LIST OF TABLES AND FIGURES:

Figure S1. Aerial photogrammetric of study area in Krakal-Sadranan, Yogyakarta south coast, Indonesia.;

Figure S2. Geomorphology zonation of shoreline mapping based on beachrock deposits, (a) α-section and (b) β-section.

Figure S3: Syringe cementation test scheme;

Figure S4: Electrical and multi analysis surface wave results of α-section. (A1) the resistivity of line 4, (B1) the MASW of line 4, (A2) the resistivity of line 5, and (B2) the MASW of line 5.;

Figure S5: Three dimensional of beachrock model calculation based on geophysical statistical anomaly data from electrical resistivity and multi analysis surface wave of β-section.

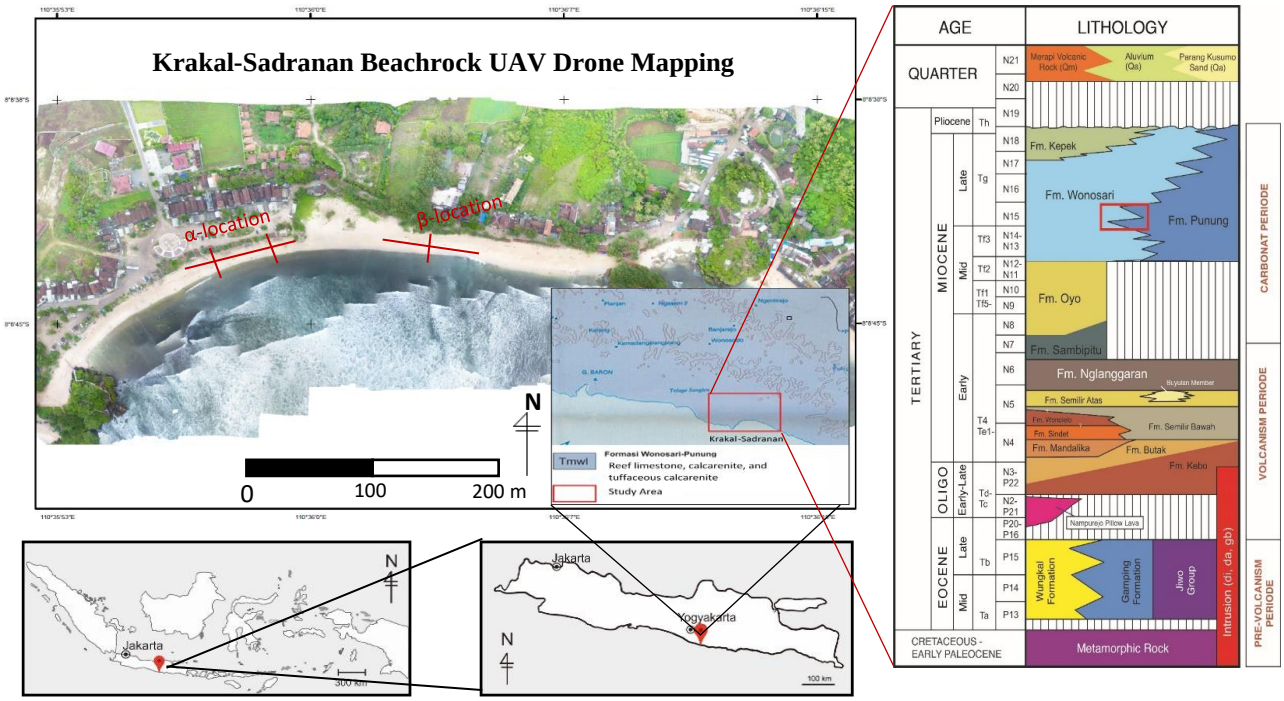
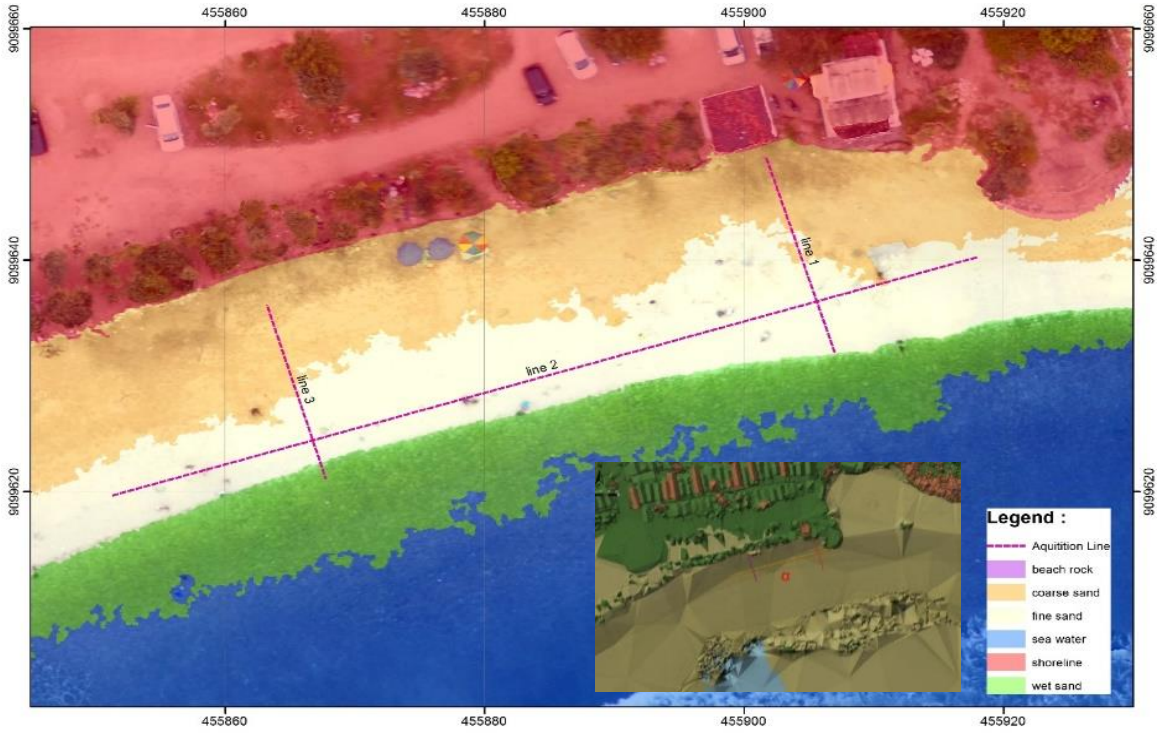
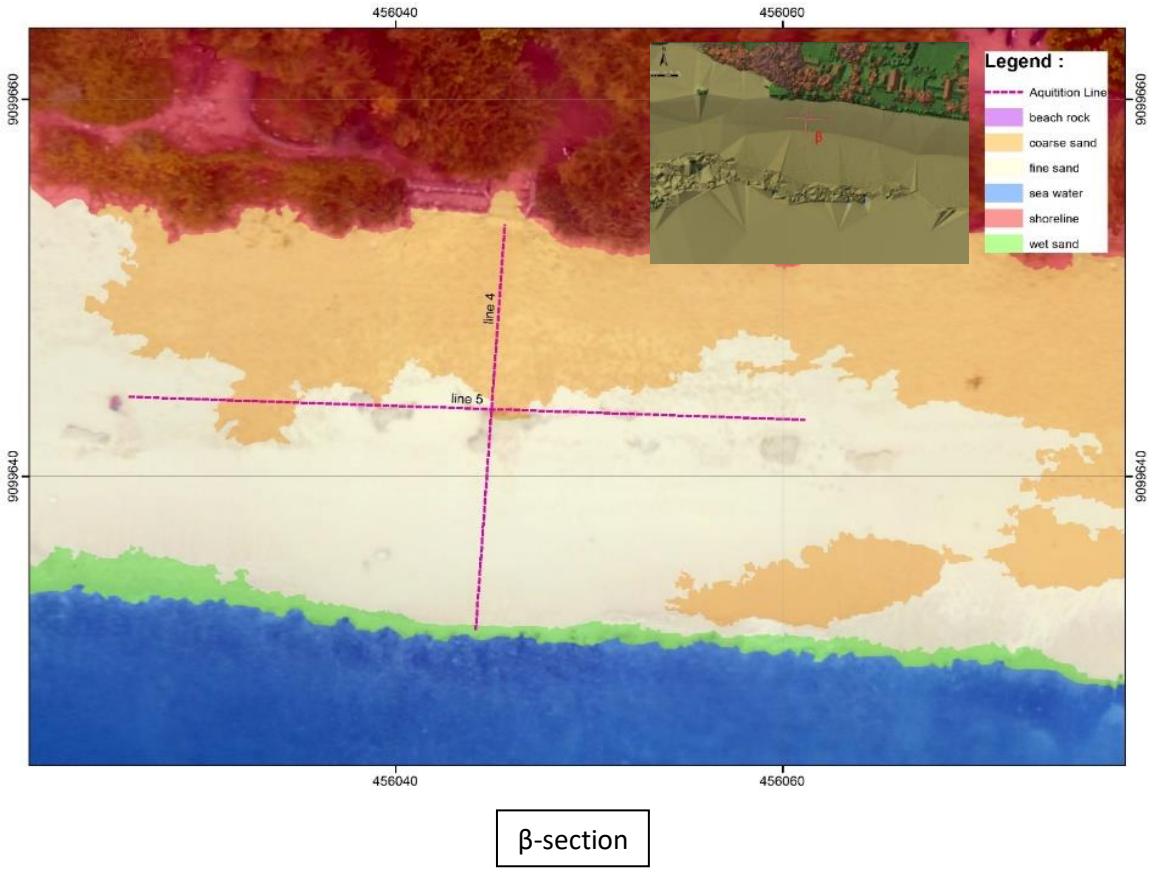


Figure S1. Aerial photogrammetric of study area in Krakal-Sadranan, Yogyakarta south coast, Indonesia.



α-section

(a)



(b)

Figure S2. Geomorphology zonation of shoreline mapping based on beachrock deposits, (**a**) α-section and (**b**) β-section.

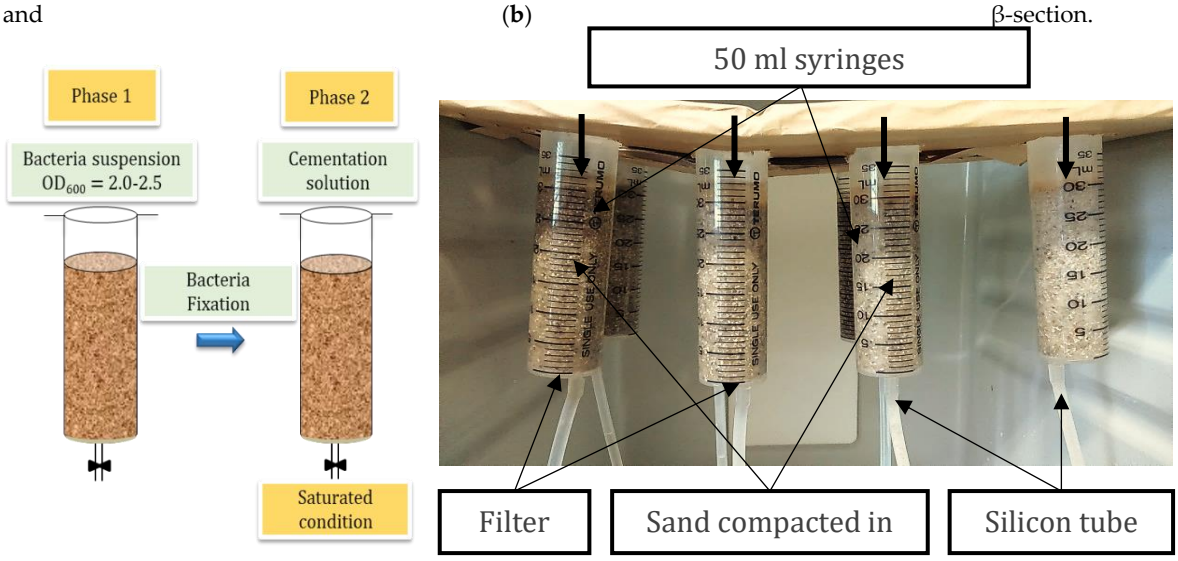
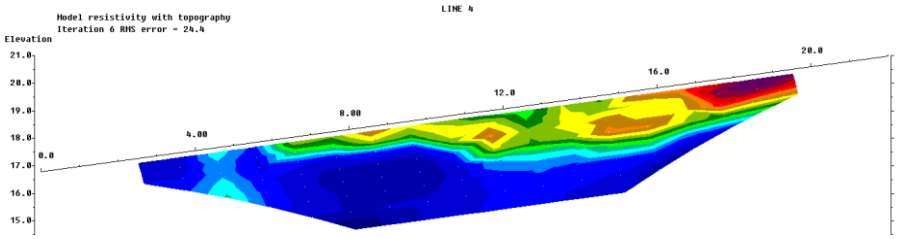
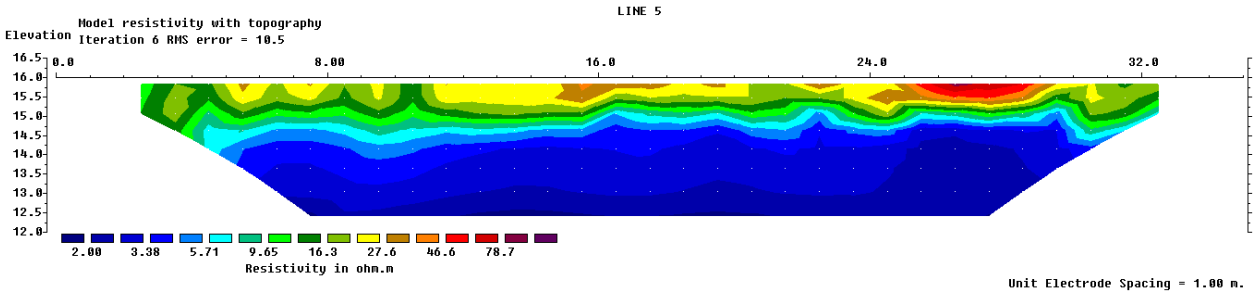


Figure S3. Syringe cementation test scheme.

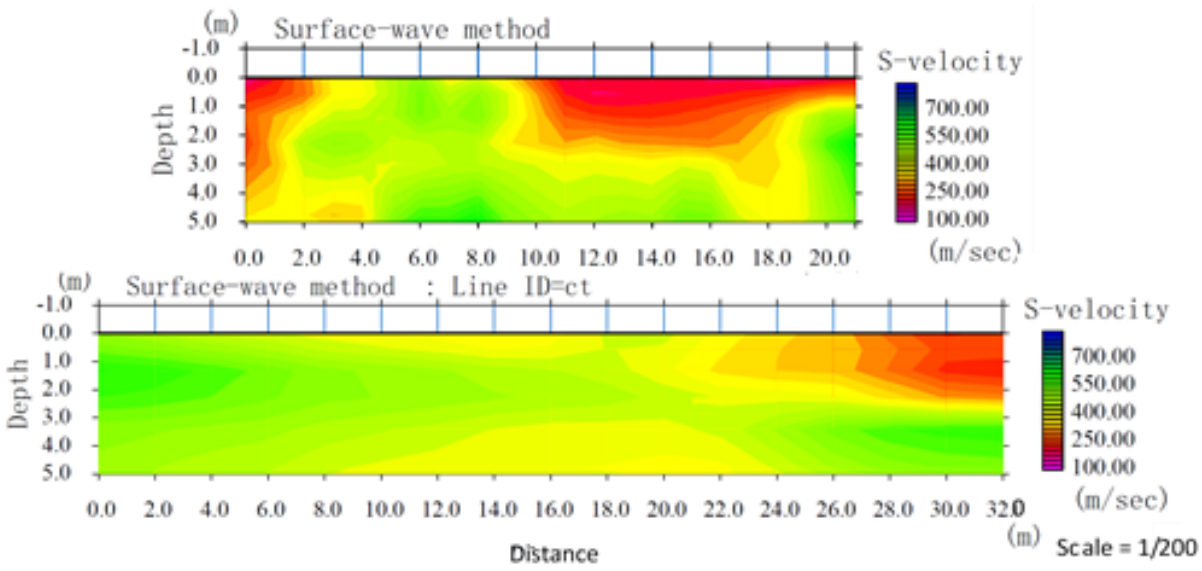
(A1)





(A2)

(B1)



(B2)

Figure S4. Electrical and multi analysis surface wave results of α-section. (**A1**) the resistivity of line 4, (**B1**) the MASW of line 4, (**A2**) the resistivity of line 5, and (**B2**) the MASW of line 5.

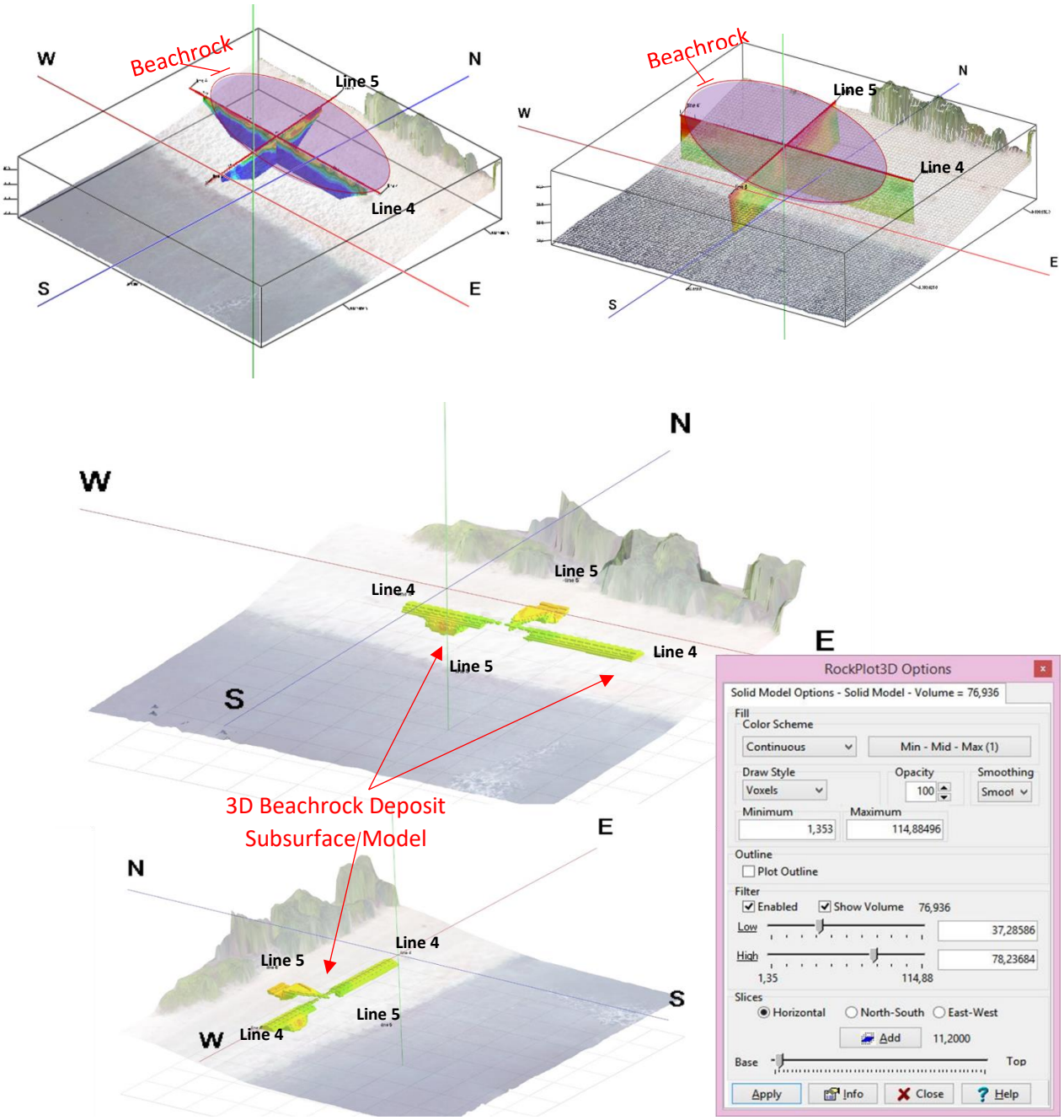


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