

## The Origin of Petroleum

There are two schools of thought for the origin of petroleum primary source material as organic or as inorganic.

### Inorganic origin

The chief support for theories of inorganic origin lies in the fact that in the laboratory the hydrocarbons methane, ethane, acetylene and benzene have repeatedly been made from inorganic sources.

Theories that uphold the inorganic origin of petroleum have few supporters.

1. Optical rotary power is a characteristic of petroleum, and especially of intermediate boiling fractions ( 250 – 300<sup>0</sup>C). This phenomenon is almost entirely confined to organic matter and is observed only where biological agencies have prevailed.
2. Several homogeneous series of hydrocarbon compounds, containing great numbers, are found in all petroleum.
3. Lack of association of petroleum with volcanism or its product, except in rare and anomalous occurrence, is another reason for doubting that there is any important relation between volcanic action and the origin of petroleum.
4. If petroleum were of cosmic origin, we would expect to find it more uniformly distributed over the earth than it is and to fluid abundant in the older rocks.

### Organic Origin

The reasons supporting the organic origin.

1. The vast amount of organic matter and hydrocarbons now found in the sediments of the earth. Carbon and hydrogen predominate in the remain of organic material, both plant and animal.
2. Many crude oil have been found to contain porphyrin pigments and the fact that nearly all petroleum contain nitrogen are more or less direct indication of the animal or vegetable origin or both.

All organic matter contain both porphyrin and nitrogen.

The prophyrin occur in the asphalts, and in the medium to heavy fraction when they have not been filtered and still contain asphaltic component.

Nitrogen is an essential component of the Amino acids ( $\text{CH}_2(\text{NH}_2)\text{COOH}$ ) hydrolysed protein of all living matter.