

# BORAL NEWS

DEC 2016

**BUILDING HOMES WITH  
HABITAT FOR HUMANITY**

**FLY ASH –  
A SUSTAINABILITY STORY**

**REFLECTING ON 70 YEARS  
OF BORAL**

**A DAY IN THE LIFE OF  
THE BORAL DISCOVERY  
CENTER**

# KEEPING TRANSFORMATION ON TRACK

Headwaters acquisition in the USA



## Transforming Boral

By now you would have seen or heard the news about Boral's acquisition of Headwaters Incorporated in the USA.

This is a transformative step – not only for Boral USA but for the organisation as a whole.

By significantly strengthening and growing the US business through this acquisition, we will have three strong divisions which are better positioned to deliver performance excellence and more sustainable growth.

Our teams will be working diligently towards the completion of the acquisition, which we expect around mid-2017, and then the integration of the businesses.

It is a very exciting time to be a part of Boral. We have a long and illustrious history, having celebrated 70 years since incorporation this year, but we are also a dynamic organisation with a bright future.

As I told shareholders at the Annual General Meeting in November, Boral Australia was impacted by wet weather and lower activity in Western Australia in the first quarter of FY2017. The division is working hard to make up volumes through the rest of the year, and will benefit from the increasing infrastructure activity that is coming through.

USG Boral is delivering strong results, particularly in Australia and Korea, and Boral USA continues to benefit from the housing market recovery. Overall, we are expecting Boral's earnings before interest and tax (EBIT) in FY2017 to be higher than the EBIT we delivered in FY2016.

As we come to the end of 2016, and face an exciting year ahead, I thank all of Boral's people for your hard work, commitment to safety and persistence in delivering great outcomes.

I wish you and your families a safe and happy holiday season, and look forward to an exciting 2017 as we continue to *Build something great* at Boral.



**Mike Kane**

CEO & Managing Director

### FRONT COVER IMAGE:

Andrew Sheehan of Boral Quarries, Qld, in Yogyakarta, Indonesia for Habitat for Humanity Australia's 'Rock the House' build in October 2016.

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If you have an item of news for future issues, please contact:

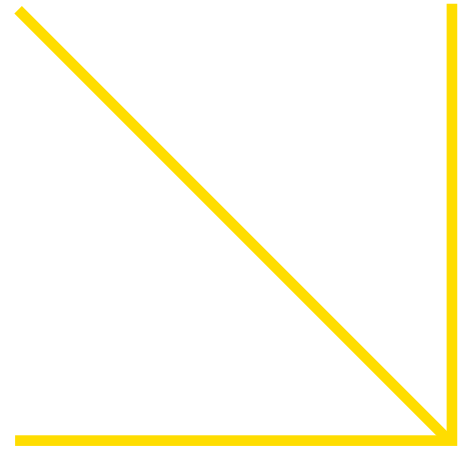
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# UPDATE

## Australian and US bricks businesses



In Australia, Boral sold its 40% share of the Boral CSR Bricks joint venture to CSR, 18 months after the formation of the joint east coast bricks businesses. The sale was effective as of 1 November 2016 and Boral will recognise a \$20-25 million post-tax profit on the sale in FY2017. Boral's CEO and Managing Director Mike Kane said, "While the joint venture has performed

well and delivered significant synergies following integration of the two businesses, now is the right time to realise value for the business and redirect capital to Boral's core operations. This is in line with our strategy to optimise assets to maximise returns across our Australian building products portfolio." Meanwhile, in the US, the 50:50 joint venture between Boral

Bricks and Forterra Brick in North America commenced on 1 November 2016. President of Boral Bricks in the US Paul Samples was appointed CEO of the joint venture, which brings together Boral's USA clay brick operations and distribution network, and Forterra's clay brick and concrete brick businesses in the USA and Canada.

## Boral Australia and branding



Boral Australia was formed as a new division of Boral Limited on 1 July 2016, bringing together our Construction Materials & Cement and Building Products divisions in Australia under the leadership of Joe Goss, now Divisional Chief Executive for Boral Australia.

For Boral staff and external parties who need to use the Boral logo and other branding elements, a refreshed version of the company's brand guidelines was released in November 2016. This version includes instructions on how to use Boral Australia branding.



The refreshed guidelines also address our global safety wordmark, Zero Harm Today, as well as instructions on how and when to use other internal wordmarks, like zero|one|ten.

Boral staff can access the guidelines from the Boral intranet or get in touch with the Boral Communications Centre in Port Melbourne. ■

## Global gypsum company of the year!



USG Boral was awarded the Global Gypsum Company of the Year accolade at the 2016 Global Gypsum Awards in Bangkok in October.

As part of the major global gypsum industry event, USG Boral was recognised by a judging panel and public voting in three award categories. In addition to the Global Gypsum Company award, USG Boral SHEETROCK® Plasterboard was

recognised as the Global Gypsum Product of the Year while the Global Gypsum Plant of the Year award went to USG Boral's Saraburi plant in Thailand.

USG Boral's Chief Operations Officer Joe Holmes, said, "The awards are a great recognition of our efforts over the years to create an elite plasterboard operation. And we are proud to have such a professional and dedicated team at Saraburi." ■

## Environmental innovation at Ormeau Quarry



Part of the stormwater management system at Ormeau Quarry

The stormwater management system at Ormeau Quarry, commissioned at the end of 2015, was recognised at the Healthy Waterways Awards, the 2016 Queensland Cement Concrete & Aggregates Australia annual Environment, Health & Safety awards and the 2016 Premier's Sustainability Awards.

The system uses recycled materials, including 1,500 tyres and 1,200 concrete mass blocks, with proprietary technology and in-house engineering

ingenuity to improve water quality of the Pimpama Creek which runs along the quarry site.

The innovative and cost-effective system captures, contains and clarifies stormwater runoff in the environmentally sensitive area, and meets the quarry's current and future environmental licence conditions.

Boral has partnered with Landcare and other community groups to maintain and enhance the Pimpama Creek corridor for more than 20 years. ■

## Boral TruExterior® product extensions

Four new trim profiles and two enhanced siding profiles have been added to the Boral TruExterior® Siding & Trim line-up, increasing versatility of the product range, responding to home building trends and saving time for installers.

The new trim profiles comprise Rabbeted Trim with Window Pocket, Rabbeted Trim with Siding Pocket, Rabbeted Trim with Window and Siding Pocket, and 2x2 Trim, while the new siding profiles are Shiplap with Woodgrain and Nickel Gap.

Boral TruExterior® Siding & Trim products are available at around 650 dealer locations across the USA. ■



Restaurant in Cleveland, Ohio features Boral TruExterior® Shiplap Siding



Boral TruExterior® Nickel Gap Siding



Boral TruExterior® Rabbeted Trim with Window and Siding Pocket

### DID YOU KNOW?



40 YEARS SINCE CONCRETE WAS ESTABLISHED IN KIRRAWEE, NSW



£129,443 THE COMPANY'S FIRST REPORTED OPERATING PROFIT IN 1949

## Exciting new Cultured Stone textures

Building on a reputation for design flexibility across commercial and residential projects, Cultured Stone® by Boral® has expanded its Contemporary Collection to include two new stone textures: Pro-Fit® Modera™ LedgeStone and Hewn Stone™.

Featuring a contemporary look, multi-dimensional texture and

smooth finish, the new Pro-Fit® Modera™ LedgeStone is available in three colours, while the new Hewn Stone™ texture is available in three colours and five sizes. ■

Pro-Fit® Modera™ LedgeStone in Carbon (left) and Hewn Stone™ in Foundation (right)



## New cement dry mix: HS Concrete



Boral Cement's Blue Circle® branded HS Concrete is a high-strength 50MPa cement dry mix containing quality aggregate, sands and cement. It is suitable for concreting applications where higher strength and superior durability are required.

Sold as pre-mixed 20 kilogram bags for professionals and the home handyperson, Blue Circle® HS Concrete is available in NSW, ACT, Victoria, Tasmania and South Australia. ■

## Design innovation: USG Boral metal ceilings



USG Boral launched new metal ceiling products and systems in 10 markets across Australasia, Asia and the Middle East in 2016.

Designed primarily for retail and commercial spaces, the metal ceiling products enable a creative

aesthetic while maintaining functionality, commercial durability and acoustic excellence.

Product ranges include the Highlands lay-in panels, elegant Linea baffles and Clip-In ceiling panels. ■

## Back-to-back wins in national asphalt awards



(From left) David Boots, Eric Rossi and John Ralph, Boral Asphalt, SA



Matthew Haworth (right), Boral Asphalt, Victoria

The Legacy Way Tunnel and Western Freeway upgrade by Boral Asphalt in Brisbane, Queensland, took out the Outstanding Project Award at the Australian Asphalt Pavement Association (AAPA) National Awards in September 2016. This is the second year in a row that Boral has won the national prize – as well as the Queensland state award – for outstanding work on a road project.

In other AAPA state awards, Boral was

awarded for Outstanding Project in Western Australia for work on Gateway WA and for Innovation in South Australia for the A5E Stone Mastic Asphalt product.

Also in the South Australian state awards, Gepps Cross asphalt plant Technical Supervisor Ben Richards took home the award for Safety Initiative. In Victoria, Williamstown depot's Leading Hand Matthew Haworth won the award for Emerging Leader. Congratulations to all! ■

## Supporting the next generation of women in engineering

The University of New South Wales Boral Women in Engineering Scholarship aims to encourage and assist a female student to undertake a civil engineering or chemical engineering degree at the university.

In its inaugural year, two successful scholarship recipients will undertake work experience in the NSW construction materials and cement businesses, commencing in the first quarter of 2017. ■



(From left) UNSW engineering alumni Annabel Casteldine (Killen), Boral Group HR Director Linda Coates and Group Learning Manager Kathy Mackay

## Engineering students cement a place in the Southern Highlands

In the NSW Southern Highlands, Boral Cement is working with the University of Wollongong to place top performing engineering undergraduates in its operations.

Over the past eight years Boral Cement has placed students in various work experience roles, where they have focused on engineering design and project engineering. In that time four students have joined the company in full-time roles.

Through the 12-week placements in Boral Cement's engineering services, undergraduate students have been able to gain valuable workplace experience they need to complete their engineering degrees. The program aligns with the company's commitment to building a safe, productive and engaging culture, with a focus on community and industry participation.

In November 2016, two engineering undergraduates began their placement at Berrima Cement Works. They will work on projects throughout the Boral Australia engineering network. ■

## A big year for diversity and inclusion

By the end of 2016, Boral's Diversity and Inclusion Council will have presented more than 20 awareness sessions to leaders of Boral Australia, sharing the business case for diversity and inclusion and the company's goals for the future.

Also during the year an alumni was formed, connecting 40 active participants from the Diversity in Leadership Forums. The aim is to further develop networks and foster inclusive work environments throughout Boral's businesses.

In 2017 Boral's Diversity and Inclusion Council will continue to focus on how we treat, protect and work with one another under the key themes of inclusion, safety and workplace composition.

*If you are considering any Diversity and Inclusion activities in your business, please contact Kathy Mackay, Group Learning Manager for queries or guidance. ■*



Christian McMahon, Metropolitan Operations Manager, Boral Quarries (right) accepting the CCAA Health & Safety Innovation Award in Victoria

## Victorious in CCAA State Awards

Boral took home two of the three awards at the Cement Concrete & Aggregates Australia (CCAA) Victoria state awards in 2016. The driver tip-over warning system implemented in the company's fleet of articulated dump trucks across Victoria won the Health & Safety Innovation Award. The stakeholder perception benchmarking process, first implemented in mid-2015 at the Montrose and Coldstream Quarries, won the Community Leadership Award.

In Western Australia, Boral won the Community Leadership award for Orange Grove Quarry's local school and community engagement program.

Boral was also highly commended in a number of the Queensland state awards, while Concrete was highly commended in the NSW Health & Safety Innovation award. ■



# FLY ASH: A TRULY SUSTAINABLE CONSTRUCTION MATERIAL



**Boral recently announced the acquisition of Headwaters Incorporated in the USA – a building products manufacturer and fly ash marketer. When combined with our existing Boral Material Technologies business in the States, this will create a leading national fly ash platform.**

## What is fly ash?

Fly ash is a by-product from the burning of coal in power stations, otherwise known as a coal combustion product (CCP).

Its chemical composition and properties are similar to those of Portland cement, which means it can be used as a cement substitute in ready mixed concrete and other engineering stabilisation applications. And because fly ash has stable, spherical-shaped particles, it is also a good filler material in wood-and polymer-based products.

Encapsulating fly ash in construction materials, building products and engineering applications is a highly sustainable solution that diverts millions of tonnes of fly ash from landfills every year.

Boral has been managing and marketing fly ash and other coal combustion products for over 40 years in the USA, and it is a pioneer in the development of new construction materials technologies using CCPs.

Through extensive research and development, Boral has created a competitive advantage around improving the physical and chemical properties of fly ash, otherwise known as beneficiation, and finding cost-effective, attractive applications for what would otherwise be a waste product.

## Is it safe?

When properly handled, beneficiated, transported and utilised in encapsulated end uses, such as concrete or poly-ash products, fly ash is very safe. In fact, its use in encapsulated applications is encouraged by the US Environmental Protection Agency.

Unfortunately most fly ash produced around the world is still disposed of in landfills. This is a safe option if the landfill and storage facilities are well-managed, with appropriate environmental and engineering systems in place. But there have been some cases in history in which fly ash was placed into 'wet' or unlined landfills, resulting in concerns that over time it could create high risk scenarios, such as contamination of drinking water.

Storage of CCPs in 'wet' or unlined landfills is not a practice that Boral has ever been involved with. The practice occurs less frequently around the world these days, and indeed is being outlawed in the markets in which Boral operates.

## Fly ash at the core of Boral's sustainable light building products

In addition to developing engineered CCP materials for customers to use as functional fillers in asphalt, PVC, latex-based products and polyurethanes, Boral has developed a patent-protected polymer and fly ash, or poly-ash, composite material that is at the core of our Boral TruExterior® Siding and Trim products.

The exclusive poly-ash material has been developed with more than six years of rigorous internal and third-party testing.

Consisting of more than 70% recycled materials, predominantly fly ash, Boral TruExterior® Siding and Trim leads the market in its sustainability and environmental stewardship credentials. ■



Boral TruExterior® Rabbeted Trim with Window Pocket



# PATRICIA EVANS



**In 1949, in Boral's first year of refinery operation and trading, Patricia Evans (nee Morris), then aged 21, became the first female accountant to be employed by Boral, part of a team of five based at the Sydney refinery office in Matraville. She speaks to *Boral News* about her time at Bitumen and Oil Refineries (Australia) Limited, now known as Boral, and her career since.**

**BORAL NEWS:** Can you tell us how you came to work for Boral in 1949?

**PATRICIA EVANS (NEE MORRIS):**

I was the accountant for the New South Wales Golf Club at La Perouse and Boral's Chief Accountant used to play golf there. He told me there'd be a job on the accounting team at Boral if I was looking to move.

**BN:** What was it like in those early years of a new business?

**PE:** It was a good job in a new industry. Accounting to me is more than just a lot of figures because I like knowing the background of the business and what the money's being spent on. I learned about road building, what and how much of each product is used. I also prepared the books for WB Carr Constructions, a subsidiary which was a road building company.

I still remember how roads are built, how much of this component and that material makes up a section. As an accountant I made it my duty to know where every pound or US dollar, and in later employment where every Australian dollar, was spent.

Throughout my working life I've always enjoyed following the process and progress of projects.

The cost accountant and I worked on the oil shipment accounts in the early days. Our office was at the top of the hill overlooking the refinery and port and we could see the tankers as they berthed, coming into Botany Bay monthly from Bahrain. I remember that in 1949 buying oil was \$US2.22122828 a barrel while the general (commercial) rate was \$US2.2275 a barrel.

I'm not sure why those numbers have stayed with me; perhaps it was because I really enjoyed the oil shipments as Bahrain seemed so exotic and exciting!

**BN:** What are some of your fondest memories of your time at Boral?

**PE:** One recollection was the way I dressed for my interview. My favourite actress at the time was Rosalind Russell who to me was the epitome of elegance, and I thought how she dressed was the way you presented yourself. So I went for a very tailored skirt suit





Patricia Evans (nee Morris) in 1951 (left) and Boral's administration office in Matraville in the 1950s (right)

**“If I happened to miss the company bus I’d catch the city bus to Kingsford and then hail a passing tanker”**

with a split silver fox fur stole, along with stiletto shoes. I finished my outfit with a hat and gloves which were normal ladies’ attire in the 1940s.

The Matraville Refinery had recently opened and when I saw the flames on the chimneys on my first day I thought the place was burning down. I later found out it was the cracking plant and then learned what that meant.

I also remember how we got to work. The bus for the Boral office at Matraville and refinery would leave Central Station at 8.30am. If I happened to miss the company bus I’d catch the city bus to Kingsford and then hail a passing tanker. I realise tankers these days are a lot bigger than back then but I can’t help smiling at the thought of climbing into the cab. Stilletos, pencil slim skirt as part of a tailored suit, hat and gloves... certainly not conducive to a climb. On getting seated the tanker drivers’ standard greeting to the hitch-hiking accountant would be to know if their “pay had been brought down (done)”.

**BN: What challenges do you feel you needed to overcome as the first female accountant in the office?**

**PE:** There was some objection by the male accountants until they realised I could do the job. I helped the costing accountant when needed and also looked after overseas shipments. We worked as a team.

**BN: Looking back on those years, what have been the biggest changes you’ve seen in your career?**

**BB:** I had planned on a career. However I married early in 1954 and in mid-1955 my first child was born. After postponing final studies to prepare for marriage I completed my Chartered Institute of Secretaries’ course and examination in 1956. In those days most companies had a policy excluding married women from employment, though I did manage to get a small amount of work as an accountant working from home.

In 1965 at 37 years of age I applied for an accounting job, only to be rejected on the grounds that I was too old, and reminded that I was married with four children. In 1968 when I went back to work, the youngest of my children was at school. From that first interview I requested 9am to 4pm working hours to allow me to be at home for my children after school. I negotiated these hours in subsequent jobs as well.

I was generally offered rather than applied for employment. When I retired in my late 60s I received a phone call from a company saying they’d heard I was no longer working and would I consider joining them as their accountant! I declined as my husband had also retired and we had plans to travel.

It’s only more recently that there’s real opportunity for job progression in an industry as part of women’s career plans. Over the years I’ve regarded my employment as an accountant with various organisations more

as a job rather than a career or building a career structure.

After starting as an audit clerk in 1944 I’ve worked as an accountant with a number of chartered accountancy firms, an engineering machinery company, the New South Wales Golf Club, an advertising company, Bitumen and Oil Refineries (Australia) Limited (1949-1951), national and international companies in the construction industry, as well as real estate and travel.

I was a volunteer in accounts for the Australian Tramways Employees Association Union. I taught accounting via correspondence to an unwed mothers’ home in the early 1960s, then from the late 1970s I was Auditor for the Australian American Association (Canberra Division) as well as Treasurer and an active fundraiser for many years for Marymead Child and Family Centre in Canberra.

These days, I still enjoy numbers and as for accounting – there’s a whole new generation of family to teach about budgets and what to look for when buying a house. ■

Thanks to Patricia Evans and her daughter Suzanne Newnham for sharing her story as Boral celebrates 70 years.

Next edition, *Boral News* chats to Boral’s Chief Financial Officer, Ros Ng about her 25 years as a Chartered Accountant and her journey at Boral.



# HELPING TO BUILD SOMETHING GREAT

Boral's purpose is to build something great – creating sustainable solutions for the worldwide building and construction industry.

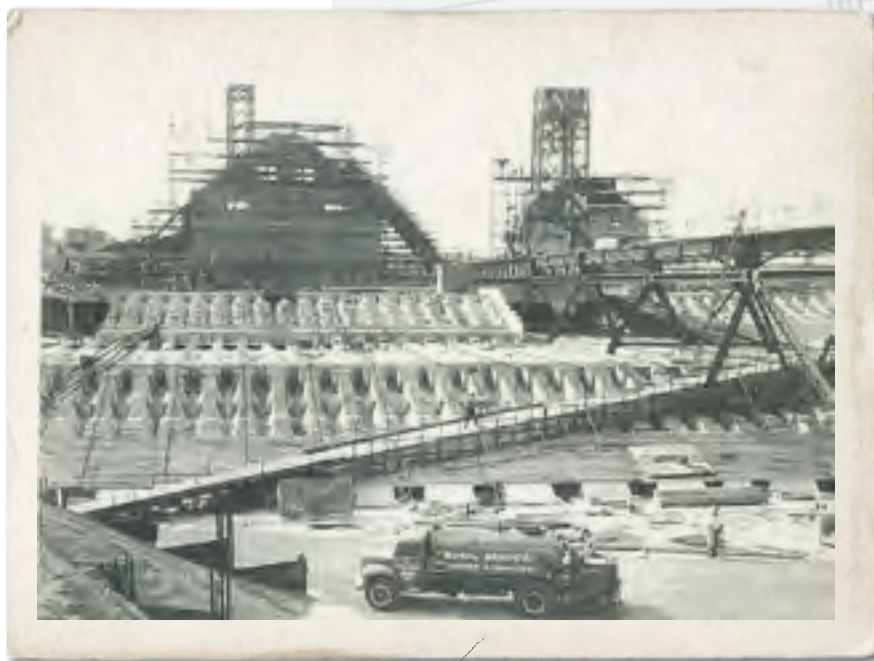
Over the past seven decades, Boral has helped customers in Australia, the USA, Asia, the Middle East and beyond to construct prominent, enduring landmarks. These are some of them.

Helping to build great roads & bridges



Boral supplied concrete, concrete placement, scaffolding, marble, granite, timber, plasterboard, masonry, precast concrete and lifts for the new **Parliament House** in Canberra, ACT in the 1980s

Helping to build great nations



Starting in 2012, USG Boral supplied plasterboard and shaft wall systems to the **Shanghai Tower** skyscraper in China

Boral supplied and laid asphalt for the forecourt of the **Sydney Opera House**, NSW, which was completed in 1973

Helping to build great icons

Boral supplied fly ash for the cement and concrete used in the **Sunshine Skyway Bridge** at Tampa Bay, Florida, USA, which was constructed in the 1980s

In the 1980s Boral supplied bricks to build the **New Zealand Embassy** in Washington DC, USA



## Helping to build great homes

Boral supplies concrete to **Meriton residential apartment buildings** in Sydney, Brisbane and the Gold Coast



## Helping to build great infrastructure & major projects

Boral supplied and laid asphalt and supplied concrete and crushed rock road base to **Gateway WA**, Perth's largest-ever road development which opened in 2016



Boral supplied concrete via mobile batch plants to all three **Curtis Island LNG projects** in Queensland, which were operational in early 2016



Through Blue Circle Southern Cement, Boral supplied cement and fly ash for the concrete used in the **101 Collins Street** office tower – a landmark Melbourne commercial building which opened in 1991

## Helping to build great commercial centres

USG Boral supplied plasterboard and wall and ceiling systems for the **Indonesia Convention Center**, which opened in 2015



Boral's Celebrating 70 Years video featuring these and other projects is available to view at [www.boral.com.au/celebrating70years](http://www.boral.com.au/celebrating70years)



# HEADWATERS ACQUISITION KEEPS TRANSFORMATION ON TRACK





**Boral recently announced the US\$2.6 billion acquisition of Headwaters Incorporated, a New York Stock Exchange-listed building products manufacturer and fly ash marketer. The deal will be ‘transformational’ for the company, says Boral CEO and Managing Director Mike Kane.**

The acquisition of Headwaters marks a key milestone in Boral’s *Fix Execute Transform* strategy, which commenced in 2012.

When the company set out on its *Fix Execute Transform* journey, Boral was a good business with solid foundations, but one that required significant repair in the first instance and then, a new vision for the future, said Mike.

“Since then we’ve transformed the Gypsum division through the USG Boral joint venture, and we’ve been incrementally transforming our strong Australian business to become a high performing operation with a leading integrated construction materials position.

“We formed a joint venture in east coast Australian bricks with CSR and, having realised most of the synergies from this amalgamation, we sold our share to CSR to reinvest in our core business.

“Together with the recent changes in our North American bricks business, we’re now transforming Boral USA. The acquisition of Headwaters will significantly strengthen and grow our US business.”

In addition, the acquisition means the company will have three strong divisions positioned to deliver growth, Mike points out. These are the high-performing Boral Australia, the fast-growing USG Boral business in Asia, Australia and the Middle East, and Boral USA – a building products and fly ash business with scale, greater geographic reach, more diverse product offerings and strong growth prospects.

“This will accelerate our strategy of creating a high-performing building products group that delivers ongoing sustainable growth,” Mike said.

House in Cleveland, Ohio featuring lightweight poly-ash Bevel Siding from Boral TruExterior® Siding & Trim



## About Headwaters

One of the leading building products manufacturers and fly ash marketers in the USA, Utah-headquartered Headwaters generates annual revenue of about US\$1.1 billion. (For comparison, Boral USA reported revenue of US\$751 million in FY2016.)

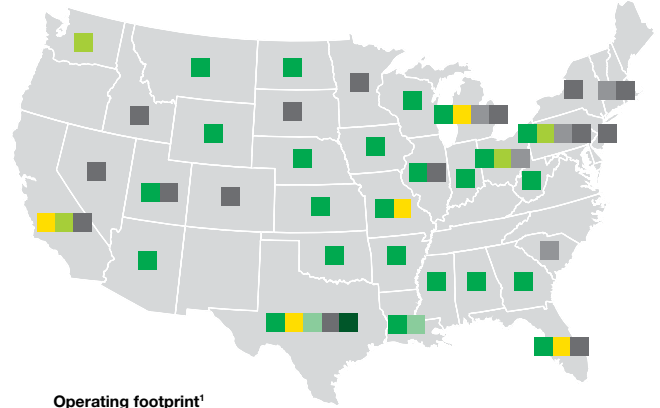
Its Building Products division designs, manufactures and distributes a range of architectural manufactured stone, specialty roofing, siding and trimboard, concrete block products and windows across commercial, new residential and repair & remodelling markets.

This division operates in 34 locations, including a roofing plant in Canada, and manufactured stone plants in the Philippines and Mexico. The acquisition will see Boral USA's roofing and manufactured stone positions double in size.

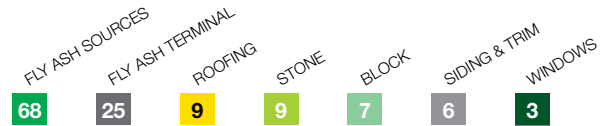
The company is also one of the largest marketers of fly ash in the USA. Its fly ash business is about five times larger than Boral's, with 25 terminals and 68 fly ash sources across the country. The fly ash businesses combined will create a national platform in the US, enabling Boral to more efficiently serve customers' needs in a competitive and growing market.

The acquisition will also expand and accelerate development of Boral's light building products platform. Boral's currently small but rapidly growing poly-ash trim and siding business will become a larger, scalable platform with greater geographic reach, more distribution channels and an expanded light-weight product suite.

## Headwaters has 125 operating locations across North America



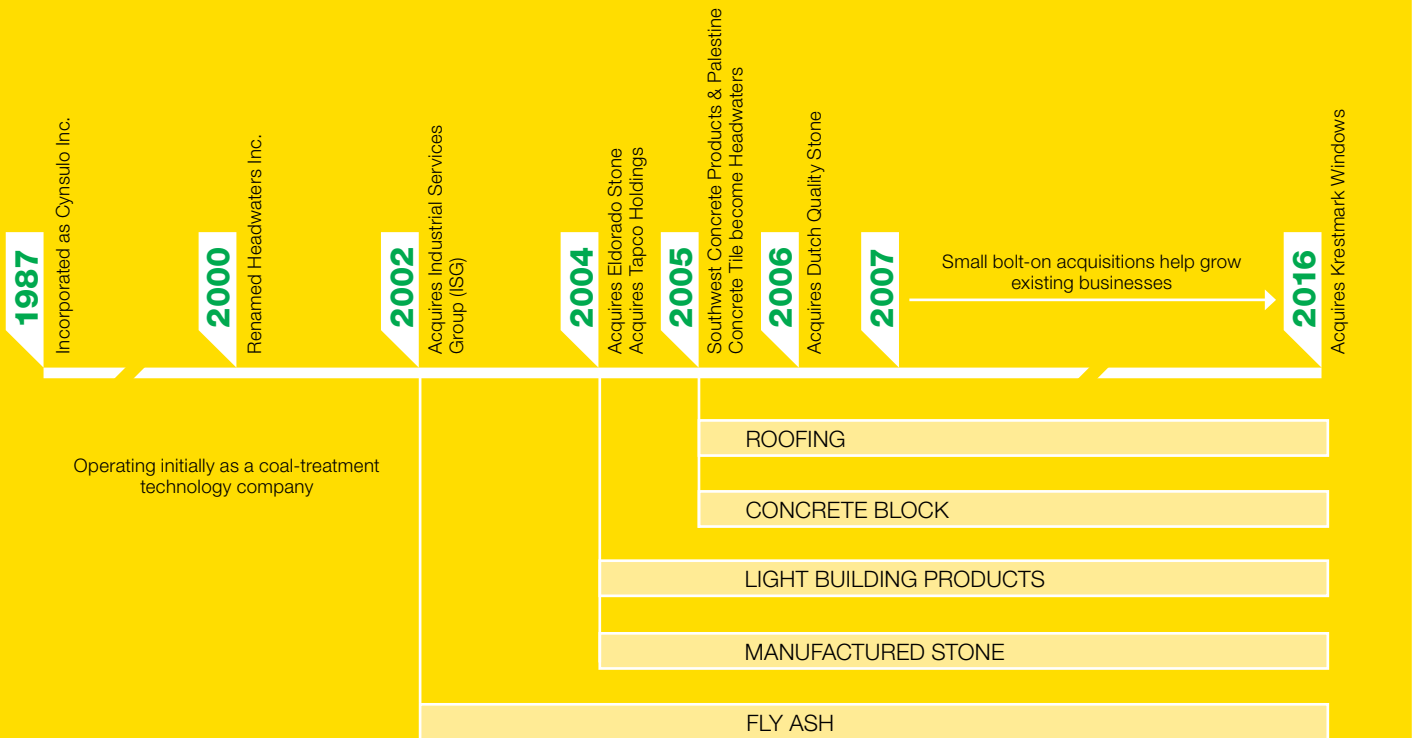
Operating footprint<sup>1</sup>



1. Operating locations include manufacturing facilities, distribution centres and segment headquarters as at November 2016, including a roofing facility in Canada, a stone facility in the Philippines and a stone facility in Mexico.

## A brief history of Headwaters Incorporated

Headwaters has been one of the leading marketers of fly ash in the USA for 14 years, as well as in manufactured stone and light building products for over 12 years. It has expanded primarily through a combination of organic growth and small bolt-on acquisitions in related product lines.



## A 'game-changer'

Headwaters has a portfolio of strong businesses with recognised brands and quality products that are highly complementary to Boral's US businesses. It will significantly increase Boral's exposure to the large US market, including improved diversification to non-residential, repair & remodel and infrastructure segments, in addition to the new residential sector.

Moreover the deal comes at a time when the US building and construction markets are gaining momentum.

"The acquisition represents a unique opportunity with businesses that are highly complementary to our existing US operations," said Mike. "It provides us with the scale, geographic breadth and multi-channel distribution networks required to capitalise on the growth opportunities in the US market, at an attractive point in the cycle."

David Mariner, President and CEO of Boral USA, believes it will be a 'game-changer' for the US business and team. "It will more than double the size of our US business and give us substantially stronger positions across fly ash, light building products, stone and roofing.

"And it will build a more balanced portfolio of traditional and light weight products. This will strengthen our ability to grow, especially through innovation, and allow us to better serve our customers," he said. David will lead the integration of the businesses in the US with the support of a dedicated integration management office.

Combined, the new Boral USA will be a US\$1.8 billion revenue business with an expanded product offering, a strong manufacturing and distribution footprint across the USA, and significantly improved earnings.

Importantly, too, the acquisition is expected to deliver about US\$100 million per annum in synergies within four years. This is expected to result from cross-selling and distribution benefits, and savings in operations, procurement, and selling and overhead costs.

**"Headwaters provides the scale, product range and market positions we need to deliver value for our customers and shareholders."**



David Mariner, President and CEO of Boral USA and Mike Kane, CEO and Managing Director, Boral Limited

## Strategically compelling

Given the size of its market and the opportunities it offers, Boral's Board and management team have for some time identified the US as a key target market for growth, explained Boral Chairman Dr Brian Clark.

"We have sought strategically compelling merger and acquisition opportunities to scale up the most attractive parts of our US portfolio and considered a number of opportunities," said Brian. "Headwaters provides the scale, product range and market positions we need to deliver value for our customers and shareholders.

"This one transaction is transformational for Boral, and we anticipate it will have a strong positive impact on shareholder value."

The acquisition will be funded through a combination of a A\$2.058 billion equity raising, a debt facility and existing cash. It is subject to Headwaters shareholder and regulatory approval in the US, and is expected to be completed in mid-2017.

Headwaters' Chairman and CEO, Kirk A. Benson, said, "Headwaters and Boral both have outstanding teams and share a common commitment to delivering a premier selection of high-quality products to our customers.

"We're looking forward to working with Boral to ensure a smooth transition for our stakeholders as we create one of the leading suppliers of building products and construction materials for infrastructure, new residential, repair & remodel, commercial and institutional construction."

In Mike's view, Boral is taking an important, transformative step with the acquisition. "Our company has an incredibly bright future across all three divisions," he said. "And there has never been a more exciting time to be part of this dynamic organisation." ■



# A DAY IN THE LIFE OF...

## THE BORAL DISCOVERY CENTER SAN ANTONIO, TEXAS

**Boral's state-of-the-art Discovery Center opened in February 2016 and forms an important part of the Boral Innovation Factory, which was established in 2012 to expand the company's focus on research and development (R&D) activities.**

Dr Amitabha Kumar, Vice President, R&D takes Boral News through a day at the Discovery Center, which spans 27,000 square feet and employs a team of 30 scientists, engineers and technicians who are driving Boral's R&D activities and disruptive innovations in building materials.



Research technicians Leah and Jeannette check in at reception with Denise who maintains on-site attendance records for safety and security purposes.

08:00



08:15

Amitabha conducts the weekly safety meeting with all employees in attendance. The Discovery Center's safety program includes behavioural safety observations, near miss records and Take 5 hazard identification.



9:00

Teams hold their morning meetings in one of the many collaborative spaces. Brian leads a team meeting with fellow research engineers John, Dale and Rich. They discuss safety and the work day ahead, which includes planning for improvements in the poly-ash product manufacturing process.

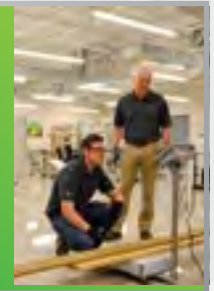


11:00

Vice President and Global Chief Technology Officer Dr Russell Hill and Director of Emerging Technologies Dr Hamed Lakrouf are holding a project meeting in the Discovery Room to determine the timing of the release of a new poly-ash backerboard product. The Discovery Center plays an important role in new product development for Boral USA.

10:00

In the Durability Testing Laboratory, technician Michael and senior research scientist Robert are performance-testing a Boral TruExterior® siding product. The lab houses equipment that conducts real time and accelerated testing of building materials to assess their performance and service life in real life applications.



10:30



Research scientists Li and Cassandra are working on creating cementitious coatings for sheet applications in the Mixing Laboratory. Research like this can lead to pilot operations, then production and commercialisation.



Over in the Polymer Laboratory, research technicians Sara, Oscar and Marai are performing reactivity tests on poly-ash formulations. Results from these tests will be used to improve performance in TruExterior® manufacturing plants.



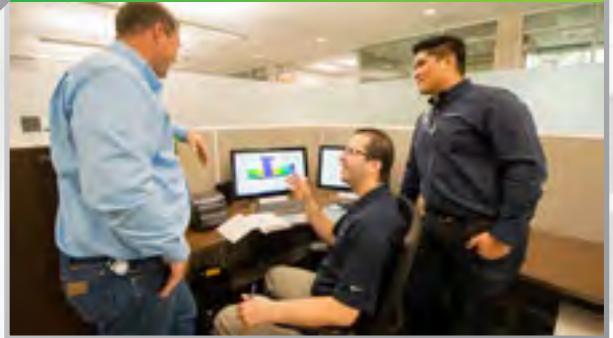
11:30



It's lunch time. Some employees go to the Discovery Center Collaboration Area for their lunch break while others head out.

12:00

Matthew, Soufiane and Brian in the engineering team chat about the mechanical attributes of TruExterior®. They use computational equipment and software to design and understand the properties of poly-ash composites, like TruExterior®, as a building material.



13:00

Russell leads a brainstorming and problem solving session with a team of research scientists (and Jenga blocks!), looking at ways to improve durability and performance of TruExterior® products.



13:30

Using an optical stereo microscope, research technicians Sarah and Jeannette examine the microstructure of material samples made in the Polymer Laboratory to better understand their structural properties.



14:00

In one of the labs, technicians conduct tensile tests of polymer-based composites. The Discovery Center is equipped to study mechanical performance aspects of building materials, including impact, nail adhesion and fracture mechanics.



14:30

Russell takes Boral's Group Environmental Advisor Dr Richard Strauch, who is visiting from Australia, on a tour of the center, including a showcase of products and the Gallery which displays Boral's innovation goals and highlights our achievements. Visitors today include customers and suppliers.



15:00

Russell calls Joel Charlton, Boral's Executive General Manager, Innovation and Vice President, Intellectual Property Portfolio, to provide updates on current projects at the Discovery Center.



16:00



15:30

Versetta stone panel samples are received from Boral Stone's Chester plant in the Preparation Area, where the samples are identified and classified, then prepared for testing and analysis.

16:30

### What is poly-ash?

A composite material – made from two or more materials with different properties that when combined, form a material with different characteristics to the individual materials – Boral's poly-ash structure is made by combining proprietary polymer chemistry and fly ash. After six years of rigorous internal and third-party testing, Boral introduced the TruExterior® range of lightweight poly-ash products in 2010. Boral TruExterior® Siding & Trim products are highly resistant to moisture, suitable for exterior applications and ground contact, and can be installed using traditional woodworking tools and methods.



Staff finish off testing activities for the day, clean utensils and pack away equipment. Scientists prepare samples and materials for tomorrow – another day in Boral's worldwide center of innovation.



# ZERO HARM TODAY

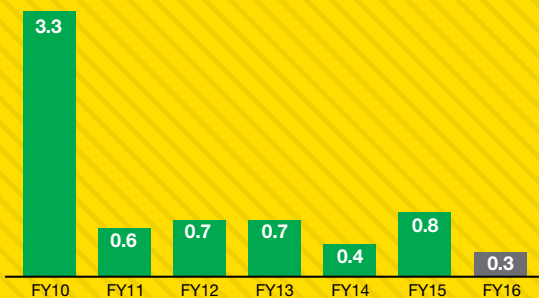
**A year after the evolution of our global safety goal, Zero Harm Today, Boral's businesses across Australia, the USA, Asia and the Middle East are demonstrating commitment and engaging our people to deliver better safety outcomes, today and every day. Here are just some of the success stories.**

## Best year ever in US safety performance

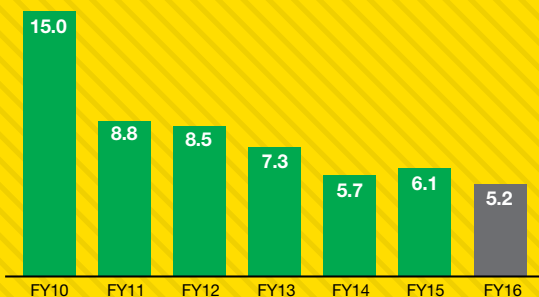
The 12 months to 30 June 2016 represented Boral USA's best year of safety performance on record. The US business reported its lowest-ever injury rates for employees and contractors, with a lost-time injury frequency rate of 0.3 per million hours worked and a recordable injury frequency rate of 5.2 per million hours worked. And many Boral USA sites are reaching historic safety milestones.

The all-time lows for injury rates are a result of the US team's continued focus on risk identification and employee engagement on safety and Zero Harm Today, with a record number of hazard awareness and near miss reports logged in FY2016. ■

### LOST TIME INJURY FREQUENCY RATE<sup>1</sup>



### RECORDABLE INJURY FREQUENCY RATE<sup>1</sup>



<sup>1</sup> Per million hours worked for employees and contractors of Boral USA

## Safety with a side of breakfast

Each month Charlie Condo cooks breakfast (or sometimes lunch) at every Boral Roofing and Masonry East plant across Australia. In his Breakfast with the Boss series, the National General Manager, Roofing and Masonry East visits the plants to talk to employees about achieving Zero Harm, focusing on a different topic each time.

**“After launching the series in March 2016, we’re seeing more engagement from our employees on safety. These sessions provide an opportunity to change our culture. They’ve resulted in open dialogue about safety and really demonstrate our commitment to delivering Zero Harm Today.”**

Charlie Condo, General Manager, Boral Roofing & Masonry East



## USG Boral rises to the GBMA Safety Challenge

USG Boral did us proud at the Australasian plasterboard industry body's annual challenge for forklift operators in October.

Tony Charnock, USG Boral's Senior Vice President, Asia Pacific led our team to third place in the Gypsum Board Manufacturers of Australasia (GBMA) Safety Challenge, which involves four events in hazard identification, load planning, pre-operations checks and practical forklift skills.

James Huch and Paul Portelli from Port Melbourne, Victoria, and Peter Wallis from Camellia, NSW, were selected for the team following a USG Boral forklift competition in the Camellia plant's carpark in early October.





## Safety innovation: Driver stability warning

Boral Logistics and Boral Quarries in the Southern Region implemented a driver warning system for its fleet of articulated dump trucks (ADTs), designed to prevent potential rollovers by giving drivers real time visibility of the truck body roll angle.

A device installed to the frame of the ADT constantly monitors the body roll angle, feeding real time information directly to the driver in the cabin. It is similar to the concrete agitator stability control and driver warning systems which are now standard on all new concrete agitators.

Alarms warn the driver when the truck body is close to reaching an excessive angle so drivers can modify their behaviour before an incident occurs. The data collected from the dump trucks is then used for training and performance management.

The device won the Health & Safety Innovation Award at the Victorian Cement Concrete & Aggregates Australia awards in August 2016. The judges considered that Boral's innovation could significantly reduce the risk of rollovers, which have resulted in serious incidents in the quarrying industry in recent times.

The installation of the device will be rolled out to all ADTs in Boral's quarry businesses nationally.

## Zero Harm achieved on Pacific Highway

Boral Australia's sales and logistics teams achieved Zero Harm over two years while maintaining cement supply to the 162-kilometre Pacific Highway upgrade projects on the New South Wales North Coast.

Since July 2014, Boral supplied our Shrinkage Limited Cement and fly ash for the Frederickton to Eungai and the Nambucca Heads to Uranga sections of the highway upgrade, which opened in May and July 2016, respectively.

The teams identified and overcame significant safety and environmental challenges along the way – including the large number of truck and rail wagon movements and providing substantial mobile on-site storage solutions. This process began six months before the project commenced, as part of a formal risk management process.

**“We received great, highly complimentary customer feedback about our planning and execution of the logistics service, including safety excellence, deliveries and mobile on-site storage solutions.”**

Garry Murphy, National Supply Chain Logistics Manager, Boral Cement



## Bringing safety values to life in Vietnam

Every year in Vietnam, there are more than 20,000 traffic accidents, around 60–70% of which involve motorbikes.

To reduce the risk of traffic accidents and improve safety for our employees, USG Boral in Vietnam no longer allows employees to use motorbikes for any business purposes.

As of early 2016, all staff are provided with taxi cards or company cars to visit customers, suppliers and building sites and do any other business outside of the office or plant.

USG Boral Vietnam General Director, Sang Tran, says the new policy engages employees with the business and its safety values.

**“Not many companies in Vietnam have this kind of policy. Our employees feel proud of USG Boral, and they can share what we're doing with their family and friends. We don't just talk about safety; through this policy, we demonstrate that we really care.”**



## Zero Harm in the front-line

More than 350 front-line leaders from Boral's construction materials businesses in NSW and the ACT participated in Zero Harm summits in the past year.

The regional leadership team facilitated 37 summits in 13 locations, bringing together front-line leaders to encourage dialogue on Zero Harm and generate practical ideas on how to achieve Zero Harm Today.

Participants ranged from supervisors and batchers to production and operations managers, who together reviewed their own businesses' recent safety statistics and other safety education materials. They then committed to actions they could take at their own sites to deliver Zero Harm Today, and identified what Boral could do to help them reach these goals.

**“The Zero Harm summits have increased awareness about the importance of working together to achieve Zero Harm and they've helped to gain buy-in from all levels of the business.”**

Greg Price, EGM, Construction Materials, NSW/ACT





# Habitat for Humanity

“As we were leaving, the homeowner’s mum burst into tears, grabbed each of us, squeezed us and wouldn’t let us go. That really brought it home for me.”

Brendan Kellam, Boral Group Manager, HSE Systems and Support

For more on Team Boral’s Rock the House build, Boral staff can go to [intranet.boral.com.au/Rock-the-House](http://intranet.boral.com.au/Rock-the-House)



Scott Bennett laying concrete bricks



Clint Mathiesen and Amy Wells



Brian Tasker rendering walls

## Boral Rocks the House in Indonesia

**In the first two and a half years of Boral’s community partnership with Habitat for Humanity Australia, we have achieved a lot together.**

As Habitat’s ‘Building Community Resilience’ program partner, we are helping to rebuild vulnerable communities in Asia which are prone to natural disasters, particularly where we have operations.

In Vietnam, we have helped more than 500 families in the Quang Nam, Dong Thap and Tien Giang communities improve housing conditions and better prepare for natural disasters. In Indonesia, we have assisted in upgrading two urban slums in Yogyakarta, which are home to more than 1,700 families.

In Australia, we have donated in-kind materials, like plasterboard, timber and concrete, to help build homes for those in need. Boral and USG Boral staff in Australia, Vietnam and Indonesia have volunteered their time and skills to help build or maintain decent shelter for low-income families living in poverty. And in times of natural

disasters, including the recent Typhoon Haima in the Philippines, Habitat is our charity of choice to direct emergency crisis support.

### Rock the House

In mid-2016 Boral in Australia embarked on our first international home building event with Habitat – the one-week ‘Rock the House’ build in Yogyakarta. Initial plans to send one team to the build were doubled when more than 150 applications from Boral and USG Boral employees were received.

Twenty-four were selected for Team Boral, representing our diverse businesses, geographies and people. Together they raised more than \$72,000 towards preparations and materials for the build.

Boral’s CEO and Managing Director Mike Kane congratulated the group before they departed, saying, “This will be a transformative event for you. I’m encouraged by your commitment and dedication and the fact that you’re willing to step out of your comfort zone and take on something that not the average person would do. You will be doing something to help and improve the situation of people in need, and for that I applaud you.”

## On the ground

In October Team Boral flew to Yogyakarta, joining more than 100 other volunteers from across Australia. 'Rock the House' aimed to build 12 houses for families in a rural community prone to seasonal flooding, as part of Habitat's five-year project in the Selopamiro community. Our two teams helped build two homes, working alongside partner families who would own the homes and local contractors who supervised the building work.

"Over five days, excluding the first afternoon which was washed out by a tropical storm, we dug trenches, prepared foundations, mixed and poured concrete, formed steel reinforcements, laid concrete bricks and rendered walls," said Team Boral co-captain Clint Mathiesen. "We also got to know the partner families we worked with every day, with the help of on-site translators."

At the end of the week, while the homes needed some finishing from local builders before the families could move in, Team Boral could proudly claim responsibility for a concrete foundation replacing mud floors and brick walls standing where there once were timber veneer or woven bamboo sheets.

## Changing lives

The partner families expressed their gratitude at a handover ceremony on the final day, struggling to hold back tears as they explained the difference a safe home will make for their families and community.

"For these families, many of who earn as little as US\$2 a day, the prospect of owning even a basic house – a house that doesn't have mud floors and that doesn't flood or collapse in storms – is profoundly

life-changing," said Martin Thomas, CEO of Habitat for Humanity Australia.

"As we were leaving, the homeowner's mum burst into tears, grabbed each of us, squeezed us and wouldn't let us go. That really brought it home for me," said Brendan Kellam, Group Manager, HSE Systems and Support.

Equally, many Rock the House volunteers have been changed by the experience.

"I think I'm a bit more confident now," said Kyal Grech, Trade Sales Representative from USG Boral in NSW. "I gave a lot of things a go that I wouldn't normally do, and I think in future that will make it easier for me to face challenges and step outside my comfort zone."

"I've developed more of an open mindset," said Madeline Bedelis, Structural Engineer from Boral Quarries in Victoria. "I'm more open to being spontaneous and relaxed and a bit less rigid."

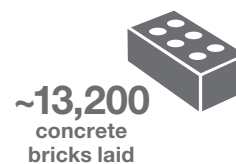
## A proud achievement

Team Captain Amy Wells said that Boral and the team's supporters should be proud.

"Team Boral well and truly delivered against our zero[one]ten goals," she said. "Importantly, over the week we achieved a Zero Harm safety outcome. The team's clear goals and can-do attitude meant that we were number 1 to Habitat and our partner families. And continuous improvement was prevalent among the team: everyone, every day helped to work more efficiently."

"On behalf of Team Boral, thank you to everyone who supported us. We were very proud to represent Boral and we look forward to the next steps in our partnership with Habitat." ■

## Rock the House – facts & figures



## Team Boral

**Team Captain:** Amy Wells, Boral Asphalt, VIC.  
**Co-captain:** Clint Mathiesen, Boral Concrete, QLD; **Russell Andrews**, Boral Cement, NSW; **Madeline Bedelis**, Boral Quarries, VIC; **Scott Bennett**, Boral Quarries, TAS; **Gareth Bond**, Boral Quarries, VIC; **Tanya Bridgewood**, Boral Concrete & Quarries, QLD; **Laurie Edwards**, Boral Innovation Factory, NSW; **Paul Egan**, Boral Concrete, NSW; **Kade Garner**, USG Boral, WA; **Kyal Grech**, USG Boral, NSW; **Ian Hamilton**, Boral Cement, NSW; **Patricia Hammer**, Boral Concrete & Quarries, QLD; **Anthony Harte**, Boral Concrete, NSW; **Mark Hungerford**, Boral Concrete, NSW; **Brendan Kellam**, Boral Corporate, NSW; **Sean Leiper**, USG Boral, VIC; **Les Longhurst**, Boral Cement, NSW; **Cameron Madeira**, Boral Quarries, NSW; **Anne Paterson**, Boral Asphalt, WA; **Andrew Sheehan**, Boral Quarries, QLD; **Brian Tasker**, Boral Property, NSW; **Simon Tymko**, Boral Quarries, SA; **Peter Wong**, Midland Brick, WA.



The final day on the build site



# In the community

## MAY



### YOUNG AIDAN MEETS AFL HERO

In Victoria, North Geelong's Asphalt Contracting Supervisor James Kovic and his son Aidan met Collingwood AFL player Jamie Elliott and his team. Ahead of a major surgery on his leg, six-year-old Aidan spent time with his Magpies hero in a training session. The footballer shared tips on fitness and rehabilitation – thanks for making it happen, Jamie!

## JUN



### CONCRETE TILES FOR KIDS' COTTAGES

In Boulder City, Southern Nevada, USA, Boral Roofing partnered with HomeAid to donate concrete tiles for the re-roofing of three cottage homes at the St. Jude's Ranch for Children, an organisation supporting at-risk kids and families. Boral has partnered with HomeAid since 2006.

## JUL



### ONLINE CLASSES FOR KIDS IN REMOTE CHINA

USG Boral China donated 30 well-maintained, second-hand laptops to Shanghai-based not-for-profit organisation Project VolunONLINE. The organisation provides free online education to disadvantaged children in remote areas in China via volunteer teachers and information technology. USG Boral's donation will enable children in the Shaanxi province to receive online classes in English, Arts and Computers.

## SEP



### STEPPING UP TO THE PLATE FOR WOMEN'S BASEBALL

Australia's national women's baseball team, the Australian Emeralds presented by Boral, finished fifth in the WBSC Women's Baseball World Cup in Gijang City, South Korea. The Emeralds are currently fourth in the world rankings. Boral staff can access complimentary tickets to the Australian Baseball League's 2016/17 season games from November at [boral.com.au/baseball](http://boral.com.au/baseball)

JUN



### **CVA TREE PLANTING CHALLENGE**

Teams from ICT in Prospect, NSW and Quarries in Bacchus Marsh, Victoria took on Conservation Volunteers Australia (CVA)'s World Environment Day Tree Planting Challenge at Sydney Olympic Park and W James Whyte Island Reserve, respectively. In 2016 the CVA and Boral Connected Communities program mobilised volunteers for 45 project days at schools and local parks around Australia.

JUN



### **SUPPORTING DISASTER RESILIENCE IN VIETNAM**

Boral and USG Boral executives met with families and community leaders in the Quang Nam province in Central Vietnam when they visited the area supported by Boral and Habitat for Humanity Australia. Community-based disaster risk management programs funded through our partnership over the last 2.5 years are benefiting many families here.

JUL



### **UP CLOSE AND PERSONAL WITH BANGARRA**

More than 100 Boral staff and family members got up close and personal with the dancers of Bangarra at a family day on Sydney Wharf. Bangarra is an Aboriginal and Torres Strait Islander organisation and a leading performing arts company. In 2016 Bangarra performed in New York and Paris as well as across Australia.

JUL



### **THANKS BERRY MUCH, SHADFORTH QUARRY**

Boral's Shadforth Quarry donated and delivered 200 tonnes of gravel to Huntley Berry Farm, an attraction operated by a local community disability support enterprise near Orange, NSW. The gravel was used to repair the farm's car park and roadways which were destroyed by two months of near constant rain.

OCT



### **BORAL HELPS OPEN JORDAN SPRINGS PLAYGROUND**

Touched by Olivia proudly opened its twentieth all-abilities, inclusive playspace, Livvi's Place Jordan Springs, near Penrith in Sydney's west. Boral was proud to donate coloured concrete to the playspace, which provides all children, including those with disabilities, with the opportunity to play.

OCT



### **HAPPY 100<sup>TH</sup> BIRTHDAY, TARONGA ZOO!**

As Taronga Zoo celebrated its 100<sup>th</sup> birthday in October, more than 300 Boral staff and families enjoyed a family day on the Concert Lawn with games, a jumping castle, face painting and animal encounters. Boral Youth at the Zoo (YATZ) members were on hand to ensure everyone had a great time.

OCT



### **30 YEARS OF SUPPORT FOR PERTH TELETHON**

Midland Brick was proud to donate bricks and pavers for the 2016 Metropolitan Telethon Home. An annual tradition in Perth since 1975, proceeds from the auction of a luxury home go to the Telethon Kids Institute – a not-for-profit children's medical research centre. Midland Brick has donated products to Telethon Homes for more than 30 years.

OCT



### **BORAL BULLET STARS AT COUNTRY FAIR**

For the second year running, Boral was proud to sponsor the Mangrove Mountain & Districts Country Fair. Staff from the Peats Ridge Quarry hosted an information stall for visitors from the NSW Central Coast and northern Sydney, and participated in the billy cart derby. The 'Boral Bullet' billy cart is pictured with our Boral driver.



## “Building something great in Australia, the USA, Asia and the Middle East”

Boral is a major player in the building and construction materials industry, with around 12,000 employees operating across more than 700 sites in Australia, North America, Asia and the Middle East.

Working as one global team, we are developing new products and better ways of getting them to our customers across the world.

We are playing a key part in creating a sustainable future for our industry.

[www.boral.com.au](http://www.boral.com.au)

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**CELEBRATING 70 YEARS**

