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Editorial

Marine and Petroleum Geology

Santosh Badure*

Department of Biotechnology, Aurora's Technological and Research Institute, India

EDITORIAL

The marine has immense minerals underneath the surface of it, over a period of millions of years, Gas and oil has formed under the ocean as the remains of animals and plants sink to the ocean floor. The Oil and natural gas deposits stored deep in the ocean can play a very significant role in powering the industrial societies. Deposits are dwindling and prices are rising leading the mankind to develop new innovative models and advancement of technologies to facilitate and overcome from difficult and expensive tap the oil and gas resources methods. Already, more than a third of the oil and gas extracted worldwide comes from offshore sources.

According to the reports published in various reliable journals, Today's industrial nations are almost entirely dependent on fossil fuels, and energy consumption around the world has risen by about 70% over the past three decades. As per the reports of The International Energy Agency (IEA) in established in Paris has estimated that consumption will increase by at least another 50% by 2030.

The Oil and gas sector has become a depleting assets enabling the building of nation's wealth and powering the industrial revolutions around the globe. Previously tapping and extracting the fuel deposited under oceans was considered to be too expensive, but in current scenarios, looking at the depleting fossil fuel resources, the marine petroleum has attracted the attention of biggest consumer (USA, China, India and Russia) leading to the technological advancements employable to economical exploration of fuel resources deposited deep inside the oceans.

Petroleum geology experts involved in marine petroleum exploration deals with the geological processes and plate tectonics have acted, over geological time, to yield the present day shape and position of continents and oceans.

The process that led to the creation/formation of oil is generally the same almost in all areas, although there may be different types of plant and animal debris falls to the ocean floor and different conditions. The given method is observed in the formation of oil; the following steps are as follows:

Sinking of Dead plankton into the oceans and the dead plankton get blends with inorganic, clay-like materials that enter these oceans from streams and rivers forming organic-rich mud into the anoxic environment (mud cannot be exposed to too much oxygen, or else the organic matter in the mud would be decomposed by bacteria and disappear quickly), this organic matter is buried furthermore under the sediment and lithifies creating organic shale. The organic shale transforms into kerogen (a waxy material) due to the pressure and temperature its subjected deep inside the Earth's interior. Shale containing this waxy material is known as the "Oil window". Oil being lighter than water escapes from the source oil shale and rises through pores in rocks from displacing water. Geological changes in the Earth's crust bring these deposits up closer to the surface, making them somewhat easier to obtain the oil, water and gas.

Correspondence to: Santosh Badure, Department of Biotechnology, Aurora's Technological and Research Institute, India, E-mail: santosh866666@gmail.com

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