

**ANTHONY F. LUCAS: AMERICA'S FIRST GREAT SALT DOME
EXPLORATIONIST AND HIS ROLE IN THE DEVELOPMENT OF THE
LOUISIANA SALT MINING INDUSTRY**

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Abstract

Before his legendary 1901 oil discovery at Spindle Top Dome in Texas, Anthony F. Lucas helped pioneer mine engineering and exploration of southern Louisiana salt domes (Avery Island, Jefferson Island, Belle Isle, Weeks Island, and Anse la Butte) and laid the foundation for a significant expansion of the state's salt mining industry at the start of the twentieth century.

Avery Island

Lucas arrived at Avery Island in 1893 at a time when the mine was suffering extensive damage from water and sediment inflows. Lucas' efforts to keep the mine from flooding rendered him the U.S. salt industry's first leak-control engineer. However, his efforts to save the first Avery mine were ultimately futile as continued sinkhole expansion and mine inflows necessitated abandoning the mine by 1898. A deeper shaft was sunk for a new mine in 1899, and operations continue to this day.

Jefferson Island

In 1894, Lucas was contracted by Joseph Jefferson to assist in drilling a water well after the driller's cable tool rig encountered difficulties advancing through gravel. Lucas devised effective drilling methods, and rock salt was discovered in the well in 1895. Lucas then oversaw an exploration program that included eight holes ranging from 150 to 2,100 feet (ft) (46 to 640 meters [m]) deep. Despite promising findings, salt production did not begin until 1923, after Jefferson's heirs sold the island.

Belle Isle

In exchange for a share in mineral rights, Lucas began exploring at Belle Isle in November 1896. The small, four-well exploration program at Belle Isle was a watershed moment in Lucas' career. It was there that Lucas first discovered the association of sulphur, natural gas, and petroleum with Gulf Coast salt domes.

The developers of the first salt mine at Belle Isle faced numerous challenges. Construction of the first shaft began in 1898. Soon after production started, the mine advanced through the edge of salt in December 1899; quicksand and water flooded the mine. A second attempt at constructing a shaft was made in 1903 to 1904, but quicksand and water filled the shaft before miners reached the top of salt. Efforts to mine salt at Belle Isle were not successful until 1962.

Weeks Island

Myles & Company financed a five-well exploratory program at Weeks Island [Grand Côte] in 1897; and salt was penetrated in the fourth hole at 276 ft. (84 m) In July 1897, Lucas supervised an expanded exploration program, and based thereon, the Myles Rock Salt Company was organized in March 1898. By July 1898, construction started on the first shaft. Salt mining has been ongoing at Weeks Island ever since.

Anse la Butte

After learning of local gas seeps, Lucas began exploring Anse la Butte in 1899. Despite poor tools and meager financial support, he claimed to discover oil and salt. Subsequent to Lucas' initial exploration, Anse la Butte proved to hold commercial quantities of oil. Based on the limited potential of his early findings, Lucas abandoned his effort at Anse la Butte and headed to Beaumont, Texas, where he later made his legendary discovery of the Spindletop Field.

Key words: Salt Domes, Exploration, Louisiana, Lucas, Avery Island, Jefferson Island, Weeks Island, Anse la Butte, Belle Isle

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