MICROBIAL FLOODING

Two methods of flooding are employed using microbial techniques to enhance oil production, *microbial flooding* and cyclic microbial recovery.

Microbial flooding is performed by injecting a solution of microorganisms and a nutrient such as industrial molasses down injection wells drilled into an oil-bearing reservoir. As the microorganisms feed on the nutrient, they metabolically produce products ranging from acids and surfactants to certain gases such as hydrogen and carbon dioxide. These products act upon the oil in place in a variety of ways, making it easier to move the oil through the reservoir to production wells.

The microbial and nutrient solution and the resulting bank of oil and products are moved through the reservoir by means of drive water injected behind them, as shown in the drawing.

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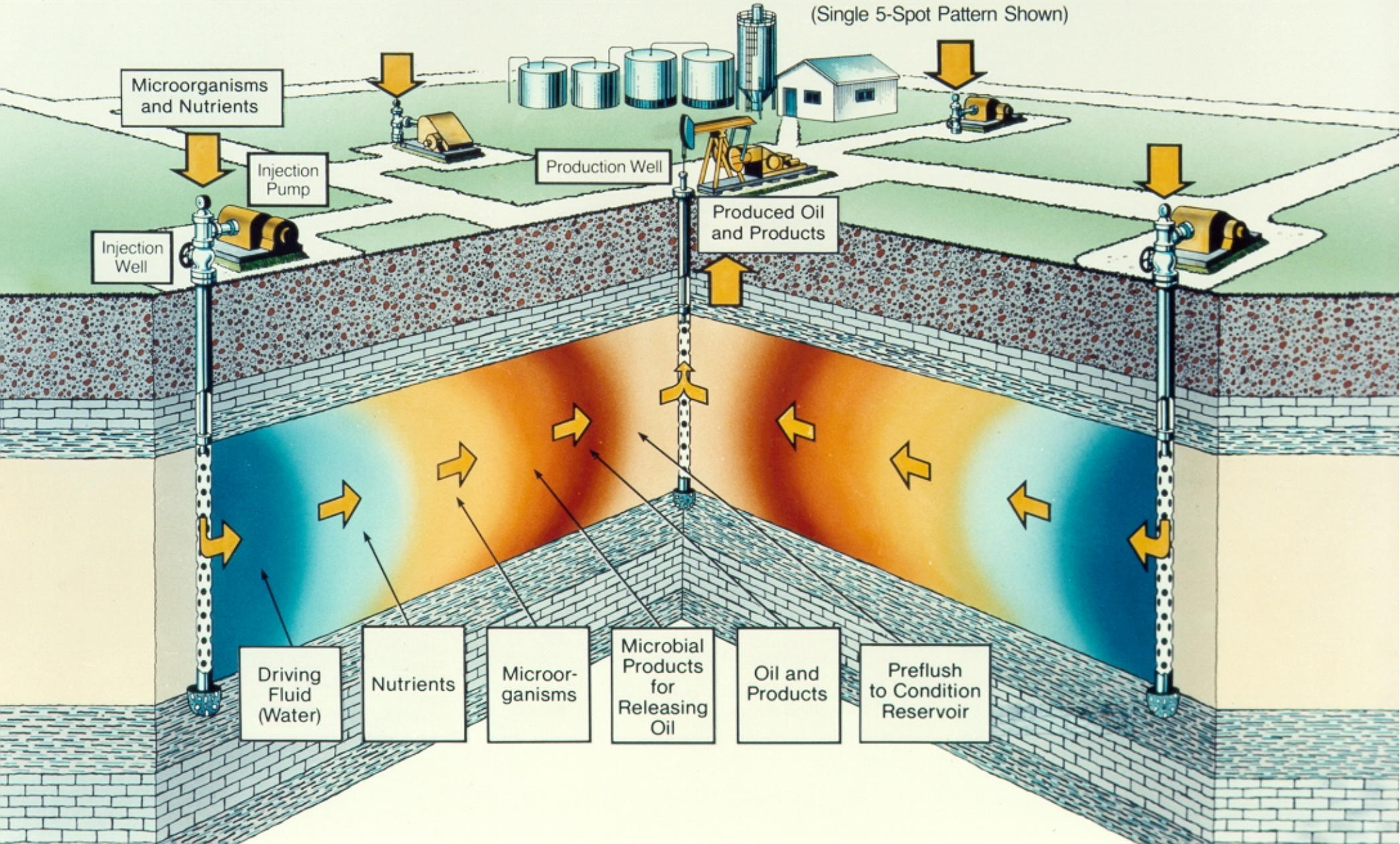
Recovery by this method utilizes the effect of microbial solutions on a reservoir. The reservoir is usually conditioned by a water preflush, then a solution of microorganisms and nutrients is injected. As this solution is pushed through the reservoir by drive water, it forms gases and surfactants that help to mobilize the oil. The resulting oil and product solution is then pumped out through production wells.