NEWSLETTER NO. 7: AUGUST 1999

THE ASSOCIATION OF GEOTECHNICAL TESTING AUTHORITIES (QLD) INC.

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Editorial

Association Members – Welcome to the 2nd edition of the AGTA Newsletter for 1999. Within this edition I have endeavoured to compile a spread of issues and interests that will make the newsletter a worthy read.

In 'People in Profile' this edition, I have focused on Mr Gerry Fitzgerald. Gerry has been an intricate part of the geotechnical testing fabric for going on five decades and as they say in journalism – 'His story had to be told'.

With thanks to Ms Paula Veevers of the Queensland Health Department, I have been able to include an article on the current situation regarding the licensing of geotechnicians to operate and transport Moisture/Density gauges.

I would like to offer a warm welcome to the new members of our association who have joined over the past few months. It is nice to see people like John Kippen, who has been working for decades in our industry becoming involved. Welcome to AGTA 'Kippers'. Should any new members wish to raise any issues relating to our industry, please drop a line to our 'Letters to the Editor' section. Whilst on the subject of members, two of our member companies have experienced sad losses over the past months. I would like to offer condolences to Mr David Bowler and his family on the sad loss of their wife/mother and also to the family of the late Mr Shane Shelswell. Shane was a valued member of Soiltech Toowoomba and will be sadly missed by family and friends alike.

The Association had a general meeting on the 30th March and unfortunately, not counting the committee, a grand total of 5 people turned up. If our association is to flourish and with its years, become a strong "voice" of our industry, a show of support by the members at functions such as general meetings and the rapidly approaching AGM is sorely needed. (See back page for next GM details).

Our newsletter ventures into a new phase this issue with the inclusion of advertising relevant to our industry. Should any of our members know of anyone wishing to advertise in future issues, please give them my contact details and I will be more than happy to accommodate them.

Well, enough of the editorial. I will leave you to digest my humble attempt at journalism.

Terry Ferguson
EDITOR

Contents

Chairman's Report

The construction industry, and in particular the Geotechnical Testing aspect, has been subject to changes and regulations over which we have had little or no control, or input for that matter. Through AGTA we hope to be in a position to influence and instigate the direction and types of the changes that will impact on our members and industry.

There is presently an attempt to regulate the domestic construction industry by the introduction of licensing classes, including Soil Testing for both field and laboratory.

The association has been requested (through the Building Services Authority) to propose a system that will improve the quality of investigation and testing in the domestic field. This system had to be workable and not disadvantage our members working in this field. This, we believe, is best done by the introduction of a level playing field for all practitioners, by introducing a minimum standard of work and competencies.

The Building Services Authority and AGTA have had ongoing consultation, and as you will be aware a proposal has been put to them regarding the licensing of people in the domestic investigation industry. For probably the first time I can recall, we have had the opportunity to input in decisions that will affect our industry and our members directly. The decision to proceed with the proposal was felt to be too important for the committee alone to decide, subsequently the recent mail out.

This we believe is the first step in improving the Geotechnical Testing Industry, one of the next steps, I believe, is the regulation of earthworks testing, where in an attempt to introduce a level playing field, each job is considered on its merit.

We are now more than halfway through 1999, the association is growing at a steady rate.

As you will undoubtedly notice the continued quality of the newsletter, thanks to the efforts of the editor, Terry.

The next general meeting will be a debate on whether the contractor should be in the position to appoint the Geotechnical Testing Authority, I urge you to make an effort to attend and input to the discussion. The general meetings are conducted to inform our members and your support for them is essential for their success.

If you have any topics that you would like to include in a general meeting, please contact the committee.
Steve Cusack
CHAIRMAN

Food for Thought

- If you tell the truth you don't have to remember anything. *Mark Twain*
- My formula for success? Rise early, work late, strike oil. *Jean Paul Getty*
- Once you say you're going to settle for second, that's what happens to you in life, I find. *John F. Kennedy*

Letters to the Editor

Dear Editor,

During a recent conversation with a member of the Crushed Stone Association (CSA), he told me that he was involved with a working group or sub-committee of the CSA. It was explained to me that the objective of this working group was to lobby local authorities for the purpose of:

1) having local authorities accept test results (for quarry products) from the supplier.
2) eliminating the current requirement of most local authorities for sampling and testing of quarry products from the job site.

Most local authorities (in South East Queensland) currently require that pavement materials are sampled from the job on a cubic metre or linear metre basis and tested for CBR, grading and Atterburg limits. My understanding of the CSA objective is to eliminate this requirement.

It could be argued (and most likely is by the CSA) that this concept is rational considering what usually occurs with QA testing for asphalt and concrete. It is difficult to disagree with this logic however I would suggest that rather than accepting the QA principle for quarry products, we should reverse the situation and lobby for site sampling and testing of asphalt and concrete.

I have serious concerns with the CSA concept for two main reasons:

1) Testing of quarry products from job sites represents a significant portion of the workload (and income) for many private laboratories: The loss of this work may potentially affect the viability of some of these laboratories.

2) In my experience, it is not uncommon for quarry products (roadbase) not to meet specification.

I feel that this issue is far too important to ignore as it has the potential to affect many AGTA members. Any move to eliminate any testing in our field is not in the best interests of the members, and therefore I would hope that the AGTA committee will give some serious consideration to this issue with a view of implementing a course of action.

Paul Fraser
CIVIL QUALITY ASSURANCE (QLD) P/L

Lighten Up

One of the oldest Aussie jokes is about the two swaggies who'd travelled together for many a month and over many a mile. One morning, just past dawn, when the sky was the colour of clotted cream and the air crisp and clean, they saw a large black object some distance off. It was obviously dead and decaying so they gave it a wide berth.
About lunch time, the sun hot and high in a bright blue sky, Bill unclamped his pipe from his jaws and spoke.
"Did you see that dead 'orse?"
It was evening and the first stars were appearing when Bert answered.
"that weren't no 'orse, it were a cow."
The next morning Bert awoke to find no sign of Bill but a scrap of dirty paper. It bore a scribbled note.
"I'm off", it read. "There's too much bloody argument in this here camp".

Useful Industry Information

People in Profile

In this, the second instalment of 'People in Profile' for 1999, I chose to interview a man who has not only been involved in the Geotechnical Industry for almost 5 decades but was also instrumental in the introduction of educational courses and industrial awards associated with the industry.

Gerald "Gerry" Fitzgerald was born at Tullibigeal, Western New South Wales in the early 1930's. At the age of just 3 days Gerry's family moved interstate to Queensland where they purchased a wheat/sheep property between Taroom and Wandoan in Central Queensland. When I asked Gerry what memories he had of the first 6 years of his life spent on the property, his answer was heat, dust, snakes and goanna's. Around the age of 6 his family moved back to New South Wales where they purchased a timbermilling business at West Wyong. Upon the death of Gerry's father in 1939, the Fitzgerald family moved back to the family estate at Tullibigeal, where Gerry attended school until he turned 12. At this point in his life Gerry left Tullibigeal to complete his secondary school education at St. Pats College, Goulburn, where he boarded until the completion of his matriculation (Year 12) year. With his school days behind him and the yearning to begin his working career, Gerry headed for Sydney at the age of 17. Upon his arrival he secured his first fulltime employment as an apprentice electrician at the Black & Decker Company situated in Glebe. But as fate would have it this was just a pit stop on his journey to the industry that would become his lifelong (working wise) occupation. On 5 March 1951, Gerry entered the Geotechnical Industry when he accepted a position with the Water Conservation and Irrigation Commission in their Sydney materials/concrete laboratory. During his years of his employment with the Commission, he worked on large scale projects such as the Snowy Mountain's Scheme and the Burrendong Dam. Also around this period of his life Gerry met his future wife Pat. They were married in 1955 and over the following years became the proud parents of 5 children. In 1962, Gerry and his family headed north to Queensland where he took up a position with the Irrigation and Water Supply Commission (today known as the Department of Natural Resources), where in 1963, he was appointed officer in charge of their Brisbane Materials Laboratory. During this period of his working life Gerry became involved in the creation of educational courses relating to the civil construction industry. Around 1965 he helped to formulate a course that was known as "The Certificate Course in Engineering (Laboratory Technician)". The course was presented at the Queensland Institute of Technology in Brisbane where Gerry was also involved in the lecturing of it's contents to students. Also around this time Gerry was instrumental in the forming of an Industrial Award for Soil Testers employed by Water Resources and Main Roads. Keeping to form of giving back to an industry that gave him a career he was also a member of the steering committee that formulated the "Associate Diploma in Civil Engineering" which was presented to the public through the Brisbane, Rockhampton and Darling Downs Advances Colleges of Education. As if this was not enough contribution from the man, he has also donated his time over the years in the form of being a N.A.T.A. assessor.

In 1983 Gerry entered the private enterprise sector of the Geotechnical Industry when he took up the position of Laboratory Manager with Soil Rock and Engineering (SRE) Testing Services at Mt Gravatt. Around 1986 SRE became Earthtech Laboratories and Gerry's title within the company was that of Manager of Technical Services, a position he was to hold up until earlier this year, when he made his next career move, being semi-retirement whilst still offering his expertise to Earthtech as a consultant on a part-time basis.

As my interview was drawing to an end, I asked Gerry what his future plans were and he answered that at present he was quite happy to continue his position as a Consultant on a part-time basis and enjoy his semi-retirement to a date unknown. When asked his opinion of the current state of our industry here in Brisbane, he commented on two points he thought relevant to the present day situation:

1) Too many companies in the market at present and,
2) The current rates for construction control testing is detrimental to the industry in that over the years unit rates seem to be going down and not up.

At the end of the interview, Peter Nagy of Earthtech made a comment to me that Gerry has probably forgotten more about soil testing than most of us know. It's a well used phrase and in this case could well be true, when you have spent 48 years of your life in the one industry, with a large majority of those years at the cutting edge, the knowledge gained would be vast. Gerald Fitzgerald has contributed a lot to the geotechnical industry over many years and I for one appreciate his efforts and wish him all the best for the future.

Terry Ferguson

Industry Update

Radiation Safety Act 1999

The *Radiation Safety Act 1999* was recently approved by the Governor-General. This Act is to commence on a day to be fixed by proclamation, and will replace the current *Radioactive Substances Act 1958*. It is expected that the new Act will commence no later than the 31st December 1999. The Regulation under the *Radiation Safety Act 1999* is currently being written.

Licences to possess, use and transport radioactive substances incorporated in the soil moisture/density gauges will still be required under the new legislation. However, a major change in the legislation is the requirement for each operator to hold his or her own licence to use and transport the radioactive substances in the soil moisture/density gauges.

Information packages, which include application forms and the criteria that needs to be satisfied to obtain a licence, are available from Radiation Health (Phone (07) 3406 8000).

Information on the new legislation may be obtained by contacting any officer at Radiation Health.

Paula Veevers
QUEENSLAND HEALTH: RADIATION HEALTH

Obituary Notice

The management and staff of Soiltech in Toowoomba lost a valued employee and a close friend in the person of Shane Earle Shelswell during April.

Shane was the unfortunate victim of a freak accident on a house site at Westbrook just outside of Toowoomba on 28 April 1999. Shane's clothing became entangled in the rotating auger of our drilling rig and he died almost instantly from internal injuries.

Shane leaves behind a wife, Sharon and two young daughters, Bridget and Olivia. Our sincerest condolences go to his family in their time of grief.

For most of his working life, Shane has worked on oil exploration rigs both in Australia and overseas, coming from the town of Roma where he grew up. He had been with Soiltech for the past two years.

This accident sends a clear warning to all of us who operate small site investigation type rigs to be extremely careful with them. We understand that Workplace Health and Safety will shortly be issuing some guidelines to improve safety on all augering rigs. Should any AGTA members be uncertain about the safety of their rigs we urge them to contact their WH & S inspector.

Graeme Sheppard
Laboratory Manager
SOILTECH PTY LTD

Current Membership Roll Call

Membership No.	Name
001	Thomas McCabe
002	Ullman & Nolan Geotechnical
003	Civil Quality Assurance (Qld) Pty Ltd
004	Tony McDonald
005	GJ Brandon & Associates Pty Ltd
006	Amanda Macfarlane
007	South Qld Soils Pty Ltd
008	Wide Bay Geotechnical Services P/L
009	Brisbane City Council
010	Geo-Tech Temp Pty Ltd
011	Geotest Engineering Services Pty Ltd
012	Bowler Geotechnical Pty Ltd (Browns Plains)
013	Geoff Maiden Partners
014	Queensland Geotechnical Pty Ltd
015	Noel Thomas
016	Paul Thompson
017	Lloyd R Davies
018	Roadtest
019	Vimbury Pty Ltd trading as Earthtech Laboratories
020	John V Simmons
021	Soiltech Pty Ltd
022	Boral Construction Materials Country (Qld) Raw Materials Laboratory
023	Far North Qld Testing Pty Ltd
024	Golder Associates Pty Ltd
025	Soil Test Australia
026	Peter Murphy
027	H&M Testing Pty Ltd
028	Department of Natural Resources
029	Ron Richards & Partners Pty Ltd
030	Geotech (SC) Pty Ltd trading as Soil Surveys Technical Services
031	CSE (Aust) Pty Ltd
032	Gold Coast City Council
033	Strata Test Pty Ltd
034	Will V Aus
035	Kase Enterprises
036	CSR Construction Materials - Toowoomba
037	Gerald A Fitzgerald
038	Soil Engineering Services
039	Civil Tech Pty Ltd
040	Karreman Group
041	Anthony J. McKenna
042	John Wilson & Partners Pty Ltd
043	Border Tech
044	Tiaro Shire Council
045	Geo-Investigations Pty Ltd
046	Alan Bartlett
047	Chris Brincat
048	Graeme Sheppard
049	Stephen Vlatko-Rulo trading as Duke Contracting Services
050	Mark Hallett
051	Crows Nest Shire Council
052	D&G Concrete Testing
*	John Kippen
*	Colin Fulcher
*	Doug Faithfull
*	Bit of a Byte

* Denotes: Membership Number to be assigoed.

Industry Related News Making The Headlines

*Extracted from Sunday Mail – 9 May 1999

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*Extracted from courier Mail – 3 June 1999

Technical Talk

In 'Technical Talk' this edition, I have focused on compaction equipment used on Civil Projects. In Section 'A' I have presented information on a form of compaction technology called 'High Energy Impact Compaction'.. The following documentation has been kindly provided by Mr Adam Shayler of Landpac Technologies Should any members like further information on this technology, Adam can be contacted on (07) 3832 7666.

In 'Section B' of Technical Talk, the focus is on more conventional compaction equipment commonly seen on civil projects. This information may be well known by some but of a benefit to others.

Technical Talk: Section A

Ground Improvement through "High Energy Impact Compaction" (HEIC)
Part 1: Overview of Landpac Technologies P/L and HEIC

Landpac Technologies Pty Ltd is a subsidiary of a South African Group of Companies, TJC Holdings. Internationally, Landpac, with its acquisition of the originating Impact Compaction Company, has had over 20 years experience in Ground Improvement using high Energy Impact Compaction (HEIC).

First Generation Impact Compaction Technology (Towed Square Impact Roller) has been available in Australia for approximately 10 years. Essentially the application of the Technology has been on an unsophisticated level through the hire of the equipment to contractors.

With the introduction of Landpac's second Generation Impact Compactors and Landpac's innovative approach to Ground Improvement, it has opened up a whole new opportunity for Engineers, Developers and contractors to utilise this Ground Improvement Technology as a cost effective way to (1) solve specific problems with relation to foundations and (2) employ the innovative Technology as a cost effective alternative to conventional methods.

Landpac Technologies combines a comprehensive understanding of soil behaviour, with experience in High Energy Impact Compaction (HEIC) to offer a Ground Improvement Contracting service to the Industry.

Our system works by utilising the high energy shock waves produced by the action of a large mass impacting the ground. Due to the unique method of operation, these shock waves create an effect at depths well in excess of that which can be achieved through normal methods. As a result of this we are able to offer the following benefits for a prospective Client:

- Depth of Influence (up to 4m)
- Achieve Density at a wider range of moisture
- Greater Productivity (Ground Coverage)
- Work on Heterogeneous Soils

These benefits can therefore be utilised in the following areas:

1. **Insitu Deep Fill Ground Improvement** – able to increase the stiffness values of the insitu fill present, with an influence up to 4m in depth dependent on the machine and soil types. This is a very cost effective alternative to either having to remove and replace the material or increasing the strength of the foundation design.
   Able to achieve a uniform stiffness profile in heterogeneous soils. Stresses the material to a load well in excess of that of the eventual applied loads.
2. **Insitu Natural Soil Modification** – Essentially the same as above, but opposed to increasing the stiffness of fill materials, you are able to improve the quality of poor natural materials, enabling them to be utilised to a much greater extent.
3. **Proof Rolling – "Soft Spot" Identification** – Able to detect the areas of poor ground, with a depth of influence well beyond that which can be achieved using other proof rolling methods.
4. **De-Watering of Moist and Saturated Soils,** thus enabling materials that probably would have been spoiled, to be utilised.
5. **Consolidation (Accelerated Settlement)** of Saturated soils via the use of Impact Compaction, trials have shown that the period required to induce settlements is substantially reduced.
6. **Compaction of Rock Fill,** Achieves greater mechanical interlock between the rock fill particles.
7. **Compaction of Lifts** up to **2m** in thickness (dependant on material type) in embankment fill. Uniform stiffness throughout the layer.
8. **Compaction/Proof Loading of Sands** (Includes hydraulically placed sands).
9. **Agricultural uses** - Improve Impermeability/Storage Dams.
10. **Low Cost Road Construction** – Utilising insitu Subgrade materials and improving bearing capacities. Able to reduce pavement thicknesses.
11. **Rehabilitation of Existing Roads** – Utilise existing materials, by improving the bearing capacities.
12. **Dynamic Loading of newly constructed pavement subbase and subgrade**. By applying impact compaction at subgrade or subbase, the design life of the road is able to be extended.

Thus in conclusion, the use of Impact Compaction for Ground Improvement can offer innovative solutions to various Ground Improvement problems in the areas noted above.

Mr Adam Shayler
LANDPAC TECHNOLOGIES PTY LTD

Technical Talk: Section A – Part 2

Technical Talk: Section B – Compaction Equipment for Soil

In the second section of Technical Talk this edition, we have presented various machinery used in the compaction of soils on Civil Engineering projects. Whilst the experienced Geotechnician reading this article may be well aware of the machinery shown and their capabilities, this information may be of some interest to the young men and women in our laboratories who have just embarked on the journey to become Geotechnicians.

FOR SALE

Site Investigation Rig
mounted on 1988
Landcruiser 4x4 Ute
with drilling attachments,
equipment and some spares
$18,000
Also Dormer Piston sampling system for unconsolidated sediments above/below water table – offers considered
Further enquiries –
contact Steve
(018) 715 672

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ODD SPOT

(In National Newspaper 31/7/99)

*Editors Note: Wonder what their Rollers look like!

Coming Events

General Meeting:
"The Great Debate"

DEBATE TOPIC: Should Geotechnical Testing Authorities be retained by Principal Client or the Contractor.

- Debating terms and adjudicator to be announced

FORMAT:

- Pre debate Drinks
- Debate
- Discussion

VENUE: Hawken Auditorium
Institute of Engineers
447 Upper Edward Street
BRISBANE QLD 4004

DATE: 23rd August 1999

TIME: 6.30 PM