SECOND YEAR OUTPOURING OF THE PORONG SIDOARJO MUD
ORGANIC GEOCHEMISTRY CHARACTERIZATION

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ABSTRACT

Investigating biomarker compound of the Porong Sidoarjo mud (Lusi) has been done to find out the organic material derivation and the condition of the sediment environment. Sediment is extracted with toluene, chloroform, and methanol, respectively which then fractionated by using column-chromatograph and lamella-chromatograph method until getting aliphatic hydrocarbon fraction, aromatic hydrocarbon fraction, ketone fraction and alcohol fraction and each fraction identified with chromatograph gas- mass spectrometer (GC-MS). Aliphatic hydrocarbon fraction biomarker which had been identified are the compound of \( n \)-alkane \( \text{C}_{14} \) – \( \text{C}_{38} \), pristan and phitan, isoprenoid, iso- and anteisoalkane, alkilsikloheksane, methyl alkilsikloheksane and hopane; aromatic hydrocarbon fraction biomarker which had been identified are perylen and compound derivative pisene; the identified ketone fraction biomarker are methyl \( n \)-ketone and ethyl \( n \)-ketone and alcoholic fraction biomarker which had been identified is saturate \( n \)-alcohol. The data got showed the contribution organic sediment material like bacteria, alga, and land high-order plant with the oxidative condition of the mud baffles and characterized as tender year sediment. It means the Sidoarjo mud which has spread at the second year is the mud which comes from Kalibeng formation around 8500 feet (± 2600 m) depth.

Key Words: biomarker, mud of Porong Sidoarjo, fraction, chromatography.