OU and MidCon Energy developing cost-effective next generation advanced EOR technologies

April 23 2010

University of Oklahoma researchers are developing a new chemical enhanced oil recovery technology to tap the estimated 300 billion barrels of oil left behind in existing U.S. reservoirs after conventional and secondary oil recovery methods.

A team of researchers from OU's School of Chemical, Biological and Materials Engineering and Mewbourne School of Petroleum and Geological Engineering has joined with Tulsa-based Mid-Con Energy to develop and test this new cost-effective chemical EOR technique in existing Oklahoma fields.

"We are at a crossroads," say Bor-Jier (Ben) Shiau, OU assistant professor and director of the Mewbourne Applied Surfactant Laboratory. "The global economy demands cleaner energy produced from coal, natural gas, nuclear, solar, wind and fossil fuels."

Only 25 percent of the nation's domestic oil has been produced, yet big oil companies abandoned domestic production long ago for deepwater drilling off the coast. In Oklahoma, independent oil producers own the majority of reserves, but production from marginal or stripper wells yields 10 barrels of oil or less per day.

Mid-Con Energy's experience with waterflooding will prove valuable in the field. Waterflooding is the precursor to flooding the team will use in

the five pilot projects in the state. Cushing, the first pilot project site, will take place by the end of the year. The other four project pilot sites have yet to be determined.

OU will develop the new cost-effective surfactants to reduce the risk of producing the oil left behind. And, if the chemical EOR technique proves successful, producing these new surfactants or 'soaps' will require a new manufacturing plant and labor force in Oklahoma--an economic benefit of this research.

The U.S. Department of Energy ($500K) and EDGE ($2M) funded the three-year project that involves university-industry collaboration, plus the added economic development and education benefits.

Provided by University of Oklahoma