

CAPTAIN LUCAS AND THE OTHER SALT DOMES.

by

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INTRODUCTION.

Captain Lucas and Spindletop ! The names are cast together permanently in the memories of anyone at all familiar with the history of oil exploration in Texas. For on January 10, 1901, the famous Lucas gusher rumbled to life from the Spindletop salt dome south of Beaumont, Texas; and Captain A.F. Lucas, along with pioneering Patillo Higgins, were the driving forces that made it happen.

The remarkable Lucas well was modestly proclaimed to be "The beginning of a new era in civilization" (Spindletop, 1951). Although this description is not unusual for Texas' phrasing, the Lucas gusher certainly marked the beginning of the oil industry in the U.S. Gulf Coast region. The fledgling oil industry rapidly developed into an international giant, and remains today as a major influence on the financial well being of a number of Gulf Coast states.

Halbouty (1979) cites the Lucas gusher at the Spindletop salt dome as "perhaps the most significant well ever drilled in the United States." He bestowed this accolade because, in addition to the amount of oil discovered and the number of important companies spawned at Spindletop, "there were also many "firsts" accomplished during actual drilling operations on the Lucas well". These "firsts" included: proving rotary drilling methods more effective than cable-tool operations in drilling unconsolidated sands; getting through "lost circulation" zones; using continuous circulation to attenuate blowouts; and designing and constructing the first float or check valve. (The last item was accomplished by Lucas himself.) The successful Lucas well on the Spindletop dome thus served as a model for drilling other Gulf Coast salt dome oil fields. Furthermore, it properly reigns as a premier "wildcatter" success story in Texas, because both Patillo and Lucas were strongly advised by prominent "experts" to abandon their crazy dream of finding oil at Spindletop. These experts included the production expert for the old Standard Oil Company, and also the future chief geologist of the U.S. Geological Survey (DeGolyer, 1951).

Why then, in spite of such learned and experienced advice, did Lucas persevere in his quest for finding oil at Spindletop? Like "Dad" Joiner in the East Texas field, was his search driven literally by a dream ? Or, early on, was he such an amateur driller that he wasn't aware of the prevailing expert

opinion that oil couldn't be found in the unconsolidated sediments overlying salt domes in the Gulf Coast; and then, was simply too stubborn to admit his ignorance? Also, how did Lucas and his associates manage to overcome the previously cited drilling problems unique to salt domes, and still complete the Spindletop well at a depth of 1160 ft over the then respectable time period of two months and two weeks? How could an amateur have such luck!

The answers to the previous questions are embedded in the history of activities of Lucas prior to coming to Spindletop. In fact, by the time Lucas drilled Spindletop, he was a "seasoned" veteran of drilling over Gulf Coast salt domes. He thus had probably gained more insight into the potential mineral riches associated with U.S. salt domes than any other "expert" of the day, and knew it! The purpose of this paper then is to describe some early activities of Lucas over other salt domes, and to note how those activities undoubtedly contributed greatly to his later "surprising" success at Spindletop.