

# Sequence Stratigraphy as a tool for water resources management in alluvial coastal aquifers: application to the Llobregat delta (Barcelona, Spain)

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## APPENDIX III

PhD Thesis

Department of Geotechnical Engineering and Geo-Sciences (ETCG)  
Technical University of Catalonia (UPC)

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Dr. Jesús Carrera Ramírez

Tutor:

Daniel Fernández García



**HYDROGEOLOGY GROUP**  
TECHNICAL UNIVERSITY OF CATALONIA



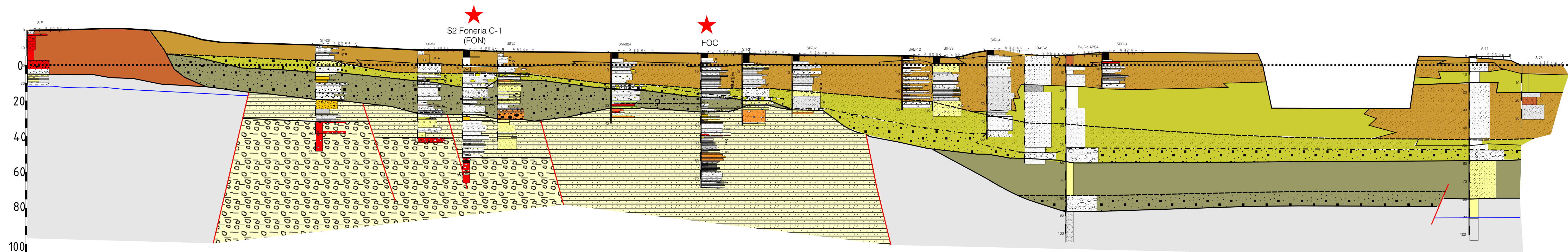
**geomodels**  
centre mixt d'investigació

Hydrogeochemistry  
group





P1 NW-SE



DEPOSITIONAL SEQUENCE I

- Flood plain, swamp, anthropic sediments (Fp, Sw)
- Alluvial deposits (Fc)
- Delta front (Df)
- Prodelta (P)
- Sand beaches (Bs)
- Gravel facies (Bg-Fc)

DEPOSITIONAL SEQUENCE II

- Fine sediments (Rw) Depositional Sequence II
- Beach gravels and alluvial deposits (Bg-Fc) Depositional Sequence II

BASEMENT

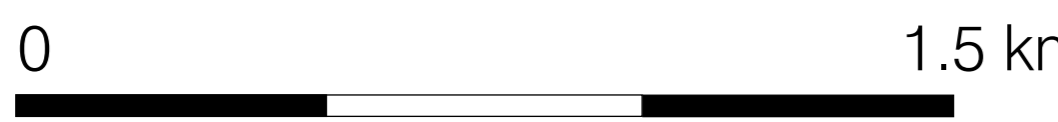
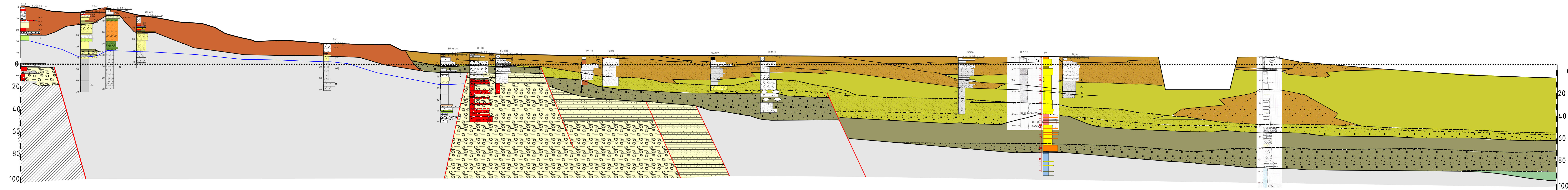
- Upper Plain (Quaternary)
- Pliocene
- Miocene Serravalian
- Miocene Burdigalian

- Limit between transgressive sands and gravels
- Maximum flooding surface (mfs)
- Sequence Boundary (SB)
- Bottom of the Pliocene (Pl2)

Faults

Geological analyses (Annex I)





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- Flood plain, swamp, anthropic sediments (Fp, Sw)
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DS II and III

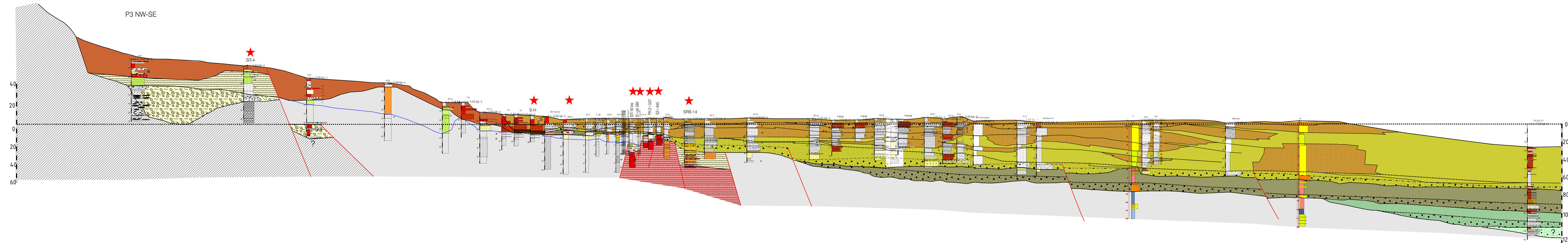
- Fine sediments (Rw) Depositional Sequence II
- Beach gravels and alluvial deposits (Bg-Fc) Depositional Sequence II
- Fine sediments (Rw) Depositional Sequence III
- Beach gravels and alluvial deposits (Bg-Fc) Depositional Sequence III

BASEMENT

- Upper Plain (Quaternary)
- Pliocene
- Miocene Serravalian
- Miocene Burdigalian
- Paleozoic

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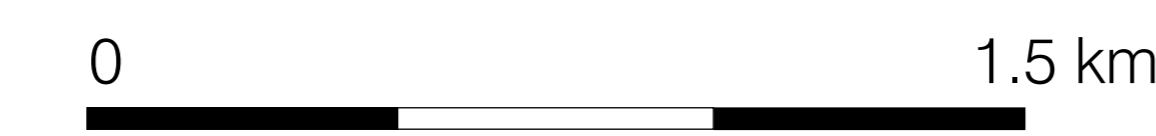
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BASEMENT

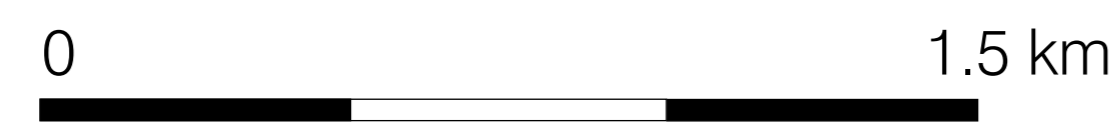
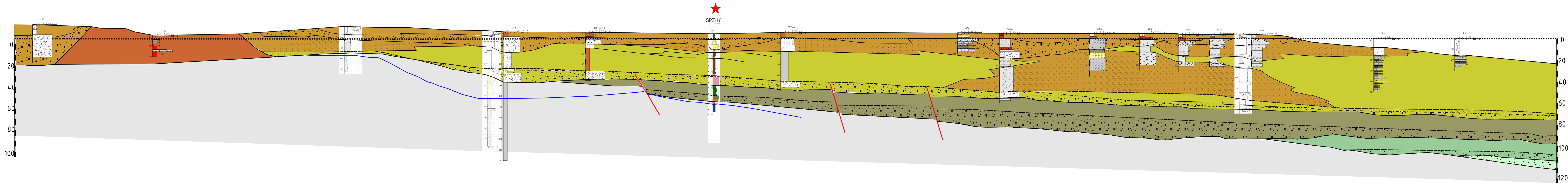
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- Miocene Serravalian
- Miocene Burdigalian
- Triassic
- Paleozoic

- Limit between transgressive sands and gravels
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P4 NW-SE



DEPOSITIONAL SEQUENCE I

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DS II and III

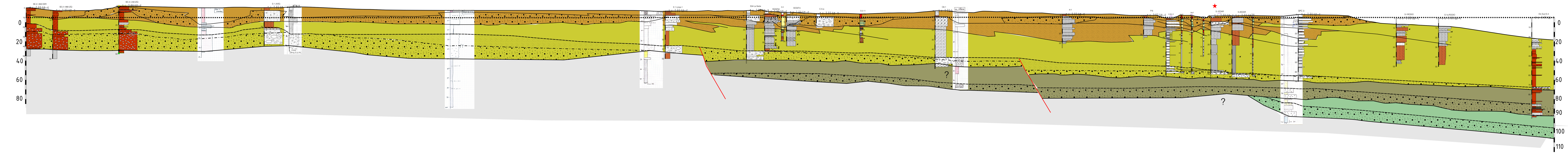
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Depositional Sequence III
- Beach gravels and alluvial deposits (Bg-Fc)  
Depositional Sequence III

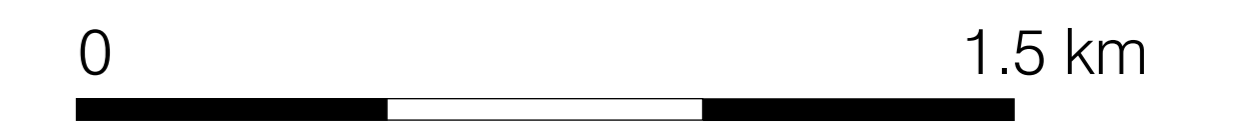
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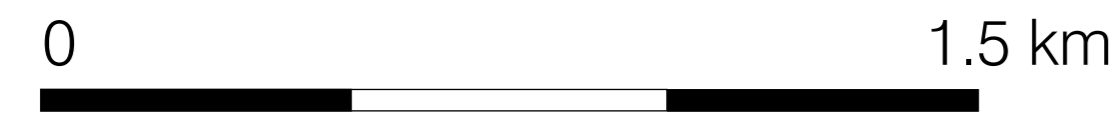
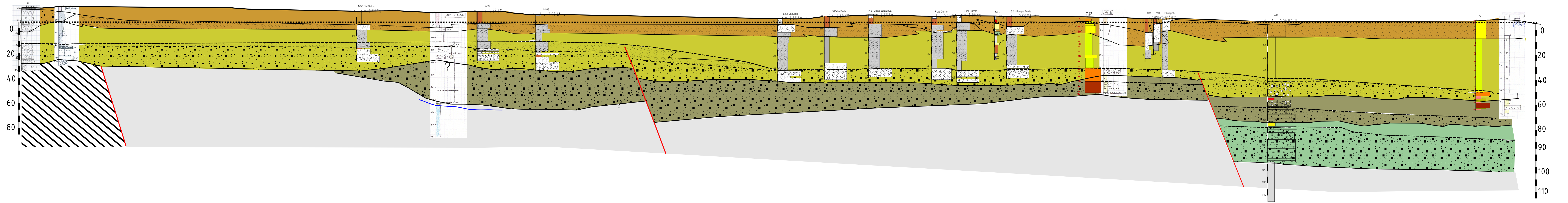
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↘ Faults

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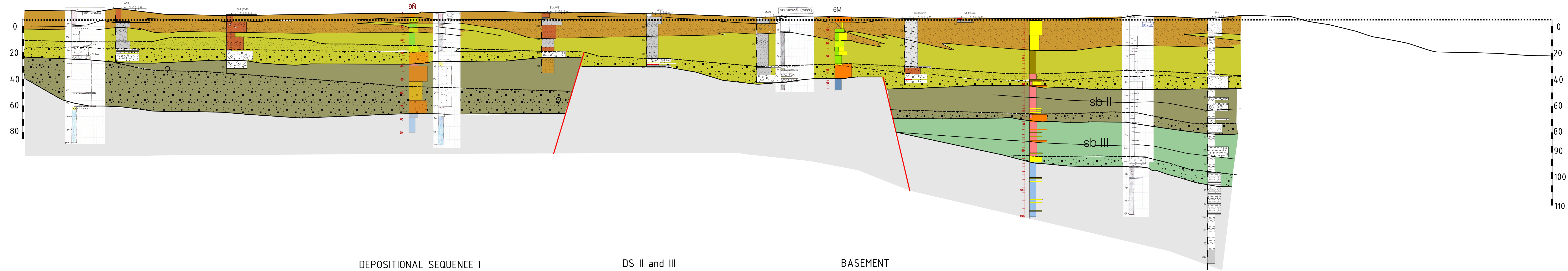
BASEMENT

- Upper Plain (Quaternary)
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- Limit between transgressive sands and gravels
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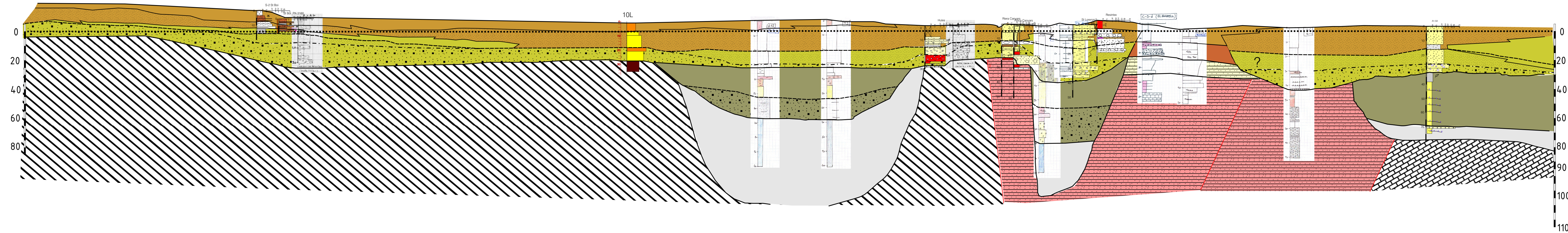
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Faults

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P8 NW-SE



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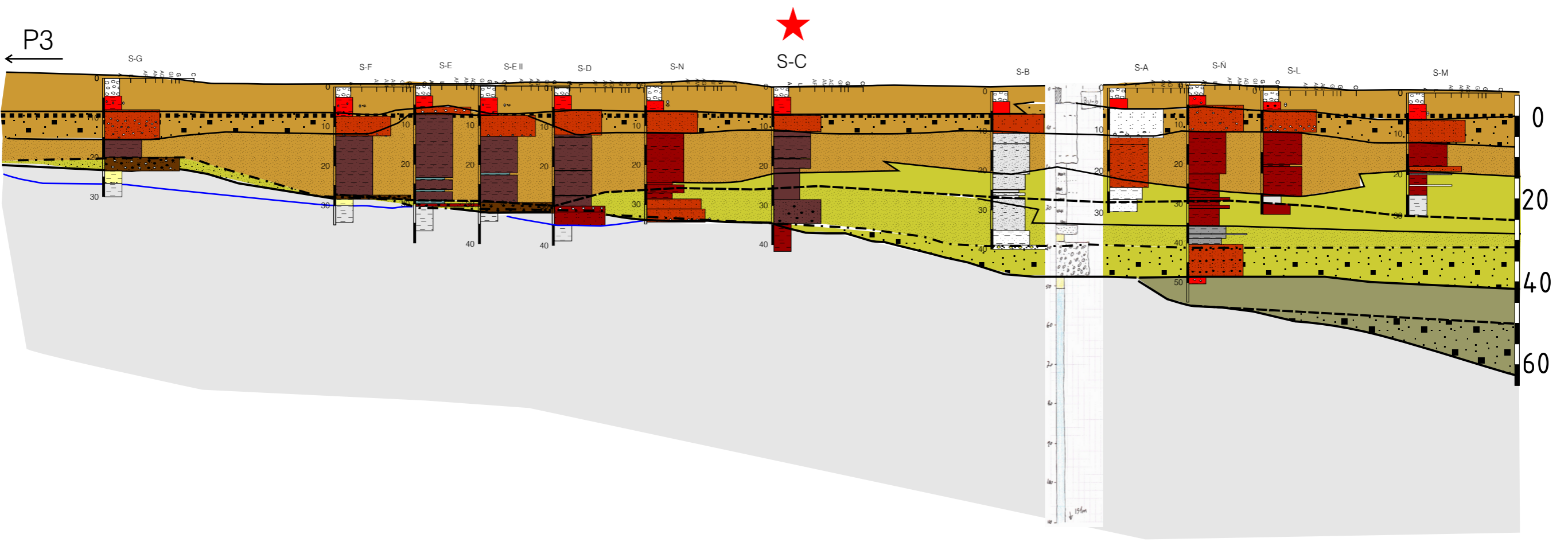
BASEMENT

- Upper Plain (Quaternary)
- Pliocene
- Miocene Serravalian
- Miocene Burdigalian
- Triassic
- Jurassic- Cretaceous
- Paleozoic

- Limit between transgressive sands and gravels
- Maximum flooding surface (mfs)
- Sequence Boundary (SB)
- Bottom of the Pliocene (Pl2)

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N-S P-AVE



Faults

Geological analyses (Annex I)

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- Beach gravels and alluvial deposits (Bg-Fc) Depositional Sequence II

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