

**VICTORIAN CONSTRUCTION
MATERIALS LABORATORIES
ASSOCIATION, INC**

NEWSLETTER

PO Box 310, Kilsyth Victoria 3137
vcmla@nickfm.com.au

Vol 1 No 3 November 2006
ISSN 1833-6795 (print)
ISSN 1833-6809 (on-line)

MESSAGE FROM THE CHAIRMAN

The year in summary.

Yet another year has past us by and we as an industry are busier than ever before. The demands for our services are ever increasing, putting enormous strains on staffing levels.

As an association we have been investigating existing and potential training programs to try to increase the pool of technicians from which we may draw. As other states are more advanced than us in both the training programs and as an association we have been awaiting their outcomes. We hope to be able to provide a report in the New Year as to what exists in the way of how and what courses have been developed and then how we may be able to adopt them into the Victorian market.

Our association has been in operation for just over twelve months, with the inaugural Construction Materials Conference and our development being our main focus for the year. If we as an association are to survive, it is important that we get support from our members.

It was found that the initial enthusiasm has waned in the latter part of the year. We hope that our members support meetings and provide interesting topics for discussion. We would appreciate any emails or letters

outlining your concerns in the industry to be discussed openly or at a committee level.

I would like to take this opportunity to thank all of my committee members for giving up their time to be a part of the association and their efforts throughout the year.

I guess we as an industry are very thankful to have the likes of Dom Meadley as a part of our group due to his great knowledge in the field and his passion. Dom has contributed enormous amounts of time towards the conference and the many issues we have faced this year. Thanks Dom your efforts are truly appreciated.

I hope that the approaching Christmas rush to get jobs complete, allows us all to be able to get a decent rest over the break and come back revitalized for another hectic year. The VCMLA committee wishes you all a very Merry Christmas and hope to see some more faces at our next general meeting.

Ernie Gmehling

Soils Testing Handbook

HB 160

Now available from SAI Global

<http://www.saiglobal.com/shop>

CROSSWORD 2 SOLUTION

Clues in last edition of Newsletter

B	E	R	Y	L	L	I	U	M		B	O	O	K
E		E		A			H	A	Z	A	R	D	
C	A	L	I	B	R	A	T	I	O	N			C
Q		A	C	O	R	N		N	O	A	H		O
U	L	T	E	R	I	O	R				E	P	O
E		I		A			M	A	R	S	H	A	L
R	I	V	E	T			A	D		P	A	T	I
E		I		O	B	L	I	G	A	T	I	O	N
L	A	T	E	R		O	A		M		N	A	G
	N	Y		Y	O	U	N	G		N	G	K	
K	N		M		R	S			Q	A		S	I
E	E	R	I	E			B	A	S	I	L		O
A	X	I	S				C	A	L	G	O	N	

CBR AND SWELL TESTING AS 1289.6.1.1

VicRoads spells out a number of defining requirements in its Code of Practice RC 500.16 concerning CBR testing. The alternative, taken by Main Roads Western Australia, was to rewrite the Australian Standard with many of the alternatives currently in the Standard excluded.

The VicRoads requirements include:

- Surcharge of only 4.5 kg in total to be applied during soaking;
- Non-replacement of material greater than 19.0 mm;
- Standard compactive effort for earthworks;
- Compact specimens 98% laboratory density ratio (specified in Specification 204);
- Modified compactive effort for pavement materials.

Two areas which have caused considerable debate are the use of a 4.5 kg surcharge only and the non-replacement of oversized material.

Reasons that have been advanced concerning the use of the 4.5 kg surcharge are:

- all design charts for the depth of flexible pavements were based on tests using the 4.5 kg surcharge;

- Swelling clays were defined using the testing carried out using the 4.5 kg surcharge only; (swelling clays usually require moisture ratio control in construction and the use of an additional relatively impermeable layer between the subgrade and the pavement materials)
- roads tend to fail at the edges where the effect of a surcharge of greater depth of pavement is lost due to the lack of side restraint.

In regard to the non-inclusion of oversized material, the following reasons have been given:

- in many Victorian soils, the oversized is often large stones in a clay matrix and the bearing capacity of the soil is really that of the matrix;
- including smaller crushed stone in the matrix will give a very high overestimate of the CBR and thus pavements may fail due to insufficient pavement material.

For airports and carparks, these reasons may not be applicable, therefore the variations in AS 1289.6.1.1 regarding surcharges and oversized may apply.

A Career in Civil Engineering Testing

The NATA proposal for qualifications for approved signatories raises a number of issues including whether there is a career for people in civil engineering testing.

Most of the VCMLA committee members have been involved in civil engineering testing for their entire careers and, no doubt, would insist that this is, and has been, a wonderful and fulfilling career.

Many long term career civil engineering testing people have commenced in government departments, in large supply companies or major geotechnical companies.

In recent years, a significant amount of testing is now performed by smaller companies and in Victoria, there is only one government based laboratory, VicRoads/GeoPave, involved in civil engineering testing, compared to seven in the 1970s.

Equally, there is a large number of people who have been involved in this work during their working life and who have now furthered their careers in other areas of civil engineering or construction materials.

In today's working environment we are seeing multiple careers becoming the norm rather than life-long careers.

So where does a career in civil engineering testing fit and how can we make best use of our short or long-term in this endeavour?

All of us will recognise that civil engineering testing is our current short-term career and over a period of time we will need to decide whether we wish to pursue this as a long-term prospect or we are looking to expand out into other areas in the industry or even to move outside the industry.

Irrespective of the path we choose, it will be important to obtain qualifications in the area in which we are working. If we intend to continue in our current industry but move away from testing, this needs to be a planned activity which will fulfil our current needs and help us in the future.

So when we look at the NATA proposal we need to consider whether the PML-04 Training Package is the best alternative or are there other packages which will better fit our career plans and, possibly more important, are there training packages which better fit our employer's aims.

PML-04 Laboratory Operations Training Package

This training package appears to offer the most scope for most people involved in construction materials and civil engineering testing. Competencies have been written which cover a wide range of testing and they also include Supervision of Earthworks and Site classifications. However, it is often difficult to extract the real meaning behind the competency standards, hence the need for advice from a suitable Registered Training Organisation (RTO).

The VCMLA committee is currently investigating how this package can be tailored to soils testing and how best it can be delivered.

Although there is a number of providers of the PML-04 training package in Victoria, there is no emphasis placed on our industry by most of the RTOs.

Further information about the competencies and the providers can be obtained from the following web sites:

<http://www.ntis.gov.au/Default.aspx?trainingpackage/PML04/download>

http://www.ntis.gov.au/Default.aspx?trainingpackage/PML04/volume/PML04_1/chapter/QualFrameworkMandText

<http://www.ntis.gov.au/Default.aspx?trainingpackage/PML04/provider&state=02>

MNQ-03 - Extractive Industries Training Package

If you are working in the quarry industry, this training package is most likely to be the most suitable.

The quarry industry has been involved in considerable expense in establishing the Certificate II in this area but it is important that laboratory personnel use this qualification to expand onto the Certificate III and possibly the Certificate IV areas.

The packaging rules for this package are available on:

<http://www.ntis.gov.au/Default.aspx?/trainingpackage/MNQ03/download>

RII-06 and BCC-03 Civil Construction Training Packages

If you intend to be involved in the civil construction industry as well as the testing industry you might wish to consider one or other of these packages.

Currently RII06 does not offer a Certificate III qualification but this is available in BCC-03.

If you are involved in the asphalt or concrete industries, either of these packages might be suitable.

If you intend to branch out into design or construction supervision in the future, the RII-06 package appears to offer a number of pathways. This package also covers competencies in pavement condition and pavement monitoring which would be useful in some of our activities. It may be possible in the future to have competencies from this package incorporated in the the PML-04 package or vice-versa. However, any importing of competencies from other training packages requires approval of the Industry Skills Councils involved.

Further details of these packages and the competencies are shown on the following web sites.

BCC03 - Civil Construction (Cert III)

http://www.ntis.gov.au/Default.aspx?/trainingpackage/BCC03/volume/BCC03_1/download

RII06 - Civil Construction (Cert II and IV)

<http://www.ntis.gov.au/Default.aspx?/trainingpackage/RII06/download>

Will obtaining Certificates III or IV in these other packages satisfy the proposed NATA signatory requirements?

The intention of requiring qualifications for signatories is to support the in-house training provided by laboratories to their staff and to give signatories additional background training to enable them to perform their task more professionally and to add value to the testing process.

Therefore, provided competencies have been obtained in the testing to be performed, testing staff are encouraged to follow the career path which best fits their and their employer's plans.

It is important to remember that a particular competency can be obtained in different areas of testing.

For example, a person may have obtained the competency in "Perform Basic Tests" in the biological field but this would not be considered as adequate of testing in a civil engineering testing laboratory.

Competency based training is based on the actual performance of the work and is not a general training such as a Diploma or a Degree where people are expected to apply what is learnt over a wide field. However, having obtained a competency in one area, it may be easier to obtain competency in another area. However, the records supporting the additional testing area would then need to match what would be required if the competency was being assessed by an RTO.

As it is going to take a little time to organise RTOs to deliver and assess the competencies provided by our industry, preparation of training records to meet the competency requirements should be the first step for the career civil engineering technician.

This should provide suitable evidence to an RTO particularly in regard to Recognition of Prior Learning (see the VCMLA August Newsletter).

In conclusion, there is a career path in civil engineering testing which can be a life-time career or it can lead to a broader career in the industry you have selected.

What is happening at Standards Australia

Soils Testing Handbook HB 160

At long last, the long-awaited Soils Testing Handbook was published in July 2006.

This has involved the work of many of the soils committee and other members of the working group in many hours of writing, editing and discussion.

This handbook is considered an essential reference document in all soils testing laboratories as it provides much detail and background which cannot be included in the AS 1289 series of test methods.

The committee realises that there may be differences of opinion from what is stated in the Handbook and looks forward to comment from those who are interested in improving future editions.

You will note that a few tests have been omitted due to the decision being made to publish as no information had been forthcoming in those areas prior to the cut-off date.

In particular, there is a need for information on soil permeability tests and some other areas need expansion.

Please direct correspondence to:

Projects Manager CE-009
Standards Australia
GPO Box 476
SYDNEY NSW 2001

You may also wish to send any comment to the Secretary, VCMLA, Inc. so that we can combine any comment received.

Many members of the committee are very disappointed about the pricing policy of SAI Global in that it had hoped to provide a publication at a reasonable price for all students, laboratories and engineers involved in performing and using soil tests. This matter has been raised without success in price reduction at this time.

Asphalt CE-006

No action in 2006

Soils - CE-009

The classification tests AS 1289 3.1.1, 3.1.2, 3.2.1, 3.3.1, 3.3.2, 3.4.1, 3.6.1 and 3.6.1 have been issued for combined public comment and postal ballot which closes on 20 December 2006. It is hoped the changes will be minimal but this will depend on public comment received.

AS 1141. 51, 70, 71, 72 are to be transferred to a new series of stabilised soils test methods AS 5101. They have been issued for public comment which closes on 19 January 2006.

If you have anything to offer regarding these methods please obtain public comment documents from the Standards Australia website.

Aggregates CE-012

A number of methods are currently under scrutiny as they are now over 10 years old. Currently no methods are available for public comment but a number have been recently balloted and will be re-issued in the near future.

Earthworks CE-027

AS 3798 has now passed the postal ballot stage and is due for publication early in 2007. Keep an eye out for the new issue as it contains a number of changes which may affect geotechnical testing laboratories, particularly in regard to Level 1 and Level 2 supervision and testing.

Concrete BD-042

No changes are proposed in the near future for the basic concrete tests although some new tests regarding the durability of concrete and protection of reinforcement are under discussion.

Any comment on these methods can also be addressed to the Secretary, VCMLA, Inc. PO Box 310 KILSYTH VIC 3137.

CELC 2006

On 28-29 September 2006, the Inaugural Civil Engineering Laboratories Conference was held in Auckland, New Zealand.

It was attended by over 70 delegates including six from Victoria.

Much like the Australian Conference held in May there was almost too much to hear, but all who participated had a wonderful technical and social time.

Plenary session which all could attend included subjects such as:

- Trading off testing and risk
- Accreditation - formal recognition of competence of a laboratory
- Minimising risk in the field
- Uncertainty of measurement
- Performance tests for road aggregates
- National qualifications development
- Civil engineering laboratory technician - a career.

There was also considerable discussion about forming a national association, e.g. as we have VCMLA in Victoria.

Specialist sessions included:

- Problems with the use, calibration and regulations for nuclear gauges
- Update on concrete, concrete materials and testing
- Ground models and the geotechnical testing laboratory
- Test methods for stabilised and bound granular materials
- Identifying and effective binder for stabilisation of allophanic soils
- Proposed mix design methods for foamed bitumen stabilisation
- Errors in vibrating hammer compaction tests
- Software for concrete testing and production
- Repeat load triaxial testing of roading materials
- Hot mix asphalt laboratory testing and equipment requirements
- Measurement uncertainty for concrete testing workshop.

Included was a well attended dinner and entertainment.

CORPORATE MEMBERS OF THE ASSOCIATION

Anacon Laboratory Services 2 Hall St PORT MELBOURNE VIC 3207 e-mail: anacon.lab@barro.com.au

AS James Pty Ltd 16 Libbett Ave CLAYTON SOUTH VIC 3169 e-mail: timh@asjames.com.au

Chadwick T&T Pty Ltd PO Box 1016 NARRE WARREN VIC 3805 e-mail: timothy@chadwickgeotechnical.com.au

Civil Geotechnical Services Pty Ltd PO Box 665 HEATHMONT 3135 e-mail: pjf@civilgeotech.com.au

Douglas Partners Pty Ltd 68 Brighton Street RICHMOND VIC 3124 e-mail: melbourne@douglaspartners.com.au

Geotechnical Laboratories Pty Ltd TULLAMARINE VIC 3043 e-mail: geolabs@bigpond.net.au

Geotest Civil Services Pty Ltd 78 Mornington Street NORTH GEELONG VIC 3218 e-mail: geotestcivil@optusnet.com.au

Global Geotechnical 9 Hanrahan Street THOMASTOWN VIC 3074 e-mail: global.geo@bigpond.com

Ground Science Pty Ltd Factory 11, 8-20 Brock Street THOMASTOWN VIC 3074 e-mail: groundscience@optusnet.com.au

NickFM Pty Ltd PO Box 310 KILSYTH Vic 3137 e-mail: mdomm@nickfm.com.au

RoadLab Testing Services Pty Ltd 3 Anchor Drive BALLARAT VIC 3350 e-mail: roadlab@netconnect.com.au

Roadways Pty Ltd Ormsby Street, Wivenhoe BURNIE TAS 7320 e-mail: len.vanrossum@roadways.com.au

Terra Firma Laboratories Factory 3 20-26 Enterprise Ave BERWICK VIC 3806 e-mail: tflabs@bigpond.com

If you would like further information on any of the subjects, contact Geotechnics Ltd in Auckland.

Dom Meadley has a copy of the papers if you wish to browse through them but they are copyrighted and therefore copies cannot be provided except by Geotechnics Ltd.

As it can be seen, the issues in New Zealand are much the same as we have here in Australia and Victoria.

It is hoped that VCMLA can establish regular contact with the cross-Tasman laboratories and that we can develop a good working relationship.

Thank you to the New Zealand organising committee who made all of their Australian visitors most welcome.

What is happening at Standards Australia

Soils Testing Handbook HB 160

At long last, the long-awaited Soils Testing Handbook was published in July 2006.

This has involved the work of many of the soils committee and other members of the working group in many hours of writing, editing and discussion.

This handbook is considered an essential reference document in all soils testing laboratories as it provides much detail and background which cannot be included in the AS 1289 series of test methods.

The committee realises that there may be differences of opinion from what is stated in the Handbook and looks forward to comment from those who are interested in improving future editions.

You will note that a few tests have been omitted due to the decision being made to publish as no information had been forthcoming in those areas prior to the cut-off date.

In particular, there is a need for information on soil permeability tests and some other areas need expansion.

Please direct correspondence to:

Projects Manager CE-009
Standards Australia
GPO Box 476
SYDNEY NSW 2001

You may also wish to send any comment to the Secretary, VCMLA, Inc. so that we can combine any comment received.

Many members of the committee are very disappointed about the pricing policy of SAI Global in that it had hoped to provide a publication at a reasonable price for all students, laboratories and engineers involved in performing and using soil tests. This matter has been raised without success in price reduction at this time.

Asphalt CE-006

No action in 2006

Soils - CE-009

The classification tests AS 1289 3.1.1, 3.1.2, 3.2.1, 3.3.1, 3.3.2, 3.4.1, 3.6.1 and 3.6.1 have been issued for combined public comment and postal ballot which closes on 20 December 2006. It is hoped the changes will be minimal but this will depend on public comment received.

AS 1141. 51, 70, 71, 72 are to be transferred to a new series of stabilised soils test methods AS 5101. They have been issued for public comment which closes on 19 January 2006.

If you have anything to offer regarding these methods please obtain public comment documents from the Standards Australia website.

Aggregates CE-012

A number of methods are currently under scrutiny as they are now over 10 years old. Currently no methods are available for public comment but a number have been recently balloted and will be re-issued in the near future.

Earthworks CE-027

AS 3798 has now passed the postal ballot stage and is due for publication early in 2007. Keep an eye out for the new issue as it contains a number of changes which may affect geotechnical testing laboratories, particularly in regard to Level 1 and Level 2 supervision and testing.

Concrete BD-042

No changes are proposed in the near future for the basic concrete tests although some new tests regarding the durability of concrete and protection of reinforcement are under discussion.

CONTRACT REVIEW

Many of us look at the requirement of NATA for laboratories to satisfy ISO/IEC 17025 as a necessary evil or, at worse, just another imposition by NATA.

The whole quality movement is focussed on improving business, and ISO/IEC 17025 is one component of that movement. However, quality has been a focus of laboratory work for a considerable number of years and a definite focus of NATA since its inception. There is such a reliance on the quality of test results that testing and calibration requires a special Standard to focus on this quality.

How then does the clause on Contract Review help the quality and my business?

Victorian Construction Materials Laboratories Association, Inc.

CODE OF ETHICS

The integrity and serviceability of much of the civil infrastructure throughout our community is greatly influenced by the work practices of members of the association.

In order to maintain respect, recognition and trust from the various authorities and the greater community, members are required to promote honourable, professional practice in application of their duties.

This requires

- loyalty to the community, employer, clients and relevant authorities
- honesty and impartiality in professional practice
- constant endeavour to broaden knowledge and improve skill and expertise.

To these ends all members of the Association are required to give active support to the proper regulation of practice in the industry. They are also required to observe, apply, support, promote and advocate the rules of behaviour set out in the Code of Ethics and support other members in its observance. Members acting in accordance with this Code will have the support of the Association in a manner and to an extent determined by procedures and the committee in each case.

1. Members shall faithfully and diligently carry out their duties in the knowledge that their prime allegiance and duty is to the maintenance and promotion of the highest standards of practice in the geotechnical and construction materials testing industry and with the protection of the consumer being paramount.
2. Members shall continuously improve their knowledge of the industry by keeping informed about changes to relevant procedures, guidelines and associated regulations and shall actively assist and encourage those under their direction to do likewise.
3. Members shall without exception adhere to nominated job specifications and associated referenced test procedures and guidelines and accept any authorised interpretation of these specifications, test procedures and guidelines.
4. Members shall conduct themselves so as to uphold the dignity and reputation of the industry and shall at all times avoid any action or situation which could impair their integrity or bring the Victorian Construction Materials Laboratories Association Inc. into disrepute.
5. Members shall, without fear or favour, perform all duties for which they are accountable with impartiality, honesty and practicality.
6. Members shall maintain confidentiality with clients in the course of their business dealings and conduct all transactions in a professional and open manner.
7. Members shall not act in any way which would injure the professional reputation of the Association or any member of the Association.
8. Members shall at all times have proper regard for the objects of the Rules of Association of the Victorian Construction Materials Laboratories Association Inc. and shall not take any action which does not comply with the policy of the Association or which conflicts with the Aims of the Association.
9. Members uphold the right to a fair return for services rendered in relation to their clients, for labour and testing services provided as part of the construction materials testing industry.

AIMS OF THE ASSOCIATION

The aims of the Association are to:

- improve the standard of testing in Victoria through training and other means
- advance the status of testing laboratories to the construction industry
- communicate changes in standards and technology to the laboratory industry
- provide a code of ethics by which members operate
- represent the views of the Victorian testing laboratories to peak bodies such as NATA, Standards Australia, Austroads, etc.
- inform the construction industry of the benefits of good laboratory services
- assist members in the development of suitable proficiency and inter-laboratory testing programs
- conduct activities such as meetings, conferences, technical and social events for the benefit of its members

VICTORIAN CONSTRUCTION MATERIALS LABORATORIES ASSOCIATION, INC.

ABN 5797 277 6033

PO Box 310
KILSYTH VIC

web site: www.nickfm.com.au/vcmla.htm

e-mail: vcmla@nickfm.com.au