GasGun™ Newsletter

October 13, 1999

Recent interest in the GasGun has increased dramatically. Twelve stimulations were performed in the first six months of 1999 and 25 in just the last three months, mostly in the Illinois Basin. On October 7, we performed our **100th** stimulation.

One reason for the increased interest has been the tool's improving performance record. We now have a better understanding of which wells can benefit from a GasGun stimulation. As a result, **85%** of the last 50 stimulations performed have improved production, with an average increase of approximately a factor of three.

Recent Results

In August and September, three oil wells in Henderson County, Kentucky, were stimulated with GasGun tools. These wells are in the Illinois Basin and are cased hole completions in the Cypress formation at depths of approximately 2300 feet. Oil production in the first well increased from **1.5 to 12 BOPD**, but after a couple of weeks fell back to **2 BOPD**. The second well increased from **1 to 14 BOPD**, and after two weeks leveled out at **4 BOPD**. The third well increased from **3 to 21 BOPD**, but also made **100 BWPD**. Since the operator does not have a good way at present to dispose of the water, a packer was set, and the well was recompleted in the Hardinsburg. The well was perforated and stimulated with the GasGun. Production began at **20 BOPD** and after three weeks leveled off at **10 BOPD**..

One of our most dramatic stimulations to date occurred in early August in White County, Illinois. The well was completed open hole in the Aux Vases formation at 3200 feet and had no natural production. Hydraulic fracturing was attempted, but it apparently screened out. An acid treatment was also unsuccessful. With absolutely no production realized, a 3 ¼" x 4' GasGun was tried. The well immediately began to flow at the surface at a rate of 40 barrels per hour, or nearly **1000 BOPD**. It continued at that rate for several days. Eventually the well was put on a pump, and after two weeks was producing **40 BOPD**. After three weeks the well was down to **6 BOPD**, and the operator decided to try another hydraulic fracture. Since the GasGun had already broken the formation down, this time the hydraulic fracture treatment was successful. While good oil production has been sustained, the frac job did result in the production of some water.

GasGun can now be tubing conveyed

Recent developments have provided us with the capability to field the GasGun on tubing, as well as by wireline. The tool is fitted with a downhole ignition system that includes a pressure switch. The GasGun is attached to the tubing string and lowered into position. Pressure is applied to the tubing to activate the downhole fireset. This capability will provide the operator with an additional fielding option and will allow the GasGun to be fielded in horizontal holes.