

Coal Seam Gas



What is Coal Seam Gas?

Coal seam gas (CSG) is a natural gas which is mainly composed of methane. It is a by-product of ancient plant matter that has formed over millions of years by the same natural processes which produce coal.

As an end-use product, CSG is the same as natural gas. In Australia it is used in natural gas appliances for example, heaters and stoves. It is also used by industries such as refineries and to generate electricity.

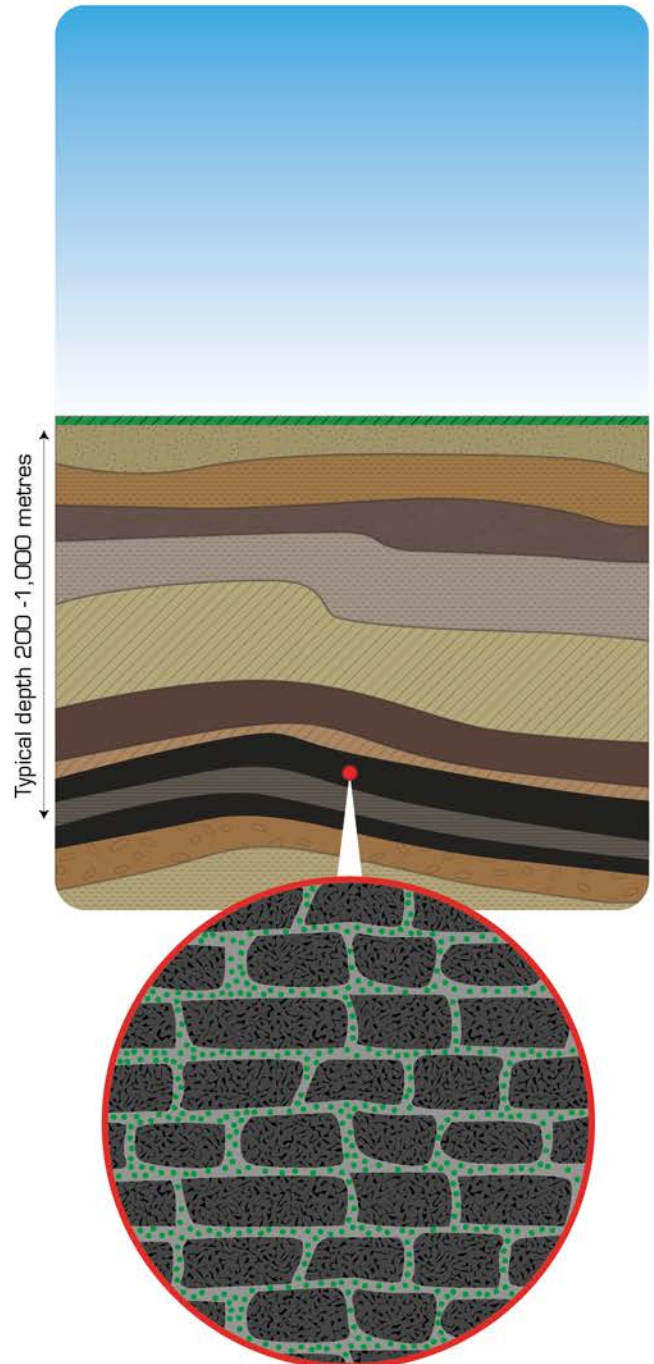
CSG collects in underground coal seams by bonding to the surface of coal particles. The coal seams are generally filled with water, and it is the pressure of the water that keeps the gas as a thin film on the surface of the coal (the technical term for this is "adsorption.")

A combination of water and ground pressure traps the gas in the fractures or 'cleats' of underground coal seams.

These fractures may be interconnected and permeable, allowing the gas and water to flow freely through them.

The level of gas that can be produced from a coal bed depends on the thickness of the coal, gas content, permeability and the depth of the coal seam.

In Australia, coal seams that can produce CSG economically are usually 200 to 1,000 metres below the surface.



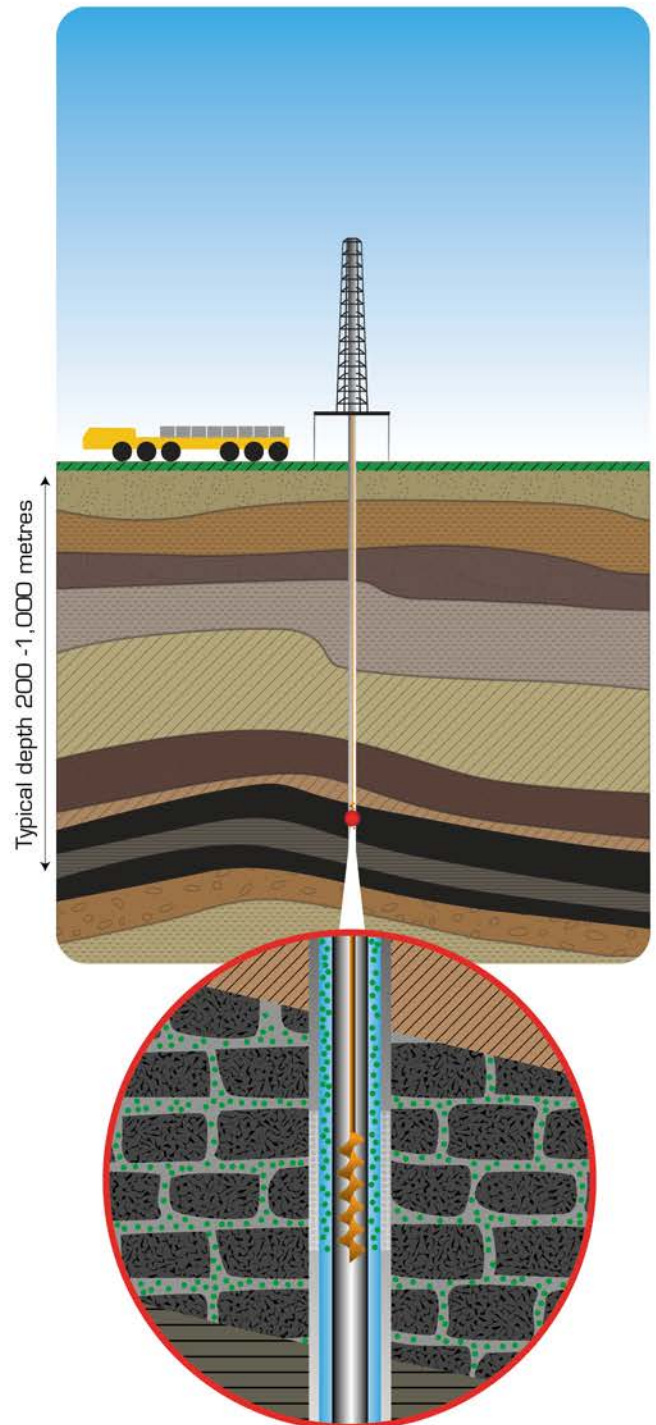
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How CSG differs from conventional gas

The main difference between CSG and other natural gas is how it occurs in nature.

Whilst CSG is stored by the gas forming a thin film on the surface of the coal, in conventional reservoirs such as sandstones gas is stored within pore spaces between individual sand grains in a sandstone reservoir.

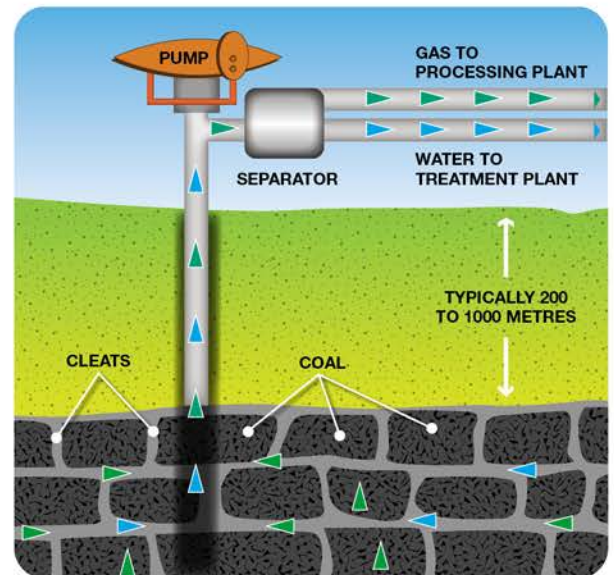
Wells drilled to extract CSG are generally shallower and drill rigs are smaller and easier to move.



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How coal seam gas is produced

The initial phase of CSG production usually involves the extraction of water from the coal seams in order to reduce the water pressure and release gas from the coal. If the coal seams have low permeability they can be fractured (by pumping large amounts of water and sand) or cavitated to increase the rate of gas flow from the coal.



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Where is CSG found?

Australia's major coal seam gas resources are found onshore in eastern Australia. The largest reserves are in Queensland's Bowen and Surat Basins. Gas has been produced from these areas since the mid 1990's. Until recently, the bulk of supply has been derived from the Bowen Basin. However, production from the Surat Basin's Walloon coal seams is now growing rapidly. The Walloons includes APLNG's Talinga field shown on the map to the right.

Contact us

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