



The heat flow study of two potential gas hydrate prospects off SW Taiwan

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The Formosa Ridge and Four-Way Closure off SW Taiwan have been considered potential prospects of gas hydrate resources as the results of many geophysical and geochemistry investigations for years. Fourteen heat flow measurements located on these two prospects were completed in May, 2015. The results show that the sea floor temperature are between 2.78 and 4.01 [U+2103] in Formosa Ridge and between 2.74 to 3.09 [U+2103] in Four-Way Closure. The heat flow are in the range of 54 to 85 mW/m² in Formosa Ridge and 63 to 86 mW/m² in Four-Way Closure. It could be interpreted the moderate high heat flow and the sea floor temperature could be related to the fluid upward migration in Formosa Ridge and the erosion process in Four-Way Closure while examining the seismic profiles. The BGHS (Base of Gas Hydrate Stability) are in the range of 166 to 284 meters in Formosa Ridge and 108 to 246 meters in Four-Way Closure. All the measurements of BGHS are shallower than that the average, 320 meters acquired off SW Taiwan. The heat flow data lead a chance to implement the drilling project in the future while considering the estimations of the reserves of the gas hydrate and the evaluations of the fluid migration.