

**STUDI GEOLOGI KARAKTERISTIK ENDAPAN PANTAI DAERAH  
MELOLO DAN SEKITARNYA, KECAMATAN UMALULU, KABUPATEN  
SUMBA TIMUR, PROVINSI NUSA TENGGARA TIMUR**

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**SARI**

Daerah penelitian terletak di daerah Melolo dan sekitarnya, kabupaten Sumba Timur, Nusa Tenggara Timur, tepatnya pada koordinat  $120.7373^{\circ} \text{ E} - 120.7406^{\circ} \text{ E} / 9.92374^{\circ} \text{ S} - 9.92512^{\circ} \text{ S}$ . Pantai daerah Melolo pulau Sumba menarik untuk diteliti, karena dianggap sebagai pantai yang dapat mewakili daerah pasang maksimum, transisi, dan surut maksimum, yang berada di bagian timur pulau Sumba. Karakteristik dari area pasang maksimum, transisi, dan daerah surut maksimum akan menggambarkan distribusi dan komposisi sedimen pantai di pantai timur Pulau Sumba. Sampel yang berjumlah 27 diambil dari daerah pasang maksimum, transisi, dan surut maksimum pantai Melolo. Empat (4) metode analisis dilakukan yang bertujuan untuk menentukan karakteristik endapan pesisir di wilayah penelitian: analisis ukuran butir, analisis foraminifera, analisis XRF (*X-Ray Fluorescence*), dan analisis mineralogi. Hasil analisis granulometri, menunjukkan ukuran butir bervariasi dengan nilai  $0,273 \phi - 2,053 \phi$  (pasir kasar - pasir halus) dan pola ukuran butir menunjukkan menghalus ke arah pasang maksimum. Ada 23 spesies foraminifera dan didominasi oleh empat (4) spesies di setiap sampel: *Ammonia yabei* (Ishizaki, 1958), *Amphistegina radiata* (Fitchel dan Moll, 1798), *Calcarina calcar* (d'Orbigny, 1826), dan *Elphidium Macellum* (Fitchel dan Moll, 1939). Analisis mineralogi menunjukkan bahwa mineral yang ada di daerah penelitian terdiri dari kuarsa, glaukonit, mika, dan litik. Analisis XRF menunjukkan bahwa unsur-unsur yang ada di daerah penelitian terdiri dari Ca, Sc, Cr, K, Si, Fe, Zn, Mn dan V.

Kata Kunci : Pantai Melolo, sedimen pantai, granulometri, foraminifera, mineralogi, XRF

**STUDY OF GEOLOGY CHARACTERISTIC OF COASTAL DEPOSIT  
MELOLO AREA AND SURROUNDING, UMALULU DISTRICT, EAST  
SUMBA REGENCY, NUSA TENGGARA TIMUR PROVINCE**

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**ABSTRACT**

The research area is located in the Melolo and surrounding area, East Sumba Regency, East Nusa Tenggara, precisely at 120.7373° E - 120.7406° E / 9.92374° S - 9.92512° S coordinates. The coast of the Melolo region of Sumba island is interesting to study, because it is considered as a beach that can represent the maximum tide, transition, and low tide areas, which are in the eastern part of Sumba Island. The characteristics of the maximum tide area, transition, and low tide area will illustrate the distribution and composition of coastal sediments on the eastern coast of Sumba Island. The 27 samples were collected from the maximum tide, transition, and low tide area at Melolo beach. Four (4) methods of analysis were carried out which aimed to determine the characteristics of coastal deposits in the study area: grain size analysis, foraminifera analysis, XRF (X-Ray Fluorescence) analysis, and mineralogical analysis. The samples were obtained in the maximum tide, transition, and low tide area of Melolo beach. The results of the granulometric analysis, showed varying grain sizes with values of 0.273  $\phi$  - 2.053  $\phi$  (coarse sand - fine sand) and grain sizes pattern shows fining towards the maximum tide. There are 23 species of foraminifera and dominated by four (4) species in each sample: *Ammonia yabei* (Ishizaki, 1958), *Amphistegina radiata* (Fitchel and Moll, 1798), *Calcarina calcar* (d'Orbigny, 1826), and *Elphidium Macellum* (Fitchel and Moll, 1939). Mineralogy analysis shows the minerals that present in the research area consist of quartz, glauconite, mica, and lithic. XRF analysis shows the elements that present in the research area consist of Ca, Sc, Cr, K, Si, Fe, Zn, Mn and V.

Keywords: Melolo beach, coastal sediments, granulometry, foraminifera, mineralogy, XRF.