

Study On Petroleum System Of Oil Seepages In The Western Part Of Kendeng Zone

By Riyadi , MS

Abstract

Kendeng zone in Indonesia is one of the back arc basin potential to generate petroleum. Kendeng zone is anticlinoria the located between Rembang Zone and Southern Mountains Zone, and is regarded as geological units unique, from the aspects of tectonics, structural geology and lithostratigraphy. Until this time, Kendeng zone have known as the basin is not economical, but there area number of seepage of oil and gas are found in various locations in the western part of Kendeng Zone. Petroleum system in the western part of Kendeng Zone still be discussion of experts. This Petroleum system studies will be carried out by geochemical methods.

Geochemical analysis of hydrocarbon fluid biomarker analyzes that come out as seepage for chemical correlation and level of maturity use gas chromatography (GC) and the gas chromatography spectrometer (GCMS).

The purpose of this study to determine the characteristics and origin of the fluid that comes out of the seepage, and get a picture of Petroleum System in the western part of Kendeng Zone. Research area is in the district Wonosegoro Kabupaten Boyolali, there is the RBI map with a scale of 1: 25,000, this area located at UTM coordinates X: 458500-463500mE, Y:9197000-9202500mS.

In contrast to the conclusions of PSDG Bandung, this study take a conclusion that the origin of hydrocarbon seepage is Pelang Formation as source rocks, deposited on marine environment and calm sea conditions. Petroleum system in the study area including the Western Kendeng Zone is Pelang Formation as source rock, Kerek Formation as reservoir, seal rock is in Kerek Formation or *intraformation*, trap is *anticline* in Pliocene-Pleistocene, migration occurred from the Miocene to Holocene. Formation Banyak-Kalibeng act as overburden on top Miocene and erosion occurred since the Pleistocene until the Holocene.