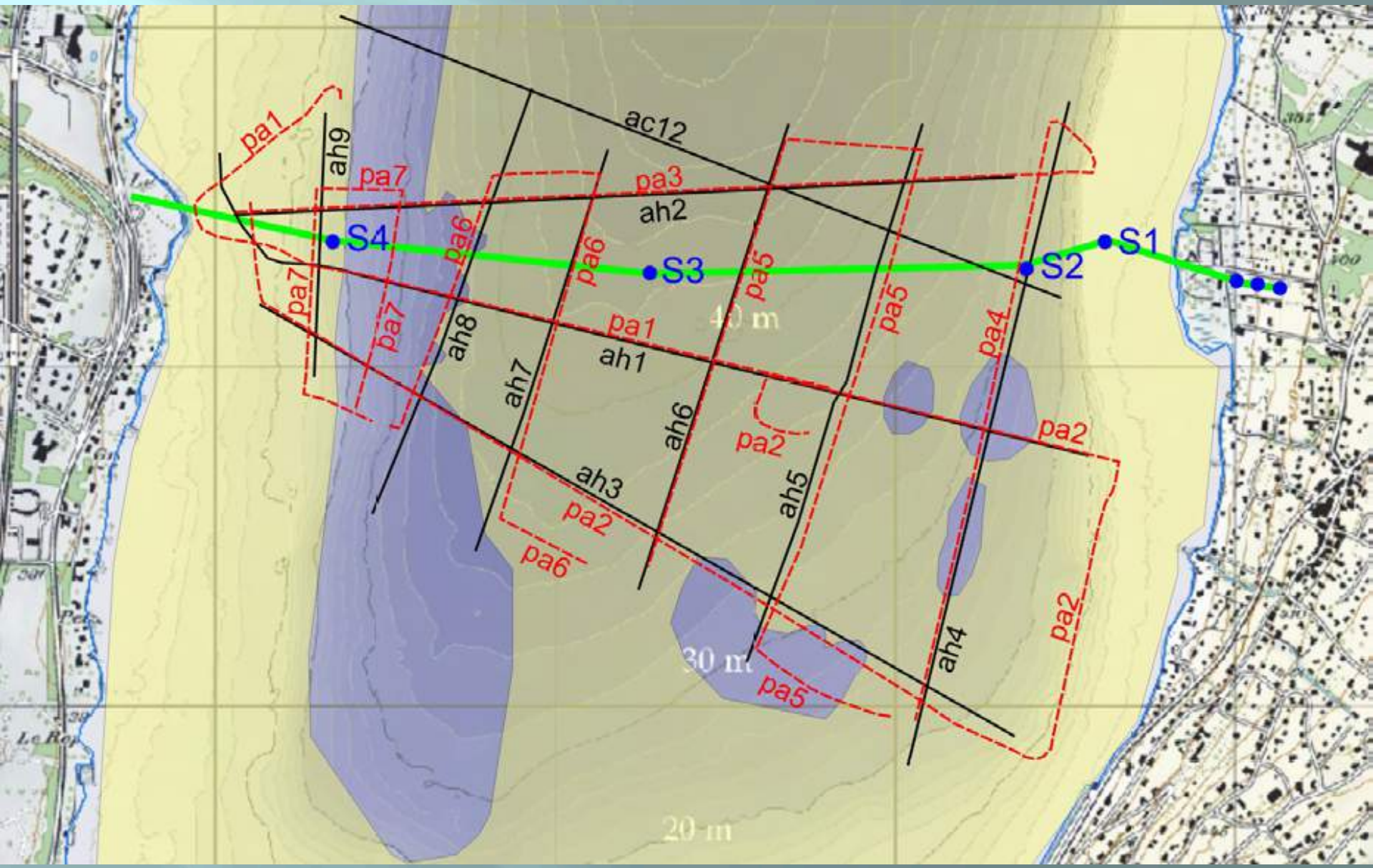
Meinier, 7 mars 2018

Traversée du Lac: aspects géologiques

Walter Wildi
Prof. honoraire
walter.wildi@unige.ch

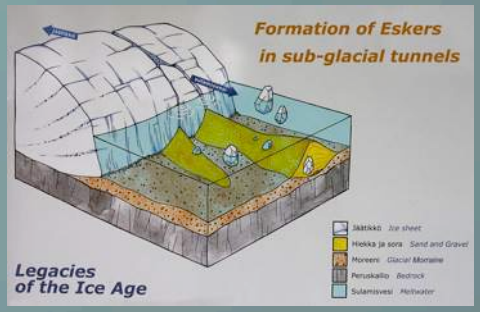
Département F.A. Forel
Université de Genève

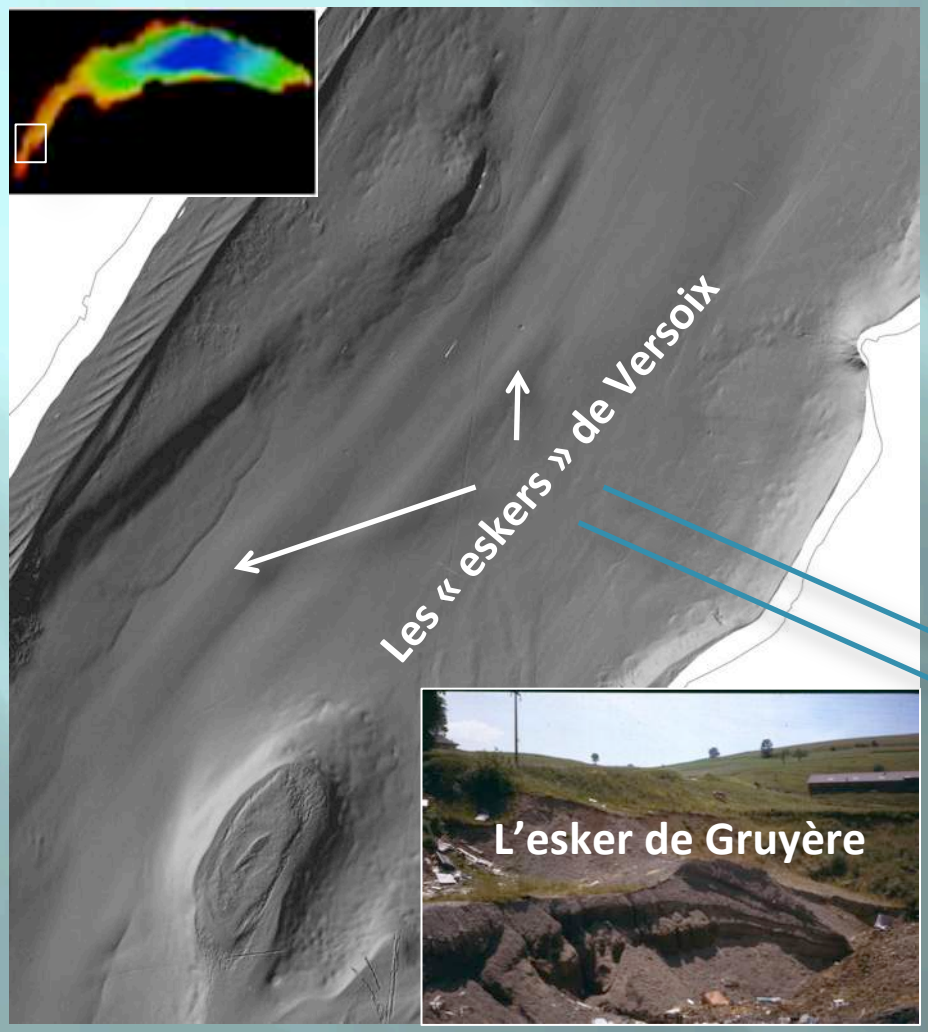


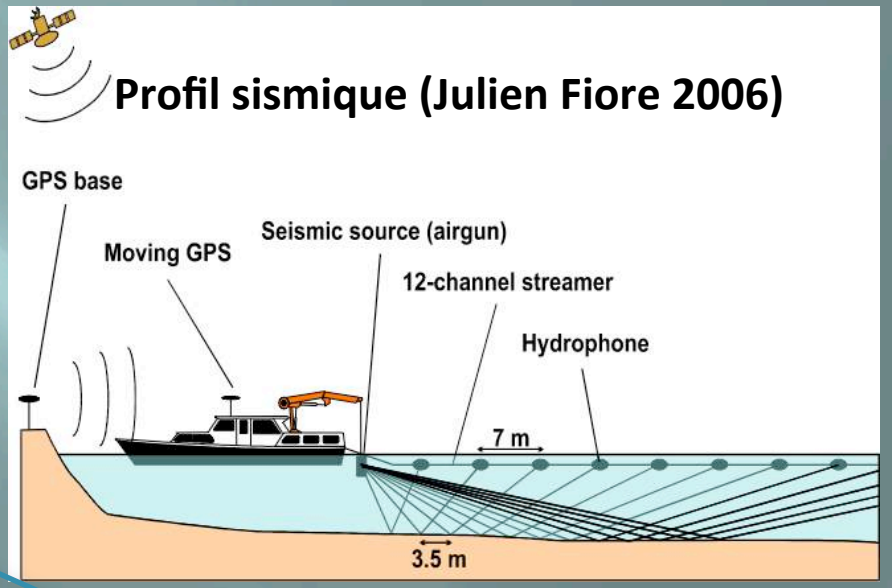
Zone d'investigation, sismique réflexion et forages
Source: rapport Institut Forel 2009

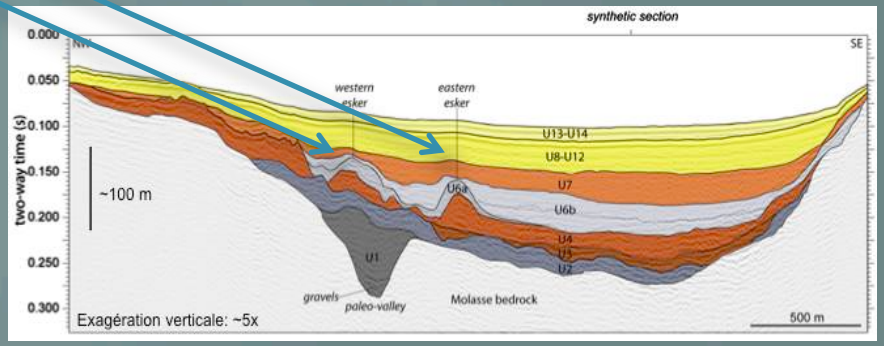
Exploration du Le Léman glaciaire par sismique réflexion

« Eskers » tunnel sous – glaciaires de Versoix









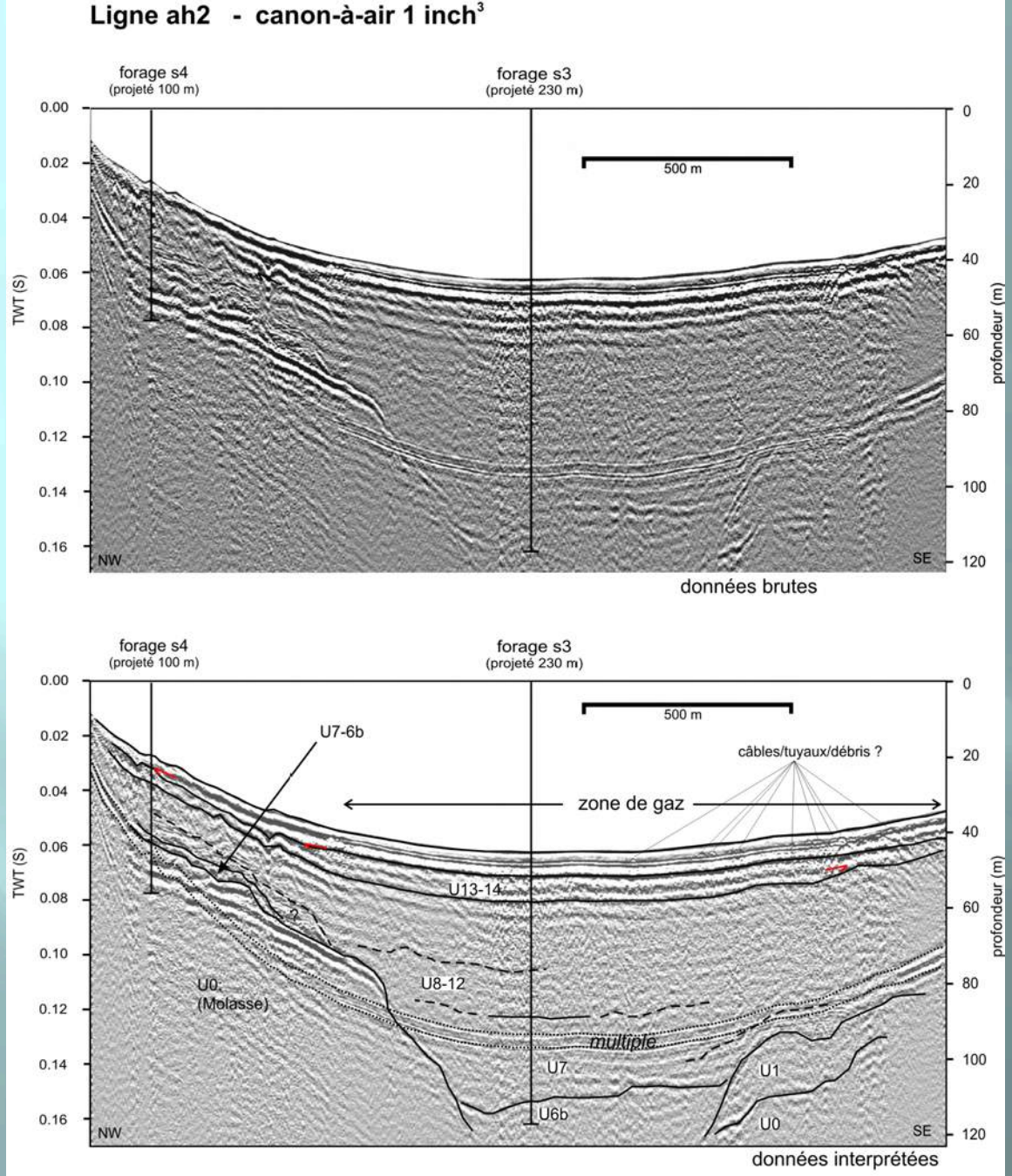
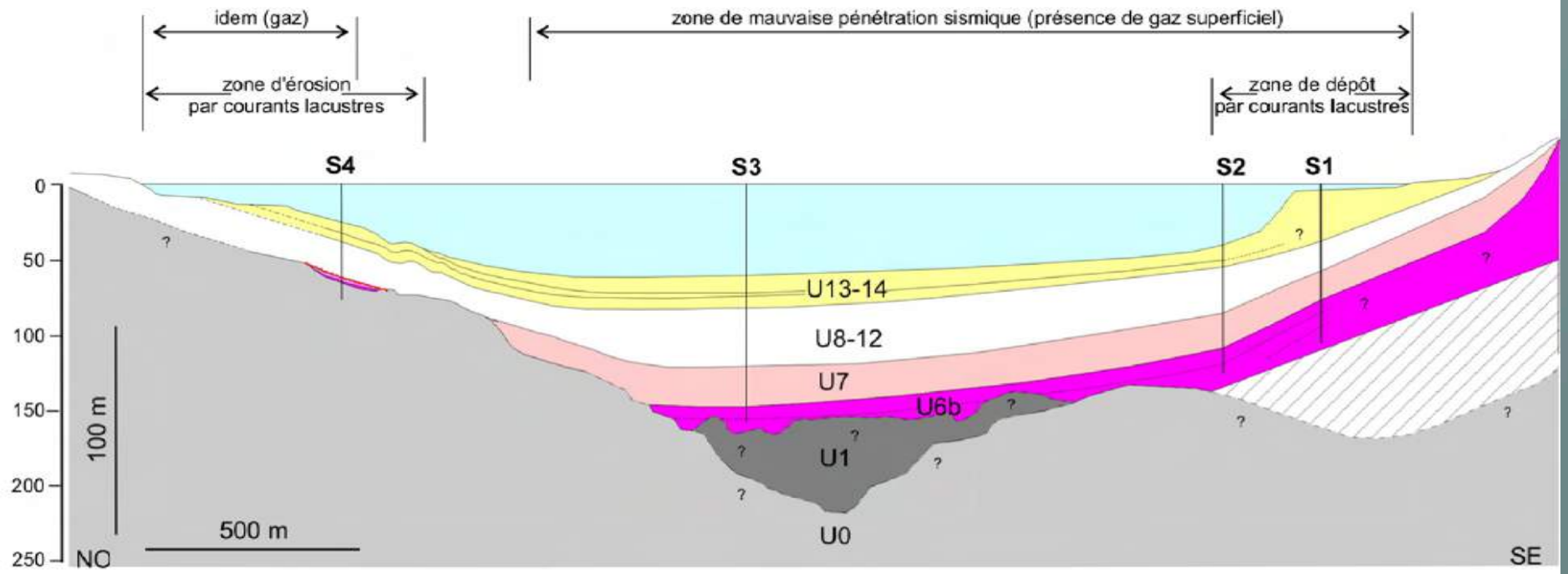
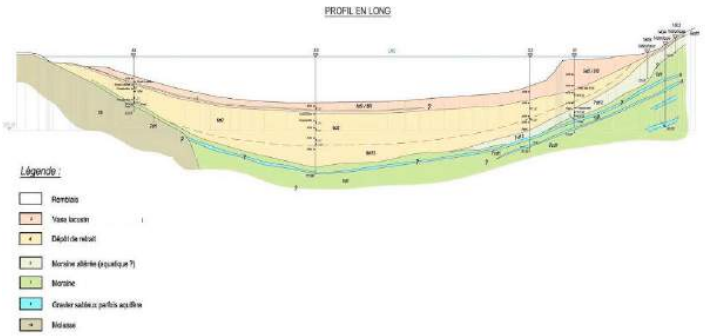


Figure 9. Ligne sismique haute résolution par canon à-air – ah2 (Vengeron-Belotte) brute et interprétée

Source: rapport Institut Forel 2009

Profil sismostratigraphique du Lac Léman (Vengeron-Belotte)





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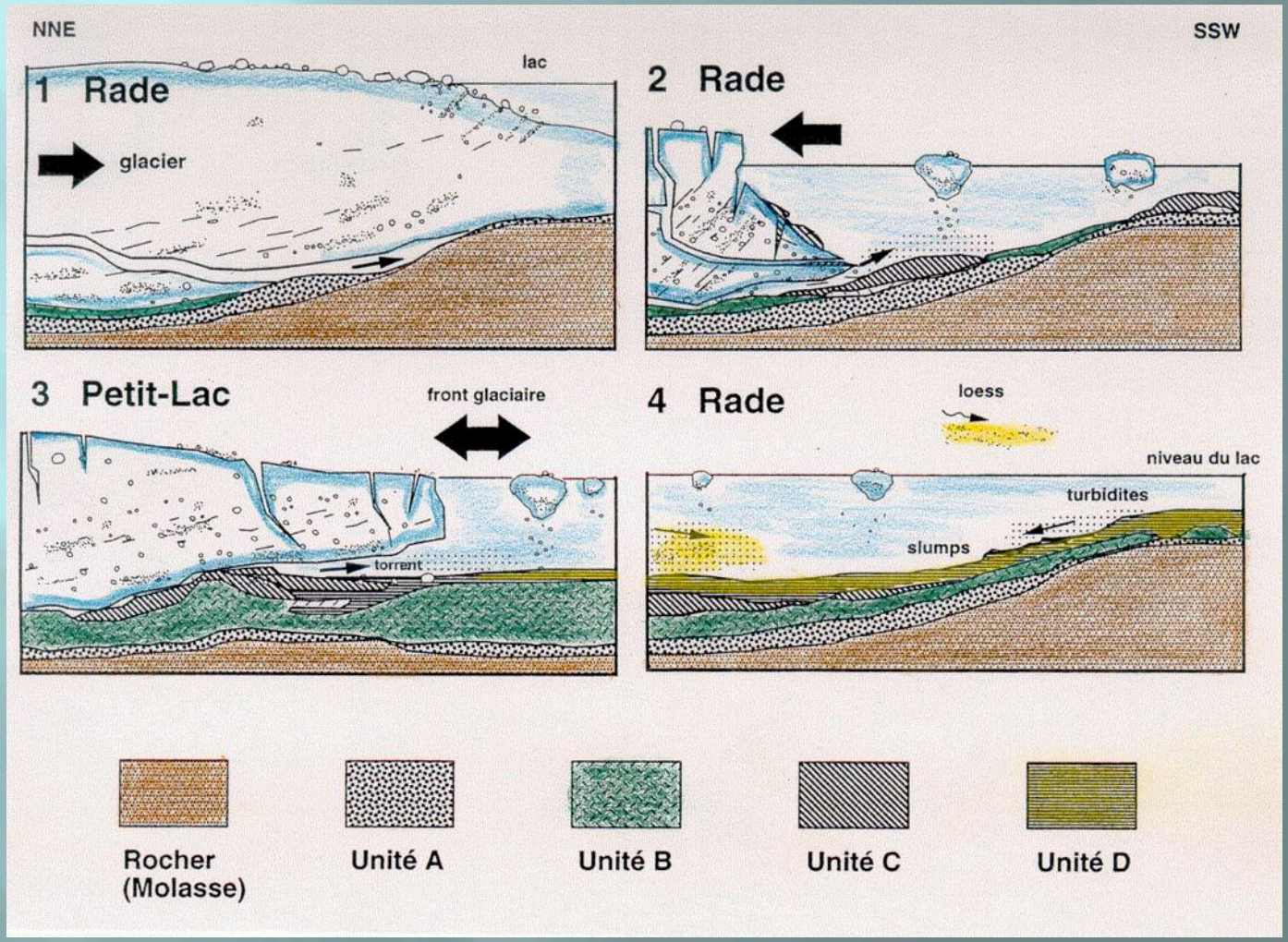
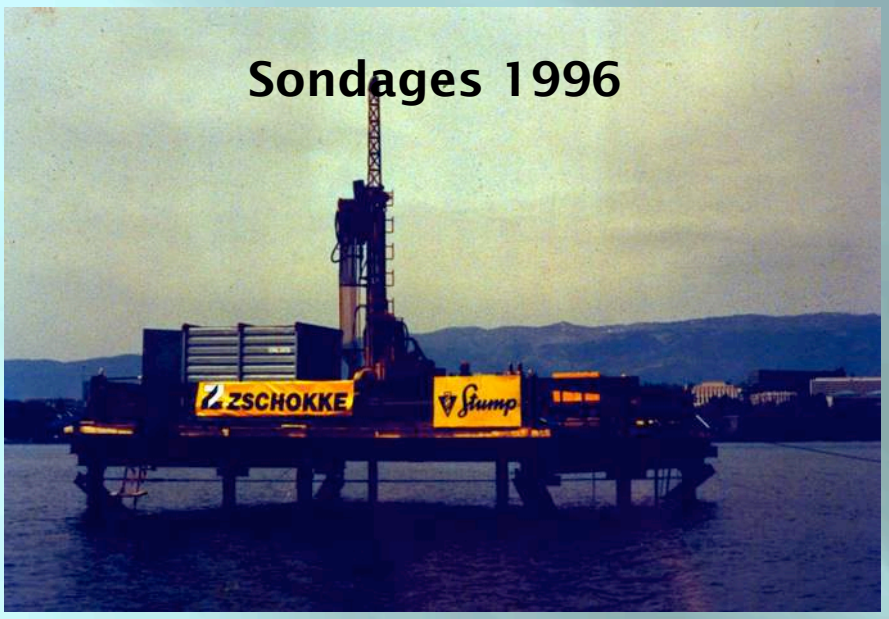
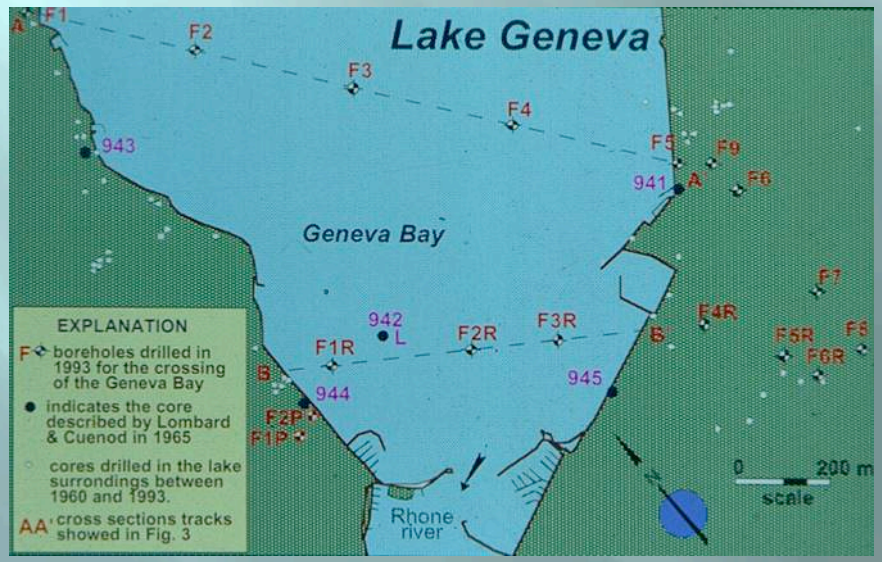
Séquence glaciaire de la Rade de Genève: une comparaison

(Moscariello 1996)

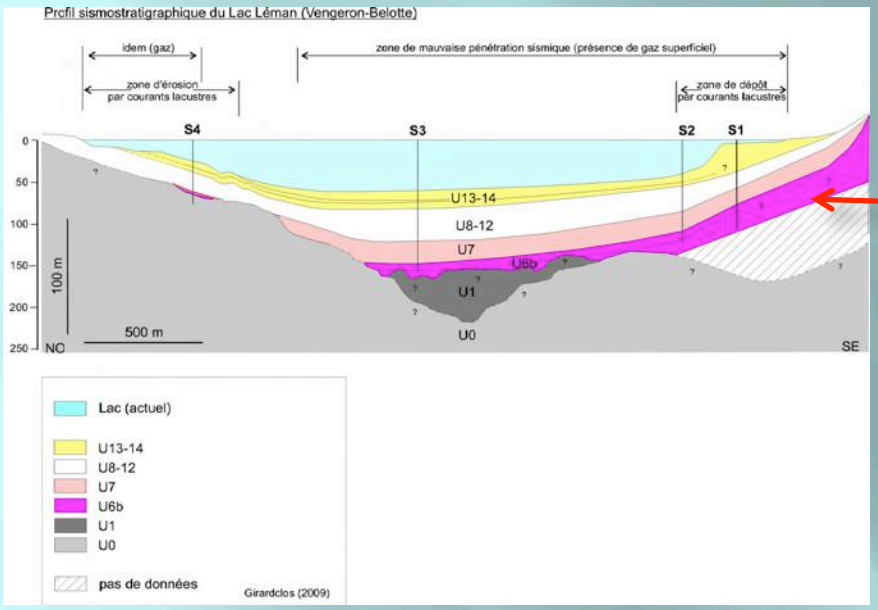


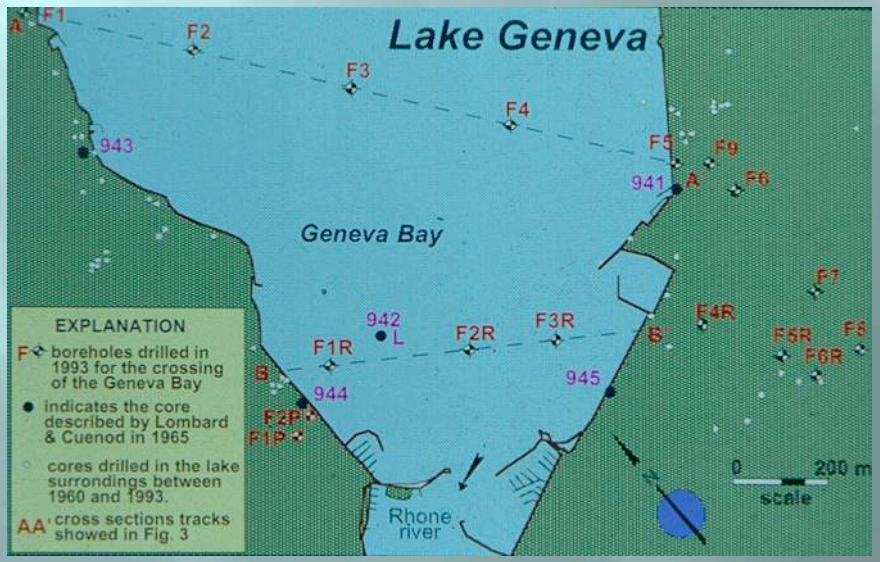
Sondages 1996





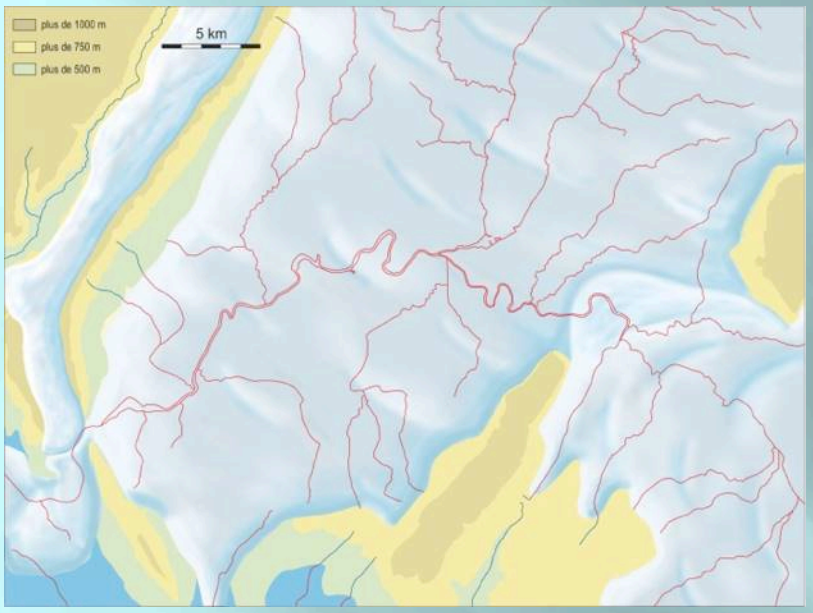
Rade Unité A

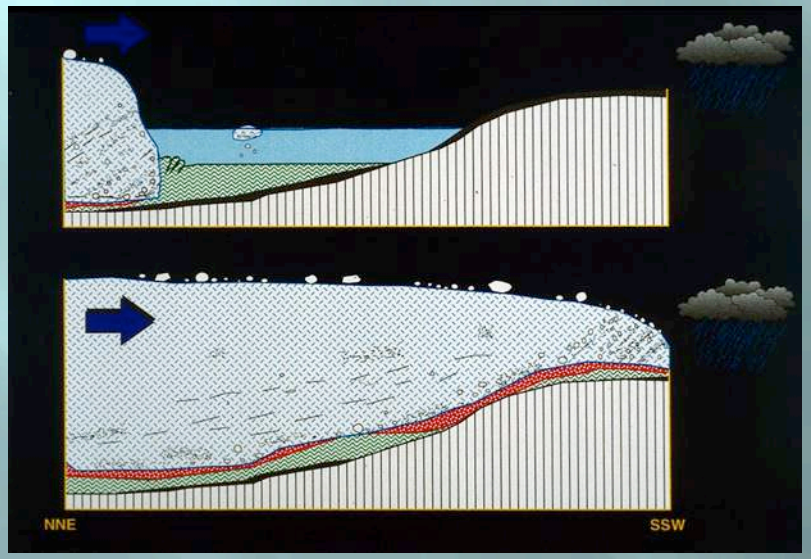

Profil sismostratigraphique du Lac Léman (Vengeron-Belotte)
idem (gaz)
zone d'érosion par courants lacustres
zone de mauvaise pénétration sismique (présence de gaz superficiel)
zone de dépôt par courants lacustres
S4
S3
S2
S1
U13-14
U8-12
U7
U6b
U1
U0
100 m
500 m
NO
SE
Lac (actuel)
U13-14
U8-12
U7
U6b
U1
U0
pas de données
Girardclos (2009)

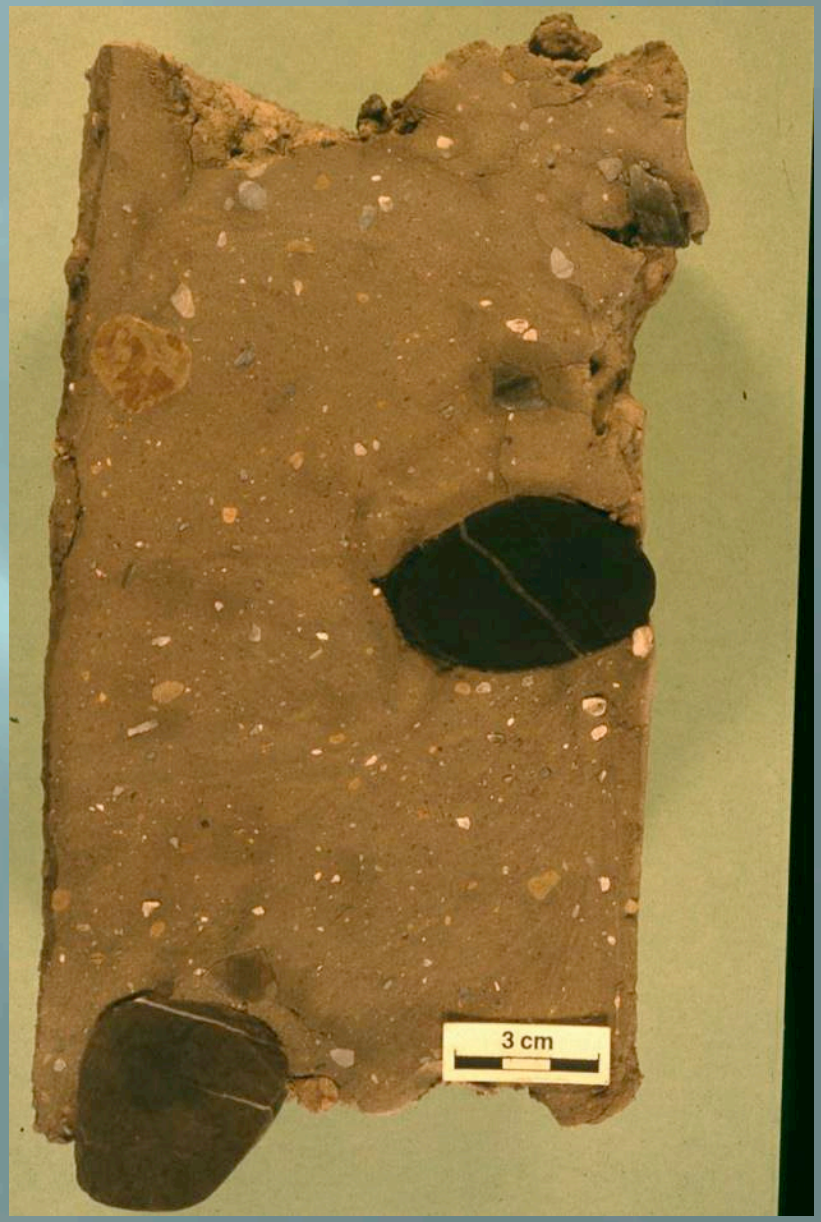

Lake Geneva
Geneva Bay
Rhone river
EXPLANATION
F boreholes drilled in 1993 for the crossing of the Geneva Bay
indicates the core described by Lombard & Cuenod in 1965
cores drilled in the lake surrondings between 1960 and 1993.
AA' cross sections tracks showed in Fig. 3
scale
200 m


2 cm

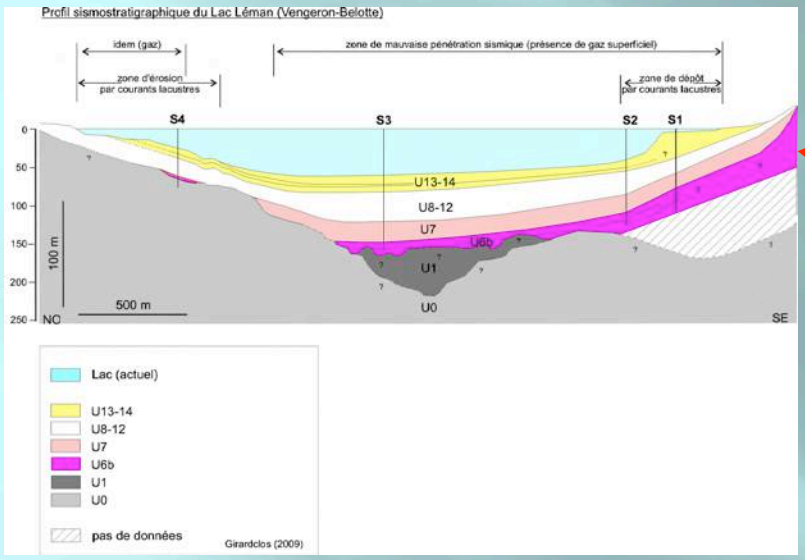
Rade Unité A







Rade Unité B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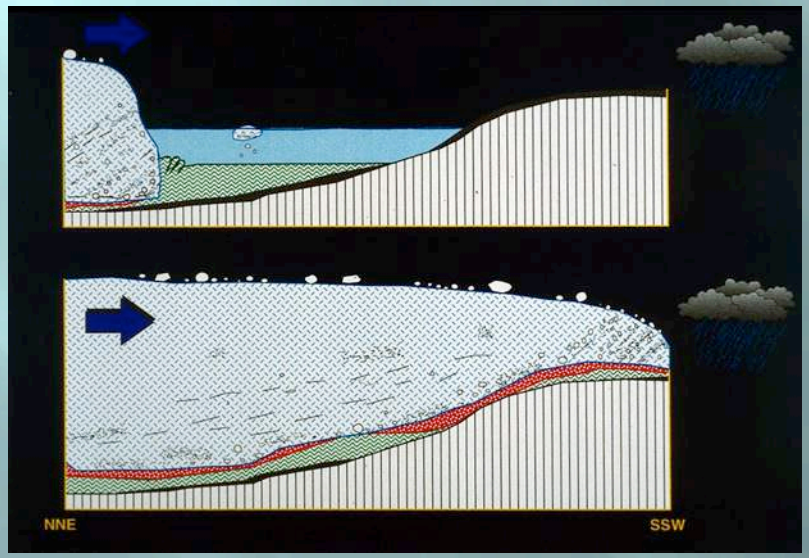
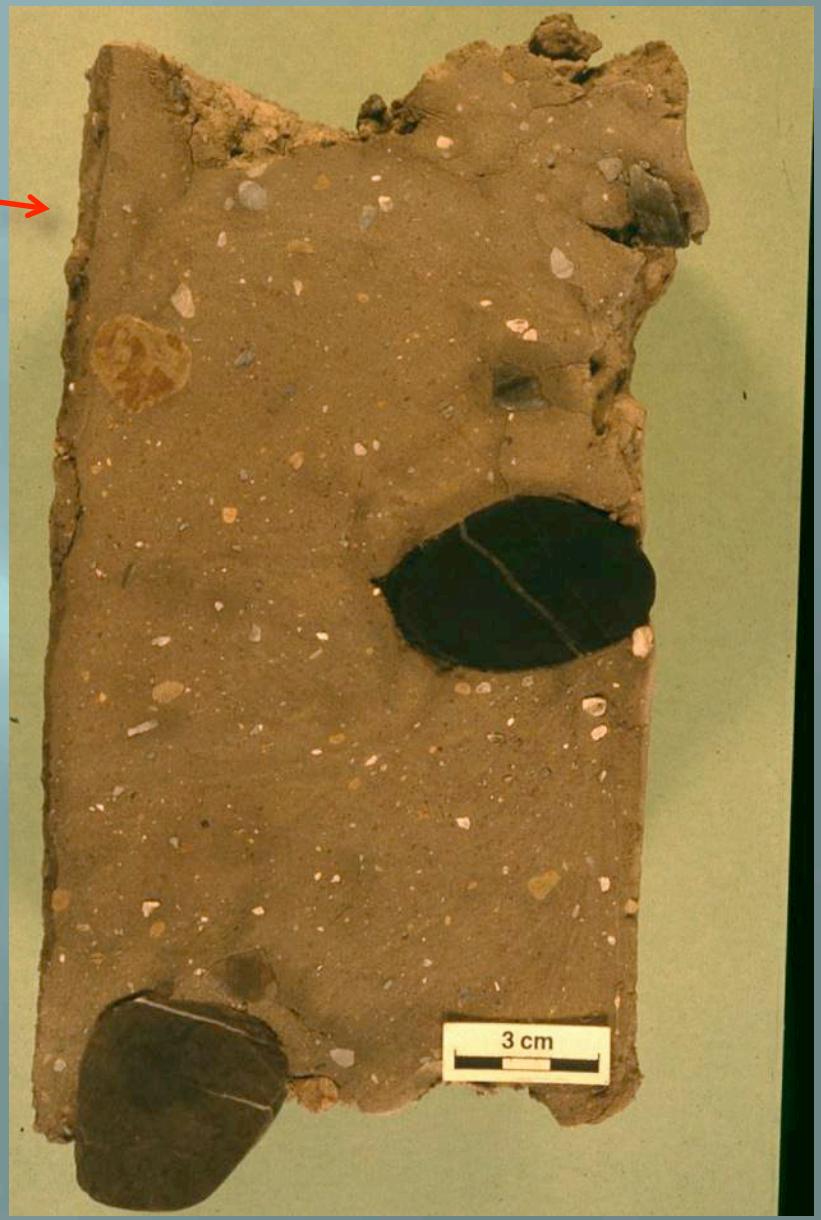
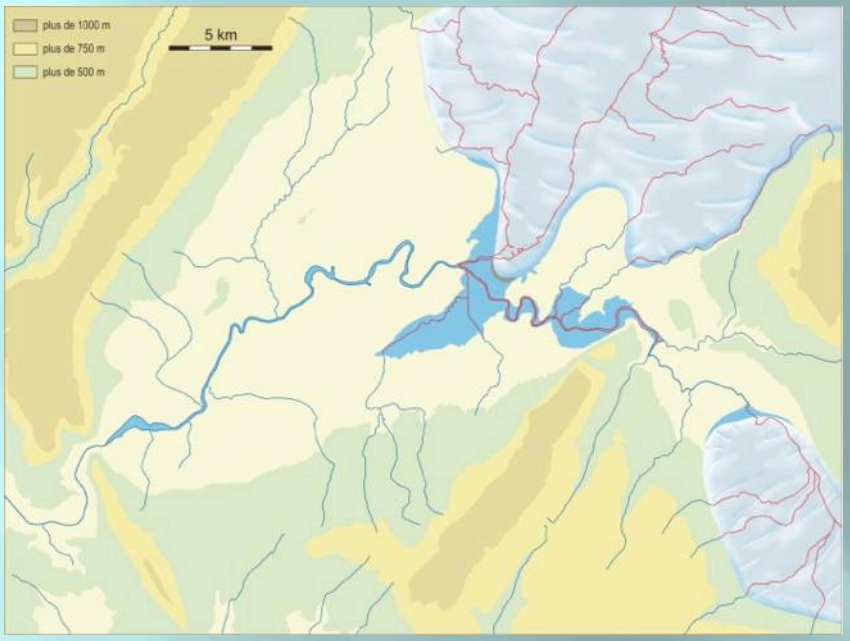
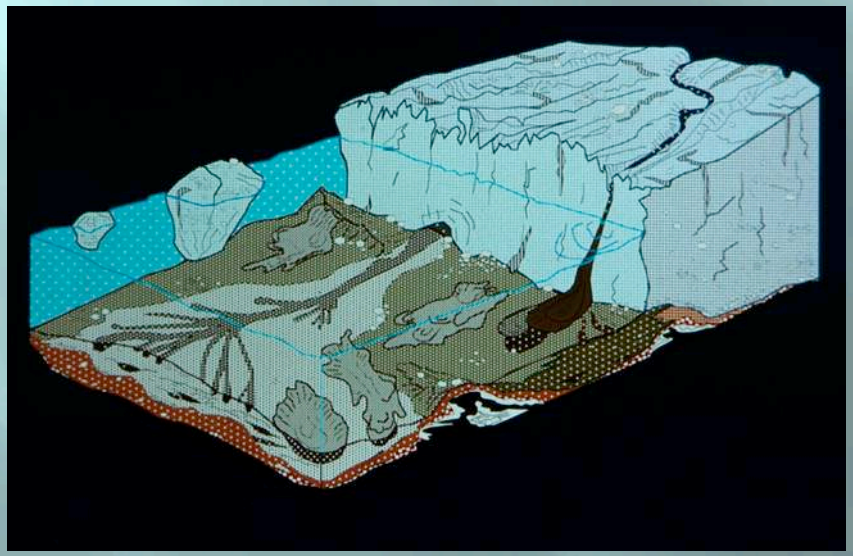

NNE
SSW

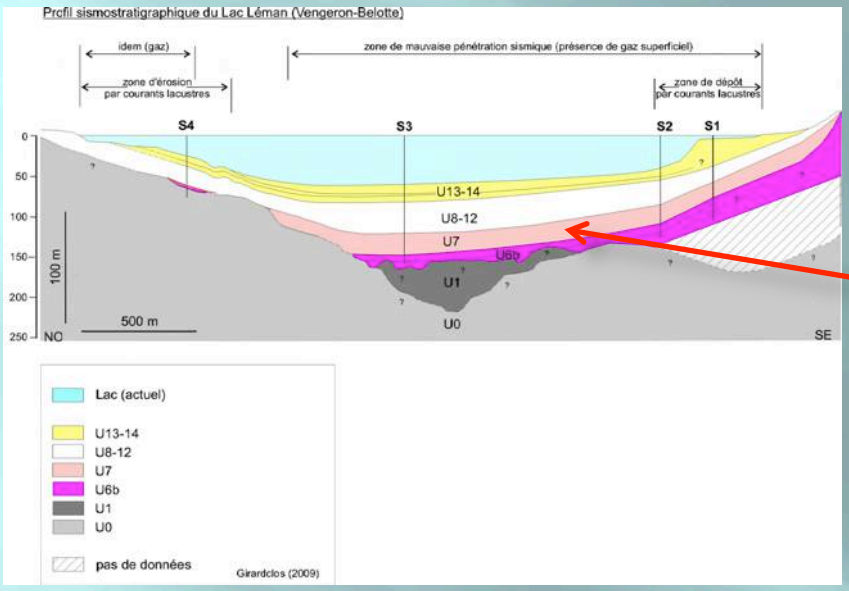

3 cm

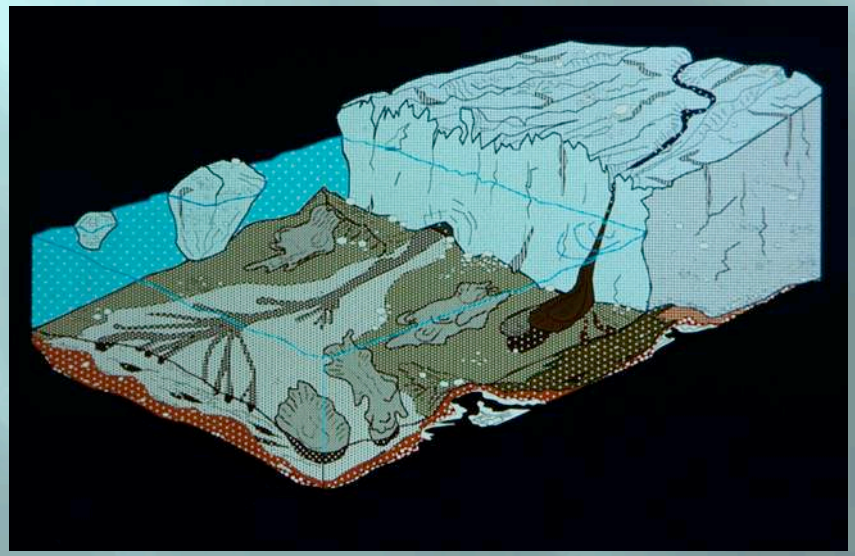
Rade Unité B





Rade Unité C1





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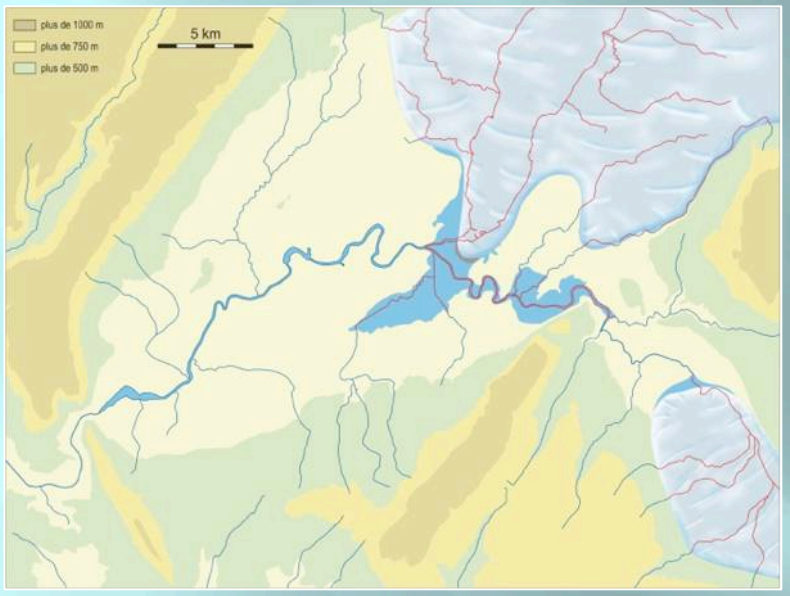
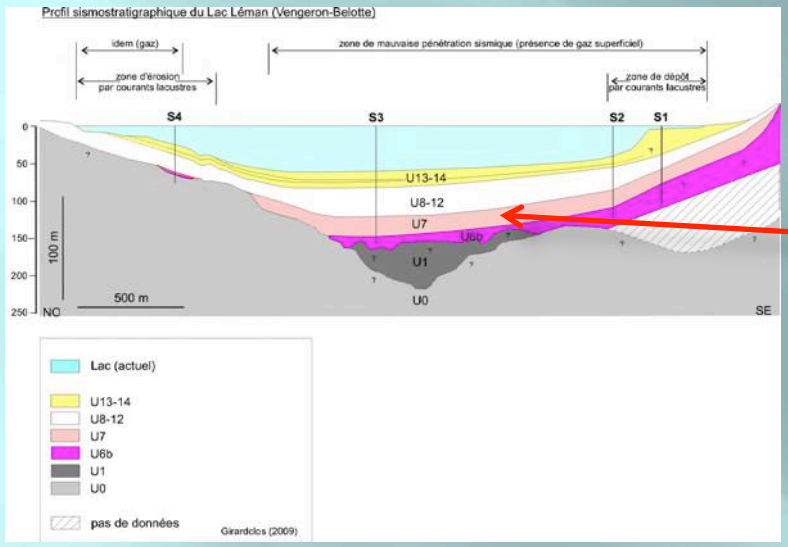


Rade Unité D 1



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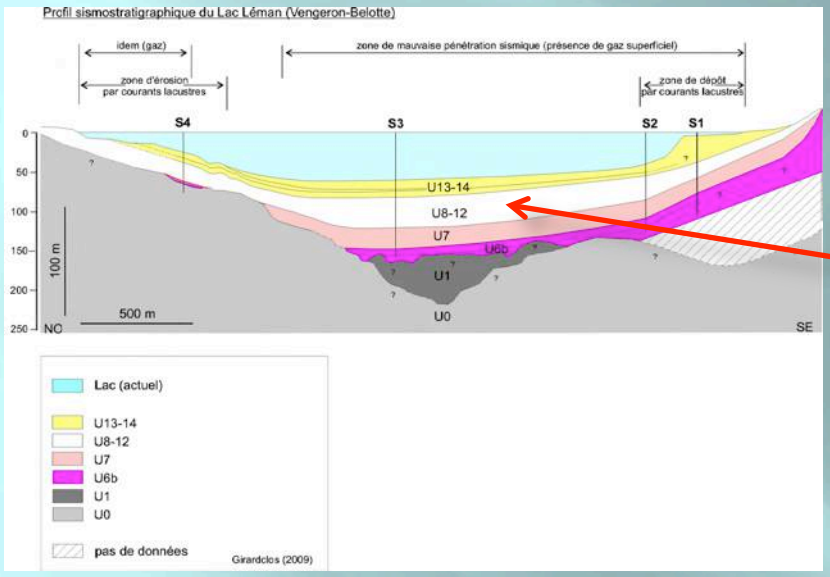

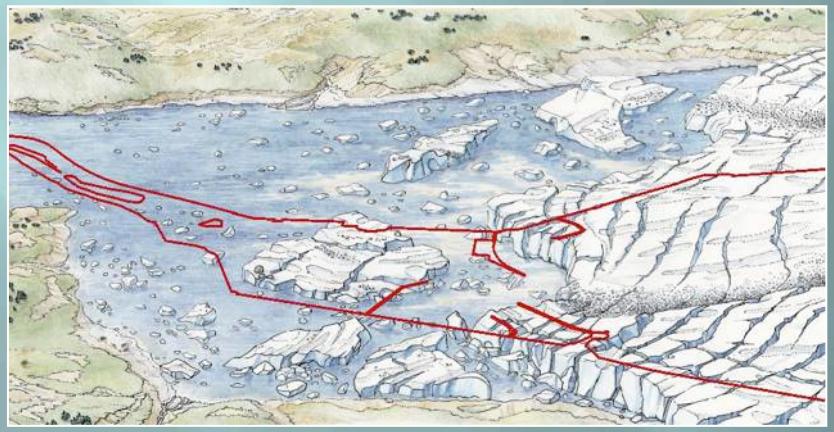

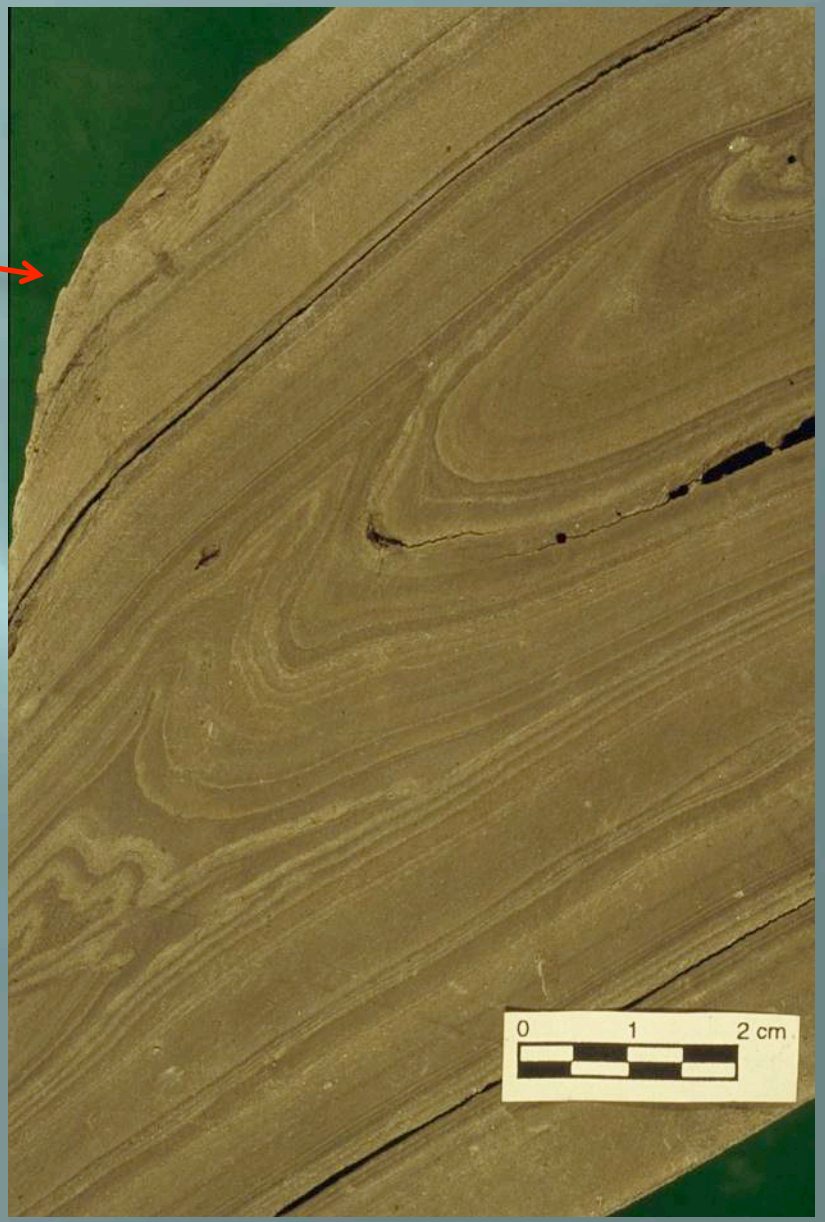

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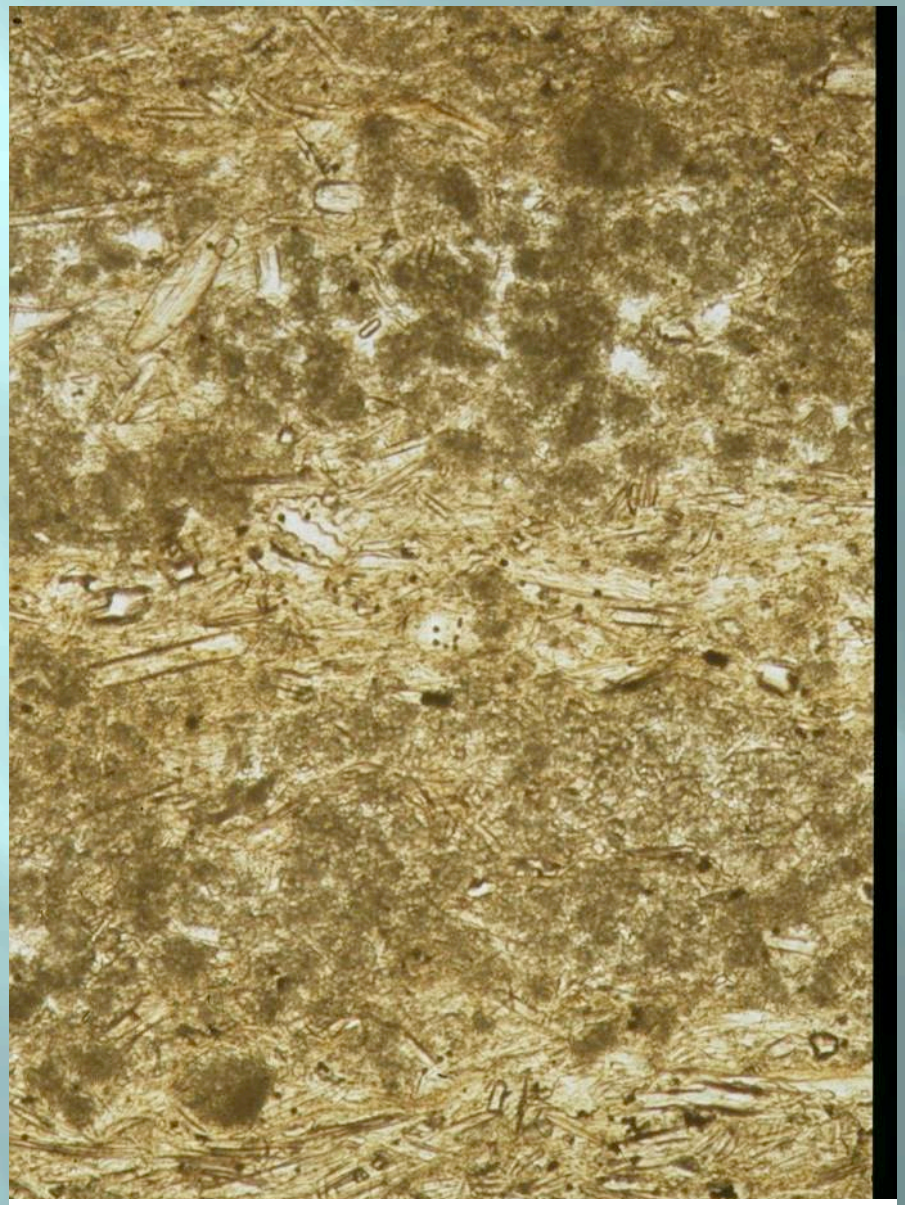
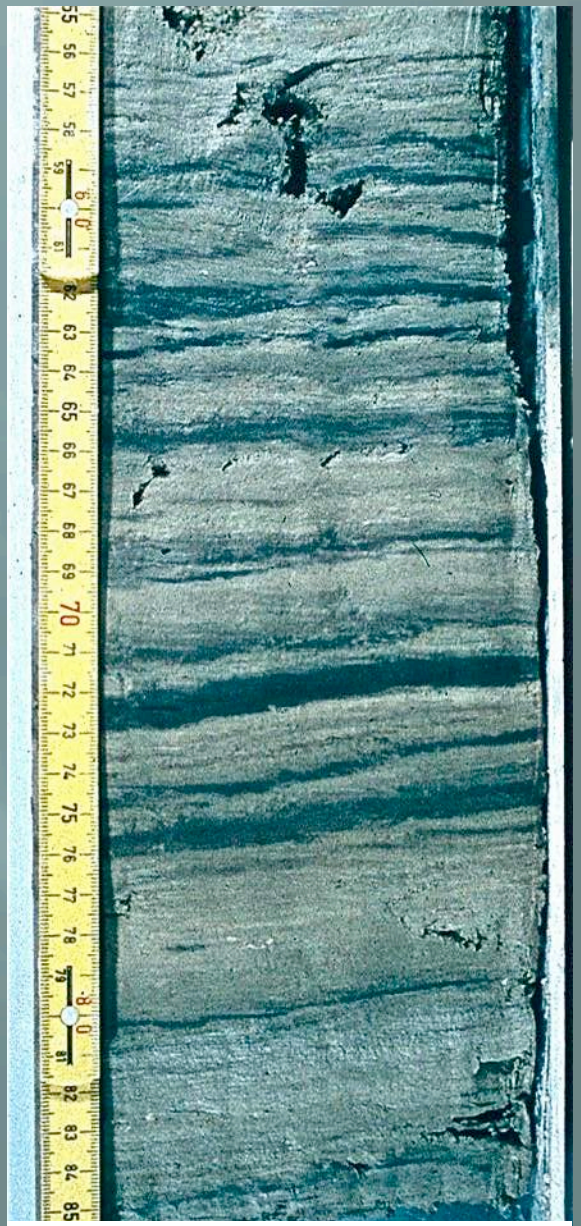
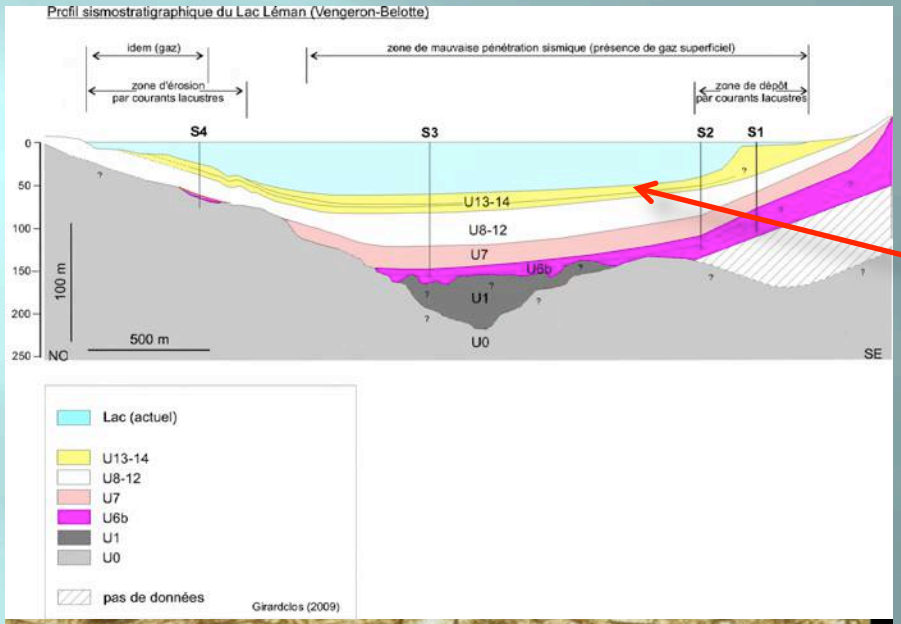
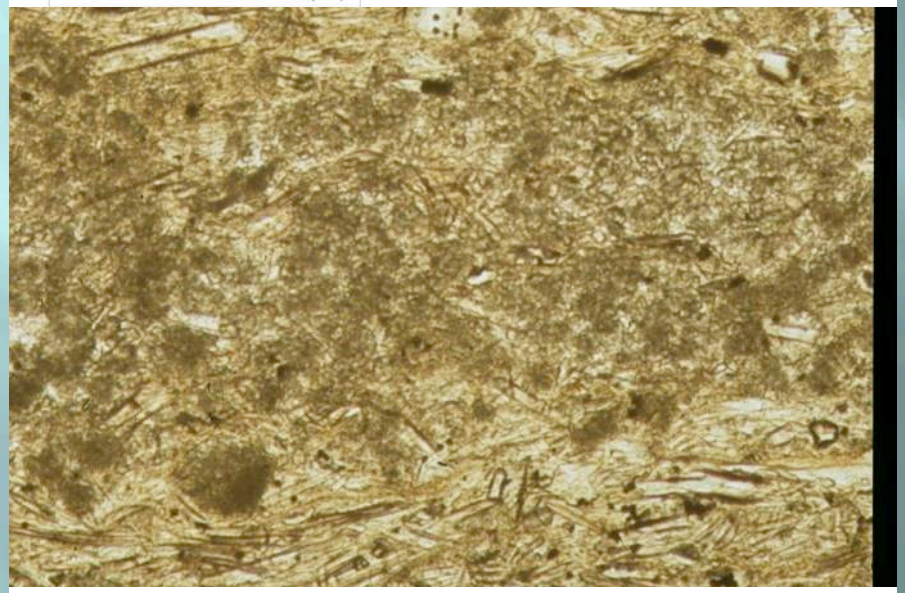


craie lacustre, hauteur slide: env. 3 cm

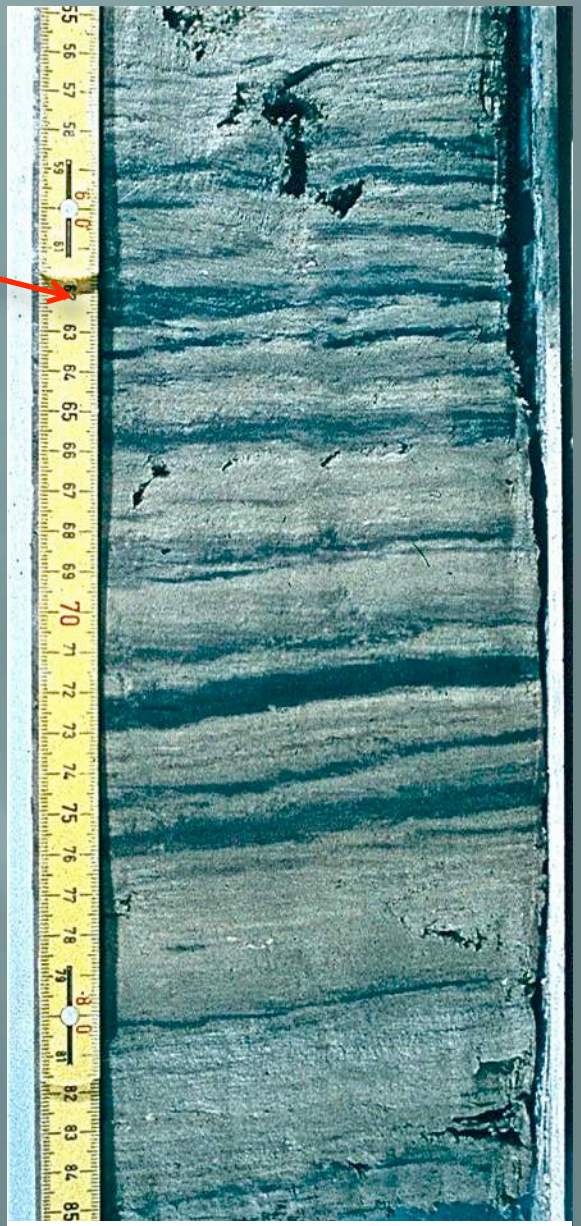


sédiments postglaciaires





craie lacustre, hauteur slide: env. 3 cm



sédiments postglaciaires

Conclusions de la présentation du 7/03/2018

- **Toute construction d'un tunnel dans les sédiments de retrait glaciaires et les sédiments lacustres postglaciaires est à éviter, de même que les variantes de pose d'un tunnel sous forme de «tube» au fond du lac:**
  1) impact environnemental énorme,
  2) incertitude technique concernant la faisabilité du projet dans ces sédiments fortement mobiles,
  3) problème de l'inhomogénéité des terrains (présence de blocs erratiques du genre Pierres du Niton).
- **Seules deux formations géologiques sont capables de supporter des fondements lourds ou des percements:**
  - **la Molasse**
  - **la Moraine basale**
- **Que deviendront la prise d'eau des SIG? les munitions au fond du lac?**
- **L'estimation du coût de construction est extrêmement difficile, voir hasardeuse.**
- **La plus grande surprise géologique du projet de traversée serait ne n'avoir aucune surprise!**