

Electrical Resistivity Tomography (ERT) as a tool for investigation of subsoil in fault zone

As part of « fault-fluids project » the HydroSciences Montpellier (HSM) laboratory is using some geophysical method to investigate in depth. Indeed, structure of fault zone has to be known to understand the flows rules in and through the fault. Thus, we crosscheck geological field data with ERT profiles.

ERT method is very appropriate for our study because we can see structure and nature (lithology depend of resistivity) of subsoil. Plus, ERT tool can inform about the presence of water (excellent electrical conductor) or air (very resistive). Therefore, we can show the presence and the saturation of karst conducts (photo 2).





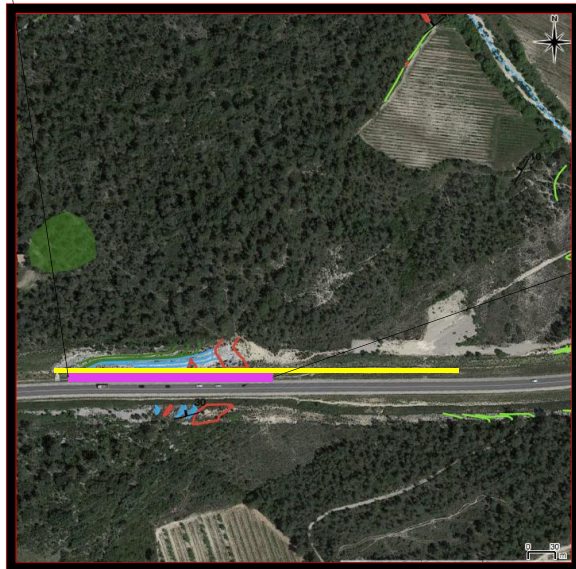
Picture of the CRITEX ERT equipment in use on Cretaceous limestones (Le Triadou, France).

Outcrop :

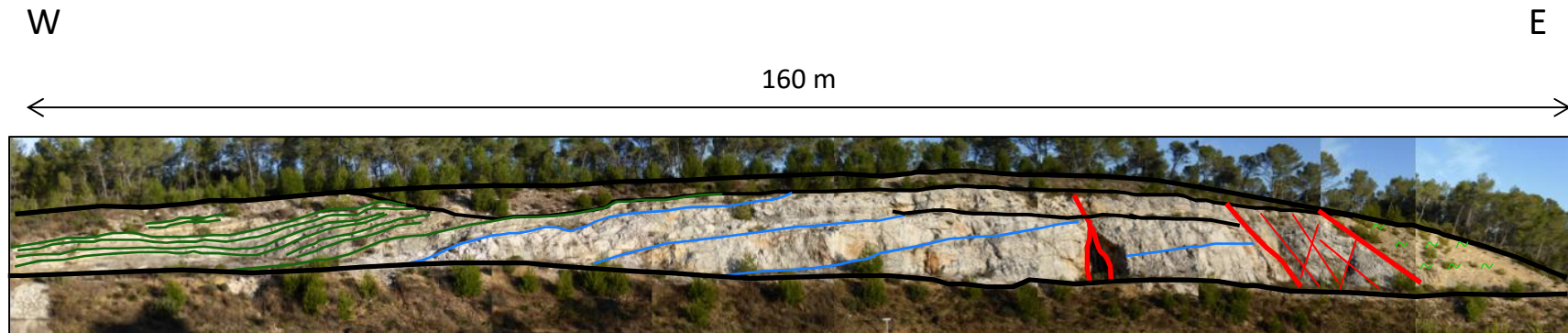
W

E

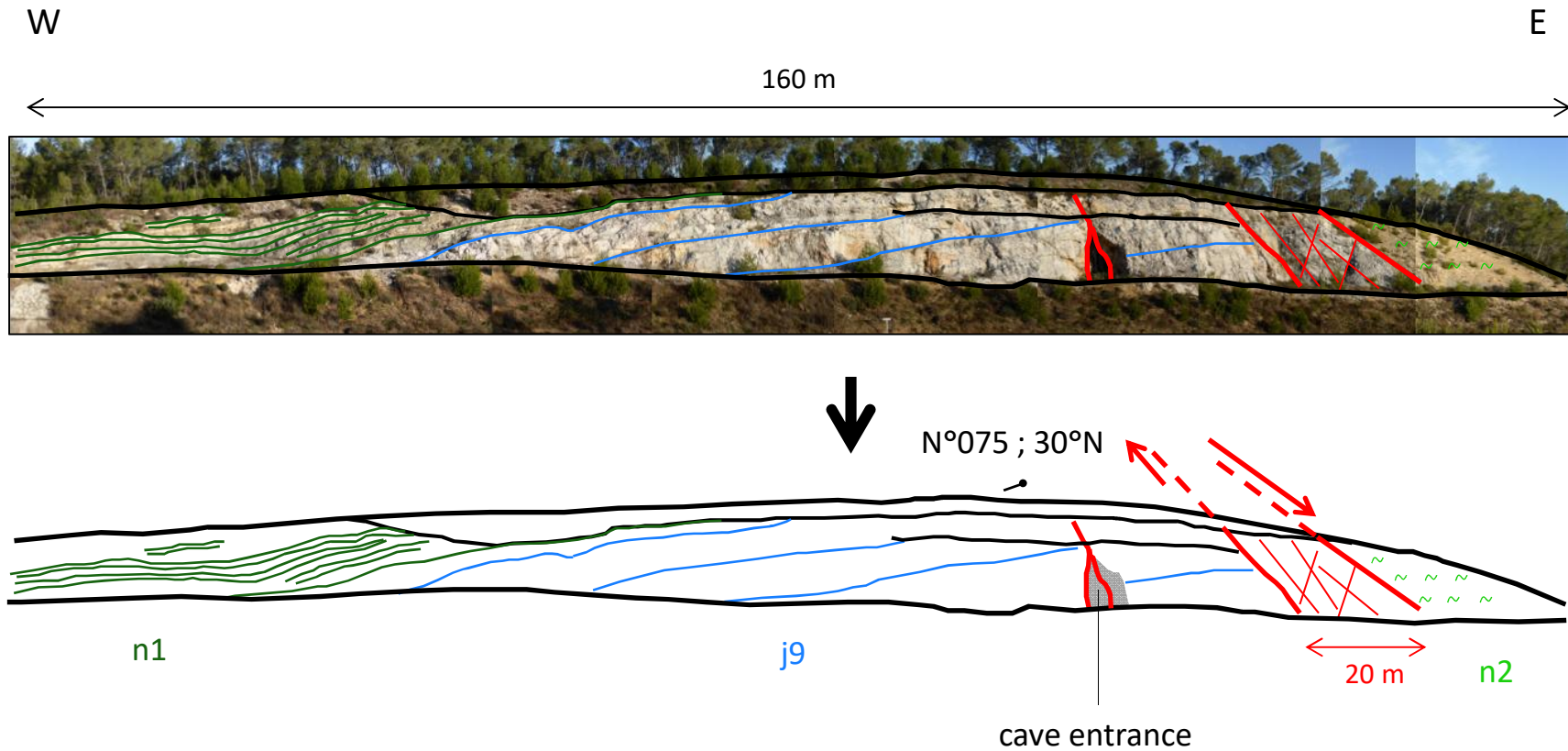
160 m



Outcrop interpretation



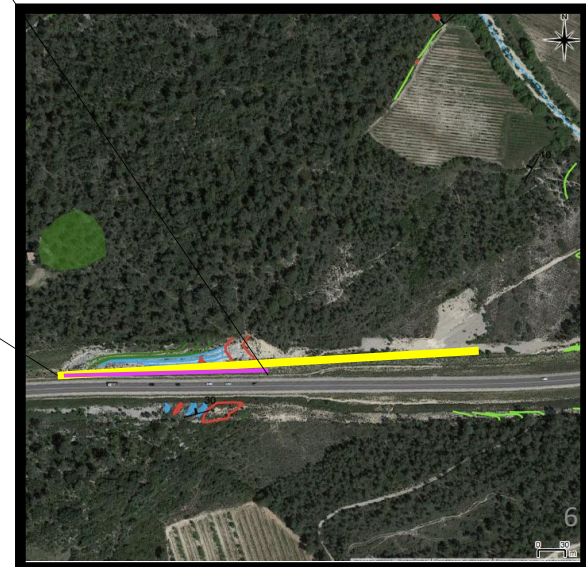
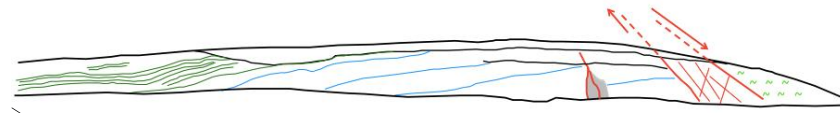
Outcrop interpretation



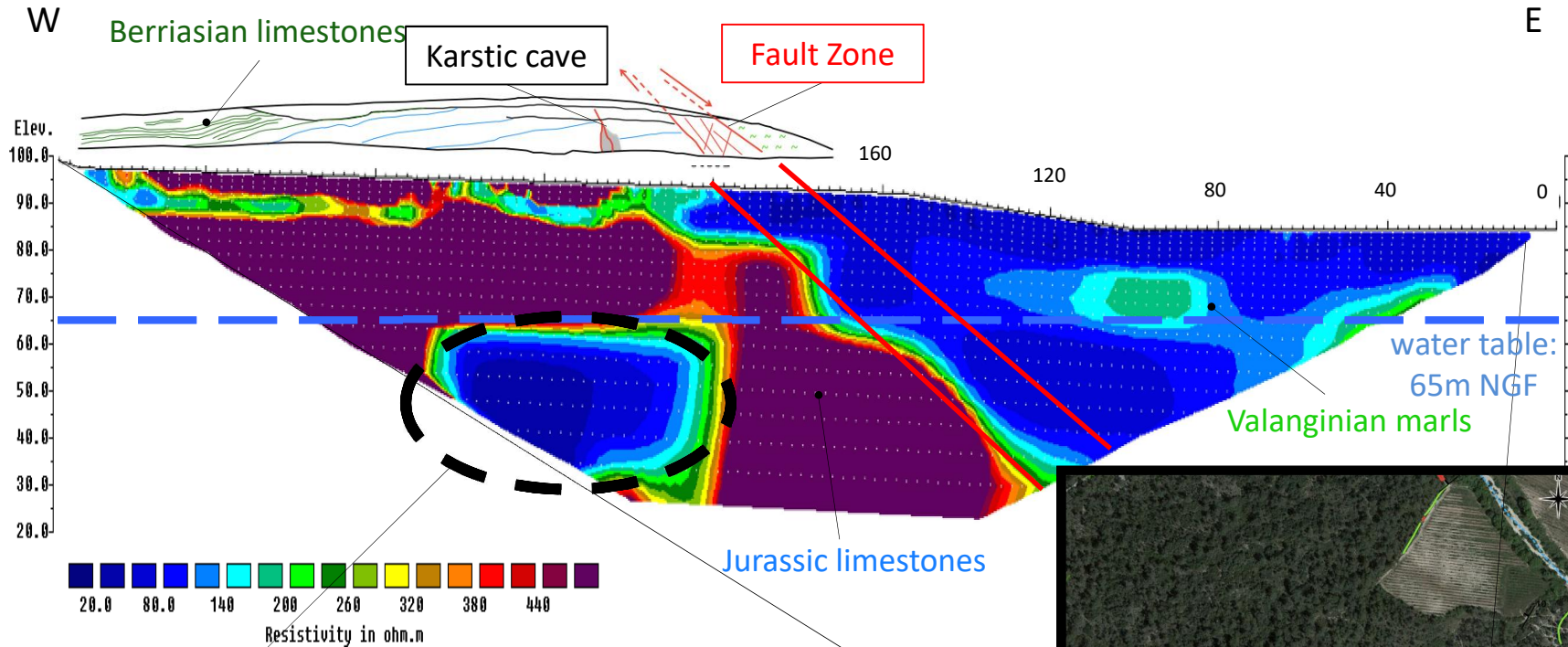
Crosschecking with ERT method

W

E



Crosschecking with ERT method



Karstic cave ?

Mix Dipôle-Dipôle & Wenner-Schlumberger

