

Vertical and lateral water dynamics in transects of the Sabie and Letaba river exclosures, Kruger National Park, South Africa

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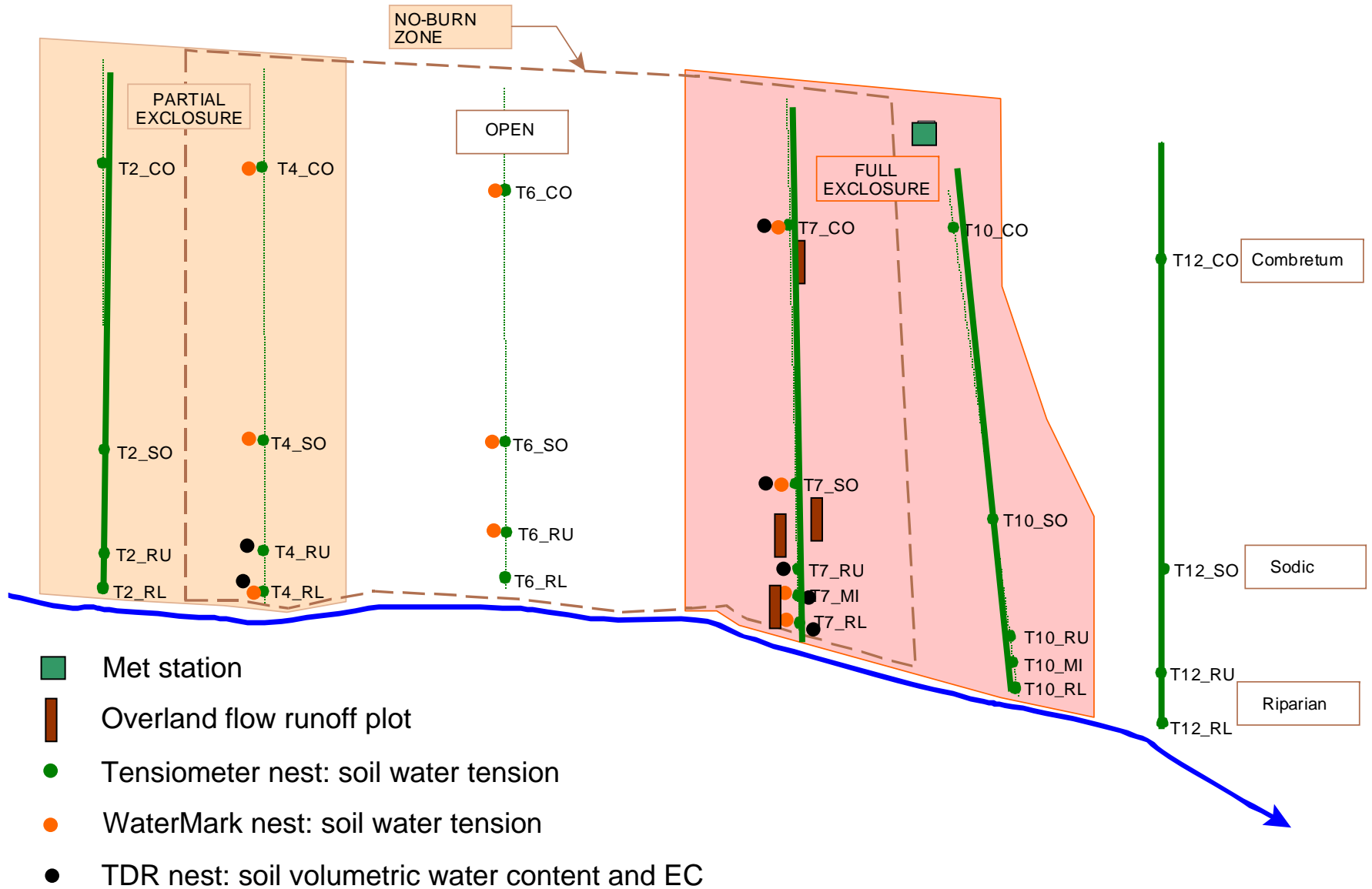
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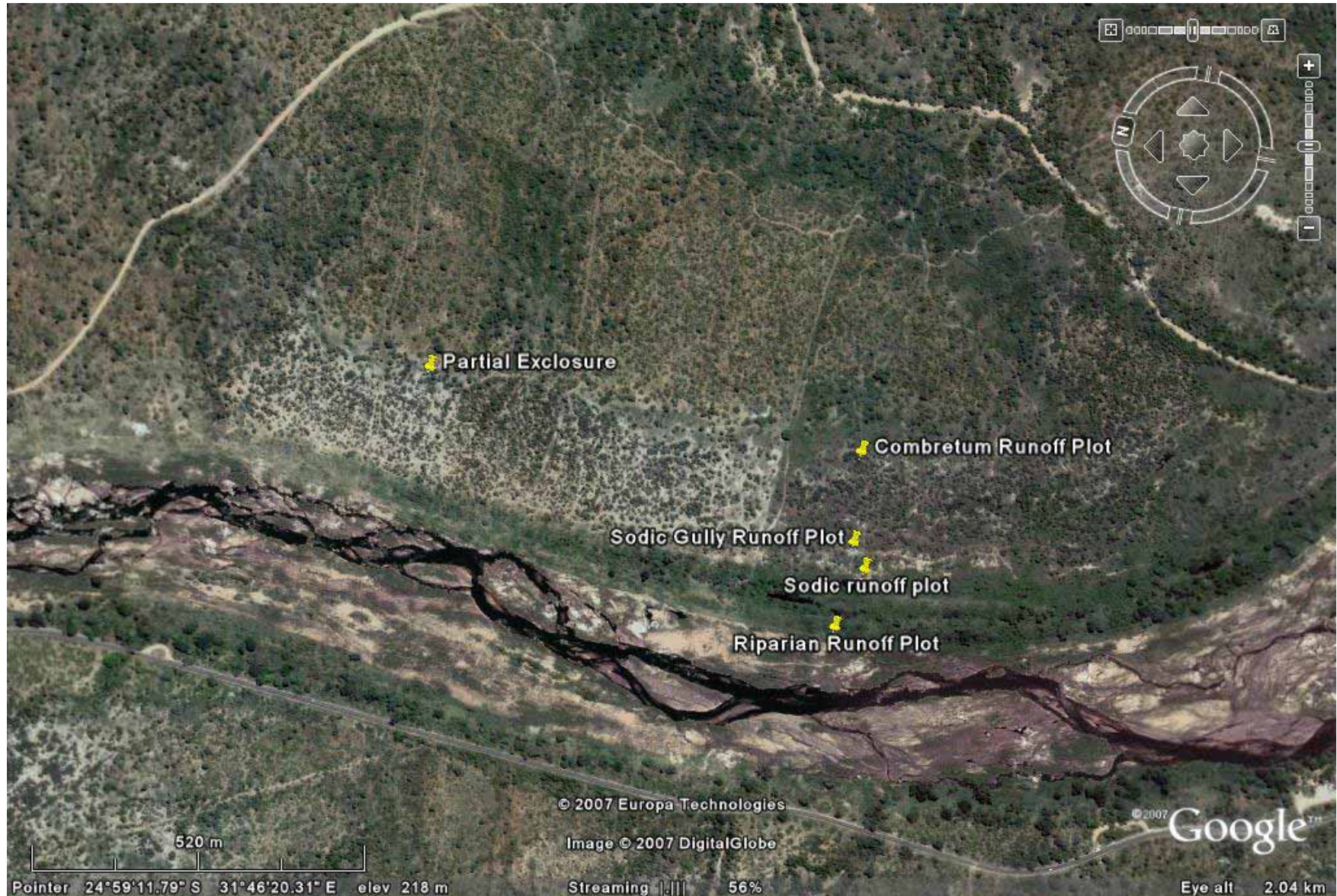
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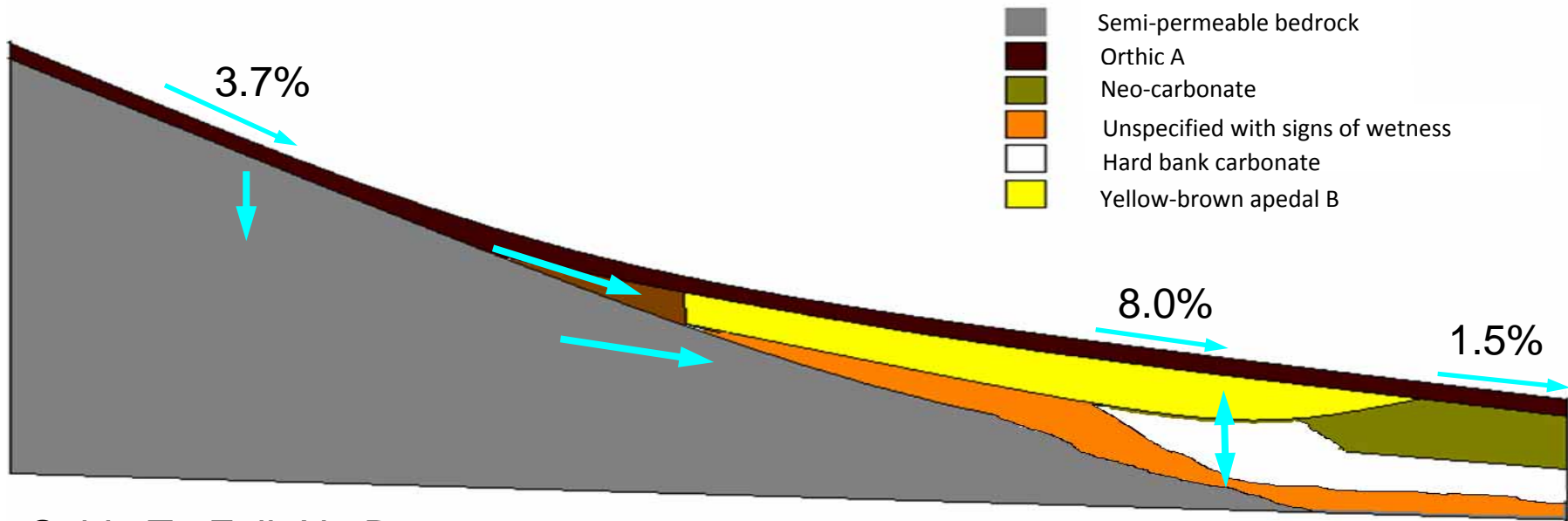


Sabie enclosure layout: Schematic of instrumentation and transects

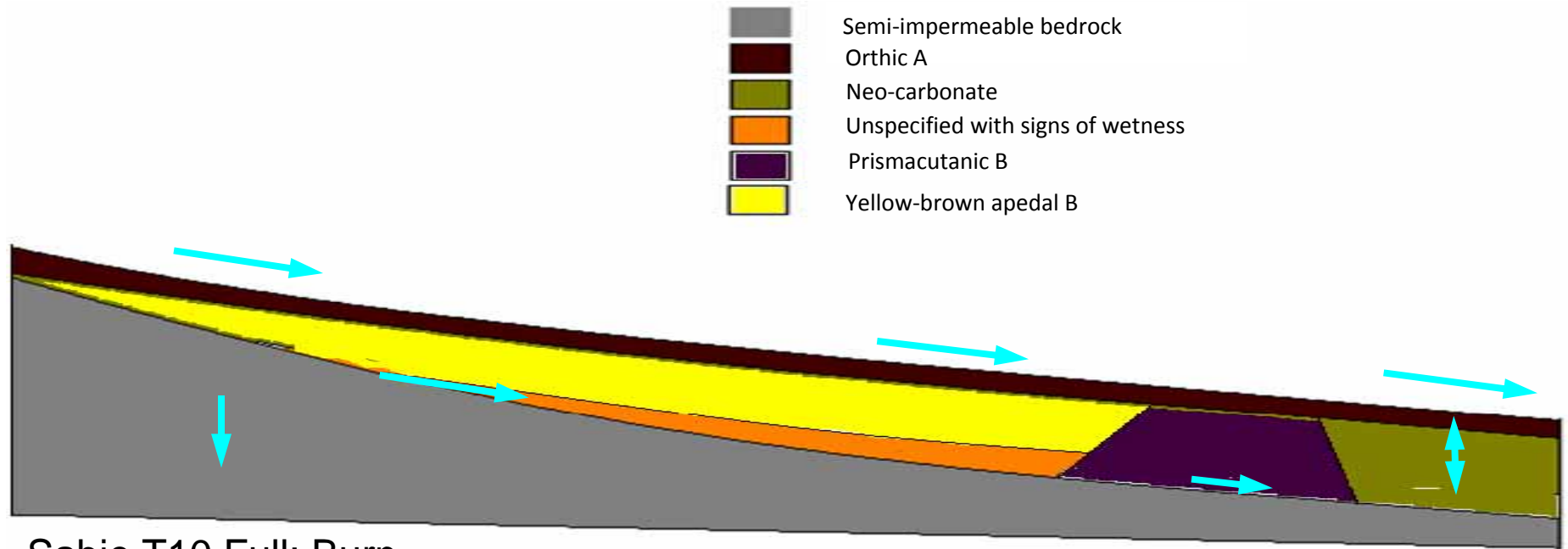


Sabie enclosure layout

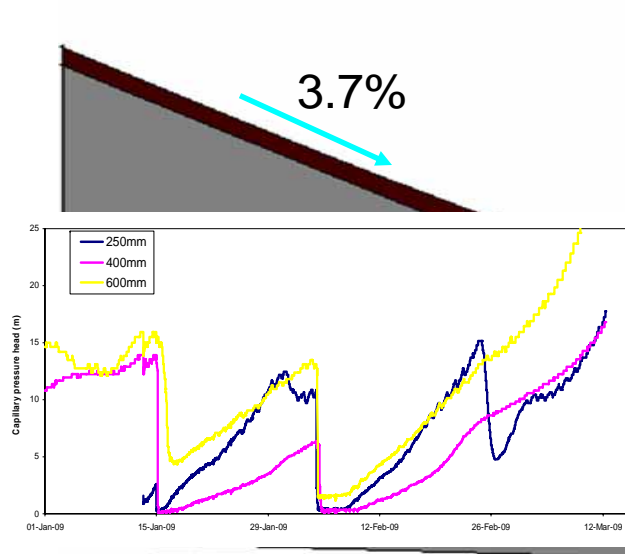




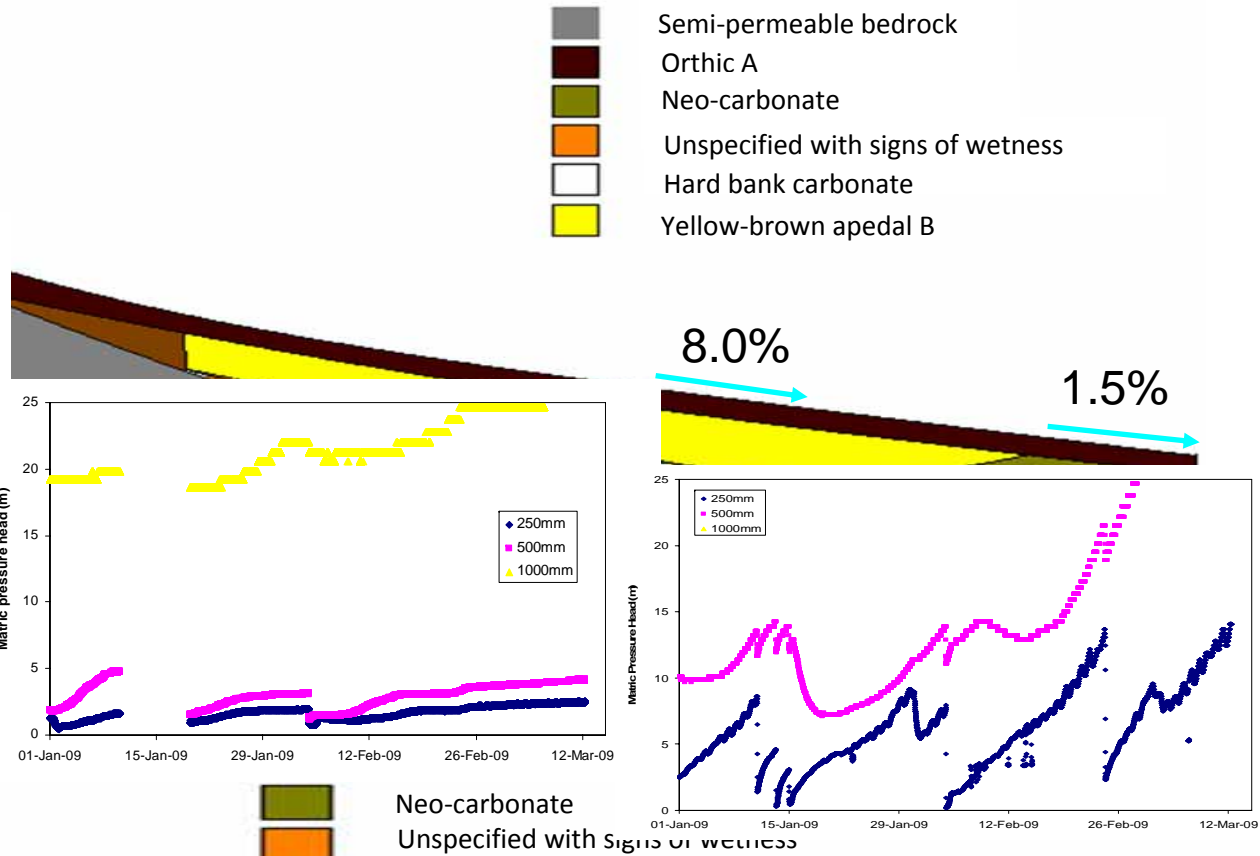
Sabie T7 Full: No Burn



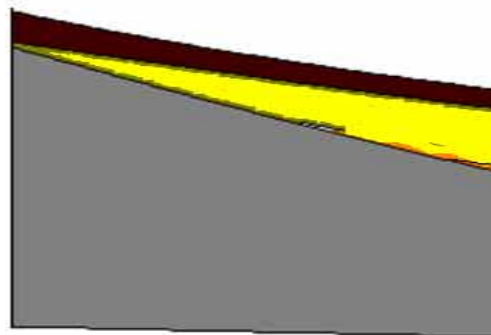
Sabie T10 Full: Burn



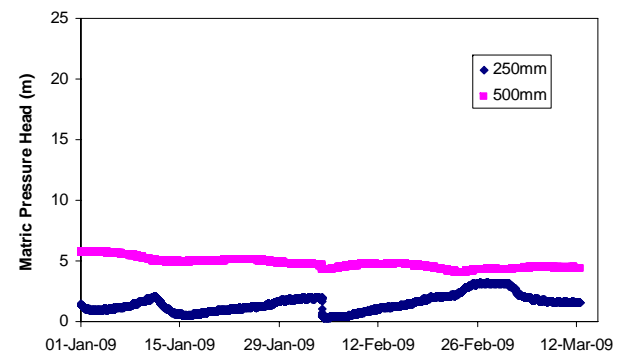
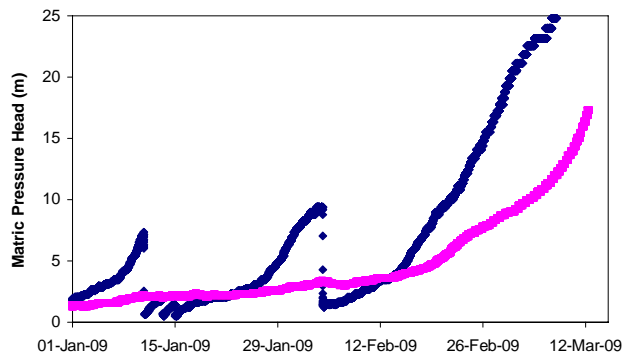
Sabie T7 Full: No Burn








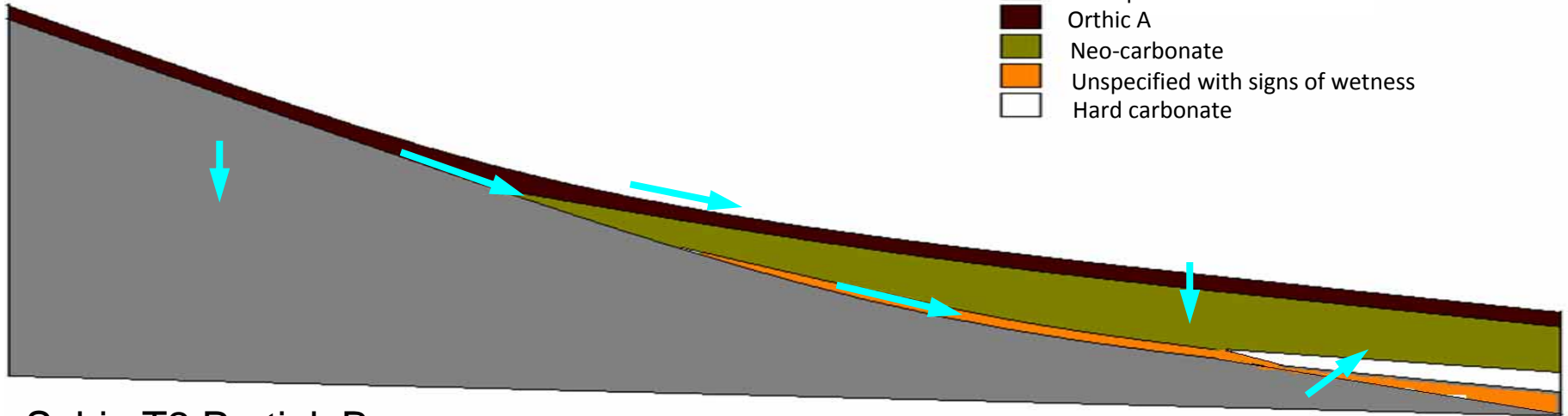
Neo-carbonate
Unspecified with signs of wetness
Prismaeutanic B
Yellow-brown apedal B






Sabie T10 Full: Burn

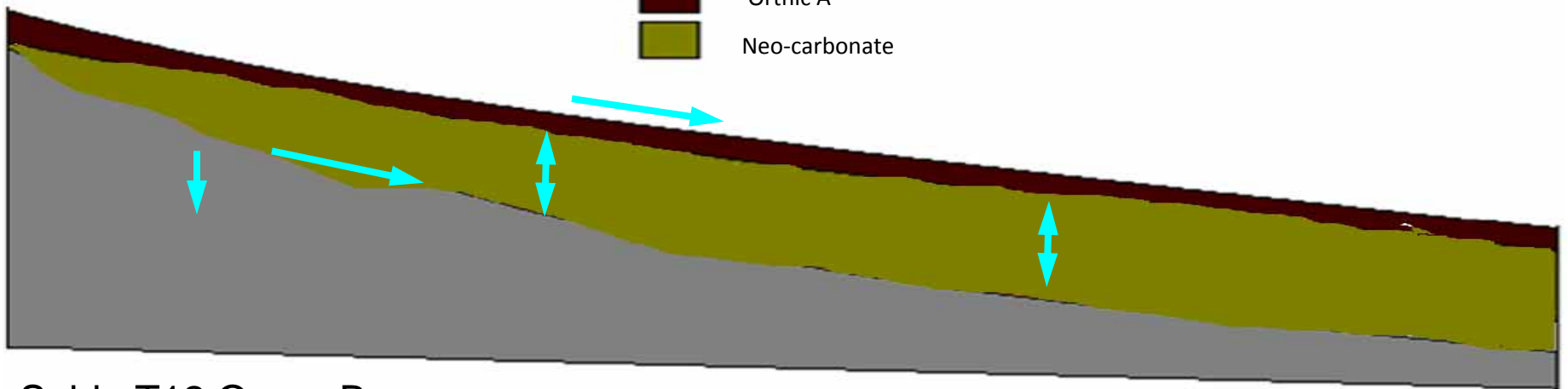


-  Semi-permeable bedrock
-  Orthic A
-  Neo-carbonate
-  Unspecified with signs of wetness
-  Hard carbonate



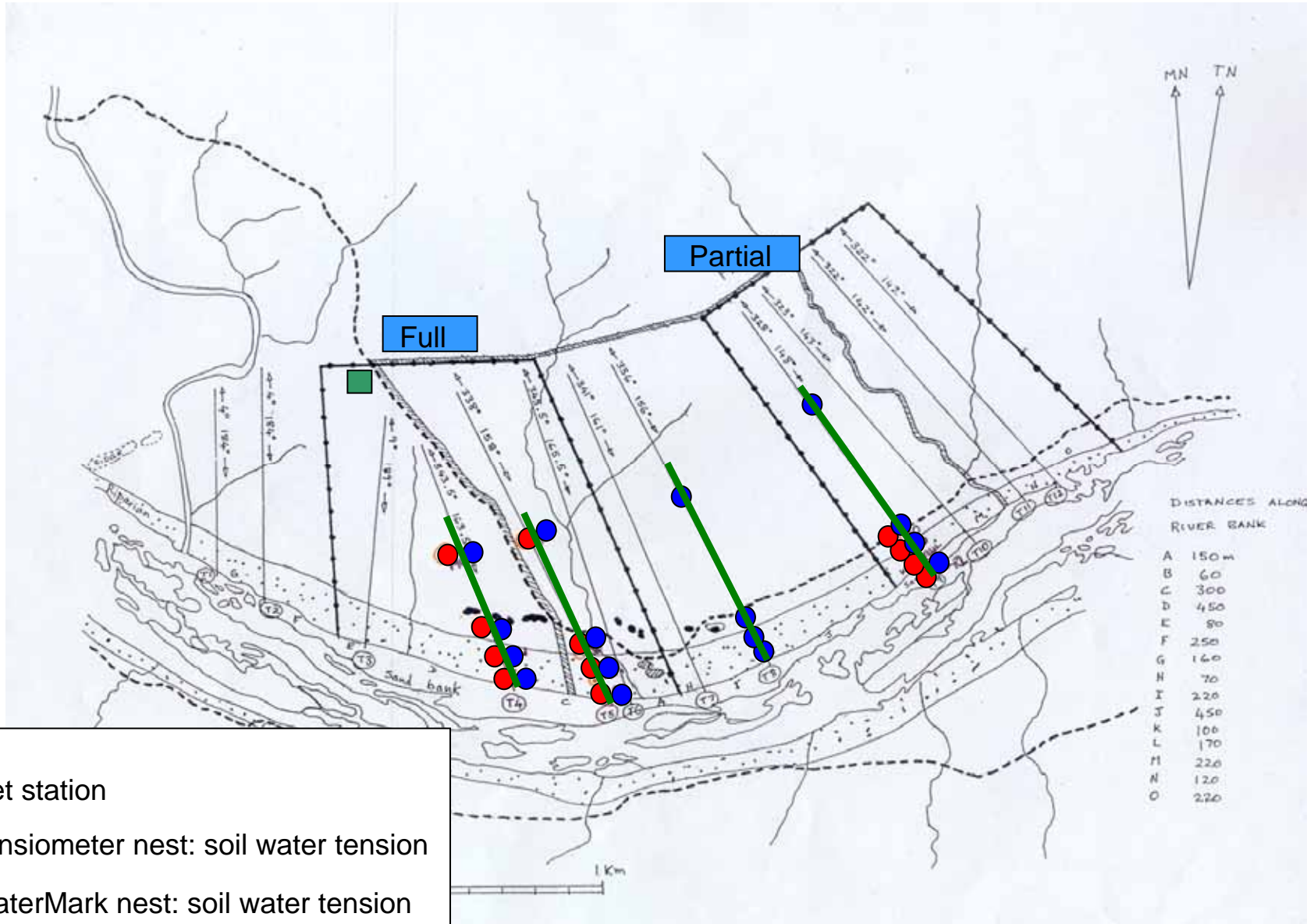
Sabie T2 Partial: Burn

-  Semi-impermeable bedrock
-  Orthic A
-  Neo-carbonate



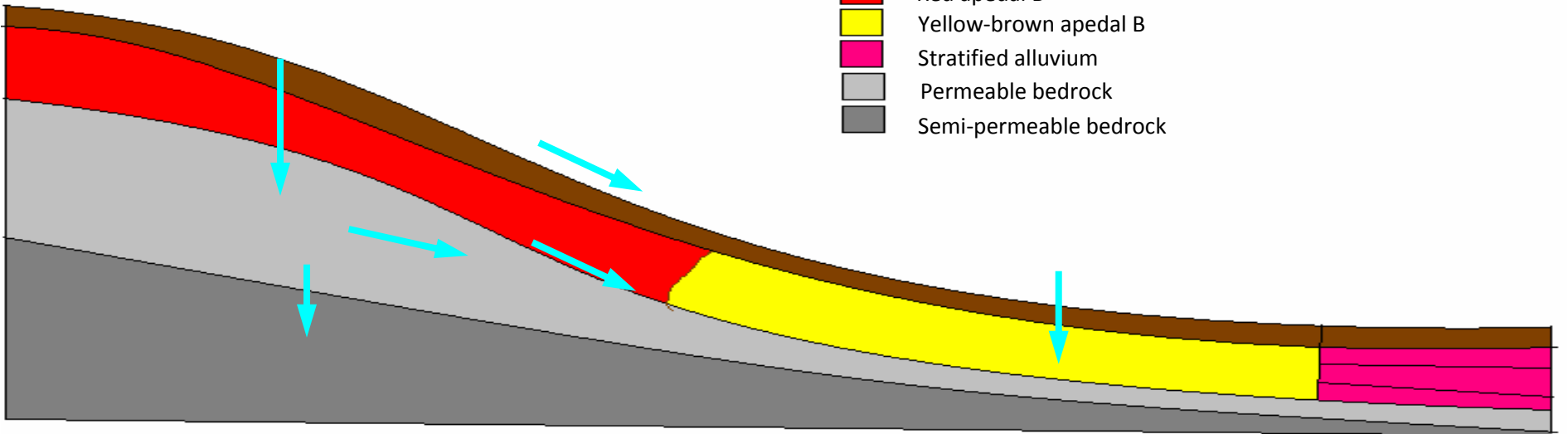
Sabie T12 Open: Burn

Letaba exclosure layout



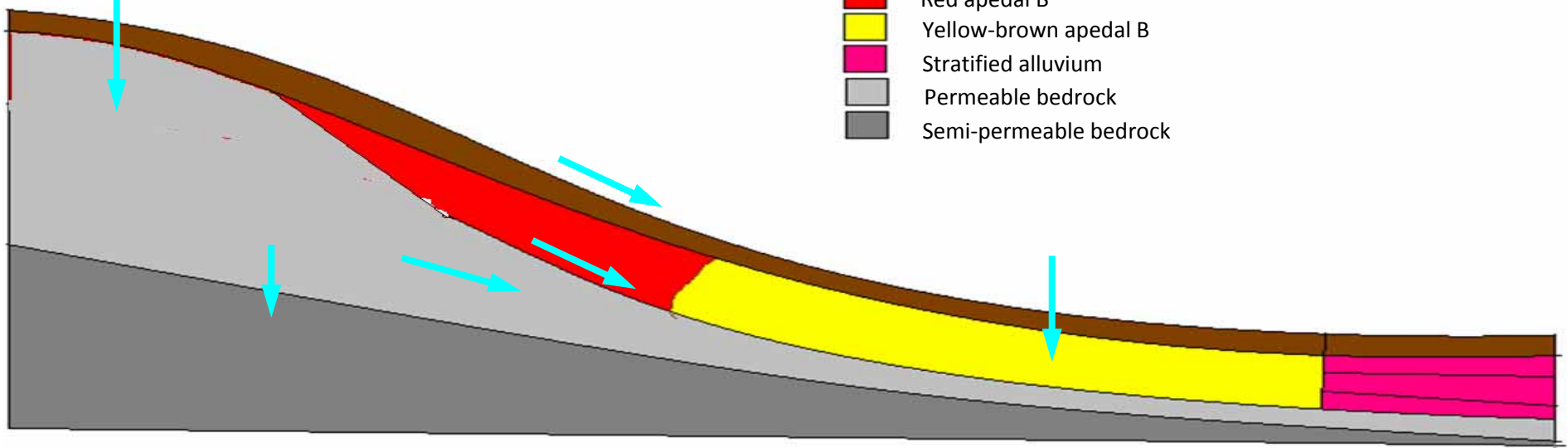
- Met station
- Tensiometer nest: soil water tension
- WaterMark nest: soil water tension

- Orthic A
- Red apedal B
- Yellow-brown apedal B
- Stratified alluvium
- Permeable bedrock
- Semi-permeable bedrock

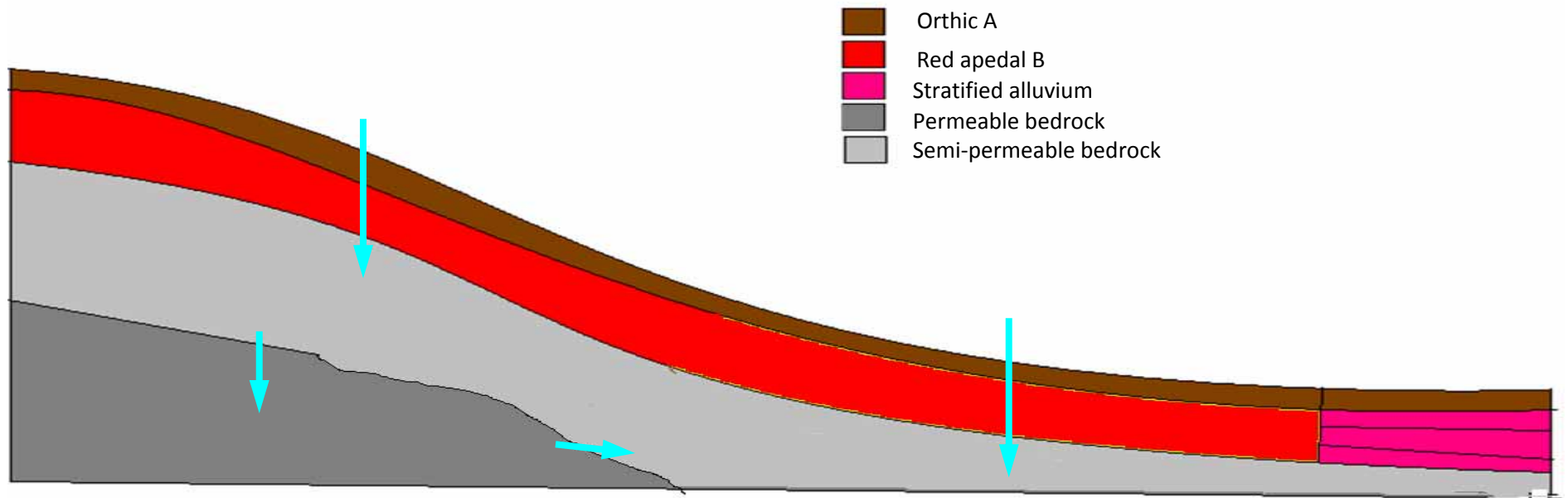


Letaba T04 Full: No Burn

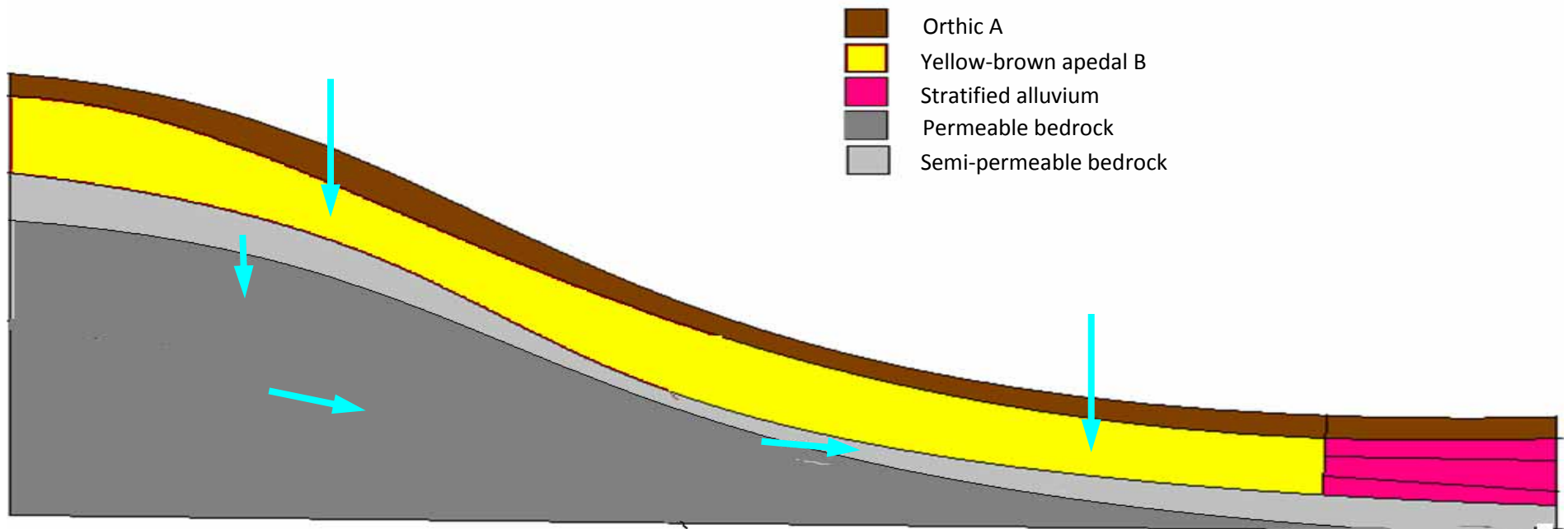
- Orthic A
- Red apedal B
- Yellow-brown apedal B
- Stratified alluvium
- Permeable bedrock
- Semi-permeable bedrock



Letaba T05 Full: Burn



Letaba T08 Open: No Burn



Letaba T09 Partial: No Burn

Conclusions

- Effects of management can be evaluated through combining detailed soil survey with soil water variations
- Differences in soil water fluxes are observed between Burn-No burn and Full-Open locations
- Require hydraulic characteristics of the soils and modelling



Thank you!

**- Many thanks to Glynn, Jacques, Walter & Million
for their data collection and field assistance**

-SANParks & USA National Science Foundation

- RSA National Research Foundation