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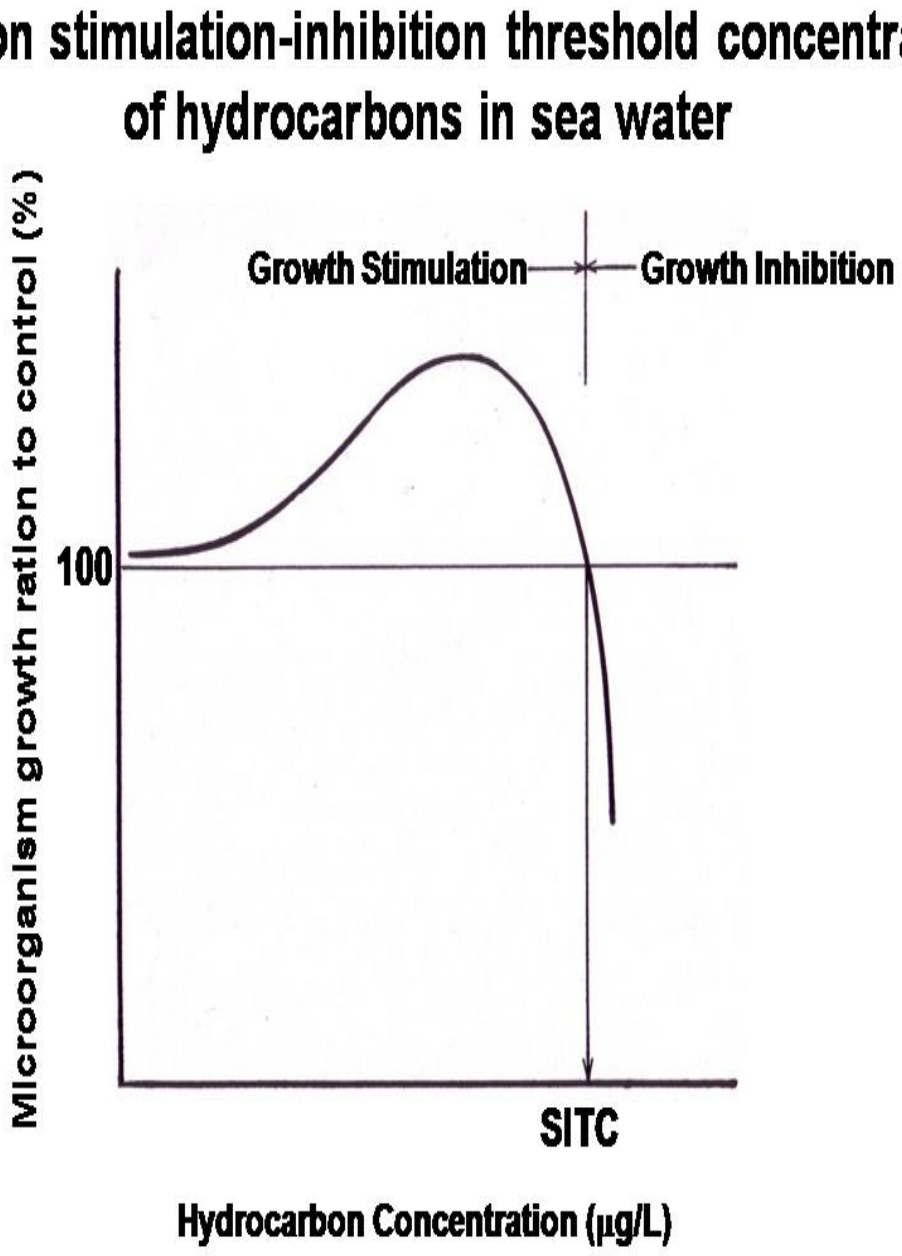
ACG034-08 Room: Exibition hall 7 subroom 2 Time: May 28 15:45-16:00

Plankton propagation possibly contributed by petroelum natural diffusion out of offshore subterranean deposits

Shuji Mori[1*]

[1]Geodyne One



Low level concentration of petroleum or hydrocarbons dissolved in sea water seems to propagate plankton population up to a certain hydrocarbon threshold concentration level. Most studies on the consequence of oil spills to marine eco-systems have focused mainly on hazardous marine pollution caused by spilled petroleum at high concentration in marine environment. However, some of those factual data clearly indicate stimulation of plankton population in properly low concentration levels of dissolved hydrocarbons or petroleum compositions. Further, increase of hydrocarbon concentration leads to its inhibition from its stimulation conditions upon crossing over a critical concentration level?a plankton stimulation/inhibition threshold concentration (SITC) of hydrocarbons. The SITC varies depending on hydrocarbon compounds, petroleum compositions, and microorganisms such as planktons. Further, petroleum composition diffusing through subterranean layers from petroleum deposits may reacts with dissolved oxygen to be consumed at the ocean floor to precipitate the agglomerate suspension of hydrocarbons, leaving the sea water in a condition of oxygen depletion on the ocean floor. Such incidents are also briefly discussed. Also, superposition of marine microorganism concentration distribution and offshore petroleum field distribution from various data in the literature is attempted to prove this coincidence.

Keywords: plankuton, propagation, offshore, petroleum, diffusion, foodchain