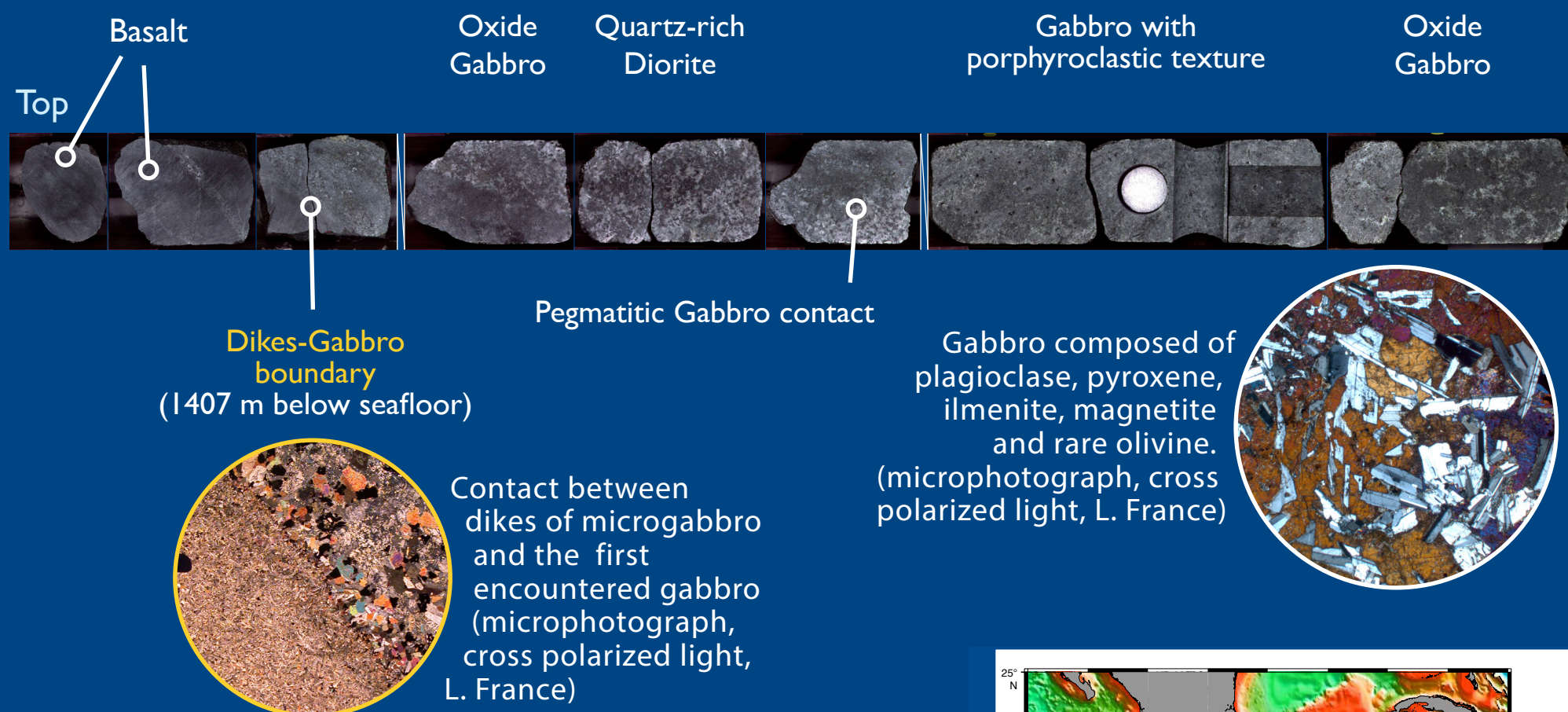


Upper/Lower Oceanic Crust

Superfast Spreading Rate Crust 3 - IODP Expedition 312

The replica shows a composite *in-situ* section of the upper oceanic crust (basalts and dikes) in contact with the lower crust (gabbros) at Hole 1256D.

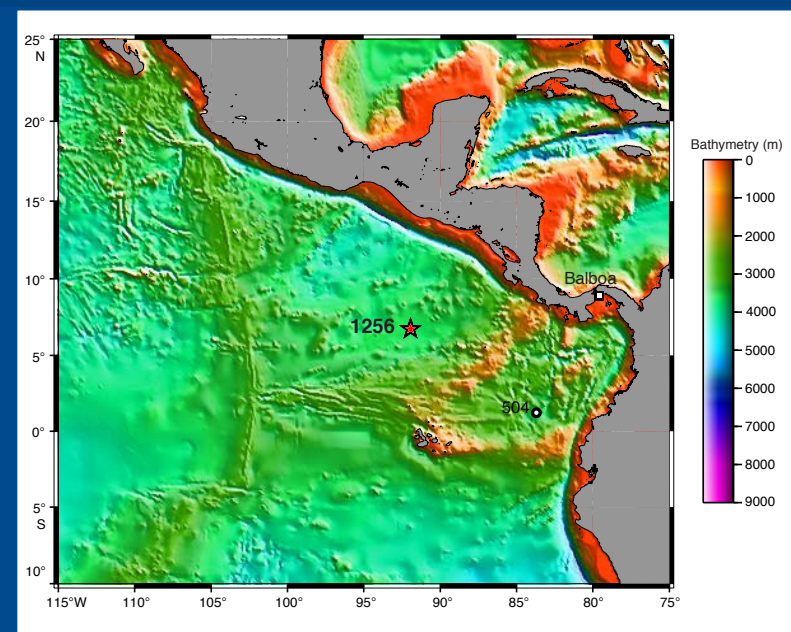


IODP Expedition 312 is part of the Superfast Spreading Rate Crust mission, a multicruise programme to drill, for the first time, an intact section of the upper oceanic crust

from the extrusive lavas, through the dikes, and into the underlying gabbros. Below 1407 m, the hole penetrates about 100 metres into a complex zone of fractionated gabbros intruded into contact metamorphosed dikes.

Technical challenges: coring in the very hard and recrystallised rocks proceed slowly. Several failures have happened during the IODP mission and have required cleaning out the bottom of the hole et several replacements of the drillbit.

References: Alt J et al, 2007. Scientific Drilling - doi:10.2204/iodp.sd.4.01.2007
France L, 2009. Ph.D. thesis, Univ. Montpellier 2



Hole 1256D was initiated during Ocean Drilling Program Leg 206 in the eastern equatorial Pacific and is drilled into 15 Ma crust that formed at the East Pacific Rise during a period of superfast spreading (>200 mm/y).