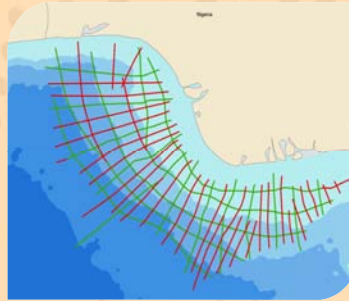


# NigeriaSPAN

## PROGRAM OVERVIEW

ION's NigeriaSPAN™ is a regional, basin-scale, 2D seismic survey set in the Gulf of Guinea that comprises approximately 5,000 km of new seismic data. The survey lines extend across the Cameroon volcanic line to tie with discoveries in hydrocarbon provinces covered by our EquatorSPAN™ and CongoSPAN™ data studies. The data clearly maps the region's basement architecture and points to new source possibilities never before seen in regional seismic data. Furthermore, the program shows significant new plays in the deeper shelf area off the coast of Nigeria.



ION's GeoVentures group is currently acquiring an infill phase of NigeriaSPAN of approximately 6,000 km. The infill phase is designed to increase the line density of the dip and strike lines to provide a tight control to the imaging of the structural provinces and provide an improved basement architecture and transform fault delineation. An additional 4,000 km of data acquisition is planned over Joint Development Zone and Sao Tome and Principe. The infill phase is scheduled for acquisition Q2 2011 with preliminary data processing by ION's GX Technology experts delivered Q4 2011.

NigeriaSPAN is a joint venture with Mabon Limited and was obtained and developed in cooperation with DPR of Nigeria and SNH of Cameroon. Regional experts were consulted in the design of the program in order to best image and gain the greatest understanding of the regional geometry.

## PROGRAM OBJECTIVES

- To advance the interpretation of the petroleum systems in the Niger Delta
- To open new play types for future exploration opportunities, while clarifying existing drilled plays and relationships
- To gain greater understanding of the basement architecture and its potential for the deepwater Niger Delta
- To advance understanding of shale tectonics and the region bounded by counter-regional faults

## About BasinSPANS™

ION's BasinSPANS (SPANS) are geologically inspired, basin-scale seismic data programs acquired and depth-imaged by ION's unmatched GX Technology experts using the most advanced geological and geophysical processing tools available. They provide upstream companies with the ability to evaluate the geologic evolution, deep basin architecture and depositional and structural histories of entire petroleum systems in a region.

Unlike conventional multi-client seismic surveys, BasinSPANS are custom designed in collaboration with ION's GeoVentures group, regional experts and the O&G companies. Once the program objectives are agreed upon, ION serves as project manager and applies the best survey design, acquisition and processing technologies with a proprietary mindset that adds value and achieves exceptional results. Such in-depth data and the associated interpretation tools greatly assists asset managers with portfolio management and provides significant risk mitigation as they develop exploration and appraisal programs with greater confidence.

ION owns one of the most up-to-date seismic data libraries in the industry, consisting of 2D, 3D and full-wave (multicomponent) data from around the world.

## KEY COMPONENTS

- Approximately 5,000 km of 2D PSDM data available for immediate delivery, acquired in Nigeria with Mabon Limited
- New infill PSDM 2D grid of 6,500 km planned for acquisition Q2 2011. Opportunities available for early-late participation.
- Pre-stack time and Pre-stack depth imaging using specially designed velocity analysis techniques, long offsets and 18 sec record length.
- Spectacular imaging of the counter-regional faults, various akata share provinces and comprehensive understanding of the structural styles of the Delta

## DELIVERABLES, WITH FULL PARTICIPATION, INCLUDE

- Navigation merged shot records (SEGY)
- Post-processed Kirchhoff PreSDM stack (SEGY)
- Final depth interval velocity model
- Final PreSTM gathers, stack and velocity model (SEGY)
- Structural and stratigraphic interpretation
- Gravity and magnetic data
- Final acquisition, processing and interpretation reports



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### Corporate Office

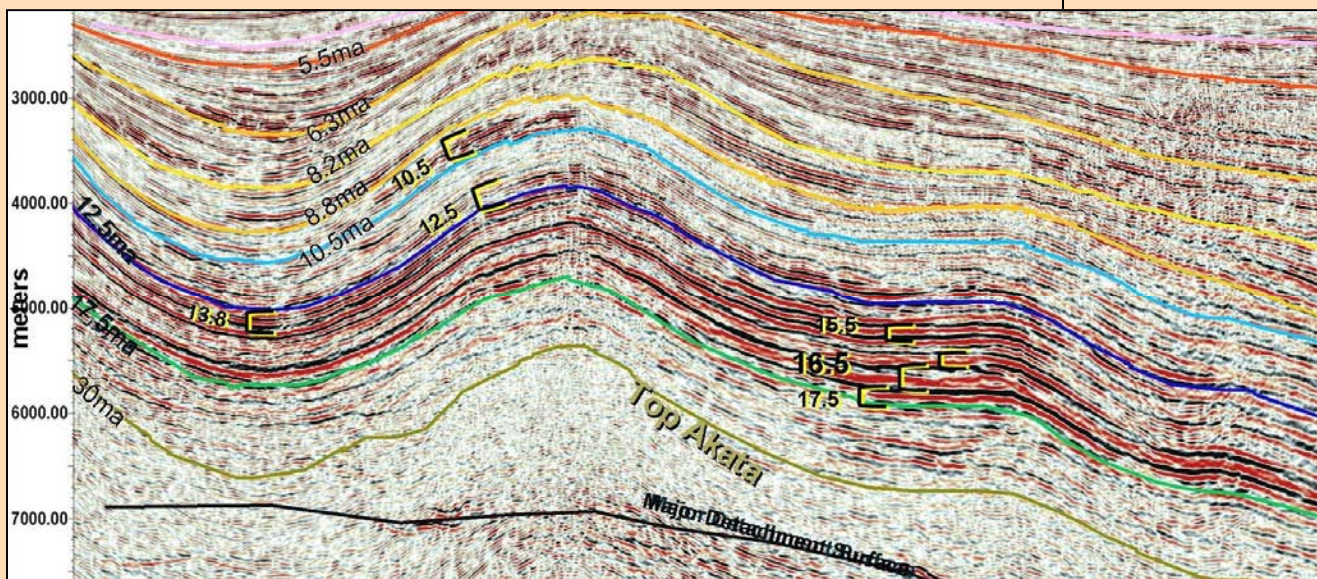
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Middle Miocene Deep Water Fans over Akpo field