



Universidad Mayor de San  
Andres  
University of Stavanger

Universitetet  
i Stavanger



Master Program:  
Reservoir Engineering;  
Exploration, Evaluation and  
Environment

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**MSC. ING. MARCO A.  
MONTESINOS M.**

**MSC. ING. SALVADOR Y. LIMACHI  
L.**

# Schedule

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Master Modules Summary

Salvador's thesis

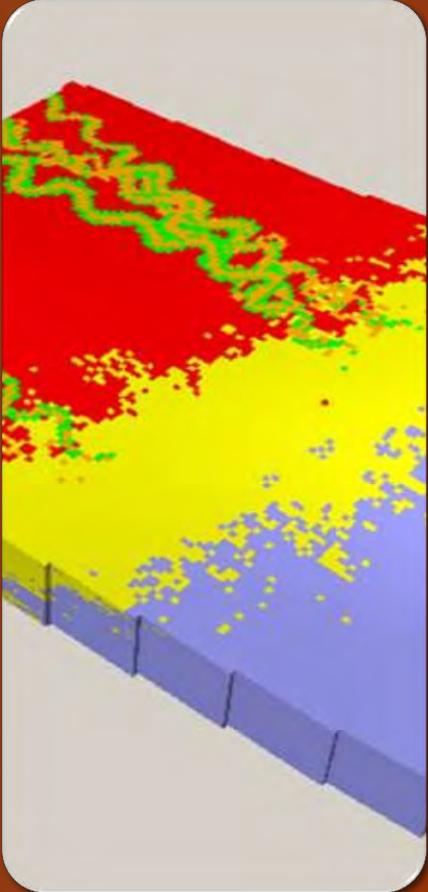
**UNIVERSIDAD MAYOR DE SAN ANDRÉS**  
**FACULTAD DE INGENIERÍA**  
**CARRERA DE INGENIERÍA PETROLERA**  
**INSTITUTO DE INGENIERIA PETROLERA**  
**MAESTRIA EN INGENIERIA DE RESERVORIOS; EXPLORACION, EVALUACION Y**  
**MEDIO AMBIENTE- PRIMERA VERSION**

**Stochastic facies modeling applied  
to a geologic 3D grid**

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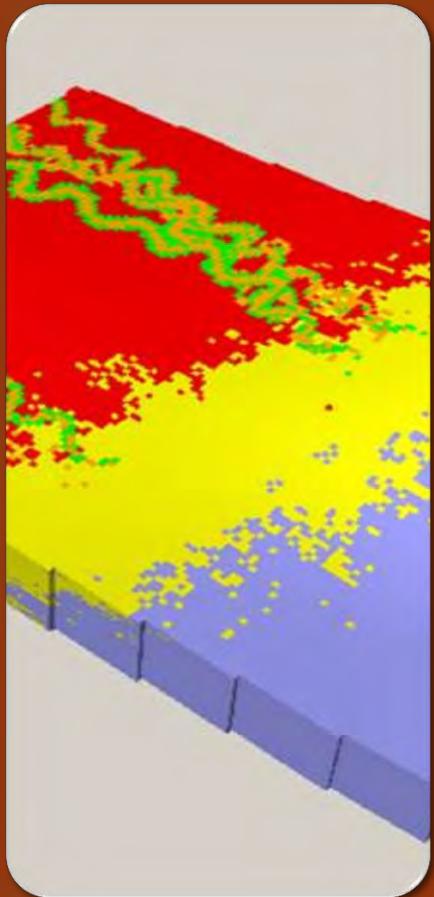
**MSC. ING. SALVADOR Y. LIMACHI L.**





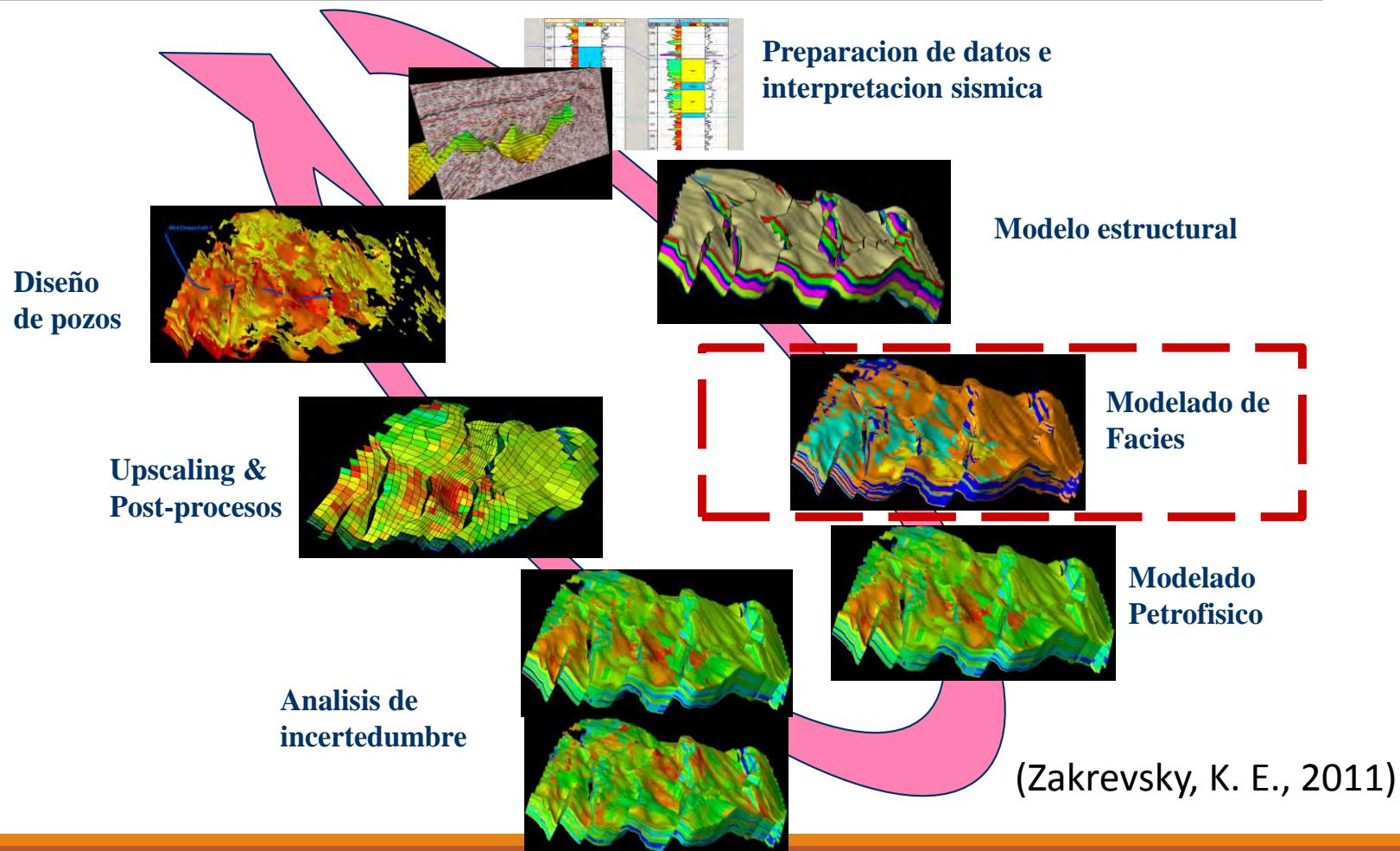
# Objective

- Model sedimentary facies applying a geostatistic algorithm in a geological 3D grid taking in count seismic attributes.

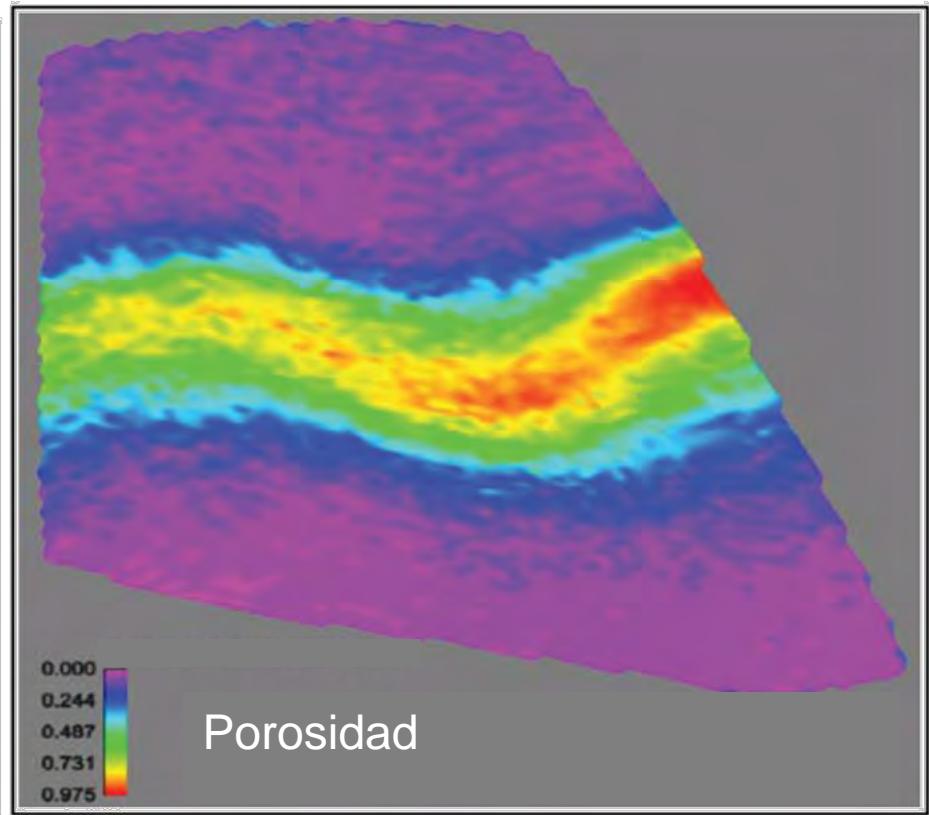
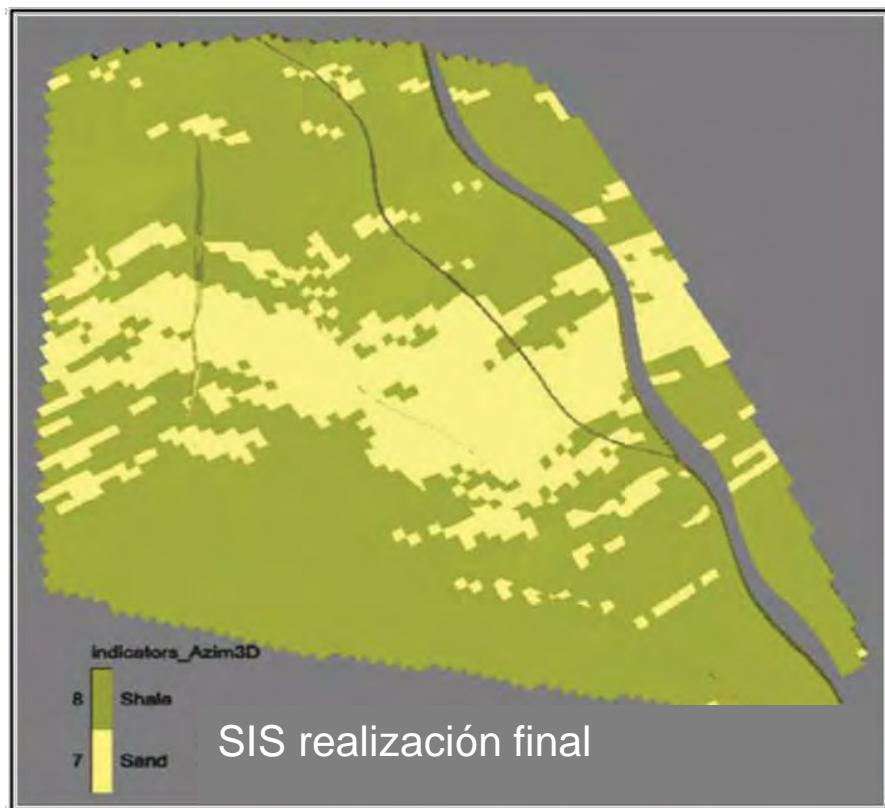


# What is Facies? Classification

# Industry context

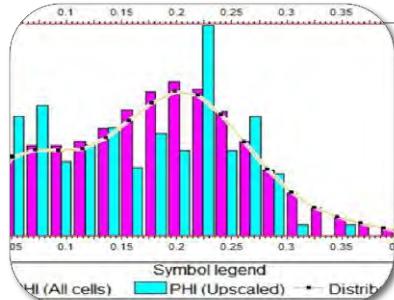


# Importance

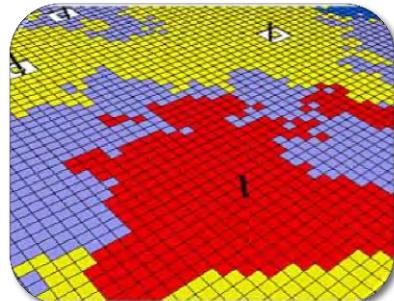


(Zakrevsky, K. E., 2011)

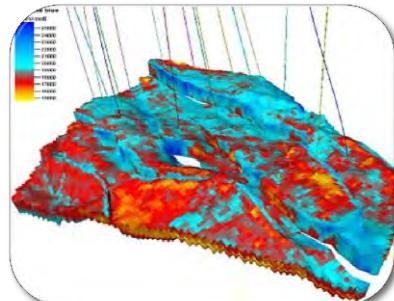
# Geoestatistics



Geological data context



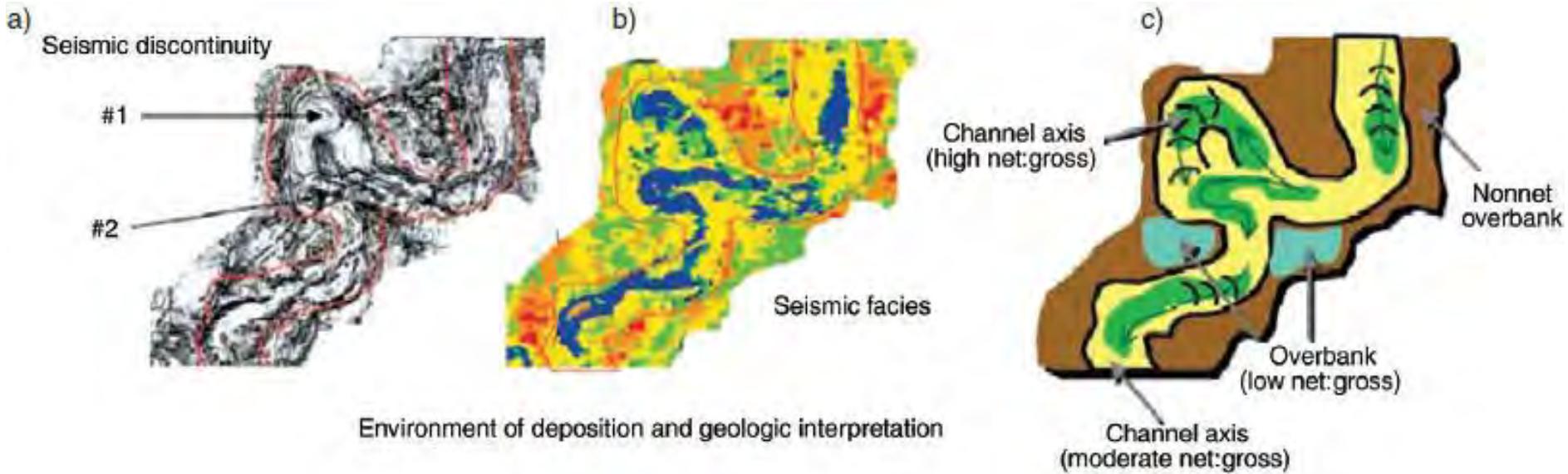
Spatial data relationship



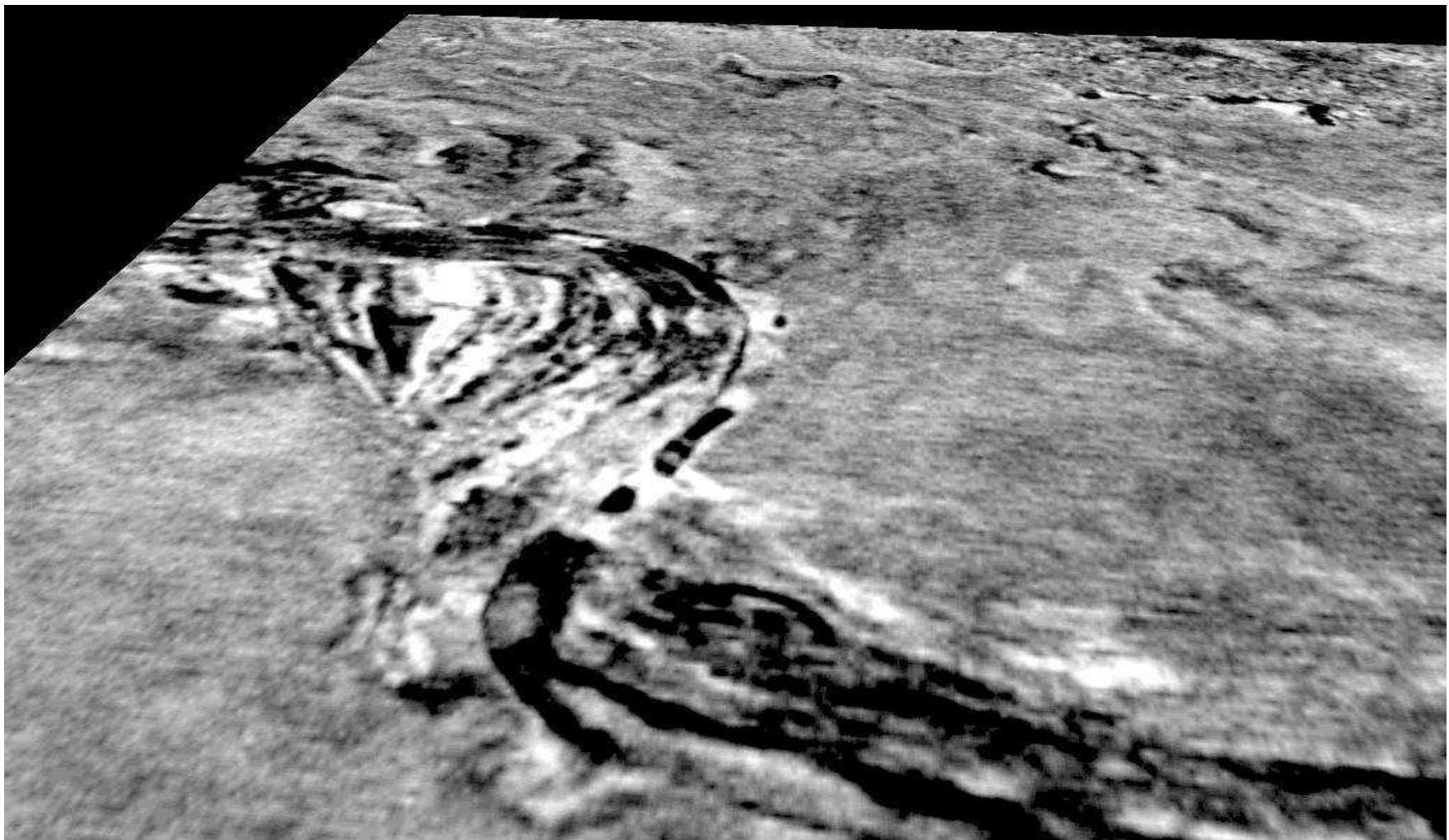
Important part in quantitative  
numerical models

# Seismic attributes

## Coherence

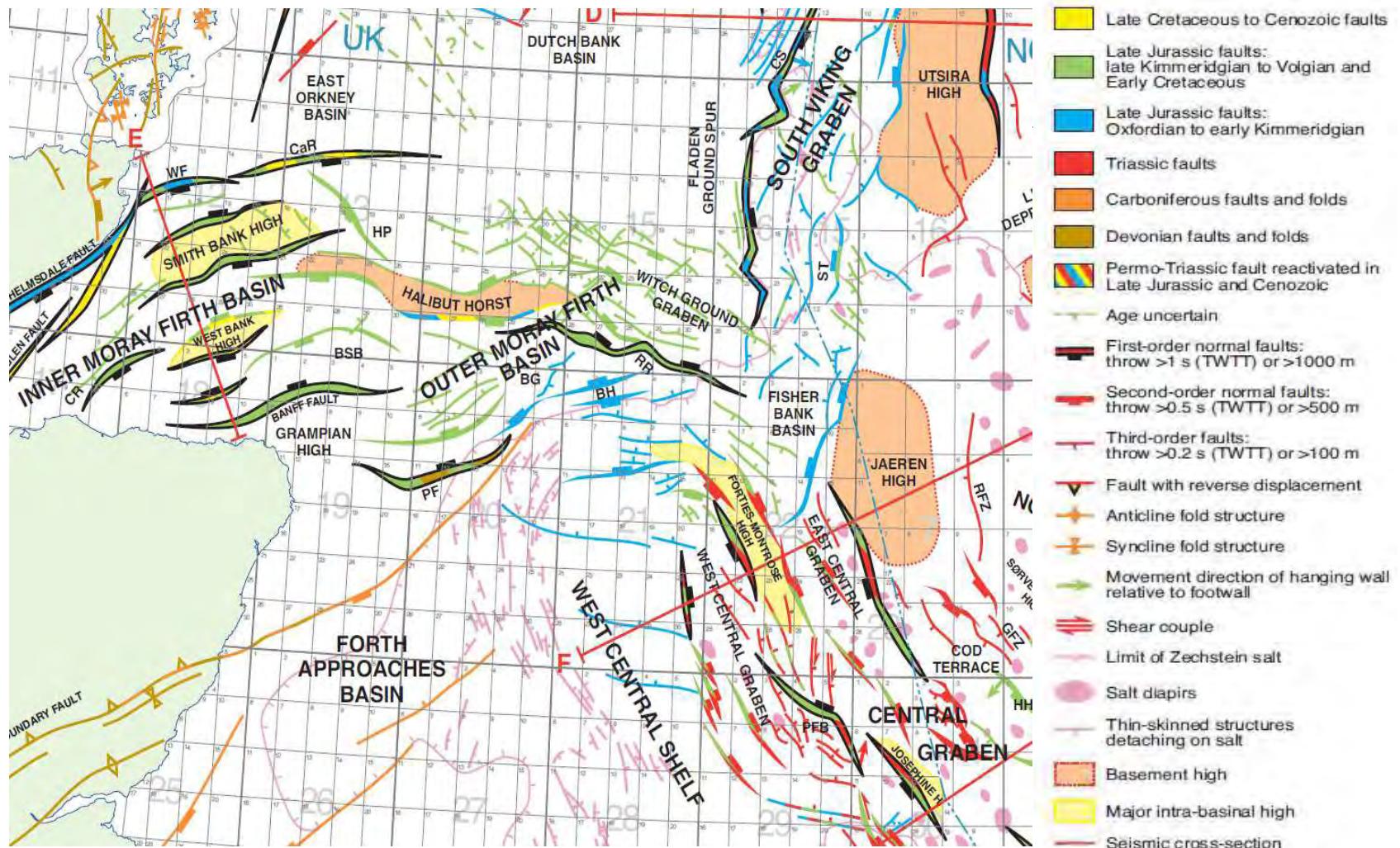


(Catuneanu, 2006)

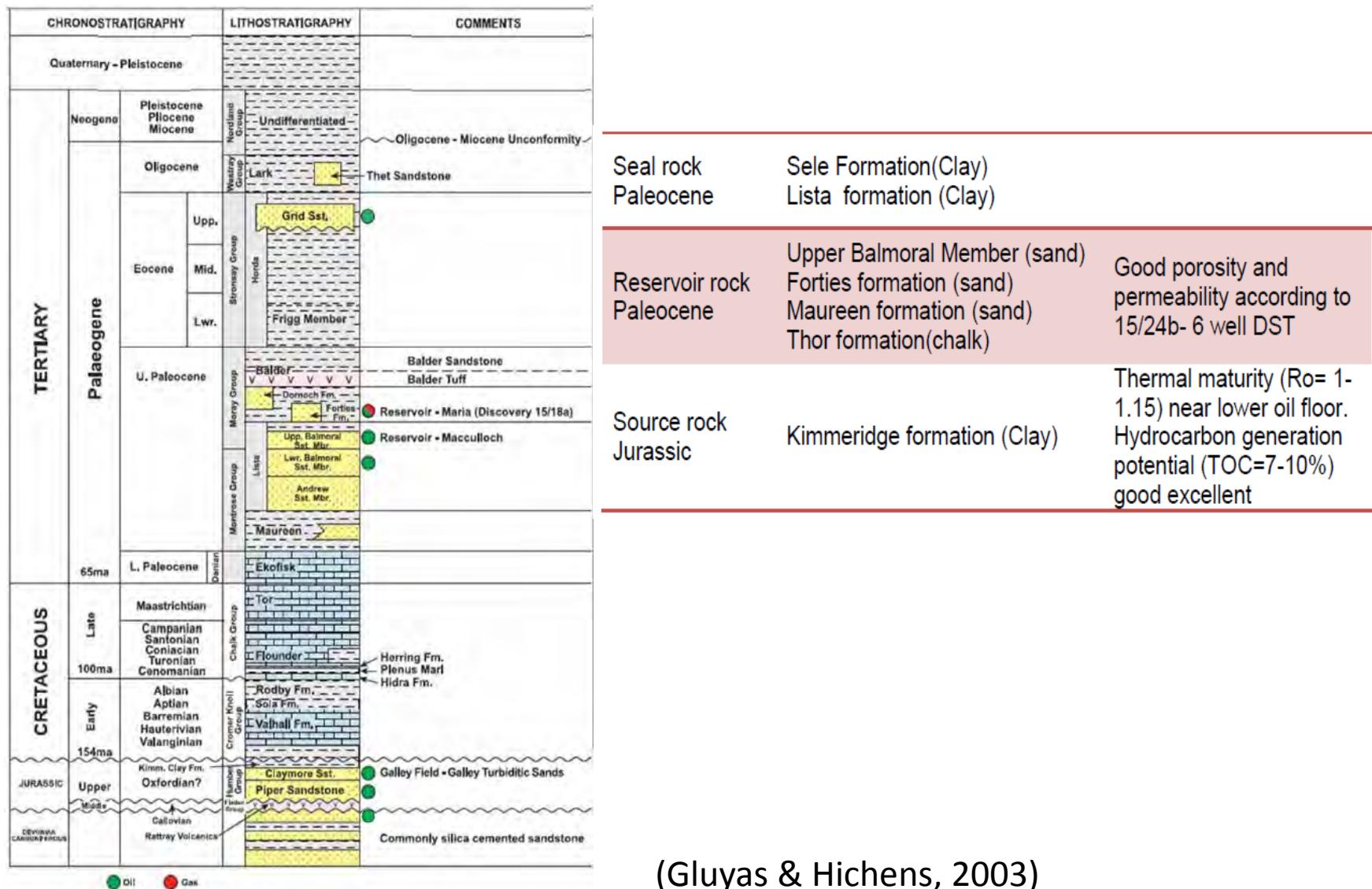


(Posamentier & Allen, 1999)

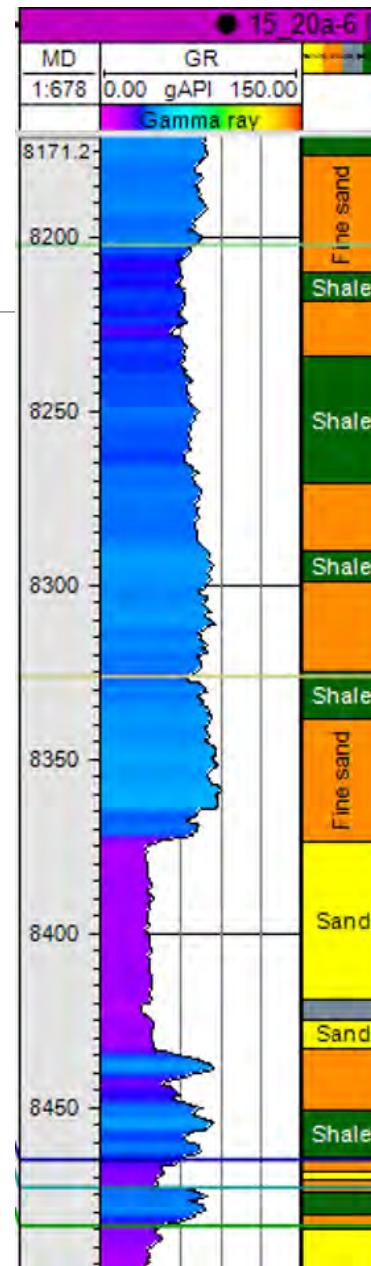
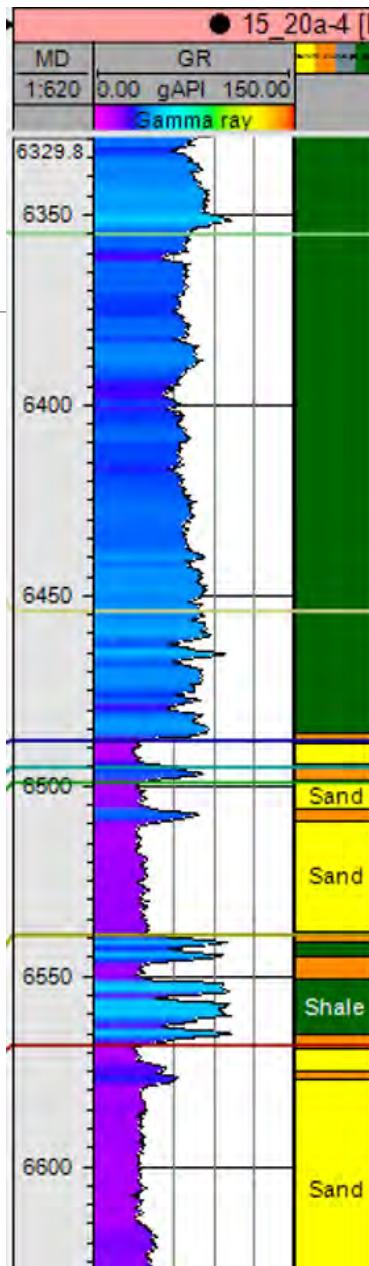




Fuente: (Gluyas & Hichens, 2003)



(Gluyas & Hichens, 2003)

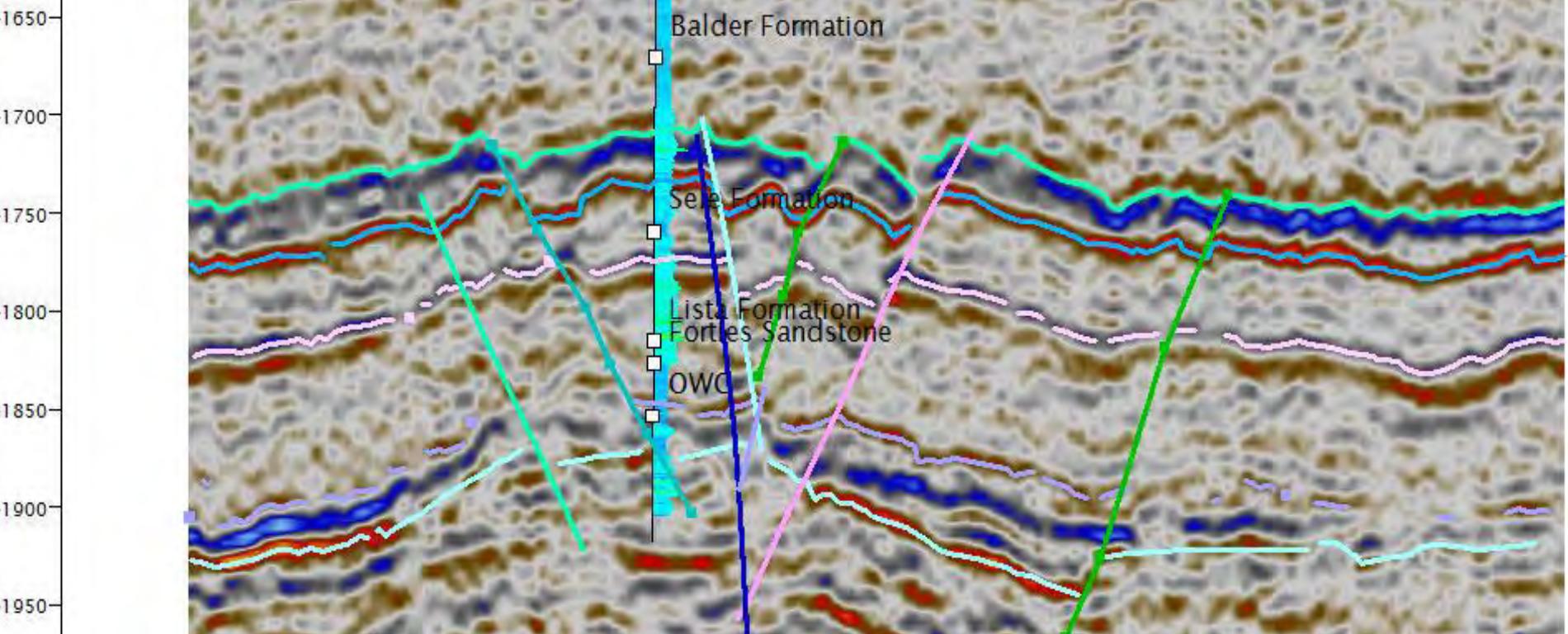


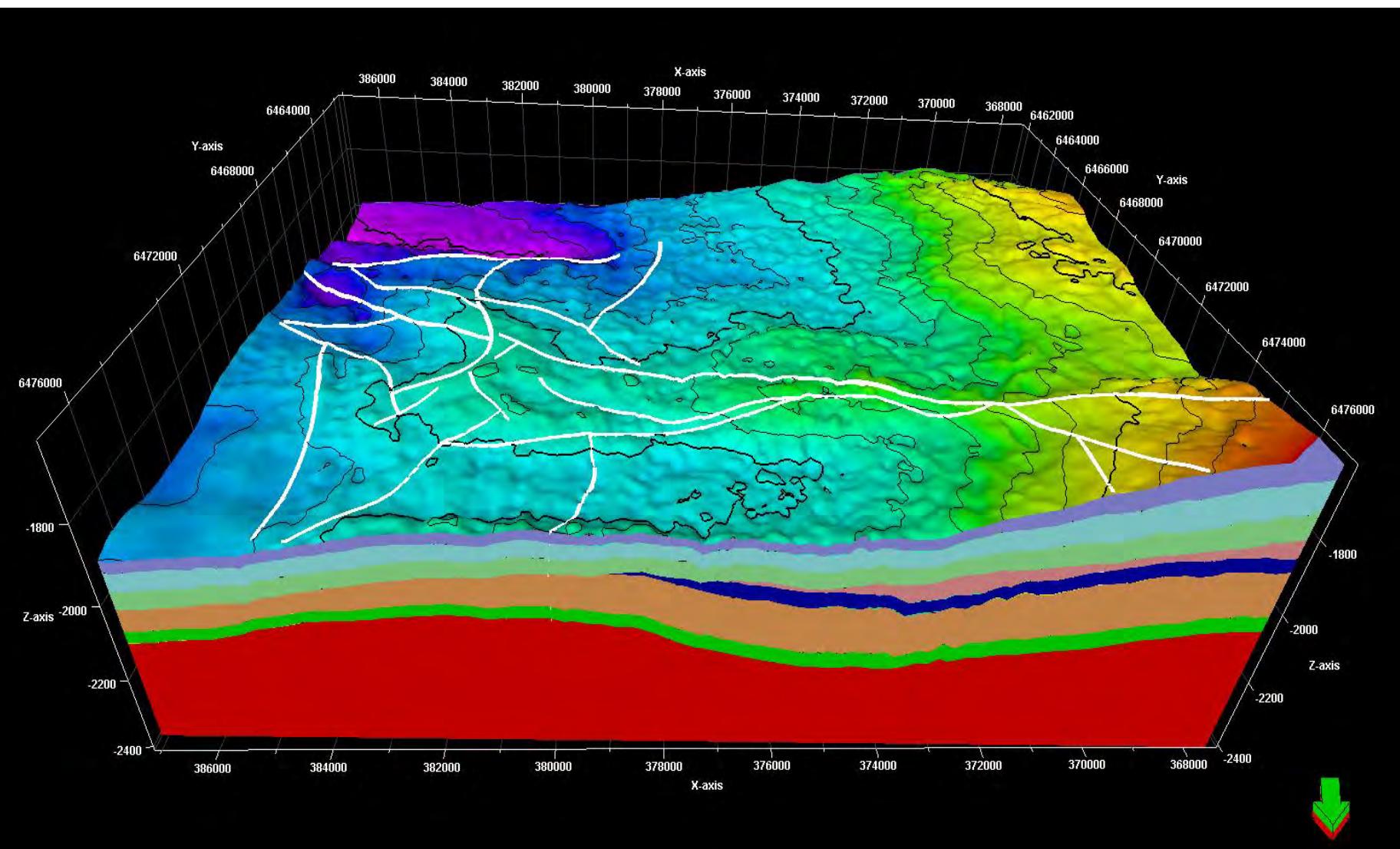
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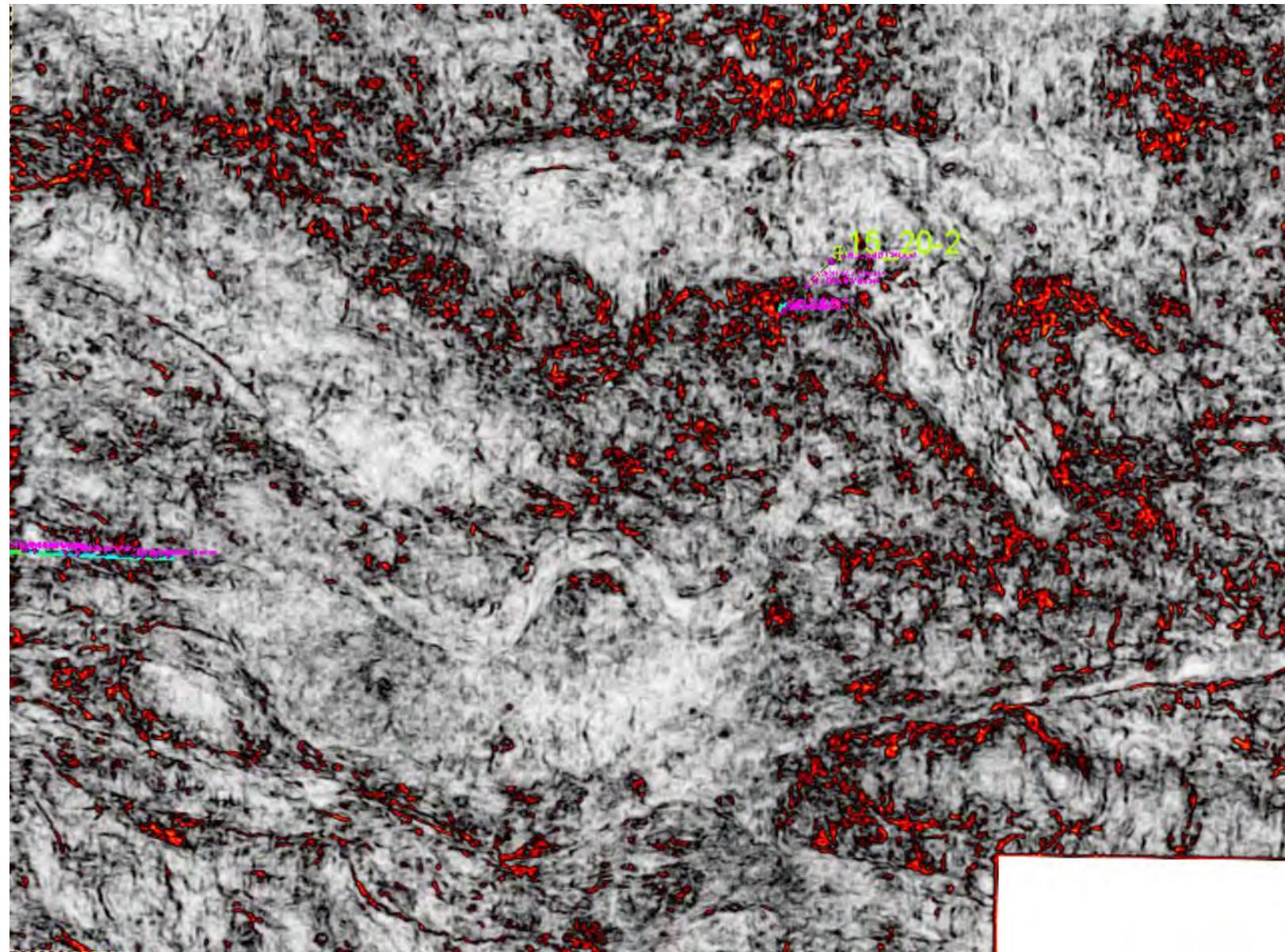
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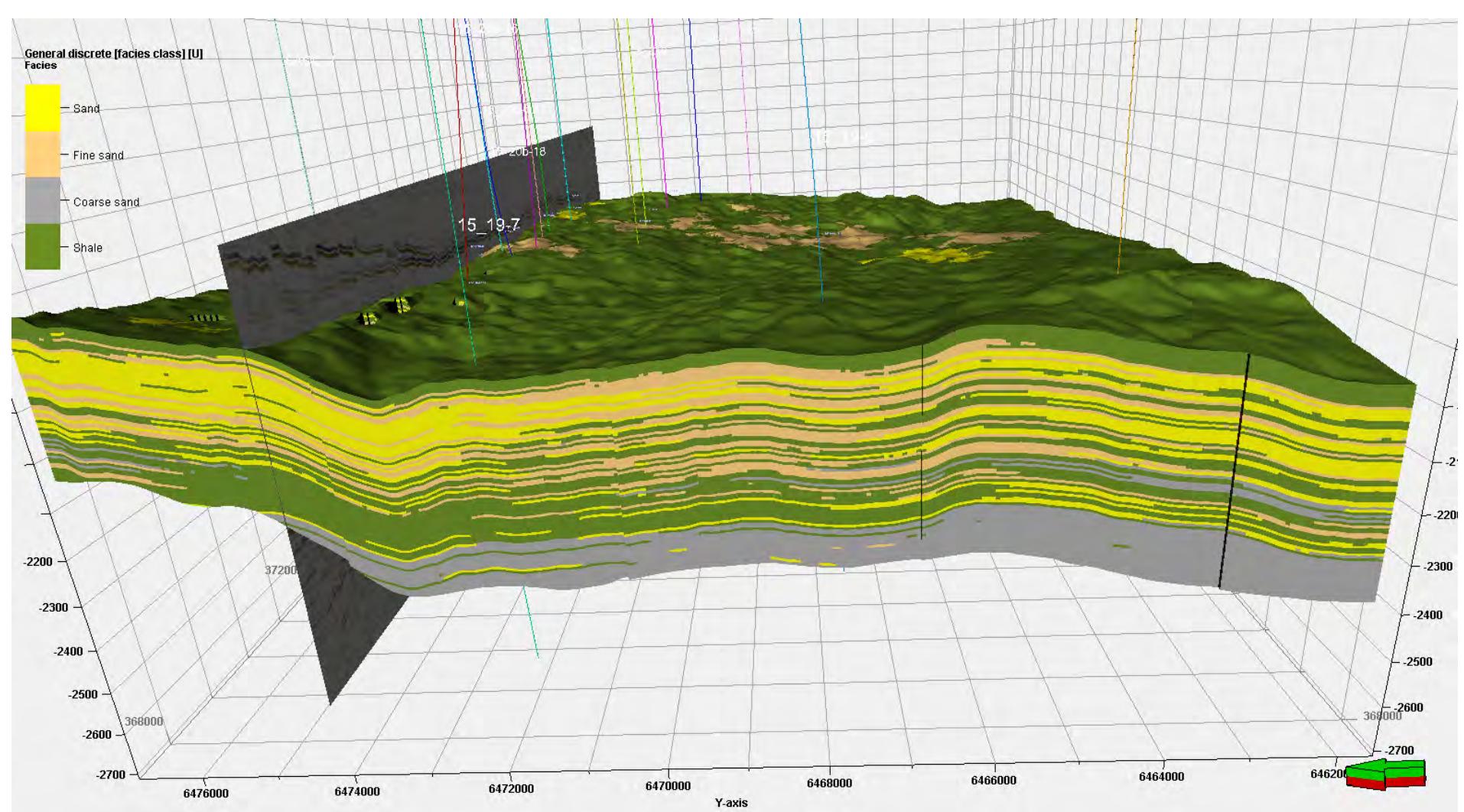
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XLine 1350

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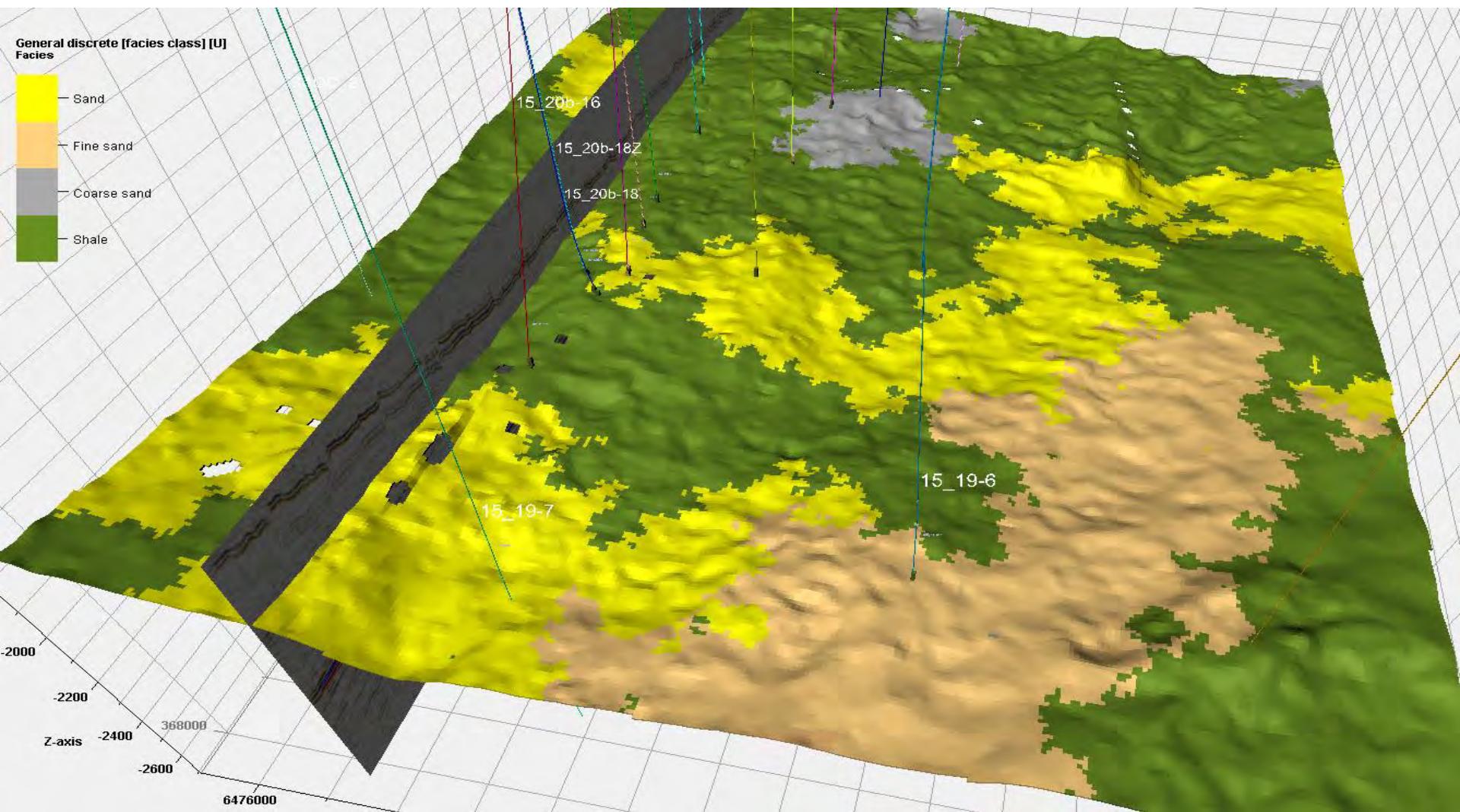




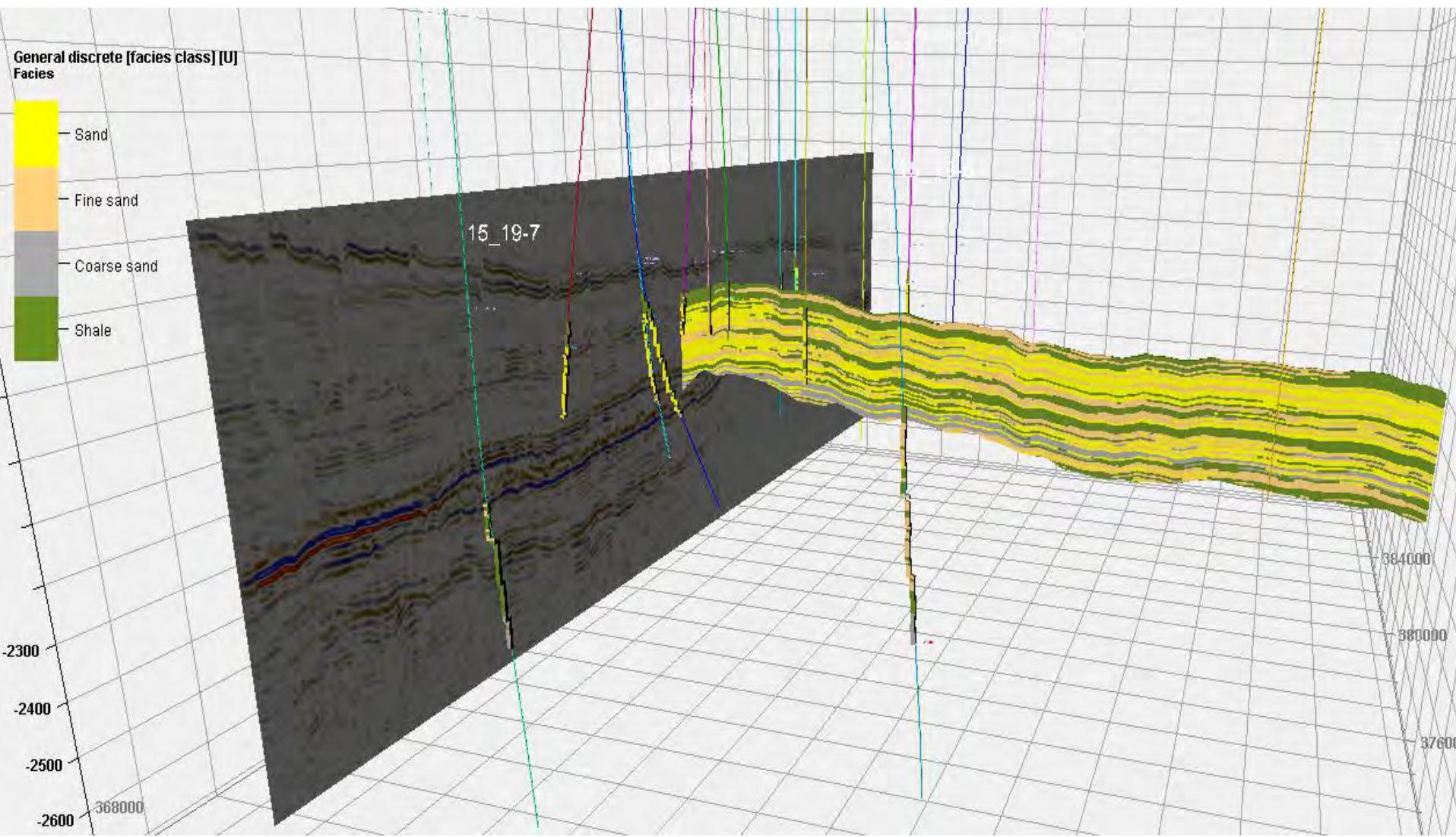




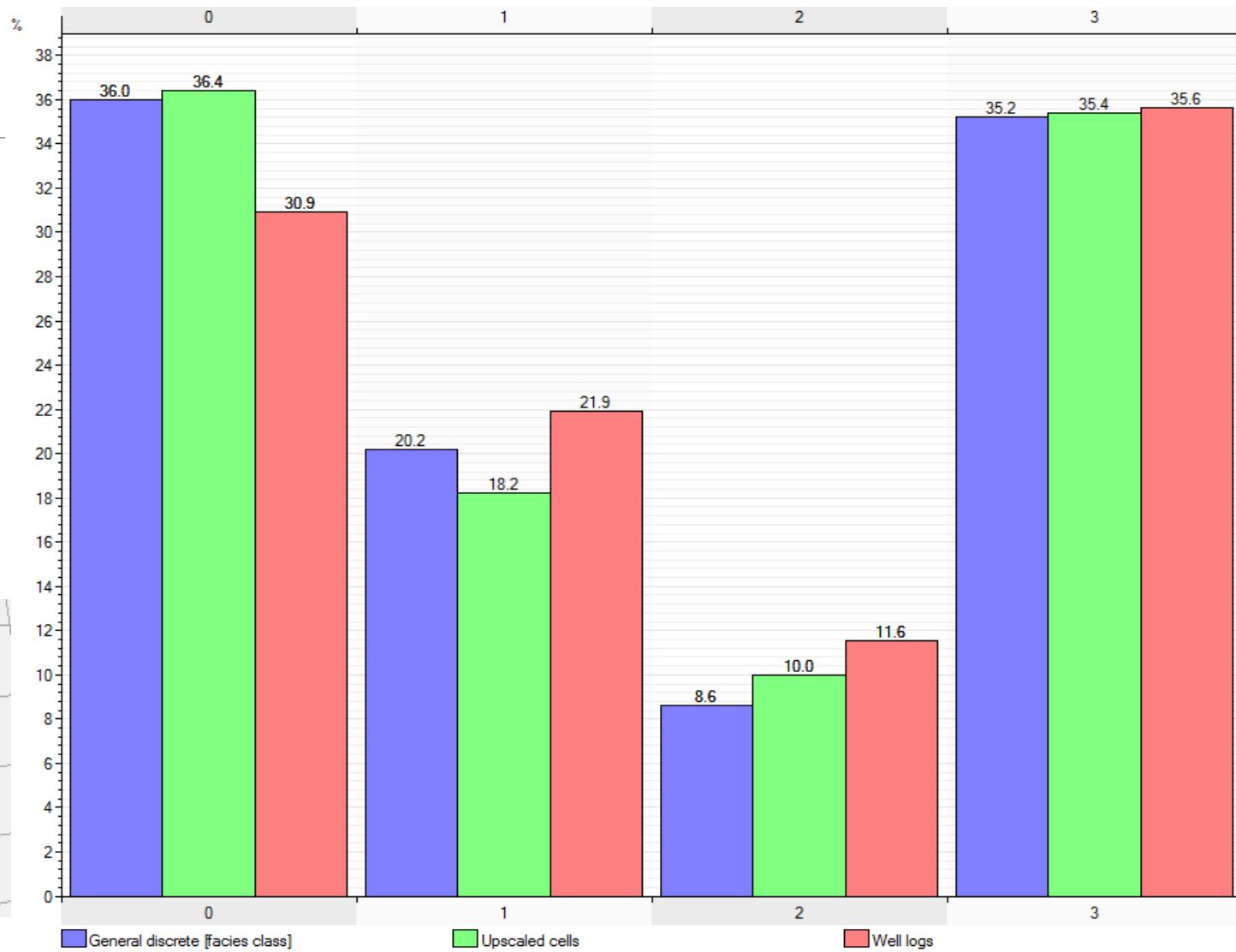
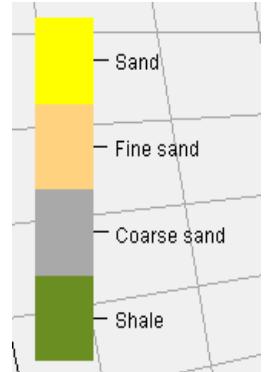
Coherence Distribucion Sand=36%, Fine Sand=18%, Coarse Sand =10%, Shale = 36%



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# Conclusions

Optimum vertical layer resolution found.

Seismic attributes allow to get better tendency representation

Faults do not have influence to identify sedimentary bodies

Well data is key to integrate seismic, geology and stratigraphy

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Thank you for your attention