Suitability of Sludge Biotic Index (S.B.I.), Sludge Index (S.I.) and filamentous bacteria analysis for assessing activated sludge process performance: the case of piggery slaughterhouse wastewater

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![DO monitoring scheme](image)

**Fig. ESM_4** DO monitoring scheme: points 1-29 show the sampling sites

The DO mapping shows good oxygenation conditions in the aeration tank (consistent with high nitrification efficiency). Based on the results of oxygen mapping, nitrification tank may be divided, for homogeneity, in 5 different areas: area A (from point 1 to point 9; DO = 0.01 ÷ 0.19 mg/L), area B (from point 10 to point 14; DO = 0.12 ÷ 0.55 mg/L), area C (from point 15 to 20; DO = 0.83 ÷ 1.23 mg/L), area D (from point 21 to point 24; DO = 1.65 ÷ 2.27 mg/L) and area E (from point 25 to point 29; DO = 2.33 ÷ 3.18 mg/L). In particular, the trend of DO concentration in areas A and B is less uniform than that observed in areas C, D and E: in fact, A and B values are low (next to detection limit), so measure is less stable. Furthermore, in C, D and E dissolved oxygen concentration is homogeneous even at each depth level.