

GulfSPAN

PROGRAM OVERVIEW

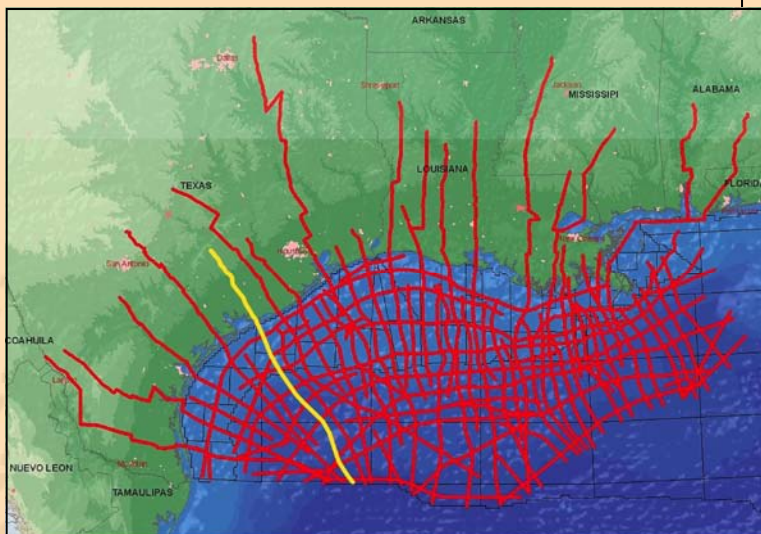
The Gulf of Mexico has been and continues to be an extremely active hydrocarbon province. Today, oil and gas companies are moving off the Outer Continental Shelf to look in the deeper regions of the gulf for new drillable prospects where third party research suggests a promising resource potential.

ION's GulfSPAN™ program layout was planned with the specific goal of better understanding the regional geology and the deeper, less explored areas of the basin. Particular attention was paid to positioning each survey line to allow ties to key developments, to traverse key depositions and structural provinces and to image deep structure stratigraphy. The entire dataset was recently [2010] reprocessed by ION's GX Technology group, using RTM to insure that the highest quality processing technologies were applied to this complex area.



MAJOR PROBLEMS POSED BY GULF OF MEXICO

- Sheer size (50-100+ km) of stratigraphic and structural elements is so large that existing data may misrepresent styles and driving forces
- Explain mega-thick Oligocene in western Gulf and condensed Oligocene in central and eastern parts of the Gulf
- Incomplete understanding of Wilcox deposition from shelf edges to deep water fans
- Two fold belts, Perdido and Port Isabel Fold/Thrust Belts, in two different positions, forming at almost the same time
 - Where is the extension?
 - How does slip translate to drive Port Isabel?
 - Where and how does slip translate down to Louann to drive Perdido?



Highlighted yellow line in GulfSPAN survey map above is shown in detail on back

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.

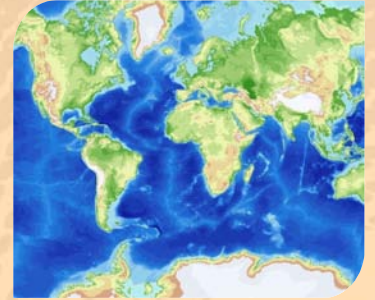
KEY FINDINGS

- Salt evacuation breaks apart the Mesozoic and these salt features start at the Wilcox time and become younger basinward
- Oligo-Miocene expands into a family of faults including the Corsair trend as faults follow robust shelf slope break positions moving basinwards
 - Listric faults sole out mainly in an allochthonous salt weld at the base Oligocene
 - Linked contraction can be seen in the toe in the Oligocene to early Miocene Port Isabel fold belt as well as a canopy and some small folds outboard
- Translation is transferred to the deeper Louann detachment along the Corsair trend allowing for shortening in the Perdido fold belt in the Upper Oligocene to Mid-Miocene

MAIN CONCLUSION

Northern Gulf of Mexico basin has emerged as an archetype example of a robust, progradational passive margin system that induces substantial translation over underlying detachments due to gravitational loading

- Slip and translation has different styles in different parts of the Gulf
- Multiple detachment surfaces exist
- The Gulf becomes more like West Africa and Brazil



Contact Details

Adrian McGrail

Program Manager

Mobile: +1 281 222 0899

Email: adrian.mcgrail@iongeo.com

Corporate Office

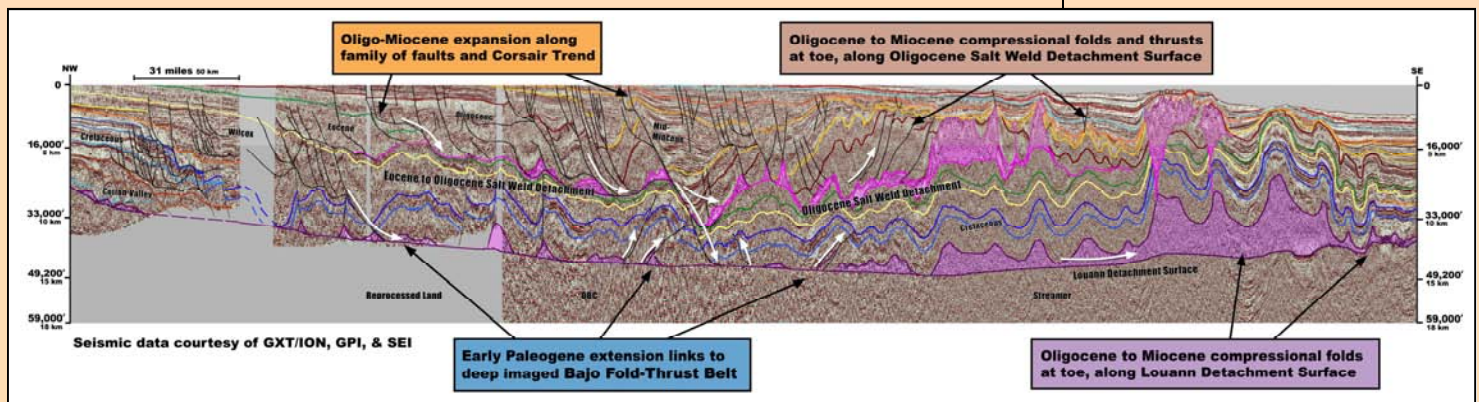
2105 City West Blvd., Suite 900

Houston, TX 77042

Phone: +1 713 789 7250

Fax: +1 713 789 7201

Email: BasinSPAN@iongeo.com



Picture above shows details of the line highlighted in yellow on front page GulfSPAN map