

DRILLING AHEAD

A 'gusher' of praise for first BOP, lauded as engineering landmark

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IN THIS INDUSTRY, innovation is a daily routine, and the mother of invention is not only necessity, but—occasionally—desperation. Nonetheless, certain accomplishments deserve the overworked term “step change”. These advances have truly enabled drillers to overcome seemingly insurmountable hurdles.

Cameron's original ram MO BOP, developed in 1922, certainly ranks among them. The American Association of Mechanical Engineers recently recognized the contribution of the device by designating it an engineering landmark.

This critical invention, whose descendants grace all modern drilling rigs, shut down the then-all-too-common “gushers”—wasteful, dangerous blowouts that, while a clear signal of success in hitting “black gold”, also demonstrated the fledgling industry's inability to control what it had wrought.

The landmark BOP was the brain child of oilman and impresario **Jim Abercrombie**, himself nearly killed in a blowout, and machinist **Harry Cameron**, known as a miracle worker with metal. Abercrombie had begun as a roustabout in 1909 and, 11 years later, owned several rigs. He ran them for himself in South Texas and along the Gulf Coast.

The oilman, his equipment in chronic need of repair, brought Cameron plenty of business. In the process, he gained a deep respect for Cameron's ability to work metal.

Other inventors had tried and failed to devise a BOP, but Abercrombie came up

with the winning idea so familiar today—using simple hydrostatic pistons as “rams” to close on the drill string and seal it against the wellbore pressure.

The partners sketched out the basic design in the dirt floor of



Landscapes such as this were unavoidable in the early days of the petroleum industry. However, the introduction of the Cameron MO BOP went a long way toward ending these dangerous and wasteful “gushers”. Inset: Abercrombie and Cameron sketch out the basic design for the MO BOP in the dirt of Cameron's Milby Street shop. (Courtesy of Cameron Division of Cooper Cameron Corp.)

a small machine shop on Milby Street in Houston, Texas. That shop became the headquarters of **Cameron Iron Works**, which the partners formed in 1920. (Abercrombie's name was omitted because the oilman already had a drilling and minerals company named after him.)

The MO BOP was “composed to a minimum number of parts of simple and rugged construction”, stated Abercrombie and Cameron's 14 April, 1922, patent application. The patent was granted nearly 4 years later, on 12 January, 1926.

Over the last 75 years, BOP design has sophisticated. The ram concept, though, is still around. A good idea is hard to beat. ■