

IMPACT TECHNOLOGIES LLC

Pumping jacks in Oklahoma are an iconic landmark. They represent the vast wealth from black gold of the past and present, as well as the state's future for providing a reliable low cost energy source. But those massive machines cannot recover all the crude oil from known reservoirs in the ground. In fact, only 5 to 25 percent of the oil in a reservoir can be obtained using traditional production methods. That is where innovative companies like Impact Technologies LLC can help. Impact Technologies LLC holds 35 patents covering various technologies needed for advanced drilling and oil recovery systems.

One of the company's latest inventions, the SPI Gel system, offers Oklahoma oil producers a more efficient and cheaper way to recover fossil fuel. SPI Gels are used in a secondary oil recovery process called waterflooding or a tertiary process called carbon dioxide (CO₂) flooding. The environmentally friendly silica-based gel system seals off inefficient zones in the oil reservoirs, allowing the injected water or CO₂ to contact and push the trapped oil. The recovery can be as much as a 50 percent increase in daily oil production. The SPI gels can also be used for production well casing repairs and sealing problem zones while drilling.



Ken Oglesby, president of Impact Technologies LLC said the SPI Gel system costs less than other types of oil recovery processes for a savings of \$250,000 annually per treated well. With 7,000 CO₂ flood injection wells currently in operation in the U.S., the gel could save the industry up to \$1.75 billion.

But even with cost-savings that large, the company was challenged to move SPI Gel and several other innovations from concept to commercialization.

"We felt the technology had merit and filled a need in the energy industry but couldn't find private or venture capital funds," said Oglesby.

The company applied for OCAST funding to finish the research and development they had begun years earlier.

"If it wasn't for OCAST's investment, Impact SPI Gel may never have been developed," said Oglesby.

OCAST's investment not only helped Impact Technologies LLC accelerate the development of the products but also helped the company compete for federally funded projects. SPI Gels recently garnered a \$1.2 million grant from the Department of Energy to provide field testing of the product in three commercial CO₂ flood operations. The company is currently forming strategic alliances with CO₂ flood operators and chemical manufacturers and is assembling the necessary field equipment to perform the field treatments, creating many jobs for Oklahomans. Oglesby anticipates the company's advanced drilling systems will generate and preserve thousands of jobs in the oilfield, manufacturing and service industries.

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