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GREETING

In this edition of the CBTH Newsletter, we provide an update on our completed activities since February, and an overview of our activities in the final months of Year Two and the early months of Year Three of the study. We hope you have become ever more acquainted with the GIS database and website and that it's assisting you in your exploration efforts in the Phase I study area. We are very happy to have learned that many of you are using the GIS and accessing and downloading data from the website. Keep those questions coming in!

If you are not a member and are interested in participating in the CBTH consortium, we encourage you to take a minute to review our website (www.ig.utexas.edu/research/projects/cbth) where you can also download our project proposal, demos and previous newsletters. Please feel free to contact us at cbth@ig.utexas.edu

Year Three payments are due by wire transfer or mail on August 15, 2007. We appreciate the extra efforts of the representatives of all companies who sent or wired payments for Years One and Two before the deadline. We initiated the billing process May 7, 2007, to allow you time to arrange payment for the third year of the study by August 15, 2007.

Late fees in the amount of \$20,000 are charged when a payment is received after September 1. When your payment is received you will receive your new password to access the data downloads on the website for Fall 2007. Payment instructions were provided on the invoices that you received. It's important to follow these instructions carefully as there are many industry-sponsored projects here at UT and payments can be confused if they are not properly identified and routed.

ADDITIONS TO THE CBTH RESEARCH TEAM

Thanks to the funding support of our sponsors, the CBTH research team is growing.

We've added three new undergraduate students, **Hoi Lik Chan**, **Jeff Storms**, and **Darren Tjepkema**. Hoi Lik worked for us during the spring semester digitizing interpreted seismic line horizons to be incorporated in the surface maps for the atlas. Since he is a chemistry major, he has moved on to focus on his major studies and research. Jeff is scanning and referencing sources for us and keeping our article database clean and organized. Darren, who will begin working in June, will help us on two different mini-projects importing all of the UTIG cruises related to the CBTH Phase I study area to GIS and creating a website tracking all of the world's energy reserves.

In September, we also welcome a new post-doctoral researcher, **Xiangyang Xie**. Dr. Xie, following his graduation from the University of Wyoming in June, will join the CBTH project and begin working on a regional provenance study of potential reservoir sandstones in the CBTH Phase II study area. The idea is to look at samples from the entire Colombia-Venezuela-Trinidad margin to better understand both the changing source areas and reservoir potential. Dr. Xie will be working closely with Dr. Kitty Milliken of the UT Dept. of Geological Sciences and Dr. Kathie Marsaglia of the Cal State Northridge on the provenance study. Dr. Xie will provide further details of the study at the CBTH year-end meeting in September.

To learn more about Xiangyang, Jeff, Darren or any other researcher on the project, visit: http://www.ig.utexas.edu/research/projects/cbth/proj_res.htm

Since we are part of a major university, some of the largest research 'products' that you support with CBTH annual payments are trained geoscientists at levels ranging from undergraduate through post-doctoral. Please let us know if you would like to support any of our personnel as summer interns or permanent employees at your company.

MEET OUR COMPANY CONTACTS

The following people have volunteered to serve as our main contacts for CBTH. All data generated by CBTH is provided to the sponsoring companies through these individuals. Please let us know if your company representative changes over the three-year course of this study. In order to avoid any confusion, in the case that the contact was to change during the course of the study, we send an invoice with all data shipments. The contact signs and returns the invoice to us by fax or mail. That way, we have documentation of the person and time that the data was received at the company. The contact person disseminates our products to others in their respective companies as well as representing the company at CBTH annual meetings. We're looking for data from critical areas in the Phase II study areas and will also channel our requests through the company contacts. We greatly appreciate the extra efforts these contacts contribute to the project!

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CBTH SOFTWARE SUPPORT

Landmark Graphics (software support)

Connie Johnson
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Landmark

IVS3D (software support)

Bill McKernan
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IVS3D

We also use an exciting visualization package called Fledermaus from IVS3D. We use the software to create interactive “flyovers” that combine topography, bathymetry, surface geology and seismic reflection profiles.

Zetaware Genesis

Zhiyong He
zhe@zetaware.com

 ZetaWare, Inc.
Interactive Petroleum System Tools

Zetaware has generously provided CBTH with two copies of Genesis which is their basin modeling package. We have been experimenting with its many uses and display options. We have shown its capabilities for well subsidence histories and display at the posters presented at the Long Beach AAPG meeting in April and we will do it again at the GSTT meeting in Trinidad this coming June. If you'd like to find out more about how to obtain this software, please contact Zhiyong He at the above email address.

PAST MEETINGS AND EVENTS

American Association of Petroleum Geologists Annual Meeting

April 1-4, 2007
Long Beach, California

We submitted a total of seven abstracts to this meeting. All were presented on Monday, April 2. We have posted our presentations online. To read the abstracts or download pdfs of the posters or presentations please visit: <http://www.ig.utexas.edu/research/projects/cbth/SponsorsOnly/POSTERS/AAPG/2007AAPGAbstracts.htm>

- Bingham et al.—Building an Integrated, Digital Database Using HTML and GIS Tools: A Case Study for the Northern South American Petroleum Province
- Contreras et al.—Structure, stratigraphy, and gas potential of the northwestern extension of the Maracaibo foreland basin, western Venezuela
- El-Mowafy et al.—Hydrocarbon potential of the Aruba and western Curaçao basins, offshore Venezuela
- Escalona et al.—Kinematic Model Linking Basin Subsidence and Fault Evolution Along the Obliquely Convergent South America-Caribbean Plate Boundary Zone
- Vence et al.—Along-strike Continuity of Caribbean Tectonic Terranes and their Controls on Source and Reservoir Rocks Offshore Colombia and Venezuela
- Mann et al.—Emerging Trends from 69 Giant Oil and Gas Fields Discovered from 2000-2006
- Nordfjord et al.—Linking tectonic and sedimentary events in the northern Caribbean and southern Gulf of Mexico

PROGRESS AND UPCOMING EVENTS

Paul Mann—principal investigator—is working on interpreting data from the Aruba area, the Bonaire basin, and the Trinidad region. The Trinidad region is the focus of our atlas to be delivered for the Year Two meeting in September. Part of this study will integrate the onland structural data from Aruba, Bonaire and Curacao that he collected with J. Hippolyte in November 2006. He is also interpreting data from the Grenada basin and Trinidad region in an attempt to refine our model for the opening of the Paleogene Grenada basin, now containing up to 10 km of Cenozoic clastic sediments. Along with Alejandro Escalona and Hamed El-Mowafy, Paul supervises three graduate student projects: Eleine Vence's study of the Colombian margin, David Contreras' study of the northwestern Maracaibo basin, and Margaret Kroehler's southern Venezuelan basin study. He also supervised two students who graduated in May: David Soto (MS on the eastern

offshore area of Trinidad) and Hugo Castellanos (PhD on the Bohai basin of eastern China). Both theses are posted on our website if you would like to download them.

Alejandro Escalona—co-principal investigator—is now an associate professor at the Department of Petroleum Engineering at the University of Stavanger in Norway where he is planning to create a petroleum geology program with the support of Statoil and other oil companies in Norway. In this new post, he will continue to work as a co-principal investigator for CBTH and is currently working on a model for the structural evolution of the entire northern South America-Caribbean margin, refining paleogeographic maps based on recent work, and making a regional integration of wells and their subsidence history. Much of this information was displayed on his poster at the AAPG Long Beach meeting.

Post-doctoral researcher **Hamed El-Mowafy** is completing a regional study of faulting and sequences in the Aruba-Bonaire basin. This work includes a detailed map of the rift-related faults affecting the Paleogene level of the basin along with localized inversion structures affecting Miocene and younger intervals. He is also developing a new sequence stratigraphic model for the Aruba-Bonaire basin and is updating the atlas maps delivered in Year One with these new interpretations. He presented this work at the AAPG meeting in Long Beach.

Project manager and GIS specialist **Lisa Bingham** is integrating new seismic, well, and stratigraphic data into the database, along with several updates to the topography, gravity and other data. She is also making the transition of the data base from Arc version 9.0 to 9.2. Several CBTH sponsors have indicated that they plan to make this changeover next year. Lisa is also working with ArcIMS to add an interactive ArcGIS map to our website to improve its ease of use. She presented a poster about GIS-HTML database management at the AAPG Long Beach meeting and will also present it at the Trinidad meeting this coming June.

David Soto, who studied offshore eastern Trinidad, graduated in May and has already

started as a geoscientist with the Barnett shale group at Marathon in Houston. David's thesis is titled *Structural and basinal architecture and active strike-slip faulting of the eastern offshore area of Trinidad*. His thesis is available for download at the CBTH webpage.

DATA DISTRIBUTION

AAPG Presentations. All of the CBTH 2007 AAPG presentations are available for download at: <http://www.ig.utexas.edu/research/projects/cbth/SponsorsOnly/POSTERS/AAPG/aapg.htm>

NEW PUBLICATIONS

Castellanos, H. A., 2007, *High Resolution Sequence Stratigraphy of Miocene Guantao and Pliocene Minghuazhen Formations, Zhao Dong Field, Bohai Bay, Peoples Republic of China*: PhD thesis, University of Texas, Austin.

Gorney, D., A. Escalona, P. Mann, M.B. Magnani, and BOLIVAR Group, 2007, Chronology of Cenozoic tectonic events in western Venezuela and the Leeward Antilles based on integration of offshore seismic reflection data and on-land geology: *AAPG Bulletin*, v. 91, p. 653-684.

We appreciate Marathon's contribution for extra charges for color figures in the *AAPG Bulletin* article.

Soto, M.D., 2007, *Structural and basinal architecture and active strike-slip faulting of the eastern offshore area of Trinidad*: Masters Thesis, University of Texas, Austin. http://www.ig.utexas.edu/research/projects/cbth/SponsorsOnly/thes_diss.htm

Website improvements. We have added a new section to the website called "Hydrocarbon Current Events in the CBTH Study Area" where you can stay up-to-date with current hydrocarbon-related news in CBTH Phase I and Phase II study areas.

UPCOMING MEETINGS

Keep an eye on our website for updates and more information for these upcoming events:

www.ig.utexas.edu/research/projects/cbth/links.htm

GSTT Meeting

June 17-20, 2007
Port-of-Spain, Trinidad

We will be attending this meeting to present talks on CBTH-related work in the Trinidad-Barbados data release area for 2006-07. The times of our presentations are scheduled as:

Bingham et al.—poster session—Tuesday, June 19, 2:45pm. *Building an Integrated, Digital Database Using HTML and GIS Tools: A Case Study for the Northern South American Petroleum Province.*

Escalona and Mann—oral presentation—Wednesday, June 20, 2:45pm. *Overview of the subsurface geology of on- and offshore northern South America: implications for hydrocarbon exploration.*

Mann et al.—oral presentation—Wednesday, June 20, 4:30pm—*3D anatomy of the Columbus foreland basin, eastern offshore Trinidad.*

The Trinidad meeting will also be an opportunity for us to meet with some of you in person. Please let us know if you're planning to attend and we can schedule a lunch or evening meeting with you.

PDFs of CBTH posters and talks will be available to sponsors after the meeting.

Northern South America shortcourse at GSTT meeting

June 21-22
Port-of-Spain, Trinidad

This course will be taught on Thursday, June 21 and Friday, June 22 following the meeting by Paul Mann and Alejandro Escalona at the Geological Society of Trinidad and Tobago meeting. If you are interested in attending this shortcourse, please register for it at: <http://www.gstt.org/events/4th%20GSTT%20conference/4th%20conf%20page.htm>.

We are also available to present this shortcourse at your company if you cannot attend

the meeting. If you have new hires or transfers with the group, these courses provide a quick way to get them "up to speed." You may view at the course outline at:

http://www.ig.utexas.edu/research/projects/cbth/documents/Venezuela_course_outline.pdf

Caribbean Shortcourse

September 13, 2007
Austin, Texas

In preparation for CBTH Phase II, we plan to offer a one-day shortcourse at the annual meeting that will be at no additional cost to the sponsors (although the number of participants will be limited). In this course, we will review stratigraphic and structural information on the southern Caribbean (particularly the newer results from this study). Most of the course will focus on the Phase II area (northern Caribbean, Central America, and southern Gulf of Mexico). The idea is to get all of our participants up to speed on the basin locations and stratigraphy for the northern area and provide information on its petroleum systems.

Preliminary agenda:

Pre-meeting Arrival Wednesday, September 12 for short courses Thursday, September 13. • UT Institute for Geophysics, J.J. Pickle Research Campus, 10100 Burnet Rd., Bldg. 196, Austin, Texas. Schedule:

- 7:30-8:00 Arrival and breakfast (coffee, juice and assorted pastries)
- 8:00-12:00 **Alejandro Escalona:** Northern South America shortcourse (condensed version)
- 12:00-1:00 Catered boxed lunches
- 1:00-5:00 **Paul Mann:** Northern Caribbean shortcourse
- 5:00-7:00 Break
- 7:00 Group dinner (location to be determined)

CBTH Year Two Year-End Meeting

September 14, 2007
Austin, Texas

Please let us know which representatives from your company plan to attend this meeting.

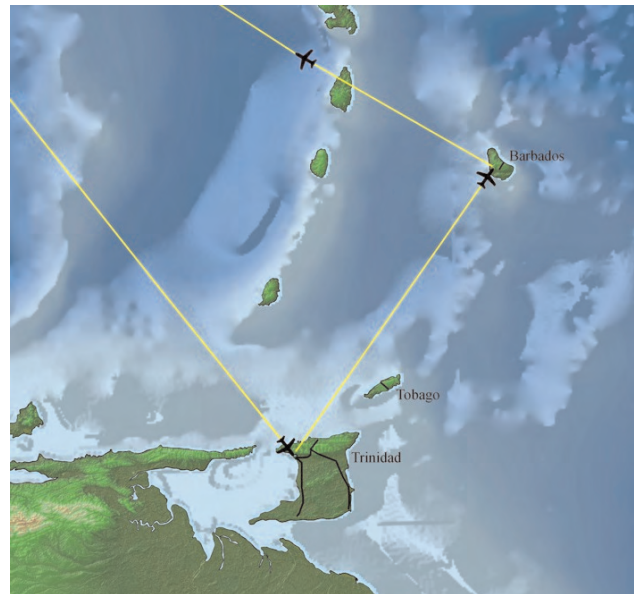
We hope you'll be able to attend our second year-end meeting. This year, we will be hosting it in our new building on the University of Texas' J. J. Pickle Research Campus. Because we believe the year-end meeting is highly beneficial to you and to us, we encourage you and any new employees to attend.

Preliminary agenda:

Pre-Meeting: 7:00 pm Thursday, September 13. • Location to be determined • Arrival, dinner with consortium members

Year Two Year-End Meeting: Friday, September 14. • UT Institute for Geophysics, J.J. Pickle Research Campus, 10100 Burnet Rd., Bldg. 196, Austin, Texas. Schedule:

- 7:30–8:00 Arrival and breakfast (coffee, juice and assorted pastries)
- 8:00–10:30 Results from Year Two
Talks by Paul Mann, Hamed El-Mowafy, Alejandro Escalona, Lisa Bingham
- 10:30–10:45 Break
- 10:45–12:00 Student presentations
Talks by Eleine Vence, David Contreras, Margaret Kroehler, Will King and Jeff Storms
- 12:00–1:00 Catered boxed lunches
- 1:00–2:30 Year Three
Talks by Paul Mann, Hamed El-Mowafy, Xian Xie
- 2:30–2:45 Break



2:45–3:30 Phase II

Talks by: Alejandro Escalona, Paul Mann

3:30–4:00 Closing

CBTH Trinidad-Tobago-Barbados south-eastern Caribbean transect

October 22–25, 2007
Trinidad, Tobago and Barbados

Please let us know if you plan to attend.

This four-day trip in late October will conclude our efforts on this data release area. The theme of the trip will be to make an onland geologic transect from the Trinidad fold-thrust belt, to the Barbados accretionary prism as exposed on Barbados. As on the 2006 Venezuela trip, the theme of the trip will be to relate the outcrop geology to the offshore seismic and well data. Please mark your calendars for this unique, integrated view of southeastern Caribbean geology!

We need to know by August 1st who will be attending this field trip in order to complete the details and reservations for this trip.

Route: US-POS-start trip in Trinidad. Fly to Barbados, Return to POS.

Caribbean Geological Pre-Conference, Conference and Post-Conference

March 23-29, 2008
Santo Domingo, Dominican Republic

Tectonics and petroleum geology of the Dominican Republic: Paul Mann will co-lead a field trip to the Enriquillo and Azua basins of the southern Dominican Republic as part of the 18th Caribbean Geological Conference in Santo Domingo, Dominican Republic. The two day trip will be a pre-meeting trip (March 23, 24, 2008). We will visit outcrops and review seismic and well data from the small producing areas of the Azua basin and from the larger and deeper Enriquillo basin. Deformation along the basin edges exposes most of the main basinal units including a halite and gypsum deposits. We would encourage those sponsors interested in Phase II of CBTH to attend this trip. Costs and registration information are provided at the following website http://www.ig.utexas.edu/research/projects/caribbean/news/caribbean_conference.htm

OTHER EVENTS OF INTEREST

Honduras Geological Seminar

March 15, 2007
Houston, Texas

Paul Mann was an invited speaker for this seminar on the petroleum potential of Honduras (northern Central America) that was held in Houston on March 15, 2007.

The three hour program of oral presentations entitled "There is Oil in Honduras" covered all aspects of the area, including the geologic and geophysical framework, exploration history, source rock and reservoir studies and petroleum systems. The main organizer of the meeting was the Energy Ministry of Honduras and JGI, Inc., of Japan.

There are several events in the northern Caribbean that are raising interest level for exploration in the northern Caribbean including a reported oil and condensate discovery on the Pacific coast of Nicaragua (OGJ, Feb

16), an upcoming lease round for onland and offshore blocks in Jamaica (OGJ, Feb 15), and ongoing exploration in the offshore area of Cuba and the southern Gulf of Mexico <http://www.ig.utexas.edu/research/projects/cbth/curentevents.htm>.

Paul Mann continues to work with the Honduran Energy Ministry and JGI of use of Honduran data as part of Phase II of the CBTH study.

SPONSOR VISITS

We hosted two sponsor visits, one in March and another in May. In both cases, we helped familiarize the sponsors with the database and answer specific questions about the geology.

CONTACT INFORMATION

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GIS, Database, billing questions, and general information

Lisa Bingham

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Our new location: Detailed maps of our new location in Austin are available at http://www.ig.utexas.edu/about/history/roc/prc_builing/ROC_move.htm

