



The Hammer

Newsletter of the Geological Society of Trinidad and Tobago

October 2003

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

www.gstt.org



GSTT President Derek Smith displays his contribution for the evening



Dane Mayers with his contribution "Gneissic Grouper"

GEOSCIENTISTS WHO CAN COOK AND ENTERTAIN 2

On Sunday 17th July, the Geological Society held its annual fundraiser "Geoscientist Who Can Cook And Entertain 2" at the Anchorage, Chagaramas. This event featured food and entertainment provided by members of the GSTT, their families and friends. Entertainment and food was aplenty. Most patrons filtered in around 6:30 pm, one hour after the time carded to begin. Of course there were the early birds, who could not wait to sample the variety of dishes, all prepared by the Society's members. The entertainment began with the names of dishes which included "Gneissic Grouper",

"Montserrat Pork", "Primordial Soup", "RoxTail", "Trini Without De Bone" and "Vegetable Conglomerate".

There were approximately 20 dishes in all and of course, "Daughter In Law" pepper sauce to top the flavour. Once the dinner began, entertainment continued with a Karaoke contest.

There was also a door prize won by Mukesh Samlal of Primera. DJ Laitan and the Kalyan Band supplied music.



The Honourable Minister and long-standing GSTT member, Eric Williams serving "Energized Roast Pork" at the cookout.

The event drew lots of good reviews and should become a fixed item on the GSTT calendar of events

GSTT NEWSLETTER READERSHIP SURVEY

Please help us to improve future editions of 'The Hammer' by participating in our **Readership survey** posted on the GSTT website. Just click the following link to visit the survey:

www.gstt.org/feedback/Survey2003.html

ON THE CALENDAR

Geological Society of Trinidad and Tobago

Annual Dinner and Dance 2003

Saturday 15th November at 7 pm
Ballroom, Trinidad Hilton

Feature address by Dr. Kenneth Julian

Tickets available at GSTT Secretariat
gstt@tstt.net.tt or call 868-679-6064

Geological Society of Trinidad and Tobago

Annual General Meeting

Wednesday November 5th 2003, 6 – 9 pm
Trinidad & Tobago Institute of
Technology Auditorium
Brechin Castle, Couva

PAST TECHNICAL SESSIONS

As usual, the GSTT hosted several Technical Sessions since our last issue of the Hammer. If you missed those listed below, be sure to look out for future postings sent via email. If you do not receive postings of Technical Sessions, please contact the Secretariat so that alternative arrangements can be made. To host a Technical Session, contact Stanley Wharton at whartosr@bp.com or call 868-623-2862, ext. 5516.

- **“Shoreline Change Along West Guapo Bay, Point Fortin, Trinidad”**, presented by Mrs. Charmaine O'Brien-Delpesh, Officer-in-Charge (Environmental Research), Institute of Marine Affairs, on August 6th at Normandie Hotel. This presentation emphasized the need for an integrated approach to managing development along the shoreline and coastal erosion problems by sighting results from years of research and monitoring at Guapo Bay.
- **“Phanerozoic Tectonic Evolution of West Gondwana: Framework for Basin Evolution and Linkage”**, presented by Dr. Anthony Tankard, AAPG distinguished lecturer, on August 20th at Lakeview Restaurant. The presentation proposed a reconstruction of the Phanerozoic tectonic history of Africa and South America as a guide to the evolution of sedimentary basins.
- **“Projected Seismicity Near Tobago Based on Past Seismicity Near and off to the East of Tobago”**, presented by Ms. Joan Latchman, Seismologist at the Seismic Research Unit, UWI, on September 30th at the Normandie. The presentation proposed a manifestation of the boundary between the North American and South American Plates based on a correlation of seismic events both around Tobago and as far east

as the Vema Fracture Zone near the mid-Atlantic Ridge.

- **“Integrated Petroleum Systems Modelling, Columbus Basin, Trinidad”** presented by Dr. Kirton Rodrigues, Petroleum Systems Analyst, bpTT, on October 8th, 2003 at the Normandie Hotel. The session highlighted how the understanding of hydrocarbon geochemistry and pressure distribution integrated with seismic techniques can be a very useful indicator of basin prospectivity.

- **“Assessment of undiscovered oil and gas resources in Central America, South America and the Caribbean”** presented by Christopher Schenk, Regional Coordinatore, USGS, on 17th October at the Lakeview Restaurant. Mr. Schenk presented the results of an assessment of undiscovered conventional oil and gas resources in 23 basins within the study area, including findings on Petroleum Systems and undiscovered volumes. **“Geochemistry of Barbados Oils and Gases”** was presented by Ron Hill, USGS on the same data and venue. This highlighted a potential Upper Cretaceous Shale Source rock for the oils in Barbados as evidenced from geochemical signatures derived from samples and seeps.

Readership Survey

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PAST TECHNICAL COURSES

During the week of August 18th to the 22nd, the Geological Society hosted a 5-day short course entitled “Tectonics of Basin Evolution and Linkage”, taught by Dr. Anthony Tankard.

PAST FIELD TRIPS

- **“Transition from tidal-dominated to fluvial-dominated deltaics along Puerto Grande bay, Erin. A transect along the Morne L’Enfer to basal Erin formations”**, led by Hasley Vincent on July 12th, 2003. This trip examined facies associations and sequence stratigraphy of the Morne L’Enfer to basal Erin formations outcropping along the bay.

- August 30th 2003. Visit to the **Piparo mud volcano**, led by Dr. Krishna Persad. This field trip also stopped at an outcrop of Pointe a Pierre/ Nariva at Sandstone Trace, Gasparillo. The trip ended at the Wildfowl Trust. \

- **“Delta Amacuro, Venezuela”** led by Mario Carrera from 3rd to 5th October 2003. Please see the ‘Feature Article’ for details on this field trip.



“Chicken to the Moho”. Chef Anthony Paul’s contribution to the ‘Geoscientists who can cook’ event at the Anchorage. See front page story.

FEATURE ARTICLE

A trip through Delta Amacuro, Venezuela

Two return trips were made from Cedros to Tucupita via Capure/Perdenales on the weekends of 14th and 21st of September. Twelve persons of mixed professional backgrounds attended and all experienced a sense of adventure. The aim of the trips was to experience a large delta system and to explore its features. The trip also contained a component of adventure and cultural exploration for completion. This article summarises the first trip in which eight persons participated.

The late arrival of immigration officials at the Port of Cedros delayed the first day of the trip. We left at about 11:00 am on a 32 ft pirogue and travelled along the coast getting some great views of the exposed formations. We continued heading west and observed the effects of erosion along the coast and the connections that lead to Soldado Rock. There is a string of little islands and rocks that are just below the water surface (called Lake Eye), which run almost to the Rock. This is an area that has proven dangerous to those who are unfamiliar with the area. However, the sea was very calm and no one felt seasick and the general comment was "*how smooth the ride was*".

Approaching the mouth of the main channel of the Orinoco River a ridge of shallow rocks was observed in line with those off the coast of Trinidad. The oil and gas influence was also seen with large flares and processing stations in operation. These plants had power-generating capability servicing the villages in the area.

After checking in with the Guardia Nacional we went to Capure where our cultural exploration began. The number of Trinidadians or persons with mixed nationality living in Capure is quite high. We left Capure and headed up river to

Tucupita at about 4:00 pm. It was very interesting to see the massive mangroves with trees reaching 20 meters tall and with growth so dense that the forest appeared dark. There was an abundance of birds whose variety increased upstream in association with a greater variety of vegetation. Mud flats and sand banks prevented close observation of the mangroves although some areas in the channel were up to 60 feet deep. Generally the channel was more than 0.5 km with areas up to 2 km.

A stop was made along the river at an Indian village that was slightly modernized by interaction with visitors and government attempts to develop the area. The Indians were Spanish-speakers and lived in thatch-roofed buildings with wooden floors and hammocks. After two more hours on the pirogue we stopped off at a '*rest top*' which if you had a hammock you could spend the night. There we saw electric eels and had coffee before heading off up river at night!



Waroo Indian Village on the bank of the Orinoco River.

Up river at night was a beautiful experience....moonlight rising on a glassy water way. Most romantics would reminisce or wish they were alone with that special someone. However those of us who were not sleeping were helping the boat captain weave his way through the dense clumps of lilies that floated downstream with the change of tide up stream. We were 80 km upstream and the influence of tides was still seen. Natural light

seemed to work best with lilies and logs showing up clearly as black lumps on the silver water.

About 20 km out of Tucupita the influence of modernity started with lights on houses appearing. We reached the Hotel Riviera just after midnight. Some persons went to sleep while others sought to sample the local brew at the Karaoke bar in the hotel.



Outside Tucupita on the Orinoco River.



The sun setting on the Orinoco River.

On Saturday we explored further up stream noticing more wild life (most red howler monkeys and birds) and the influence of human activity. Dams were seen along with gates to reduce the impact of water near houses. The effects of the erosive and depositional action of the river and of tidal and water level changes were also seen. We also sampled the variety of local cuisine starting with the market for

breakfast followed by an out door café near a dam for lunch and a bar-be-que stand on the Walk for dinner. Portion sizes were large and food reasonably priced if not cheap. The food generally tasted good although tended to be oily at times.

Sunday morning after breakfast we headed down stream after some delays. We were generally able to observe more of the upstream parts of the river than previously and at one of the stops down stream fresh water dolphins entertained us. The change from fluvial influence to tidal influence was estimated to be 2/3 upstream from Capure to Tucupita or about 70 km up the river from the shoreline. This estimate was based on tasting of the water, changes of vegetation and riverbank features. Another trip with more people would help establish this boundary better.

We returned to Capure at about 4:00 pm Sunday evening just about 15 minutes before a thunderstorm that kept us an extra night in Capure. After some haggling we got the Hotel Capure to open and extra room was found for seven people. The boat captain was quite generous and we used his house as if it was ours with one person spending the night there. After again touring the village with its nine streets, four vehicles and few hundred inhabitants most persons got to bed after 10:00 pm

We arrived back in Trinidad around 8:30 am Monday where we again waited for immigration. Transport was arranged using two taxis from Cedros.

This article was contributed by Mariano Carrera who organized and led the field trips to the Orinoco River.

ANNOUNCEMENTS

Bob Speed passes away.

Professor Bob Speed, known for his enormous contribution to the understanding of Regional

Caribbean geology and in particular Barbados, passed away in his home in Newport Beach, California on September 18th, after a prolonged illness. The GSTT wishes to extend condolences to his family, friends and colleagues. A memorial for Professor Speed will be included in the next issue of The Hammer.

Donation to UWI Main Library

Prof. Sally Radford formally donated a collection of books on deepwater geology, palaeontology, micropaleontology and other geological topics to UWI Main Library, where they are available for research. Prof. Radford also had a geological rock collection displayed at NIHERST Science. This collection will also be housed at the Department of Life Sciences at the UWI.

EDITORIAL NOTE

We are approaching another end on the GSTT Calendar year and soon, we will be electing officers to serve on the Executive for the 2003-2004 Season. Volunteers will also be called upon to serve upon various committees and

groups such as Career Guidance and Publications/ Newsletter. You are encouraged to give freely of your time and effort towards one of these ventures as we strive to make the GSTT a bigger and better organization. Contributions and ideas are welcomed from individuals at all levels of experience. Attend the Annual General Meeting on November 5th and use the opportunity to voice your thoughts on the direction the Organisation should take.

Please partake in the Newsletter Readership survey posted on the GSTT's website. The link is posted on page 2. For comments on The Hammer, you can contact anyone of the names listed below.

[Hasley Vincent](#)
[Richard Robertson](#)
[Justin Smith](#)

Membership fees are now due!

If you have not yet already done so please make arrangements for annual membership fees to be paid to the Secretariat as soon as possible. All members whose companies do not pay on their behalf are required to become financial before the Annual General Meeting.

Membership fees are as follows:

Active	TT\$ 150	or	US\$ 30 (qualified Geoscientists)
Associate	TT\$ 100	or	US\$ 20 (other area of qualification)
Student	TT\$ 50	or	US\$ 10