



SOUTH AFRICAN INSTITUTE FOR ENGINEERING AND ENVIRONMENTAL GEOLOGISTS

NEWSLETTER

VOLUME 02-05
SEPTEMBER 2005

EDITORS MESSAGE...

Hi all and welcome to another edition of the newsletter. Sorry about the delay, but remember that the success of the newsletter is very much dependant on your input.

On behalf of SAIEG, I would like to extend a hand of congratulations to Dave Haskins, our Western Cape representative, who has successfully completed his PhD. Hats off to you, Doc!

Highlights of the newsletter include info on the membership, an interesting expedition article, as well as a detailed report back on the SAIEG/AEG workshop. Full contact details of the SAIEG Council are also included.

CONTACT DETAILS

SAIEG

PO Box 2812
Pretoria
0001

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www.geoscience.org.za/saieg*

**A new look website is up and running. Members are urged to visit the site and provide feedback, favourable or not.*

Contact details and functions of the new Council elected for the period 2005-2007 is listed below:

President, SANCOT/SAIMM

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SAICE Geotechnical Division Representative

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Awards

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Dave Haskins
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Geotechnical Division Representative

Wynand Greyling
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Secretariat

Di Brooks / Robbie Cameron
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MEMBERSHIP

At the last Council meeting held at Ninham Shand's offices in Centurion, on Thursday 28 July 2005, the following engineering geologists were admitted to SAIEG as Associate Members:

- Mr Thomas Kujawa (Drennan Maud and Partners)
- Mr Matthys Dippenaar (WSM Leshika (Pty) Ltd)

On behalf of SAIEG, I would like to take this opportunity to welcome our new Associate Members to the Institute, and trust that the association will be long and mutually beneficial.

At present SAIEG have 149 members, 151 including our two new members, of various categories. To facilitate the growth of SAIEG, the Council is committed to registering all suitably qualified and experienced engineering and / or environmental geologists wishing to join the Institute. However, in some instances potential candidates are uncertain as to the academic qualifications required for registration, while potential candidates from neighboring states or other countries experience difficulties in complying with the membership requirements laid down in the SAIEG Constitution, specifically in terms of finding accredited SAIEG Members or Fellows to act as supporters.

While it is not the intention of the Council to lower the registration requirements for SAIEG membership, it is acutely aware that if SAIEG wishes to attract candidates, specifically from neighboring states or other countries, every effort must be made to accommodate applications from these regions. To put this in perspective, of the three potential candidates who approached SAIEG regarding difficulties in finding accredited SAIEG Members or Fellows to act as supporters, only one was resident in South Africa.

In keeping with the issues raised above, specific queries received by SAIEG from potential candidates pertaining to registration requirements for SAIEG are presented below, together with the Council's response.

Query 1:

Is a Diploma in Geology recognized by the Council in applying for membership to SAIEG?

According to the SAIEG Constitution any person who holds either a 3-year National Diploma, obtained prior to December 1994 plus 4-years experience in Engineering and / or Environmental Geology, or a 4-year B.Tech Degree in Earth Science / Geology and / or the

Environment plus 3-years experience in Engineering and / or Environmental Geology and is actively engaged as an engineering and / or environmental technologist is eligible for admittance as a Registered Natural Science Technologist in terms of Act No. 106 of 1993.

Query 2:

I am a practicing engineering geologist in a neighboring state wanting to join the Institution, but am unable to find accredited SAIEG members locally to act as my supporters.

Whenever possible, the Council undertakes to provide such candidates with the contact details of SAIEG members resident in neighboring states. Should this not be possible, candidates would be put in contact with Members or Fellows residing in South Africa who, subject to being provided with a detailed overview of the applicants working experience, would be willing to act as supporters,

Query 3:

I am a locally practicing engineering geologist who is unable to find colleagues, who are accredited SAIEG members, to act as my supporters.

The Council would regard applications received from candidates falling into this category as constituting "special circumstances", which would be considered subject to the receipt of the required number of supporter's forms. Supporters in this instance would comprise prominent individuals actively engaged in the field of Geotechnical Engineering who are members of the Geotechnical Division of SAICE, and / or prominent academics in the field of Geotechnical Engineering who are members of the Geotechnical Division of SAICE.

Query 4:

I am an engineering geologist from the UK moving to South Africa wanting to join the Institution.

As with Query 3, the Council would regard applications received from candidates falling into this category as constituting "special circumstances". Applications would be considered subject to the following requirements being met:

- Candidates would need to be registered with SACNASP, prior to an application being considered by the Council.
- The Council is furnished with the appropriate number of supporter's forms for the class of admission being applied for.
- Supporters in this instance would comprise prominent individuals actively engaged in the field of engineering geology / geotechnical engineering, and / or prominent academics in the field of engineering geology / geotechnical engineering in the candidate's country of residence.

The next SAIEG Council meeting will be held on 8 November 2005, after which I would like to be able welcome more new members into the SAIEG fold.

Greg Dyke

Membership fees

Membership Status	Bulletin	No Bulletin
Fellow	R645	R440
Member	R595	R390
Associate Member	R555	R350
Affiliate Member	R445	R240
Retired Member	R445	R240

Payment Options

Cheques can be made out to "SAIEG" and posted to us at:

PO Box 2812

Pretoria

0001

Or you can transfer your contributions to*:

SAIEG Account No: 1602070423

Nedbank Hatfield

**Please remember to furnish us with proof of payment*

Members are requested to check their membership status and contact details. Any discrepancies must be brought to the attention of the secretariat.

"LOGGING THE SITES AND SOUNDS OF AFRICA"

Geological Mapping and Observations

INTRODUCTION

Lying on the bed in my hotel 'day room' at Charles de Gaulle airport, Paris, en route to Orly and then to Algiers, Algeria, my mind started wandering and I realised that 2003 has indeed been an incredible year. I got to thinking about all the exotic destinations I have travelled to, the interesting sights and the people I have met in the course of my role as the Engineering Geologist / Chef de Géologie for some of Ninham Shand's International projects.

Sure, geology is geology, rocks are rocks (some younger and some older) and a fault is a fault (but not my fault!). However it's the human touch, the sights, sounds and smells that make international work that bit more exciting.

Others have journeyed before me – who can deny the courage and sense of humour of the pioneers - Mike de W, Luc D and our very own SP who have forged the way. We hold them in high esteem. The team of Ninham Shand staff now involved overseas grows steadily with an increase in the number of projects, so I am by no means alone...

But I digress. Imagine somewhere that looks quite a lot like the western cape, but isn't, with Arabic writing, intricate mosaic decorations interspersed with bits of old France and chaotic traffic that moves on the 'wrong' side of the road, but that works! Dig out your rucksack and your French / Arabic phrase book, make sure you have plenty of bottled water, and join me as I take you far from your office desk.

THE NORTH AFRICAN CAMPAIGN

I first went to Algeria a couple of years ago to assist Ronnie Khoza and Jean-Luc Damians at the Exposition where Ninham Shand had a stand, and then again in 2002.

This year I have had four visits to this most northerly country in Africa. The Heavy Engineering DG are involved in, amongst other projects, the Feasibility Study for three dams, lovingly referred to as the **C-M-B. Project**. Charchar site lies to the east inland from the town of Skikda, **Mellah** is in the central part of northern Algeria not far from the village of Souaghi and **Berkeche** is in the west, inland from the beautiful port city of Oran. Because the sites are widespread I have been able to travel, see quite a bit of the northern portion of Algeria, and interact with the friendly interesting people.

Whenever we travel outside Algiers we have a full military escort - "the green police" as Yacine Mekersi, our Senior Engineer in the NS Algérie Office calls them, or "the men in green and blue". Roaring along at breakneck speeds with 4X4 Landcruisers in front and at the rear, sirens blaring, lights flashing, make me feel a bit like Mrs Mbeki! Sometimes the military escort consists of beautiful BMW motorbikes – these guys certainly make sure that the local traffic moves out of the way and we get through all the roadblocks without any hassles. All the military and gendarmerie personnel are really friendly and seem to enjoy making sure that we are safe.

"Old geologists never die, they just petrify!" My observation has been that, possibly with the Moslem influence, women as a group tend to fulfill their roles in Algerian society in a more passive way and in the domestic setting. I therefore found myself very often the only lady in the group on site, and therefore a bit of a curiosity. This has had its funny moments, not least with regard to my age!

On the first trip to Charchar one of the soldiers 'out of the blue' asked me how old I was? Then he asked if I was going 'into the mountains' (on site)? When I told him "yes" he said that it was quite incredible that a woman as old as me was going on site!

On another occasion in a taxi in Algiers, Alain T and the taxi driver were having an erudite conversation about everything from customs in South Africa and Algeria, religion and women... I was sitting in the back, understanding all the French, but not saying anything because I knew my place. However, I had all on not to laugh when the taxi driver told Alain that he thought "madam has very good teeth for her age!"

On my first trip to the Tallizerdane dam site (WEDG's Athmania Transfer Scheme) in June 2003 I got chatting to one of the soldiers and he, too, asked me how old I was. When I said 'fifty something' he said that that was impossible because I was so fit and active and I could not possibly be more than forty (who's complaining!).

"The power of one". Public amenities in Algeria, if you can find them, leave much to be desired, and on site there is only the bush. At the Mellah site in September 2002 we had a huge contingent of military personnel with us as the Médea area was still considered to be somewhat unsafe. Wherever we walked we were in groups. I needed to go into the bush for a 'wee break',

but every time I tried to surreptitiously sneak away there were two soldiers who would follow me. Eventually Dawid explained that I needed to go alone and I wandered off to a ruined abandoned house at the foot of a hill. Settling down behind the wall I felt quite private, till I looked up and saw umpteen soldiers standing on top of the hill keeping lookout and with a bird's eye view! Never mind, if you have to go you have to go, but if I am ever reincarnated I'll come back as a bloke!

"A friend in need is a friend indeed". On this trip to Mellah I made friends with one of the more senior military guys who helped me up steep slopes and through difficult river crossings. As luck would have it he was escorting us again in June 2003 and remembered me and greeted me like a long -lost friend. I was really touched by this.

Monsieur Alli, the drilling contractor's Foreman, is another character I like very much. During the first reconnaissance for C-M-B I met him but could not remember his name. I called him "Mr Contractor" in French, which had all the locals in fits of laughter, and the name has stuck. The next time I saw him was March 2003 when Robin Mackellar and I went to Berkeche; much shaking of hands and friendly chat. Then in June 2003 Robin and I were back at the start of the Mellah drilling and M Alli was there, but this time it was handshakes and kisses, both for Robin and me!

Don't confuse the geological El Qatar depression (Egypt) with the geologist's Algerian depression! It's true that at times I have found working in Algeria both frustrating and tension generating. Just getting to Algeria involves about a day and a half of flying or waiting. One trip was 28 hours long without much sleep and included a 10-hour wait at Dubai.

It's human to miss home, family, friends and things that are familiar. The security escorts that we have as soon as we leave town slow down what can be achieved in a day, and always have to be factored into every plan. What is ironic is the fact that I was mugged one evening, only about 50m from the entrance to our hotel, walking right next to one of my colleagues. Common city criminals are everywhere in the world. I think that on every trip I have had at least one moment of complete failure of sense of humour, but the good outweighs the bad you find the projects draw you back.

For me it is also a chance to have complete immersion in French, which helps when you are studying the language and trying to improve fluency.

"In the footsteps of ancient Roman generals." The Athmania start-up trip in September deserves a special mention. We saw the eastern part of northern Algeria at its very best, following the best rains in decades. Wheat, rye and barley fields stretching vast and golden as far as the eye could see. Dotted with deep red poppies and purple thistle, it reminded me of the Western Cape but on a much grander scale. In ancient times this area was 'the granary of the Roman Empire', and you can see why. There are many Roman ruins still visible, the most famous being Timgad near Batna. Unfortunately work schedules rarely allow for much sightseeing; however there are a number of NS staff who have seen the Roman ruins at Tipaza near Algiers and they say it is well worth a visit.

The old City of Constantine is built on karstic limestone (that is terrain that forms sinkholes and gorges in the rock). We did on one occasion get to see some of the spectacular bridges, including the suspension bridge that is about 185 m long and crosses about 175m above the river Rhumel, as well as general Constantine's bath, now fallen into disrepair.

One is reminded that the Sahara desert is not too far away when you see Bedouin nomads with their tents, sheep and camels (and the occasional 4X4 bakkie) camped in a farmer's field. In the summer they trek northwards from the desert in search of sufficient water and grazing for their livestock.

Margaret Wynne

RECORDING AND PRESERVING SA GEOSITES

Many Members will be aware of the fuss that erupted in print late last year (GSSA Quarterly News Bulletin 47 No 3 Sept 2004) regarding geo-vandalism and indiscriminate sampling of rock outcrops that are of national significance. A recent brochure of the CGS, entitled "Recording SA Geosites – A joint initiative from the GSSA and CGS" caught my eye more recently as a flyer in the latest Bulletin.

Mr Roger Price of CGS kindly gave me a little more background to the urgent need to develop a database of important SA geosites; the reasons are more than just to protect bits of rock from being damaged by over enthusiastically wielded geological picks!

Firstly, with changes to legislation, there are no Geological National monuments any more. Some sites are protected under various legislations / authorities (e.g. Table Mountain as it is in a Nature Reserve, and Kimberley's Big Hole by the municipal authorities, but what of, for example, the Sand River Causeway in Limpopo Province?). It is therefore of priority to prepare a list of Geosites that has to be graded by South African Heritage Resource Agency (SAHRA) as National Monuments.

Secondly, South Africa's geoheritage is world class - a database that could be made available to tour operators and tourists who have an interest in our special geology would be beneficial to tourism in this country.

In addition, such a database giving sites of educational interest would be of great benefit to both local and overseas researchers and students coming here to investigate or learn from our unique geology.

In time it would be good to expand this data base to the SADC countries (one has only to think of the immense geoheritage in Namibia).

A data capture form has been developed. For more information, you are invited to contact Mr Danie Barnardo at CGS, e-mail barnardo@geoscience.org.za.

Margaret Wynne

POSTGRAD STUDIES AT TUKKIES

A number of MSc studies and a PhD are underway at Tukkies, details of which are highlighted below:

PhD

Title: In-situ subsurface density estimations using a seismic technique.

Mr Stoffel Fourie

The use of a novel seismic technique to compliment traditional density estimations of insitu subsurface soils.

MSc

Title: Comparing the Major Rock Mass Rating Systems from an Opencast Rock Engineering Perspective.

Mr Jacques Smit

Research and evaluation of the major rock mass classification systems commonly used in the mining industry today through comparing the systems in theory and practice in order to conclude the applicability of the use of such systems, with special reference to open pit mining.

Title: The tectonic history of the West Rand Group, Witwatersrand Supergroup and Halfway House Granites and the influence thereof on the geotechnical properties of these rock units.

Mr Jaco van Tonder

Recently collected structural joint data from the Gautrain Project, along with regional tectonic data are used to determine the tectonic history of the lower West Rand Group. This structural defined lithology of the West Rand group and the granites of the Halfway House Dome, are used to define the geotechnical characteristics of the rock in terms of tunnelling and excavations along the tunnel route.

Mrs Nicole Trollip

Revisit the investigation en evaluation techniques and approach to dolomite stability assessment.

Prof Louis van Rooy

REPORT BACK:

“Burning Environmental Issues in Engineering and Environmental Geology”

SAIEG, in collaboration with the AEG (USA) presented a one day workshop on the ‘Burning Environmental Issues in Engineering and Environmental Geology’, held at Glen Hove Conferencing on 26 August.

63 delegates attended the workshop, which was opened by David Bieber, President of AEG. His paper was: *Asbestos Pollution: Sources, distribution, and mitigation*

The morning was taken up with presentations as listed in the Announcement. This was followed by breakaway sessions. The breakaways then reconvened and reported back. A period of, often lively discussion from the floor took place. Summaries of the workshop were then provided by each speaker. The main sessions then took place and extended into the early afternoon. These were followed by breakaway sessions. The workshop then reconvened and four reports were

presented by reporters selected by each group of delegates. These were:

1. David Bieber: Asbestos
2. Fred Mpephu: Impacts of Gold Mining Presentation
3. Paul Aucamp and Charles Mills: Hydro-Carbon Cleaner
4. Gary Davis: Seismicity - Landslides

These reports will be edited and included with a final copy of the proceedings that will be available from SAIEG to delegates at a nominal fee and to non participants at a price of R255 (including normal postage, locally).

Summary of Convener, Oliver Barker

- We received glowing accolades for the meeting;
- We made a lot of new friends;
- We impressed many people from outside our ranks (38 in total);
- We involved students, thanks to Louis van Rooy and Jo van der Merwe;
- We made the Geological Society some money from book sales;
- It would have been great had we got a little more sponsorship (Banzi Geotechnics sponsored a portion of the traffic thinners).

Thanks goes out to the organisers, that's Oliver chiefly and his support crew, Robbie Cameron and Associates who put together all the administration behind it. A very important thank you goes to the presenters for all their effort, to Dave who travelled a long way, and most importantly, thank you to those that attended.

Compiled by Oliver Barker

CONDOLENCES

AEG Past President – Bob Bean

Bob Bean, AEG President in 1961, passed away on July 7th. He had been living in a retirement home for years. At age 94 he had a fall, developed pneumonia and passed away in his sleep. Bob was responsible for changing the Regional Scope of the California Association of Engineering Geologists into the International Organization that AEG is today.

Glenn A. Brown
PASTPRES 1966

Honorary Fellow: GSSA – Prof Louis O Nicolaysen

It is with deep regret that the society announces the death of Prof Louis Otto Nicolaysen, who passed away on 22 June 2005, at age 77. Prof Nicolaysen was an Honorary Fellow with 57 years membership. Our sincere sympathy goes to the family and friends of the deceased. The Society honours his memory.

Leopold Bosch
Executive Manager
Geological Society of South Africa

LOCAL EVENT CALENDAR

2005

10 – 12 October

3rd Southern African Rock Engineering Symposium, "Best Practices in Rock Engineering", SANIRE in collaboration with SAIMM. *Randburg, Johannesburg*. Contact: Tel: 011 834 1273; Fax: 011 833 8156; Email: sam@saimm.co.za; Website: www.sanire.co.za or www.saimm.co.za

20 – 21 October

LANDFILL 2005, "Landfilling in Challenging Environments", Sixth LIG Biennial Landfill Symposium, *The Valley of a Thousand Hills, near Durban*. Contact: Conference Chairman Peter Davies: nphuntpld@kaymac.co.za

21 – 22 October

Advanced Diamond Drilling Methods and Techniques in Exploration and Mining, Two Day Course organized by The Directorate of Professional Programs of the Geological Society of South Africa in collaboration with Atlas Copco Exploration Products Africa. *Glen Hove Conferencing, Johannesburg*. Contact: jan@rca.co.za or robbie@rca.co.za

10 – 11 November

Sancold Tour 2005: "Raising of Flag Boshielo Dam Project". Contact: Dr Andre Bester: SANCOLD Assistant Secretary. Tel: 012 336 8591; Fax: 012 336 8786; Email: abester@dwaf.gov.za

2006

SAIMM Symposium: "Stability of Rock Slopes". *Victoria and Alfred Waterfront, Cape Town*. Contact: Sam Moolla: Tel: 011 834 1273; Fax: 011 833 8156; Email: sam@saimm.co.za; Website: www.saimm.co.za/rockslopes

INTERNATIONAL EVENT CALENDAR

2005

3 – 7 October

Sardinia 2005, Tenth International Waste Management and Landfill Symposium. *S. Margherita di Pula (Cagliari), Sardinia, Italy*. Contact: eurowaste@tin.it ; www.sardiniasymposium.it

12 – 15 October

1st Latin American Congress of Prospective Engineering. International Engineering Exposition. 50th Anniversary of the Corrientes Engineering Centre. *Corrientes, Argentina*. Contact: epopolizio@ing.unne.edu.ar

2006

6 – 10 September

IAEG 2006, Engineering Geology for Tomorrow's Cities, the 10th IAEG Congress. *Nottingham, United Kingdom*. Contact: info@iaeg2006.com / programme@iaeg2006.com; www.iaeg2006.com

SOME FUNNIES...

Why geologists make great lovers:

Geologists are great explorers.
Geologists know how to make the bedrock.
Geologists do it eruptively, with glow, and always smoke afterwards.
Geologists do it in folded beds.

Geologists do it to get their rocks off.
Geologists do it on the rocks.

Geologists don't wrinkle, they show lineation.

We've reached the end of this edition. I would like to stress, yet again, to share your views, ideas and current projects with us. The newsletter provides an excellent platform to do so.

Regards,
Ashika Sudu
