

Interactive comment on “Evidence of Changes in Sedimentation Rate and Sediment Fabric in a Low Oxygen Setting: Santa Monica Basin, CA” by Nathaniel Kemnitz et al.

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This manuscript is extremely useful for understanding the history of sedimentation and bottom-water conditions in the Santa Monica Basin. Authors show x-ray radiographs from MUC9 and MUC10 in figure 7 and do not show x-rays from other stations, probably because other cores were not showing laminations. However, differences in the degree of bioturbation or some indistinct banding can be maybe visible even in x-rays of those cores – as suggested at lines 415-420. Therefore, it can be useful to add x-rays of all stations to assess spatial and bathymetric variation in bioturbation.

One another information about the finding that sediment accumulation rates was slower

prior to 1900 CE — this change was also recently documented on the basis of a decline in abundance of a deposit-feeding bivalve *Nuculana taphria* in two sediment cores collected on the Palos Verdes and San Pedro shelves - this sand-dwelling species, one of the most important contributors to molluscan community on the shelf prior to the 20th century, significantly declined in abundance sometimes at the 19th/20th century transition or during the 19th century at mid-shelf water depths (Fig. 11 in Tomasovich et al. 2019 in *Paleoceanography and Paleoclimatology*) (clearly prior to the major onset of wastewater pollution, ~ in 60-70s of the 20th century).

Reference Tomasovich, A., Kidwell, S.M., Alexander, C.R. and Kaufman, D.S., 2019. *Paleoceanography and Paleoclimatology* 34, 954-977

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