

Enhanced Oil Recovery : An Innovative Approach to Optimize Liquid Hydrocarbon Recovery in a depleted Reservoir.

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Under an attractive reservoir pressure the reservoir fluid coexist as a mixture of liquid and gaseous hydrocarbon making it less viscous and more mobile through their onward migration from the deeper part of the reservoir overcoming the resistance offered by the forces like capillary pressure, surface tension, and heterogeneity to reach the exit with a high rate of recovery. Where as a depleted reservoir faces difficulties in recovery due to the separation of gaseous hydrocarbon from the parent fluid owing to drop in pressure and making it more viscous and less mobile to counter the resistance posed by overlying forces like capillary pressure and surface tension through its journey to the bore. Drop in pressure further enhances the problem by depositing finer particles in the migration path.

To enhance the recovery factor in a depleted oil reservoir through an innovative method by exploiting the physical and chemical properties of reservoir water with that of alkaline earth metal resulting in to liberation of huge amount of gaseous Hydrogen in their reaction process. This will in turn help in clearing migration paths as well as enhancing oil recovery by decreasing the viscosity and increasing the mobility of the liquid hydrocarbon present in the reservoir.