Multi-Attribute Seismic Wheeler Volume Workflows, Illuminating Stratigraphy, Geomorphology, and Prospectivity within a Mezardere Slope Fan Exploration Model, Thrace Basin, Turkey

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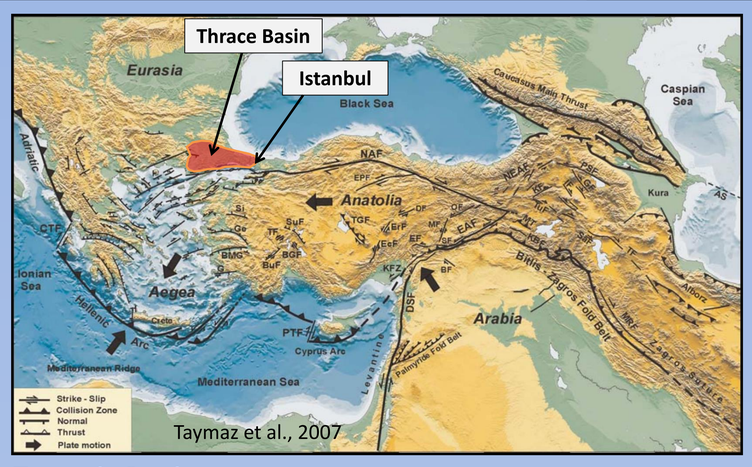
Geological Background and Project Area

Geological Setting

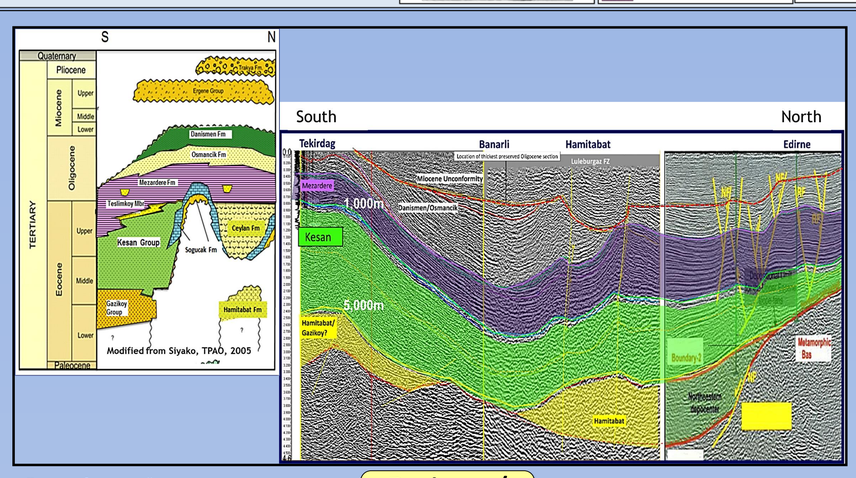
The Mezardere formation is located in the Thrace Basin of Turkey.

Mezardere deposits are Oligocene aged and interpreted as prograding delta front / pro delta deposits, that were deposited onto a submarine ramp within a wave dominated delta complex that pro-graded north into a sub basin of the Paratethys Sea.

A slope fan model has been adopted to describe the Mezardere formation depositional architecture.

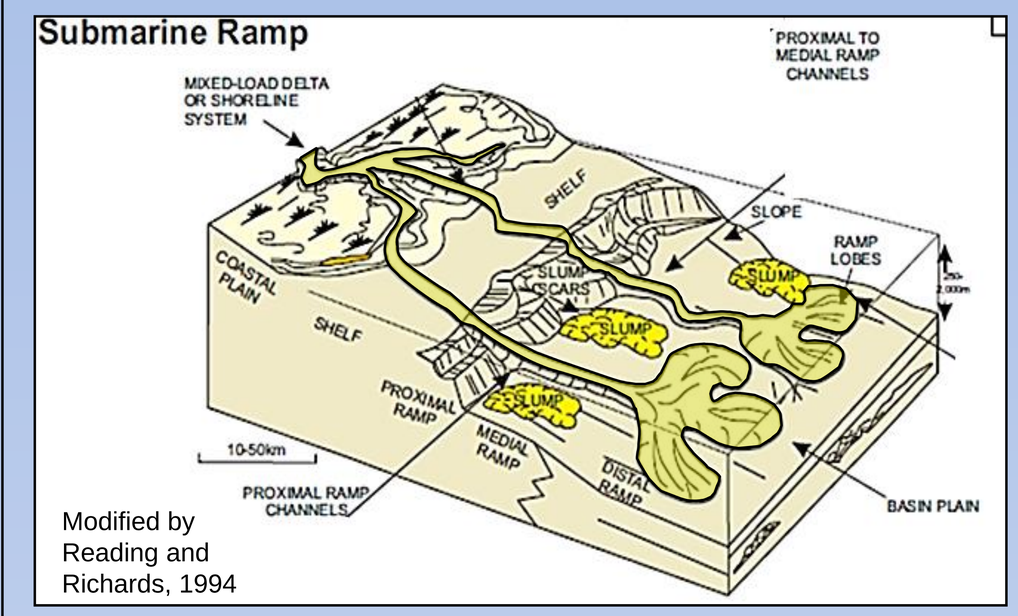


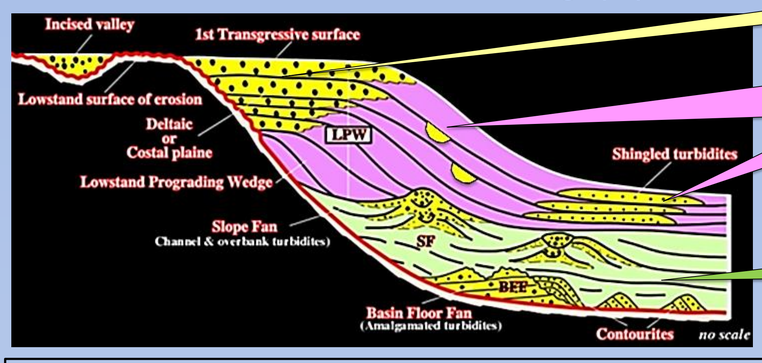
Tectonic Setting



Stratigraphy

Mezardere Slope Fan Depositional Model





Danismen/ Osmancik

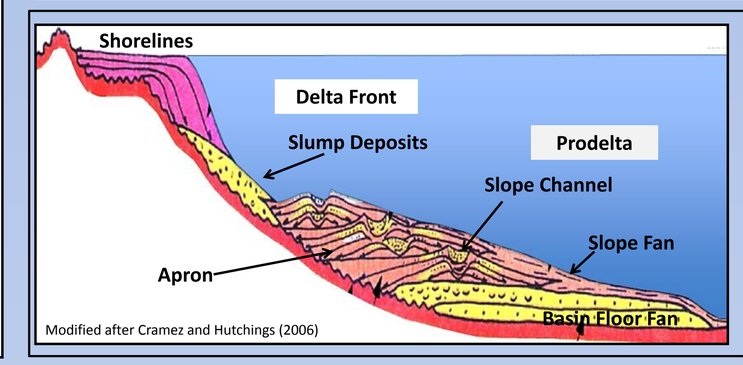
Coastal Plain/Delta Front Shorelines

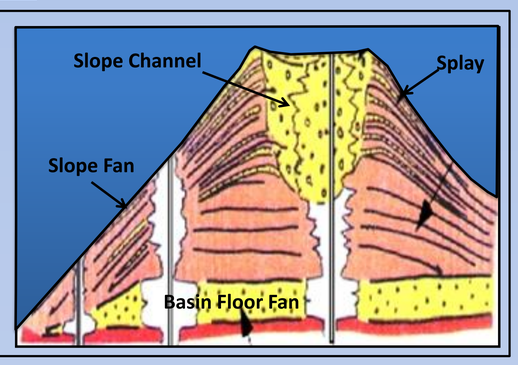
Mezardere Formation W/ Teslimkoy Member

Prodelta Clinoforming Lobes

Kesan Group

Basin Floor Flat Lying, Parallel Bedded Turbidites

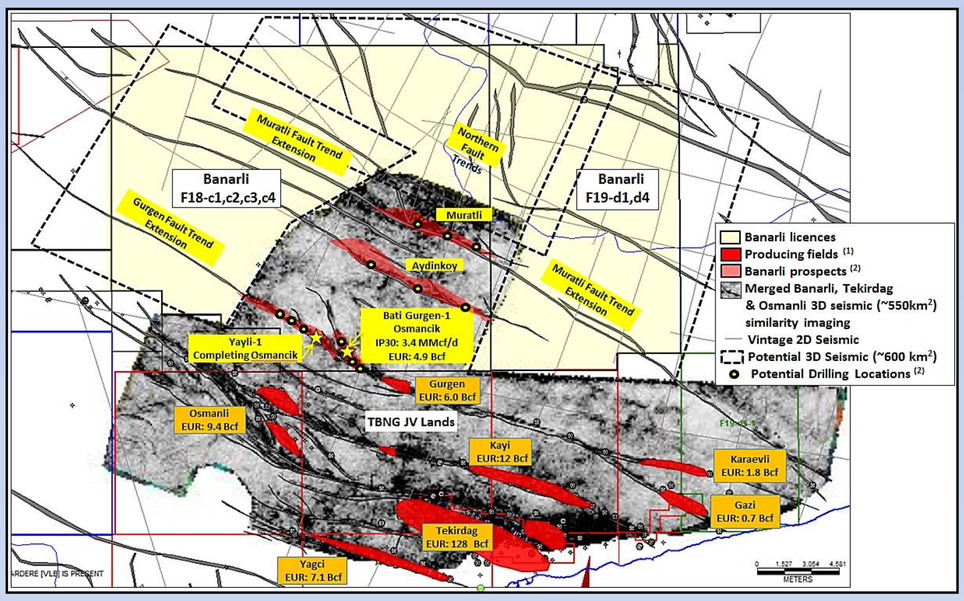




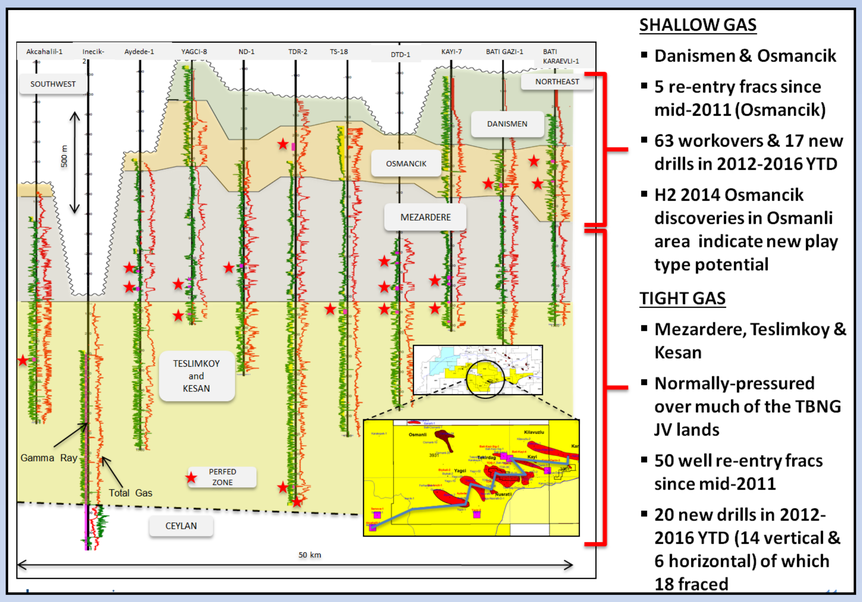
Exploration and Play Types

Valeura Energy has participated in numerous drilling programs throughout the Southern Thrace Basin over the last 5 years. Play types have ranged from conventional shallow gas exploration prospects in the overlying Danismen and Osmancik formations, to tighter gas prospects in the Mezardere and underlying Teslimkoy and Kesan formations.

Shallow conventional gas production to date has been primarily sourced from up dip structural closures against faults. Tighter gas production in the Mezardere and off structure stratigraphic prospects have been successfully drilled and produced. A basin centered gas concept has been developed which holds the potential for pervasive over-pressured unconventional gas resources in the synclinal parts of the Thrace Basin.



Producing Fields, Prospects and Recent Discoveries



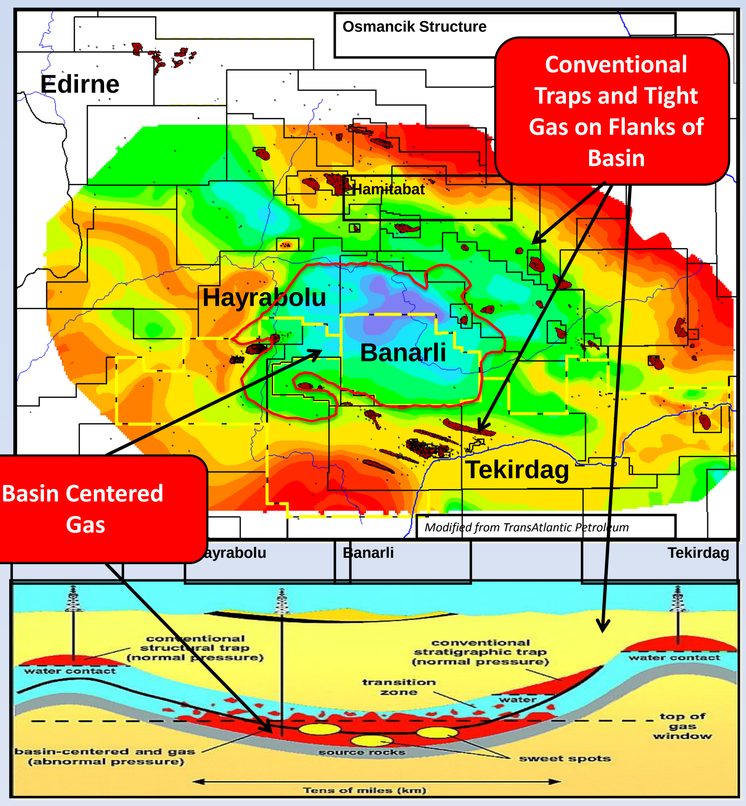
Drilling Activity on Joint Venture Lands

SHALLOW GAS

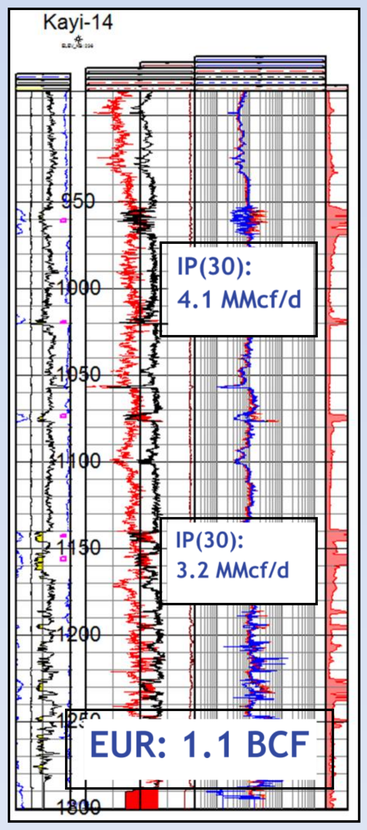
- Danismen & Osmancik
- 5 re-entry fracs since mid-2011 (Osmancik)
- 63 workovers & 17 new drills in 2012-2016 YTD
- H2 2014 Osmancik discoveries in Osmanli area indicate new play type potential

TIGHT GAS

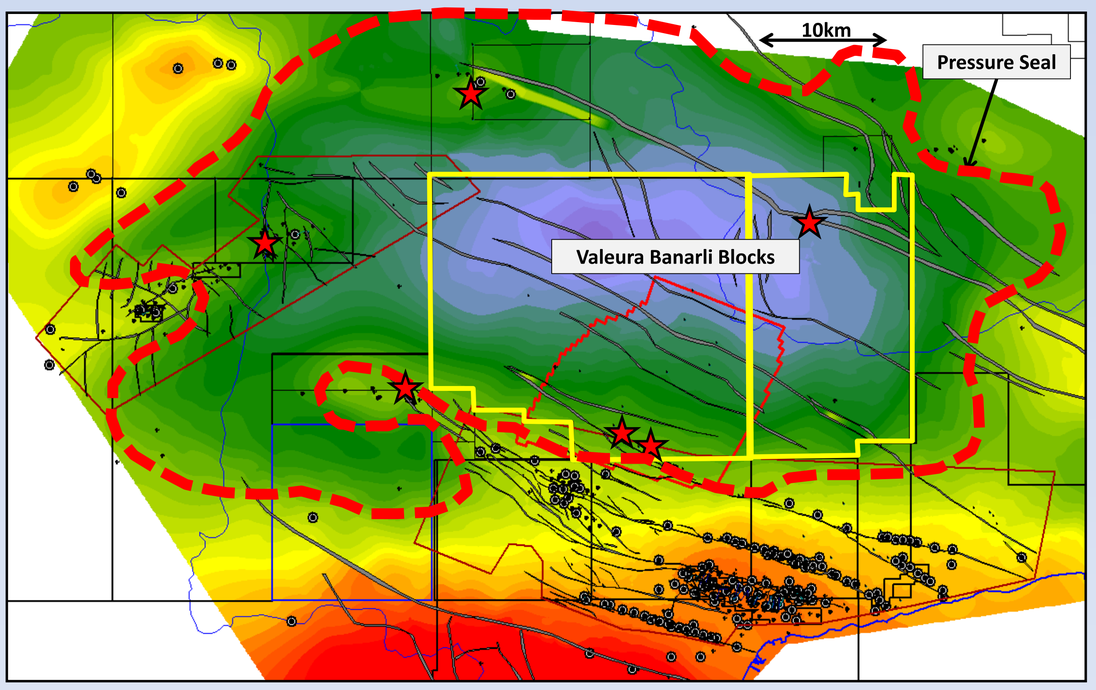
- Mezardere, Teslimkoy & Kesan
- Normally-pressured over much of the TBNG JV lands
- 50 well re-entry fracs since mid-2011
- 20 new drills in 2012-2016 YTD (14 vertical & 6 horizontal) of which 18 fraced



Play Types



Mezardere Type Well



Mezardere Depth Structure Map

Interpreted pressure seal outline shown by dashed red line.
Red stars show wells which indicate the presence of over-pressured zones.