Revitalizing Aging Reservoirs With CO_2-Miscible Flooding

One of the most used enhanced oil recovery techniques today in the United States is CO_2-miscible flooding. Carbon dioxide is injected into aging reservoirs to force out oil that conventional production techniques cannot recover. In large part, industry gained confidence in this technology through a series of field tests conducted by private oil producers with funding from the Department of Energy and its predecessors.

CO_2 miscible flooding is now an accepted industry practice principally in West Texas and eastern New Mexico and is being extended to oil fields in Wyoming and North Dakota, principally because the Federal Government shouldered some of the initial risk in the early demonstrations of its commercial viability.

Removing Wax Buildup from Old Oil Wells

About a third of all U.S. oil wells suffer a common problem: the slow buildup of paraffin in the wellbore that can clog the well and pumping machinery. A technique called "hot oiling," in which heated oil (or water) is pumped back into the well casing to melt the paraffin, works fine in some wells but is less effective in others and in some cases, can cause more harm than good.

Producers need a way to predict if hot oiling will be effective before going to the expense of installing the necessary equipment.

Now, because of a DOE program at Sandia National Laboratories, oil producers have such a method. A new software program, available to industry free of charge, predicts where paraffin will be a problem and whether hot oiling will be effective.

Paraffin buildup is particularly bothersome in stripper wells (that produce less than 10 barrels per day), but because of the Federal program, the small independent producer now has an affordable and effective way to counter the problem.

Paraffin buildup is particularly bothersome in stripper wells (that produce less than 10 barrels per day), but because of the Federal program, the small independent producer now has a way to counter the problem.