OIL

Is a liquid that consist of mainly organic compounds, it is produced in sediments and sedimentary rocks during the burial of organic matter

NATURAL GAS

It consist of mainly a single organic compound which is **methane** (CH_4), but may include others like propane and hectane

PETROLEUM

Is when oil and gas coexist together, with the gas being on top of the oil

These two fossil fuels are

- Less expensive than coal to transport
- Easily refinable
- Used as raw materials for making stuff like plastics, paints, medicines, insecticides, and fertilizers, not just as energy sources
- Found in pores in sedimentary rocks

Maturation is a process where organic compounds become oil or gas because of the high temperature/pressure when buried deeply

- **Oil** comes from the organic matter of mostly animals and some plants
- **Gas** comes from the decomposition of methanogenic organisms, aka organisms that produce or have a lot of methane

- **Source rocks** are the sedimentary rocks that contain a lot of organic matter that turns into oil/gas when buried, but that sprouts a question
    - **If organic matter needs to be deeply buried to turn into petroleum/gas, how do we find them very close to surface**
        - Because oil and gas rise very slowly and percolate through the source rocks.
- **Reservoir Rocks** should have high porosity and permeability to store and allow the flow of oil or gas
- **Seals** are impermeable layers/masses of sedimentary rocks that prevent oil and gas from going up

Pores are open spaces in sedimentary rocks

Porosity is a measure of the percentage of pores in a material, and it is defined as $\left(\frac{volume\ of\ all\ pore\ spaces}{bulk\ volume\ of\ material} \times 100\right)$

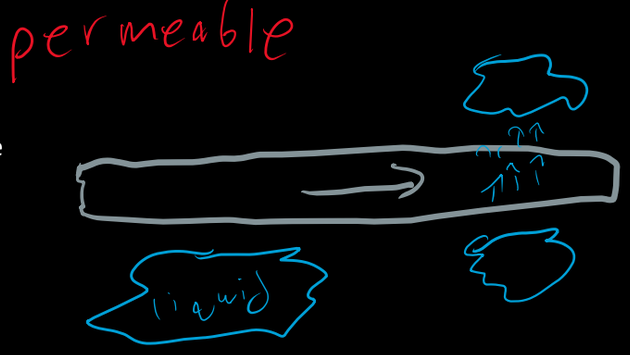
Cement is a new mineral material that precipitated into the particles of a sediment

Permeability

The rate of fluid flow through a rock with pores when there is a difference in pressure from one place to another

It has a direct relation with the **porosity** of a rock

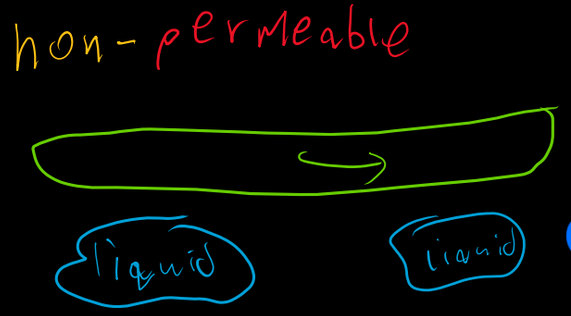
source rocks have medium permeability and porosity to keep the organic matter together until maturation
Reservoir rocks have high porosity and permeability to allow the petroleum to go up
Seals have low porosity and permeability to keep the petroleum from going above the surface



SECONDARY RECOVERY

Is the use of techniques to recover oil still trapped among sediments after years of production, it is done by injecting very hot steam into the oil well which pushes the oil outwards

Petroleum has been discovered in regions where it was not thought possible. However, there is only a finite volume of oil on Earth.



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