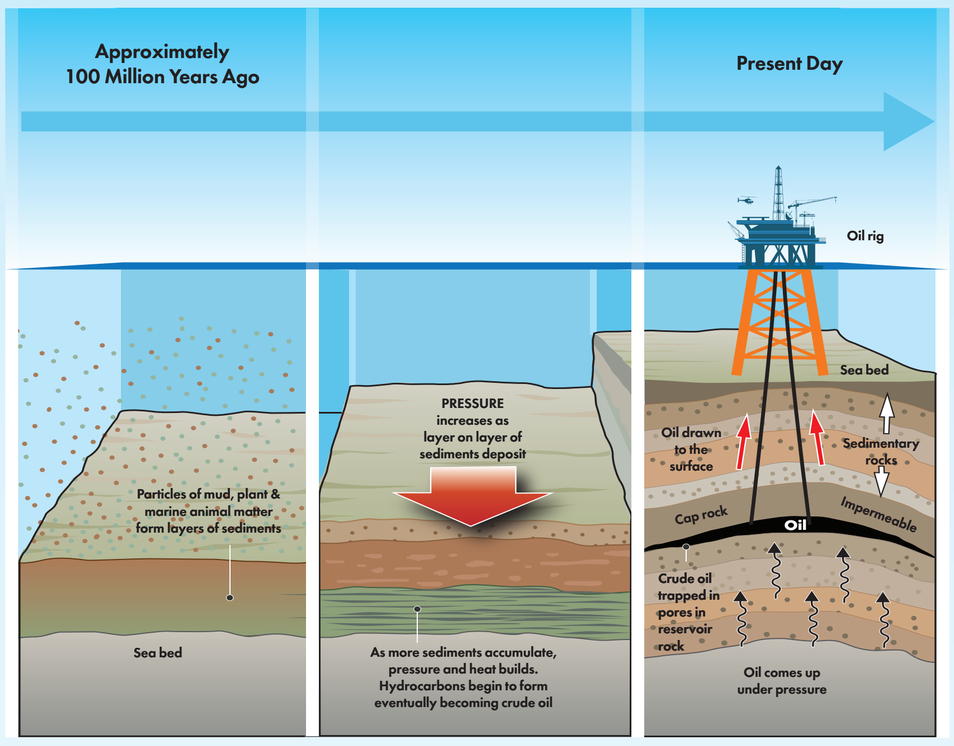
Oil – Formation to Production

What is Oil?

- Crude oil is a mixture of hydrocarbons that formed from plants and animals that lived millions of years ago.
- Over the years, the remains were covered by layers of sediment.
- Heat and pressure from these layers helped the remains turn into crude oil.
- Crude oil exists in liquid form in underground pools or reservoirs, in tiny spaces within sedimentary rocks.

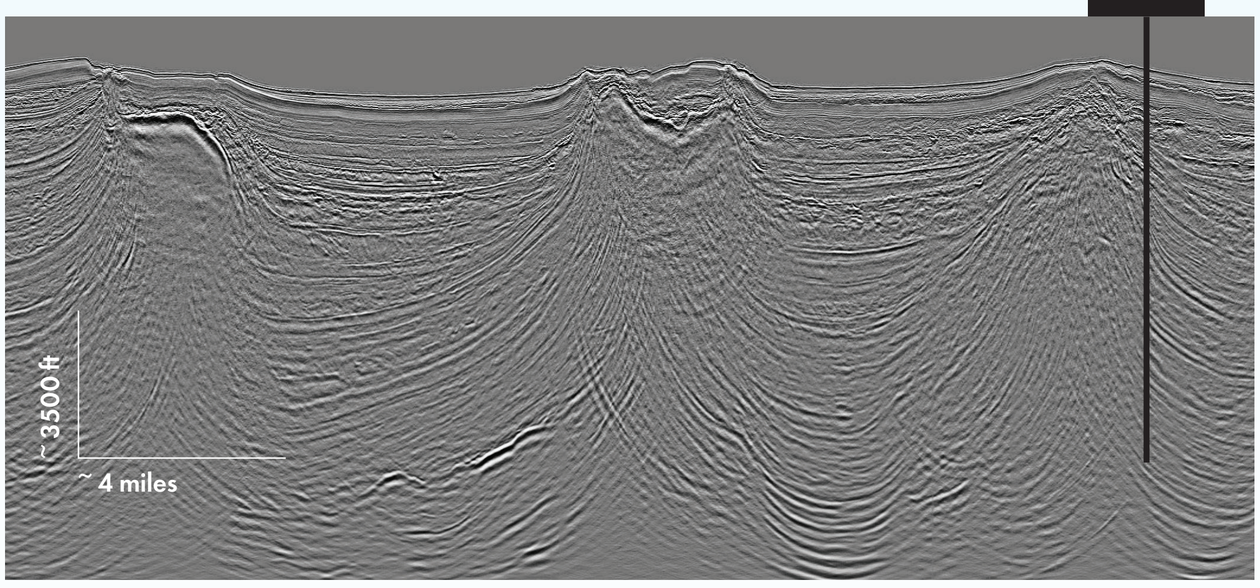


How is it Formed?

- After the oil forms, it rises from a source rock through fractures in the subsurface due to the relatively low density of oil.
- The rising oil then migrates to a reservoir rock, that contains tiny spaces called pores.
- The oil remains in a reservoir rock when there is an overlying cap rock through which oil cannot pass.

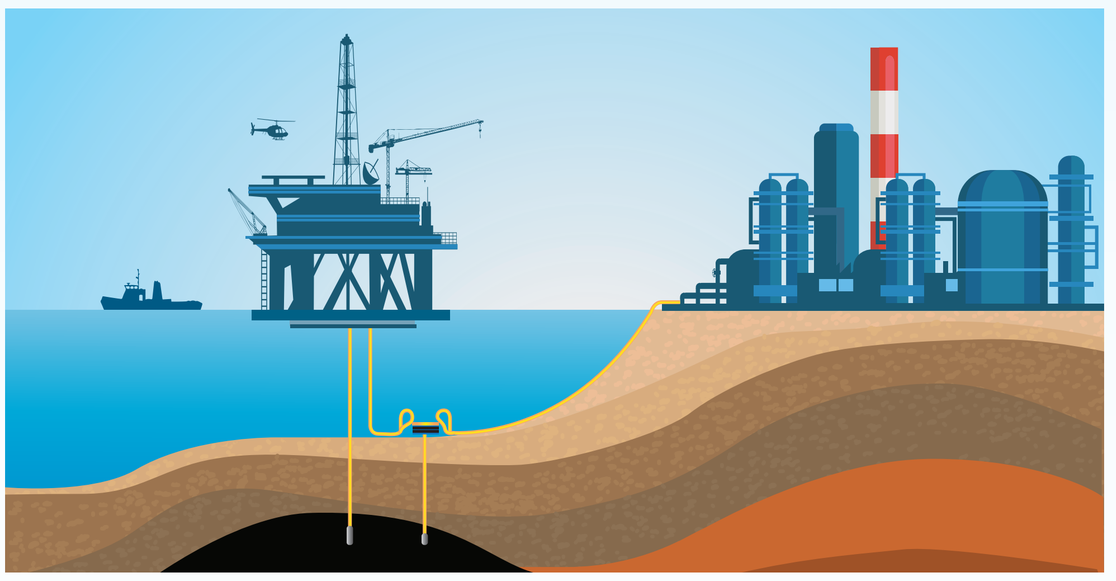
How is Oil Found?

- Hydrocarbon resources are found using exploration techniques such as seismic imaging.
- Seismic imaging assists in identifying the potential areas that may contain oil and gas.
- If an area is identified as a prospective reservoir, an exploratory well is drilled to test for the presence of hydro carbon resources.



How is Oil Produced?

- Once an oil pool is discovered, delineation wells are drilled to characterize the size of the accumulation.
- Production facilities are then fabricated and installed to extract the oil.
- Different types of facilities exist, based on water depths, to safely produce and transport the oil to shore.



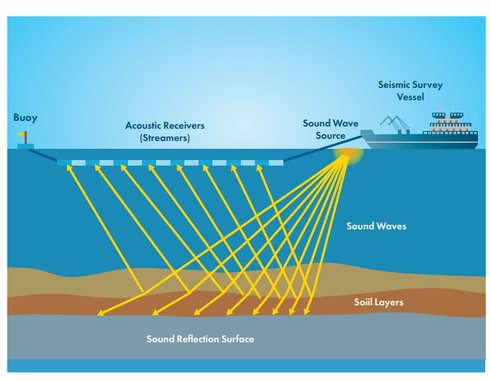
Example of Activities and Timeline for a Deepwater Offshore Project

- The lifecycle of OCS oil and gas activities is a lengthy process consisting of various phases.
- Once production begins it may continue for several decades.
- The timing of the activities varies by region.
- Mature areas like the Gulf of Mexico take relatively shorter time; frontier areas could take a longer time.

YEAR 1

Lease Sale

YEAR 2-5



Geophysical and Data Acquisition and Analysis

YEAR 6-10

Exploratory and Development Drilling

YEAR 11-15

Design, fabrication and installation

YEAR 16 ONWARDS

First Oil Production

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