

Nova Scotia Offshore Geoscience

The Nova Scotia Offshore Energy Geoscience Community Quarterly Newsletter

What's New

The OETR Association (Offshore Energy Technical Research) is pleased to present the 3rd edition of *Nova Scotia Offshore Geoscience*, the Nova Scotia offshore energy geoscience community quarterly newsletter.

The objective of the newsletter is to keep you informed of the latest news with regards to the geoscience community, as we collectively look to help renew exploration interest in Nova Scotia's offshore.

In this issue, you will learn more about the 2-D and 3-D digital seismic

datasets that are now available for offshore Nova Scotia, CNSOPB's Call for Bids, and last month's Nova Scotia Energy Research & Development Forum.

OETR invites you to join our contact list, and pass the newsletter on to anyone who you think would be interested.

To be put on the list for further OETR communications go to www.offshoreenergyresearch.ca and click on *Register*.

In this issue:

- Feature: Digital Seismic Datasets Offshore Nova Scotia
- CNSOPB's Call for Bids
- Nova Scotia Energy R&D Forum
- Event Listings & More!

Feature Story: Digital Seismic Datasets Available Offshore Nova Scotia

Introduction

To support the OETR Association's initiative to better understand the petroleum geoscience of offshore Nova Scotia, two seismic datasets have been transcribed, reprocessed and archived by Kelman Technologies Inc. and are available for free at the CNSOPB's Data Management Centre (DMC) website (www1.cnsopbdlmc.ca). The datasets include 2-D and recon* 3-D surveys acquired in 1985 and 1991, respectively.

The two seismic datasets were acquired along the northern portion of the Jurassic Age carbonate bank to evaluate regional oil plays and the Penobscot structure on trend with and similar to the Cohasset, Balmoral and Panuke Oil Fields comprising the Cohasset Project (Figures 1 & 2). The Cohasset Project operated from 1992 to 1999 and produced a total of 7.1 million cubic metres (44.5 million barrels) of high quality oil.

These digital datasets are the first ones available offshore Nova Scotia that can be loaded and fully interpreted on a geophysical workstation. The field data is also available so that as processing techniques improve, the data can be continuously enhanced and also allows for specialized processing to be done.

**type of survey reduces acquisition costs by spacing shot lines at a wider spacing than true 3-D surveys*

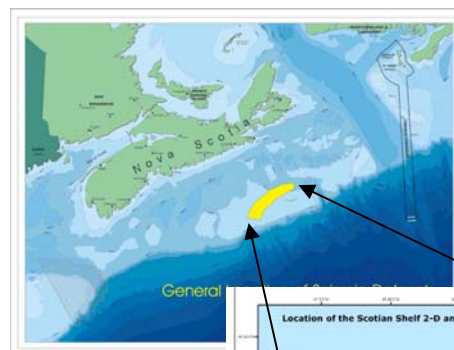


Figure 1

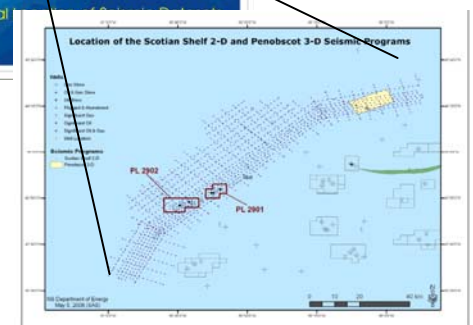


Figure 2

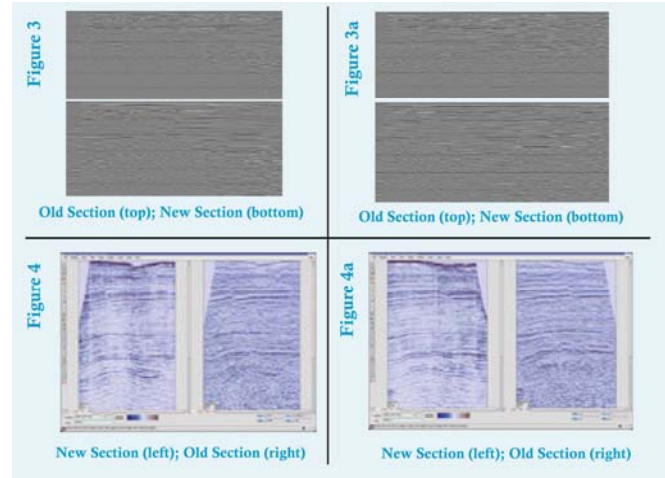
More on the seismic datasets inside 

www.offshoreenergyresearch.ca

Digital Seismic Datasets Available Offshore Nova Scotia (*cont'd*)

Data Enhancement

Reprocessing has improved the data dramatically by increasing the signal to noise (S/N) ratio thereby improving the interpretability of the datasets by better defining around faults and increased continuity along seismic reflectors (Figures 3, 3A, 4 and 4A). This work will also produce superior gathers resulting in much better amplitude-versus-offset (AVO) and seismic attribute analysis.



Conclusions

Free reprocessed SEGY datasets will be available on the Scotian Shelf 2-D and the Penobscot recon 3-D seismic programs from the DMC by mid-July, 2008. Reprocessing has improved the data dramatically thus improving the interpretability of the datasets. Superior gathers can be utilized to do specialized seismic analysis. This data is important to industry to evaluate new exploration opportunities over the northern portion of the Jurassic Age carbonate bank, as well as to the educational & research institutions who can use it as a teaching tool and for research (see figure 5).

As mentioned, to access the 3-D seismic dataset, go to the DMC at www1.cnsopbdmc.ca. Please note that you must be a registered member of the DMC in order to access the data. Instructions on how to become a registered member can be found at the link above.

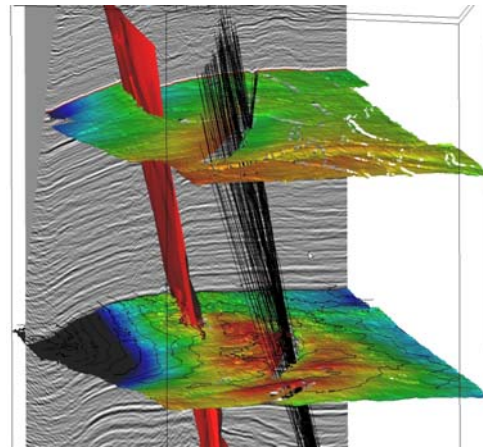


Figure 5 - Image and interpretation by Dr. Andrew MacRae and Stephen Rankin, Department of Geology, Saint Mary's University. Data courtesy of the Canada-Nova Scotia Offshore Petroleum Board and the Nova Scotia Department of Energy.

CNSOPB Issues Call for Bids

The Canada - Nova Scotia Offshore Petroleum Board has issued Call for Bids NS08-1. The Call consists of two industry nominated parcels, one in shallow water and one in deeper water. Bids must be received by Thursday, October 30, 2008, 4:00pm Atlantic Time.

The successful bidder(s) will be awarded an Exploration Licence containing updated terms and conditions, for example: a lower minimum expenditure bid, from \$1,000,000 to \$500,000; and, Deep water parcels are allotted an extra year

in Period 1 to account for the challenges of exploring in deeper waters.

The public is invited to submit written comments to the Board on the lands included in this Call for Bids. Written submissions must be received by Thursday October 16, 2008, 4:00pm Atlantic Time. Such submissions will be considered by the Board before an Exploration Licence is issued.

Visit: www.cnsopb.ns.ca for more information.

Nova Scotia Energy Research & Development Forum 2008

In May, more than 150 delegates representing government, academia and industry gathered in Antigonish for *Nova Scotia Energy Research & Development Forum 2008*. Discussion topics included Ocean Energy, Strategic Environmental Assessment & Tidal—Bay of Fundy, Risk Management, Geological Storage of Carbon Dioxide in Nova Scotia, Alternative & Renewable Energy, and Offshore Petroleum Development.

A GXT Data Room was hosted by Menno Dinkelman, Chief Geologist with ION-GX Technology Imaging Solutions, displaying the entire NovaSPAN dataset. The workshop sparked discussions where participants contributed ideas by working with the data.

The Offshore Petroleum Development session consisted of a number of interesting presentations including a Gap Analysis of Geoscience, Electromagnetic Subsurface Imaging Modelling, ESRF Research Projects—Funding Access and Management, as well as an update on the three OETR-funded research projects currently underway by Dr. Grant Wach, Professor of Petroleum Geology, and Dr. Keith Loudon, Professor of Oceanography, both with Dalhousie University, and Dr. Georgia Pe-Piper with Saint Mary's University.

As mentioned, an interactive discussion forum was held on offshore petroleum exploration and development. The session included a panel of experts made up of NRCan (GSC), CNSOPB, Nova Scotia Energy, and an independent consultant. The panel provided their own perspective on the immediate R&D steps that are required in order to better understand the petroleum geoscience of offshore Nova Scotia and thus attract more exploration investment.

Sandy MacMullin, Director of Petroleum Resources with Nova Scotia Energy, gave a presentation on Upstream R&D Priorities for offshore Nova Scotia.

The presentation included a discussion on today's offshore exploration context, the Nova Scotia Offshore Renewal Plan, as well as the petroleum geoscience R&D component of this plan.

Today, a major concern is the lack of recent exploration success. Also, the collection of royalties and forfeitures is not sustainable. Expert advice was commissioned by Nova Scotia Energy and ACOA, where it was determined that exploration interest will likely stay down moving forward. However, experts also indicated that if exploration risk was reduced, then offshore Nova Scotia still has tremendous opportunity, as deep water geology remains an unknown.

Based on the PARAS Geoscience Gap Analysis Report and the Martillac Integrated Offshore Plan Report, there is an opportunity to conduct significant research over a 12-18 month period, which will make a difference in new petroleum geoscience data and analysis, new upstream policies to encourage activity, continued regulatory improvements and increased marketing efforts.

In March, the province committed to provide the OETR Association with funding in the amount of eight per cent of the Crown Share allocation, to a maximum of \$20 million. The funding will go towards offshore energy geoscience research.

The challenge will be to create new Play Fairway Analysis Models and associated Data Packages within the window of opportunity, as detailed in the PARAS Report.

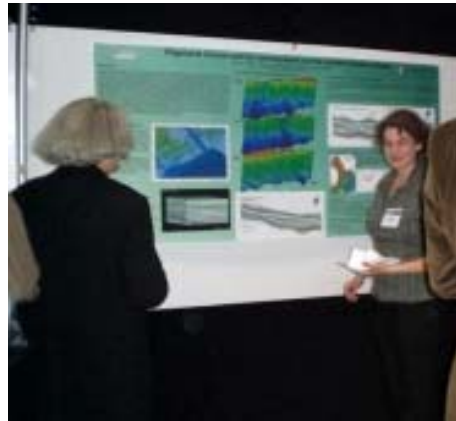
Overall, the session encouraged constructive thoughts to be put forward and generated practical R&D initiatives that OETR, the CNSOPB, and both levels of government will consider in both carrying out their geoscience work and in funding new initiatives.



Nova Scotia Energy Research & Development Forum 2008 (cont'd)

Student Poster Presentation Winner

A Poster Session was held at the Forum where 16 posters were submitted by students from universities across Nova Scotia focusing on four different energy-related research categories—one of them being Geoscience and Engineering. Four cash prizes of \$500 were awarded to students with the best poster in each category. The winner of the Geoscience and Engineering category was Dalhousie University student Virginia Brake (Dalhousie MSc. Candidate and Pengrowth Scholar), with honourable mentions going to Muhammad Kettanah and Omid Aghaei, also Dalhousie University students.



Virginia Brake (right)

Congratulations Virginia and thank you to all students who submitted posters.

To learn more about the Forum, [click here](#).

Conjugate Margins Conference

Reminder to Register

If you haven't already done so, don't forget to register for this year's Central Atlantic Conjugate Margins Conference, being held from August 13-15 in Halifax.

The Conference will provide a unique opportunity for explorationists and researchers to integrate the results of hydrocarbon exploration and state-of-the-art seismic data from throughout the Central Atlantic conjugate margin basins using the latest concepts and interpretations. The Conference will also have oral and poster sessions, with attendant keynote presentations from respected global researchers and explorers, devoted to:

- *Margin Evolution & Development*
- *Basin Petroleum Systems*
- *Productive Fields and Analogues*

There will be displays of the latest industry and academic seismic profiles from around the Central Atlantic in the Seismic Data Room, as well as a core workshop, several pre- and post-conference local and international field trips, technical short courses and industry displays.

Additional Conference information can be found on the website www.conjugatemargins.com on these and all other aspects of Halifax 2008.

Nova Scotia Offshore Geoscience is OETR's quarterly newsletter focusing on Nova Scotia's Offshore Energy Geoscience Community. To submit newsletter ideas, an article or announcement, contact **John Cianfaglione**, OETR Communications Coordinator, at **(902) 424-2493** or e-mail cianfaj@gov.ns.ca.

Upcoming Events

[Conjugate Margins Conference](#)

[CORE Conference](#)



OETR Association

5151 George Street
Suite 400
Halifax, NS B3J 3P7

Phone: 902-424-8479

Toll Free: 1-888-257-8688

Fax: 902-424-0528

E-mail:

oetr@offshoreenergyresearch.ca

www.offshoreenergyresearch.ca