

CETANZ



Civil Engineering Testing Association of New Zealand

CETANewZ

The official newsletter of the Civil Engineering Testing association of NZ

In this issue...

- From the chair
- News from the groups
- Breaking News!
- Scala issues
- Situations Vacant
- Member Profile
- Crossword corner

Issue 010, September 2010

From the Chair...

The daylight is getting longer as we start to move towards spring and another earthworks season. The 'quieter' winter months have given us a chance to get our calibrations and maintenance completed whilst we look forward to a slightly more financially active period.

The recovery seems to be coming but the speed may not be to everyone's liking. Many of us work on projects at perhaps the earliest of stages so hopefully we will see the dollars first. I have heard from many parts of our industry that times are not like they used to be, but overwhelmingly there has been an attitude of resilience and optimism for the future.

I am looking forward to our Conference, "Careering Ahead" on 23-24th September. It literally is careering ahead with many great papers from both technical and management perspectives. I believe it is imperative for all companies to be represented at this event to find out how our industry is changing for the future. I hope to catch up with you there.

Our regions are starting to hold events to get our members together, site visits and perhaps a quiet few beers. It is great to see this development; we expect to offer some CETANZ training courses shortly.

This will be my last entry as Chair for CETANZ, we have a committee election coming up at our AGM to be held at the conference. I would like to encourage you to get involved and put your name down for these valuable roles in our organisation. CETANZ as an organisation is run by our industry, for our industry, we need your support to be successful. I will continue to be involved in my Immediate-Past-Chair role; I look forward to seeing how CETANZ develops over the coming years.

Thank you for your backing and commitment over the past 4 years, I have really enjoyed being a part of this development. The members of the committee deserve the most credit for their hard work and dedication. Well done for all your achievements.

Paul Burton

Chair of CETANZ



From the working groups | Technical

Last Meeting 10 August 2010

Next Meeting 10 November 2010

Technical Group Members

Jayden Ellis – Stevenson Laboratory
 Stevens Anderson – Geotechnics Laboratory Ltd
 Frank Hu - Downer EDI
 Cheryl Bycroft - Downer EDI
 Sarah Amoore - OPUS Hamilton.
 Wayne Campton- Babbage
 Keith Towl – IANZ (Observer)

NZ Vib Hammer Test Method Review - Update

Auckland University Study – Project is progressing well, the student researcher (Amin Shahin) spent the first month learning about the test from experienced laboratory staff. In this first month Amin experimented with different compaction techniques and equipment to get a feeling for the test and its complexities. Once the experienced lab technicians were satisfied with Amin's practice curves, Amin started to produce multiple curves on the controlled test specimens. To date Amin has completed 35 odd MDD curves on a typical lab reconstructed TNZ M4AP40 grading, once Amin has completed 40 odd curves he will begin analysis to assess the overall variation of the test.



CETANZ Proficiency Testing Program

Weathering Quality Index – Results are in. We are waiting for the final analysis on the data, once we have this a report will be distributed to all CETANZ members. At this stage I can say that there weren't too many outliers, but the spread was bigger than expected..

Soils – Liquid Limit, Plastic Limit, Plasticity Index and Linear Shrinkage – Sarah from OPUS is scheme coordinator and has just completed design of the scheme. You should be receiving notification soon.

Sand Equivalent Winstone Aggregates Auckland are coordinating and designing a scheme looking specifically at the difference in preparation methods and their effect on results. This should be part of a two stage scheme. The later stage looking at repeatability and reproducibility. David Morgan Winstone Laboratory Manager is making his final amendments to the notification document. You should be receiving this soon.

Member Requests

We have several requests for more Proficiencies regarding sampling & Size and Shape. Please be patient with the Group, we have a number of projects on the go that need to be up and running before we can start new projects.

NZ Standards Review

Roading Testing Standards Group (RTSSG) has been formed and two meetings held JSE represents CETANZ in this group). Terms of reference and a work plan has been formulated. Initially the group will concentrate on NZS 4407. Smaller volunteer working groups will be formed comprising industry people and knowledge experts. (Laboratory Techs, engineers, consultants etc) Each group will be assigned a family of test methods to work on. Work is underway to start forming the first group that will most likely start on PSD, Size and Shape, Broken Faces. See "Call for Volunteers" attached



RTSSG

In early March 2010, representatives from Roading New Zealand (RNZ), the Civil Engineering Testing Association of New Zealand (CETANZ), the Institute of Professional Engineers New Zealand (IPENZ) and the Aggregates and Quarry Association of New Zealand (AQA) formed a steering group tasked with initiating the review, update, and rewrite of New Zealand Standards NZS 4407 :1991 Methods of Sampling and Testing Road Aggregates.

Normally with this type of standards review, Standards New Zealand (SNZ) would form committees made up of representatives from industry organisations. SNZ would manage the process and recoup their costs from a sponsor or funder. Depending on the nature and type of reviews, they can run into the tens of thousands of dollars.

The RTSSG has consulted with SNZ and both have agreed that an industry group made up of voluntary knowledge experts and specialists could carry out the review and present SNZ with an initial draft. If the RTSSG can create Working Groups with a good mix of representation across the industry, the resulting SNZ process should be greatly reduced along with cost.

WORKING GROUP STRUCTURE

The RTSSG has divided the NZS 4407 set of test standards into smaller sub groups. The first Working Group will be assigned the following family of tests.

Size Tests (PSD, Size and Shape, Broken Faces, Cleanness Value)

WORKING GROUP GOALS

The RTSSG has developed the following goals for each Working Group:

- o Better standardisation of test methodology – ensuring clear interpretation, better instruction.
- o Best practise – compare to latest overseas standards and current industry practise.
- o Update of terminology, definitions and drawings.
- o Update calibration requirements and apparatus specifications – new technology
- o Introduce supporting information – test repeatability etc
- o Introduce commentary – describing limitations of use or meaning and end use of result.

CALL FOR VOLUNTEERS FROM WITHIN INDUSTRY

The RTSSG is now seeking volunteers to form the first Working Group.

The Working Group members need to have specific knowledge and experience of the Particle Size Distribution, Size and Shape, Broken Faces and Cleanness Value tests as well as an understanding of the end use and application of data produced by these test methods. It is envisaged that the group will be comprised of mainly Laboratory Professionals and Technical Experts from across the Civil Engineering Industry.

Each volunteer will need to make him or herself available for one or two meetings at a central location over the next 12 months. All Working Group members costs are to be met by their respective organisations.

Those interested in being part of this unique and historic opportunity should contact **Jayden Ellis** (Stevenson Laboratory Ltd – CETANZ Technical Group Leader) **by the end of October**.

Address and Contact Details:

Stevenson Laboratory Ltd P.O. Box 15 Drury 2247, Ph 09 984 8607, jse@stevensons.co.nz

Technical Support

Uncertainty Workshop

Frank Hu has completed his first example spreadsheet which should provide members a guide to calculating Uncertainty. This example uses a process similar to that already in use in the Microbiological and Chemistry laboratories and is considered to be much easier to complete. Once Frank has made the final amendments to the spreadsheet, it will be made available for download to all CETANZ members on our website in the members area.

Scala Tip Calibration & Standardisation

Steve Anderson produced a report on Scala Irregularities, this report has been distributed and we have received much feedback from industry and CETANZ members.

Summary:

Most agree:

That the difference in cone tips currently available is not likely to have any substantial affect on scala results or design of pavements and that any difference would be within the margin of error for the test. That the industry would however, benefit from standardisation of cone tips.

To this end CETANZ will now look at asking Standards NZ to change the specification detail for the cone tip in NZS 4402 and thus influence the manufactures to standardise manufacture.

Industry Participation

National Pavements Technical Group (NZ PTG)

Last Meeting 02 July 2010

Next Meeting 01 September 2010

The CETANZ Technical Group has been asked to help the NZ PTG review the following NZTA documents:

TNZ T/1 – Standard Test Procedure For Benkelman Beam Deflection Measurements.

- CETANZ will attempt to review and rewrite the document and submit for feedback.

TNZ F/1 – NZTA F/1: 2009: Draft Specification For The Construction Of Earthworks In Support Of Road Pavement Construction.

- CETANZ will review and make comment. Most likely most of our comments will centre around the testing section.

AQA

Last Meeting 25 May 2010

Next Meeting 07 September 2010

AQA looking at several issues to date:

- PSV Data base
- Industry Links
- Specification Issues for Aggregates – how to represent AQA membership.
- BRANZ Mortar Sands Project
- TNZ F/2 Review for NZ PTG
- FRST AQA/UofA/RNZ Aggregate Inventory Study

There are also several Watching Briefs that involve

- NZ Vib Hammer Study
- LTPP Group
- Cement Stabilised Aggregates (NZ PTG)
- NZTA Carbonation Project
- TNZ M/4 and T/15 revisions (NZ PTG)
- RTSSG
- Ready Mix Association

Jayden Ellis

CETANZ Technical Group Leader

From the working groups | Careers & Training

The laboratory qualification project is moving along with some pace with the official 'launch' scheduled to coincide with our conference in September.

There are numerous working group members who were on the initial IAG (Industry Advisory Group) that are now providing technical input into the qualification resources.

This includes specific information that go on to form the 'learning notes' and also advice on the assessment process.

For some of the members this has provided an excellent opportunity to see first-hand how the process works from inception to final sign-off with the NZQA.

The qualification itself is shaping up very well and is being worked on by a large number of people from InfraTrain, Write (NZ) Ltd and industry stakeholders. This allows for a very transparent process with consultation at every step.

CETANZ members can be proud of the work done on this so far as the 'request' for a qualification came from the industry at the last conferences.

Watch this space for updates!

Stuart Moulding
Member—Careers and Training Working Group





The Measurement
& Calibration Centre

**IANZ
ENDORSED**

**MCC is now IANZ
endorsed** for balances
and concrete
compression machines.



We are also able to
offer on site servicing
and repair of civil
testing equipment.

Contact Brigitte or Tim with
enquiries on **09 362 1720**
or go to **www.themcc.co.nz**

Member Profiles—Steve Anderson | Geotechnics

Who do you work for and what is your role?

I work for Geotechnics Ltd and I am based in Auckland. My role is Regional Manager (Auckland) for Testing.

As the first life members of CETANZ you have put a lot of work into the early stages of our society, what do you see happening in the next 5 years as important to our society?

It is important that we support the Technician and Senior Technician qualification. The qualification will mean our people can get formal recognition for the work they are doing as well as improving their knowledge. Hopefully in the next 5 years we will have people completing their certificates and the qualification will be recognised as worthwhile.

What is the best piece of advice you have ever been given?

“Bring me solutions not problems”

What do you believe your organisation has gained from CETANZ?

CETANZ has lifted the status of the civil engineering testing industry and is now being consulted by other professional and technical societies for our input from with regard to this sector. This has meant that our company, and any company active or associated with CETANZ has more kudos. CETANZ is also good for sharing ideas, technical support and keeping us informed as to what is happening in our industry..

You need 6 litres of water for a solid density test but your lab only has a 4L and 9L jug. How can you measure the 6L correctly with only the 4L and 9L jug?

The 9L jug has a 6L mark on the side.

If you were on Who Wants to be a Millionaire who would you have as your only phone a friend and why?

Michael McGlynn because he is a @### know it all.



Member Profiles—Jayden Ellis | Stevensons Lab

Who do you work for and what is your role?

Stevenson Laboratory Ltd (&Technical Services) - General Manager

As the first life members of CETANZ you have put a lot of work into the early stages of our society, what do you see happening in the next 5 years as important to our society?

NZ Test Standards review, the on-going support of the new Qualification and Proficiency program.

What is the best piece of advice you have ever been given?

Don't throw anything away, write everything down, the devil is in the detail.

What do you believe your organisation has gained from CETANZ?

1. Profile and recognition. 2. A support network of people with greater experiences and knowledge than us. The day you stop learning is the day your business stops growing.

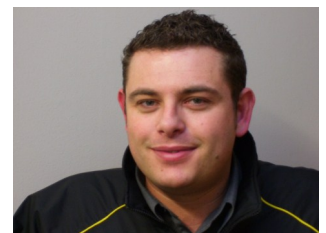
You need 6 litres of water for a solid density test but your lab only has a 4L and 9L jug. How can you measure the 6L correctly with only the 4L and 9L jug?

The fastest way is to Google "4L and 9L jug" I got the answer in five seconds.

1. Fill the 9l jug, pour into the 4l jug until full. This leaves 5l in the 9l jug.
2. Empty the 4l jug, and refill from the 9l jug. This leaves 1l in the 9l jug.
3. Empty the 4l jug and transfer the 1l from the 9l jug into the 4l jug.
4. Fill the 9l jug, pour into the 4l jug until full. You will transfer 3l since there was already 1l in the 4l, leaving 6l in the 9l jug.

If you were on Who Wants to be a Millionaire who would you have as your only phone a friend and why?

My fiancé, she seems to think she knows everything.



CALL FOR PAPERS NOW OPEN
Deadline is 15 June 2010



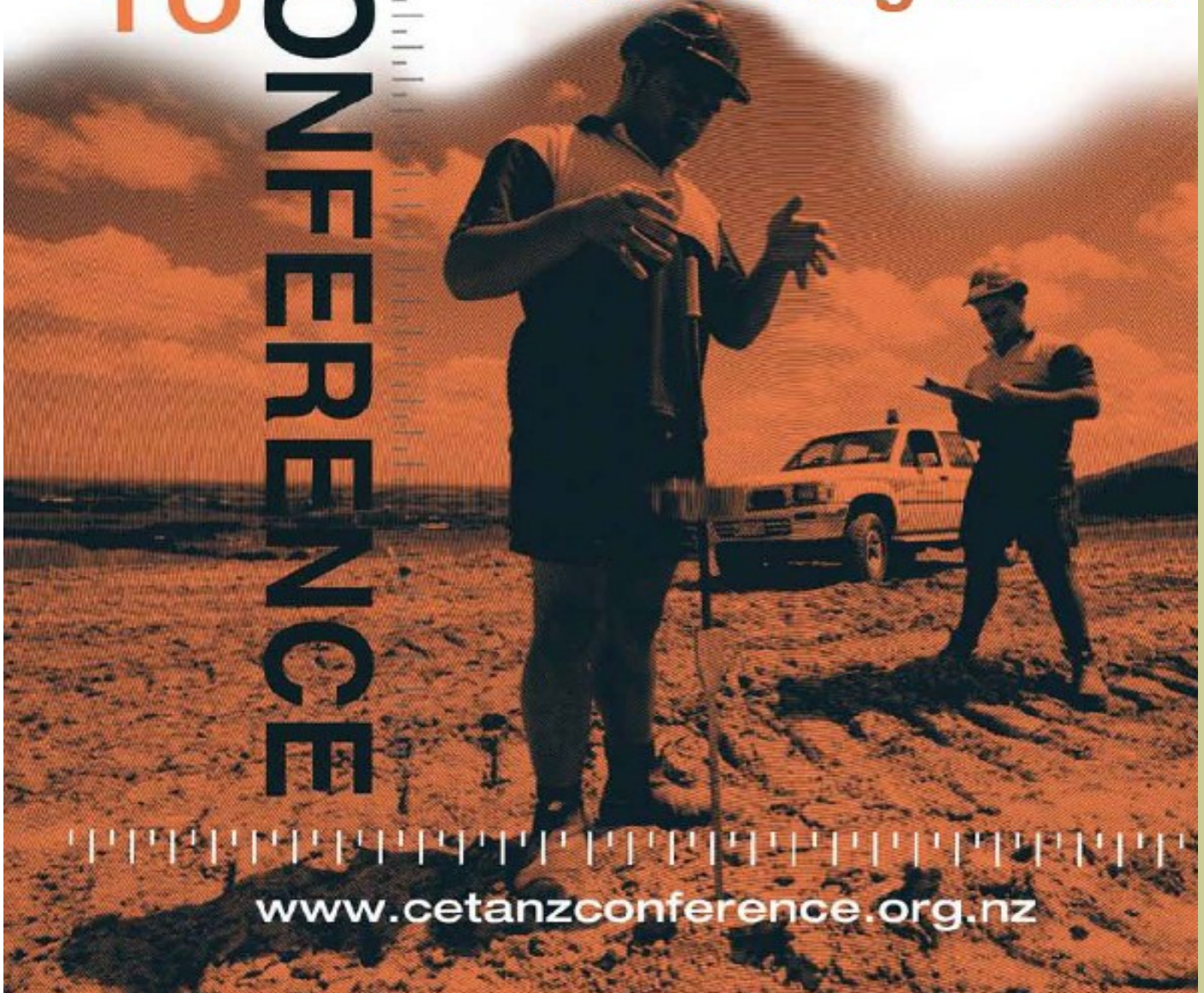
23-24 SEPTEMBER

CETANZ

20
10
CONFERENCE

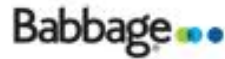
AUCKLAND
NEW ZEALAND

Careering Ahead



www.cetanzconference.org.nz

So who is coming to the conference?



Will we see you there too...?

Breaking News! — Concrete Test Sample Bomb Scare



Concrete test cylinders create bomb scare in downtown St Louis Aug, 19 2010 (ST. LOUIS, Missouri) --

A bomb scare shut down one of the busiest blocks in Downtown St. Louis for about 2 hours, Wednesday afternoon. The St. Louis Police Bomb and Arson unit closed Washington Avenue from 10th to 11th streets from about 4:00-6:00 p.m.

An investigator in a protective "bomb suit", carefully analyzed 8 suspicious, concrete-filled canisters, left under a sidewalk bench, in the heart of the Washington Avenue Loft District.

"You never know what's going on. Hopefully they're just taking extraordinary precaution," one witness said, looking anxiously down the street.

"It's a bit weird when this type of stuff goes on right in your neighbourhood," said another. "People walking around in big 'Hurt Locker' suits," he said, referring to the Oscar winning movie. "You can't be too careful," said Patrick Russell, walking past the scene minutes after investigators determined there were no explosives and reopened Washington Avenue.

Russell, an owner-operator of The Dubliner Restaurant and Bar, had been his customers inside, away from the sidewalk eating area; which investigators had cordoned off with crime tape; good idea, given what was going on outside the windows.

Same went for loft residents plus workers and customers at other popular restaurants, like the Mizu Sushi Bar and Mosaic.

"Supposed to be bomb canisters or something like that," worried another witness.

People who lived nearby said they'd seen the 8 canisters, about a foot tall each, left under the bench Tuesday afternoon but didn't think anything of it.

Authorities said that changed when a downtown bicycle guide saw them still here about 24 hours later.

The canisters appeared to be full of concrete and were labelled "test sample - do not disturb".

"The guy from the bomb squad said you never know, it could be disguised as something," Russell said.

Investigators brought out a bomb-sniffing dog, along with out the mobile bomb detonation chamber, painted like an '8 ball'.

The investigator in the protective suit analyzed the canisters with an 'X-ray type device and found the canisters were what the labels said they were: test samples of concrete; possibly left behind by a work crew that had been working below the street surface since Monday, right next to where the canisters were found.

"I don't know exactly what they're doing," Russell said of the workers. "They've been jack-hammering...they've been digging...I don't think it was too much alarm. You never know. You have to err on the safe side...I think their guard was really high."

Police had yet to confirm the work crew as the source of those concrete samples.

Situations Vacant



ENTECH LIMITED ENGINEERING & SCIENCE CONSULTANTS				
Level 2	Mid City	Cnr Cumming St & Renwick Rd	Suva	Fiji
P.O. Box 12309, Suva, Fiji				
Phone : (679) 330 0300 Facsimile : (679) 331 8618 e-mail : entec@connect.com.fj				

VACANCY – ENGINEERING ASSISTANT/INTERMEDIATE TECHNICIAN, FIJI BASED

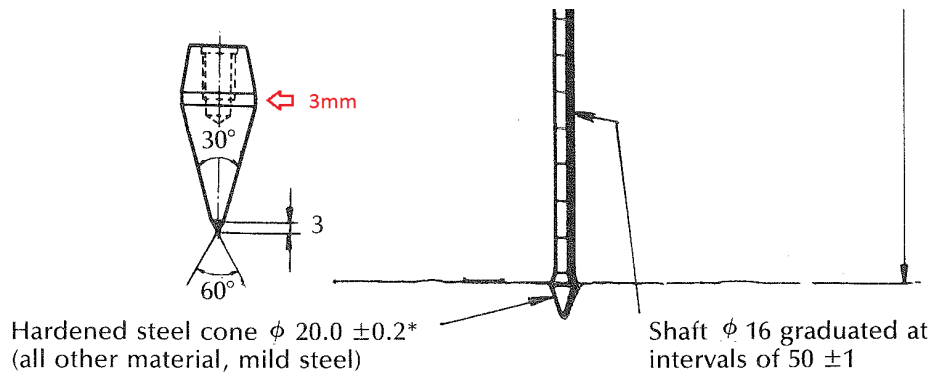
Entec Limited is a Fiji based local professional civil engineering consultancy practice with capabilities in Geotechnical, Civil, Environmental, Traffic and Structural Engineering, Alternative Dispute Resolution and Contracts in Building and Construction Industries. The Company was established in 1999 and currently has two offices, one each in Suva and Nadi and both offices have geotechnical materials testing laboratories. Entec has undertaken regional projects in Australia, Cook Islands, Niue, Samoa, Solomon Islands and Tuvalu. Clients include local & regional governments, international aid agencies (EU, Ausaid, NZaid, USaid, JICA & DFID) and the private sector. Some of the major tourism projects include the 5 star resort developments like the Intercontinental at Natadola and Marriott at Momi, land development at Naisoso Island in Nadi and Pacific Point in Wainadoli and various projects entailing airports, pipelines/water/waste water, bridges, roads, ports, embassies, landfills and rubbish dumps, slipways, sporting stadiums and multi storey residential and commercial buildings.

A full time long term (preferred) vacant position exists in our Suva Office for one to liaise with clients, supervise, assist and undertake site assessment, laboratory testing, some technical reporting under supervision, quality controlling, site supervision and training for projects in Fiji and the island region. Two to three years of relevant industry experience with a Certificate or Diploma or Degree in civil engineering would be considered adequate. Opportunities exist to advance to management level and to be able to become a shareholder in the business. A reasonable and attractive employment package will be negotiated and offered to the successful applicant.

Apply electronically with a full CV to the Managing Director at entec@connect.com.fj. Should you wish to discuss about the position then you may contact Pratarp Singh, T: 679 330 0300, M: 679 993 0907.

Scala Cone—Missing Dimension | Steve Anderson, Geotechnics

We have had some great feedback from members regarding the dimension missing in NZS4402:1986. Test 6.5.2 Figure 6.5.2 (see below). Thank you to all those people who contributed.



NOTE –

- (1) All linear dimensions are in millimetres (not to scale).
- (2) Essential dimensions are indicated by an asterisk.
- (3) This design has been found satisfactory but alternative designs may be employed provided the essential requirements are fulfilled.
- (4) Similar equipment has sometimes been referred to in New Zealand as the Scala Penetrometer.

Fig. 6.5.2
DYNAMIC CONE PENETROMETER

As background, we identified this in our technical working group and also noted the dimension is missing from the equivalent Australian test method.

Our approach was cautious in that it appeared obvious that the dimension should be 3mm, but we wanted to investigate the impact of a change before advising manufacturers and Standards New Zealand (SNZ).

The committee decided on determining the effect on inferred CBR and penetration resistance. The report concluded there was a reduction in strength.

The feedback we received generally accepted the results, but there was also valid feedback against the conclusions. Most accepted that the dimension should be 3mm and that the standard be amended to include the shoulder length as a critical dimension. There were good comments that the CBR relationship has already a high degree of uncertainty and would probably exceed the change of the cone tip shape. Some mentioned that inexperienced operators and material variability would also affect the outcome. It was also remarked that further and more detailed investigation was required before any sound conclusions could be drawn.

We agree with all of the feedback, but given the voluntary nature of CETANZ we do not have the resources to continue investigating the many factors that may generate more robust data.

We have decided to make a submission to SNZ requesting them to amend the standard showing the dimension. This process can take some time and may require funding, but we will keep you advised of our progress.



Geotechnics

Field testing equipment

We can supply you with all your field equipment requirements from Nuclear Density Meters to Scala Penetrometers. For sale and hire call our friendly team on 09 356 3510. If we don't have it we will tell you who does.



Heavy Duty Scala Penetrometer

- Available in Standard or Heavy Duty models
- Heavy Duty scala has components made from higher tensile material. Available in Heavy Duty upper assembly only or Heavy Duty to 1 m
- Suitable for investigations up to 5 m (material dependant)

Auger

- T-handle, extensions and Auger head in a canvas carry bag
- Standard auger head is 50 mm Ø
- 70 mm and 100mm heads also available

Geotechnics Impact Tester

- Meets internationally recognised ASTM and AS standards
- Extremely useful tool which can be used on wide range of construction materials
- Simple correlation from the impact value to an inferred CBR

Shear Vane - Geovane

- Determines strength of cohesive soils
- Reading in kPa and Nm
- Measures up to 240 kPa
- 19 mm or 33 mm vane blade for different strength materials
- Widely accepted engineering tool

Nuclear Density Meter

- Quickly and accurately measures density and moisture content of soils and aggregates
- Can be used for asphalt thin lift measurements
- Plateau tests to determine ultimate number of roller passes
- Automatically calculates moisture, air voids and % compaction
- Simple to use
- Full assistance on any use, safety or licensing requirements



GEOTECHNICS

Auckland

p. +64 9 356 3510

enquiries@geotechnics.co.nz

Tauranga

p. +64 7 571 0280

Wellington

p. +64 4 381 8584

www.geotechnics.co.nz



The Measurement & Calibration Centre

Auckland

p. +64 9 362 1720

www.themcc.co.nz

SALES
TESTING
TRAINING
CALIBRATION

Funnies...

In Pharmacology, all drugs have two names, a trade name and generic name. For example, the trade name of Panadol also has a generic name of Paracetamol. Amoxil is also called Amoxicillin and Nurofen is also called Ibuprofen.

The FDA has been looking for a generic name for Viagra. After careful consideration by a team of government experts, it recently announced that it has settled on the generic name of Mycoxafloppin. Also considered were Mycoxafailin, Mydixadrupin, Mydixarizin, Dixifix, and of course, Ibepokin.

Pfizer Corp. announced today that Viagra will soon be available in liquid form, and will be marketed by Pepsi Cola as a power beverage suitable for use as a mixer. It will now be possible for a man to literally pour himself a stiff one. Obviously we can no longer call this a soft drink, and it gives new meaning to the names of 'cocktails', 'highballs' and just a good old-fashioned 'stiff drink'. Pepsi will market the new concoction by the name of: MOUNT & DO.

Thought for the day:

There is more money being spent on breast implants and Viagra today than on Alzheimer's research. This means that by 2040, there should be a large elderly population with perky Boobs and huge erections and absolutely no recollection of what to do with them.

If you don't send this to five old friends right away there will be five fewer people laughing in the world!

2

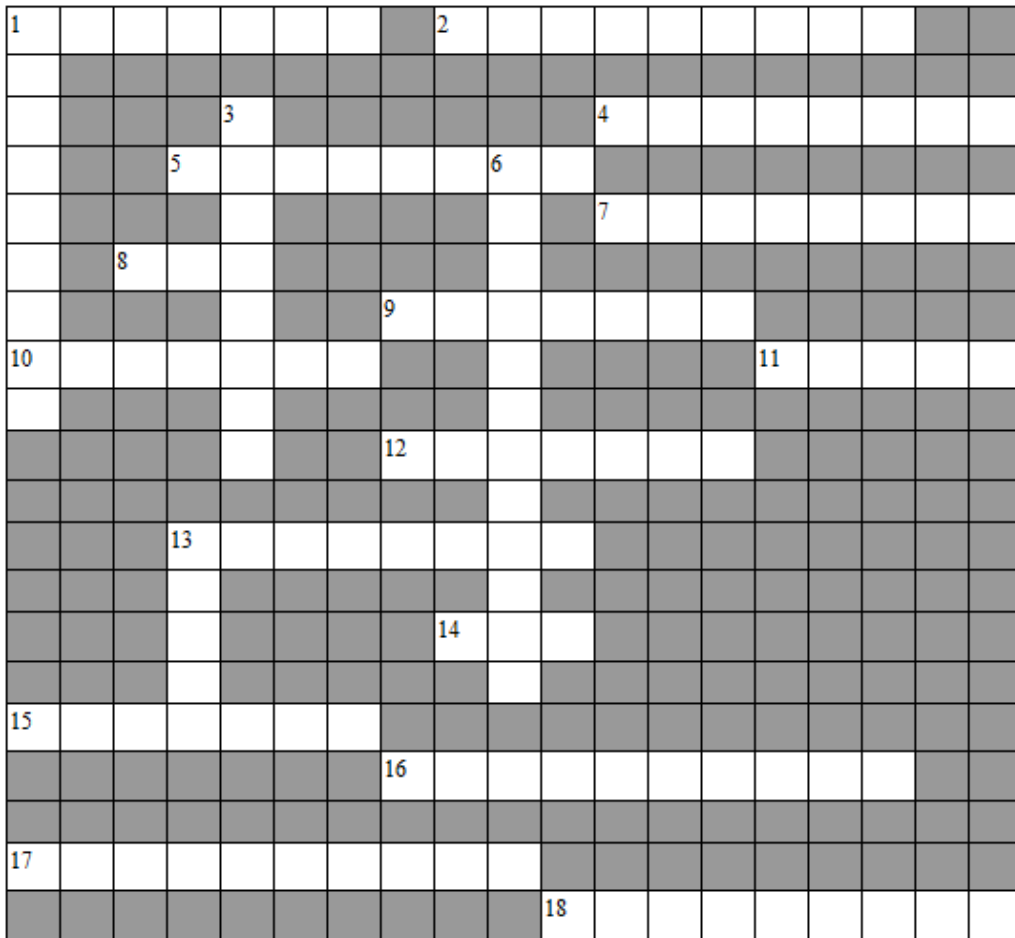


Like most veterinary students, Doreen breezes through chapter 9.



Cryptic Crossword

Created by Stuart Moulding

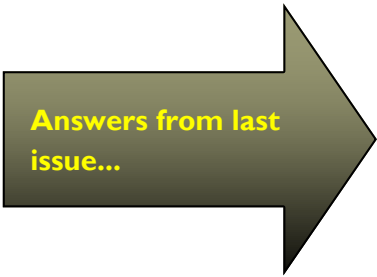


ACROSS

1. Spell the word "Cryptic"
2. NZ's tallest native tree
4. Mt. Taranaki is made of this
5. A series of asphalt tests
7. The top 1m of natural ground we construct on
8. A beer and a bird
9. A potentially devastating wave
10. A scale used for earthquakes
11. Peter drove this #5 car
12. California _____ Ratio
13. A group of swelling clays
14. An asian frying pan
15. Parliment buildings, matches and activity
16. Whats happening between the Australian and Pacific plate under the North Island
17. The NZ xmas tree

DOWN

1. Spell the word "Crossword"
3. NZ's largest inland city
6. The process of liquefying soils during an earthquake
13. A bold red wine



Across	Down
Yes	Soap
Cumulonimbus	Curie
Beaker	Scala
Allophane	Basalt
Stoat	Atterberg
Kakapo	Darwin
Glacier	Clay
Garlic	Harakeke
Alpine	
Rutherford	