
Canyons, slope gullies and scours along the Vocontian basin margins during Lower Cretaceous: A Synthesis

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Résumé

Recent studies contributing to promote GSSP Sites in the Vocontian basin confirmed the deep water character of Lower Cretaceous succession. They validate past interpretations separating peripheral shallow water carbonate platforms & shelfal sands from distal deep water basin muds and marls (Re.1) interbedded with various types of gravity driven deposits (Re.2). In this context, like in all basin margins, canyons, slope gullies and scours are expected, we will review their occurrence. Proximal canyons are recognized in Barremian carbonates of the Ardeche (St Thomé-Valgayette) (Re.3); they incised hemipelagites and are filled by coarser hemipelagites showing multistorey channels. A pre Upper-Aptian incision occurs in Peipin, SE of Sisteron filled by debris flows (Re 4); one flank shows hard-ground & dissolution features like in modern canyons. The best canyon example occurs in Banon faulted zone. It is trending SSW-NNE, and is 25km long and 6km in width, incising Lure carbonate platform. It is rooted in the shelf sandstones East of Apt and filled by low sinuosity turbidites sandy channels of Upper Albian (Re. 5-6), supplying the Jabron channelized fan (Re. 5-7-8). Another canyon seems to be perennial in the Aurel faulted zone, in the sense that deep water Cenomanian deposits rest over Bedoulian slope limestones (Re.9) with hard-ground & bypass conglomerates. East of Crest, a seismic line reveals incisions coming from the Rhone Saddle (Re.10) feeding a thick Aptian-Albian fan SE flowing. Finally a large erosional feature is mapped South & East of Vaison-La-Romaine along the Nîmes fault (Re.11-12), cutting through 900m of slope facies down to the Valanginian, supplying the Barremian-Albian Eygaliers Fan (Re. 7-12-13-14) and sealed by Cenomanian. Slope gullies occurs in the North, in the Barremian of Archiane (Vercors)(Re 15) and must be present along the Ventoux slope in order to feed Upper Albian conglomerates of the Toulourenc, (Re.16). Barremian & Aptian, scours occur in the North, along the Vercors slope in Beaufort and Glandage, (Re. 14-17), they are mapped and the genetic link with the redeposited erosional products is well established. They also must occur along Ventoux-slope in order to feed the south Baronnies debris flows dominated fan (Re.14).

Mots-Clés: Lower Cretaceous, Vocontian Basin, Palaeogeography, canyon, scours slope gullies

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