



Why does the Gulf of Mexico have so many oil reservoirs beneath its seabed? Why has so much oil been found in the nearby Gulf-area (like the U.S. state of Texas where Spindletop, America's first oil-gusher, is located)?

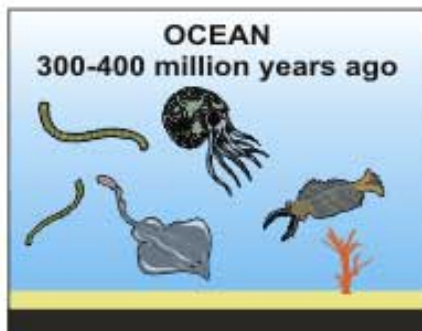
Sediments—moving south from the Mississippi Delta—have been filling-in the Gulf since the Jurassic era. This means that the Gulf itself was once a much-larger body of water than it is today.

The Gulf-of-Mexico area has four significant geological factors which have contributed to the development of below-the-seabed oil over geologic time. According to the Deep-C Consortium, those four factors are:

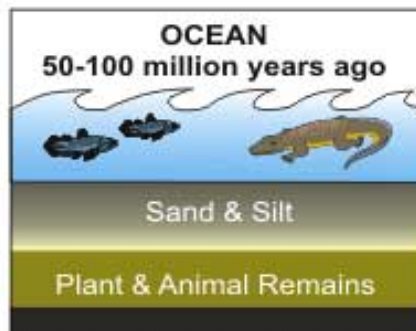
1. *abundant and rich, organic source rocks;*
2. *ideal pressure-temperature-time environments to convert organic matter in the source rock to kerogens and natural gas;*
3. *abundant, highly porous and permeable reservoir rocks for hydrocarbon migration; and*
4. *numerous suitable traps with seals to allow the upward migrating hydrocarbons to accumulate.*

In other words ... all the conditions which petroleum and natural gas needed to develop—over geologic time—were present in the area we call the Gulf of Mexico.

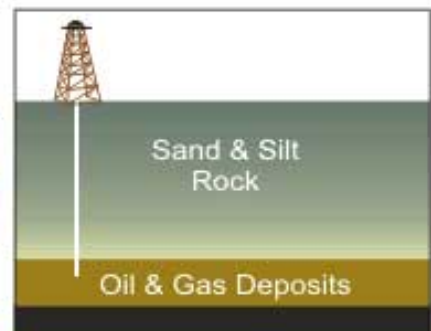
PETROLEUM & NATURAL GAS FORMATION



Tiny sea plants and animals died and were buried on the ocean floor. Over time, they were covered by layers of silt and sand.



Over millions of years, the remains were buried deeper and deeper. The enormous heat and pressure turned them into oil and gas.



Today, we drill down through layers of sand, silt, and rock to reach the rock formations that contain oil and gas deposits.

The Gulf's ancient past caused it to be stuffed with source rocks. Many of these source rocks started-out as layers of algae along the bottom of the Gulf.

As algal mats grew around the perimeter of the Gulf, they began to be covered by sediment flows coming from the Delta area. They were buried deeper and deeper into the Earth.

As these algal mats were buried deeper and deeper, they were transformed—over time—into source rocks. Then the algal-mats-turned-source-rocks became hotter and hotter (because of the scorching temperatures within the deeper parts of Earth).

As the Earth's scorching temperatures cooked the source rocks, their original organic materials (from the algae) transformed from "lipid-rich to oil-and-gas rich." (See "Why Is There So Much Oil in the Gulf of Mexico?" at LiveScience.)

The Earth, below the Gulf of Mexico, has many pathways for the transformed organic material - now in the form of oil and natural gas—to travel from where it was transformed to the seabed (or within reach below the seabed). That is why people working on oil rigs, in the Gulf of Mexico, are able to find and extract oil.

No one understands all the details of the organic-material-becomes-oil process, which took place over geologic time, but scientists believe these theories make sense. They also help us to understand why the waters of the Gulf of Mexico cover such large areas of oil-and-gas reservoirs.

Australia's Dr. Richard Smith, using lots of animation and expert interviews, explains it for us.

In this documentary, we can even see current algal mats growing in Peru. So here's a question: Is the natural oil-formation process finished or does it continue in the modern age?

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