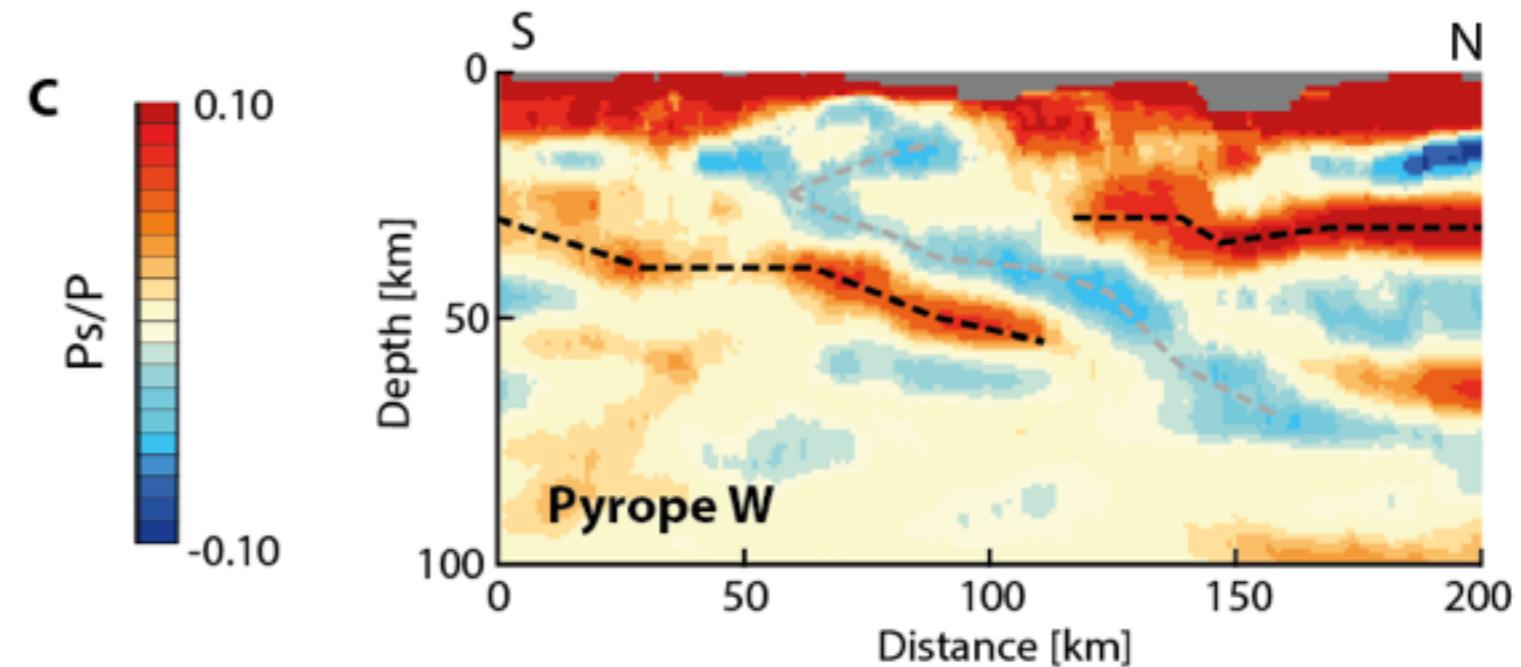
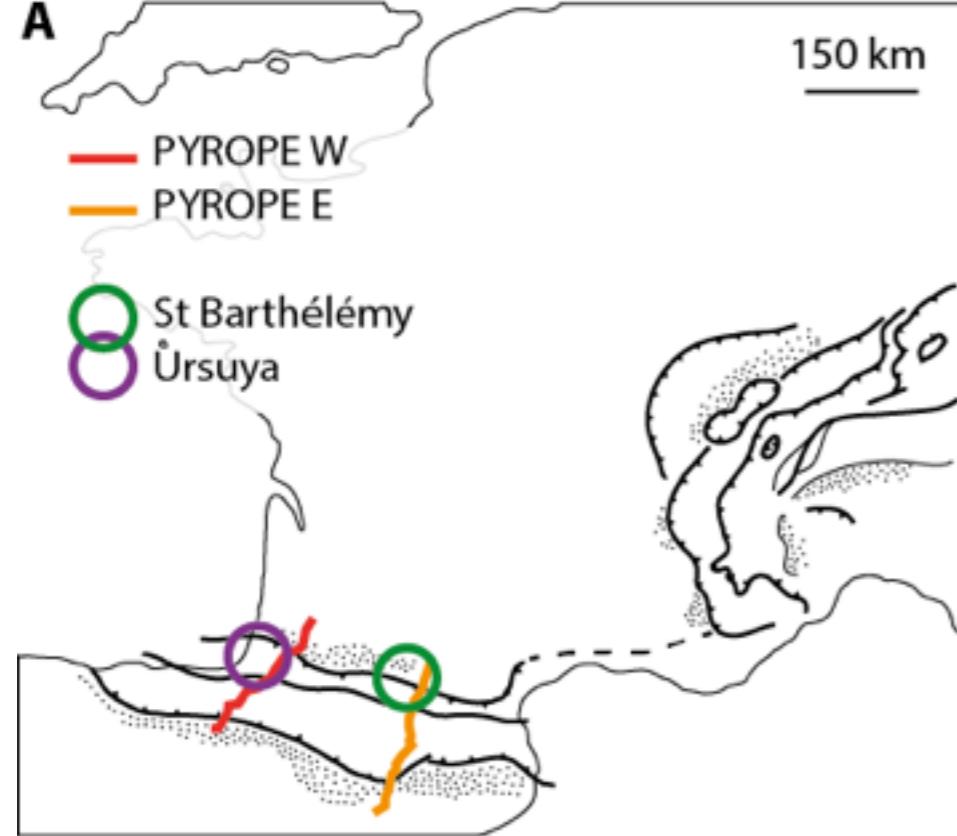


MASTER RGF 2016

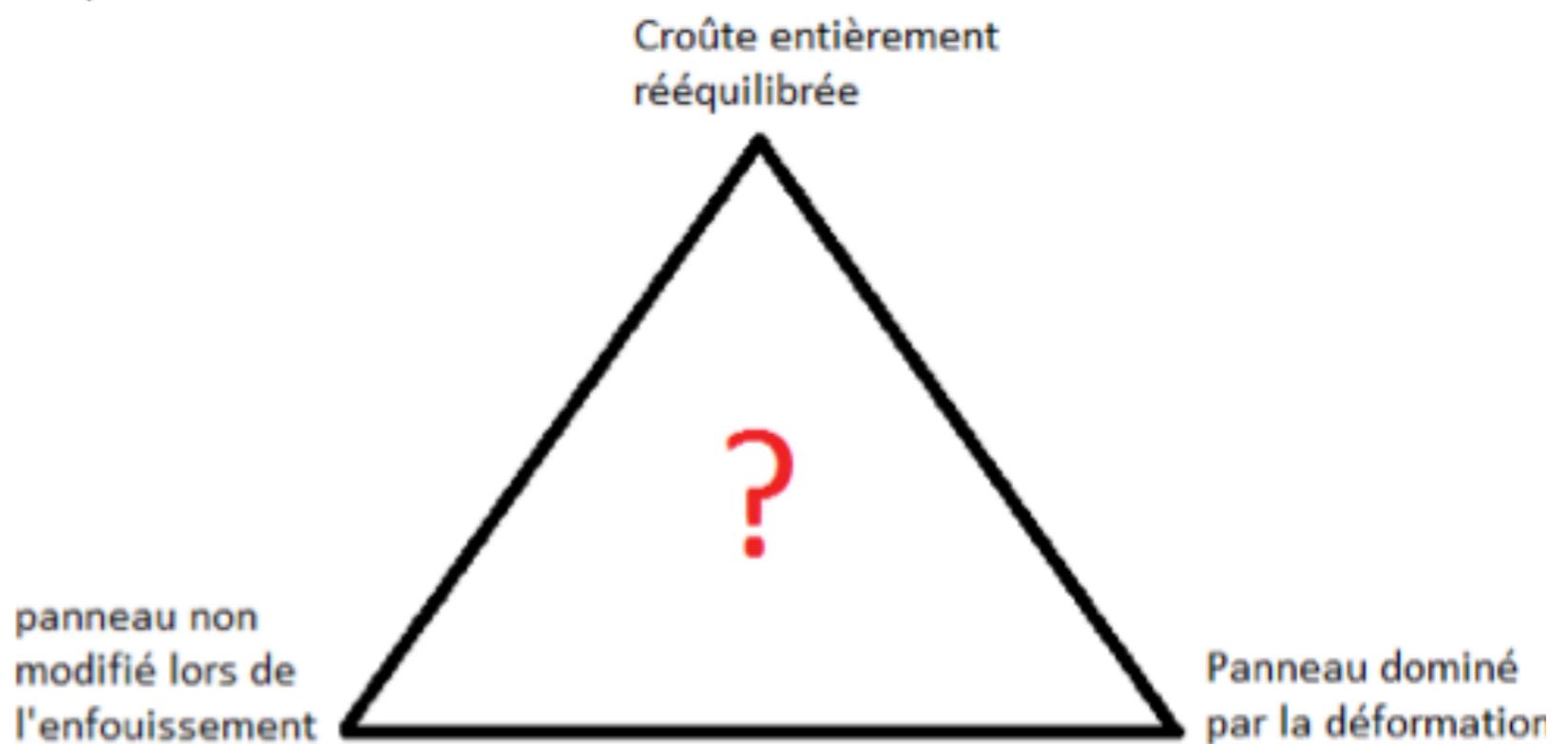
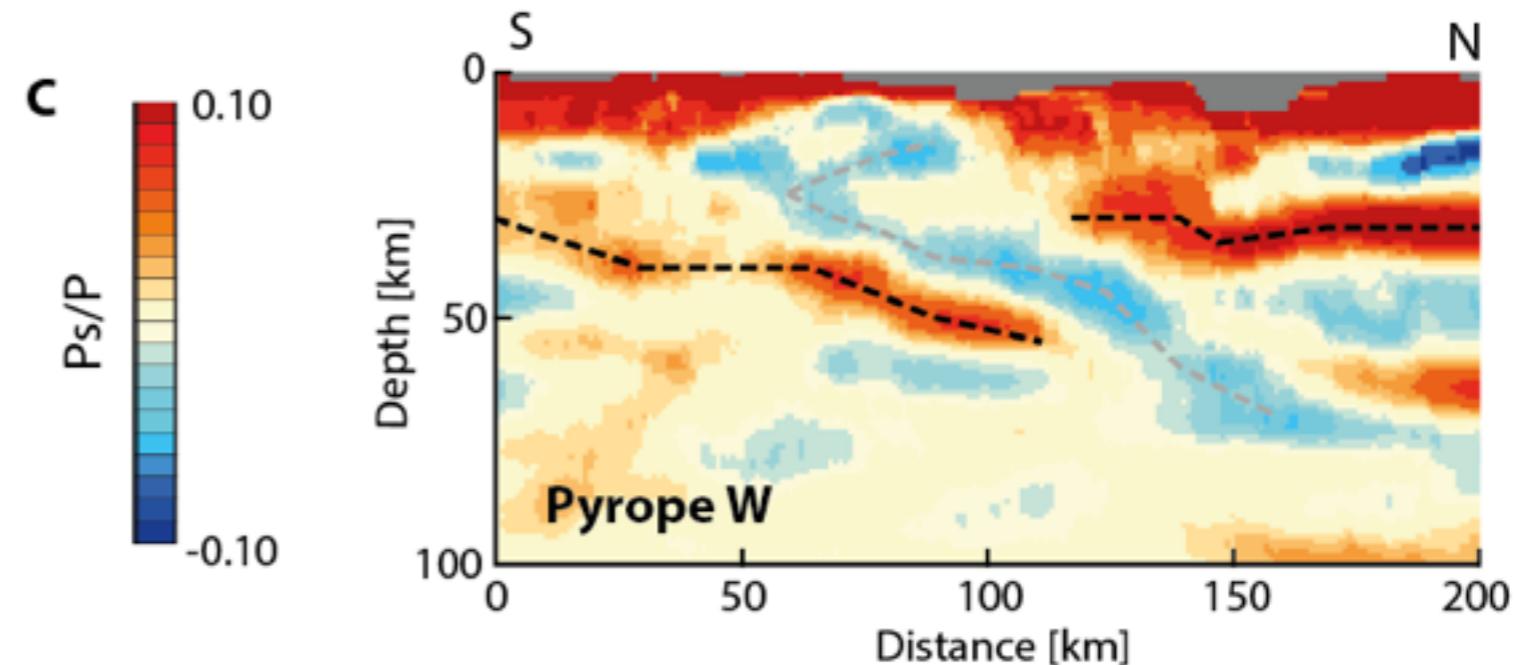
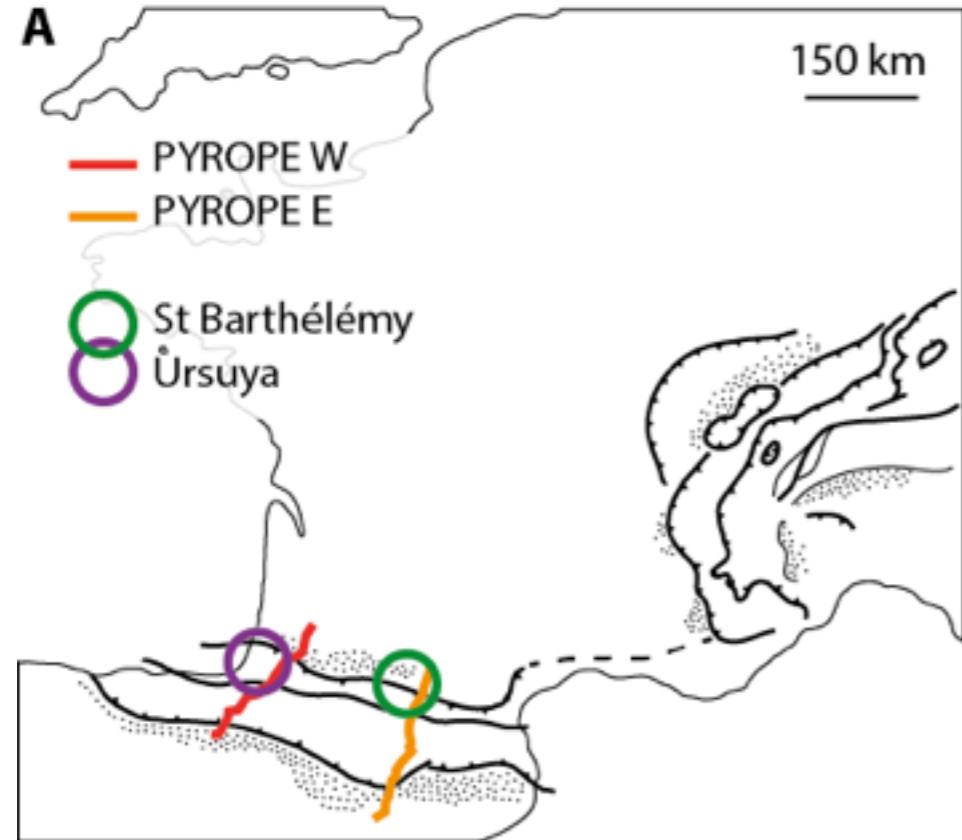
Imagerie du panneau plongeant ibérique :
une approche directe



Clotilde Schnell (ENSG / UPMC) juin-nov. 2016
adv. : L. Labrousse (UPMC),

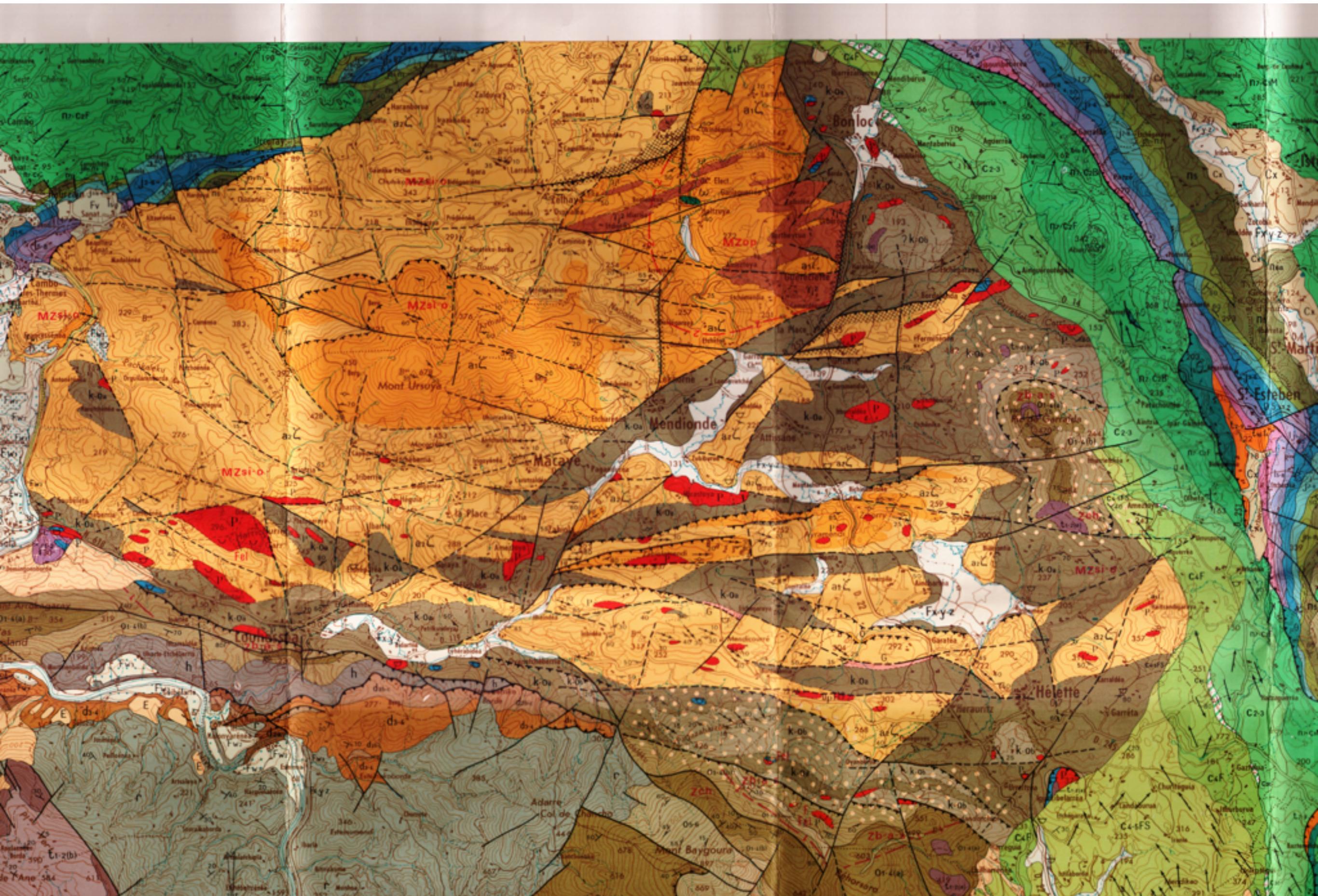
MASTER RGF 2016

Imagerie du panneau plongeant ibérique :
une approche directe



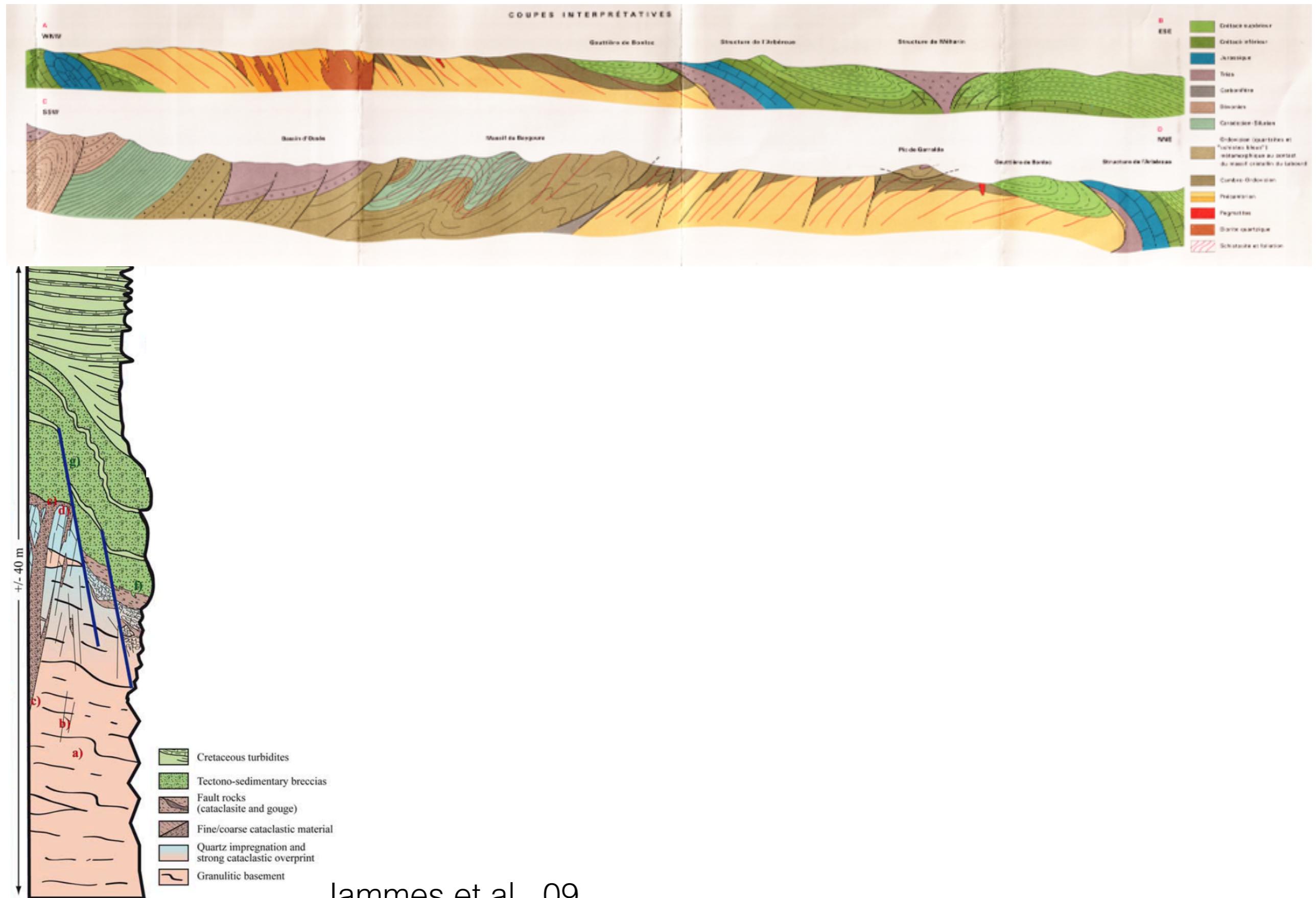
Partir du terrain (Ursuya)

1/50k Ihaldy, Boissonnas, 1974

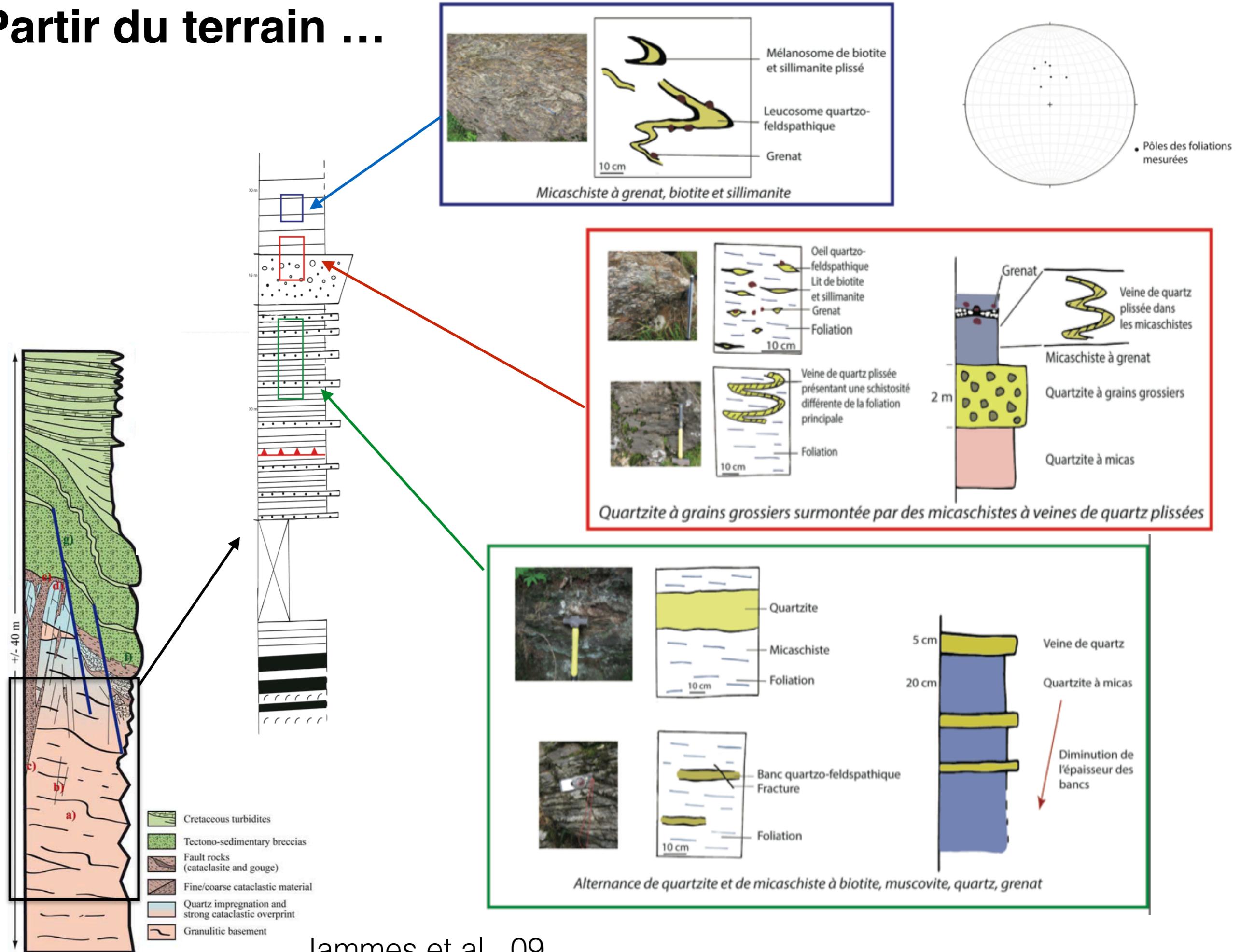


Partir du terrain ...

1/50k Ihaldy, Boissonnas, 1974



Partir du terrain ...

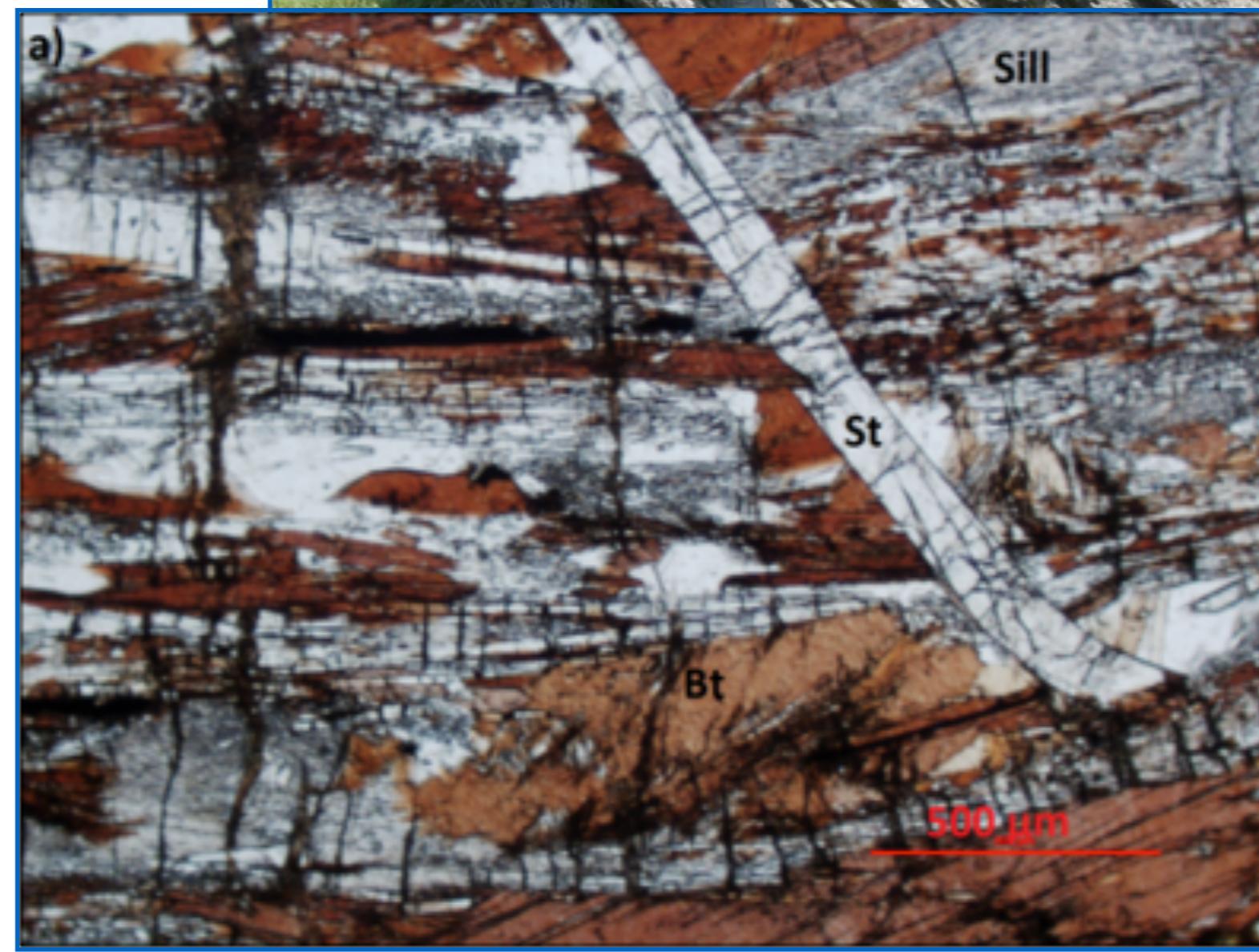
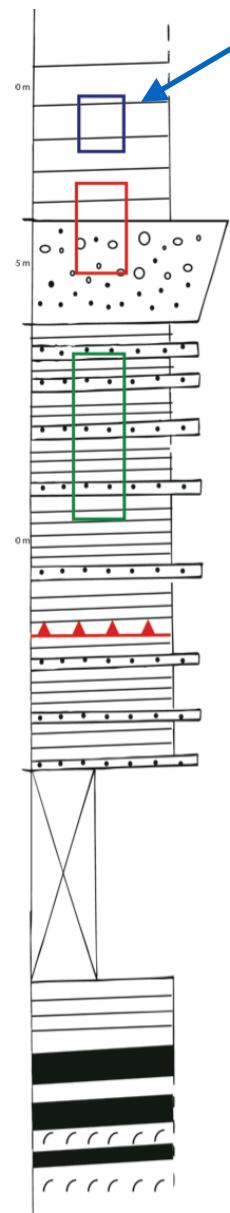


Partir du terrain ...

1/50k Ihöldy, Boissonnas, 1974

Echantillon	Lithologie	Coordonnées GPS	
		Latitude	Longitude
PYRL16_01	Micaschiste à Gt, Bt, Ms et Sill	43°20'29.11"N	1°18'58.82"O
PYRL16_02	Quartzite à micas	43°20'37.82"N	1°19'2.35"O
PYRL16_03	Micaschiste à Bt, Ms et Sill	43°20'43.58"N	1°19'18.37"O
PYRL16_04	Quartzite	43°20'25.58"N	1°14'33.90"O
PYRL16_05	Micaschiste à St, Gt, Amp rétrograde	43°20'21.19"N	1°14'36.06"O
PYRL16_06	Quartzite	43°20'21.19"N	1°14'36.06"O
PYRL16_07	Micaschiste	43°18'37.22"N	1°19'57.76"O
PYRL16_08	Diorite altérée	43°21'30.31"N	1°16'29.75"O
URS16_01	Alternance de niveaux de quartzite et de micaschiste à Bt, Ms, Gt et Qz	43°21'19.73"N	1°19'37.38"O
URS16_02	Alternance de niveaux de quartzite à micas et de veines de quartz	43°20'59.21"N	1°20'2.58"O
URS16_03	Identique à URS16_02, présentant des grains grossiers	43°20'58.09"N	1°20'3.08"O
URS16_04	Micaschiste à Gt, Bt et Sill	43°20'49.42"N	1°20'9.64"O
URS16_05	Gneiss à Bt et Gt	43°20'47.40"N	1°23'11.40"O

Partir du terrain (Ursuya)

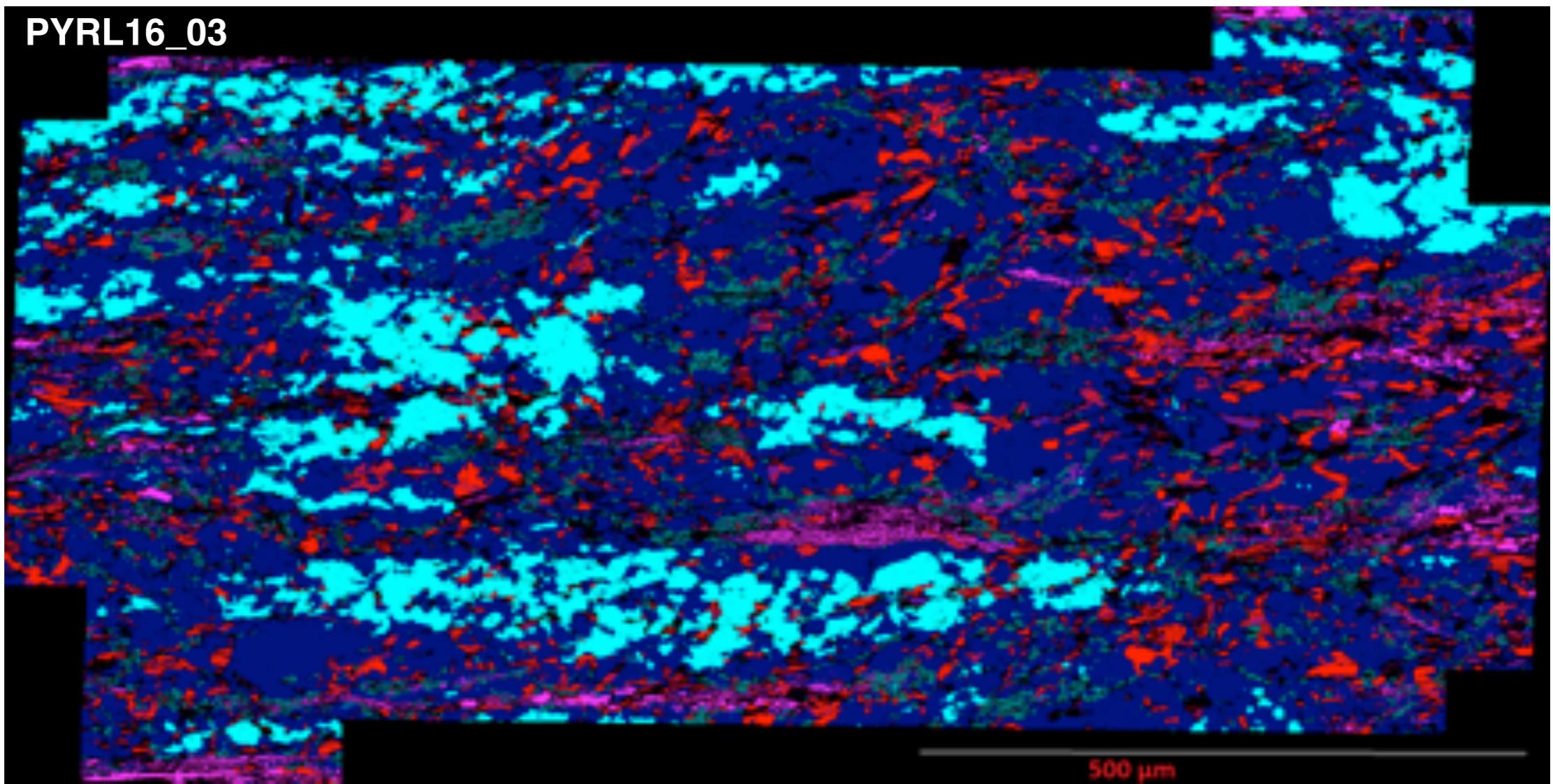
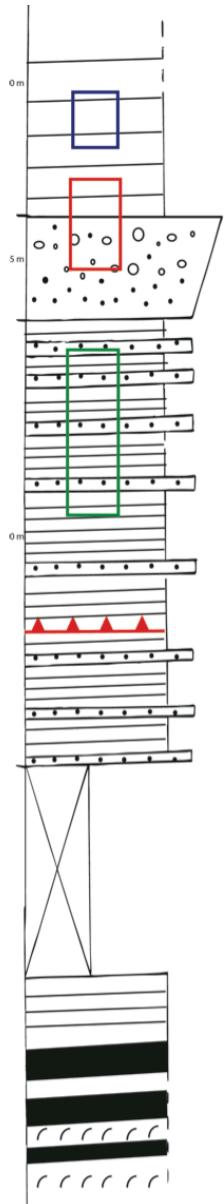


PYRL16_05

Partir du terrain (Ursuya)

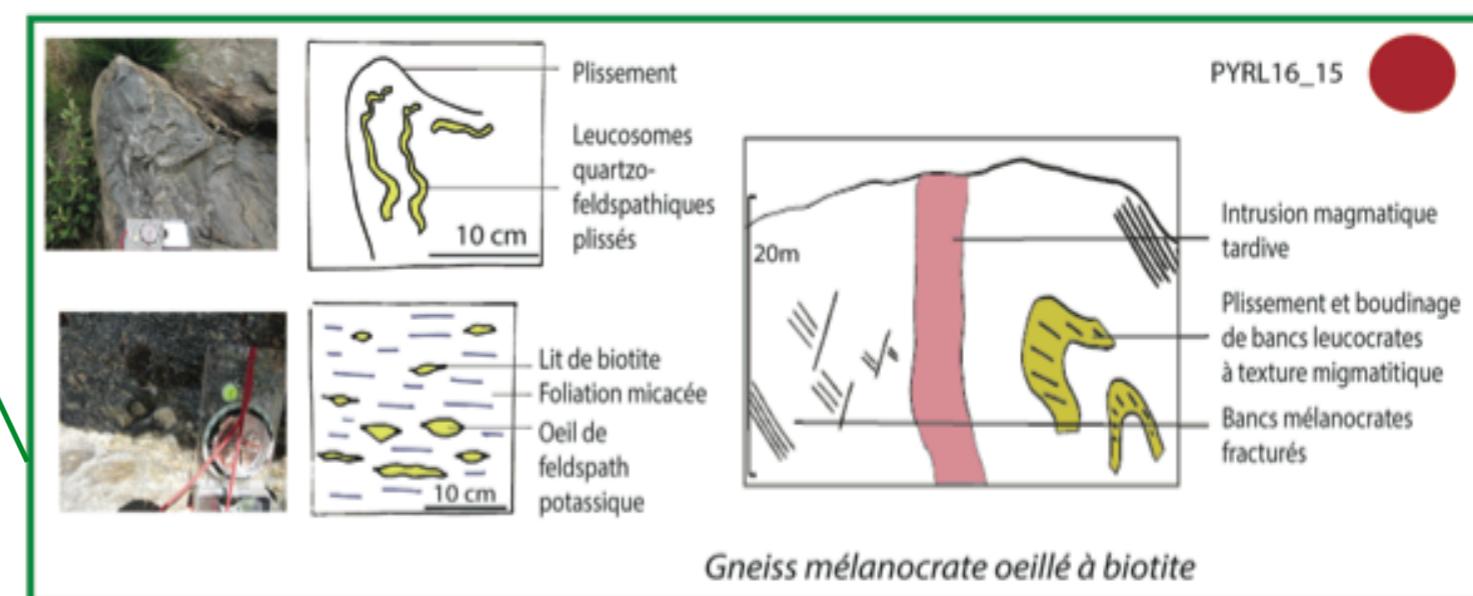
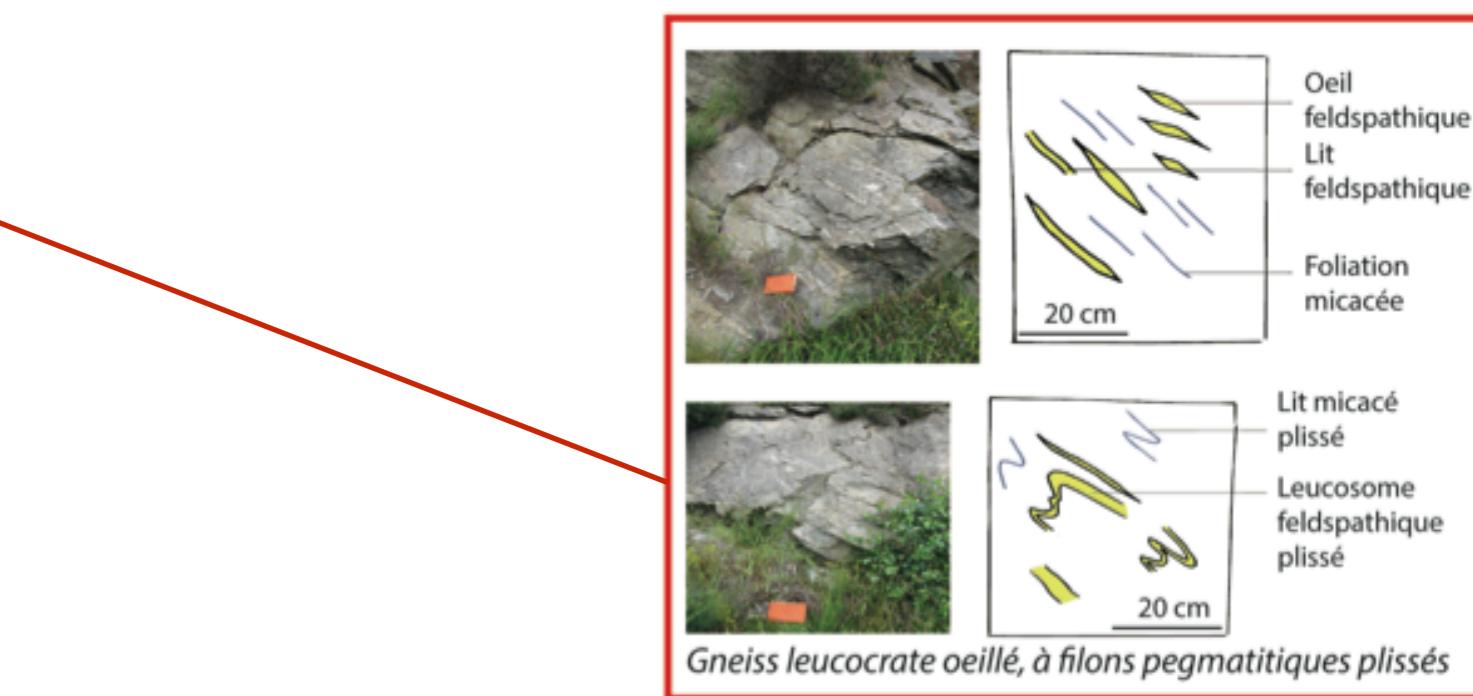
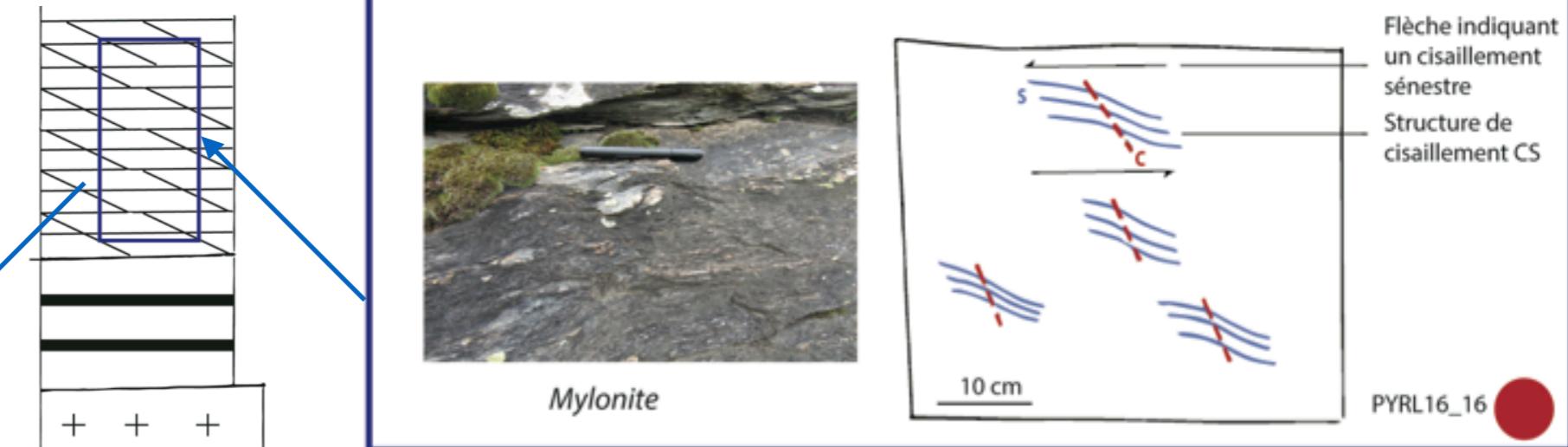
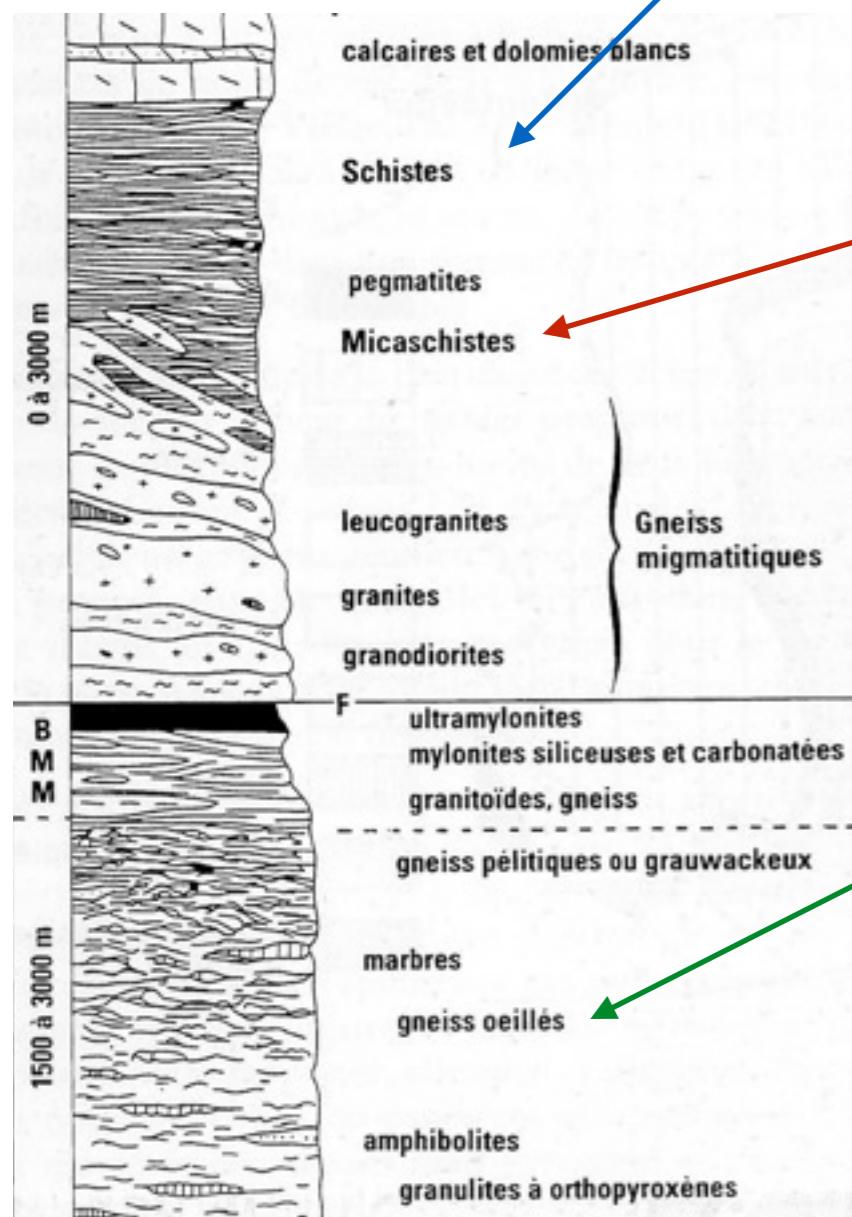


Kfs 57.7%, Qz 16.5%, Pl 10.6%, Bt 10.1%, Sill 3.04%, Ms 2.1%, Gt 0.01%



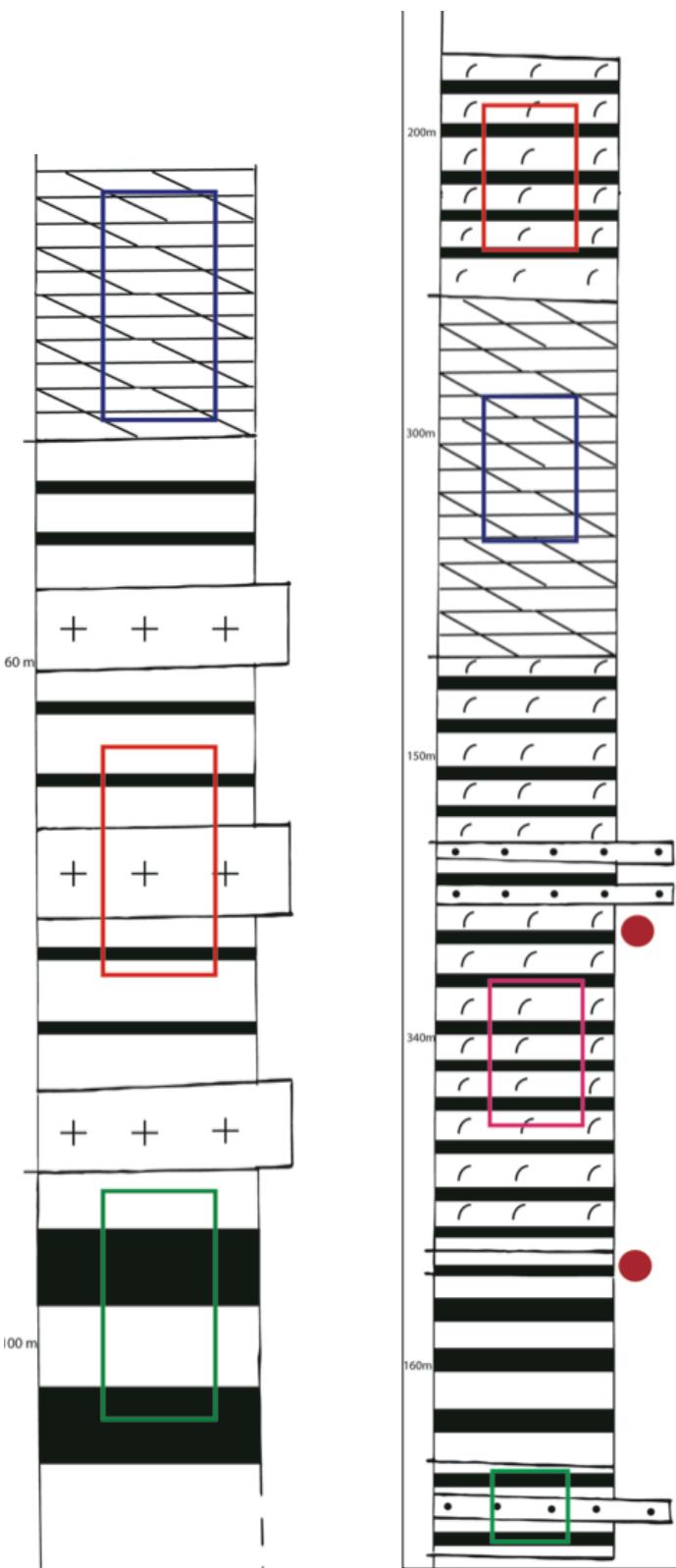
Partir du terrain

(St Bathélémy)



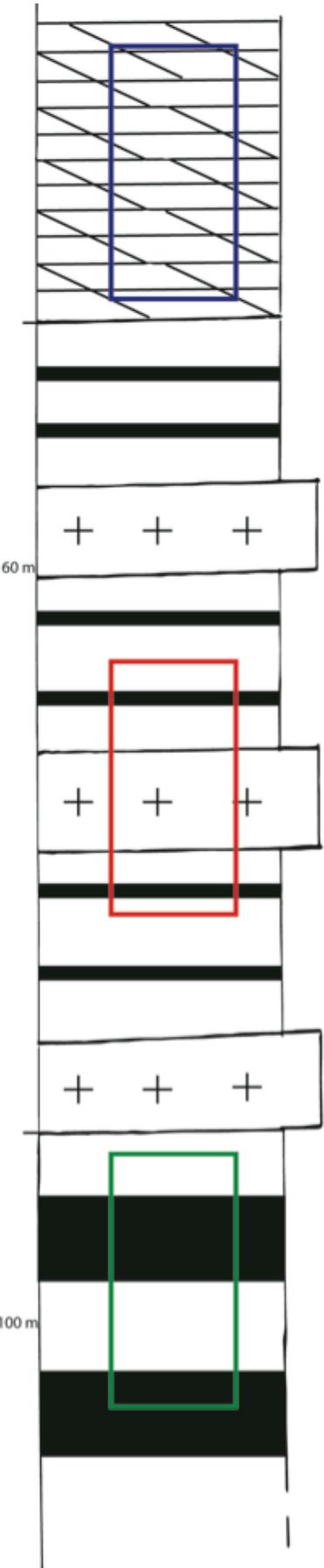
Partir du terrain

(St Bathélémy)

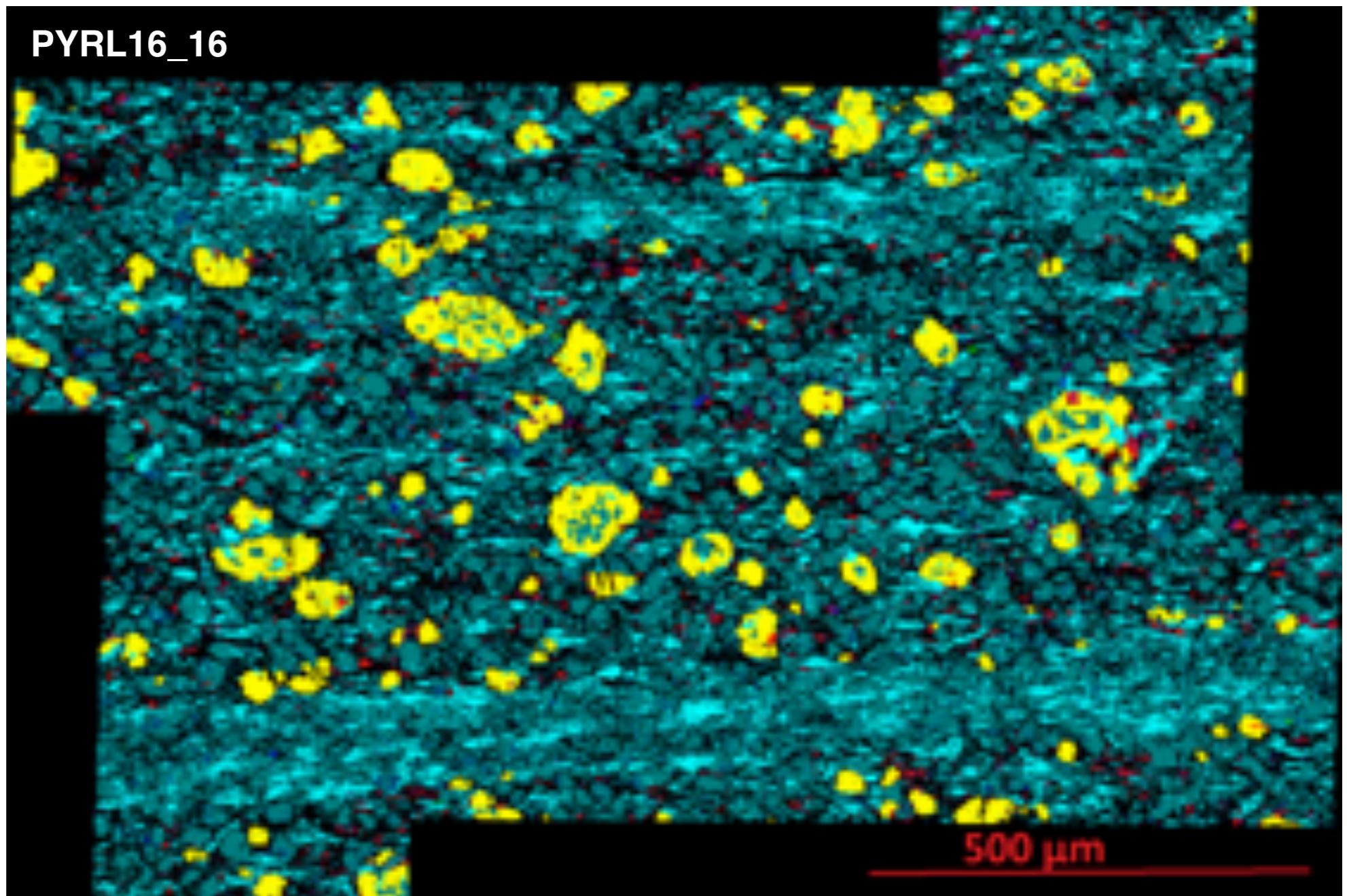


Echantillon	Lithologie	Coordonnées GPS	
		Latitude	Longitude
PYRL16_09	Gneiss à Bt et Amp	42°49'0.80"N	1°41'45.35"E
PYRL16_10	Gneiss à Bt et Gt	42°49'0.80"N	1°41'45.35"E
PYRL16_11	Gneiss à Bt	42°49'0.80"N	1°41'45.35"E
PYRL16_12	Gneiss à Bt	42°49'0.05"N	1°41'47.98"E
PYRL16_13	Gneiss à Bt et Gt	42°48'55.48"N	1°42'10.12"E
PYRL16_14	Gneiss à Bt et Gt	42°47'19.61"N	1°46'52.57"E
PYRL16_15	Gneiss à Bt et Gt	42°47'18.46"N	1°47'12.12"E
PYRL16_16	Mylonite à Ms de la couverture	42°47'37.03"N	1°47'55.43"E
STB16_01	Gneiss oeillé à Bt	42°47'20.22"N	1°46'53.11"E
STB16_02	Gneiss à Bt et Gt	42°47'18.78"N	1°47'12.37"E
STB16_03	Gneiss leucocrate à filons pegmatitiques	42°47'21.05"N	1°47'19.68"E
STB16_04	Gneiss à Bt	42°48'55.37"N	1°41'41.64"E
STB16_05	Gneiss à Bt	42°48'56.45"N	1°41'41.42"E
STB16_06	Gneiss à Bt	42°48'55.66"N	1°41'43.01"E
STB16_07	Gneiss à grains grossiers	42°48'50.44"N	1°41'54.78"E
STB16_08	Gneiss à foliation pénétrative	42°48'54.61"N	1°41'50.82"E
STB16_09	Gneiss à foliation pénétrative	42°48'58.28"N	1°41'47.11"E
STB16_10	Gneiss migmatitique à Gt	42°49'1.60"N	1°41'46.28"E
STB16_11	Gneiss migmatitique à Bt et Gt	42°48'54.18"N	1°42'10.30"E
STB16_12	Gneiss peu folié riche en Qz	42°48'55.66"N	1°42'9.90"E
STB16_13	Gneiss migmatitique à Bt, Gt et Pl	42°49'1.09"N	1°42'17.71"E
STB16_14	Mylonite	42°49'13.91"N	1°42'7.78"E
STB16_15	Gneiss à Ms	42°49'25.72"N	1°41'54.02"E

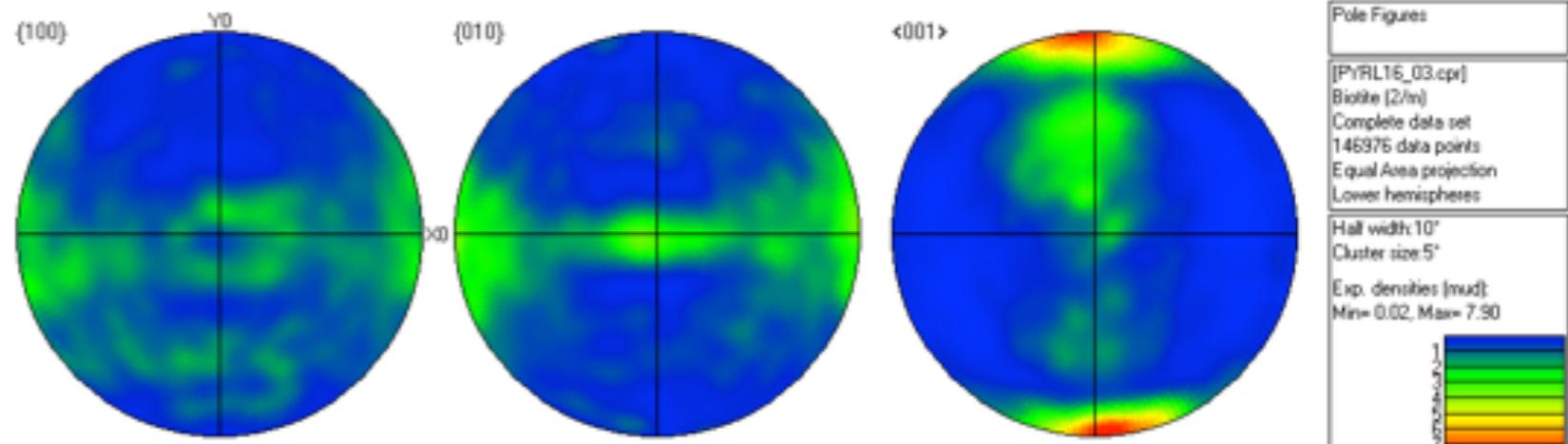
Partir du terrain ...



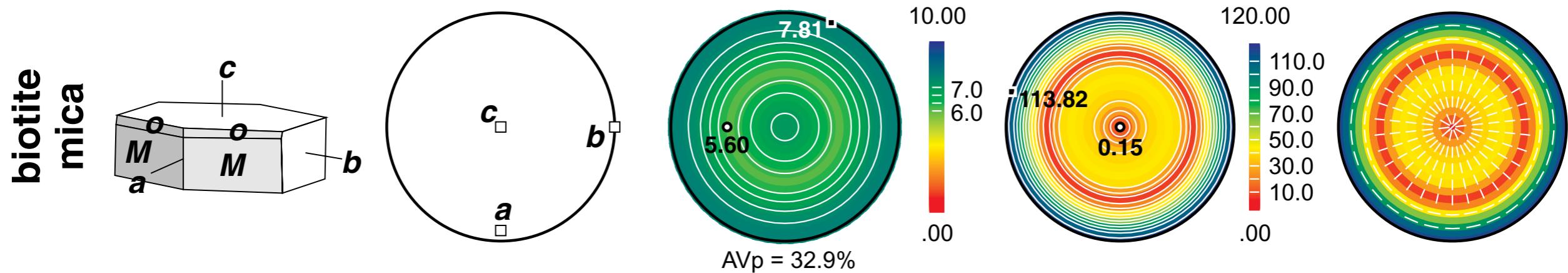
PI 47.2%, Qz 31.4%, Gt 12.8%, Bt 3.9%, Ms 1.9%, Kfs 1.5%, Chl 0.9%, Ky 0.26%, Sill 0.2%



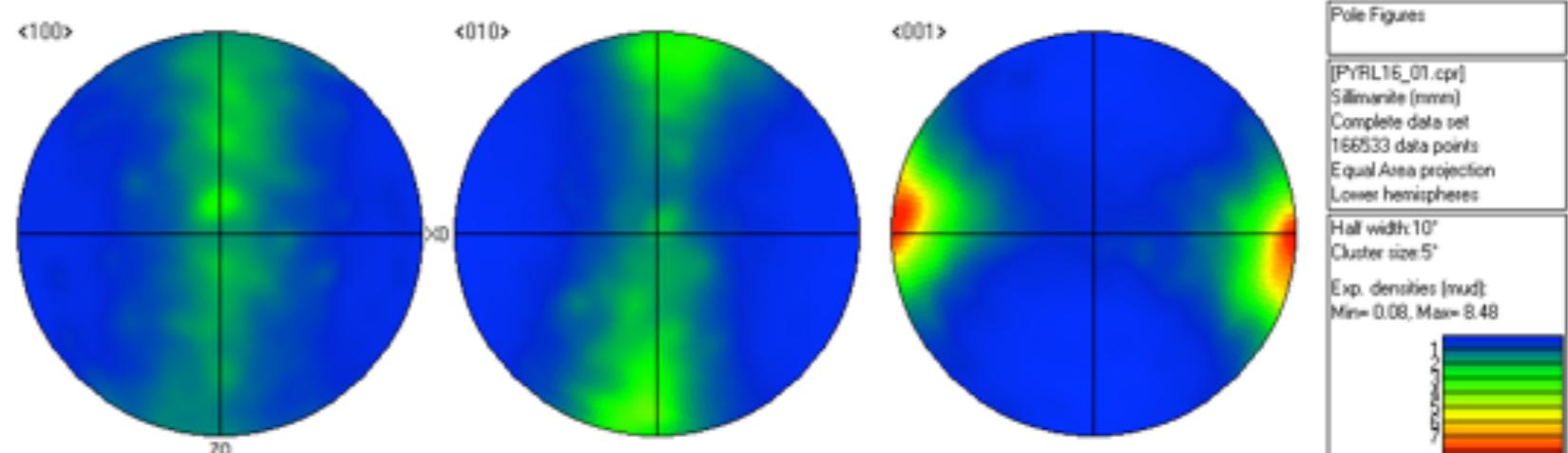
Partir du terrain ... mesurer les propriétés pétrophysiques «as is»



Biotites PYRL16_01 (Ursuya)
intensité fabrique 7.90

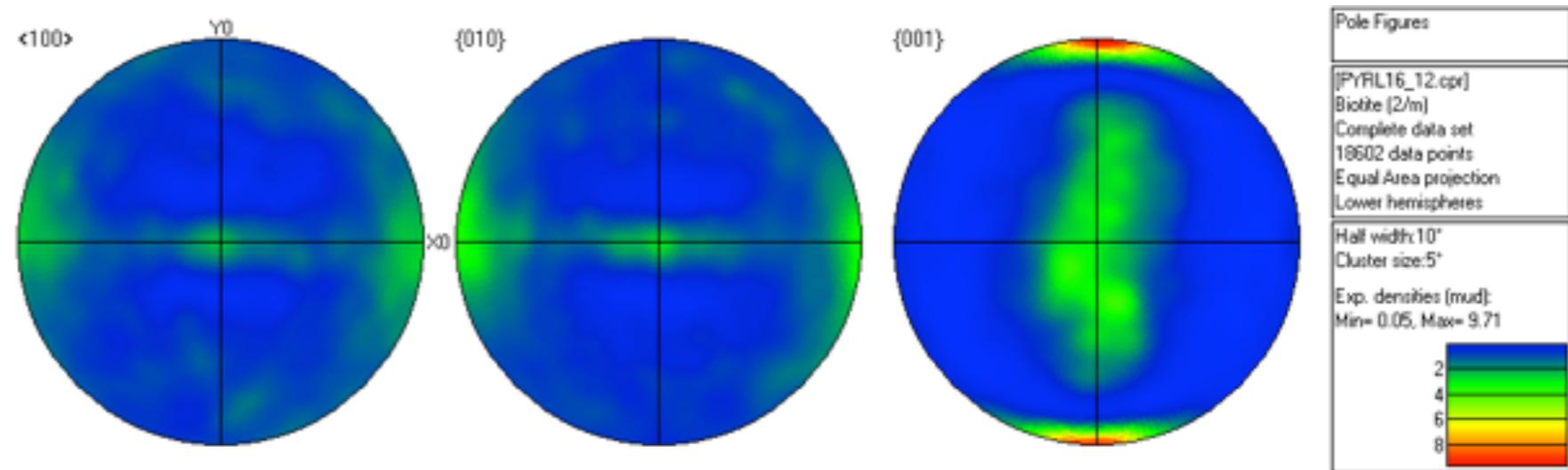


Lloyd et al., 11

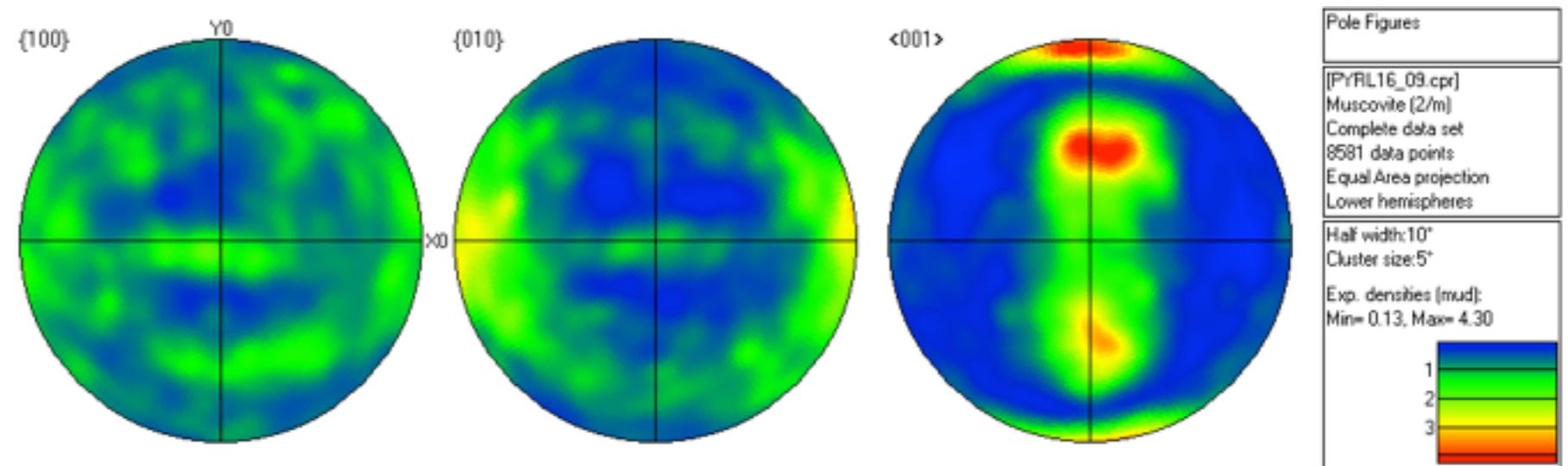


Sillimanite PYRL16_01 (Ursuya)
intensité fabrique 8.48

Partir du terrain ... mesurer les propriétés pétrophysiques «as is »

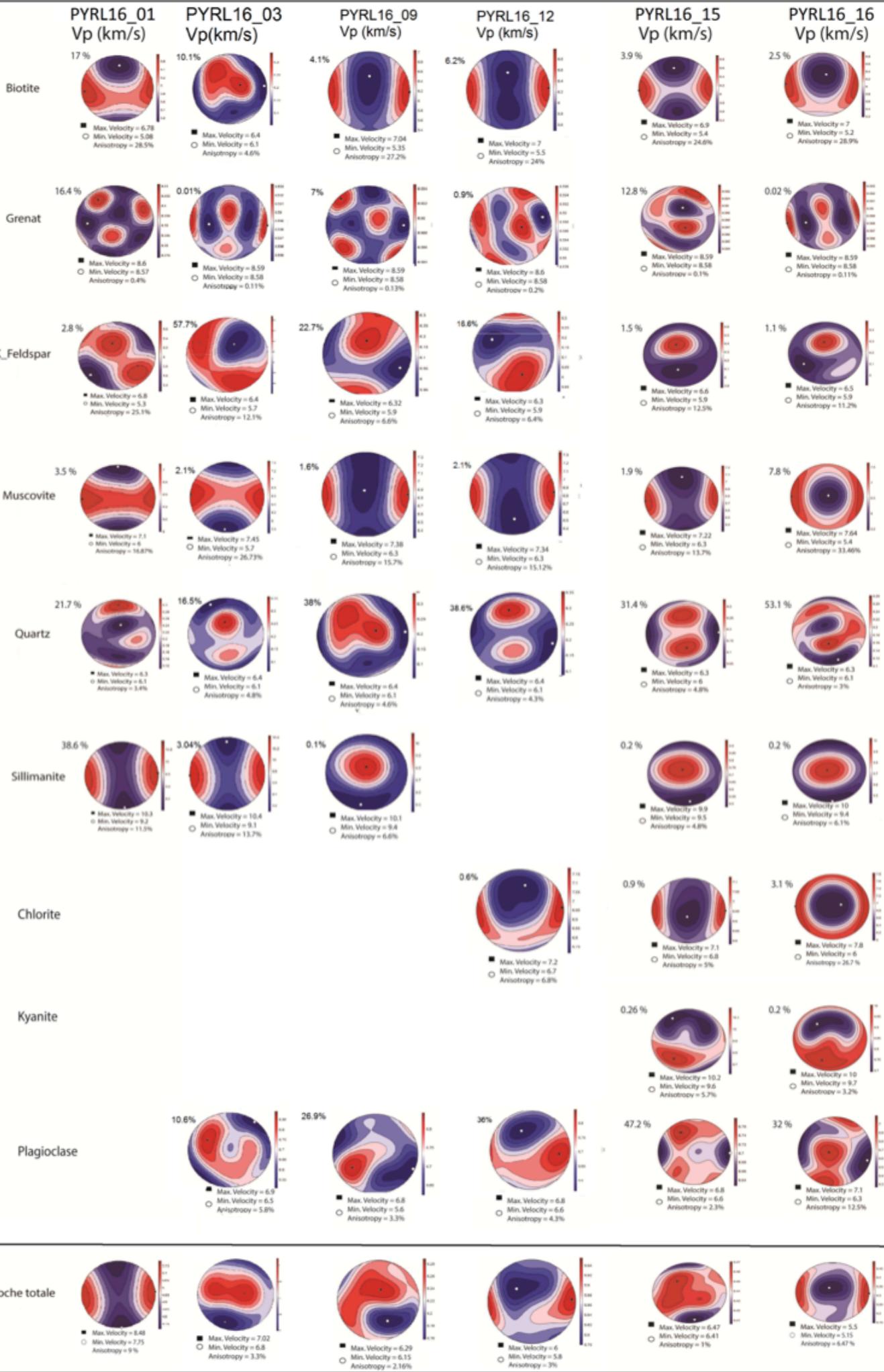


Biotites PYRL16_09 (St Barth)
intensité fabrique 9.71

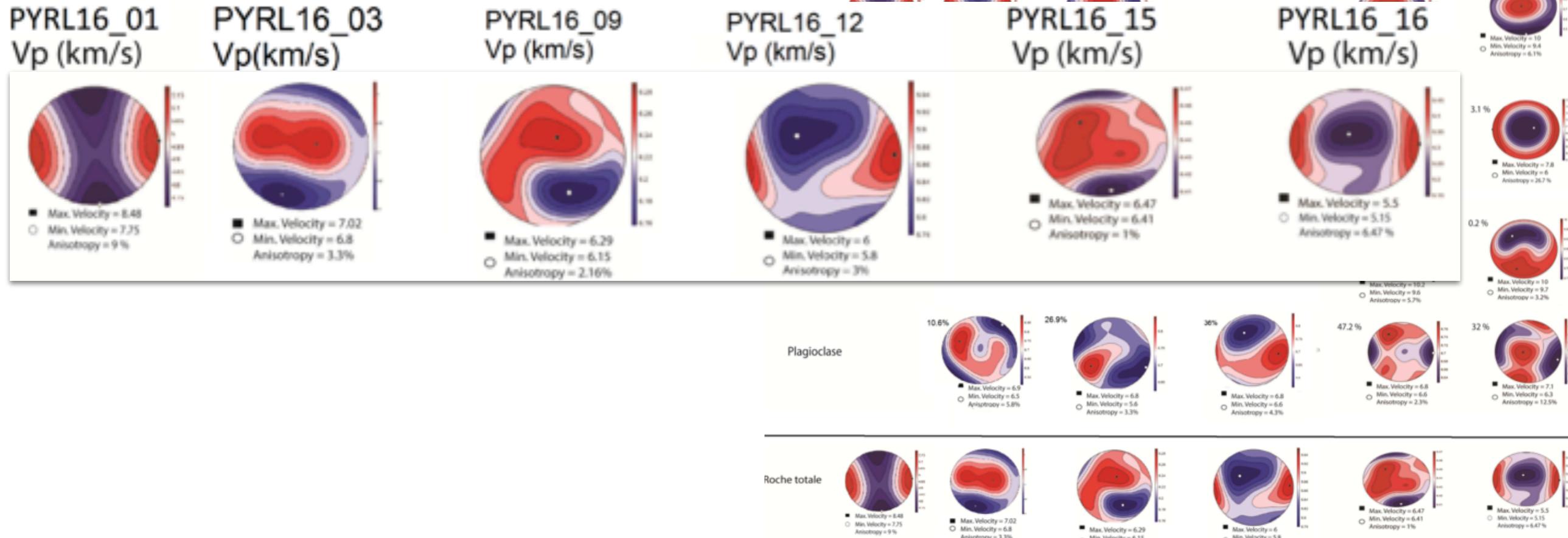


Muscovites PYRL16_09 (St Barth)
intensité fabrique 4.30

Partir du terrain ... mesurer les propriétés pétrophysiques «as is»

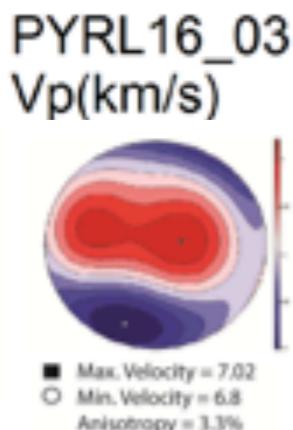
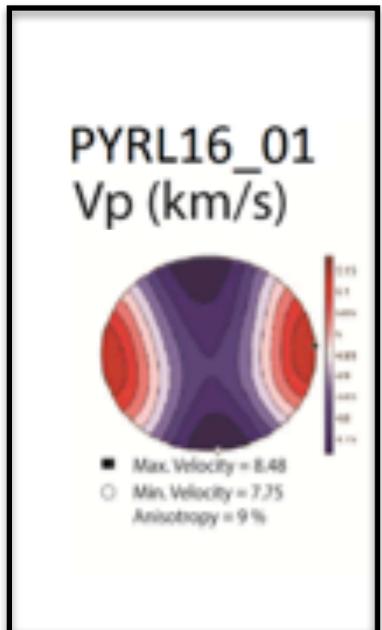


Partir du terrain ... mesurer les propriétés pétrophysiques «as is»

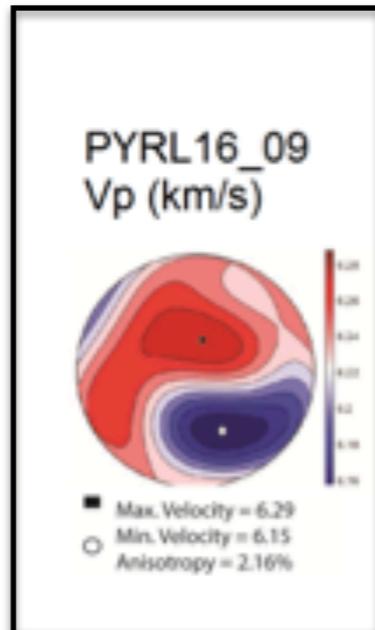


Partir du terrain ... mesurer les propriétés pétrophysiques «as is »

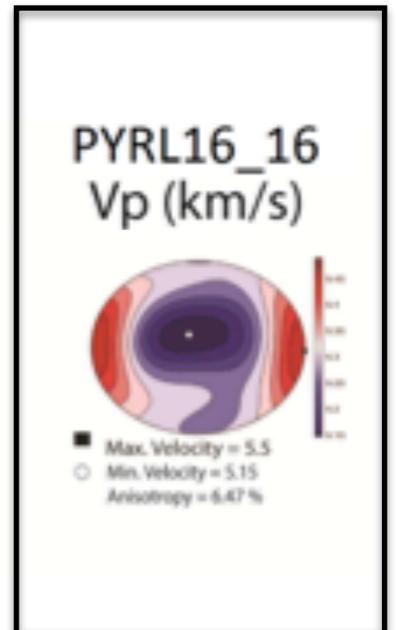
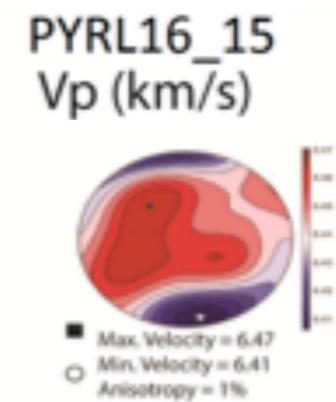
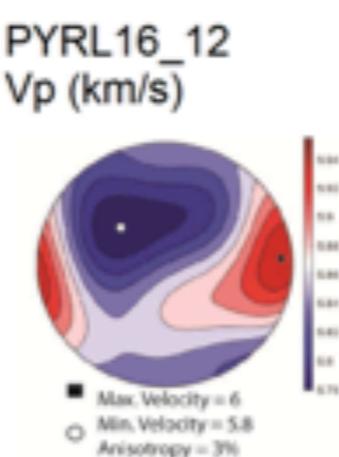
Min 8.48
Max 7.75
9 % AVp



Min 6.29
Max 6.15
2.2 % AVp



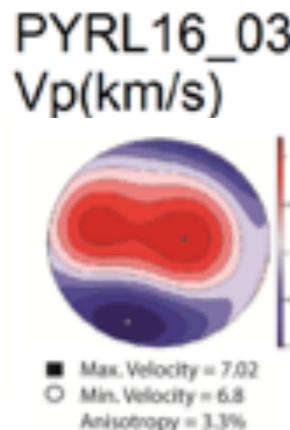
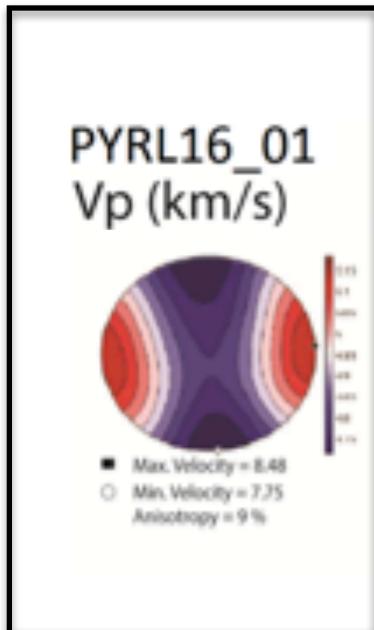
Max 5.5
Min 5.15
6.5% AVp



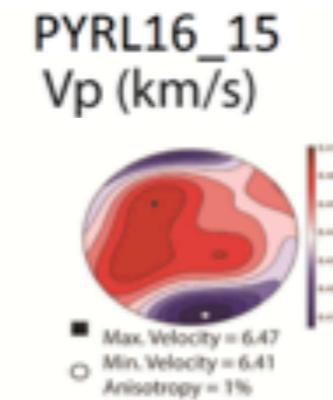
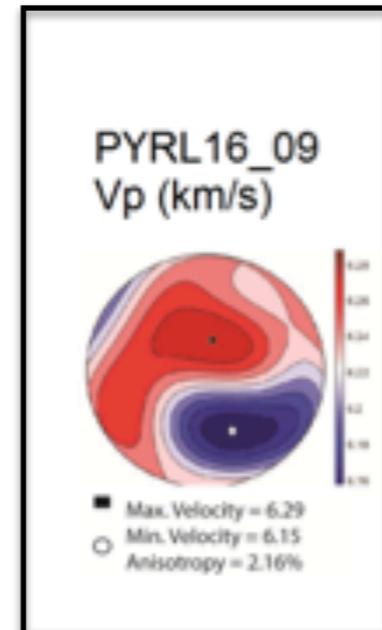
Partir du terrain ... mesurer les propriétés pétrophysiques «as is»

Micaschistes : $V_p \sim$ manteau
forte anisotropie
Gneiss : $V_p <$ manteau
faible anisotropie
« Couverture » : $V_p \ll$ manteau
anisotropie significative

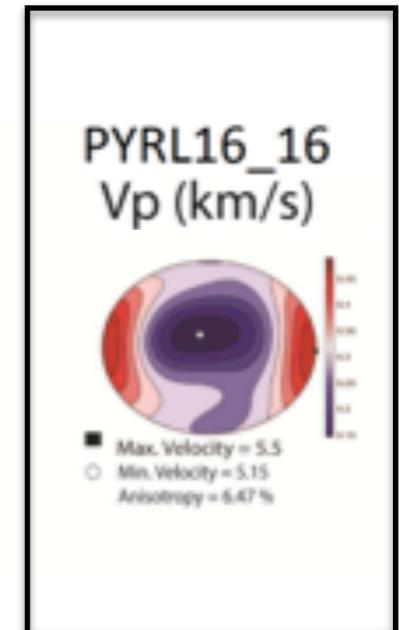
Min 8.48
Max 7.75
9 % AVp



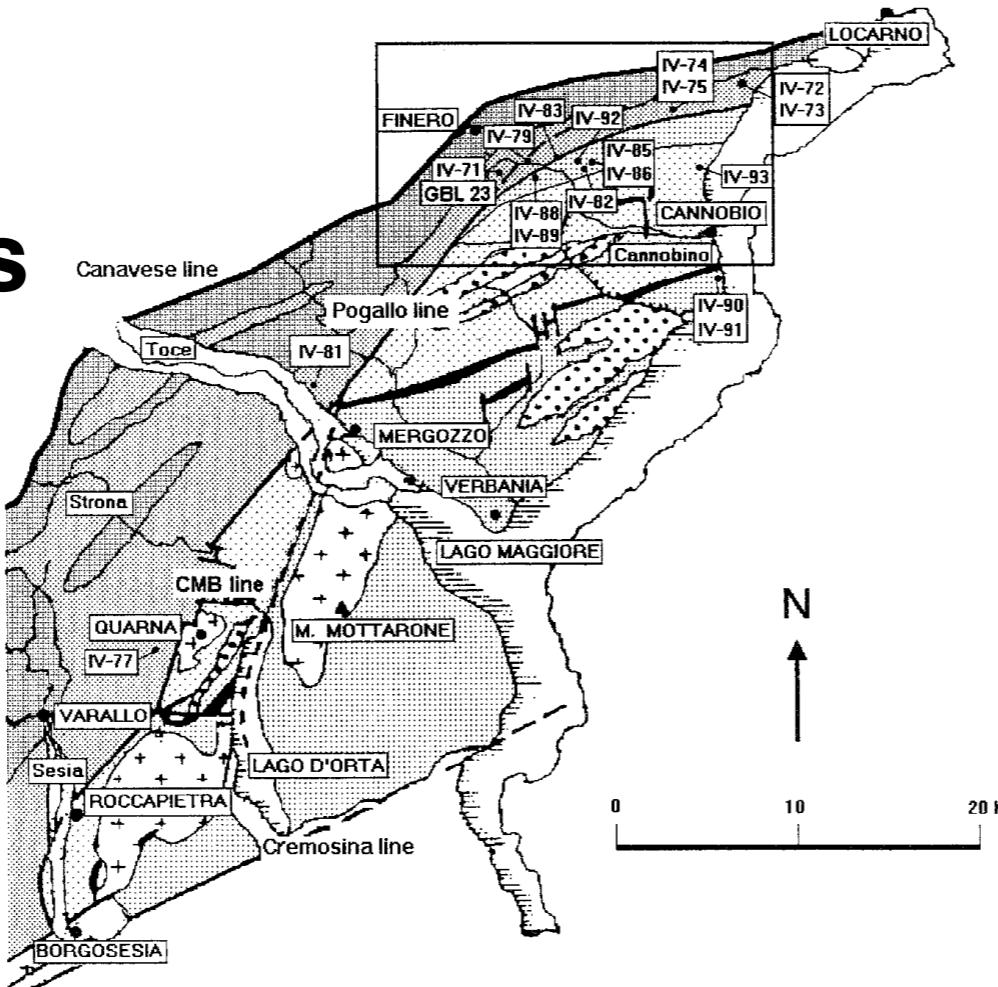
Min 6.29
Max 6.15
2.2 % AVp



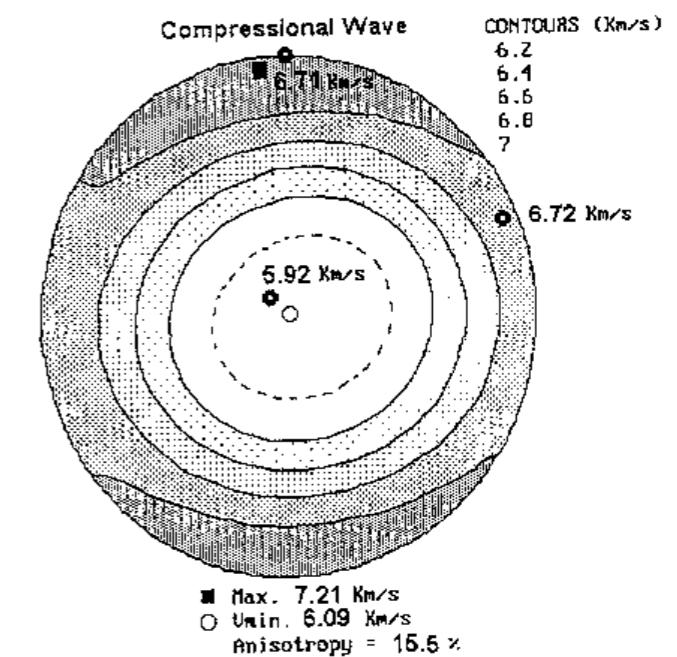
Max 5.5
Min 5.15
6.5% AVp



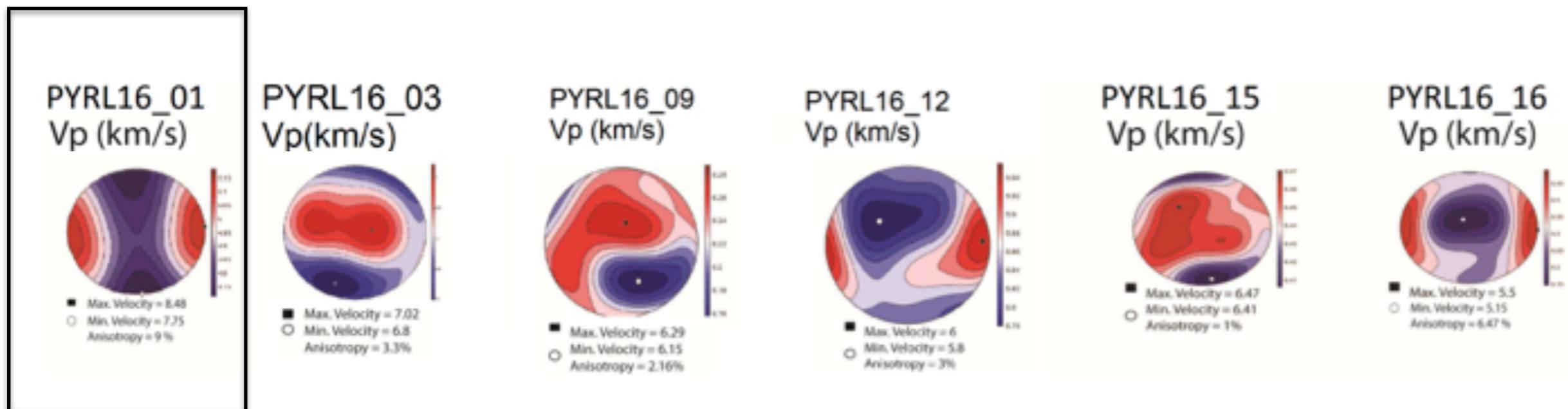
Partir du terrain ... mesurer les propriétés pétrophysiques «as is »



9 % AVp



Burlini, 1994



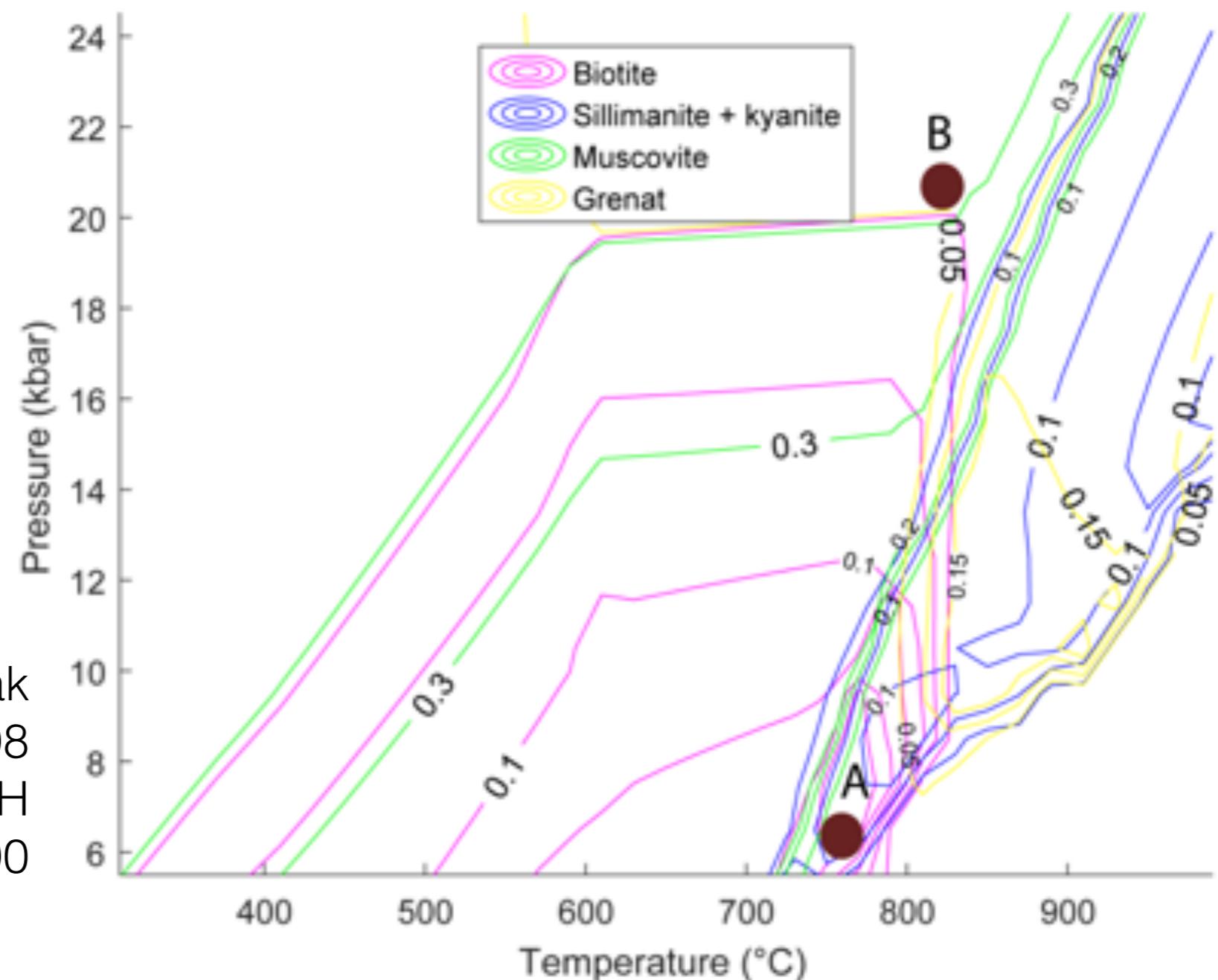
Partir du terrain ... mesurer les propriétés pétrophysiques

«as is »

Estimer les propriétés in-situ

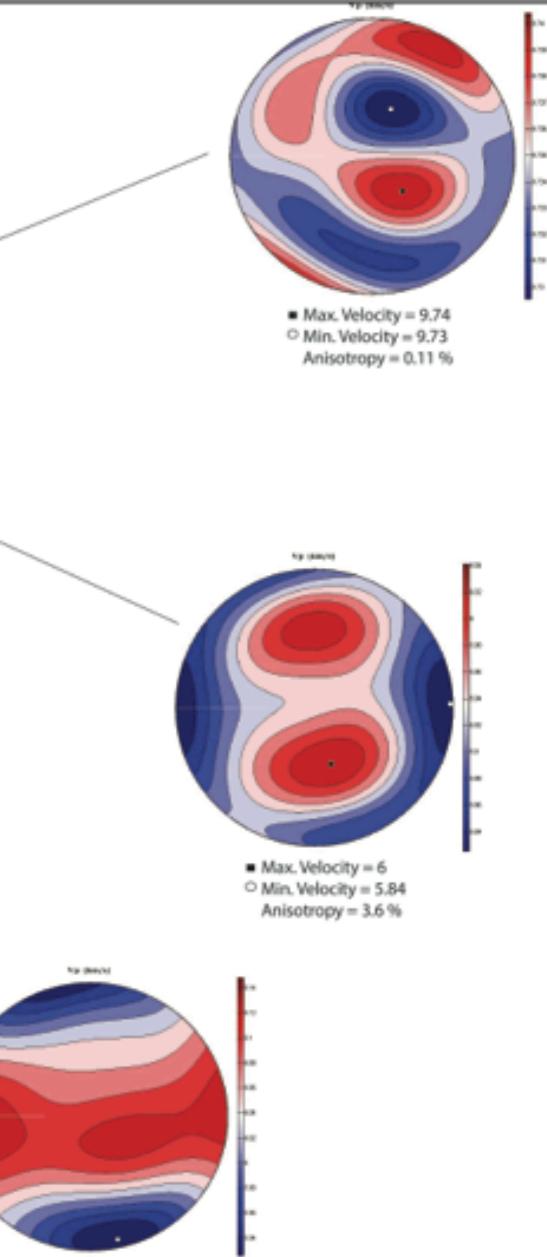
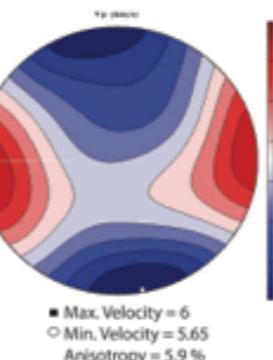
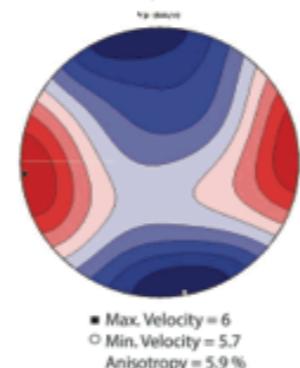
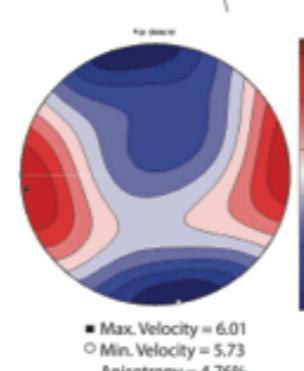
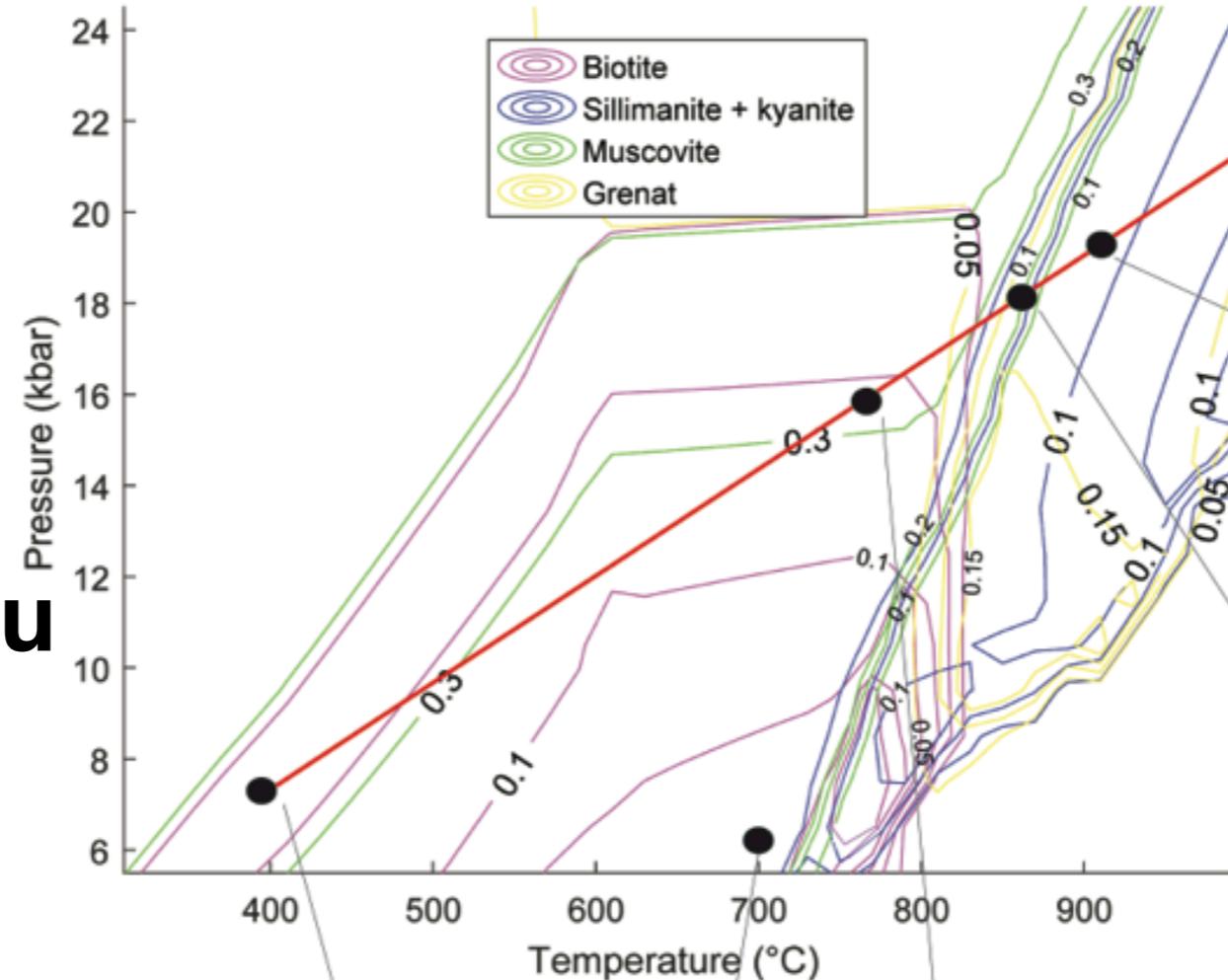
Mode A: 10% Bt - 8% Sill+Ky - 0% Ms - 5% Gt + (qtz-fsp).
Mode B: 30% Ms - 0% Bt - 0% Sill+Ky - 5% Gt + (qtz-fsp).

Pseudosection Theriak
Modèle HP98
Système KFMASH
chimie bulk St-Blanquat, 1990



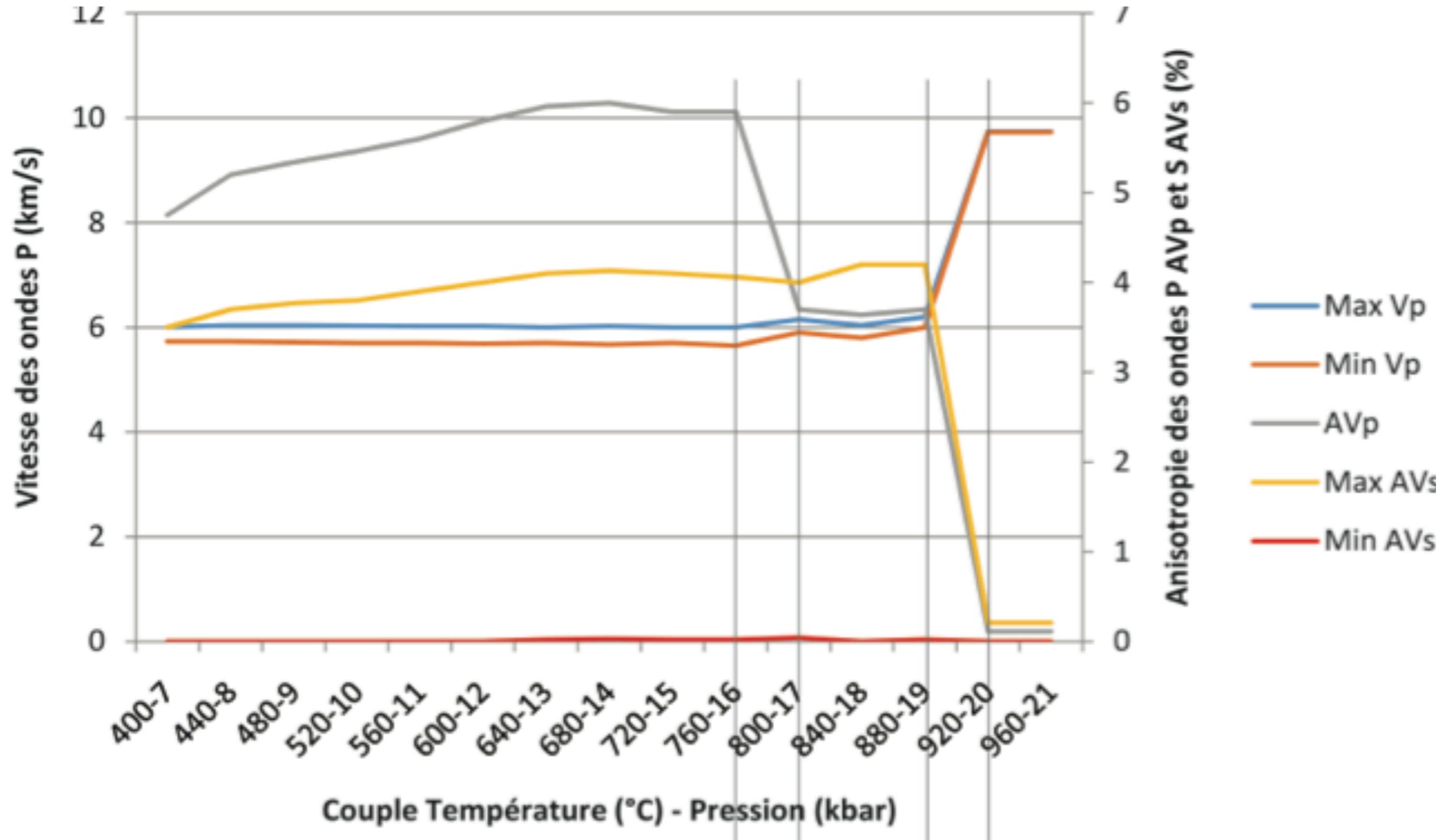
Partir du terrain ...
mesurer les
propriétés
pétrophysiques
«as is »

Estimer les
propriétés in-situ



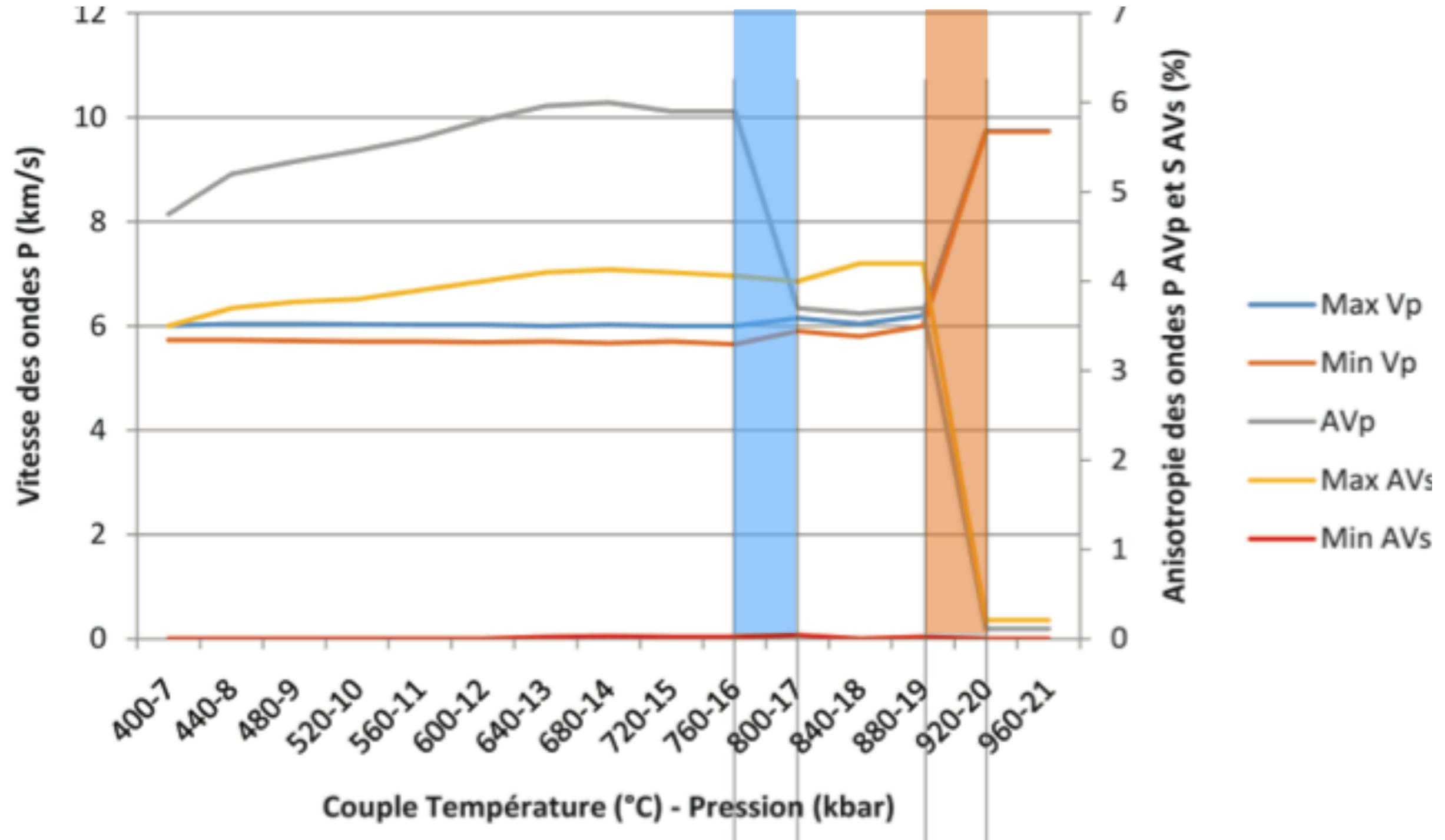
Partir du terrain ...

Estimer les propriétés in-situ



Partir du terrain ... Estimer les propriétés in-situ

Les disparitions des micas dominent le signal



Partir du terrain ...
calculer les
propriétés
géophysiques ...

retour à la
géophysique.

