

*ASSOCIATION OF GEOTECHNICAL
TESTING AUTHORITIES (QLD) INC*

NEWSLETTER



*THE ASSOCIATION OF
GEOTECHNICAL TESTING
AUTHORITIES (QLD) INC.*



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DEPUTY CHAIRMAN'S REPORT

How come the year has passed so quickly? It was only yesterday that we were sitting in the Paddo Tavern for the AGM reflecting on the vagaries of 2002 and wondering what 2003 had in store for us all. Well, now we know.

For most of us, 2003 has been hectic; a lot of work, but with short deadlines, long hours and often tight margins. As a result, the committee didn't get into its stride until about half way through the year. The fact that we were short one Chairman did not help; other committee members just had that little bit more to do.

AGTA now has representation on the Standards Australia Committees CE-09 (Soil testing AS 1289 series) and CE-012 (Aggregate testing AS 1141 series, and Aggregate specification AS 2758 series). We have now been invited to provide representation on the CE-027 Committee, which is currently reviewing AS 3798. We may need to seek member participation at these SA committee meetings. It is good to see that AGTA is being recognised by the wider community as being a valuable industry contributor at more than just a Queensland level.

Members will be aware that we finally managed to get out in August our first Newsletter of the year, thanks to the considerable help of the ladies at Civil Quality Assurance. Its distribution by e-mail was generally satisfactory, but some (me included) mourned the passing of the colour bound hard copy we have been so used to. The reality is, though, that the Newsletter is not a cheap document to produce, and e-mail distribution has helped us maintain the size of the document but keep it within budget.

Sourcing material for the Newsletter continues to be difficult. Despite a number of requests to members asking that you tell us what sort of topics you want covered in the Newsletter, we received only one response. I won't say we have covered what that one response suggested, but it has provided food for thought. Again I make the plea for members to let the committee know what content you want in the Newsletter and what you want from the General Meetings.

The last General Meeting of the year will be held in conjunction with the Annual General Meeting at the IEAust Hawken Auditorium on Monday 8 December (6.00pm for a 6.30pm start). We are still finalising speakers, but it should be just as interesting and just as topical as the June meeting. Please come along and have **your** say in how **your** association is run.

Peter Davis
Deputy Chairman

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A DAY IN THE LIFE OF A SOIL TESTER

The following is an extract from the diary of Terry Ferguson while he was working at the Ok Tedi Gold Mine Project in Papua New Guinea:

17 July 1983

Today I survived (only just) the most strenuous and nerve-wrecking attempt at soil testing I have ever encountered. The day started as any normal Tabubil day does up here - bloody depressing. Upon arriving at work a request form was handed to me for 2 densities to be done on the culverts at Ok Whea. Little did I know that by saying I would do these I would be risking life and limb (talk about a true blue dirt doctor!!!).

Anyway I headed off to do them knowing quite well they were going to be slightly difficult - what a bloody understatement! We (myself, Foli and Erkat - two technician assistants) arrived down at the Ok Tedi River where they are in the process of building a bridge. Being as the bridge is incomplete we were going to have to use a rope bridge to cross the river so first off we had to haul all the sand bottles and equipment up a 25 foot vertical ladder to get to the rope bridge. Upon crossing the bridge (if you would call it that) we had to reverse the process and lower all the equipment down on the other side (it may sound simple but I won't be rushing to do it again). Once upon Terra Firma again we started the trek towards our proposed destination which was a mile away on a road (I feel I may be taking a liberty calling it a road) which was cut through the jungle. Being as the bridge was yet to be completed there was no great amount of vehicles using this road (again I use this word loosely).

So we trudged the complete distance. Surprising how heavy a couple of bottles containing 8300gm each can weigh after a while. I realise now that the women around this district that carry far greater loads on their backs up and down these mountains all day have a far greater constitution for hard work than I do. Anyway, upon arriving at Ok Whea the next obstacle reared its ugly head, an embankment of slippery, wet black clay, the two Papua New Guinea lads went down it with the greatest of ease, but not me nor my size 11 redwings. I descended it in a style better described as 'arse up'. Foli and Erkat both had a bit of a smile, how they must laugh at we gangle footed foreigners who have come to their land to show them how to do things efficiently.

Well now I have finally made it to the river edge, about 50 metres away is my target - the culverts I have to test. But between myself and them is the river and believe it or not the only way over is a tree that has been felled across it. This tree is still wet and slippery from the previous nights rain. It is about 8 feet above

the river (no way am I going over that!). Looking down the river I notice another tree only 12 inches above the water level. Foli and Erkat both strolled across the higher one but not me (oh no not this lad). I bolt down to the lower one and cross with only slight difficulties.

At last, across the river I waded the last 30 metres through ankle high mud and arrived at the site (at last!). The densities took only 45 minutes to complete. After packing the gear up we began the trek back (I must admit, with greater reluctance!) Anyway through the mud we go up to the tree trunks again. I chose the lower of the two. Foli and Erkat are over in a flash, I'm halfway over and slip arse over tit and end up standing in knee high water (by this stage I had just about given up). Anyway, I managed to wade across, get up the embankment and onto the road. Great - got a lift with a passing truck, upon looking in the back where we were sitting I noticed a few boxes in the corner. Upon closer investigation I discovered they were dynamite. You beauty I thought, after all I've just been through I end up 'sitting in a moving bomb'. Anyway, it got me back to the bridge safely and after another 20 minutes of hauling bloody equipment and samples up, across and down the rope bridge we finally made it back to the car.

I can assure you, diary, that if those densities fail, they have buckleys chance of getting me over there to retest them. Anyway after all that I'm sure I will enjoy a few beers at the pub tonight!



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LICENSING OF GEOTECHNICAL DRILLERS IN QUEENSLAND

Queensland is now part of a national licensing system for bore drillers following the introduction of the *Water Act 2000*.

The national licensing system is intended to protect groundwater resources, while making it easier for drillers to work interstate.

The licensing system ensures drillers are properly skilled and that their work meets nationally agreed standards.

All water bore drilling activities, including decommissioning of boreholes, must be carried out in accordance with the 'Minimum Construction Requirements for Water Bores in Australia' published by the Agriculture and Resource Management Council of Australia and New Zealand.

Geotechnical drillers need a water bore driller's licence if, in boreholes deeper than six metres, they are carrying out a drilling activity for the purpose of either collecting, storing, monitoring, observing, or extracting underground water from an aquifer, including the construction of monitoring bores, constructing groundwater sampling bores, installing standpipes, installing piezometers, and undertaking water pressure tests.

Geotechnical drillers not carrying out any of the above-mentioned drilling activities do not require a driller's licence, provided they decommission their boreholes to the minimum standard.

Proper decommissioning ensures that a borehole does not act as a conduit for surface water leakage to aquifers, and that separate aquifers encountered in a borehole continue to be separate and isolated from each other after the borehole has been decommissioned.

In addition to the risk they pose to groundwater, poorly decommissioned boreholes can also be a physical hazard to people and animals, and to the foundations of structures constructed over them.

Drillers could be held liable for poorly decommissioned boreholes posing a risk to groundwater or the community.

For information about how to get a Queensland Water Bore Driller's Licence, telephone Bruce Keogh or Joan Stroppe at the Department of Natural Resources and Mines, Mareeba on (07) 4048 4875.

Michael Jamieson

Department of Natural Resources and Mines

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DON'T FORGET!!

The AGTA Annual General Meeting is coming up!

This years' AGM is fast approaching, so come along and have your say!

WHEN: Monday December 8, 2003

WHERE: Hawken Auditorium
Engineers Australia Building
447 Upper Edward Street, Spring Hill

TIME

General Meeting: 6.00pm for a 6.30pm start

AGM: approximately 7.30-7.45pm

The AGM is directly following the General Meeting this year.

REMEMBER!

If you plan on coming, please fill out your attendance form and return to Civil Quality Assurance (Qld) Pty Ltd by Thursday December 4 so we cater for you. If you can't make it, be sure to return your proxy nomination form before the meeting so you can still have your say! (Forms are provided for you in this newsletter).

AGTA ANNUAL GENERAL MEETING AGENDA

(Commencement time approximate only)

- | | |
|---------------|--|
| 7.30pm | Introduction and welcome from Deputy Chairman |
| 7.35pm | Presentation of Reports from Treasurer and Secretary |
| 7.45pm | Voting will be held for the positions on the 8 th AGTA Executive Committee for 2004 |
| 8.00pm | Supper. |

NEWS FROM NATA

1. TECHNICAL NOTES

It has been found that there is some confusion concerning the use and calibration of the items of equipment listed below. Therefore, two technical Notes are due to be released shortly covering use of balances and nuclear gauges.

(a) Balances

This technical note covers items such as calibration requirements, performance checks and what to do when a balance is moved. The detail provided is additional to NATA's Technical Note 13 and should provide laboratories with a good guide as to what NATA will be looking for at their next assessment.

(b) Nuclear Gauges

Similarly, the technical note concerning nuclear gauges will provide more detailed information on the use of gauges, their calibration, the regular checks required and their use in the field. The technical note explains the requirements of the Australian Standards in more detail and should provide considerable assistance to laboratories in the interpretation of the Standards.

This technical note does not cover State Road Authority test methods where they differ from the national standard.

If you have any comments concerning the technical notes after they are issued, please contact the local NATA office.

2. NEW ADMINISTRATIVE PROCEDURES

As you may have noticed on page 18 of the September issue of *NATA News*, NATA has altered its procedure concerning continuation of accreditation after a reassessment visit.

The major issue which may affect your laboratory relates to extensions of the scope of accreditation or signatory approvals when sought at a reassessment. NATA will not AGTA – November 2003 (Issue No. 18)

extend the scope of accreditation or add signatories which were assessed at a reassessment visit until all conditions (both "M" and "C") have been resolved, even if they do not specifically relate to the extension or addition.

However, extensions to scope of accreditation and signatory approvals assessed at a special visit for this purpose will be granted once the conditions from the special visit have been resolved, unless there are still conditions not resolved from the previous reassessment visit.

3. MEASUREMENT UNCERTAINTY (MU)

It is hoped that a technical circular concerning MU will be issued shortly for comment by laboratories. Please ensure that you provide comment quickly as the proposed timetable for implementation is relatively short and it is likely that late comment cannot be taken into account.

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**REMEMBER TO
TRAVEL SAFELY THIS
HOLIDAY SEASON!**



LIGHTEN UP!

An Amish boy and his father were visiting a shopping mall. They were amazed by almost everything they saw, but especially by two shiny, silver walls that could move apart and then slide back together again.

The boy asked, "What is this machine, Father?"

The father, never having seen an elevator, responded, "Son, I have never seen anything like this in my life. I don't know what it is."

While the boy and his father were watching with amazement, a fat old lady in a wheel chair rolled up to the moving walls and pressed a button. The walls opened and the lady rolled between them into a small room. The walls closed and the boy and his father watched the small circular numbers above the walls light up sequentially. They continued to watch until it reached the last number and, then, the numbers began to light in the reverse order.

Finally, the walls opened up again and a gorgeous, voluptuous 24 year old blonde woman stepped out. The father, not taking his eyes off the young woman, said quietly to his son, "Go get your mother....."

**FOOD FOR
THOUGHT**

The weaker sex is the stronger sex because of the weakness of the stronger sex for the weaker sex

- H. Heine

He who does not hope to win has already lost.

- José Joaquín Olmedo

We live in a moment of history where change is so speeded up that we begin to see the present clearly only when it is already disappearing.

- R. D. Laing

Character is much easier kept than recovered.

- Thomas Paine

What's done to children, they will do to society.

- Karl Augustus Menninger

Often, the thing we pursue most passionately is but a substitute for the one thing we really want and cannot have.

- Eric Hoffer

The chains of habit are too weak to be felt until they are too strong to be broken.

- Samuel Johnson

The man with a new idea is a crank until the idea succeeds.

- Mark Twain

The AGTA committee has continued to maintain close dialog with ECLA, AGTA's NSW counterpart, particularly over the current changes being made by RTA to its road construction contracts and their impact on site laboratories. The attached report is included in this Newsletter with the approval of Peter Weir, ECLA president. The warnings it gives are equally applicable to AGTA members working on Queensland road construction projects.

ECLA President's Report 2002 – 2003 Season

The Engineering and Construction Laboratories Association (ECLA) was formed in 1997 by representatives of independent construction materials laboratories and associated industry bodies, that recognised the importance and necessity of a collective representation in our field.

It's been a hard slog – but six years on the ball has finally cleared the scrum. In the rucks along the way we've copped a few penalties, caught several high shots, tackled well in defence and ultimately scored a few points.

This year the most pleasing aspect has been the recognition of the referees and officials – those who determine and administer the rules. In our game, those who have traditionally been quick to blow offside but blind to whether the ball was put in play straight in the first instance and rarely, if ever, consulting the players.

ECLA is now very much recognised as a worthy voice and is regularly (and increasingly so) an active member in consultation and forum with industry bodies. I won't pretend that rapid change has been instigated in some arenas, but members should feel satisfied that at least we have played our way off the bench into the starting line ups.

One major step this year was the acknowledgement and invitation of the RTA to workshop and exchange information on the practices and inherent culture of its projects constructed under quality assurance.

Unprecedented, the RTA publicly presented case studies that indicated the performance of its projects constructed under QA was often short of expectation – who'd of thought it?

It's worth pointing out here that it was also stated there would be no conceived direction away from QA.

The RTA accepted that laboratories provide the only current systematic and quantitative evidence to both the properties of materials used and the processes by which they are incorporated into the works. An important component of the project that via the severe competition of laboratories, the influence of contractors and our terms of engagement ultimately accounts to the princely amount of 1% of the project cost.

Whether by direct discussion, insinuation or innuendo it was suggested laboratories (not all thankfully) have been guilty of poor testing practices contributing to premature failures, lack of integrity, unreliability of test results and even maybe fabrication of results – whilst using inexperienced personnel.

Fairly stiff, but in keeping with members input prior to the workshop, my presentation didn't deny this has possibly happened on occasion. Nearly everyone had a story of a competitors indiscretions – unfortunately that's the way we too often are.

ECLA's presentation related in essence that the role of the laboratory as an "independent" authority was quickly vanishing leaving it as just part of the principal contractors sub-contract system and largely beholden to the same. Contractually, laboratories are unable to express an opinion to non conformance or irregularity. Hence, the tender process, terms of engagement and undue influence were points of serious discussion – as were the lack of or unknowledgeable surveillance – and the fact there is zero "independent" testing of asphalt in NSW.

The RTA seemed affronted to hear that "Hold Points" are rarely adhered to (particularly in earthworks). You know them, where the next layer should not technically proceed until documented compliance of the existing layer is forthcoming.

The RTA specifications are riddled with them – but if obedience was the rule those huge early completion bonuses the contractor receives would be jeopardised, let alone the political acclaim that is a constant background driving force.

At the end of the day, the roads authorities (they were represented from around Australia at the workshop) are government departments under their own pressures and agendas – if the minister alerts the media that project X will open ahead of schedule to the benefit of the community – it will.

No apologies for the cynicism at this point, for these factors have a huge (and largely unremarked upon) impact on the manner of work of all concerned on such projects – right down to the laboratories.

What eventuates is that the local subdivision, from a testing and engineering input perspective is usually monitored in every way superior to the multi million dollar highway next door. Presently, the local subdivision is compliant and largely liable to the discretions of a consulting engineer and his creation and acceptance of a testing regime. Major road projects are monitored by onerous and cumbersome specifications with little or most commonly zero consultation with the laboratory or knowledgeable members of their organisations.

The contractor employs “testers” – not necessarily expertise and definitely not opinion.

One immediate reaction following the workshop was for the RTA to attempt to position NATA in a “policeman” role. NATA was asked to investigate its powers in “enforcing” a greater laboratory performance. For a fleeting moment the quick fix was the RTA to coerce NATA to join forces with bigger sticks.

Another quandary for NATA that in recent times has become embroiled in some grey and precarious areas.

- The accreditation of individual testers – to the detriment of its traditional laboratory base. Unlike laboratories, these individuals don't have the overheads of “full” NATA rules, ISO17025 and LQM requirements, workers compensation, public liability or even reasonable traceability. Now in Sydney we have companies of them. Give an inch as they say.
I still clearly remember, when ECLA met at the Sydney NATA office with the current Chief Executive (then in his former role of Rasputin) to express our concerns on individual certification. We were told the scheme would be applicable to developing competence in remote and country areas where accreditation and its systematic procedures were lacking. An admirable and satisfying concept at the time – but quickly proved to be the utterings of a politician.
With its Asia Pacific accreditation schemes largely set up and a subsequent depletion in funds the new administration was quick to increase fees and introduce new ones. Is your staff officer worth \$140.00 per hour to attend your query, particularly on technical detail that is drawn from your peers for free?
- Sydney Water Accreditation – whereby a laboratory is further accredited for tests they are otherwise accredited for anyway. Also included is an OH&S checklist that every staff officer I've had has admitted to complete unease at – how did NATA become OH&S and Safe Work Method statement audit crew?
- Now the RTA is looking to NATA to solve a range of its problems. Is NATA to be an official, a referee or the third umpire? NATA assesses the “capability” of a laboratory to perform tests – the RTA would be happy for it to venture into a project compliance role.

To its credit however, NATA is actively engaged along with ECLA in two working parties that were formed as a consequence of the workshop day. These being – “Laboratory Relationships” and “Laboratory Proficiency and Training”.

The Laboratory Relationships working party is to review proposed changes to RTA specifications and quality systems documentation as they affect laboratories. The intent being to create a triangular relationship between the RTA, contractors and laboratories with laboratories in a verifier role. Secondly, a laboratory registration scheme has been initiated for prequalification on RTA projects.

In meetings thus far this party has concentrated largely on RTA quality document Q7 – inspection and test plans - with much debate over what largely amounts to rewording and great emphasis to the availability of on site documentation to the RTA. Remembering here that NATA has in place now an understanding with the RTA to share information – the laboratory assessment findings etc.

Not much has significantly changed at this point except for extra clauses creeping into the RTA documents particularly relating to conflict of or undue interest – ie. “at all times the onus is with the registered laboratory to ensure conflicts do not arise.....”

The second working party is currently addressing two main issues:

1. Training – a working shell has been formulated for industry training. Generic subjects are largely available through ANTA and technical training documentation is being sought. Protocols for trainers and assessment to Certificate Level 4 are being developed. The RTA is to request funding to Austroads via ANTA and has agreed to part fund some of the work.
2. Technical Competency – there are still several suggested paths - the RTA is clear in it's concept but it is still too early to comment. NATA's final involvement will depend on internal legal factors. However, a group meeting has been scheduled for September (including VicRoads) to formulate an initial protocol as a starting point and define the role of each organisation.

Both committees have had three meetings thus far and there is agreement for the continuation of either or both over the next year or two.

Most of our officials and referees have lost a bit of touch in the past several years – and have been largely naive or unprepared for the increasing competition and market forces laboratories now function in. Quality assurance has had the effect of obliterating most of the RTAs laboratories, knowledgeable and expert personnel and surveillance ability. Their expectation was that private industry would compensate, and whilst capable of doing so the absolute intervention of the contractor as the middle man has meant the facilitating of expertise from private industry is largely seen as a hindrance to a timely result.

The RTA probably had the greatest personal training and knowledge sharing ability in this state. Ex RTA personnel now employed by private laboratories will probably never relate their experience back to the RTA because those companies that respect and employ this knowledge will mostly never be afforded on their projects. The reality is that RTA projects have attracted some of the lowest testing rates ever – down to around 50% of what they were ten or so years ago.

Whilst from its roots the RTA has a good concept of testing, Sydney Water has comparatively none. Its specifications and presumptions amount to the biggest testing debacle in modern geotech history. The presumption being more tests than anyone else will be better. Sewer and water lines in Sydney can have two or three times the number of tests of the subdivision they run through. Sydney Water seems largely ignorant of how, when or where the tests are done but are very focused (through their network of certifiers) on having the number of tests specified on the plan reported.

What may appear to be a testing bonanza has many companies running a mile from the anticipated liabilities.

Sydney Water firmly believes laboratories are in full control of testing on its projects – we all know that more often than not this is far from the case.

Hence, at the end of another year, we still complain at meetings about the gross tactics of the officials to the detriment of our abilities – but in many regards we have ourselves to blame as well. Sure inappropriate specifications and ineffectual engagement of laboratories is a major problem, but, there are many cashing in on the loopholes and creating a new breed of technician that only needs to know a couple of tests.

Training and remuneration has become of less significance in our industry. Technicians have become much more of a disposable item than they were a decade ago – particularly in those companies with no award base.

The ECLA “State” Award has been presented to Australian Business for review in its draft form. Unlike the current Federal Award it will be a common rule award that will envelop all laboratories. This will be a big step to improving working conditions in our industry – but ultimately there is much to be done.

My gratitude to the executive, sub committee members, Australian Business representatives and the numerous players and their respective companies who have generously supported ECLA again through another year.

Peter Weir

STANDARDS AUSTRALIA COMMITTEES

The Standards Australia committees CE-09 (soil testing) and CE-012 (aggregate testing and specifications) met in Brisbane in October. It is understood that these committees will henceforth include Brisbane as a meeting venue, on a rotational basis.

AGTA was invited to provide a representative on these committees, starting with the October meetings in Brisbane.

The **CE-09 committee** discussed the following test methods.

- One point cone liquid limit
- Laboratory CBR
- Insitu CBR
- Moisture content
- Nuclear gauge density
- Dry density ratio
- Standard Penetration Test (SPT)
- Constant head permeability

There was discussion also on

- Rounding reported test values
- Drying to constant mass
- Stabilisation test methods
- Grading of test machines as per the recent changes to AS 2193.

The **CE-012 committee** discussed the following test methods.

- Sieve analysis by video assessment
- Polished aggregate friction value
- Alkali reactivity by petrographic analysis
- Aggregate sampling
- Degradation factor

There was discussion also on a specification for armour stone.

AGTA has also been invited to have representation on the CE-027 (Earthworks) committee. It is understood that this committee either is or will shortly be reviewing AS 3798, Guidelines on Earthworks. This is another area where AGTA can have valuable input.

While the workings of the committees are confidential, they provide AGTA with an excellent opportunity for input to the test methods that form such a fundamental part of our work. AGTA members are encouraged to provide the AGTA committee with comments and input to the CE-09, CE-012 and CE-027 committees.

Peter Davis

NUCLEAR GAUGE TESTING

MANUAL

Main Roads is about to release the Nuclear Gauge Testing Manual (NGTM) to replace the 1988 edition. The manual will be available in electronic format either from the Main Roads website or by compact disc (CD). For the convenience of manual holders, hard copies will continue to be provided, albeit only on a by-request basis.

The advantages of publishing and accessing documents electronically are well known. Main Roads see this as an opportunity to reduce the publication burden and more importantly, minimise delays in getting new and revised methods to users.

While the NGTM will be the forerunner, other manuals will follow suit once the process has been proven. Each manual will have a separate database for storage of e-mailed technical comments from users, to ensure valuable feedback is available when revising procedures.

The NGTM contains a number of changes, including a closer alignment with Australian Standards, particularly on the subject of wet density bias. This means that for most uniform materials, there will no longer be a need to field calibrate for wet density against the sand replacement test. Materials that are known to have a significant negative bias will continue to require the application of a wet density bias.

Many other important changes have been included in the manual. With this in mind, it is intended to explain and discuss these with industry via presentations to industry groups and at technical forums.

In the future, the Department will be looking for opportunities to engage with the industry when significant new and revised methods are being released.

Mark Owttrim
QDMR

REPRESENTATIVE SAMPLING OF SOILS, CRUSHED ROCKS & AGGREGATES

Most will be aware that Q060 – Representative Sampling of Soils, Crushed Rocks and Aggregates was released in mid 2002. This method was developed in conjunction with the Extractive Industries Association (EIA) to address shortcomings in the current national standards, AS1141.3.1 and AS1289.2.1.

The EIA has recently published a supporting document to Q060, a Guide to Sampling. The guide aims to assist the sampler to select an appropriate sampling procedure. In addition, it contains a summary of each procedure listing advantages, disadvantages and WH&S considerations.

Q060 and its soon to be released comparison method Q061 – Spot Sampling, have been written around the type of sample (either representative or spot) being taken and are aligned to statistical (random) sampling from production, stockpile or in-works lots.

Some of the other significant changes include:

- Enhanced sampling techniques to ensure that, where a number of sampling options are available for a particular situation, there is no hierarchy of preference and each procedure will provide an adequate representative sample.
- Increment sizes have been selected that better suit construction materials testing requirements.

- The number of increments range from 3 to 5, depending on the lot size.
- Sampling using hard tools without the assistance of power equipment is limited to aggregates having a maximum nominal particle size of 28mm.
- Procedures are included for sampling multi-layer stockpiles.
- Provision is made to obtain samples from material during production based on either volume or mass.

Due to the amount of change in the new method, and to ensure that testing staff have access to the same training, Main Roads has developed a comprehensive training package. This package is a combination of theory and practical demonstrations at a working quarry.

The importance of this training is recognised by the EIA with member companies investing in the training of key staff, including loader operators and senior quarry personnel.

This training is available to the wider CMT industry, including AGT members, as part of the move by Main Roads to be more involved with industry.

The Department is committed to developing other training material and work with industry to expand and deepen the knowledge base within Construction Materials Testing.

Mark Owtrim
QDMR

PEOPLE IN PROFILE

Name & current status?

Peter Davis, Executive engineer with Ullman & Nolan Consulting Pty Ltd, and with a number of other hats on my head such as chairman of the NATA Accreditation Advisory Committee for Construction Materials Testing & Deputy Chairman of AGTA.

How did you get involved in the industry?

More arse than class. I was looking for a job as a graduate in 1968 and happened to walk in the door of Coffey and Hollingsworth's (as it was then) office in Bowen Street, Spring Hill. As they say, the rest is history. 18 months of the next 3 years I spent on Bougainville together with many well known names in the geotechnical business. How could I go wrong after a start like that?

How long have you worked in the industry?

Since 1968. What's that - 35 years.

Have you gained any qualifications in this time?

In formal terms, only the usual CPEng, NPER and RPEQ, but the 70's and 80's were a great time to pick up really valuable experience in the geotechnical field. There were not that many players and there were good projects, particularly in mining and resource development.

Thoughts on the industry in general – the past and future.

I would have to say the industry has degenerated from what was once a highly respected one employing top quality expertise to one that now, in some instances, is at the bottom of the food chain. The industry has done much damage to itself by not insisting that standards be maintained, and by allowing itself to be price driven rather than quality driven. As a result, the risk of litigation is much increased and the opportunity to utilise "cutting edge" technology is reduced. We are now little more than geotechnical contractors.

What are your hobbies/interests?

Anyone who bought an XU-1 in 1972 and still has it must be a petrol head. (Now don't tell me you don't know what an XU-1 is? Shame on you!)

What was one of the best decisions you have made?

To buy an XU-1. Or do you mean work decisions? If so, I guess it was to accept the offer of employment made by Coffey and Hollingsworth, and then to agree to do my stint on Bougainville. From then, I've never looked back.

What is one of the worst decisions you have made?

To buy an investment property, because "you can never lose money on it". Now I'm also Body Corporate chairman for my sins (or is it because nobody else will do it?)

What do you consider are your strengths?

1. Good, basic grounding in practical civil engineering.
2. Starting at the bottom, and learning the profession thoroughly from the bottom up. That way you never ask anybody to do something you haven't done yourself or are not prepared to do yourself.

What do you consider are your weaknesses?

1. I don't suffer fools gladly.
2. I expect people to be able to write English.
3. I volunteer to do things nobody else has put their hand up for.

What / who inspires you and why?

Pat Wilson. He's been an inspiration to everyone who knew him. You will never find a more placid, practical, thoughtful and enthusiastic mentor anywhere.

What is the strangest thing that has happened to you while in the industry?

Where do you start? The whole industry is strange! It will be a sad day when something strange doesn't happen.

What annoys you?

1. An education system that produces people who can't write English.
 2. Clients who want to screw you for the last dollar but expect you to produce good quality work.
 3. A competitor who undercuts your price and provides substandard work.
 4. Fuel prices that rise 12 cents every Thursday morning.
 5. Traffic jams.
 6. Politicians of all persuasions.
- Tell me to stop, or I'll keep on going.

Where would you like to be in ten years time?

Retired and doing my own thing.

SAMPLING ACID SULFATE SOILS

Field Code Changed

Acid sulfate soil sampling is probably the most important stage of the assessment process. At this stage you need to decide how many samples to take and where they are to be taken. This in turn affects what tests are likely to be taken and the analytical cost.

A well planned study is efficient and effective. It is efficient if you can quickly take the samples without mistakes. It is effective if you can satisfy the objectives of the study without wasting money.

STEP 1: Define and Limit Your Responsibility

Define the scope of the study and objectives. (Avoid providing a guarantee about the outcome of the chemical analysis before you have been on-site.)

STEP 2: Obtain A Description of The Project

Identify what information is required. This normally includes a description of what the proposed development is and an accurate description of the proposed earthworks. It is often difficult to obtain this information as the client may be waiting for your study before they plan the project. Specify your information needs to the client in writing before undertaking the field work. The need for a second round of testing often arises and the client may not be happy about this. Make sure it is not "your fault".

STEP 3: Identify A Sampling Plan That Is Acceptable

You need to satisfy the client, regulators and yourself that you are taking enough samples from the right places. The client will want to keep the cost down so there is a potential conflict of interest. If the client will not accept the recommended sampling procedures then make sure you are careful about who accepts responsibility for this decision. It is suggested you provide the client with a copy of the current requirements (or at least the web site details). If you decide to reduce the sampling density below the recommended schedule then provide a written outline of your procedures and reasons for doing this. For small projects the cost of a second round of sampling and analysis is often difficult to justify.

Do not forget to take groundwater samples. If the soils are likely to be acid (<pH 4.5) then make sure you include testing for retained acidity/Jarositic acidity. It is probably faster (and less expensive) to do the "field pH" measurement back in the lab or send it to a specialist laboratory.

Handling Samples

Avoid placing labels inside the sample bag, especially if they are wet samples. When frozen the labels are almost impossible to recover. Some samples are very dark brown to black. Black lettering on a black background is difficult to read, particularly if the outside of the bag is also covered with black sample.

Avoid using loose ice. This is great for cold beer but water can wash off the bag marking, particularly after a few hours of jolting in a vehicle. Double bag and double mark samples that are wet to avoid losing the sample identity.

Samples should be chilled and transported to a laboratory that day or frozen overnight for subsequent transport. Dry ice makes low density polythene brittle due to the extreme cold. If the samples are wet and the plastic is stretched before freezing then it is likely to split. Frozen plastic water samples are also brittle and easily cracked.

It is useful if you include some paperwork with your samples when you submit them to a laboratory. Occasionally samples are left at the door with absolutely no identity apart from BH1, etc. We can guess who it is likely to be but it takes time ringing around to find out.

It does take time to work out how many samples to obtain, how long the field work will take and what the analytical costs are. The following schedule is a simple guide but be warned, the rules can change very quickly.

Peter Edmiston
Bio-Track Pty Ltd

A.S.S. SAMPLING REQUIREMENTS

(for disturbed land below 5 m AHD)

- 1 Is the disturbance LINEAR (eg. trenching, roads)?
Yes Go to 2
No Go to 3

- 2 *Conduct profile sampling at 50 metre intervals along the length of disturbance.*

- 3 Does the disturbance involve LESS than 250 cubic metres of material?
Yes Go to 4
No Go to 5

- 4 *Take 3 samples if the depth of disturbance is less than 1 metre, 4 if < 2 metres, 5 < 3 metres, 6 < 4 metres, etc.*

- 5 Does the disturbance involve LESS than 1000 cubic metres of material ?
Yes Go to 6
No Go to 7

- 6 *Take 4 samples if the depth of disturbance is less than 1 metre, 5 if < 2 metres, 6 < 3 metres, 7 < 4 metres, etc.*

- 7 Does the disturbance involve LESS than 4 hectares?
Yes Go to 8
No Go to 9

- 8 *Conduct PROFILE SAMPLING at 4 points for the first hectare (or part there of) and 2 additional points for every additional hectare or part there of.*

- 9 *Conduct PROFILE SAMPLING at 2 points per hectare*

BEFORE YOU DIG: Work out a plan and check this with your client and regulators (QASSIT or the Local Authority). If in doubt take more samples and freeze them for later use if needed. Check the QASSIT website for up to date information and advice.

Profile Sampling

Sample at 0.25 m intervals to a depth one metre deeper than the proposed depth of disturbance. The MINIMUM depth of sampling is 2 metres. Record the location and elevation.

Profile Description

Describe the profile texture, colour, mottles, shell/carbonate.

Groundwater

If observed note the depth and measure the pH. Collect a sample. If the pH is below 6.5 detailed analysis is required. Collect samples from representative locations for larger sites.

SOIL CHEMICAL ANALYSIS

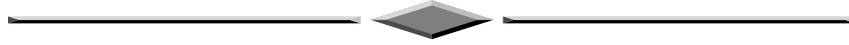
The standard recommendation is a field screen (pH_F and pH_{FOX}) for samples taken at 0.25 metre depth increments for the profile depth. In addition test a sample taken at 0.5 m depth increments is recommended for either SPOCAS or TAA + SCr analysis.

For smaller scale projects (eg. those with less than 50 samples) then it is advisable to follow the recommended test schedule. For projects in sensitive locations, where high sulphide material is likely or where the project may be controversial then follow the recommended test schedule. This avoids subsequent calls for re-testing with the subsequent loss of time and associated costs.

For larger scale projects it is possible to use the field screen tests to select critical samples for detailed analysis. It may be possible to reduce the number of detailed tests provided the field screen data follows a reliable pattern and it can be linked to visual details provided in the field observation notes. For example a low sulphide residual strata that provides a consistent screen result could be tested at a reduced frequency to save analytical costs. The "worst case" field screen samples are normally selected for detailed analysis. If the detailed analysis is reduced too far then profile descriptions can not be made. It is recommended detailed analysis be undertaken for every major strata down the profile (eg. surface aerobic/organic, depositional anaerobic, residual layers). Each site requires unique assessment and this can not be made before the field sampling. Therefore sample collection at 0.25 m intervals is recommended for all sample points unless other site specific studies indicate this can be relaxed.

GROUNDWATER ANALYSIS

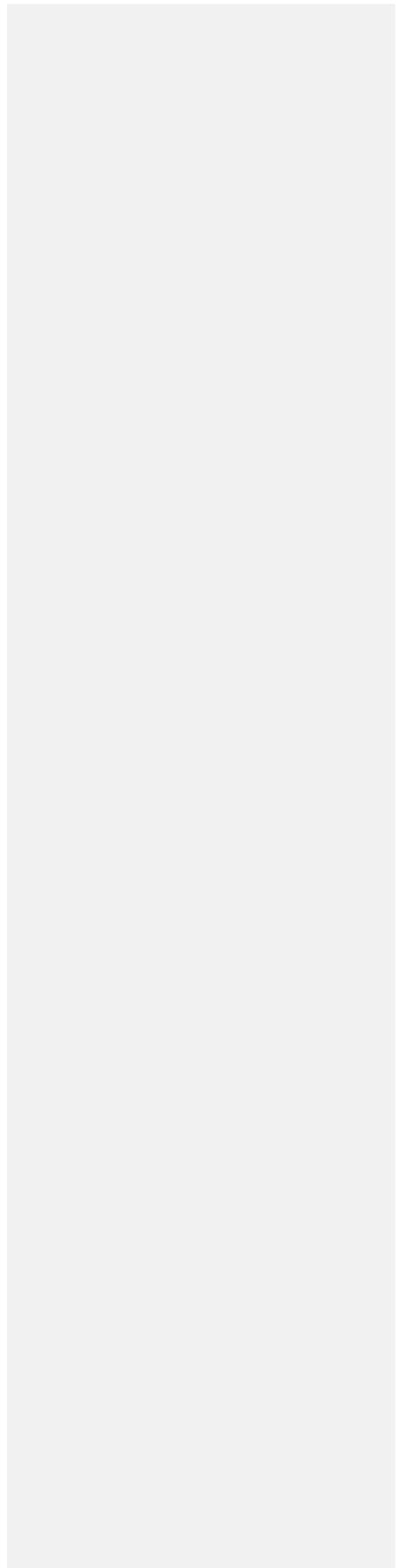
Test for electrical conductivity and pH. If the pH is below 6.5 then test for dissolved Ca, Mg, Fe, Mn, Al, Cl, SO₄, carbonate, bicarbonate and total iron. Turbid samples will have a high total iron concentration due to sediment. It is almost impossible to avoid turbidity in freshly disturbed soil. Turbidity should be noted for this reason.



**ASSOCIATION
OF
GEOTECHNICAL TESTING AUTHORITIES (QLD)**



**APPLICATION
FOR
MEMBERSHIP**





ASSOCIATION OF GEOTECHNICAL TESTING AUTHORITIES (QLD)

MEMBERSHIP GRADES AND FEES
2002

MEMBERSHIP GRADE	FEES \$
<i>Members</i>	
Industry individuals or industry-associated individuals	\$ 50
<i>Corporate Member</i>	
Construction materials testing laboratories, or industry associated company, business, partnership, group, department or body	\$150

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Association of Geotechnical Testing Authorities (Qld)
PO Box 2127
Strathpine Q 4500
Telephone (07) 3881 1316
Facsimile (07) 3881 3513



1 For completion by INDIVIDUAL applicants only

Details of Individual

Name

Residential Address

.....

Telephone Fax

Details of Company

Name of Company

Position

Address

.....

Telephone Fax

2 For completion by CORPORATE applicants only

Details of Company/Organisation

Name of Company/Organisation

Address

.....

Telephone Fax

Nominated Representative Details

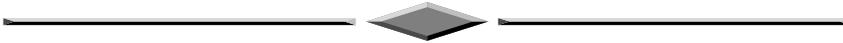
Name

Position

Telephone Fax

(if different from above)

(if different from above)



I,
Full Name (to be completed by nominated representative or industry individual)

declare that I will undertake to abide by the rules and ethics of the Association amended from time to time and also any regulations made by the Executive Committee in accordance with the rules:

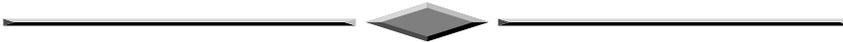
Signature Date

Return to: The Secretary
 Association of Geotechnical Testing Authorities (Qld)
 PO Box 2127
 STRATHPINE QLD 4500
 Telephone (07) 3881 1316 Facsimile (07) 3881 3513

NOTES:

1. The name shown on the application form should be **EITHER** the full name in which the organisation is incorporated **OR** the full name of the industry individual.
2. The **nominated representative** is the person nominated by the organisation to represent it in all matters affecting the organisation with respect to membership of the Association of Geotechnical Testing Authorities (Qld).

<u>OFFICE USE ONLY</u>			
<u>Proposer</u>	<u>Secunder</u>	<u>Paid</u>	<u>Membership No</u>
being current members of the Association propose the above-named as a new members of the Association			



AGTA NEWSLETTER

ADVERTISING AGREEMENT

To the Editor AGTA Newsletter,

I wish to place the following advertisement/s in the AGTA Newsletter/s commencing with the Newsletter published immediately after / /

Please indicate No. of advertisements

	Price Per Advert. *	\$
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<input type="checkbox"/> Half Page Advertisement/s for One Edition	\$100.00
<input type="checkbox"/> 1/4 Page Advertisement/s for One Edition	\$50.00
<input type="checkbox"/> Full Page Advertisement/s for Two Editions (10% discount)	\$360.00
<input type="checkbox"/> Half Page Advertisement/s for Two Editions (10% discount)	\$180.00
<input type="checkbox"/> 1/4 Page Advertisement/s for Two Editions (10% discount)	\$90.00
<input type="checkbox"/> Full Page Advertisement/s for Three Editions (20% discount)	\$480.00
<input type="checkbox"/> Half Page Advertisement/s for Three Editions (20% discount)	\$240.00
<input type="checkbox"/> 1/4 Page Advertisement/s for Three Editions (20% discount)	\$120.00
	TOTAL

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