

Triangular diagrams of sedimentological texture for both cores and their corresponding cumulative particle mass curves created using GRADISTAT statistical package are presented in figures S1 to S8; these include sediment particle size (ϕ) retained during sieving.

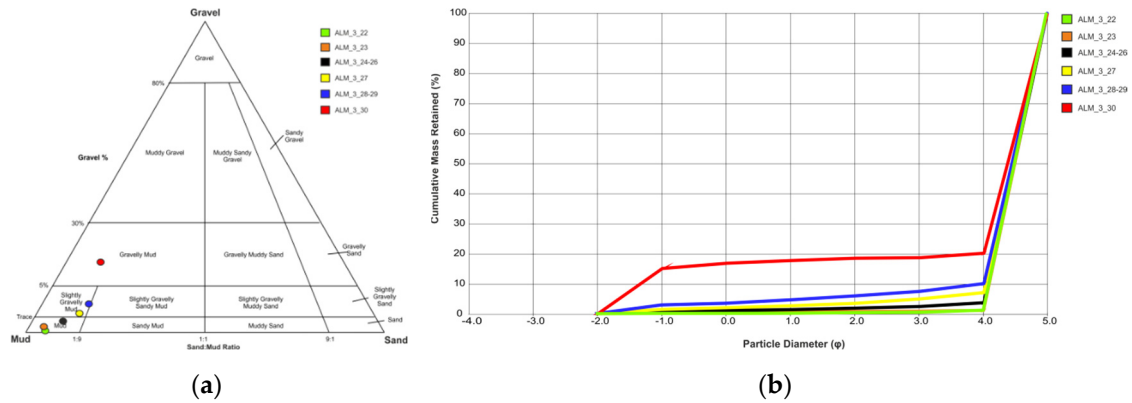


Figure S1. GRADISTAT and statistical analysis results of sediment particles of samples 22-30 from ALM3 core: **(a)** Triangular diagram indicating samples texture with different colours; **(b)** Mass cumulative curve of particle diameter. Sediment samples (ALM-3_30 to 3_22) were collected from depths of 390 – 308 cm and include Unit A and part of Unit B1 (Unit A: ALM – 3_30 to 3_27, Unit B1: ALM – 3_26 to 3_22).

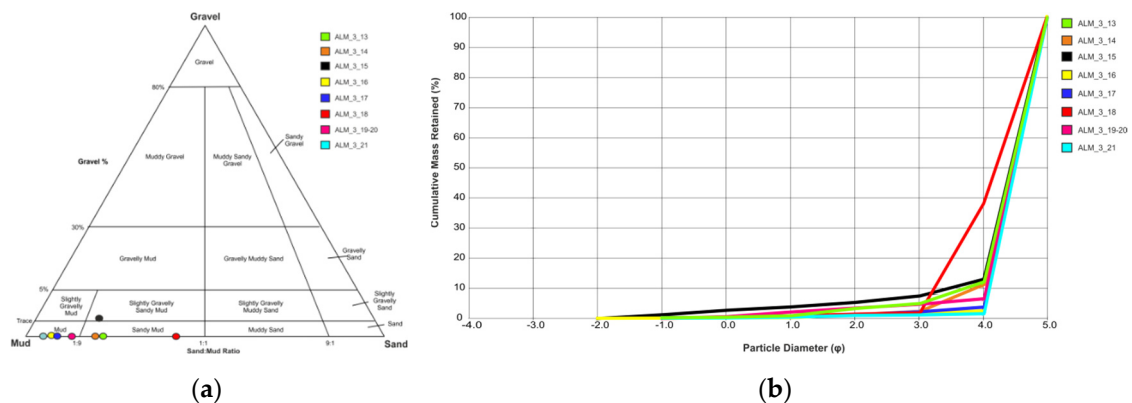


Figure S2. GRADISTAT and statistical analysis results of sediment particles of samples 13-21 from ALM3 core: (a) Triangular diagram indicating samples texture with different colours; (b) Mass cumulative curve of particle diameter. Sediment samples (ALM-3_21 to 3_13) were collected from depths of 300 – 213 cm and include the rest of Unit B1 and part of Unit B2 (Unit B1: ALM – 3_21 to 3_16, Unit B2: ALM – 3_15 to 3_13).

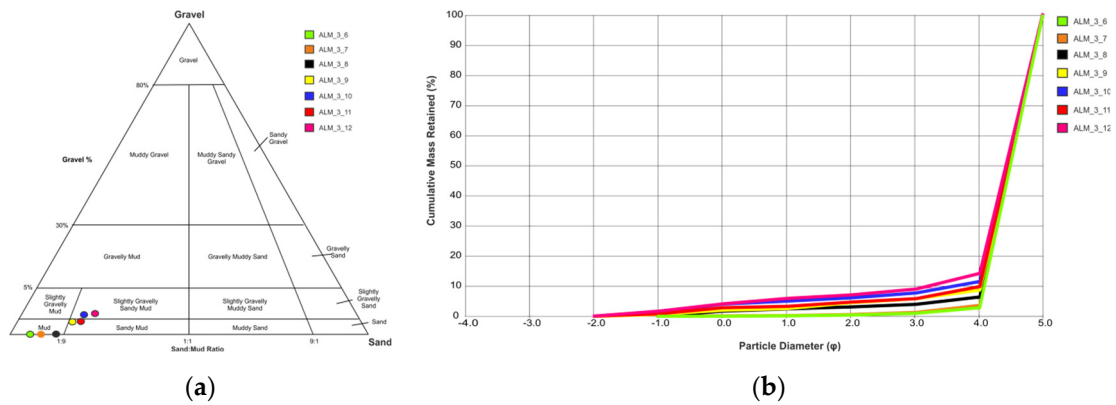


Figure S3. GRADISTAT and statistical analysis results of sediment particles of samples 6-12 from ALM3 core: (a) Triangular diagram indicating samples texture with different colours; (b) Mass cumulative curve of particle diameter. Sediment samples (ALM-3_12 to 3_6) were collected from depths of 195 – 130 cm and include the rest of Unit B2 and part of Unit C (Unit B2: ALM – 3_12 to 3_11, Unit C: ALM – 3_10 to 3_6).

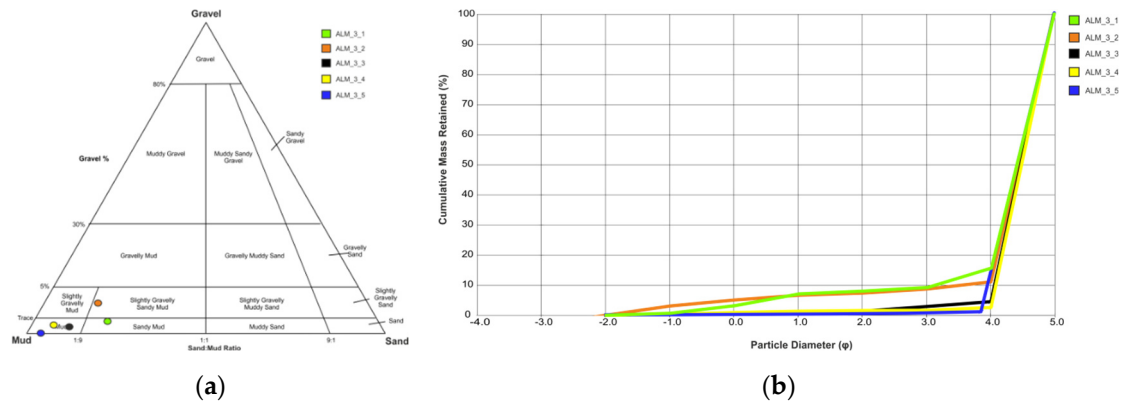


Figure S4. GRADISTAT and statistical analysis results of sediment particles of samples 1-5 from ALM3 core: (a) Triangular diagram indicating samples texture with different colours; (b) Mass cumulative curve of particle diameter. Sediment samples (ALM-3_5 to 3_1) were collected from depths of 110 – 43 cm and include the rest of Unit C and Unit D (Unit C: ALM – 3_5, Unit D: ALM – 3_1 to 3_4).

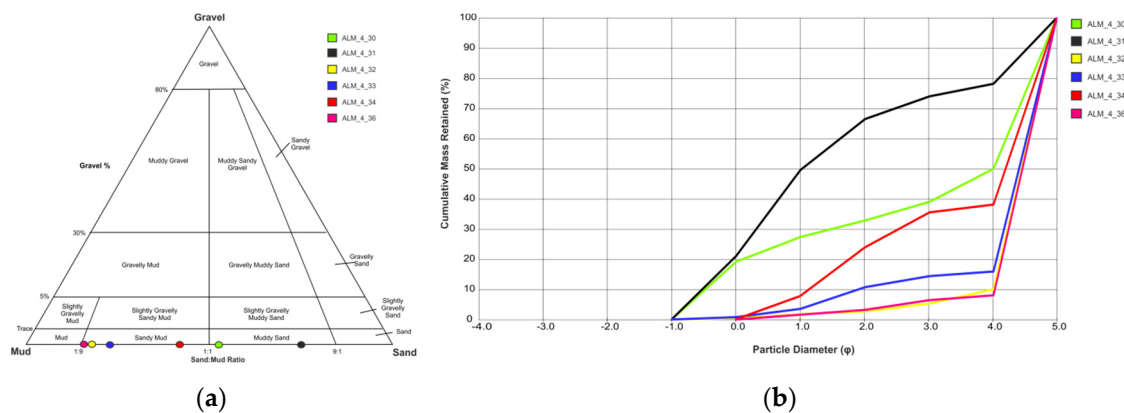


Figure S5. GRADISTAT and statistical analysis results of sediment particles of samples 30-36 from ALM4 core: (a) Triangular diagram indicating samples texture with different colours; (b) Mass cumulative curve of particle diameter. Sediment samples (ALM-4_36 to 4_30) were collected from depths of 398 – 360 cm and is part of Unit B1.

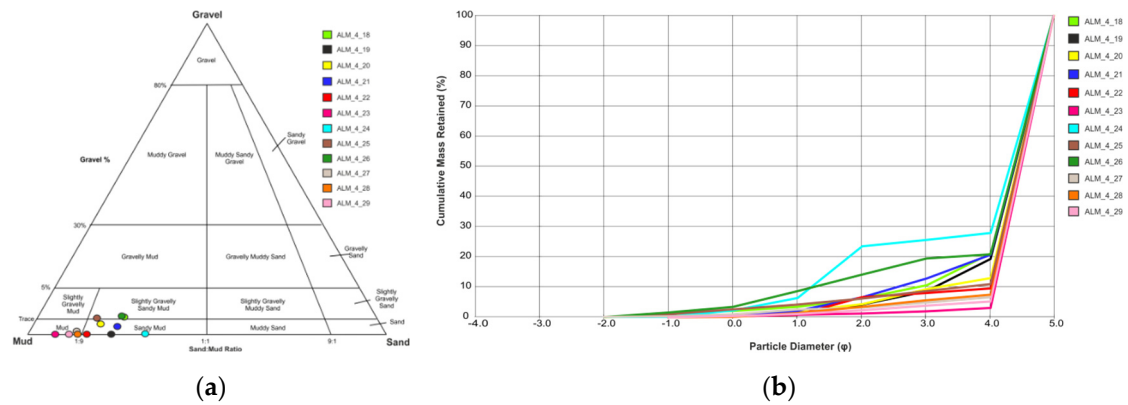


Figure S6. GRADISTAT and statistical analysis results of sediment particles of samples 18-29 from ALM4 core: (a) Triangular diagram indicating samples texture with different colours; (b) Mass cumulative curve of particle diameter. Sediment samples (ALM-4_29 to 4_18) were collected from depths of 292 – 203 cm and include the rest of Unit B1 and part of Unit B2 (Unit B1: ALM – 4_29 to 3_21, Unit B1: ALM – 4_20 to 4_18).

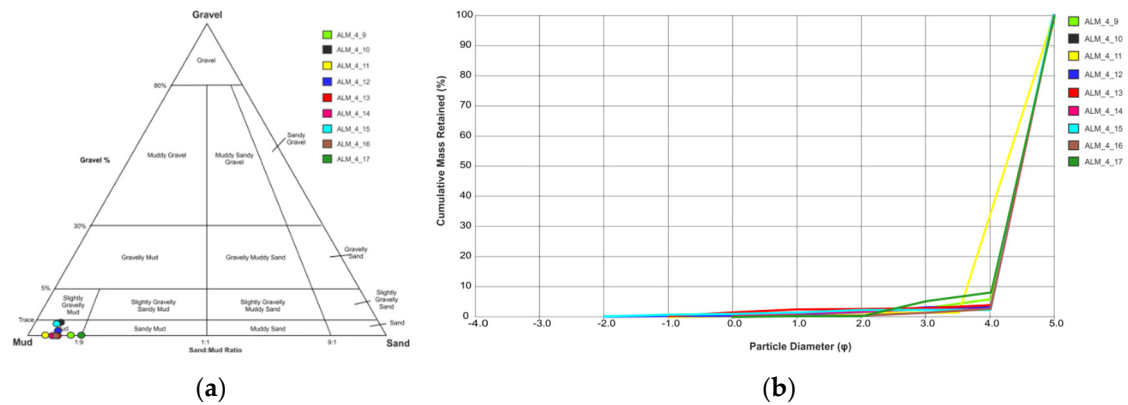


Figure S7. GRADISTAT and statistical analysis results of sediment particles of samples 9-17 from ALM4 core: (a) Triangular diagram indicating samples texture with different colours; (b) Mass cumulative curve of particle diameter. Sediment samples (ALM-4_17 to 4_9) were collected from depths of 198 – 109 cm and include the rest of Unit B2 and part of Unit C (Unit B2: ALM – 4_17, Unit C: ALM – 4_16 to 4_9).

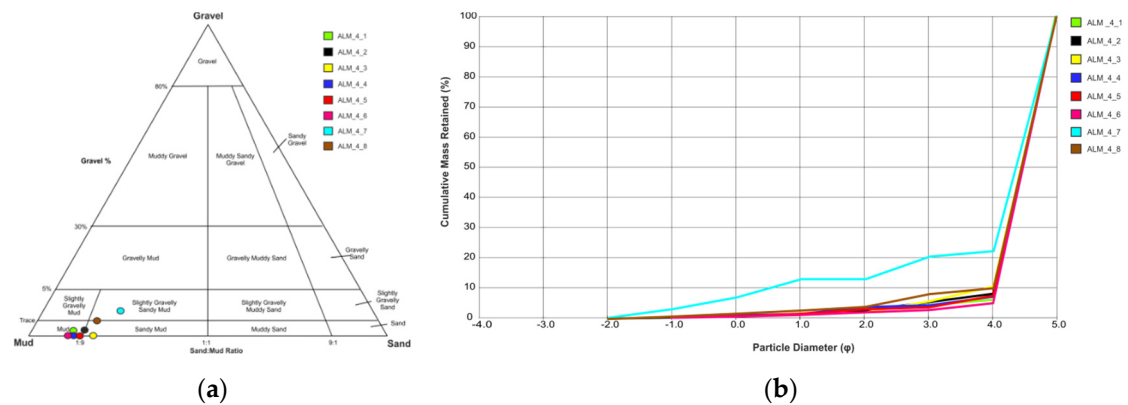


Figure S8. GRADISTAT and statistical analysis results of sediment particles of samples 1-8 from ALM4 core: (a) Triangular diagram indicating samples texture with different colours; (b) Mass cumulative curve of particle diameter. Sediment samples (ALM-4_8 to 4_1) were collected from depths of 96 – 10 cm and include the rest of Unit C and Unit D (Unit C: ALM – 4_8 to 4_4, Unit D: ALM – 4_3 to 4_1).