



The Hammer

Newsletter of the Geological Society of Trinidad and Tobago

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P.O. Box 3524, La Romain, Trinidad and Tobago W.I.

www.gstt.org

2003 Petroleum Conference and Exhibition

February 3rd-5th 2003

The 2003 Petroleum Conference and Exhibition, hosted by the South Trinidad Chamber of Industry and Commerce in conjunction with the Geological Society of Trinidad and Tobago, was held from February 3rd- 5th, 2003 at the Trinidad Hilton and Conference Centre, Port-of-Spain. This is our 7th Annual joint Petroleum Conference and Exhibition. This conference, a signature event on the South Trinidad business calendar for many years, was hosted in north Trinidad for the first time.

Some of the missions of the event include bringing the latest technology to the forefront, reviewing the past year and charting a course for the upcoming year, facilitating interaction and synergy amongst major stakeholders, focusing on core issues such as sustainable development and increasing local content, just to name a few. It has emerged as a forum for gauging the outlook in our country's energy sector for the year ahead.

The feature address was given by one of our distinguished members, the Honourable Prime Minister Patrick Manning. Both he and the Honourable Keith Rowley (another one of our distinguished members), spoke on various aspects of the Government's 2020 vision, and the role of the energy sector. The conference was the first... energy forum in which the Government's ideas on its 2020 vision were addressed. (*continued on page 2*)

GSTT 26th Annual Dinner and Dance Awards Ceremony



The 26th Annual Dinner and Dance award Ceremony of the Geological Society was held on Friday 15th November 2002 at the Trinidad Hilton and Conference Centre, Port of Spain. Special Guests at the event included the Honourable Prime Minister of Trinidad and Tobago, Patrick Manning, Minister of Energy and Energy Industries, Eric Williams, Minister of Works and Transportation, Franklyn Khan and Minister of Planning and Development, Keith Rowley. Coincidentally, these gentlemen are all geoscientists, now playing an integral role in the administration of the country. One highlight of the evening was the address by the Honourable Prime Minister, which can be viewed at:

<http://www.gstt.org/events/dinnerdance.htm>.

Other speeches can also be viewed at that URL, including that by the present President of the GSTT, Mr. Derek Smith. The President highlighted plans for the present year, as well

as introduced the present Executive and heads of various committees in the GSTT. Other highlights included Honorary Membership given to Mr. Wayne Bertrand, and several other awards given out during the event. Some of these awards and other photos of the Dinner and Dance Awards ceremony can also be viewed at the above URL address.

(Petroleum Conference, from page 1)

The Conference provided an opportunity for the financial and commercial interests in the country to interface with the industry. Much discussion occurred around the participation of the local financial sector in the expansion of the energy sector. Stimulating local participation (or local content) in all aspects of the energy sector was another highlight on the second day of the conference in the panel discussion “Local Content- Rising to the Challenge.”

Day three of the conference gave a more geological overview on matters in the industry. All the papers presented, gave the audience tremendous insight into exploration plans and opportunities taking place in Trinidad by the various companies, in the future.

Hopefully, the presentations given in the conference provided enough information and learning to the financial community on a full suite of planned projects that would be attractive to local financiers.

Thanks go out to the many sponsors (Prime Sponsors: Petrotrin, BPTT, and RBTT) of the event, and we look forward to 2004 for another one of the country’s premier energy events.

Justin Smith

GSTT/ SPE jointly produce Career Guidance Seminars for our nation’s schools

The Career Guidance Committee of the GSTT, together with members of the Society of Petroleum Engineers, have embarked on a series of Career Guidance seminars at centres around Trinidad and Tobago. The seminars target students of Forms three and six and include both presentations and practical exhibits. The presentations are approximately 2 ½ hours in total length and cover a wide range of topics in Geology and Engineering and also facts about the Geological Society and the Society of Petroleum Engineers. Practical exhibits are compliments of Petrotrin and the BG Science Bus.

Presentations are scheduled for the 12th March in Tobago, 19th March in Northeastern College, 21st March in Gulf City, 25th March in the Learning Resource Centre (Couva) and 27th March in the Centre of Excellence, Arouca. Each locality targets the surrounding schools, covering a large number of students over the two islands. Presenters include Winston Boodoo, Helena Inniss, Selwyn Lashley, Tricia Andrew and Sheldon Butcher.

From the Legal Constitution Committee...

The following excerpt was posted to GSTT members in February this year.

GSTT was incorporated in 1987 and that company is now in the last stages of being de-registered. GSTT was incorporated again in 1989 by Act of Parliament. The Act incorporating GSTT provides that “The Society may from time to time make rules and regulations for the proper conduct of its proceedings and discharge of its duties, powers and functions”, but this has never been done.

In November 2002, the President of GSTT set up a committee to formulate rules for GSTT

and get them implemented. The committee comprises G. S. Wattley (Chairman), D. Maharaj, M. Nath, and C. Telemaque.

The Draft Rules

The committee has prepared the attached draft set of Rules for GSTT. The new features of the draft Rules are as follows:

- The Officers (rule 7) will be: the Past President, the President, the President-Elect and the Treasurer (all elected) and the Corporate Secretary (someone with expertise who is appointed).
- The traditional secretary has been eliminated but rule 10 allows for the appointment of an Executive Officer like Mrs. Gayatri Maharaj.
- The Directors of GSTT will comprise: the 5 officers, 2 other elected Directors (rule 8.1(b)) and non-voting supernumerary directors (rules 8.1(c) and 8.5) who can be the existing committee chairmen.
- The financial year will continue to run from 1 October to 30 September (rule 15.1). Audited accounts will be prepared and presented to the Annual Meeting (rule 15.2), which will be held in November (rule 6).

The Way Forward

Contact G. S. Wattley for a copy of the draft rules for review and comments. Send all comments and suggestions to him at mwattley@carib-link.net. A final version will then be prepared for approval by the Board of GSTT and then by a formal resolution at a meeting of the members of GSTT.

Technical Sessions

Technical sessions ensure that Society's members are up to date with geological research and developments on a wide range of topics and provide a common forum for keeping in touch with fellow members. Some use it as a 'watering hole' as well! As with previous issues of the Hammer, there is a lot to report. The following attempts to summarize the sessions that occurred since the last issue of the Hammer.

- *"Action e-Learning for Integrated Reservoir Management"* by Timothy Donohue (IHRDC) on November 13th 2002. Action Learning was produced in alliance with Petroleos de Venezuela (PDVSA) to implement a virtual learning program in Integrated Reservoir Management. The development, pilot testing and scale-up of this learning system was reviewed and discussed.
- *"Sequence Stratigraphy of the Nazareth Association, Offshore Guajira, Colombia"* presented by Dr. Grant Wach (Professor of Petroleum Geoscience, Dalhousie University) on November 13th, 2002. Seismic Sequence Stratigraphy provided a framework for evaluation of reservoir potential in Seven Super Sequences within the Offshore Guajira area.
- *"Correlation within Fluvial Deltaic Sequences – Examples from Modern Day Mahakam Delta (Indonesia) and Miocene Eastern Venezuelan Basin"* presented by Mr. John Chambers (Venture Production) on December 3 2002. This presentation examined the fluvial deltaic sediments of the Mahakam delta as a possible analogue for sedimentation in the Eastern Venezuelan Basin and Pliocene sediments in Trinidad.
- *"Application of isotope geochemical techniques to the study of sediments"* presented by Dr. Joseph Hamilton, Research Scientist (CSIRO Petroleum Resources, Australia) on January 14th 2003. The discussion focused on the analysis of unstable isotope decay applied to detrital minerals and used to characterize age and thermal history of sediments. These in turn are used as correlation tools between boreholes and to decipher basin evolution. Examples were given from basins of different age and tectonic settings.
- *"Geological Setting of Deep Water Petroleum Systems – A global Comparison"* presented by Mr. Berend van Hoorn (Shell) on October 1st 2002. This

presentation provided a comparison of Deep Water Plays and models in different regions across the globe, as well as relative exploration successes.

- *“Amherstia Field Phase I Development, Offshore Trinidad: Fault Compartmentalization - Baffling Seals or Sealing Baffles”* presented by Mr. Joe Finneran, (BP) on Tuesday February 11th 2003. The presentation discussed the effects of fault compartmentalization on the development of the Amherstia Field, offshore Trinidad and the relative responses of oil and gas to these faults. The presentation also focused on methods used to assess reservoir communication across barriers.
- *“New data on the geochemistry of Trinidad oil and implications for exploration”* presented by Dr. Krishna Persad (Immediate Past President of GSTT and Managing Director, KPA Limited) on January 21st 2003. The presentation discussed the integration of new crude oil and condensate sample analysis data from onshore and offshore wells. Source rock typing of the new samples was reviewed and the implications for hydrocarbon exploration were highlighted.
- *“The Delivery of High Rate Gas Wells from a Thin Reservoir”* presented by Dr. Ian Turner (British Gas) on Tuesday March 11th at the Kapok Hotel, Port of Spain. The presentation showed how the combination of high frequency depth surfaces, good quality image, log and biostratigraphy data and effective geosteering enabled the successful delivery of high-rate horizontal drainholes within the Hibiscus NCMA development, west of Tobago.

If you desire to contribute to future technical sessions, contact the Secretariat at gstt@tstt.net.tt. Please refer to the ‘On the Calendar’ segment for upcoming technical sessions organized by the GSTT.

Thank you John

The Geological Society will like to extend a hearty ‘Thank you’ to Mr. John Chambers who will be leaving Trinidad & Tobago to return to Australia, his homeland, in April. John is our current Technical Session Chairman, and the one responsible for the ‘tidal wave’ of technical meetings, seminars and short courses over the 2001-02 and current terms. ‘Hats off’ to you John for a job well done.



John Chambers is presented with a token of appreciation from the Society by Ms. Sushma Chatelal at Tony Roma’s Restaurant.

John is an experienced Exploration and Production Geologist with 17 years experience in operations in Australia, Indonesia, Venezuela and most recently Trinidad and Tobago, where he has been for the past 2 years. He has run several AAPG field courses on the Mahakam delta and has over 20 publications in International journals, including co-authorship of a book published by the Indonesian Petroleum Association on the Mahakam Delta.

John and his wife were hosted to a dinner on Friday 14th March at the Tony Roma’s Restaurant. Dr. Krishna Persad, Past President of the Geological Society, is noted as saying

“In the 27 years of the existence of the organization, I have never seen such a level of activity in the technical department as occurred in the past year and a half”. This testifies to the good work done by Mr. Chambers who was also recognized in the last Dinner and Awards function of the GSTT for his contributions. John went on to say how much he enjoyed working for the GSTT and acknowledged all the people he was able to meet through the organization. He thanked his wife for the patience and support and reaffirmed his commitment and membership to the Geological Society, even though he’d be a good candidate for the most distant member.

On the Calendar

This column features upcoming events and sessions to be held by the GSTT. For further information on any event, contact the Secretariat Administrator, Ms. Gayatri Maharaj, at gstt@tstt.net or call 868-679-6064.

Field Trips

Field Trip: March 22nd 2003

The trip will be led by Curtis Archie and Krishna Persad. It will visit the Digits Mud Volcano and outcrops of the Forest Formation in Debe and the Morne L’Enfer Formation in Penal. The Digits Mud Volcano exhibits a classic cone shape not apparent at other mud volcanoes while a 270° outcrop view around an oil well will be afforded in the Forest Formation. Transport will be provided from the car park of the Hilton Hotel, Port of Spain from 7:00 am to the assembly point at Palmiste Junction, San Fernando for 8:15 am. Interested persons are to register with the Secretariat at numbers provided below.

Tobago Field Trip: May 23-25th 2003

This trip will be led by Professor Art Snoko of the Department of Geology and Geophysics,

University of Wyoming and will visit outcrops around the island of Tobago. Interested participants are to contact the Secretariat by April 30th 2003.

GEOLOGICAL SOCIETY OF TRINIDAD & TOBAGO

FIELD TRIP TO TOBAGO

Prof. Art Snoko
May 23-25th 2003

For booking and information, contact Gayatri Maharaj at 868-679-6064 (tel/fax)
Or 868-761-7680 (mobile)

Technical Sessions

“Integrating geomechanics with well design and drilling operations” on Tuesday, April 01, 2003 at 5:30 p.m (presentation starts at 6:00 p.m). The presentation will be at the Kapok Hotel, Port of Spain. The presenter is Patrick Hooyman of Schlumberger, Houston. This presentation will discuss the use of Geomechanics modelling to address wellbore stability problems. The benefits of verifying the validity of the model while drilling will be discussed along with examples of how geomechanics was used in well design, including casing seat selection.

International Conferences

LACPEC

The T&T Section of the Society of Petroleum Engineers presents **VIII LACPEC, The Eighth Latin America and the Caribbean Petroleum Engineering Conference** from April 27th to 30th at the Trinidad Hilton, Port of Spain. The programme includes over 150 presentations, scheduled in five parallel sessions. There will also be plenary sessions, lunchtime speakers and a panel discussion. There will be a trade exhibition in the Ballroom and Belmont Salon of the Trinidad Hilton and also 5 short courses, including “Reservoir behaviour for geologists and

geophysicists” and “International oil & gas contracts & negotiation”. For more information visit www.lacpec.org

GCSSEPM Conference call for papers

The GCSSEPM Foundation issued a first call for papers and poster presentations for the 24th Annual Bob F. Perkins Research Conference to be held in December 2004 in Houston Texas. The subject of the Conference is “Salt-Sediment Interactions and Hydrocarbon Prospectivity: Concepts, Applications and Case Studies for the 21st Century”. The Conference hopes to gather explorationists and researchers to share current concepts, applications and case studies on the topic. The deadline for Preliminary titles and abstracts is August 1st 2003. For more information visit www.gcssepm.org.

AAPG Annual Meeting

The Annual Meeting of the American Association of Petroleum Geologists is carded for May 11th – 14th in Salt Lake City, Utah. The theme for this year’s meeting is “Energy: Our Monumental Task”. Online registration is now open and can be accessed at www.aapg.org.

If you are interested in giving a presentation to the Society’s members, or if there is a topic you would like to be discussed or presented, please contact the secretariat at gstt@tstt.net.tt or call 868-679-6064.

FEATURE ARTICLE

In the last issue of the Hammer, we introduced a disc-shaped rock, commonly found on Anglais Point, Palo Seco and invited some discussion. The following article was submitted by Mr. Curtis Archie, and gives a greater insight into the internal architecture of these unusual rocks.

Cone in Cone structures in the Cruse Formation of Trinidad



Disc from Anglais point

They are most common in shales and marl limestones (Boggs 1995). In Trinidad it occurs only within the Cruse Formation near the mud volcanoes on the south coast, as at Anglais Point. In some cases these layers appear to have been deposited within a sand shale sequence.



Cross section through disk showing the fibrous nature of the calcitic material and the cone in cone structures.

The structure takes its name from its appearance as upright circular cones superimposed into one another so that their edges are ridged and grooved. Their appearance is usually rough and hummocky and their formation is due to fibrous calcite crystals growing in the sediment. The fibrous nature of the calcite resembles crystal growth under stress. The growth and development of the cone-in-cone structures takes place while



Plan view of cones

the sediment is still in its plastic state (Boggs 1995). The cones are usually at right angles to the sedimentary layering or bedding. The ridges on the side of the cone become less pronounced near the apex. Growth of fibrous crystals in layers results in vertical pressures in the rock causing small breakages. As pressure continues, the breakages overlap causing the stepped-cone structures. The cement minerals dissolve leaving ridges along the cone surfaces.

Curtis Archie (Petrotrin)

Letters to the Editor

Seeking Geotechnical Data from your region

As a lecturer of civil engineering at my local university, I had noticed how many of our engineers are going out to Central America and the Caribbean, to help both Colombian and international contractors on their work. That work is generally focused on road construction (cuts, fills, behaviour of natural materials as subgrade, subbase, and base materials, and for conforming concrete structures). You have a lot of calcic influence because of the coral formations. I lecture mainly on Geotechnical Engineering with a strong bias towards construction processes and quality control. I am interested in articles dealing with road construction materials

including concrete construction, with the rocks and other materials which are so much present in your Caribbean islands.

Our environment out here is mainly, in this particular area of volcanic ashes, and because we are located at the end of the Andean range of mountains, all sort of tectonic influenced, plutonic and metamorphic rocks are available. Therefore any information you can supply me regarding your environment and aimed to that type of aspect (roads and concretes) will be most appreciated. All information can be digitally presented.

Going through your web I noticed you had a lot of interest in geophysical aspects, and a lot of work on your famous volcano. We live you round the corner of the El Ruiz, which made us so unhappily popular in the year 1885.

I hold a Master's degree on civil engineering, soil mechanics, Imperial College, London.

Thanks in advance for any help you can supply me with.

Alberto Naranjo,

Engineer

mcanaranj@epm.net.co

Historical Facts

I am doing some research on the status of the offshore oil and gas industry c. 1960. Your site refers under 1958 to "well started on platform 1.2 miles offshore...". I presume that this was the first producing well offshore Trinidad and Tobago. If you can provide information on all or any of the following, it would be appreciated:

1. Which company operated the platform?
2. In what water depth did the platform stand?
3. Who designed the platform?
4. Where was the platform constructed and by whom?
5. How and by whom was the platform installed?

6. Were the '36 well' all drilled from the platform and which contractor drilled them?
7. What was peak production achieved from the field/platform, assuming the terms to be the same in this case?
8. Were any more platforms were installed offshore Trinidad and Tobago before 1970?
9. If so, how many and what was the maximum water depth?
10. When was the first platform construction yard established in Trinidad and Tobago and by which company?

Many thanks.

Norman Smith

njs@summerlane2.freemove.co.uk

Exploration of Kick 'em Jenny volcano

During the 12th-21st March 2003 a joint team of scientists from the Seismic Research Unit, the University of Rhode Island's Graduate School of Oceanography and the National Oceanic and Atmospheric Administration (NOAA) conducted an oceanographic survey and sampling of the Kick 'em Jenny submarine volcano. To view images and a log of activities from the cruise go to [2003 Cruise](#) under the Kick 'em Jenny webpages.

Stacey Edwards

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Education & Outreach Officer,
[Seismic Research Unit](#)

For industry updates on drilling activity in the oil/gas sector, check the following link:
http://gstt.org/oil_gas/drilling_highlights.htm on the gstt website.

Editorial Note

I hope you enjoyed reading the 1st Quarterly Issue for 2003. The Newsletter tried to capture all the events carried out by the GSTT over the past few months as well as capture events of interest to the Geological Community as a whole. Thanks go out to Justin Smith (BP) for the article on the Petroleum Conference and to Curtis Archie for the Feature Article. If you are involved in something within the organization and you do not see it reported here, please send your comments to my email address listed below. Furthermore, if you would like to see a report on a topic of interest, let the committee know as well and we will try to facilitate this. Comments and other contributions can be sent to [Hasley Vincent](#). To contribute to any of the GSTT's activities, please contact Ms. Gayatri Maharaj at 868-679-6064 or gstt@tstt.net.tt.

Hasley Vincent

[Richard Robertson](#)