



COLLECTING TOY
CONCRETE TRUCKS:
THE FINE LINE
BETWEEN PASSION
AND OBSESSION



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MESSAGE FROM THE PRESIDENT



Kia Ora readymixers,

Here we are already, at the mid-point of 2013. The days are short, cold and generally wet - not the best for working with concrete. However, other than dreaming about 2-weeks at a resort in Fiji, there are reasons to be buoyed, both from an NZRMCA and wider industry perspective.

The most recent round of regional meetings demonstrates that attendance remains generally healthy, and that we continue to be fortunate in terms of quality guest speakers. I applaud all the regional chairs and secretaries for their efforts, with special mention reserved for Brian Godfrey and Appie Borren (along with Laurie Porter) whose first leg of the South Island roadshow was a tremendous success.

After many years of servicing the concrete needs in and around Putaruru, Andrew Begbie of Begbie Readimix Ltd has decided to retire (see page 7). Andrew has been a regular attendee at Central North Island meetings, bringing with him an always affable combination of advice and fellowship. On behalf of the NZRMCA I wish Andrew and his wife Ruthana all the very best for the future.

Ready mixed concrete production data up to and including the March 2013 quarter paints a relatively positive picture (see page 5). Nationwide the % increase from the same quarter last year is encouraging, as is the % increase for the annual total to March 2013 compared to March 2012. While production in Christchurch has unsurprisingly taken off, the operating environment in the central and lower North Island remains challenging.

On a final note, the 2013 Concrete Conference draws closer. Once again the technical and social programmes should make attendance worthwhile, while the Queenstown setting in early October guarantees some spectacular scenery. It is the first time since 2006 that the Conference is being held in the South Island, so I look forward to seeing a healthy contingent of readymixers from the Mainland.

Jeff Burgess

2013 NZ CONCRETE CONFERENCE

It's an exciting time for the concrete industry as we continue to grow and adapt to the challenges of the current economic climate.

Last year's 2012 conference, held for the first time in Hamilton, was a very successful conference for sponsors and delegates alike, with great attendance, impressive technical content and excellent keynote speakers.

This year's combined Concrete Industry Conference promises to be even better, with two world class keynote speakers lined up and an opportunity to hear about the latest in research, design, materials technology and construction practice.

As New Zealand's number one tourist destination, Queenstown is a special place for a conference, and there will be an extensive programme for partners. The conference has been scheduled in the middle of the school holidays to enable delegates and their families to tack on a holiday either before or afterwards.

The conference provides unrivalled opportunities for businesses to place themselves in front of key industry decision makers. To learn more about participating as a sponsor or trade exhibitor, contact the NZ Concrete Society on concrete@bluepacificevents.com

As the Organising Committee Chair, I would like to personally welcome you to participate in the 2013 combined Concrete Industry Conference, and look forward to seeing you there.

Visit the Conference website www.theconcreteconference.co.nz

Carl Ashby – Organising Committee Chairman

NZRMCA TECHNICAL PROGRAMME

As with previous years the NZRMCA will run concurrent sessions across the 3-day conference.

Thursday 3 October (3:30 – 5:00pm) – Session 2A

- Plant Audit Scheme – Where is it At and Where is it Going?
- NZRMCA AGM

Friday 4 October (10:15am – 12:30pm) – Session 4A

- Sand, Today and in the Future
- Manufactured Sand: A Sustainable Replacement for Natural Sand in Concrete?
- Specification, Quality Assurance and Performance of Concrete
- Innovative Residential Flooring Solutions for the TC3 Foundation Category
- Diaphragm Action in Draymix Steel Fibre Reinforced Concrete on Profiled Sheet Metal Hybrid Floor Systems

Saturday 5 October (8:30 – 10:00am) – Session 5A

- Pervious Concrete
- Cracking in Concrete
- Pozzolans and Admixtures – How We Can Use These to Our Best Advantage
- Australian Concrete Industry – Port Botany Expansion Project

AROUND THE REGIONS

NORTHLAND REGION

By Cameron Greig

With Oceans Resort in Tutukaka as the venue, and generously supported by a number of patrons, the region's most recent gathering was a very pleasant occasion. The meeting and evening meal were dedicated to celebrating the career of Maurie Hooper, long-time Chairman of the NZRMCA Northland region.

As with the Combined North Island meeting held in Taupo during February, Maurie was recognised by his peers for his contribution to the industry over a number of decades. Old friends, such as Loha Bruce (wife of the late Bob Bruce), along with Bary Williams and Steve Dodd, were in attendance.

AUCKLAND REGION

By Scott Williams

The region's last meeting was held in early May at Sika's Boardroom in West Auckland. Despite the poor weather the attendance was pleasing. The guest speaker was Dan Wilson from Wilson Precast, who gave a fascinating presentation on his company's involvement with the Well Connected Alliance, the group responsible for delivering the Waterview Connection project.



Dan Wilson of Wilson Precast

The New Zealand (NZTA) Transport Agency believes the project is one of the most important infrastructure developments ever to take place in New Zealand. Completing a motorway ring route around the city, it will unlock Auckland's potential to become truly world class, combatting regional congestion and creating a direct, time-saving link between the International Airport and CBD.

CENTRAL NORTH ISLAND

By Paul Donoghue

Held during late May in Te Rapa, the region's last meeting was addressed by Peter Simcock of the NZTA who updated members with the latest on the Waikato Expressway, in particular the Hamilton bypass section.

The Expressway, being built as seven sub-projects, will improve safety and reliability and reduce travel times and congestion on SH1 by delivering a four-lane highway from the Bombay Hills to south of Cambridge.

LOWER NORTH ISLAND REGION

By John Stewart

Held on a very chilly Palmerston North afternoon in late May, the Lower North Island region was fortunate to have Laurie Porter of Holcim (New Zealand) Limited give his presentation on cement silo safety.

Once again, the NZRMCA would like to thank Laurie for his efforts in getting around the regions to deliver his best practice message. A Safety Alert, based on Laurie's presentation, is available on the NZRMCA website; along with links to the documentary *Don't Tease the Tiger*, a training resource on the dangers of working with pressure vessels.

SOUTH ISLAND REGION

By Brian Godfrey

Taking in the St Clair Golf Club in Dunedin, Queens Park Cricket Pavilion in Invercargill, and the Victoria Arms Hotel in Cromwell, the first leg of the NZRMCA South Island roadshow is now complete. Numbers were very encouraging, with some members travelling up to three hours to attend.

The roadshow consisted of three presentations: Cement Silo Safety by Laurie Porter; Admixture Bunding by Appie Borren of Sika NZ Ltd, and The NZRMCA: Objectives and Accomplishments by Brian Godfrey of Allied Concrete Ltd (and NZRMCA Vice President). Adam Leach of CCANZ attended the Cromwell meeting to present an industry update.



Brian Godfrey, Laurie Porter and Appie Borren

Hand-outs were available to all attendees, and the positive feedback received illustrated the time and effort invested in organising the roadshow was worthwhile. Planning is underway for Christchurch and West Coast events to ensure complete South Island coverage.

NZRMCA AT BOINZ CONFERENCE

From 12-15 May the NZRMCA partnered with CCANZ in a trade stand at the Building Officials Institute of New Zealand (BOINZ) annual conference held in Rotorua.

The NZRMCA took the opportunity to promote the Plant Audit Scheme, highlighting the advantages offered by a construction material subject to a rigorous and externally verified quality management system.

Adam Leach, NZRMCA Executive Officer was present on the stand throughout the Conference, while CCANZ Chief Executive

Rob Gaimster gave a presentation during the technical programme's materials session, emphasising the Audit Scheme as one of the concrete industry's many points of difference from competing materials.



NZRMCA MEMBERSHIP LIST

Full and Associate membership of the NZRMCA has increased slightly over recent years. See below for a list or the NZRMCA website (www.nzrmca.org.nz) for full contact details.

FULL MEMBERS

Aitkens Concrete Limited
Allied Concrete Limited
AML Limited T/A Holcim Concrete
Ashburton Contracting Limited
Atlas Concrete Limited
Beulah Services Limited
Bowers & Son Limited
Bowers Bros Limited
Bullock's Readymix Limited
Byford's Ready-Mix Limited
Christchurch Ready Mix Concrete Limited
Concrete & Metals Limited
Counties Ready Mix Limited
Cromwell Certified Concrete Limited
Dunedin Mini Mixes Limited
Firth Industries
Higgins Concrete Limited
Holcim (New Zealand) Limited
Infracon Limited
Jonda Enterprises Contracting Limited
Kiwi Concrete Limited
Mangonui Haulage Limited
McGregor Concrete Limited
McIlwaine Ready Mix Limited
Michael Watson Contracting

Mobile Concrete Limited
On-Site Readymix Concrete Limited
PERTH Concrete Limited
Prenters Ready Mix Concrete Limited
Pukepoto Ready Mix Limited
Schuler Thames Valley Limited
Stahlton Engineered Concrete
Stevenson Concrete Limited
Supacrete Concrete Limited
Taumarunui Concrete Products Limited
Techcrete Limited
Terry's Concrete Limited
Upper Hutt Ready Mix Concrete Limited
Virgin Concrete Limited
Waikato Ready Mix Concrete Limited
Waiotahi Contractors Limited
Wairoa Ready Mix
Wharehine Ready Mixed Concrete Limited
Wrey's Bush Concrete Limited

Colourcrete New Zealand Limited
Demden Limited
Formstress Precast Limited
Fraser Brown and Stratmore Limited
Golden Bay Cement
Gough Gough Hamer Investments Limited
Grace (New Zealand) Limited
Hi-Stress Concrete 1989 Limited
Interclean Industrial Services Limited
Maccaferri New Zealand Limited
McCallum Bros. Limited
Mapei New Zealand Limited
New Zealand Decorative Concrete Supplies
New Zealand Master Concrete Placers Association
Sika (New Zealand) Limited
Stresscrete Northern Limited
Weightec (NZ) Limited
Winstone Aggregates Limited

ASSOCIATE MEMBERS

BASF Construction Chemicals New Zealand Limited
Building Chemical Supplies Limited
Busck Prestressed Concrete Limited
Cemix Limited

HONORARY LIFE MEMBERS

Peter Humphrey
Fin MacKenzie
Bruce Tait
Fred Thomas

NEW WORKPLACE HEALTH AND SAFETY AGENCY

The Government is to establish a new, stand-alone workplace health and safety agency to significantly improve New Zealand's workplace health and safety record.

The creation of a stand-alone Crown agent was a key recommendation of the Royal Commission on the Pike River Coal Mine Tragedy.

The new agency will have a dedicated focus on health and safety and will be committed to ensuring people are well protected from injury and death when they go to work each day.

The Crown agent will enforce workplace health and safety regulations, and work collaboratively with employers and employees to embed and promote good workplace health and safety practices.

Work will start on drafting the required legislation to set up the new agency. Ministers will decide on board composition, the name of the new agency and other details in coming months and the legislation to establish the agency is expected to be introduced mid-year. A dedicated unit is being set up within the Ministry of Business, Innovation and Employment (MBIE) to help establish the new entity.

The intention is for the agency to be established and up and running from 1 December 2013.

Until that time it is business as usual. The MBIE will continue to do this work. This means businesses and workers will be dealing with same people in the same locations as before.

For more information MBIE website - www.mbie.govt.nz/healthandsafety



READY MIXED CONCRETE PRODUCTION

Across New Zealand the % increase from the March quarter in 2012 to that in 2013 was a very pleasing 13.11%.

The % increase from the annual total to March 2012 compared with the annual total to March 2013 was 11.36%.

From a regional perspective, increases have been consistent nationwide from the March quarter in 2012 to that in 2013, with the exception of the Wellington, Manawatu and Taranaki region.

Similarly, this region, along with Hawkes Bay and Gisborne experienced a decline in production output for the annual total to March 2013 compared with the annual total to March 2012.

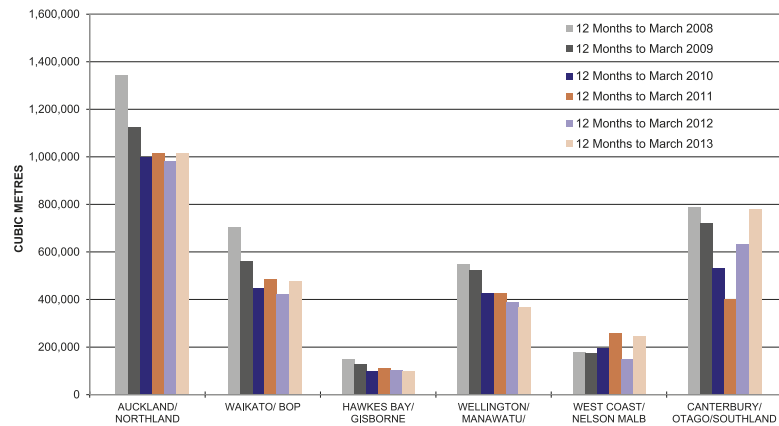
In terms of the metropolitan areas, both Auckland and Christchurch have experienced significant increases in production from the March quarter in 2012 to that in 2013.

However, it is Christchurch that is enjoying the more long term increase in production for the annual total to March 2013 compared with the annual total to March 2012.

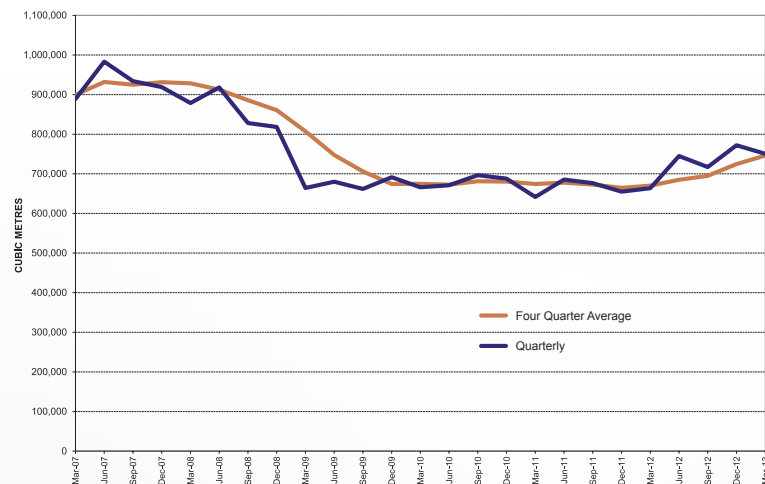
Looking back over the previous 4 years a general upswing in production output is discernible. This is mirrored in the majority of the regions over the past 12-months or so.

There are however, still regions where production output has remained relatively static or decreased.

REGIONAL READY MIXED CONCRETE PRODUCTION MARCH 2007 TO MARCH 2013



NEW ZEALAND READY MIXED CONCRETE PRODUCTION MARCH 2007 TO MARCH 2013



READY MIXED CONCRETE PRODUCTION % CHANGE

	March 2013 Quarter	March 2012 Quarter	% Change	Annual Total to March 2013	Annual Total to March 2012	% Change
REGIONS						
Auckland & Northland	265,718	233,814	13.65%	1,013,761	983,070	3.12%
Waikato & BOP	111,769	96,946	15.29%	478,810	421,969	13.47%
Hawkes Bay & Gisborne	23,765	20,940	13.49%	98,554	104,812	-5.97%
Wellington, Manawatu, Wanganui & Taranaki	92,270	95,493	-3.38%	368,992	388,508	-5.02%
West Coast, Nelson & Marlborough	51,263	42,070	21.85%	195,144	148,914	31.04%
Canterbury, Otago & Southland	205,806	174,345	18.05%	829,636	633,221	31.02%
New Zealand Total	750,591	663,608	13.11%	2,984,897	2,680,494	11.36%
METROPOLITAN AREAS						
Auckland	178,078	146,112	21.88%	674,426	650,004	3.76%
Wellington	36,970	34,468	7.26%	144,641	144,368	0.19%
Christchurch	130,975	96,763	35.36%	506,026	339,957	48.85%

These statistics have been prepared with funding assistance provided by: Firth Industries Ltd and Golden Bay Cement Ltd



'INFOSHOW' A SUCCESS FOR COUNTIES READY MIX

Counties Ready Mix recently hosted an 'InfoShow' at their Drury plant in South Auckland, and judging by the positive response it will probably not be the last.

"Our objective was two-fold," says Sales Manager Paul Tuapola. "This was an opportunity to not only introduce industry to our fantastic new showroom facility, which has been attracting members of the public from all over Auckland for some time now, but to also bring like-minded professionals together for an evening of information sharing and fellowship."

"A number of industry suppliers took time out to come along and talk about their products and services," adds Paul. "There was also an chance to demonstrate how slump, spread and cylinder tests are correctly carried out."

Shane Conquer, a Senior Advisor LBP Assessments from the Ministry of Business, Innovation and Employment (MBIE), spoke about the Licensed Building Practitioner (LBP) Scheme, which generated some healthy discussion around the Scheme as it stands now and possible future changes.

"Those who attend were eligible for points towards their LBP skills

maintenance requirements," says Paul. "There was also genuine interest from those currently not part of the Scheme, but who are now giving serious thought to becoming licensed; a process Counties Ready Mix is more than willing to assist with where it can."

"With over 100 individuals attending I think we can say the event was a great success. Everyone enjoyed the hospitality on offer, including the competitions and giveaways, as well as taking some practical knowledge away with them."

"Overall, the feedback received has been extremely positive, with Shane from MBIE mentioning that it was one of the best such evenings he has attended," concludes Paul proudly. "We are already looking at holding similar events in the future."

In addition to Shane Conquer (MBIE), Don McPike (Sika NZ), Brett Morris (Golden Bay Cement), Austin Langford (Novocon), Denis Marra (Fraser Brown & Stratmore Ltd), Jack Roiall (United Steel) and Dana Stiles (ConcretePlus Ltd) generously gave their time to attend on behalf of their various companies.

CCANZ ONE-DAY CONCRETE COURSES – AUCKLAND

EXPRESSIONS OF INTEREST FOR OCTOBER COURSES

Places on the Cement & Concrete Association of New Zealand's (CCANZ) three one-day courses scheduled for Auckland in September are full.

However, CCANZ is interested in hearing from anyone who may wish to register for a place on a second block of Auckland courses scheduled for October.

Those interested in registering for a place on the proposed October courses in Auckland can contact Angelique Van Schaik at CCANZ on 04 915 0386 or by emailing angelique@ccanz.org.nz

Registrants have the option of selecting one or any combination of courses. The date and venue of the proposed October courses are yet to be confirmed. The courses are as follows:

INTRODUCTION TO THE CONCRETE INDUSTRY

TIME: 9:30am to 4:30pm

COST: \$250 plus GST

CONTENT:

- Properties of Concrete. (An overview of materials used in concrete - cement, aggregates, water and admixtures)
- Concrete Production. (A summary of the important aspects of NZS 3104:2003)
- Concrete Construction. (Construction practice issues from NZS 3109:2003)
- Concrete Testing. (An overview of fresh and hardened concrete testing NZS 3112)
- Twenty Question Quiz



BEGBIE READIMIX'S FINAL DELIVERY

For Putaruru concrete producer Andrew (Bags) Begbie the sale of his family business, Begbie Readimix Ltd, to Steve and Kellie Bowers of Bowers Brothers Concrete Ltd is a source of both pride and relief.

Andrew began his concreting career with Grayson Concrete Ltd making precast elements for projects such as the Huntly Power Station. After 9 years' service with Graysons Andrew decided to branch out on his own and purchased the first of two Kairangis to site batch concrete for the local farming community.

By 1991, following discussions with David Swap of J Swap Contractors, Andrew bought his first truck and set up a plant on the current site in Market St where all the cement was hand loaded. By 1996 as the workload increased Andrew and his wife Ruthana set-up a bulk batching plant and against the advice of their accountant purchased a second truck - Begbie Readimix Ltd was formed.

Along with David Swap, whom Andrew considers a mentor, the start-up (and ongoing) success of Begbie Readimix was due in part to the assistance gained from Don Mahoney of Supacrete Concrete, who at that time was himself in the formative years of his ready mixed concrete career. Fred Thomas, then of Milburn Cement, was also a strong influence on Andrew.

In 1998 Begbie Readimix joined the NZRMCA and became a certified plant under the plant audit scheme. Andrew has commented many times that being an audited plant was crucial to maintaining quality standards.

On the completion of a fitter/welder apprenticeship Andrew and

Ruthana's son Anaru joined the company in 1999 to ease the workload, while also allowing the proud parents to travel to England in 2004 to watch their other son, Mana, play rugby. On his return Anaru told his father that he would not be needed as much in the day-to-day running of the business. The 'demotion' allowed Andrew to focus on ensuring quality concrete, which the business prides itself on, as well as assist Ruthana on engaging with issues facing local iwi.

Arriving back in New Zealand in 2005 Mana, a qualified diesel mechanic, joined Begbie Readimix with the task of maintaining the plant and trucks, and filling in as a driver when required. The truck originally purchased in 1991 is still a part of the 4 truck fleet, a testament to the time and effort invested across all aspects of the business.

The tight competitive and economic environment over more recent years led Andrew to assess his market position, and conclude that he had to "get bigger or get out". After much discussion and consultation Andrew chose the latter:

Andrew is pleased with the manner in which the business sale has been handled, with key staff being retained by Bowers Bros, including Mana and drivers. Anaru has completed a post graduate degree in business management, and has relocated to Napier to pursue a career in shipping management.

After 34 years in business Andrew leaves the ready mix industry with no regrets and is humbled by the support from suppliers and customers alike, and knowing that Begbie Readimix has "put kai on lots of tables."

CONCRETE TESTING (NZQA UNIT STANDARDS 26053 AND 26063)

TIME: 9:00am to 5:30pm

COST: \$310 plus GST

CONTENT:

- Carry Out Routine Tests on Fresh Concrete (Unit Standard 26053)
 - Testing Fresh Concrete Sampling Fresh Concrete Tests
 - Slump Test
 - Yield and Air Content tests Air Content Test
 - Spread Test
- Carry Out Routine Tests on Hardened Concrete (Unit Standard 26063)
 - Methods of Testing Hardened Concrete Making Cylinders
 - Hardened Density
 - Compressive Strength
 - Splitting Tensile Strength
 - Flexural Tensile Strength

CONCRETE TECHNOLOGY (NZQA UNIT STANDARD 202B)

TIME: 9:00am to 5:30pm

COST: \$310 plus GST

CONTENT:

- Introduction
- New Zealand and Australian Standards for Concrete Production
 - NZS 3101:2006 Concrete structures standard
 - NZS 3104:2003 Specification for concrete production
 - NZS 3109:1997 Concrete construction
 - NZS 3111:1986 Methods of test for water and aggregate for concrete
 - NZS 3121:1986 Specification for water and aggregate for concrete
 - NZS 3112.1:1986 Methods of test for concrete — tests relating to fresh concrete
 - NZS 3122:2009 Specification for Portland and blended cements
 - NZS 3604:1999 Timber framed buildings
 - AS 1478.1:2000 Chemical admixtures for concrete, mortar and grout
- Admixtures for Concrete
- Concrete Mix Design Principles • Test for Concrete Raw Materials

PASSION OR OBSESSION? MEN & THEIR (TOY) CONCRETE TRUCKS

Jeff Burgess

Passion or obsession? This was the question on my mind at 3am in the morning following the close of last year's New Zealand Concrete Conference in Hamilton. I should have been asleep or celebrating the event's success. Instead, I was revisiting the crushing moment when my name was *not* drawn from the hat as winner of the First Gear toy concrete truck from Holcim's trade stand.

Is this normal behaviour? Are there others out there like me?

To answer these questions I embarked on a search to identify collectors as enthusiastic as I am about ready mixed concrete toy trucks. To my pleasure I discovered that I am not alone.

CASE STUDY I: THE GATHERER



Colin Crook

Let's take a look at Colin Crook, a cement tanker driver for Holcim (New Zealand) Ltd. based in Wellington. Colin is an example of what can be termed a high-end collector; or Gatherer. He is not interested in toys, but rather die-cast collectables, that are in pristine condition, incredibly detailed and American. Although Colin appreciates big haulage trucks and trailers, his true love has always been concrete trucks.

Colin first began collecting following a Holcim work seminar, at which a First Gear Mack mixer toy was on offer as an employee award. Unable to locate this particular make and model Colin had to settle for several 1:50 scale Joal die-cast models of Holcim trucks – specifically the Mercedes tipper and tanker, as well as a Volvo mixer. Thus began Colin's exhaustive search, centered primarily in Germany, for all the Holcim branded model trucks.

While tracking down the elusive Holcim First Gear Mack mixer over the internet Colin discovered First Gear mixers were available in other ready mixed concrete company colours. From that moment on he was hooked. Colin had become a Gatherer.

Due to restrictions imposed by the Privacy Act the total cost of Colin's investment cannot be divulged. However, even with over forty six First Gear models in his collection it has still been cheaper than smoking!



Pictured below is Colin's 'favourite', a 1:34 scale First Gear Holcim Mack granite bulk cement tanker.





Malcolm Jackson

CASE STUDY 2: THE HOARDER

Malcolm Jackson is the Plant Manager for Cromwell Certified Concrete, where he has worked for the past 12 years. When Malcolm first developed an interest in toy concrete trucks his collection consisted of only 3 Matchbox trucks.

However, when company director and personal friend Alan McNulty suddenly passed away in 2007, Malcolm decided to put one of his toy mixers on Alan's casket as a tribute. That was when the collecting bug completely took hold, and now Malcolm has approximately 160 toy concrete trucks of various shapes and sizes.

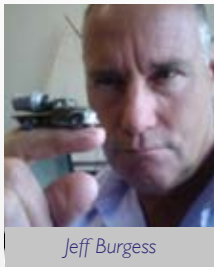
One of the key characteristics of a Hoarder is that they accumulate a large number of the same item. While this is undoubtedly contributed to by well-meaning friends, who for instance "keep an eye out" on behalf of the Hoarder when away on holiday, it has to be said that any gift is always accepted with relish. The advent of Trade Me has also contributed to the Hoarder's collection size.

Malcolm acknowledges he has too many concrete trucks to display, and has the balance covered on a pallet at work. Malcolm's wife, Arlyne, jokes that she has to keep working just so more toys can be added to the collection.



In 2010 Malcolm was the creator and co-ordinator of a fund raising event for the ladies Lions Club in Cromwell. Malcolm rallied his work mates and friends to come together and exhibit their toy collections at the local Memorial Hall over a two day period. The show, affectionately titled Big Boys & Their Toys, was very well received.

CASE STUDY 3: THE HUNTER



Jeff Burgess

From my own perspective, with the odd exception, if it has a mixer unit, is unique and pre 1970's then it has won me over.

My collecting started with a \$5.00 purchase of a 1961 Matchbox 26b Foden from the Napier foreshore markets, which has since been upgraded for a duplicate in better condition.

Similar to Colin, my own treasures exceed forty in total, with my favorite ever changing. They include old and familiar names like Matchbox, Dinky and Tonka, through to lesser known makes such as Tekno, Triang and Hubley.

I liken myself to a sniper with a hit list. My mission is to hunt, secure and document the catch (name, rank and serial number), then into the trophy cabinet it goes. My place of work is starting to look like a toy store, sorry museum, rather than an office.



If like me you have read or watched *The Secret*, which suggests that every want or need can be satisfied by maintaining a positive attitude to "attract" that outcome, you will understand my approach to collecting.

This perhaps sheds some light on what makes Colin, Malcolm and I tick. Passionate? Definitely! Obsessive? I shall leave that up to you to decide.

Jeff Burgess is the current President of the NZRMCA, General Manager of Supacrete Concrete Ltd and a hunter of collectable model concrete trucks.

COMING HOME TO CONCRETE

HOW MODERN CONCRETE CHOICES DELIVER STRENGTH, COMFORT AND BEAUTY



CONCRETE FUTURES

DAMAGE RESISTANT DESIGN
USING CONCRETE SYSTEMS

ADVANCING CONCRETE INTERESTS NZRMCA SUPPORT FOR CCANZ

A key component of the NZRMCA Business Plan over recent years has been to support the work of the Cement & Concrete Association of New Zealand (CCANZ).

"CCANZ is the umbrella association for the concrete industry, and has for many years adopted a pan-industry approach to ensure that architects, engineers, builders and other key decision makers realise the full potential of concrete," says CCANZ CEO Rob Gaimster.



Rob Gaimster, CCANZ CEO

"Over recent times the residual effects of the global financial crisis combined with the aftermath of the Canterbury earthquakes have created an extraordinarily difficult operating environment."

"During this period CCANZ has helped advance concrete interests, including those of the ready mix sector, by helping to position the industry for short, medium and long-term gain."

"At a strategic level CCANZ blends technical and marketing disciplines, while also balancing growth opportunities with support for existing markets," adds Rob.

"On a day-to-day tactical basis we cover everything from producing technical publications, answering technical enquiries, liaising with government around the Building Code and Standards development, as well as implementing research, education and training work, along with marketing campaigns."

"CCANZ also provides direct support to the NZRMCA through the Executive Officer role and secretariat duties for the Association and Plant Audit Scheme."

"The relationship between the two organisations is close and productive," concludes Rob. "The concerns and priorities of the ready mix sector feed directly into the CCANZ work programme and yield results on a consistent basis."

CCANZ FUNDING

Supplemented by assistance from the NZRMCA, CCANZ receives its primary funding from the New Zealand Portland Cement Association

(NZPCA), an organisation comprised of representatives from Golden Bay Cement and Holcim (New Zealand) Limited.

Since 2011 the NZRMCA has contributed funding to CCANZ's *Coming Home to Concrete* and *Concrete Futures* campaigns, as well as its work across the regulatory environment.

COMING HOME TO CONCRETE

With perceptions of concrete weakened following the Canterbury earthquakes, CCANZ developed the *Coming Home to Concrete* marketing campaign to raise awareness of the advantages of residential concrete construction. Using various promotional tools, the campaign's aim has been to maintain and develop the reputation of residential concrete construction, targeting both a trade based and consumer audience.

CONCRETE FUTURES

To assist the construction industry as it evaluates new building technologies following the Canterbury earthquakes CCANZ has promoted reinforced concrete's role in damage resistant design solutions, such as PREcast Seismic Structural System (PRESSS), base isolation and non-tearing joints (slotted beams) under the *Concrete Futures* banner.

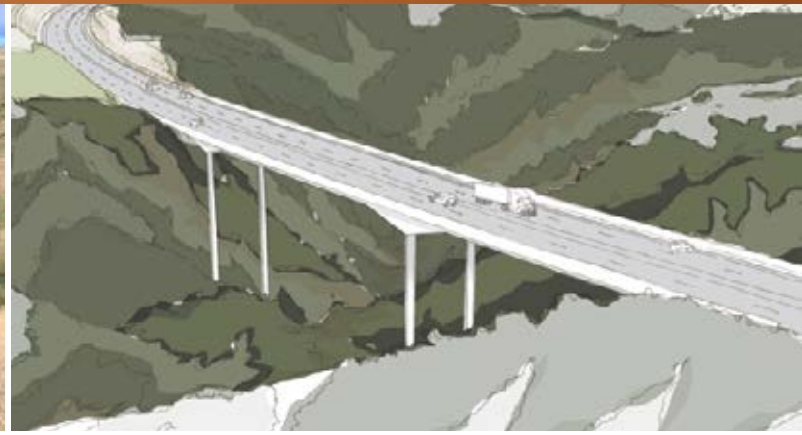
REGULATORY ENVIRONMENT

CCANZ is constantly active within the regulatory environment, liaising with influencers on a range of issues. For instance, CCANZ has recently responded to the Ministry of Business, Innovation & Employment's (MBIE) assessment of Standards New Zealand, and is working on a review of NZS 3101 *Concrete Structures Standard*. CCANZ has also committed a tremendous amount of resource recently to ensuring the Canterbury Earthquakes Royal Commission has accurately understood the performance of concrete.

ONGOING SUPPORT FOR CCANZ

The work undertaken by CCANZ on behalf of the entire concrete industry cannot be underestimated, particularly in a market where the activities of competing materials are becoming increasingly aggressive and the focus on quality and best practice more intense.

The need for an effective trade association such as CCANZ is imperative, a fact recognised by the on-going commitment of Golden Bay Cement and Holcim (New Zealand) Limited, along with support from the NZRMCA.



A SMOOTHER ROAD AHEAD

Rob Gaimster

In late November 2012 Cabinet approved the New Zealand Transport Agency's (NZTA) application to pursue a Public-Private Partnership (PPP) for Transmission Gully – the much anticipated 27-km leg of the 110-km Wellington Northern Corridor.

PPP's are a long-term contract between the public and private sectors covering the financing, design, building, maintenance and operation of public infrastructure or services.

They are increasingly commonplace in large construction projects overseas and are seen as a way to use private sector innovation and funding sources, as well as increase certainty of delivery by transferring risk to the private sector.

The NZTA predict that a PPP for Transmission Gully will drive greater value for money in dealing with the project's size and complexity, as well as allowing for construction to begin in 2014, with an anticipated completion date of 2020.

Since the NZTA announced its intention to proceed with a PPP it has received strong support from those who see it as more effective than traditional procurement methods.

Similarly, CCANZ believes the PPP is an opportunity for innovation, and to build a new era of roads made from concrete.

The economic, environmental and safety benefits of concrete roads are well documented. Concrete's long-term durability offers significant potential returns on investment. A concrete road's extended service life, low maintenance, and reduced fuel consumption benefits for motorists are compelling economic factors.

Concrete roads can also be good for the environment. They require minimal maintenance, which in turn reduces congestion and exhaust

emissions. They also enhance the fuel efficiency of heavy vehicles by reducing rolling resistance.

Concrete roads could also slow the process of global warming. The albedo of concrete - the ratio of the reflected solar energy to the total solar energy received - is high. This means the light coloured surface of a concrete road translates to greater radiation reflectivity.

The light coloured surface of concrete roads can also enhance roadway lighting systems, improving safety for motorists.

Noise factors can also be mitigated. Grind-and-groove surface technology to reduce surface noise from concrete roads is now commonplace in Australia and North America.

While these benefits are generally recognised, New Zealand has been slow to take advantage of them. NZTA's high discount rate is a factor in this. This rate determines the cost and benefits of infrastructure projects over time, and relates to the evaluation period for infrastructure.

Although both have been adjusted recently, from a discount rate of 10% to 8% and an evaluation period of 25 years to 30-years, a lower discount rate and longer evaluation period would most likely favour infrastructure projects that reduce the total cost of maintenance and operation overtime – such as projects with a long service-life achieved through concrete.

It must also be considered that global oil prices are trending upwards, meaning that traditional road technologies are becoming more and more costly to install and maintain.

The NZTA has a good reputation for prudent asset management. This could be enhanced further with the selection of concrete as the roading material of choice, particularly for high traffic density sections of the Roads of National Significance.

Rob Gaimster is the CEO of the Cement & Concrete Association of New Zealand (CCANZ).



IMPROVING CONSTRUCTION LOGISTICS

Fei Ying and Hans Roberti

Logistics and supply chain management in the New Zealand construction industry are poorly understood and inefficient. Using an Auckland building project as a study, BRANZ research has started to fill in the gaps.

Material costs typically amount to 50–60% of an average construction project cost. Their timely delivery controls 80% of the project's schedule, and transportation costs of construction materials equate to 30% of the total construction costs.

TRANSPORT COSTS ARE SIGNIFICANT

The implication is that about half of the cost of materials is directly related to the physical movement of materials from source to building site. However, these transportation costs tend to be invisible because they are embedded in the total pricing of materials.

There are two key reasons for the significant transport costs:

- Construction materials are generally relatively low value but have a high volume and mass, making transport proportionately more significant. When mass and volume is high, it is much more cost-effective to optimise transportation.
- Most delivery vehicles arrive full and leave empty – at best, loading on vehicles is only 50% efficient.

Construction logistics are far from an optimised system. However, transportation optimisation is rarely, if ever, incorporated into non-price attributes for supplier selection in construction projects.

Other industries have far better transport planning. For example, the supermarket sector employs logisticians that plan for optimal use of all transportation movements, including backhaul loads.

ROOM TO IMPROVE LOGISTICS

Industry logistics traditionally involve either the contractor going to the supplier to pick up materials or materials are delivered to site.

These deliveries occur on an ad hoc basis to various locations locally and nationally. Only limited management skills and information exchange are commonly employed.

Techniques for improving construction logistics include:

- implementing strategic logistics planning across the full supply chain
- utilising consolidation centres
- just-in-time delivery to the workplace
- adding a logistics specialist to construction project teams

These are mutually inclusive techniques, and other countries have found that construction consolidation centres can reduce 50% of vehicle movements and 35% of material waste.

Systematic application of supply chain management techniques will address most critical logistics issues and thereby reduce construction costs and improve industry performance. However, these known techniques are hardly used in the New Zealand industry due to inertia and fragmented processes and responsibilities.

RESEARCH TO UNDERSTAND SUPPLY CHAIN LOGISTICS

BRANZ, in partnership with the Auckland University of Technology (AUT), is researching the current nature of the building and construction sector's supply chains and logistic processes in Auckland.

The research, *Mapping of Auckland's construction lifelines*, aims to:

- build understanding of current industry practice and attitudes in construction supply chain management



- develop baseline data on material transport flows associated with building and construction projects in Auckland.

To increase understanding of current practice in New Zealand, the research captures the views of practitioners on adopting a more structured approach to organising construction logistics processes.

AUCKLAND PROJECT A CASE STUDY

A large commercial construction project is being studied in the Auckland CBD. This includes collecting data on typical material transport deliveries and examining the organisation and the handling of its supply chains so that their structure, responsiveness and efficiency in the dense urban conditions can be assessed.

Working in environments such as Auckland's CBD brings additional challenges. Material deliveries have to be closely matched with actual work demand due to the limited on-site storage space.

Only the smaller quantities required for 1 or 2 days' work can typically be accommodated. This results in more frequent smaller deliveries that often underutilise the capacity of supply vehicles.

LIMITED ACCESS HOURS HAS IMPACT

Construction projects in the inner city have strict operating hours on working days. This means that construction logistics are forced to use congestion-sensitive inner-city roads during peak hours.

Factors such as essential volumes of materials, limited on-site storage space and more frequent and peak hour deliveries have considerable impact on construction and the urban built environment.

The case study is identifying essential cost and organisational factors driving suboptimal logistic planning. Once the transportation cost factors in the supply chain are identified and linked to the organisational structure, those that would benefit from efficient logistics planning can be recognised.

EFFICIENCY GAINS WOULD INCREASE PRODUCTIVITY

Unfortunately, overseas research suggests that the people required to do things differently often don't gain direct benefits from a more optimised logistics planning model.

For example, the current subcontracting models used by main contractors transfer all responsibility for the purchase and delivery of materials to subcontractors under conditions that mean they cannot gain any direct monetary benefits from coordinating transportation and stimulating logistics optimisation.

This is a major impediment to optimising construction logistics. As solutions depend on recognition, the costs of construction logistics in the material price need to be addressed and recognised before proposing options on how to improve construction logistics performance for higher efficiency and productivity.

STUDY CONTINUES AND WILL ASSIST PROJECT TEAMS

The baseline data collected on material transport flows can be used for developing scalable benchmarks and guidelines to help the main contractor improve site planning, storage planning and on-site planning.

Well planned loading bay areas, efficient material management and reduced handling waste should increase construction productivity.

Insights from the case study should encourage construction project teams and their suppliers to implement integrated construction logistics planning, reducing overall project costs, improving productivity and mitigating negative impacts on the local urban environment.

Fei Ying (Researcher, Auckland University of Technology) and Hans Roberti (BRANZ Environmental Scientist).

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CALPORTLAND SLIP FORM SUCCESS POURING FOR UNITED GRAIN ON THE COLUMBIA RIVER

Dave Frentress

Water transportation of bulk materials is a common sight in the northwest. Despite being 80 miles from the ocean and the Oregon Coast, with its location along the Columbia and Willamette rivers, the Portland/Vancouver area is a hub of shipping activity. Operating a cement terminal, aggregate operations and ready mix plants located along these waterways, NRMCA member CalPortland utilizes water transportation for concrete materials.

These locations make CalPortland a prime supplier for many of the large grain storage and shipment facilities being constructed along the Columbia River, contributing further to the company's expertise in supplying concrete to large slip form pours.

Located along the north side of the Columbia River in Vancouver, Wash., United Grain's export terminal handles shipments of grain, soybeans and corn that move through the Port of Vancouver. United Grain operates from facilities that were originally constructed with concrete in 1935 (attesting to concrete's durability).

Recently, United Grain contracted Younglove Construction, based in Sioux City, Iowa, to construct a \$72 million expansion, consisting of a cleaning tower that is more than 300 feet high (which allows for cleaning and storing enough grain to fill an entire ship) as well as 26 new silos, each 35 feet in diameter and 125 feet tall.

IN PROXIMITY

The new silos have added 66,000 metric tons of storage to the facility. Younglove Construction selected CalPortland to supply its concrete needs

for the project. One large advantage to Younglove was that CalPortland's West Vancouver Plant was located less than a mile from the project.

The West Plant is one of three high-production "wet" plants that CalPortland operates in the Portland/Southwest Washington area. Another advantage was CalPortland's ability to secure Transportation Worker Identification Credential (TWIC) cards for drivers and other support people on site (such as QC staff and mechanics). Because the project site was within the secure area of the port as established under Homeland Security guidelines, site access was prohibited without a TWIC card or an escort.

A HUGE PROJECT

Auger cast piles required 4,557 yards of a 10-sack mix, and rebar was set for the mat foundation. A double mat of rebar was used to support the 26 silos that would be built on this slab. Five boom pumps were required to place the 400 yards per hour that was projected for the mat. Both of CalPortland's plants in Vancouver, Wash., were utilized for this pour, and truck loading began at 1:00 a.m.

This four-foot-deep mat foundation required just over 5,000 cubic yards, and with the plants running smoothly, 48 mixer drivers brought in the concrete at almost 500 yards per hour - assuring Younglove it made the right decision in trusting CalPortland to supply them.

The cleaning tower/shipping annex consisted of a four-pack of 35-foot-diameter silos slipped to a height of 176 feet, with two silos extending to 300 feet. Boom pumps could only be used for half of the height, so the rest of the concrete was placed by crane. Running 24 hours, this placement took just about 10 days to top off, surprising local residents



who noticed that the tallest building in town had “suddenly appeared” out of nowhere. To date, this is the tallest concrete slipform silo structure in North America. (There are plenty of taller structures that are slips—Toronto’s CN Tower comes to mind— but they are not silos.)

All these structures are built from the bottom up by moving the forms vertically with hydraulic motors, which gradually jack up the forms as the concrete cures. Because the concrete supports the entire operation as it moves skyward, the rate of movement is 12 to 16 inches per hour, based on the strength gain of the concrete. Steel and concrete are placed as the forms move upward; the contractor uses two crews, each working 12-hour shifts.

AWARD-WINNING

The working platform on a jobsite such as this is a constant beehive of activity, with people cooking and eating, steel being moved, concrete flowing, and generators and vibrators running. Thus, a slip form pour is continuous, but not very fast. Vertical slip forms are all done on a 24-hour basis until completed. A breakdown or a cold joint would be a catastrophe, so on this project CalPortland ensured that back-up plants and trucks were always on standby during the slip form pours.

CalPortland ready mix drivers worked eight hour shifts, delivering about seven loads per shift, but since the project was close enough to be seen from the plant, they only put about four miles on their trucks per shift!

The cleaning tower has the capacity to store an entire shipload of grain, so the cleaned grain is stored and ready to be loaded, not delaying a ship waiting for grain to be cleaned.

Once the cleaning tower was completed, Younglove did back-to-back concrete slips of two large annexes—the first was a 12-pack of 35-foot-diameter silos that are each 125 feet high. The other segment was a

14-pack of 35-foot-diameter silos. Both consisted of over 5,000 cubic yards of concrete each and a total of 2.25 million pounds of reinforcing steel. The silos are basically large hollow “cans” of concrete. This project was recognized by both the Washington and Oregon State concrete and aggregates associations, winning Excellence in Concrete Awards.

A SIGHT TO SEE

Based on the successful results of the main expansion, Younglove was retained to further expand storage in the form of three very large silos, 80 feet in diameter and 138 feet tall.

With CalPortland’s experienced crew, Younglove completed another mat slab of over 2,500 yards and another 3,000-yard concrete placement for the silos, which hold an additional 1.5 million bushels of grain.

Rising over the Columbia River, the cleaning tower can be seen from over in Portland, and for some distance in Vancouver. The highest structure in Southwest Washington is solid concrete.

Concrete is the material of choice for large bulk storage. It is produced on site, on time, within specifications to meet engineering requirements, and within budget, allowing a contractor to deliver high-quality storage and handling solutions that will meet client needs long into the future.

Dave Frentress is CalPortland’s marketing director/ICF sales for the northwest region. CalPortland is a longstanding NRMCA member company that operates ready mix plants in Arizona, Nevada, California, Oregon and Washington.

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KEY DATES

NZRMCA NATIONAL COUNCIL MEETINGS

MEETING	DATE	TIME	VENUE
Council	Wednesday, 14 August	9:30 am – 3:00 pm	CCANZ, Wellington
AGM	Thursday, 4 October	3:50 pm – 5:00 pm	Millennium Hotel, Queenstown

NZRMCA REGIONAL MEETINGS (check local notices for precise times)

MEETING	DATE	VENUE
South Island	Wednesday, 17 July	Christchurch
Auckland	Wednesday, 21 August	TBC
Northland	Thursday, 22 August	Bay of Islands
Central North Island	Thursday, 22 August	Rotorua
Lower North Island	Thursday, 22 August	New Plymouth

FUN (CONCRETE) FACT

ROMAN SEAWATER CONCRETE HOLDS MANY SECRETS

The chemical secrets of a concrete Roman breakwater that has spent the last 2,000 years submerged in the Mediterranean Sea have been uncovered by an international team of researchers led by Paulo Monteiro of the University of California, Berkeley.

Analysis of samples pinpointed why the best Roman concrete was superior to most modern concrete in durability, why its manufacture was less environmentally damaging – and how these improvements could be adopted in the modern world.

HOW THE ROMANS DID IT

The Romans made concrete by mixing lime and volcanic rock. For underwater structures, lime and volcanic ash were mixed to form mortar, and this mortar and volcanic tuff were packed into wooden forms. The seawater instantly triggered a hot chemical reaction. The lime was hydrated – incorporating water molecules into its structure – and reacted with the ash to cement the whole mixture together.

Descriptions of volcanic ash have survived from ancient times. First Vitruvius, an engineer for the Emperor Augustus, and later Pliny the Elder recorded that the best maritime concrete was made with ash from volcanic regions of the Gulf of Naples, especially from sites near today's seaside town of Pozzuoli.

The concrete sample examined was from one of many ancient underwater sites in the Pozzuoli Bay region northwestern of the Bay of Naples. The research team found that Roman concrete differs from the modern kind in several essential ways.

One is the kind of glue that binds the concrete's components together. In concrete made with Portland cement this is a compound of calcium, silicates, and hydrates. Roman concrete produces a significantly different compound, with added aluminum and less silicon. The resulting calcium-aluminum-silicate-hydrate is an exceptionally stable binder.

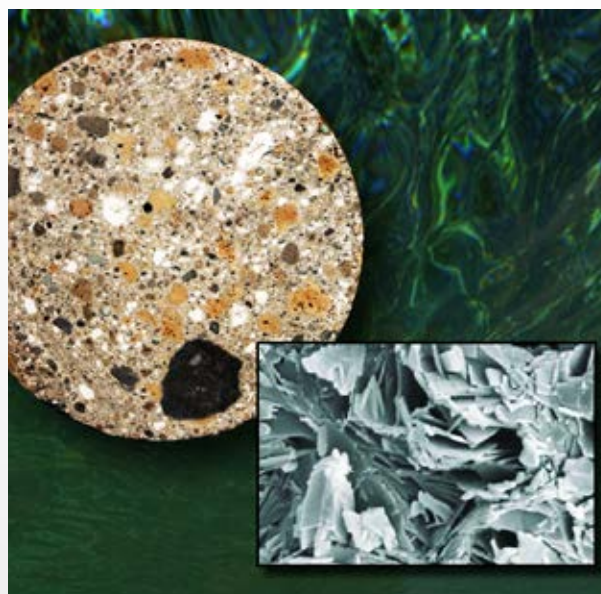
The mortar of Roman seawater concrete also contains tobermorite, which provides a model for concrete strength and durability. Finally, microscopic analysis identified other minerals in the Roman samples, many of which have potential applications for high-performance concretes, including the encapsulation of hazardous wastes.

LESSONS FOR THE FUTURE

Modern concretes already include volcanic ash or fly ash from coal-burning power plants as partial substitutes for Portland cement, with good results. However, the materials and the way the Romans used them hold lessons for future concrete.

Stronger, longer-lasting modern concrete may be the legacy of a deeper understanding of how the Romans made their incomparable concrete.

For more information on the research project visit the Berkeley Lab website - www.lbl.gov



Drill core of volcanic ash-hydrated lime mortar from the ancient port of Baiae in Pozzuoli Bay. Yellowish inclusions are pumice, dark stony fragments are lava, gray areas consist of other volcanic crystalline materials, and white spots are lime. Inset is a scanning electron microscope image of the special Al-tobermorite crystals that are key to the quality of Roman seawater concrete.