduce a new cement that lowers the carbon dioxide footprint of cement manufacturing by 10 percent. Earlier this year, Lafarge introduced portland-limestone cement (PLC) in Canada to reduce our carbon footprint and help our customers achieve high standards in sustainable construction.

**PLC allows up to 15 percent** limestone to be interground with clinker and gypsum. Widely used in Europe for more than 30 years, PLC delivers comparable performance to regular portland cement in terms of concrete workability, set time, durability, and concrete strength. Currently, our industry is working to modify U.S. specifications to allow the use of PLC in the United States.

**The men and women** of Lafarge are very proud to have been one of the first companies to market this new product in Canada.

**Our commitment** to providing innovative products to our customers while contributing to sustainable construction is ongoing. We continue to make significant capital investments in environmental controls. These investments will reduce emissions of nitrogen oxides and sulfur oxides, which contribute to acid rain, and reduce particulate matter emissions from our manufacturing operations.

**In late 2008**, we built a solid-fuel grinding station at our Saint-Constant cement plant in Quebec. We lowered our kilns' energy consumption by nearly 7 percent between 2008 and 2010. At the same time, we reduced our emissions of nitrogen oxides and sulfur oxides at the plant by 58 and 48 percent, respectively.

**Not satisfied** to rest on its laurels, the Saint-Constant plant tested the production of PLC—which would reduce emissions even further—and is pursuing the use of recycled materials, such as wood and roof shingles, as fuel for its kilns. PLC is just one example of how Lafarge is working to reduce our emissions.

**Learn more about PLC** in this issue of *BUILD*. We are very proud of our efforts in this area and are determined to test increasingly innovative cement products that will benefit you, our customers, and help sustain the environment we share.



Sylvain Garnaud  
President, Lafarge Cement in North America

## Precast Concrete Panels Enclose Airport Control Tower



Precast concrete panels were used to enclose the Barnstable airport control tower.

**A new 85-foot air traffic control tower** at Barnstable Municipal Airport in Massachusetts was enclosed recently with precast concrete architectural panels made with Lafarge Type III cement from Saint-Constant, Quebec.

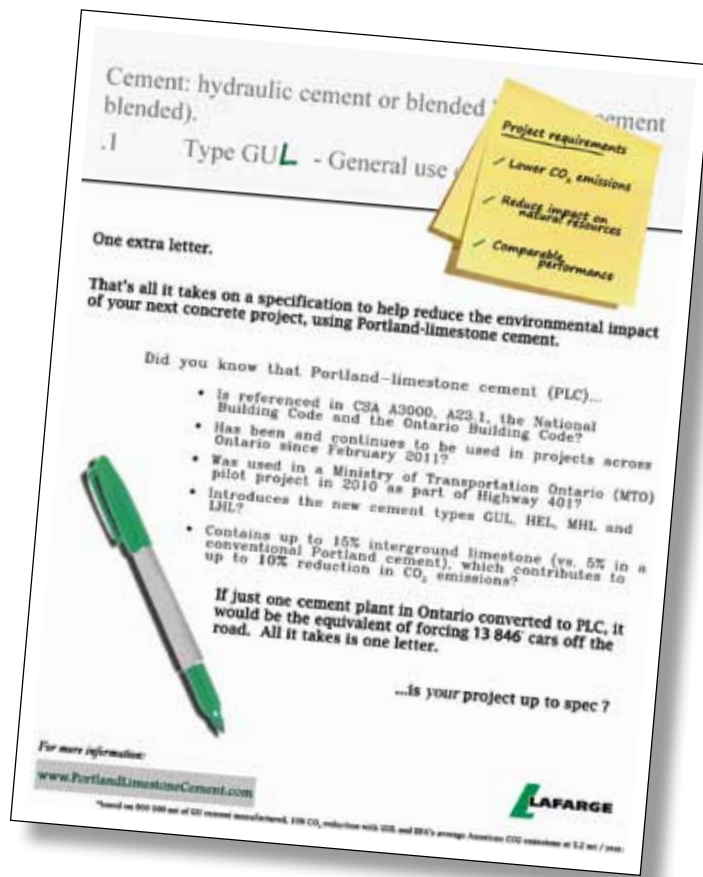
**Precast Specialties Corp.** of Abington, MA, produced 39 panels ranging from 8 feet wide by 11 feet tall to 10 feet wide by 28 feet tall and weighing from 7,000 to 24,000 pounds. Panels were cast with “Gray Screen” colored architectural concrete with “Rose Blend” in-laid thin brick, which incorporates the brick into the form. This provides the look of brick with the benefits and efficiency of precast concrete.

**Panels were shipped horizontally** on A-frame trailers to the job site, where the erector rotated or

“tripped” the panels to the vertical position before installing them on the tower’s steel frame. Assembling the panels took just four days.

**The control tower** is a candidate for Silver Certification in the Leadership in Energy and Environmental Design (LEED®) Green Building Rating System. This would be the town of Barnstable’s first LEED-certified municipal structure, and airport officials believe it would be the first air traffic control tower in the United States to achieve such a rating.

**Barnstable Municipal Airport**, the third busiest airport in Massachusetts, supports tourism and is an economic engine for Cape Cod and the islands of Martha’s Vineyard and Nantucket.



Lafarge provided this  
handout to Ontario  
municipalities.

## Product Spotlight: Portland-Limestone Cement

**Portland-limestone cement (PLC)** is a relatively new cement category specified by the Canadian Standards Association. It allows up to 15 percent limestone to be interground with clinker and gypsum, generating less carbon dioxide and associated emissions during the manufacture of portland cement. Earlier this year, Lafarge introduced PLC in Canada.

**Used in Europe** for more than 30 years, PLC is now approved in Canadian cement and concrete specifications, the National Building Code, and the provincial building codes of British Columbia, Nova Scotia, Ontario, and Quebec. It delivers comparable performance to regular portland cement in terms of concrete workability, set time, durability, and concrete strength while reducing overall carbon dioxide emissions by up to 10 percent. Customers can continue to use supplementary cementitious materials such as slag and fly ash in their concrete.

**Because of performance similarities** and PLC's significant sustainability advantages, Lafarge's Canadian cement plants are transitioning from making regular portland cement to offering PLC. Currently, Lafarge plants in British Columbia and Ontario are shipping PLC. Lafarge's Bath, Ontario, plant shipped more than 11,000 metric tons of PLC between January and August 2011.

**In addition** to eight of Lafarge's Lake Ontario ready-mix concrete plants, five independent or family-owned customers are currently using or testing PLC in Ontario. Although most applications have been ready-mix, PLC has also been tested in block, paving stone, mobile mix, and soil stabilization.

**Lafarge PLC** will be introduced in other provinces as additional testing and updates to local building codes are completed, which is expected to occur by the end of 2012.

**Producing PLC** at two Lafarge cement plants—Bath and Richmond, British Columbia—alone is estimated to reduce carbon dioxide emissions by 160,000 tons annually. That's the equivalent of taking more than 30,000 cars off the road.

## Lafarge Reaffirms Commitment to Bow Valley Conservation in Canadian Rockies

In May, Lafarge North America signed its 2050 Conservation Vision, a statement reaffirming the company's commitment to conservation in the southern Canadian Rocky Mountains. Since 2004, Lafarge has worked with the World Wildlife Fund-Canada and the Government of Alberta Tourism, Parks, and Recreation to determine how to protect the Bow Valley. Lafarge operates a cement plant and limestone quarry in the Bow Valley, near Exshaw, Alberta.

The Bow Valley is located along the upper Bow River in Alberta. In addition to offering stunning vistas of lakes, mountain peaks, and canyons, the valley is home to bears, eagles, wolves, elk, and other wildlife. It's a popular destination for hiking, fishing, birdwatching, rafting, camping, kayaking, rock climbing, snowshoeing, mountain biking, and other outdoor activities.

By 2050, Lafarge pledges that its conservation efforts in the southern Canadian Rocky Mountains will:

- Secure and protect ecologically vulnerable wildlife populations
- Improve the health and welfare of those who live, work, and play in the area
- Have addressed significant and relevant social, environmental, and economic concerns of the region's stakeholders.

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machines. Weighing a little more than 17 pounds, the counterweight balances the motor in each washing machine. Wisconsin Flowgate & Culvert makes 125,000 counterweights annually.

### PLC USED IN HABITAT FOR HUMANITY PROJECT

Lafarge sponsored this fall's "Blitz Build" in Detroit, MI, and constructed a house using portland-limestone cement (PLC) manufactured at its Bath, Ontario, cement plant. Comparable in performance to regular portland cement, PLC reduces overall carbon dioxide emissions by 10 percent. The home's foundation was poured using insulating concrete forms, interlocking foam units that are filled with concrete. In September, volunteers installed interior walls and roof trusses, built garage walls, shingled the roof, and installed the siding. Each year, employees of Lafarge's Lakes & Seaway Business Unit and its Shared Services Center in Michigan volunteer for Habitat for Humanity.

### TULSA PLANT HONORED BY PCA FOR ENVIRONMENTAL EXCELLENCE

Lafarge's Tulsa, OK, plant was among six cement plants recognized recently by the Portland Cement Association (PCA) for improving the environment and their communities. It received the PCA's prestigious Overall Environmental Excellence Award for 2011. In 2010, the Tulsa plant won the PCA's Energy and Environment Award for developing and applying innovative technologies that protect the environment or increase energy efficiency. PCA awards honor individual cement facilities that exemplify the spirit of continuous environmental improvement and support this spirit with action.

### LAFARGE PLANTS, TERMINALS RECOGNIZED FOR SAFETY

Three Lafarge cement plants—in Seattle, WA, Buffalo, IA, and Ravena, NY—were honored for outstanding safety performance at the PCA's spring meeting. In addition, Lafarge's St. Joseph, MI, and Whitefish River, Ontario, cement terminals were recognized for their outstanding safety records.

## Arena Stage Uses Self-Consolidating Concrete in Theater Campus

Lafarge's Ravena, NY, plant supplied the Type I/II portland cement used to produce self-consolidating, structural, and architectural concrete for the \$125-million expansion of Arena Stage at the Mead Center for American Theater in Southwest Washington, DC. Superior Concrete Materials, a U.S. Concrete company, produced the concrete.

**Self-consolidating concrete** is highly fluid and flowable. With no need for vibration or other types of finishing labor, self-consolidating concrete easily pours past congested reinforcement and rebar. It meets standard durability requirements and strength characteristics as well as traditional concrete designs do.

**Arena Stage broke ground** to expand its campus into the new Arena Stage at the Mead Center for American Theater in January 2008. The project was completed in time for the 2010-2011 theater season. Each year, nearly 300,000 theatergoers attend performances at the Mead Center.

**Two existing performance spaces** were renovated and a new 200-seat theater was built. A central lobby and box office, state-of-the-art technical and costume shops, a café and concessions, administrative offices, and rehearsal halls support all three theaters. The theater venues and all supporting facilities were unified under a sweeping 90-foot cantilevered roof, one of the largest in the United States.

**Tapering to a compass point**, the cantilevered roof is an architectural landmark for Southwest DC's revitalized waterfront.



Photo by Charles Callaghan

Arena Stage's expanded campus features a dramatic cantilevered roof.

## New Lafarge LEED Product Guide App Launched



### Solutions

Architects and other design professionals can now access the web-based interactive Lafarge Product Guide for LEED® Certification anytime and anywhere, using their Apple® iPhone® or iPad®. The app is available free of charge through the Apple iTunes® store. Starting the app is easy: Just touch the app's icon (shown above) on an iPhone or iPad.

**Mobile applications** (apps) give users the ability to access information while away from their homes, offices, or WiFi locations.

**Lafarge's new app** provides customers instant access to the Lafarge Product Guide for LEED Certification—whether they're on a job site, on a bus, or walking their dog. If a designer has an idea that might use a Lafarge product, he or she can quickly research product specifications and contact the appropriate Lafarge product specialist on the spot, even without a traditional network connection.

**About BUILD**—the BUILD newsletter is a publication of Lafarge Cement. Any questions, comments, or suggestions about BUILD should be sent to Dawn Stefano, Promotion Services Manager, via email to [build@lafarge-na.com](mailto:build@lafarge-na.com) or to Lafarge North America Inc., 12018 Sunrise Valley Drive, Suite 500, Reston, VA 20191, USA.

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