ORGANIC GEOCHEMISTRY CHARACTERIZATION OF ACID AND POLAR FRACTION OF CRUDE LIGHT OIL FROM LAWE-LAWE OIL WELL

By : Abi Mas Udianto
Student Identity Number : 1407 201 733
Supervisor : Prof. Dr. R. Y. Perry Burhan, M. Sc

ABSTRACT

Biomarker characterization of acid and polar fraction from Lawe-lawe oil well were studied. Before characterization, crude oil were fractioned by McCarty and Duthie methods and analyzed by GC-MS. The result showed that aliphatic carboxylic acids (C_{14}-C_{34}) had highest intensity at n-hexadecanoic acid (C_{16}), 17α(H),21β(H)-norhopanoic acid, 17α(H),21β(H)-hopanoic acid are produced by acid fraction. In the polar fraction there was n-alkane distributed on C_{19}-C_{35} and odd atoms had domination, isoprenoid alkane (cyclic and acyclic biphitane), alkyl cyclohexane and 17α(H),21β(H)-norhopane, 17α(H),21β(H)-hopane were found. The analysis result of acid and polar biomarker showed that crude oil has dominated by sedimentation of marine organism and from terrestrial and bacteria sedimentation. Lawe-lawe crude oil is mature crude oil and unbiodegradation crude oil. Based on the sedimentation process, Lawe-lawe crude oil is ancient sediment from Last Oligocene to Middle Miocene.

Keywords: Crude oil, biomarker, acid fraction biomarker, polar fraction biomarker, Lawe-lawe oil well