An Application for an Official Texas Historical Subject Marker[1]

The Goose Creek Oil Field

Baytown, Harris County, Texas

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I. CONTEXT

People have harvested and used petroleum products mined from the earth for thousands of years. In fact, petroleum literally means "rock oil," derived from the Latin words "petra", meaning rock and "oleum", meaning oil. When oil seeps to the surface, it is concentrated by evaporation and the residue has been used for many purposes. Noah was instructed to use pitch to waterproof and seal the ark,[3] and in Mesopotamia, asphalt was used in building construction.[4] By 347AD, using bamboo pipes and iron drill bits, the Chinese actually drilled as deep as 800 feet for natural gas to use as a fuel.[5]

In 1854, Abraham Gessner obtained patents for the process of distilling three different grades of kerosene from asphalt,[6] providing a cleaner flame without the noxious odors caused by the previous oil that was distilled from coal. In doing so, he created the first large-scale demand for petroleum. He found that it was quite a good machinery lubricant as well. At the time, the harvesting of oil consisted of digging trenches into which the oil oozed and was pumped out into vats.[7] Four years later, in 1859, Colonel Edwin L. Drake drilled the first well specifically intended to produce oil in Titusville, Pa.[8] His first well pumped ten barrels a day that sold for fifty cents a barrel.[9]

In 1859 Lyne Taliaferro Barret began drilling in Nacogdoches County and brought in the first well in 1866.[10] Following the find, northern capitalists began buying up large tracts of land in Nacogdoches, Angelina, and Trinity counties[11] and even Liberty County was being prospected.[12] Early in 1867, drillers at New Sour Lake (now Sarasota, Hardin County)[13] hit a vein of gas and oil at 103 feet that had sufficient pressure to eject the 800 pound boring tool completely out of the well and throw a volume of gas and oil sixty feet into the air, making a noise that could be heard two miles away.[14]

From its initial use as a fuel for illumination and lubricant, by 1878 refined oil was used to fire boilers to make steam[15] and in 1883 the first tests were being made to replace coal with oil to generate steam on ocean going vessels.[16] In 1900, 40% of American automobiles were powered by steam, 38% by electricity, and just 22% by internal combustion engines.[17] But in 1908, the Ford Model T became the first mass produced car for the masses[18] and along with increasing availability and decreasing price of oil, it created a huge demand for gasoline.

Goose Creek stream first appeared on Stephen F. Austin's 1830 map of Texas[19] and forms the drainage basin for a large part of today's city of Baytown. The stream gave its name to the community that grew up along the east bank which, in the 19th century, had been home to many prominent Texas pioneers; notable among them were Ashbel Smith who owned thousands of acres including his Evergreen plantation,[20] Mary Jones who had purchased her 500-acre farm called Headquarters from him in 1859,[21] Henry Flavel Gillette,[22] Superintendent of the Bayland Orphan Home,[23] and Sam Houston who needs no introduction.[24] David G. Burnet, the first president of Texas, lived just up the road overlooking the bay that bears his name.[25] [26] In the 1841 presidential election for the Republic of Texas, the polling place for Precinct No. 5 was at Benjamin Page's house on Goose Creek.[27]

After the Civil War a new crop of pioneers started showing up at Goose Creek. In 1867, Thomas Gaillard left his war-ravaged Mississippi plantation and purchased 100 acres on the shore of Tabb's Bay. Over the next few years he would expand his holdings to 305 acres on the east bank of Goose Creek. He died in 1889 and his son, John Gaillard, bought out his siblings' holdings in 1891.[28] In 1875, Ashbel Smith gave 75 acres of his Evergreen plantation to his foster daughter, Anna Allen, who would later marry George Wright, and told her that someday it would be worth a fortune. The Bayland Orphan home was established in 1867 and Henry F. Gillett was named as Superintendent. His farm, Bell Prairie, was located between Cedar Bayou and San Jacinto Bay, just east of Goose Creek, and his son-in-law, Rockwell Hoskins,[29] who would later be elected to the state legislature,[30] took over the estate. Gillett's sister, Jeanette Duke, became Matron of the home and purchased 100 acres from John Gaillard in 1877. Mary Jones moved to Montgomery County and sold Headquarters to David Wiggins in 1879. When Ashbel Smith died in 1886 his property, which was located between Bell Prairie and the Wiggins farm, as well as his Evergreen Island more commonly known as Hog Island, went to his niece, Jesse Kittridge of

Connecticut, who remained an absentee landlord. Thomas Tabb, who had moved to the area during the Civil War, purchased thirty acres[31] out of the Rufus Cage tract, and the bay fronting the property became known as Tabb's Bay.[32] Tabb later bought the remaining seventy-five acres of the Cage tract.[33]

Some of the late-comers to the neighborhood were Henry Busch, who purchased a twenty-acre tract where he built Busch Landing on Goose Creek between the Gaillard and Duke properties from the widow of Samuel Page in 1895; George Isenhour, who purchased the Bayland Orphan Home property in 1897, and Lizzie Sweet, who moved to Goose Creek with her son, Harry T. Sweet, in 1898 after her divorce from Galveston newspaper magnate George H. Sweet.

The locals would have long been familiar with some peculiarities in the area that foretold of future developments. By 1848, a lake near Beaumont was becoming a tourist destination[34] and was also described in an 1855 geological survey.[35] By the late 1870s it had grown into a resort named Sour Lake where people would come to soak in the "healing waters."[36] It was similar to a pitch lake in Trinidad where Columbus and Sir Walter Raleigh obtained asphalt to re-caulk their ships. Another area, called the "Oil Pond," several miles down the coast from Sabine Pass was used by mariners as a refuge during storms. It was known that the mud there, which was actually a seep of heavy crude oil, had a calming effect on the waters. Even during the devastating hurricane of 1875, several lumber schooners plying between Calcasieu, Louisiana and Galveston anchored there and completely escaped damage.[37] By 1882 the oil pond had almost disappeared[38] and it was thought that there was some connection between it and the area already being explored in Angelina and Nacogdoches counties to the north.[39] Another indication of what lay beneath was deposits of paraffinic wax that would wash up onto the coastal beaches of southeast Texas. Several thousand pounds of it would wash ashore every year where it would be gathered and sold.[40] An 1867 article in Galveston Flake's Bulletin described indications of the presence of oil as "proceeding from a crevice in a rock, at the bottom of a creek, and in warm weather came up in bubbles to the surface of the water." It went on to say "It behooves every man discovering the existence of oil to investigate the matter as far as possible…"[41] In 1878 the Galveston Daily News described exactly how to determine the presence of gas escaping through the water.[42]

> This ebullition [or bubbling] is nothing but currents of gas escaping from the bowels of the earth. This is made apparent by a common experiment here. Take a common fruit can, open at one end and a small hole bored in the other. Immerse half of it in the water where the ebullition is going on, and then touch a lighted match to the hole. Instantly a brilliant flame pops up, which will burn, unless blown out by the wind, as long as you choose to hold the can in its position. … You may even set fire to the pools by applying the match to the surface where it is bubbling but these flames speedily go out.

Artesian water wells became popular during the 1880s and gas escaping from the wells was a common occurrence which was only realized when it ignited. One of the biggest was the explosion caused when gas ignited on Rockwell Hoskins' farm near Cedar Bayou in 1894.[43] John Peter Sjolander described it in 1901.[44]

> From time to time gas has been found along the shores of Galveston Bay. This gas has come up out of artesian wells when they were being bored. That there has been gas coming out of many of these wells which was never discovered is more than likely for, as far as known, the discovery has always been made, up to this time, by accidentally igniting the gas, and in some instances these accidents have not been of the kind much enjoyed.
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> An instance of this kind occurred some years ago at the mouth of Cedar Bayou. An artesian well was being bored there which, when almost completed, was found to produce a large volume of gas, which became ignited in some way, and lighted up the whole country around for miles at night. This volume of gas, too, was so great that it took the men working there several days to extinguish the burning column which shot upward nearly a hundred feet. However the fire was finally put out by a smothering process and the well was finished and furnished a fine flow of water. This was some six or seven years ago but today there is still enough gas escaping from it to furnish a good size jet that burns brightly when slightly confined.

A burning well was also known on the east side of Goose Creek. It was said that sportsmen would bring their game to cook on the flames of the "water fire."[45]

From its Texas beginnings in the oil fields of Corsicana and deep east Texas, exploration and drilling progressed southward towards the Gulf Coast. In 1893, the Gladys City Oil Company, founded by Pattillo Higgins and others, started drilling at Spindletop Hill south of Beaumont. Spindletop was named for a cypress tree that was used as a landmark by early travelers.[46] The hill was a popular picnic ground for many years and was considered one of the prettiest spots in the county.[47] That all changed on January 10th, 1901 when, after eight years of unsuccessful drilling, Anthony Lucas brought in the biggest oil strike in United States history at the Spindletop oilfield.[48]

II. OVERVIEW

For decades, indications of oil had been showing up in the area around Goose Creek in the form of gas emissions in artesian water wells. In 1902, John Gaillard's father in law, Dr. W.H. Beazley, suggested that there was oil at Goose Creek. He told a Houston Chronicle reporter that year that "the greasy fluid oozes out of the soil in places. ... There are many oil indications along Goose Creek on the east side of the San Jacinto River."[49]

Discovery of the field

According to Baytown lore, in the spring of 1905 John Gaillard was moving a fence on his property on Goose Creek when he met a man named Royal Matthews who had been reading about oil in the newspapers. According to the story that Gaillard told to Baytown newsman and historian, Chester Rogers, Matthews had been walking along the shore of the bay, smelling rocks, punching holes in the ground and studying any strange formation looking for signs of oil. During the conversation, Matthews asked Gaillard if he had seen bubbles rising in the water. He said he had, but thought they were caused by buffalo fish that he knew from his native Mississippi, and try as he might he could never catch one. Matthews asked him to show him the location and they could see a stream of bubbles emanating from the creek bed about two feet down. When he held a match to the stream, a tiny blast and a spurt of flame burst from each bubble and the Goose Creek oil field was born.[50]

That's a great tale but like most things, there's a lot more to the story than just that. While working with the Rio Bravo Oil Company, geologist L.P. Garrett[51] wrote in 1905 about conditions at the mouth of Goose Creek that would have been evident when the very first people arrived there. Garrett was the first trained geologist to visit the area and kept a journal of his findings[52] that was continued by William Kennedy[53] and E.T. Dumble[54] after he moved from the field. In his first entry on April 17, 1905 he wrote:

> I was informed by Mr. [R.A.] Welch and Mr. [R.T.] Rue that there existed some indications of oil on the Scott survey near the Tabb's place, and in company with them I visited the locality.
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> On the W.M. Scott Survey, near the bay, as shown on the map, gas deposits are abundant. Gas is escaping and the smell of the sulphuretted hydrogen is very strong. Some hundred steps from the gas spring in gully the gas deposits, Paraffin of Thiele, has oxidized black, and has very much the appearance of asphalt, forming seams in the

clay. In connection with the so-called paraffin beds, there is a white deposit which looks like and is locally known as "Pigeon droppings."

While Gaillard and Matthews were lighting bubbles on Goose Creek, exploration drilling had already started at other locations in the area. In 1903, Gaillard's neighbor, Lafayette Jones, was in negotiations for the lease of his land for drilling.[55] He was the father of Charles Jones, the self-confessed murderer of William Marsh Rice,[56] who bequeathed the bulk of his fortune to establish Rice University in Houston. That same year, a test well was drilled on the Fred Gillette[57] homestead on Cedar Bayou four miles to the north that showed gas and water at a depth of 1600 feet.[58] Another well on Rockwell Hoskins' property near the mouth of Cedar Bayou had already been drilled to a depth of 1500 feet.[59]

Notwithstanding John Gaillard's narrative, the discovery of the Goose Creek oil field had been made independently by Royal Matthews and Lee Hager.[60] Former farmer and banker[61] Royal Matthews moved from Kansas to Houston about 1898[62] and in 1902 started a company, R. Matthews & Co,[63] which was a real estate business specializing in large agricultural tracts.[64] And by July 1904, he was a partner in the Crystal Creek Oil Company in Houston.[65] Geologist Lee Hager moved to Texas in 1901 shortly after the Spindletop discovery and set up his office in Beaumont.[66] By the end of 1904 he was at Goose Creek and later worked with L.P. Garrett for the Rio Bravo Oil Company.[67] In April 1905, Matthews and Hager, along with Howard R. Hughes Sr., and several other oil men associated with the Drillers Oil Company purchased a forty-three acre tract on Tabb's Bay from Walter Tabb.[68] The purchase of this land for $43 an acre was made by R.C. Briggs and may have resulted in some hard feelings since Briggs neglected to tell him that the purchase was for drilling, and oil property was deemed much more valuable.[69] One of the first prospective buyers of the Gaillard property was F.J. Clemenger, a veteran oil man from Pennsylvania.[70] He tried to purchase Gaillard's peninsula under the guise of wanting to establish a truck farm and raise vegetables. That seemed a bit peculiar to John Gaillard because the whole peninsula was marsh land with an elevation of just a couple of feet that could only support a good crop of salt grass, so he refused the offer.[71] That happened sometime before Royal Matthews' visit because after Matthews showed him what to look for, it became obvious that gas bubbles were floating up all over Tabb's Bay. That got Gaillard to thinking about Hog Island, one of several islands in the San Jacinto River just south of Gaillard's peninsula. Dr. Ashbel Smith had owned it since 1855 and referred to it as Evergreen Island but

everybody else called it Hog Island because Ashbel had kept hogs there. When Dr. Smith died in 1886 with no family of his own, his estate went to his heirs who lived in Connecticut. After Gaillard started noticing gas bubbles around Hog Island he purchased it from them in July 1904 for $2,000,[72] and nobody knows whether he fully informed them of the reason for his interest.

The Drilling Begins, 1904-1907

It is unknown exactly when drilling on the first well began, but it was probably the well on Rockwell Hoskins' property that had already been drilled to a depth of 1500 feet on April 19, 1904.[73] At an average drilling rate of 20-25 feet per day in sand and clay,[74] this well would have probably been started, or "spudded in," sometime in February, 1904. Preparations would have begun even earlier because, although it took only about a week to construct the derrick itself,[75] it took quite a while to order and have materials delivered. Busch Landing on Goose Creek was used for deliveries from Houston, but dock facilities for handling large items such as pipe and timbers for rigs did not exist so the pipe and derrick materials were delivered to the landing at Needle Point on Cedar Bayou and transported to the drill site by ox-wagon.[76] The early derricks in the Goose Creek field were constructed of wood of a more or less standard design that had been established by the 1890s. There were no construction cranes in the field so the structure was built from the ground up, with manual labor, using ropes and pulleys and powered by mules. Dimensions on derrick height, base, and lumber sizes varied for a number of reasons, but an average rig might have the following specifications. The first part built was the derrick floor, constructed of 2x12 planks 20' long, built on 14 or 16 inch square beams. The derrick leg spacing was 20' square and the height was determined by the length of the drill pipe and casing to be used, normally either 72 or 82 feet tall. The four legs were made of 2x12 planks 20' long. The bottom leg section used a 10' length nailed to a 20' length to form an angle shape. 2x10 cross members called "girts" and 2x6 diagonal braces were nailed on as the structure's elevation increased in 8' sections.[77] When a section was completed, the next section was started, nailing the next 20' long 2x12 overlapping the previous section's leg that extended above the completed section.[78] As the derrick height increased, the sections converged until the derrick terminated at the crown block at the top of the rig. This supported a series of pulleys through which rope was run and allowed the hoist to lift thousands of pounds.

Early drilling rigs, which were called cable tool rigs,[79] utilized a device called a "walking beam" that was mounted on a pivot like a see-saw that lifted and dropped a bit that was basically a battering ram attached to a rope. Every time the bit was dropped it would impact and chip out rock that would be removed by another device called a bailer. A bailer was lowered into the hole every few feet to remove rock chips and debris from the drilling. The technique had been used for hundreds of years, but didn't work as well as rotary drilling in the sand and gumbo of the Texas fields.[80] Rotary drilling for oil began in the 1880s when itinerant drillers started using a rotary drill to put in artesian water wells. In 1895 M.C. and C.E. Baker used the technique for drilling in the Corsicana oil field and one of the early proponents of the rotary method was Anthony Lucas at Spindletop. By the time the Goose Creek field was being developed, rotary drilling[81] was used almost exclusively in the Texas oil fields,[82] but standard, or cable tool rigs were also used, particularly before the Hughes cone bit hit the market.

With a few exceptions, operators banded together to form drilling companies. The Drillers Oil Co of Jefferson County[83] started in 1901 with W.B. Sharp as Secretary.[84] Sharp would later develop a partnership with Howard Hughes Sr. to develop drilling tools. In 1905, the company was represented by R.G. Briggs when they purchased a forty-three acre tract on the north shore of Tabb's Bay from Walter Tabb.[85] A few months later, the tract was subdivided among the partners in the company comprised of Howard Hughes, Royal Matthews, Lee Hager, R.C. Briggs, W.C. "Bunny" Moore, and J.N. Groesbeck. L.P. Garrett mentioned the purchase in his journal, stating that:

> The only man that has been active in this field is Mr. Hager. In attempting to lead the people to think that he was wanting only agricultural land, at the same time hunting the country over for oil signs, he has the land holders down on him; I think he has secured all that it is possible for him to secure, unless he pays oil prices.

A group of drillers and businessmen calling themselves the Houston Syndicate was established in 1905 consisting of E.A. Peden,[86] B.W. Armstrong, H.T. Rue, John H. McClung, E.L. Denis, R.A. Welch (who had originally approached John Gaillard), and James Isenhour[87] (who was the only original landowner in the area). In June 1908, they chartered the corporation as the Goose Creek Oil Company. They had holdings of about 3,200 acres on both sides of Goose Creek stream that they leased to the Producers Oil Co.

The Producers Oil Company had been established at Beaumont in 1902 to provide oil for the Texas Fuel Company (which was renamed the Texas Company in May 1902 and Texaco in May 1959).[88] Producers had been busy in several Texas fields, and entered Goose Creek by purchasing Howard Hughes' 7½ acre tract on Tabb's Bay in 1906.[89] In 1908 Producers purchased the entire holdings of the Goose Creek Oil Co. and most of the men involved with Goose Creek Oil moved over to Producers. The company president was Walter B. Sharp and the operations managers were W.S. Farish, and E.F. Simms.[90] In 1917, Texaco bought out Producers Oil Co.[91]

Another major player in the Goose Creek field began as the J.M. Guffey Petroleum Co. The company organized in 1901 and bought the interests of Anthony Lucas at Spindletop. That same year the Gulf Refining Company was organized for the purpose of processing the crude oil supplied by Guffey. In 1907 the Gulf Oil Company was formed that purchased Guffey's interests for $3 million.[92]

There were a few independent drillers in the field who played a role as well. The best known was Pattillo Higgins, who drilled the Spindletop gusher. He later formed the Pattillo Higgins Oil, Gas, & Coal Co.[93]

All this activity gave a lot of bargaining power to the landowners, and John Gaillard was known for driving a hard bargain. Judge Charles Ashe, who grew up in the neighborhood and was a grandson of Anson Jones, had advised him how to draw up contracts. They came up with the requirements as described by L.P. Garrett.

> … the lessees are required to commence drilling their first well within 30 days from the date of lease and to finish the same as promptly as possible. Anyhow, this well, whether productive or dry, must be finished within eight months from date of commencement. Upon the completion of this first well, the second must be commenced within 30 days. In the event of the second well proving a dry hole, then another must be commenced within thirty days and so on. In the event of the second well proving productive, then two new wells must be commenced within the next thirty days, and should any of these wells be producers, then the lessees are bound to commence three new wells within the next thirty days and so on, until the daily production reaches 30,000 barrels. The lessees are also required to protect the boundary lines by the drilling of wells to correspond with any wells that may be drilled on the other leases by the owners, it being understood, however, that no wells on this lease be closer than two hundred feet apart. There are also a number of other peculiar requirements in this lease, none of which, however, amount to much.

The First Producing Well, 1908-1909

Experience in other fields told the drillers to look for oil on the periphery of a salt dome, but no such structures were obvious in the Goose Creek field.[94] Technology for discovering oil reserves was still a fledgling business, and the only thing geologists had going for them was the experience of knowing what to look for. In 1905, geologist L.P. Garrett noted many indications of oil in the Goose Creek area when he wrote;

> Gas is escaping and the smell of the sulphuretted hydrogen is very strong. Some hundred steps from the gas spring in gully the gas deposits, Paraffin of Thiele, has oxidized black, and has very much the appearance of asphalt, forming seams in the clay. In connection with the so-called paraffin beds, there is a white deposit which looks like and is locally known as "Pigeon droppings."

Other than the Hoskins well, there were only two or three other exploratory wells in the area. Drilling progressed throughout 1905 and by 1906 Goose Creek was drawing interest in oil circles. The first well on John Gaillard's place was a "dry hole," so-called because no oil was found. In March 1906, the second well on Gaillard's place encountered rock at 600 feet that slowed progress. There was a heavy pressure of gas which had been increasing as work progressed, so the boiler that provided steam to run the rotary drill that had been originally fired with wood[95] was converted to use the gas.[96]

By 1907 oil had been found in small quantities and enough parties of oil experts visited the field that it was reported that lumber was ordered for a hotel.[97] In September the heirs of Ashbel Smith sold the remaining 1,541 acres of Evergreen to lawyer-turned-oilman J.A. Read for $24,656.[98] And in October there was finally a producing well. It made 300 barrels of oil before it sanded in.[99]

Drilling Terms[100]

After the derrick is complete the drilling equipment is placed. In the early days of drilling at Goose Creek power came from steam engines. Initially the boiler was fueled by wood and the engine drove a rotary "draw works."[101] This had several sprockets and pulleys that drove other devices including the hoist and the "rotary." The hoist was used to lift pipe in and out of the hole and provide any other lifting required on the rig. The rotary is what actually drove the drill. The first rotaries used at Goose Creek were similar to an 1889 design by M.T. Chapman[102] and had a series of rollers that gripped the pipe and allowed unimpeded up and down travel while holding

the pipe for rotation of the bit. In later years the rotary dispended with the rollers and used a bushing system with a four or six-sided or cross-shaped bushing that engaged a "grief stem" with a matching outside. This grief stem, later called a "Kelly," was screwed onto each joint of pipe and imparted rotation through the "pipe string" to the bit.

When a well is drilled, the bit creates cuttings that have to be flushed back to the surface. "Drilling mud," which, in the early days, was actually just mud that had been mixed to a flowing consistency, is pumped from a reservoir called the "slush pit" through the hydraulic swivel.[103] The swivel has several features. It has a bail, or handle, which provides an attachment means so that the hook on the hoisting line can support the drill pipe string. A pipe on the swivel connected by a flexible hose to the slush pump provides a conduit through which the mud can be pumped under high pressure down the drill stem to the bit. And it has a rotary mechanism which allows the top to remain stationary while the lower section rotates with the grief stem.[104] The mud is then ejected through holes in the drill bit and flushes the drill cuttings back up on the outside of the pipe through the "well bore" where it is discharged back into the pit and the cuttings settle out. The mud also stabilizes the sides of the hole until another larger pipe called a "casing" is lowered into the hole to prevent collapse of the sides of the wall. The well bore extends through several hundred or thousand feet of differing types of strata until it reaches the "oil sand," so named because the porosity of the sand allows the oil to flow into the pipe. The weight of the drilling mud stabilizes the tendency of gas pressure in the oil sand from forcing the oil up and out of the pipe in an uncontrolled manner. Oil flow is initiated by "bailing" the hole. The bailer is a device with an automatic check valve in the bottom that is lowered into the hole and allows the driller to lift the drilling mud up and out of the hole. Pressure from the oil deposit then forces the oil to the surface. A strainer is lowered into the hole, preventing sand from entering the pipe.[105] The driller is the man with the most experience who is responsible for success of the drilling. He can tell by visual clues, as well as hearing and feeling what is going on hundreds or thousands of feet below the surface and can controls the speed of the bit, as well as the amount of force to apply from the weight of the pipe. Working for him are other experienced men who called themselves "roughnecks." An operation like this always needs inexperienced laborers, to just do what they are told. These men are called "boll weevils," and if they stay on the job long enough and prove themselves capable, could graduate into the roughneck ranks.[106]

But there are more things that can go wrong than can go right. Sometimes objects get lost or dropped down the hole, or maybe a pipe twists off or breaks, or maybe a bit comes loose. It might be possible to just drill through the obstruction, but that might damage the drill, or turn the hole off vertical, so the obstruction might need to be removed with "fishing tools." When the gas pressure at depth exceeds the ability of the drilling mud to hold it back it can result in a "blowout," resulting in a "gusher," an uncontrolled flow of oil that spews out of the hole. The gusher can spew over the top of the derrick and saturate everything around the well, including the men trying to control it.[107] With enough force it can actually blow the pipe and casing out of the hole and destroy the derrick. The well is brought under control by closing a gate valve on the casing. It is a bigger problem if the casing is blown out of the hole. In 1903, Harry Decker patented a "blowout preventer" that was probably not routinely used in the very early years at Goose Creek." If the driller hits a pocket of natural gas, a "gasser" can result. This is like a gusher without the oil and is much more dangerous because of the volatile nature of the gas. It can blow millions of cubic feet a day creating a very hazardous situation. In the early days at Goose Creek, power to run the equipment was provided by steam and the boilers required fire to heat the water to generate steam. Those fires could provide a source of ignition and explosion. If the pressure at depth is not adequate to maintain a gusher the well can "flow by heads." This results when gas pressure causing a gusher depletes itself such that the oil stops flowing. Then as more gas seeps through the sand and rebuilds pressure, the flow resumes into another gusher, and so on. If pressure remains constant on a completed well and adequate to push the oil to the surface into piping, it is referred to as a "flowing well." But if the pressure at depth cannot push the oil to the surface at all, a "pump jack" will be required to lift it up,[108] and the well is referred to as a "pumper." Another term for a well, one that oil men didn't like to see was a "duster."[109] As the name indicates, it occurs when after months of labor and fortunes were spent, the well comes up dry, with no return on investment. Some of these wells were later deepened and made oil. When the oil reaches the ground surface, it is routed into the desired piping through a "Christmas Tree," which is nothing more than a series of valves and piping.

1908

At the beginning of February 1908 the Goose Creek Oil Company was drilling well No 3 on the John Gaillard place when they had a tremendous blowout. The well had two previous blowouts where oil, sand, and water were thrown up over the top of the derrick. But the pressure

from the third one blew out the drill pipe far above the top of the derrick and 175 feet from the well.[110] The well was abandoned but another was started immediately.[111] But the amount of oil they found convinced everybody that they probably had a field.

Drilling technology in 1908 was still in its infancy and in March, Simms & Farish were drilling their fourth well on the Minnie Gaillard tract[112] when they hit a rock formation at 2,500 feet. Drilling was slow in the rock, about six inches per day, when the pipe got stuck.[113] The driller, James Isenhour, managed to free the bit and continue drilling. Three months later all the hard work finally paid off when on Tuesday night, June the 2nd 1908, they brought in the well producing 800 to 1200 barrels per day. The roar woke up people asleep in their beds over a mile away. In a 1954 interview, Mary Gaillard, wife of John Gaillard, described the scene:[114]

> I don't remember what time of night it was. I think it was about eleven or twelve or one o'clock, a way in the night. Somebody rushed up to the front porch and banged the door loudly. I thought somebody had been killed or hurt, and so Mr. Gaillard got up and went to the door, and Judge Reed was bringing the news. He said, 'The gusher has come in, and the whole country's running away with oil. Come out and see it. Come out and see it.' And he was so excited he was fairly jumping up and down. My sister was staying the night with me, so she went out when she hear him banging on the door so loudly. She thought somebody had been killed or something dreadful had happened; so she went out there. Mr. – Judge Reed grabbed Mr. Gaillard around the shoulders and waltzed him around the porch, and my sister went out to see what was happening, and he started to grab her, and she drew back, and then he got so he could explain what had happened. We didn't know what had happened at first.

W.B. Sharp, president of Producers Oil Company, held a news conference a couple of days later saying that steps were being taken to purchase the oil.[115] By June 5th, the well was closed in and would not be permitted to flow but periodically until provision could be made to store the oil. They had to release the pressure every few hours to maintain the well that was described as "flowing by heads." It would gush for 10 to 15 minutes and then the flow would reduce for about an hour due to an accumulation of gas pressure building at depth and then release, sending the oil almost to the top[116] of the 72-foot derrick.[117] The oil flowed into surface storage pits due to there being no storage tanks in the field.[118] A few days later work began on an earthen tank with a capacity of 50,000 barrels. A barrel of oil contains 42 gallons. The standard sized barrels were made of wood and had been used for centuries as shipping containers for all types of dry goods and fluids. In the early days of oil production, the oil was shipped in actual

wooden barrels and the 42 gallon size was adopted as the industry standard in 1866.[119] The term continued in use after pipelines became common, even though actual barrels were no longer used. And although the 55 gallon steel drum had been patented in 1905,[120] the 42 gallon barrel remains the standard for oil measurement to this day.

In June 1908 only four oil wells had been drilled at Goose Creek but within days of the strike, most of the land around the oil field had been leased. Producers Oil Company purchased the entire holdings of the Goose Creek Oil Co, aka Houston Syndicate, for fifty thousand dollars, making them the largest holder in the Goose Creek field by far. Producers immediately ordered a shipment of 100 tons of pipe ranging in size from two to ten inch that was being made by Peden Iron and Steel Company. It would be delivered by barge to Goose Creek if the tide was up or otherwise to Cedar Bayou.[121] Busch Landing had been established further up the stream some years before and was more a commercial center with stores, warehouses, and wharfs for smaller vessels, but no means for handling tons of pipe. Gaillard's Landing, which was used for steamboat traffic in the 1800s, was located near the Gaillard homestead on Goose Creek very close to the drilling site, but it had access problems. The barge facility on Cedar Bayou[122] was at Needle Point just south of today's Interstate 10 and had been used for years as a shipping terminal by the Old River Rice Company, as well as a center of commerce. It was at the location of David Kokernot's ferry that in 1842 crossed Cedar Bayou on the Houston to Liberty Road.[123] Deliveries made there had to be hauled by ox-wagon about six miles to the oil field. The day before the pipe shipment went out a shipment of lumber was delivered to be used in constructing a derrick on the Vivian Duke property[124] on Goose Creek just north of Gaillard's land. The decision was made that the 100 tons of pipe would be delivered to Goose Creek but the plan hit a snag; not a literal snag, but as they were trying to cross the sandbar at the mouth of the creek the barge grounded on the sandbar. They wound up having to offload the pipe onto smaller vessels to get it ashore. That prompted J.H. Barbour to take the steam tug Bernie Holmes up to the 4,000 foot sandbar separating Goose Creek from the ship channel and put it to work "kicking out" the sand in order to widen and deepen the passageway for barges.[125]

Interest in the gusher continued to grow and many people rode the train from Houston to La Porte and then took boats over to see the well. Within two weeks of the gusher, it was decided to build a pipeline from the oil field to Hog Island and dredge Goose Creek. The sand bar at the

mouth of the creek made it impossible for heavy vessels to reliably pass and even the Bernie Holmes couldn't reliably keep it cleared.

This was about when the lawsuits began. A.N. McKay *et al.* and A. McKinnon *et al.* sued and countersued each other over a 195 acre tract of land. The suit was notable because oil was found after the land was sold for a fixed price. Both parties wanted the land on account of its proximity to the proven field. McKinnon repudiated the power of attorney given to the agent who sold the land to McKay, but the agent had since died.[126] There were at least a dozen lawyers involved in the suit and many of them had a stake in the oil business.[127] A few nights later a frame house was dragged onto the site and a man was hired to live in it to prevent the intrusion of outsiders.[128] In another action a few days later, J.C. Hale of Travis County filed suit for title to a huge tract of land against almost everybody who lived in the Goose Creek neighborhood.[129]

Three weeks after the gusher came in, a 33,000 barrel earthen reservoir had been completed and a 1,200 barrel cypress wood tank was constructed just north of the well.[130] Drilling activity immediately picked up and by the end of June new derricks went up, one on the Gaillard place, one a bit north on the Lafayette Jones place, one on the Duke place and one on the Sweet place. These wells were being drilled by Sims & Farish of the Producers Oil Company. Four rigs at Cedar Bayou were being moved and Pattillo Higgins from the Spindletop field was preparing to drill on his tract[131] of land leased from Anna Allen Wright.

In June 1908, E.A. Peden of the Producers Oil Co. purchased a 67 acre tract from Dolly Hauff. [132] She was the youngest daughter of David Wiggins and had been deeded the land the year before. Dolly Wiggins had married J.F. Hauff from Pennsylvania, who may have been involved in the oil business,[133] in 1904. A few months later Peden sold the tract to Producers Oil Co, and when the city of Pelly was incorporated eleven years later, this tract was omitted from the city limits.

Howard Hughes and the Two-Cone Rock Bit, 1909

In the early days of rotary drilling, drill bits used either a diamond or a "fish tail" design.[134] Those designs worked fine in sand and clay, but were not efficient in rock or other hard strata. They were also prone to wear and had to be extracted every few feet so the edges could be re-dressed by a machinist. As the bit wore, the hole became smaller and another tool called a reamer would have to be used to enlarge the hole in order to set the casing. Various

types of roller bits had been tried over the years, but none of them had been commercially successful. But in 1908 Howard R. Hughes, Sr. filed a patent for a two-cone rock bit[135] that changed the industry.

Before he was an inventor, Hughes started out as a lawyer where he developed an understanding of the value of patents. By 1900 he was a partner in a lead and zinc mine in Joplin, Missouri[136] where he was first exposed to the technology of drilling in rock. Then when news of the Spindletop strike broke in 1901, he moved to Texas and became an oilman. By the time he got to Goose Creek, Hughes had already drilled in the Spindletop,[137] Sour Lake,[138] Humble,[139] and Louisiana[140] fields. In 1905 he was one of a party of drillers represented by R.C. Briggs who purchased a 43 acre tract from Walter Tabb on the bay east of Goose Creek.[141] A few months later Briggs filed a partition deed and Hughes wound up with a 7.5 acre tract.[142] A few months after that, in November 1906, he sold his 7.5 acres to Producers Oil Company where Walter B. Sharp was President.[143] Hughes had worked with Sharp, as well as his brother Jim Sharp,[144] on several wells over the years, and it was about this time that Hughes started working on the 2-cone rock bit. The knowledge Hughes had gained in the mining business undoubtedly also helped him understand that chipping rather than scraping was a more efficient means of drilling in rock. But it seems that the bit was not completely his brainchild; new inventions are usually based on something similar that came before and in fact, several versions of roller bits had already been patented[145] and some not patented. A roller bit using a different design but similar idea had been patented by Peter Sweeney in 1866[146] based on an 1844 British patent by Robert Beart.[147] Hughes could also have been exposed to several other designs of rock drill bits using conical rollers that had been patented over the years.[148] In a 1953 interview, Granville Humason claimed that the bit was actually his invention and Hughes purchased the idea for $150 in a bar.[149] There may have been something in his claim as well, because Humason went on to patent several other drill bits based on the same idea of crushing, rather than scraping the rock.[150] Humason's company, the Reed Roller Bit Company, had a running legal battle with Hughes for several years.[151] Other men claimed the idea as well. In a family legend, Oliver W. "Curley" Fayle claimed to have made the first prototype in the Fayle Machine Shop in Mexia, Texas. He said Hughes knew it had not been patented and borrowed the bit but never returned it. The truth will never be known but Fayle held bitter feelings toward Hughes the rest of his life.[152]

However the idea came to him, Hughes filed patents on two versions of his roller bit in November, 1908.[153] He joined with his former drilling partner, Walter Sharp, and the Sharp-Hughes Tool Company was established in December. Instead of scraping the rock in the manner of the fishtail bit, the roller bit with its two conical rollers crushed and pulverized the rock and the pieces were then swept away by the drilling mud.

The first test of the new bit was made at Goose Creek at a well that was being drilled by the Producers Oil Company where Walter Sharp was president. According to the story, Hughes showed up at the well carrying a box and had the well drilling platform evacuated. After affixing the bit to the pipe and lowering it into the hole he called the drilling crew back and resumed drilling. According to a Hughes Tool Company biography, Hughes drilled fourteen feet of hard rock in eleven hours where no other bit had been able to drill at all. This story is borne out by an entry in E.T. Dumble's journal where he wrote on July 10th, 1909:

> The Producers well No. 3 on the Read tract, part of the Ashbel Smith survey, on Tabb's Bay at Goose Creek, is something over 2900 feet deep, but the well is quarantined and no one is allowed near it, and it seems to be impossible to get any real information concerning it.

Following this wildly successful test, the partners devoted their full time to the business and they continued development of the bit with Hughes eventually patenting twenty-five improvements to it. Walter Sharp died in 1912 and the company was renamed Hughes Tool Company in 1915. Hughes purchased Sharp's 50% share in the company in 1918 and became sole owner. When he died in 1924 ownership went to his eighteen-year-old son, Howard Hughes Jr., although his interests were focused on other endeavors.[154] The company is still in operation as Baker-Hughes[155] and the much-improved cone-bit is today still the primary bit used in the oil business. In 2009, the Hughes Two-Cone Drill Bit first used in the Goose Creek oil field was designated as a Historic Mechanical Engineering Landmark by The American Society of Mechanical Engineers.[156]

Slow Years and Renewed Interest, 1910-1913

By 1909 the deepest the drillers could go at Goose Creek was about 2800 feet because of the rock strata. Hughes had patented his rock drill that year, but drillers were initially hesitant to use the new technology. Although a strong proponent of rotary drilling, by December, Pattillo

Higgins was stopped by the hard rock at Goose Creek and had sent off for a cable tool rig.[157] Throughout 1909 and 1910 exploration continued in the field but not much oil was found. This is apparent from well statistics. While the fields at Saratoga (called New Sour Lake in 1867), Batson, Sour Lake, and Spindletop were each producing over 3,000 barrels daily and Humble was almost at 8,000, Goose Creek and three other fields combined totaled less than 100.[158] By July, 1910, Producers Oil Co. was getting discouraged[159] and gave up on the field a year later, leaving only the wildcat drillers in operation.[160] In mid-1911 G.W. Hindman and F.H. Scott bought the lease that was abandoned by Producers and sank the well on the Gaillard land deeper, resulting in a 250 barrel a day strike.[161] Another well a mile east blew out and gushed oil and water, drenching everything for several hundred feet around the well.[162] This new activity prompted the independent drillers to build a new barge dock on Hog Island and two pipelines from the oil field to supply it.[163]

In the fall of 1911 there were enough children in the field to justify opening a school, so sixteen year old Alice Mae Bullard conducted classes in a tent. She had just completed school herself, and her father, Oliver Fayle, who was a machinist for the Texas Company, put up a tent and made benches for the thirty-two children that she taught in grades 1-8. She was paid $1.50 per child. The town of Goose Creek was still in its infancy and there were only four wooden buildings in the whole oil field at the time.[164] But towards the end of 1912, a number of wells had hit pay sand, and, with the arrival of more oil workers, the population was growing. In January, 1913, Goose Creek was large enough that a post office was established with Wesley M. Bell as the first postmaster.[165] It was a small structure, only about 7’ x 8’[166] but adequate for the population at the time.

Offshore Drilling, 1913

The story of offshore drilling in Texas began at Goose Creek in June 1908 when Lee Hager took out a patent for 640 acres covering a portion of San Jacinto Bay. He planned to erect derricks on platforms and drill over the water[167] and by the following month, several other drillers had filed with the Texas Land Commissioner to purchase submerged land and islands in Black Duck Bay, San Jacinto River and Tabb’s Bay near Goose Creek. To complicate matters, they filed under three different acts of the legislature. Some filed under what was called the scrap act, some under the mineral act, and some under the school land act, and some filed under

multiple acts. But the Texas Attorney General held that the Land Commissioner had no right to sell any of the state owned submerged lands.[168] F.J. DeMeritt filed a lawsuit to compel the Land Commissioner to sell, but the following March, the State Supreme Court ruled against him. [169] At the time, there was no provision in the state law to provide for selling or leasing of submerged land. So the matter was settled until 1913 when the Texas legislature enacted S.B. No. 128 which allowed the state to sell mineral leases on public land.[170]

Within a few days of applications being accepted, every foot of marsh land within ten miles of the Goose Creek oil field had been filed upon, with several claims being made on the same land. [171] By the time the new law took effect in July, one hundred and six applications had been made, with forty-two at the mouth of Goose Creek alone.[172] In May, 1914, Lee Hager, who had filed the first application and received the first permit for offshore drilling in Texas, drilled the first well and sent the first royalty check for $33.97 to the state.[173] Within a few years, oil rig platforms[174] filled Tabb's and San Jacinto Bays and boardwalks were built connecting them.[175]

The 1915 Hurricane

On August 17, 1915 the most powerful known hurricane to ever hit the Texas coast[176] made landfall just west of Galveston. A few weeks later W.M. Bell wrote to a newspaper in Center, Texas that almost everybody had evacuated from the Goose Creek neighborhood before the storm hit. It blew 12 houses down there and, although nobody was hurt, some people spent the night in trees to keep from being swept away. Three or four thousand head of cattle and horses drowned and drifted into the creek but he didn't know where they came from. The first steel derrick was patented in 1912[177] but when the hurricane hit, all the derricks were still made of wood and nailed together. Out of 30 oil derricks in Goose Creek, only 10 were left standing. Other oil fields were even less fortunate. Out of over 2,000 derricks in the entire Gulf Coast district, only about 400 remained.[178] When they rebuilt after the storm, they re-used the same wooden members from the destroyed rigs.

Growth of the Goose Creek Field, 1916

By mid-1916 it was starting to become obvious that Goose Creek was becoming more than just an oil boomtown. Families were moving in and for some, the oil camp was just too dangerous. So in September, George and Anna Wright dedicated twenty acres of their land as the

new Goose Creek town site.[179] They called it New Town but it was also referred to as Defee's town site.[180] Lots sold so well that they opened another twenty acres the following January.[181] These forty acres consisted of twelve blocks north of today's Texas Avenue and east of N. Main Street. Soon afterward, the Goose Creek Realty Company was formed to sell town lots on property which company president W. T. Terry had purchased from Price Pruett west of Goose Creek Street in the Harvey Whiting League.[182] Several streets in the town were named for oil companies; Texas Avenue was named for the Texas Company, later known as Texaco. American, Republic, Humble and Gulf streets were all named for production companies drilling in the field. And Pearce Street was named for the four Pearce brothers who had started Texas Iron Works.[183]

In August the American Petroleum Corporation at Goose Creek started drilling deeper looking for new sand. They found it on August 23rd when they hit a 10,000 barrel a day gusher on John Gaillard's farm. The flow was described as a steady stream and not "throwing by heads". The driller would only say that it was "deeper than 2,000 feet," but other oil workers said it was nearer to 3,000.[184] Immediately, men at surrounding fields moved to Goose Creek and their children overwhelmed the one-room school.[185] Attendance in Cora Lazenby's class jumped from twenty pupils at the end of the spring term to sixty in September, and it was almost impossible to find her a place to stay because all the boarding houses were filled with oil men.[186]

By the beginning of September when flow of the well had increased to the point that it filled a 600 barrel tank in 25 minutes they erected a 100,000 barrel storage tank.[187]

A Houston Post article described Goose Creek in early September 1916.[188]

> A stream of gasoline vehicles pours men and drilling equipment into the village – and it is noted that the jitneys return empty. With all going in and nothing coming out the population quickly overflowed the scanty accommodations. For several nights hundreds of men have slept in the open, bunking as best they could under the trees along the bay. Thanks to the superabundance of oil mosquitos are scarce.
>
> Wednesday the first 'restaurant' was opened. Previously there had been a general merchandise store and the post office. When the would-be restaurant proprietor entered the town with his stock in trade, and tried to have a shanty built, he could find neither location, laborers nor material. The land owners would lease only to drillers, the laborers would labor only for drillers, and what material could be scraped together was for the use of drillers only. So the restaurant was established in a wrecked cottage that had been unroofed by the 1915 storm.

Three boarding houses furnish the only other eating places and each of them has a hundred or more regulars. Newcomers can buy crackers at the general merchandise store.

The only street of Goose Creek is a busy thoroughfare at the noon hour when the men flock in from the wells. Dozens of jitneys pack it like Main Street on a Saturday. Wagon loads of household goods – to be placed in what house is a mystery – roll in. And always there is rolling in load after load of well machinery. Groceries, ice, soft drinks – Goose Creek is very dry – these are freighted in whenever transportation means allow. But piping and machinery come constantly. The rest must wait.

Another article in the Houston Chronicle added to the description.[189]

The business section of Goose Creek, which borders the road for perhaps 100 yards, is a humming spot. If you drive in at noon or after work in the evening you will see a jumble of jitneys that would give a traffic cop delirium tremens. Flowing in and out of the stores are booted khaki-clad men, oil spattered. They crowd into the post office for their mail. They over run the two soft drink stands. The two merchandise houses could well use an S.R.O. sign.

The "restaurant," established in a roofless shack bared to the sky since the 1915 storm, has a waiting line at each meal hour. The restaurant manager took the shack "on nerve," he says. Nobody would lease him a lot or build him a house. Lots are to drill on, lumber is for derricks. Who has time to worry with a restaurant? But the restaurant man has set up his establishment and rakes in the cash by nickels, dimes, and quarters while others dig for their long shot at millions.

Two new business houses are being rapidly knocked together. Two hundred yards away, three boarding houses stave off starvation for a few lucky hundreds. 'A biscuit and coffee at 35 cents for breakfast,' said one grumbler. But most are glad to get what they can. And at that, the citizens of Goose Creek have shown commendable freedom from the "get the money" spirit which seizes bigger communities under such circumstances.

"We have 10 beds to rent," said the postmistress. "We could get $1 for them, but we only charge 50 cents. That's all they're really worth."

"Five hundred slept on the ground, in the street, last night," said the soda clerk. … Eight hundred addresses were changed from Humble to Goose Creek in the past two weeks, they tell you.

The school was not mentioned, so there were undoubtedly other establishments also omitted, and by October 2016, the Houston Post reported that the town had grown even more.[190]

The town site consists of two and a half acres. Main Street is something over 200 yards in length, all the businesses houses being situated there. … The principal emporiums of business on Main Street are the hotel, the drug store, two general merchandise stores, the post office, four restaurants and two meat markets. Several of these are new buildings erected since the field opened. Others are old ones partly

> remodeled. The owners held leases from Mrs. [sic] Annie Schilling, from whom Mr. Rucker has leased the town site for $5,000.
>
> Derricks have been gradually encroaching upon the town for the past few weeks and it is now hemmed in on three sides. On the other side is the bay. A boiler is lying on Main Street waiting for the town to get out, so it can get busy.

As strict and exacting as the landowners' leases were before, all this new activity emboldened them to more stringent demands. One lease stipulated that drilling rights would be forfeited if a gate was left open. Several leases required that the well casing be abandoned in the ground to guard against salt water filing up the pipe. And to the consternation of clerks in the County office one landowner, maybe John Gaillard, insisted that all leases would be handwritten rather than typed.[191] If the lease terms were bothersome, the drillers didn't show it. The drillers were noted for some underhanded tricks. In a 1953 interview, Mary Gaillard said they had to keep a close eye whenever the oil men finished filling a tank. She said John Gaillard would always have to verify the tank measurement before the oil left the property. One time he found where they had tapped a pipe into a tank and were drawing oil without paying for it. Through the rest of the year, drilling continued resulting in several gushers. During the last week of November alone, five new gushers added 5,875 barrels a day to the Gulf Coast tally.[192] By December there was enough promise in the oil field that a machine shop was put in. The Humble Iron Works purchased a shop in Louisiana and moved it to Goose Creek.[193]

On December 9, 1916, the Rucker well No. 1 at the Goose Creek town site came in as a gasser, reported to be making 50 million cubic feet of gas a day. The derrick was demolished, pipe was scattered and people around the well had to run.[194] After four hours they were able to get control of the well, but not before the telephones were shut down and all the boiler fires on surrounding rigs were extinguished.[195] They could smell the gas fumes as far away as Houston.[196] People had already been moving away from the oil field and this accelerated the movement. Sales of lots in New Town increased and many others just moved a bit north between New Town and the oil field to an area that became known as Middle Town. Some people continued to just live among the derricks in the area that became known as Old Town and the small Goose Creek Post Office building was physically moved up the road to Middle Town.

When work resumed on the well, a blowout preventer was installed. Harry Decker of Beaumont had taken out a patent on this device in 1903,[197] but since it was especially noted, this

could have been its first use at Goose Creek. At the end of December, Ross Sterling's Humble Oil Company brought in a 10,000 barrel well, the biggest find for that company to date.[198]

A Hazardous Occupation

The oil field was a dangerous place to work and live. The Bureau of Labor Standards, a division of the US Labor Department wasn't established until 1922 and in the early days of drilling, accidents, sometimes resulting in death, were commonplace. In 1917 alone, at least thirteen men died in oil field accidents just at Goose Creek.[199] Nobody knows how many were injured.

In the early days, drilling equipment was powered by steam and boiler explosions scalded and killed a number of workers. One example was the case of sixteen year old Jesse Riggs. He had crawled under a boiler firebox during a cold snap in November 1913 seeking warmth and the next thing he knew there was a terrific explosion. Parts of the exploding boiler were thrown a hundred feet in the air and everybody around thought he had been killed until they heard his cries for help. He was taken by boat to Houston[200] where he eventually recovered. Two years later he was awarded a settlement in court.[201]

Falls from oil rigs were not uncommon. The derricks were made of wood and were around 90' in height. They were slick in wet and icy weather and, unlike later steel rigs, had no work platforms or guardrails. Apparently, the workers had safety belts because E.W. Wingate died from a fall when his life belt parted. And when he fell, he landed on another man who was paralyzed from the incident.[202] After Charley Trifon fell through a hole in a derrick platform in 1919,[203] he apparently decided that he was in the wrong business so he quit the oil field and sued the drilling company for $15,000. A few months later he bought the Cozy Theater, one of the first movie houses in the town of Pelly, from G.F. & J.P. Mitchell and R.C. Stephenson for the sum of $5,000.[204] He continued in the movie business for many years.

Well blowouts caused a number of fatalities. Three men were killed on a Simms-Sinclair well when one of them opened a valve to test the pressure.[205] But attention to their surroundings saved many men from injury. In one case, a blowout destroyed an 80 foot rig with an employee of Gulf Production working at the top. He escaped serious injury "by throwing a leg over a guy line and sliding to earth. He reached the ground just as the derrick went down."[206]

Perhaps the most dangerous occupation in the oil field was that of well-shooter.[207] Nitroglycerin had been discovered in 1846 and was initially used as lip balm and lamp oil, but it was soon discovered to have other properties. It was found that concussion would result in a devastating explosion more powerful than gun powder or dynamite. A buildup of paraffin, a waxy residue in the oil caused a huge problem with maintaining oil flow in a well. It would seep into cracks and solidify, eventually choking the flow. After moderate success using steam to melt the paraffin, it was discovered that an explosion at depth would create fractures in the strata and allow oil to flow again. Both dynamite and nitroglycerine were used and at least one fatality occurred in the Goose Creek field. Martin T. Woods had worked as a well-shooter since before 1920[208] and was killed in an explosion on August 22, 1922.[209] He was working with T.H. Holliday preparing a charge in Holliday's blacksmith shop when the charge exploded, killing both men and injuring another. The blacksmith shop was completely obliterated and the explosion could be heard over a mile away.[210] Holliday was married to Hettie Proctor Holliday and Woods' sons, Wesley and Henry, became well-known personalities in Baytown.

When the sole purpose of your entire product line is to burn and explode, fire can always be a danger. Goose Creek had many fires through the years, and some did considerable damage. In November 1916 a ten-million-cubic-feet-per-day Humble Oil Company gasser found an ignition source at a boiler. It exploded into a blazing gasser and destroyed one house and threatened several others, as well as several surrounding rigs, one being within 75 feet of the gasser. Their greatest fear was that it would turn into a gusher and spew burning oil. The casing had been partially blown out of the ground and an obstruction caused the forty foot ball of flame to shoot out sideways. They planned to shoot the casing in two using a cannon belonging to Gulf Production Company,[211] but the newspapers didn't report how that turned out. Another gasser explosion in July 1917 started a fire that spread to several nearby oil tanks and, for a while, seemed to threaten the entire oil field. They threw up levees to prevent the blazing oil from spreading further.[212] But all the fires weren't caused by blowouts. A fire that destroyed two buildings and caused $17,000 in damage broke out at the Reliance Iron Works building. It was started by someone who lit a cigarette and threw the lighted match near where gasoline was being transferred from one drum to another inside the building. A man standing nearby was holding a bucket of gasoline in his hand. He escaped without injury, but left the bucket behind.[213]

Fires were so commonplace that many, such as the fires on July 11, 1916 and June 17, 1924 that destroyed an oil derrick,[214] went unreported in the newspapers.

In October 1916 the Fuel Oil Journal wrote about crime in Goose Creek.[215]

> "Goose Creek will never be an oil field until we have two or three killings, gambling joints and other forms of vice," said an old-timer.
>
> "If you will remain here all night," explained a native, "you will notice that we have practically all the other conditions and are rapidly drifting toward the killings. Only the other night a fellow from Houston started a rough house in the open air restaurant and the proprietor took a shot at him with his 44. The other restaurant has had trouble several times and the boss is now armed with a repeating shotgun. Bootlegging, gambling and other forms of vice have begun to make their appearance. We are fast drifting into that stage where might is right."
>
> "Haven't you any peace officers?" asked the old-timer.
>
> "Yes; one. But he's too busy looking after his oil interests to devote much time to police duty—especially when there is no money in it. If he were to arrest a man and take him to Houston, it would cost him more than he would get out of it. We have made a request of the sheriff for a deputy or two but don't expect to get any help until after someone has been killed, when it will be another case."

It didn't take them long to start the shootings. In October 1917 T.A. Robertson was charged with the murder of C.C. Goodwin after the older Godwin had twice beaten him severely. Robertson woke Goodwin up and shot him[216] and although he was found guilty and sentenced to five years, the judge in the case, as well as the prosecutor and members of the jury appealed to the governor to pardon him.[217] Typically, shootings resulted from an argument between oil workers but one happened when martial law was imposed during the oilfield strike. On Christmas Day 1917 Corporal John Long and Private Houghton were investigating a complaint against A.S. Hall at the barber shop run by Hall. When they knocked on the door a pistol bullet fired from the barber shop hit Long in the arm and the bullet also hit Private Houghton. The ambulance from Camp Logan broke down in Wooster. Another ambulance was dispatched but Long died after they reached the base the next day.[218]

In December 1916, Harris County had purchased a lot in the New Town of Goose Creek and built a new county jail.[219] They had to, because the old jail turned out to be not so escape-proof. Jim Connelly was locked up in the old jail and managed to dig his way out with a spoon; at least that was how it was reported.[220] The new jail not only consisted of the building, but had a steel cage as well.[221] By June 1917 they had run out of room in the lockup and had to enlarge the

jail by ordering two more steel cages. The population of Goose Creek was now nearly 10,000 people.[222]

Production Ramps Up, 1917

Big gushers created a lot of excitement and got a lot of press but in fact, most producing wells were much smaller. The average production of wells in the Gulf Coast district was less than ten barrels a day although Goose Creek was slightly higher, due mainly to a few extraordinarily large finds.[223] In January 1917 a Methodist church was established in the oil field[224] and a couple of months later, C.T. Rucker donated a building to the church. They initially called it the Methodist Tabernacle[225] but it would soon be known as 1st Methodist and later renamed St. John's Methodist Church.

Before drilling started, there were two good roads to get materials to Goose Creek. The road from Lynchburg was the first county road to the area, laid out in 1847 and the other was the Crosby Cedar Bayou Road that was extended to Goose Creek in 1861. Both were paved with shell in the early 1900s. After the first 1916 gusher, drilling increased dramatically and long strings of trucks and wagons loaded with heavy materials could be seen moving at all hours of the day and night. Once traffic broke through the shell crown of the road, it would rapidly deteriorate into a mass of holes and mud and the recent rains had made the roads impassable.[226] At high tide, barges could enter Tabb's Bay to deliver pipe and machinery but the sandbar kept deliveries out at low water levels. They used a tugboat to "kick out" the sand in 1908, but that wasn't a permanent solution. So in January 1917 Congress passed a bill creating the Goose Creek Channel that would dredge through the sandbar and maintain it. After the dredge boat San Jacinto completed the task,[227] heavy equipment could be delivered straight to Gaillard's landing, that was right next to the oil field. Although exploration had been progressing on the west side of Goose Creek stream since 1908,[228] the first gusher on that side came in making 2,000 barrels from 2800 feet on the Isenhour lease.[229]

Thomas Gaillard moved to Goose Creek in 1867 and over the years amassed a 305 acre farm. After his death John Gaillard bought out his siblings' inheritance and set himself up as a stockman. In 1917, after the oil field was firmly established, he sold 267 acres land to Gulf Production Company for half a million dollars.[230] This sale did not include the family cemetery

that still stands at the same spot in the oil field today.[231] A few days later, 123 workers from the Goose Creek oil field organized a local union with the Houston Labor Council.[232]

On January 20th another well on Annie Schilling's 2½ acres came in making between 15 and 20 million cubic feet of gas per day. Because of the danger of explosion, fires were outlawed and people could not cook food in the restaurants and homes. Folks trying to converse in the vicinity of the well were forced to use pencil and paper. The post office moved as well as the Hotel de Hamburger that was located right next to the gasser and fires under all the boilers within 200 yards of the well were extinguished. Even the remaining Old Town residents were forbidden to light fires for cooking.[233] There were three gassers all going at the same time[234] and when they brought in a gas well expert from Shreveport to try to cut the wells off[235] it took several days to accomplish the job.

Exploration was going on at the west extreme of the Goose Creek field. In March 1917, S.W. Johnson made a lease with E.R. Brown to drill on the peninsula between Burnet Bay and Crystal Bay.[236] It's not clear that they made any oil at that location.

At the end of January, Humble Oil Company purchased the pipeline to Hog Island from the Southern Pipeline Company. This was just a week after they paid $750,000 to lease more than 700 acres for drilling.[237] Through all this activity, lawsuits were filed one on top of another, According to the Chronicle, hardly a day went by without new litigation over ownership of oil tracts.[238]

When the Goose Creek Post Office was established in 1913 to serve the oil men on Tabb's Bay it was housed in a 7'x8' building, plenty big to serve the hundred or so people in the area. But four years later it was woefully undersized. The mail was delivered to Cedar Bayou and brought by jitney to Goose Creek. Sometimes the cars couldn't make the trip through the mud. On a particular day, thirteen sacks of mail so crowded two automobiles that they had to leave two sacks behind, but the normal delivery was nine sacks. After the gusher in 1916 the Postal Department had ordered that the office be moved from Middle Town to New Town, but a petition was raised asking that it not be moved since Middle Town was closer to the oil field by a half mile, so they just moved the same building up the road into Middle Town. But the entire area of Middle Town was located on ground where drilling could commence at any time and clauses in the leases called for evacuation when the land was wanted for drilling. A larger

building was desperately needed, but a permanent post office would not be built there.[239] By September the Dayton-Goose Creek Railroad had been graded into New Town Goose Creek and a new post office had been built with 600 lock boxes.[240] The train would be able to carry mail straight to the New Town Goose Creek post office. The location change from Middle Town to New Town was made overnight to alleviate confusion but for years, residents of the city of Pelly blamed the city of Goose Creek for stealing their post office.

In October 1916, C.T. Rucker signed a lease for two and a half acres from Annie Schilling. A clause in the lease required the residents of Goose Creek, who all were renting their property from her, to move within thirty days if the land was wanted for drilling purposes.[241] The clause in the lease was viewed as a formality by all parties so they may not have grounds for damage lawsuits should a blowout occur or a big gusher is brought in and people continued to live among the derricks. By this time Goose Creek consisted of about fifty houses and a hundred tents, and almost 2,000 people got their mail at the post office. On January 26th 1917 the Houston Post reported a peculiar situation at the Goose Creek field.[242] It was also reported in the Oil and Gas Journal,[243] so it must have indeed been extraordinary when the well blew up.

> With one derrick toppling and another pronounced unsafe by the driller, and with the ground in a large area near E.F. Simms' No. 7 Minnie Gaillard well trembling and gas issuing from holes and crevices, Goose Creek is experiencing a new sensation.
>
> Thursday morning about 3:30 o'clock C.T. Rucker's No 3 Gillette began gassing from a depth of about 800 feet, and kept up in the day, when it choked up for a short time.
>
> Shortly afterwards the effect of the gasser's choking began to be seen. Gas began issuing from the ground around the casing to Simms' No. 7 Gaillard and a little later gas began coming up from crawfish holes from the marsh and near the wells. An old water well near the Simms' well 'blew out' and late Thursday night it was still blowing gas, mud, and water.
>
> At one place the ground over an area about 40 square feet rose up into the shape of a little mound and could be felt to be trembling. At other points within a radius of 200 yards of the Simms well the ground shook occasionally, and at still other places it was reported to be sinking Thursday night. Machinery was removed from the Simms well Thursday night but several sections of pipe left standing up at the well were reported to have sunk almost out of sight.
>
> It is believed that the gas, when the Rucker well choked up, found issuance out through water sand and it followed the water sand to the Simms well and to the other places from which it is issuing. Again, the "no smoking" order is being strictly enforced

in the vicinity of the well, because as one man expressed it, "Goose Creek might blow up with a loud bang if the gas should catch fire.

Cora Lazenby, the teacher at the school in Goose Creek who was inundated by an increase in student enrollment from twenty to sixty students at the beginning of the fall term, was still trying to conduct classes when the school was finally shut down because of the gasser.[244] The No. 1 Tabb being drilled by H.H. Myers on the other side of the field blew up on January 2nd and put out 10 million cubic feet a day for more than a week.[245]

Some of the larger oil companies began providing housing to their employees. One popular design was a three-room dwelling known as a "shotgun" house.[246] They came as a sort of "kit," with most members pre-cut to size and could be assembled quickly by just a few men. Once put together they could be easily moved from one location to another. They were not extravagant, but definitely better than the tents.[247]

Many men lived in one of several boarding houses in the oil field and one on Hog Island was owned and operated by Mrs. Hettie Dunlavy Perry who had come from Houston. Margaret Davis came to the field with her as a 10-year-old and in a 1976 interview with Baytown Sun reporter Betsy Webber, she recalled the boarding house where she worked.[248]

Margaret remembers the big Hog Island boarding house surrounded by oil wells. Oil had been discovered here in 1908 but big No. 11 on the Sweet lease did not blow in until August 3rd 1917. Many oilfield roughnecks had found their way to Miss Hettie's table by the time the earth trembled and frightened residents heard the screaming of escaping gases, saw rocks dirt, and oil spewed hundreds of feet into the air when big Sweet No. 11 blew in.

Oil from the gusher that "sopped" the boarding house accomplished one thing Margaret was glad to see. Before then, she remembers coachwhip snakes used to pile up on doorsteps at the boarding house to get early morning sun and had to be pushed away. "The snakes could not live with all that oil and soon disappeared," she said.

For days after the big gusher no fire could be lighted because of gas. The Hog Island boarding house became crowded as news of the gusher spread. A large room 100 by 100 feet accommodated more than 200 roughnecks who slept on cots that were kept full day and night as men working on different shifts took turns in them.

The big room was partitioned off in sections by "sacking," Margaret recalls. Cost of bed and board was $1 per day.

Margaret and Miss Hettie had sleeping quarters in a separate part of the house. They never felt alone or afraid because the big, rough men were protective and dealt honestly with the small 140 pound, blue-eyed, Miss Hettie and her young charge.

Men who work as hard as oilfield roughnecks require lots of food and Miss Hettie saw to it that no one went hungry.

Meals were served family style on tables made of planks laid over sawhorses. Twelve men to a side could be served from platters of food piled high at breakfast with grits, eggs, hamburger and plenty of biscuits.

Hamburger was easier to get and more filling than bacon. Men on the day shift took sandwiches and coffee to work with them. Dinner and supper menus were much the same with homemade soup, beans, rice, vegetables, bread, iced tea, and beef, pork, or chicken to fill hungry stomachs.

"There never were any leftovers. Miss Hettie was too good a manager for that," Margaret said.

Transporting food supplies from Houston to Hog Island was a major operation.

Every week barrels of flour sugar, corn meal, kegs of pickled pigs feet, hoops of cheese, meat, and vegetables were brought from Henke & Pilot on Main and Travis in Houston by covered wagon.

Whole beeves were hung from the ceiling at the boarding house in a special room insulated to be kept cool with ice brought twice a week on a boat that came down Goose Creek. Ice for tea was kept separate from ice for cooling meat and vegetables.

Water was another commodity not easy to come by. Ed Eisemann had a team of mules and a tank wagon that he brought water in every day.

"Water sold for 25 cents a barrel for wash water and 35 cents for drinking water. We had three barrels, two for wash water and one for drinking," Margaret said.

Besides this water Miss Hettie had a big tank at the back porch that she caught rainwater in off the roof.

The water bought from the water man came from his well located where Lamar Elementary is now on Pruett. A windmill powered the pump for the water supply, Margaret remembers.

"We had to be so careful with our water," she said, and describes how the water man poured the supply down three troughs into barrels in the kitchen where it could be used for washing or drinking and cooking.

Diners at the boarding house were provided wash pans on a shelf outside to wash their hands before eating, but the roughnecks' bathing and clothes washing was done in the boiler houses. Water was piped to them from a supply in Baytown.

There was no sewer system in those days and out houses were the rule.

By June 1917 Goose Creek was the top producing field in the Gulf Coast district, making between 35 and 40 thousand barrels a day, about a third of the total daily production of 88 thousand barrels for the entire district.[249] The phenomenal growth is shown in the following rig count table.

Month	Rig Count	Source
Jun 1908	4	The Houston Post, June 5, 1908, p9
Aug 1915	30	Fuel Oil Journal, September 1915, p89,
Sep 1915	10	Fuel Oil Journal, September 1915, p89 (hurricane)
Sep 1916	50	Houston Chronicle, Sep 3, 1916, p21, c1
Jan 1917	59	Oil and Gas Journal, Feb 1, 1917, p8
Feb 1917	78	Oil and Gas Journal, Mar 1, 1917, p8
Mar 1917	83	Oil and Gas Journal, Apr 19, 1917, p50
Apr 1917	132	Oil and Gas Journal, May 3, 1917, p8
May 1917	133	Houston Chronicle, June 10, 1917, p24, c3
Jun 1917	151	Houston Chronicle, July 8, 1917, p16, c3
Jul 1917	165	Houston Chronicle, August 12, 1917, p20, c3
Aug 1917	155	Houston Chronicle, September 16, 1917, p24, c1
Sep 1917	135	Houston Chronicle, October 14, 1917, p9, c6

On August 3, 1917 drillers Harper & Mitchell bought in the biggest and deepest well in the Goose Creek field to date from a depth of 3,050 feet. Both the Houston Post and Chronicle reported the gusher of the well named Sweet Evaline,[250] but it is more commonly known in Baytown lore as Sweet Evangeline.

> Today Goose Creek has the largest producing oil well in the United States. Also it is one of the largest two wells ever brought in since the days of the Lucas gusher [at Spindletop]. It is the property of the Simms-Sinclair Company, is known as No. 1[sic, should be 11] and is located near the center of the east line of the Sweet tract and is almost in the center of the Goose Creek field.
>
> The well first came in late Friday afternoon making only about five hundred barrels. The drillers were strongly of the opinion that it would do better. There had been indications for weeks that it would set a new record in the field and extensive preparations have been made to take care of the production. Late Friday night the well blew itself in and made at the rate of nearly ten thousand barrels.
>
> The test valves were blown off as if they had been so much paper and the well continued to increase in volume of production. The latest report from the gusher was that it was making 30,000 barrels and it already created a 10-acre lake of oil that averaged two feet in depth. Every possible effort has been made to get the well under control and the drillers hope to accomplish this task today. Two earthen tanks have been provided in advance of the completion of the well in anticipation of what it would do. Workmen from other wells in the field to join the forces of the owners of the new gusher in throwing up levees to hold the oil until it can be diverted into the tanks.
>
> The well sent oil 250 feet into the air and the spray blew half a mile away, saturating the clothing of persons in the town of Goose Creek. One peculiarity about the well is the lack of the usual roar. While the pressure is tremendous, there seems to be an absence of gas which so frequently comes along with the oil.

> The well was drilled by Harper & Mitchell, who have operated extensively in the Humble and later in the Goose Creek field. The Sweet Evaline sets a new record for the field and may top the record made by the Farmers Petroleum well brought in a few years ago at Humble.

Sweet No. 11 only lasted for a couple of weeks until it sanded up and was abandoned.

As the oil field grew in importance, many supporting businesses were established. Humble Oil Company had already moved a machine shop into the field during 1916, and in 1917, the Pearce brothers, Louis, J.E., Lafayette and Oscar, started up Texas Iron Works in the Goose Creek field. They built a successful business which continues today as Waukesha-Pearce Industries. Another company was the Goose Creek Boiler Works which probably did repair work on boilers rather than manufacture them. In December, 1917, they took out an insurance policy for their company.[251]

Almost all the known photographs of the Goose Creek oil field were taken by one of two men.[252] German-born Frank J. Schlueter took the first image of the Sweet No. 11 in August 1917. He sold the image as a postcard captioned as Sweet Evangeline.[253] He took photographs in all the oilfields in the Gulf Coast region as well as many images in Houston. He had a long career and died in 1972. Former New York newspaper photographer Frank G. Allen called himself "The Rough Neck Photographer"[254] and moved to Texas and began his work in the oil fields in 1917. His main office was in Houston, but he also had an office in Goose Creek. Besides the oil field he took class pictures of Goose Creek businesses, houses, and schools.[255] Photographs bearing his name can be dated as taken before his death on December 16, 1921.[256] Perhaps the locally best known photograph was taken by New York photographer Ewing Galloway.[257] He took several images the same day with different subjects[258] but no other oil field scenes attributed to him are known.

In September 1917, the Goose Creek oil field was faced with a water crisis. The whole area was served by an artesian well on property of the American Production Company and they planned to shut the water off when they resumed drilling operations.[259] The soda fountains, restaurants and kitchens in homes of Old Town, Middle Town and New Town all depended on water from the well that was hauled to homes in barrels.[260] There were many shallow water wells in Goose Creek and an investigation by the state food and drug inspector determined that these

wells, combined with the unsanitary conditions contributed to a typhoid epidemic. There was no form of sewer system and the shallow wells were easily contaminated by the waste. Water samples analyzed by the state food and drug administrator showed them to be badly contaminated. He pointed out that due to the oil interest, between 50 and 100 people from other points visit Goose Creek every day and has resulted in the disease spread to other locations.[261] This resulted in a quarantine being considered for Goose Creek by the County Health Department.[262]

Dr. W.H. Minton, the state food and drug inspector, commented that in his 25 years' experience he "has never seen anything equal to Goose Creek's serene contentment in the face of disease menace."[263] He went on to say;

> "There are two principal sources of danger. The first: Open toilets, utter absence of sanitary sewerage. The second: Shallow wells and consumption of water drawn from a depth of 15 feet.
>
> "Everybody uses the open toilet. The faecal[sic] matter is frankly deposited on the unprotected soil. It seeps in and reaches the first water stratum, from which Goose Creek has been receiving its water supply. A number of people have dug pits under their closets. This is worse.
>
> "Hogs and dogs run wild. Shallow wells are found in cow lots. Hog pens are within 30 feet of homes. Flies? Millions of them. Slops are thrown from windows, around back doorsteps. The sides of buildings are stained from coffee grounds and refuse of other kinds. Paper flies indiscriminately. Rage[sic, should be rats] find lodging places in convenient corners.
>
> "I am told that the people have quit drinking water from shallow wells; that they are filling open barrels with artesian water that costs them 30 cents a barrel. But they wash dishes in this contaminated water, and that is just as bad."

A colleague, Dr. W.G. Shytles, hookworm specialist, added, "Citizens of a day. In today, gone tomorrow. No civic pride, no desire for clean surroundings. That's Goose Creek in a nutshell."

The water problem seems to have been resolved when Ed Eisemann began delivering water from a well located north of the oil field. By 1919 more water wells had been put in and by 1920 the problem was resolved.

Goose Creek was infamous in oil circles for the poor state of race relations. In October, 1916 the Fuel Oil Journal reported;

> Goose Creek is a "white man's field" as the crews there have so far refused to allow negroes to work on the leases. Several teaming contractors have refused to separate their mules and black drivers have therefore kept away from Goose Creek.[264]

The situation came to a head in September 1917. Burl Smith, a black man living on Hog Island and working as a cook for a drilling contractor, was accused of the attempted rape of Mrs. Cowart. He was arrested and taken to the county jail at New Town. About 10 o'clock that morning a mob began to assemble surrounding the jail, increasing to between 300 and 400 men. The mob rushed the jailhouse doors and overpowered the two deputies and abducted Smith out of the cell. Even Mrs. Cowart pleaded with the mob to let the law take its course. They took him down the Goose Creek Road towards Middle Town (later Pelly) where a rope was already affixed to an ash tree behind the Methodist Tabernacle. It was there that Burl Smith was lynched. The sheriff and deputies arrested fifteen of the ringleaders and charged them with murder. Two weeks later a grand jury no-billed all fifteen men and in the ensuing years the oak tree on Texas Avenue in Goose Creek (later Baytown) became falsely associated with the lynching.[265]

The Oilfield Strike[266]

The Gulf Coast District Oil Field Workers Union was established in January 1917. Wages had been stuck at $3.60 for a twelve-hour day for the past fifteen years and operators were not willing to give a raise. So in a vote held on October 20 and 21 members voted 3200 to 58 to approve a strike.[267] The Humble Business Men's Association maintained a neutral stance and encouraged both sides to hold a meeting at the Humble Court House on October 29th to resolve their differences.[268] But the operators, members of the Gulf Coast Oil Producers Association, issued a joint statement in their opposition to mediation,[269] refused the invitation, and began to draw down exploration and production in advance of an anticipated strike. On October 29th a mediator from the U.S. Department of Labor arrived to meet with the representatives of both sides. Strike leaders had sent telegrams into every field stressing the importance of a peaceful walkout and telling the men that they were authorized to assist in the protection of property if asked to do so.[270] On the first day of November drilling stopped at almost all oil fields in Texas and Louisiana.[271] Both sides agreed that a military guard was acceptable to protect the pipe lines and equipment from German sympathizers. Martial Law was imposed in Texas and Louisiana in November[272] and three companies from the Nineteenth Infantry Battalion from Camp Logan in Houston were assigned to Goose Creek.[273] As the weeks

dragged on, some of the oil field workers returned to the job. Just before Christmas, Federal mediator Verner Z. Reed handed his findings that:[274]

1. The strike shall be called off without prejudice not later than Christmas Eve, 1917,
2. The eight hour day … shall be put into effect as of March 1, 1918.
3. No man shall be intimidated, spied upon, or discriminated against because of membership in any labor union … and … neither they nor members of their unions shall intimidate, spy upon nor discriminate upon any non-union employees or men.
4. The operators … must make concessions to resolve the strike before the 5th of January.[275]

The operators took issue with the ruling and replied that the eight hour day is impractical and the existing rate of $3.60 per day is higher than any other industry. Conferences between the parties resulted in an agreement announced on January 30. Wages and hours were left to a future adjustment by a committee of the producers' association. The strikers were initially disappointed with the outcome, but in the wake of the action the major drilling companies took individual actions to improve employee relations. They established stock purchase plans and instituted building programs to provide housing for employees.[276] This program continued into the 1920s and resulted in the establishment of several company housing projects in Baytown and Goose Creek.[277]

Civic Improvements, 1918

After all the bad press heaped on the town of Goose Creek over the previous year, the Civic League of Goose Creek got several projects going. They saw to it that streets in New Town were paved. They also had a water well drilled and water mains laid in New Town. And they saw the need for a hometown newspaper.[278] It would be a few years before Middle Town got the same treatment, so those folks still had water delivered by wagon.[279]

The Humble Oil Company, which had been chartered as a drilling operation in 1911, was reorganized in 1917 and incorporated with several other oil companies as Humble Oil & Refining Company.[280] Company President Ross Sterling began purchasing tracts of land as right of way for his Dayton-Goose Creek Railroad that would connect the Goose Creek oil field with the Southern Pacific Railroad at Dayton and provide an alternate shipping means for petroleum as well as a reliable means of having equipment delivered to the oil field.[281] The railroad was

completed to Goose Creek in May 1918 for freight,[282] but it would be a few more years before it opened for passenger service.[283]

The student population of Goose Creek, which was about 60 at the start of the 1917 fall term, continued to grow and topped 400 at the beginning of the 1918 school year.[284]

John Gaillard had purchased Hog Island from the Ashbel Smith heirs for $2,000 back in 1904 and sold it for the tidy sum of $303,000 in July 1918.[285] And a month later E.F. Simms & Co. were drilling the No. 16 Sweet on the same lease as the "Sweet Evaline" strike of 35,000 barrels a year earlier. The well, nicknamed the "Sweet Sixteen," came in on Sunday, September 1st from the 3,400-foot sand spouting oil, sand, mud, and water over the top of the 116-foot derrick. A number of wells had been produced from that depth and it was assumed that a majority of the present wells would be drilled to that level when they stopped producing.[286]

In 1822, William Scott was granted several land grants on the north side of the San Jacinto River. After his death in 1836 his heirs started selling tracts and by the twentieth century almost all of what is called the William Scott Upper League was being used to grow rice. In August 1918, F.F. Arnim, acting on behalf of Humble Oil & Refining Company, started buying up this rice farmland[287] for construction of the new Humble Refinery. The location chosen was no whim; a large oil field was nearby, the Houston Ship channel bordered the site, a railroad was being built that could provide land transportation,[288] and a ready pool of experienced oil workers already lived in the neighborhood. Arnim was able to purchase the entire undivided 1466.44 acre tract of land called the Beebe and Willard tract, located in the Wm. Scott Upper League, from Minnie P. Willard and Addie G. Willard of New York.

The estimated production of the Goose Creek field in 1918 was ten million barrels and 1919 was expected to surpass that figure.[289]

The cities of Goose Creek and Pelly, 1919

New Town was first established in 1916 when George and Anna Wright dedicated those twenty acres of their land as the new Goose Creek town site. The town grew, filled in a good part by folks directly involved in the oil business and with the remainder in activities supporting the oil business. So in January they incorporated as the city of Goose Creek. Their long-term plan was to grow the city south to encompass most of Middletown.

It wasn't a hurricane, but the cyclone spawned by the norther on the 24th of May 1919 devastated the Goose Creek oil field. The storm system intensified about fifty miles northeast of Houston on Saturday morning and tracked toward Goose Creek, gaining intensity along the way. It hit Goose Creek with a vengeance. Steel oil derricks had been patented in 1912 but in the 1919 Gulf Coast fields, rigs were still built of wood. Reports varied, but in the Gulf Coast section between 400 and 500 derricks were blown down. The Goose Creek field suffered most severely, losing more than forty-five derricks.[290] Several men were blown off the rigs and, in the only fatality from the storm one man was killed when a derrick fell on him. A 55,000 barrel steel tank that was being built collapsed and all the buildings in the oil field on Tabb's Bay were demolished with over a million dollars in damage done to the oil field. It took weeks for operations to return to normal.[291]

Middle Town had a lot more people than New Town Goose Creek, but the family members who owned the property were not initially interested in selling it, holding out hope that the oil field would grow in their direction. While some wells were drilled there, it never became the epicenter of production as had Old Town Goose Creek. One subdivision was established called Middletown, and in December when it looked as if New Town Goose Creek was about to annex Middle Town, the property owners submitted a petition to Harris County, had a vote and incorporated as the city of Pelly.[292]

Humble Oil and Refining Company, 1920

By 1920 there were 18 drilling companies in the Goose Creek field. About half of them were producing between 20 and 4,000 barrels daily (and the rest were smaller). Deep oil-sand had recently been found below 4,000 feet and E.F. Simms was preparing to sink the deepest test ever made in the coastal fields with a specially designed rig ordered from the California fields. There were about 1,500 men employed by the various companies and the Field Manager for the Gulf Coast Oil Company declares that Goose Creek fields have had more blowouts than any other field in the world.[293]

In February 1919, Humble Oil & Refining Company had announced plans to build a large refinery on the ship channel.[294] Work started immediately on the projected 60,000 barrel-per-day refinery[295] and the first pipe still was placed in operation in May 1920.[296]

By the end of 1920, daily production in the Goose Creek field was estimated at 17,000 barrels[297] and after relying on steam power from the beginning of the oil field, both Gulf Production Company and Humble Oil & Refining Company had plans to replace some of the boilers and steam engines on pumps with electric motors.[298] Gulf Coast Oil Corporation expected to be pumping about twenty wells at Goose Creek with electricity by March 1, with an individual motor placed at each rig.[299]

When a hurricane hit in 1921, Goose Creek was still using wooden derricks. The storm destroyed 27 of them and in the aftermath, they decided to replace some of them with steel, [300] but wood derricks continued to be used into the 1930s.[301]

Subsidence in the Goose Creek Field, 1916-1924

In 1916, about the time the town of Goose Creek was forced to move, a peculiar string of events was set in motion. Gaillard's peninsula, shown on the 1916 US Geographical Survey,[302] appeared to be sinking. It had always been considered marsh land but in September, Texas Land Commissioner Robison insisted that it is under high tide and therefore belongs to the State.[303] Other than a bit of saber rattling, nothing seemed to change the situation until 1925. In September of that year the other shoe fell when the State laid claim to Gaillard's peninsula, which by this time had completely sunk under the water, even at low tide. Other areas near the oil field showed noticeable oddities. In the city of Pelly near the oil field, cracks appeared in the ground running under houses, across streets, and through gardens. The land on the side of the cracks facing the oil field had sunk as much as 18 inches and the movements were accompanied by earthquakes that shook the houses.

Since the state now considered that it was public property, they wanted an accounting of all the oil that had been extracted at that location over the past several years.[304] The Gulf Production Company had purchased the peninsula from John Gaillard in 1918[305] and leased it to Humble Oil & Refining Company before it sank. Over the years Humble had already extracted oil valued at about a million dollars. Gulf filed suit against the state claiming that the subsidence had not occurred through a natural process, but by artificial means.[306]

The case went to trial in Judge Charles Ashe's Eleventh District Court to determine whether the 95 acre peninsula, where some 200 wells had already been drilled, submerged naturally or by artificial means.[307] The testimony of Wallace E. Pratt, Chief Geologist for

Humble Oil & Refining Company, and Douglas W. Johnson of Columbia University of New York stated that the subsidence at Goose Creek (which the defendants admitted) was not the result of natural processes but was caused by an act of man, namely, the removal of large volumes of oil, gas, water, and sand from beneath the surface. Judge Ashe ruled against the state because no act of man can operate to deprive another man of his property under the law. If the subsidence at Goose Creek had been a natural process, "an act of God," then presumably title to the submerged land would have passed to the state, and property worth millions of dollars would have been lost to the owner of the land and to the operating companies."[308]

Epilogue, 1925-Present

After the Goose Creek field reached its peak annual production of an estimated 10 million barrels in 1918, output began a slow decline, dropping from the high of 25,000 barrels per day in 1918 to only about 1,100 in 1943.[309] The loss of production was accompanied by a loss of population when the oil workers migrated to new oil fields. From an estimated 10,000 people in June 1917[310] the population fell to about 7500 in December 1919. The January 1920 census shows 550 people living in Pelly (or Middle Town, called Non-Incorporated Goose Creek) and another 750 in old town Goose Creek. The 1930 census shows about 1800 people living in the City of Pelly.

The use of blowout preventers, which had been part of Harry Decker's 1903 drilling rig patent, had become widespread by 1924, reducing the danger and waste of gushers. Steel derricks gradually replaced the fragile and flammable wooden derricks during the 1920s although wooden derricks could still be seen into the 1930s. Diesel engines replaced steam power in the post WWII years.[311] Goose Creek, Pelly, and Baytown consolidated into one city called Baytown in 1948 and, in 1951, oil production in the field was 2.8 million barrels. By 1954, about 150 wells had been drilled in residential neighborhoods,[312] one on every fifty-foot lot.[313] This created appreciable backlash, and a citizens group was formed to try to establish an ordinance to stop it,[314] but in 1960, there were still forty-three producing backyard wells.[315]

There was a resurgence of production in the 1960s due to improvements in drilling technology, which resulted in renewed interest in the field. Production reached another peak of 2,146,450 barrels in 1965 but then declined again in the 1980s, although the first Gaillard well and the Simms Sweet 16 were still producing in 1984. In 1968, there were still enough oil

derricks in the Goose Creek field that several scenes of the movie "Hellfighters," loosely based on oil well fire-fighter, Red Adair, were filmed there.[316] The movie premiered at Baytown's Brunson Theater on December 20, 1968 with much fanfare.[317]

The last remaining derricks in Tabb's Bay were almost all demolished by Hurricane Alicia in August, 1983. The remnants were removed from the bay and one derrick was reassembled at Baytown's Bayland Park.[318] Since 1904 there have been more than 1,500 wells drilled at Goose Creek,[319] and total production over the field's lifetime stands at upwards of 150 million barrels. As of 2013, there were still 123 pumping wells in the field, including 17 in the bay, producing about 750 barrels of oil per day.[320]

III. SIGNIFICANCE

Drilling at Goose Creek started in 1904 but for three years only traces of oil and gas were found. In June 1908 a gusher on Minnie Gaillard's property produced 1,000 barrel per day and within days of the strike, most of the land nearby had been leased.

Goose Creek was the site of an important event in drilling history in 1909 when Howard Hughes tested his two-cone drill bit. Earlier drill bits had proven unsatisfactory for drilling in the hard rock but the "Rock Eater" bit was a phenomenal breakthrough that opened the drilling industry for deeper drilling. After years of wrangling with the state over drilling rights, the first offshore wells in Texas were drilled here in 1913 and within a few years, oil rig platforms almost filled Tabb's Bay with boardwalks connecting them.

After a 10,000 barrel-a-day gusher came in on John Gaillard's farm on August 23, 1916, renewed interest in the field brought hundreds of oil workers to Goose Creek. They lived in tents and shacks among the derricks and were told that they would have to move if the land was wanted for drilling. A new town of Goose Creek had been established north of the field, and they didn't have to be told to move in early 1917 when a gasser well blew up making over fifteen million cubic feet of gas per day. A gusher a few months later on the Sweet property came in making 35,000 barrels a day, and in 1918 another huge gusher named "Sweet Sixteen" in the same vicinity firmly established Goose Creek as the top producing field in the Gulf Coast region and a major consideration in the location of the 1919 Humble Oil Refinery (today ExxonMobil) was its proximity to the Goose Creek field.

Since its discovery, the Goose Creek oil field has produced more than 150 million barrels of oil and counting.

IV. DOCUMENTATION

THE STORY OF A ROTARY-DRILLED OIL WELL, The drilling process is shown in this excellent silent movie on YouTube. It was taken in the Goose Creek field in about 1925 and explains the operation of a rotary drill, using, for demonstration, the Goose Creek (Texas) oil fields. It shows bits, casings, and other equipment that is necessary for rotary drilling. Diagrams indicate the progress of the drilling. It also explains the use of various casings and shows how they are cemented to control the flow of oil. Department of the Interior. Bureau of Mines. Pittsburgh Experiment Station. It is also hosted on the Briscoe Center website.

The Goose Creek Oil Field, 1905-1916. Field notes of geologist L.P. Garrett, William Kennedy and E.T. Dumble. The best resource for information on the Goose Creek field during its early development, this journal describes the Goose Creek oil field from the time drilling started to its establishment as a proven field. Only available in the reference section at the Sterling Municipal Public Library in Baytown. See Appendix in this narrative, pp. 48-61.

The Oral History of the Texas Oil Industry Collection, 1952-1960. Letters, tape recordings, scrapbooks, account papers, studies, interviews, broadsides, brochures, newspaper clippings, bibliography, and photographs represent a project begun in 1952 and sponsored by Mrs. Walter B. Sharp to place on record the development and history of the Texas oil industry. Records include oral reminiscences of pioneers in all phases of oil field work and oil booms, including roughnecks, drillers, promoters, financiers, contractors, lease men, law officers. Written material and images corroborate, expand, and interpret the oral records. Dolph Briscoe Center for American History, the University of Texas at Austin. The entire collection has been digitized and is available online here. https://digitalcollections.briscoecenter.org/collection/885

The Oral Histories of the Citizens of Baytown collection contains roughly 70 interviews of Baytown residents that reflect the history of Baytown. This collection was created between 1968 and the early 1980s, and includes Texas stories on the history of the Humble Oil & Refinery Co. and drilling and living in the Goose Creek oil field.

The Oil Well Driller, History of the Oil Industry of the World, by Chares A. Whiteshot, 1905. A fascinating history of the oil industry up to the beginning of the Goose Creek oil field.

Oil Fields of the Texas-Louisiana Gulf Coastal Plain, by N.M. Fenneman, Washington Government Priting Office, 1906.

Parker Quality Products, Southern Well Works, Chattanooga, Tennessee, 1913. The catalog pictures equipment used in early drilling.

Petroleum Production Methods, By John R. Suman, Oll Weekly Press, Gulf Publishing Company, Houston Texas, 1921.

Oil Field Practice, By Dorsey Hager, McGraw-Hill Book Company, 1921.

Oil - Field Development and Petroleum Production, by Louis C. Sands, Vice President and General Manager, Oil Well Supply Company, Pittsburg, Pa. *A Handbook of the Petroleum Industry: Volume 1*, Jan 1922. pp201-308.

"Local Subsidence of the Goose Creek Oil Field", Published in *The Journal of Geology, Oct-Nov 1926*. By Wallace E. Pratt and Douglas W, Johnson. A treatise describing the subsidence caused by drilling from 1916 to 1924. Not available online but accessible through interlibrary loan.

Geology of Salt Dome Fields, Goose Creek Oil Field, Harris County, Texas. By H.E. Minor. 1926. Not available online but accessible through interlibrary loan.

The Texas Energy Museum in Beaumont, Texas was formed in 1987 to tell the story of oil through state of the art exhibits including equipment and machinery displays. The museum has recreated decks of oil well drilling decks compete with antique equipment and talking robotic characters. Although geared toward Spindletop, there is plenty to interest Goose Creek research.

The Spindletop-Gladys City Boomtown Museum, located on the Lamar University campus at 5550 Jimmy Simmons Blvd (formerly University Drive), in Beaumont, Texas, has an extensive display of period oil drilling equipment. Also on display is a reconstructed boomtown village exhibit of houses and places of business containing furnishings and artifacts from the earliest days of Gladys City.

Jeff Spencer is the current President of the Petroleum History Institute, whose goal is to pursue the history, heritage and development of the modern oil industry from its 1859 inception in Oil Creek Valley, Pennsylvania, to its early roots in other regions in North America and the subsequent spread throughout the world to its current global status.

The History of Baytown by Margaret Swett Henson. (Bay Area Heritage Society, Baytown, Texas; 1985.) An excellent treatise on the Goose Creek oilfield appears on pages 76-111. The book provides a wonderful resource describing the impact oil exploration and refining had on the development of Baytown.

The Baytown Sun was founded in Goose Creek, Texas, as the weekly publication, *Goose Creek Gasser*, in 1919. By 1928, the paper was operating under the name *Daily Tribune*. Due to the economic pressures caused by the Great Depression, in 1931 the *Daily Tribune* merged with newspapers in the nearby communities of Pelly and Baytown. The new newspaper was named the *Daily Sun* and was published in the *Daily Tribune's* hometown of Goose Creek. During the mid to late-1940s the towns of Baytown, Goose Creek and Pelly incorporated into one city, with Baytown being the chosen name. Therefore, in 1949 to better identify with the new community it served, the paper was given its current name, *The Baytown Sun*.
http://www.baytownhistory.org/images/BaytownSunMarkerApp.pdf

The Houston Chronicle is the largest daily newspaper in Houston, Texas, United States. As of April 2016, it is the third-largest newspaper by Sunday circulation in the United States, behind only The New York Times and the Los Angeles Times. With its 1995 buy-out of long-time rival *The Houston Post*, the *Chronicle* became Houston's newspaper of record. Archival issues dating from 1901 are available online at NewsBank.

The Houston Post, founded in 1880, was a newspaper that had its headquarters in Houston, Texas, United States. In 1995, the newspaper shut down, and its assets were purchased by the *Houston Chronicle*.

The Galveston Daily News. *The Daily News*, formerly the *Galveston County Daily News* and *Galveston Daily News*, is a newspaper published in Galveston, Texas, United States. It was first published April 11, 1842, making it the oldest newspaper in the U.S. state of Texas. It currently serves as the newspaper of record for the City of Galveston as well as Galveston County.
https://www.galvnews.com/

Portal to Texas History. A gateway to rare, historical, and primary source materials from or about Texas. https://texashistory.unt.edu/

Houston Public Library Digital Archives, Images of Goose Creek.

The HathiTrust Digital Library is a digital repository based at the University of Michigan to include library content scanned by Google in its Google Books Library Project, as well as content from the Internet Archive, Microsoft, and contributions from member institutions and others.

Fuel Oil Journal v.5 (1914)

Fuel Oil Journal v.6 (1915)

Fuel Oil Journal v.7 (1916)

Oil Trade Journal, v.9, (1918)

Oil and Gas Journal Supplement, 1919

The Oil Weekly, v.15 (4th Qtr, 1919)

Oil Trade Journal, v.11, (1920)

The Oil Weekly, v.17, (2th Qtr, 1920)

The Oil Weekly, v.19, (4th Qtr, 1920)

Oil Trade Journal, v.12, (1921)

Oil Trade Journal, v.13, (1922)

The Gulf Coast Oil News/Oil Weekly, Complete Collection, 1916-2016

V. APPENDIX

Process of Rotary Drilling (Copied from the 1913 Southern Well Works Catalog. Page numbers refer to illustrations on the following pages.)[321]

Rotary drilling consists of rapidly rotating a column of pipe equipped at the lower end with a fish-tail or diamond point bit, which is lowered as the hole is made.

Water and heavy mud is forced down through the pipe, by special PARKER Duplex Slush Pumps, keeping the cutting surface of the bit clean and bringing the cuttings from the bit to the surface.

The pipe is rotated by the rotating table, being held tightly by the grip rings (see page 24). These grip rings which revolve on the mandrel permit the raising and lowering the pipe without releasing the grip.

The pipe is suspended from the top of the derrick by a wire hoisting line which is controlled by the draw works (see page 42).

To permit the revolving of pipe and at the same time allow the water and heavy mud to be pumped down through the same, a swivel (see page 84) is attached to the top of the pipe. The swivel is connected to the stand pipe at the side of the derrick by a rubber hose, usually 2 ½" in diameter and 30 feet long, heavily re-enforced on the outside with wire to withstand the heavy pressure. The rubber hose being perfectly pliable permits the easy raising and lowering of the drill pipe.

The rotary is driven by a chain and sprockets from the line shaft, the line shaft in turn being driven by chain from the engine which is located directly behind the draw works. The line shaft also drives the hoisting drum, controlled by a clutch. To raise the pipe, the driller merely throws in the drum clutch. The control of the pipe is absolutely in the driller's hands at all times, as the brake lever, drum clutch lever, and steam control are all in one position.

After the cutting bit has become dull, the entire drill stem is pulled out and a new bit inserted in the drill collar (see page 124) and the pipe again lowered in the hole and drilling resumed. The pipe is controlled by two wood lagged brake bands around the two S" flanges on the hoisting drum. The PARKER Double Band Hoisting Drum with 1272 square inches of braking surface is the most successful drum used for this purpose.

For the quick pulling of pipe the PARKER Draw Works is equipped with a special quick hoist attachment operated by a clutch, which is controlled by the driller (see page 42).

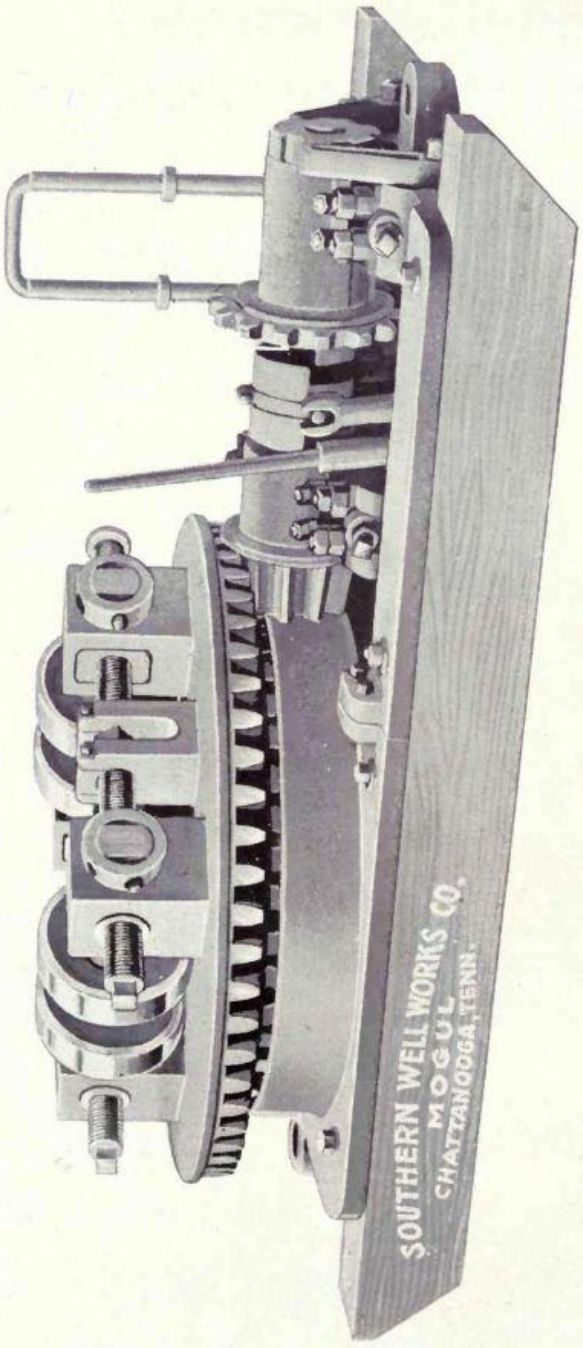
The constant pumping of mud into and out of the hole, together with the rotating of the pipe operates much as a plasterer does in finishing a house. The walls of the hole become

"mudded up" thus preventing caving of the sides of the hole, and permitting the well casing to be easily set.

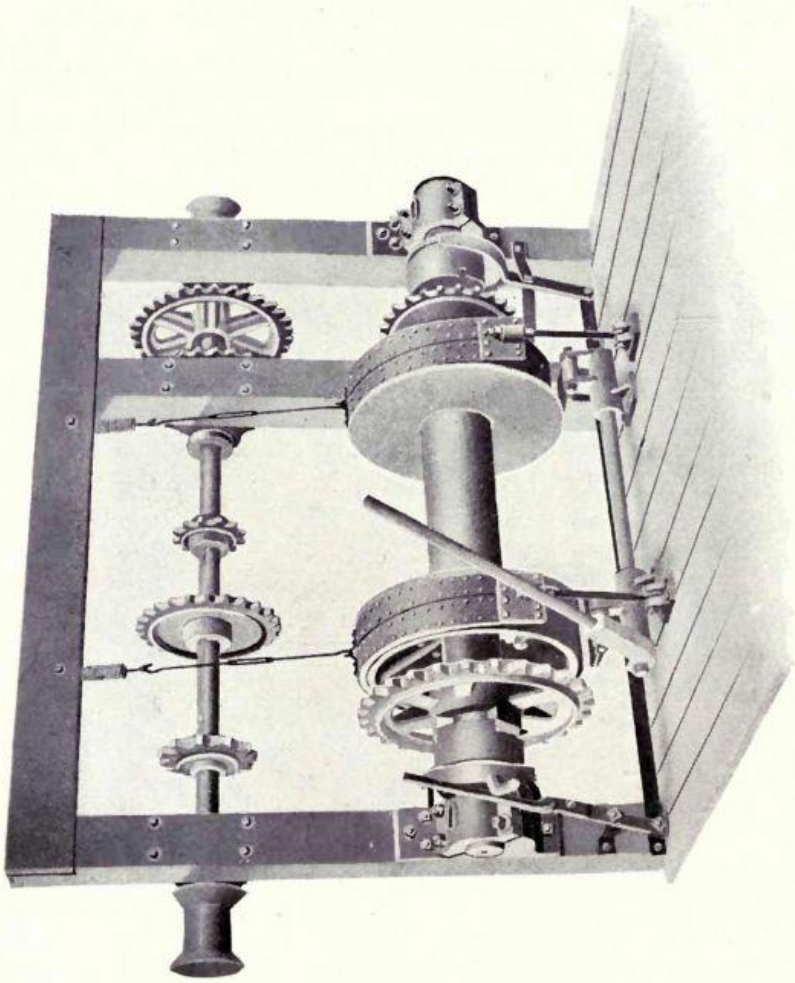
When a strata of quicksand is encountered extra thick mud should be used and the rotary run at a moderate speed; the formation will then be walled up perfectly. THIS CANNOT BE DONE WITH CABLE TOOLS. After the hole has been drilled to the depth required for the first string of well casing, the drill pipe is withdrawn from the hole and the casing set, after which drilling is resumed as outlined above.

The number of strings of well casing necessary depends on the size and depth of hole. For territories up to 2,000 feet two strings should be sufficient and in no case should exceed three. 8" being used up to 1,800 feet to cut off possible water and 6" for the balance. For territory up to 3,500 feet three strings should be sufficient, 10" being used up to 2,000 feet or 2,500 feet, 8M" being used up to 3,000 feet and 6" to 3,500 feet, in no case to exceed four strings. In territory over 3,500 feet four strings of casing should be used, 12^" to 1,800 or 2,000 feet, 10" to 3,000 feet, 8M" to 3,500 feet and 6" for balance.

When surface formation is soft, 100 to 200 feet of conductor pipe should be used of 15" to 16" casing which can be pulled out after the second string is set. The same conductor pipe can be used on several wells.



20" Parker Mogul Rotary—The Largest Rotary in the World
(Patented)



Parker Mogul Draw Works, 6" Drum Shaft. The Largest Draw Works in the World

Parker Hydraulic Swivel

Field notes of Geologists L.P. Garrett, William Kennedy and E.T. Dumble

(The name of John Gaillard is incorrectly spelled Gilliard throughout the journal.)

GOOSE CREEK

April 17th, 1905:

I was informed by Mr. Welch and Mr. Rue that there existed some indications of oil on the Scott survey near the Tabb's place, and in company with them I visited the locality.

On the W. M. Scott Survey, near the bay, as shown on the map, gas deposits are abundant. Gas is escaping and the smell of the sulphuretted hydrogen is very strong. Some hundred steps from the gas spring in gully the gas deposits, Paraffin of Thiele, has oxidized black, and has very much the appearance of asphalt, forming seams in the clay. In connection with the so-called paraffin beds, there is a white deposit which looks like and is locally known as "Pigeon droppings"·

No structural feature that bears directly upon the oil question could be worked out. However, a row of high sand hills, sometimes 30 feet high are found forming the bluff of the bay. The sand is fine and unwashed and may be distinct from the bay deposits.

Three miles to the southeast a well has been sunk 1500 feet, the well will be put down 100 feet deeper, and, if nothing shows up, abandoned. The well was sunk on the strength of gas well located nearby. The gas well is some 200 feet deep and flows a two inch stream of water. The gas is almost odorless and burns with a bright red flame.

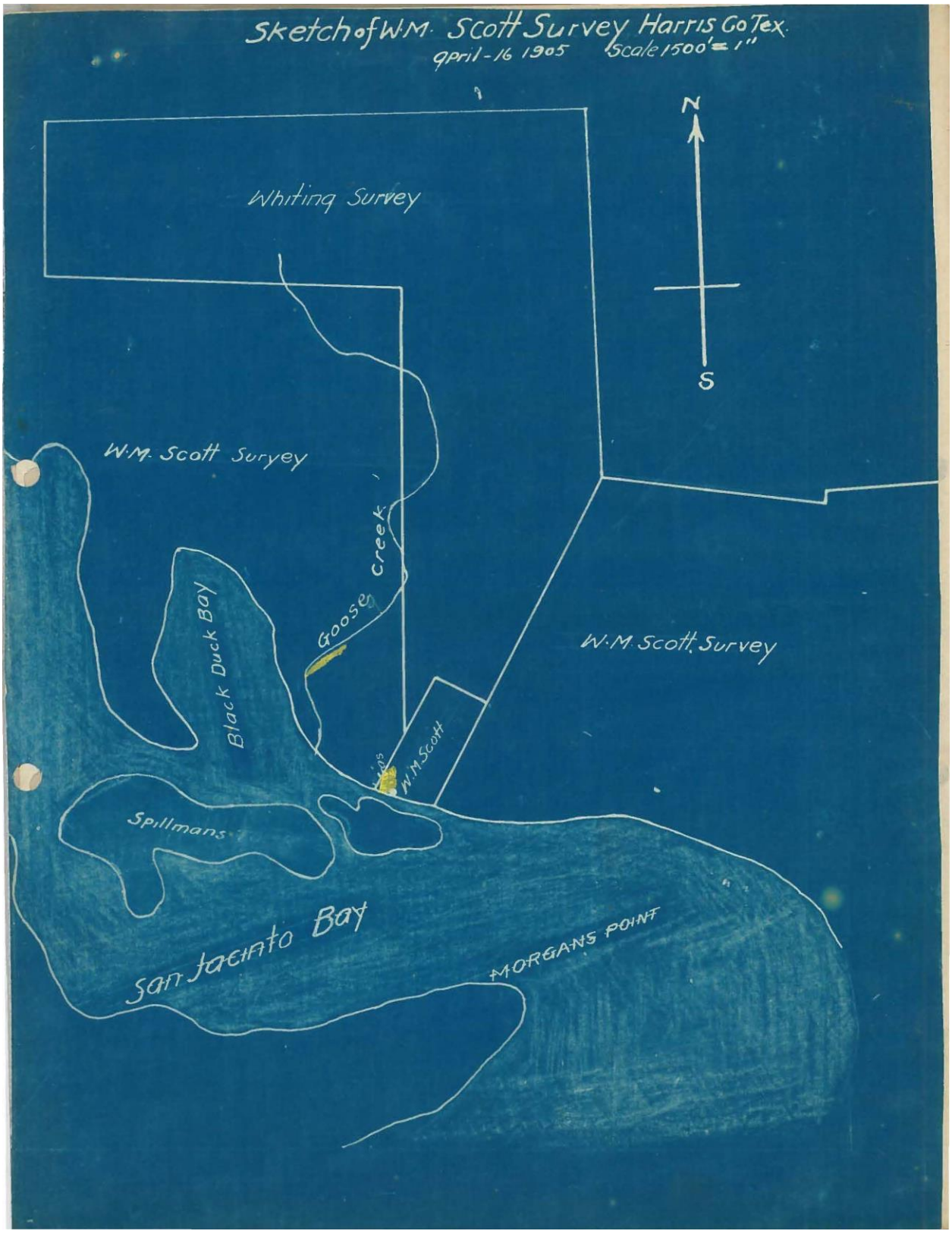
At present some of the largest companies are secretly acquiring property in close proximity to the gas deposits. The property in the immediate vicinity is owned by Mr. Gilliard, Bush, and Tabb, all of whom reside on their property. Mr. Tabb has sold 40 acres to Mr. Matthews, (Agent for Sharp and others), at the rate of $40 per acre. Considering the indications and the fact that it is on deep water, I predict that in a short time prices will soar. There is some talk of a well going down about 1/2 mile to the northwest, but it is merely a rumor. I think the indications are sufficient to induce reliable companies to prove or disprove the field. --- L. P. Garrett.

May 11th, 1905:

Since the reconnaissance upon which my report of April 17th, relative to the Scott Survey, near Morgan's Point was based, I have gone over the field with care. I find the gas deposits are not confined to one spot, but are found in several places in the vicinity. The location of some are shown on map attached.

The gas deposits on the Peninsula seem to run in N. E. line. In connection with "paraffine" a white sulphur deposit is found, locally known as pigeon droppings. The gas deposits to the north and east are typical to those found in connection with the oil fields of the Coast country. The sulphur deposits do not appear to exist. A saline marsh is shown on map. During the Civil War salt was made at this point, old pots may now be seen which were used in the manufacture of same. No doubt this saline has the same origin as the salines at Batson and Sour Lake.

Seep oil occurs on Goose Creek just below the Bush property; also a trace of oil was noticed in the branch of the Sweet property at point shown on [the] map.



Sketch included in Garrett's journal

If the indications that have located the present fields are not in this case a deception, there is a field in this locality. The probable boundary of field as shown on map is based upon the location of the gas deposits and saline, considering the position that like phenomena bear to proven fields.

The fact that the channel and bay are between the field and our road will prevent us from being a purchaser unless it is for marine purposes. The location of the field with reference to deep water makes it a proposition for the Guffey and other transporting companies. But the fact should not prevent us from entering the field, provided we can on a wild-cat basis. The bringing in of the field will cut the price of oil in the inland fields at least 10 cents per barrel owing to transportation facilities, or at the present price of oil, two barrels at deep water is worth three barrels at Humble. This fact would enable us to exchange our product at deep water for oil on our road at a fair margin.

The only man that has been active in this field is Mr. Hager. He has 40 acres, shown on map, and a lease on 11 acres of Mrs. Sweet's property. In attempting to lead the people to think that he was wanting only agricultural land, at the same time hunting the country over for oil signs, he has the land holders down on him; I think he has secured all that it is possible for him to secure, unless he pays oil prices.

If the Company desires to enter the territory the only plan that shows up at the present is to stand in with Mr. Rue. Mr. Rue has an interest in the 314 acre George Isenhour tract, and the only man that I know of that can secure leases under the existing circumstances. He is securing leases on basis of l/8th royalty. I think he will be able to control one-half of the field, when .the leases are secured. I think for a reasonable price 1/2 of the leases could be secured. Mr. Rue says in case he strikes oil, that the Rio Bravo will have first chance. Mr. Kennedy will visit (page 4] the field with me this week and will report. --- L. P. Garrett."

October 24, 1905:

There is nothing yet doing in this region. The parties interested have not yet reached any agreement. It will probably be settled this week. I understand D. R. Beatty has made a deal whereby he gets a lease on the Bryan property. --- Wm. Kennedy.

October 30th, _l905:

For your information, relative to conditions at Goose Creek, I attach sketch indicating some change in the holdings shown on map attached to my report of May 11th; the change of interest being a result of the transfers of the past week.

The Gilliard property, including Hog Island, was leased to Messrs. Rue & Welsh the 26th inst. on a basis of 1/7 royalty. Actual drilling is to be begun in 60 days. Machinery is now being put on the ground.

For a consideration of $1000.00, Mr. Hager secured for Mr. D. R. Beatty a lease on the Bryan 120 acre tract. Mr. Hager secured 10 acres from Mrs. Sweet and in turn transferred a part of his original holding to Sharp & Prather. Mr. Hager also informed me that the J. M. Guffey Petroleum Company had secured an interest from him, but the nature of the interest I was unable to obtain. --- L. P. Garrett.

November 6th, 1905:

After a whole lot of unnecessary haggling over terms and conditions, the lease on the John Gilliard 300 acre tract on Goose Creek has been signed and Messrs. H. I. Rue and Robert Welsh are the lessees. This, with the tracts owned by Miss Minnie Gilliard and George Isenhour, gives these gentlemen control of about 800 acres. So far as I understand the matter, these lessees represent several other parties who are associated with them in the proposition to develop the territory, but these two hold something like 70% of the stock. The terms of the lease contain, amongst other things, the payment of a bonus of $2500 and the drilling of a considerable number of wells. Under this lease the lessees are required to commence drilling their first well within 30 days from the date of lease and to finish the same as promptly as possible. Anyhow, this well, whether productive or dry, must be finished within eight months from date of commencement. Upon the completion of this first well, the second must be commenced within 30 days. In the event of the second well proving a dry hole, then another must be commenced within thirty days and so on. In the event of the second well proving productive, then two new wells must be commenced within the next thirty days, and should any of these wells be producers, then the lessees are bound to commence three new wells within the next thirty days and so on, until the daily production reaches 30,000 barrels. The lessees are also required to protect the boundary lines by the drilling of wells to correspond with any wells that may be drilled on the other leases by the owners, it being understood, however, that no wells on this lease be closer than two hundred feet apart. There are also a number of other peculiar requirements in this lease, none of which, however, amount to much.

A visit to the territory included in these leases and the others held by Messrs. Beatty and Hager on the one side, and Hager, Clemenger and Wright on the other side, shows a territory which may be looked upon as the newest land deposits in this state. Beginning with a series of low islands almost at low tide level, we have next the long irregularly shaped island known as Hog Island. Both Hog Island and the smaller reef-like islands appear to be made up chiefly, if not altogether, by wave action, probably aided by a slight uplifting of the land, this appearing from the lines of levels made by the Coast Survey to be approximately the beginning of the uplift at present going on very slowly from Galveston Bay westward. The material of which these islands are built up appears to be mostly sand, with some clay and large deposits of dead shells, in fact almost altogether the sort of materials one may expect in spits or wave built lands. A low shelving plain, made up chiefly of the same material, lies at the base of the landward bluff. This plain is broken into by several small bays, of which Black Duck Bay and Tabb's Bay are the largest. In places, the shore plain is almost cut through by small shallow channels, most of which, however, are filled with swamp plants and are more or less passable at all times and almost, if not altogether, dry during seasons of extremely low tides. This marshy fringe with its slightly elevated border approaching the bluff begins in Black Duck Bay near George Isenhour's house and gradually extends in a southeasterly and easterly direction around the lower end of this bay and into Black Duck Bay, having its widest portion in what is locally known as the Peninsula. It also extends for some distance up both sides of Goose Creek, but narrows somewhat on eastern end of Tabb’s Bay. In this region we find also evidences of very recent shore deposits, and with the exception of the area along Goose Creek may be said to have been altogether built up of sands and shell reefs. In the Goose Creek area the plain is mostly marsh, with a dense growth of reeds and other marsh plants, and it may also be remarked that this marshy portion is gradually being dried up, although in some places it is yet impassable.

Along the west side of Goose Creek and separated from it by the marsh just spoken of, a series of sand hills begin near the mouth of the creek and extend in a nearly northern direction for some distance up the creek until this line of hills loses its identity in the second or brown loam bluff passing from the Isenhour house easterly across the Isenhour property, through the Bush property and on towards the east at gradually lowering level. I did not follow it farther east than the Tabb property, so cannot say where it loses its identity. Between this back bluff and the sandy plain we have a smaller and considerably lower bluff which shows itself chiefly on the Gilliard tract, and losing itself on the Wright property a short distance east of Wright's Landing. We may shortly dismiss the conical sand hills, as from their generally conical shape and loose texture they may be looked upon as dunes formed by the wind over a core of blue sandy material similar to that found on the beach. That these have been there undisturbed for some time may easily be understoo4 from their being covered by a heavy growth of pine and other trees.

The lower bench, best seen on the north side of Tabb's Bay, rises very abruptly from the level of the beach to an elevation of about 25 feet. This bench is made up principally of a fine brown sand and great quantities of finely comminuted shells of the present fauna, such as gnathadon, oyster, etc. The brown sand looks as if it may have been supplied from the wreck of the higher bluff already a mile or so back from the shore line. This lower bench appears to overlie or be laid down upon an old floor of stiff bluish and brown clays, although there are but few exposures anywhere to give very direct evidence that this is the case. In fact, the only clear exposure of the underlying blue clays occurs near the mouth of a small creek at the southeast corner of the Walter Tabb tract of land.

The upper bench already mentioned has its structural conditions very well exposed on the eastern side of Black Duck Bay in the neighborhood between Collins' and Isenhour's houses; on Goose Creek, where the bluff crosses the creek from the Isenhour property, into the Bush property, near the old Bush residence, and at one or two other places, crossing the Hager lease and north end of the Walter Tabb tract. This bluff is made up chiefly of brown and yellowish brown sands, with some similarly colored clays and has all the usual characteristics of the Columbia formation. At Isenhour's house it has an approximate elevation of forty feet above the level of the bay. On Goose Creek and at the Bush house it has an elevation of about thirty feet, an elevation which gradually declines as far east as I followed it. A peculiarity of this bluff is that while on the whole it maintains the usual reddish sandy soil, in the vicinity of the Isenhour house and on the site of the old Bayland Orphan Home and School the soil is a heavy black clayey loam.

The only evidences upon which one might predicate the existence of oil in this region are the occurrences of gas at various places and the existence of that peculiar clay popularly called paraffine beds. It is also said that small globules of oil can be brought to the surface by a vigorous stirring of the blue ooze found in the bottom of the bays and small channels, but this latter I did not see. Gas occurs in more or less quantities at the points marked X X on map; that is to say, it is found in considerable quantities on the so-called peninsula: along Goose Creek; on the upper end and middle of the Gilliard tract, on the Hager lease in small quantities and it is also found in a creek on the Walter Tabb tract and on the Bush twenty acres. Gas is also found in Tabb's Bay at various localities.

With reference, however, to this gas; While it may be possible these gases indicate the presence of oil in this region, there are yet several points which may possibly place these in what w[e] may consider the non-oil producing gas. Undoubtedly, when these low sand bars were

being deposited, more or less animal remains, such as shell fish, and considerable vegetable matter, were included amongst the materials going to form the bars. Besides, these are today more or less covered by a dense growth of marsh vegetation, the annual decay of which must be considerable. These materials have within themselves, particularly when in association with water, the necessary constituents for the formation of hydrogen or marsh gas, and it is very probable that a considerable quantity of the gas escaping from the peninsula is of this character. Along Goose Creek there exist extensive marshy flats densely covered with rushes, reeds and other aquatic or semiaquatic vegetation. These, from their annual growth and decay can, and very probably do, produce immense quantities of marsh gas, which has its origin at a very shallow depth and can under no circumstances be considered as oil producing gas - at least in such regions. The fact that such gas may be inflammable has no bearing on the subject. The gas found on the uplands or bluffs may or may not indicate oil, but at least it shows a much stronger probability of there being some oil within that vicinity.

The presence of the so-called paraffine beds may also be considered as of a more or less hopeful condition. While these are found in association with nearly every oil field in the coast country, they are found in places where no oil has been found. These paraffine beds occur in their greatest extension on Hackberry Island, La., but so far a number of holes drilled in that territory have failed to show any oil.

The presence of the oil globules may be due to the presence of globigerina in the ooze as shown to exist at various places along the Coast and particularly in that region embraced in the marshy section.

On the Minnie Gilliard tract there appears an open glade covering an area of about ten acres. In this glade the soil has the light spongy texture seen at Ansa la Butte, a considerable quantity of gas and more or less of this so-called paraffine. This tract has an elevation of at least sixty feet above the level of the bay and lies about half a mile from the shore. In this tract it is probable the source of the gas is much deeper seated than at the other points indicated and it is very probable, if any oil occurs on the Gilliard tract, it will be found within this area or closely associated with it.

Materials for the derrick are already on the ground and it is expected the drilling machinery will be in place within the next ten days. The first well is to be located approximately at the location marked on map. --- Wm. Kennedy.

November 21, 1905;

The machinery to drill the Rue Well No. 1 is now on the ground, but the derrick has not yet been erected. Mr. Clemenger has leased half of the Bush twenty-acre tract. He takes the south ten acres, for which he pays a rental of one hundred dollars per quarter. I understand J. Findley Smith of the Granberry Smith Company is associated with him in this venture. --- Wm. Kennedy.

December 9th, 1905:

Drilling has commenced on this well, but how deep the drill has gone has not been ascertained. --- Wm. K.

March 3rd, 1906:

The drilling at this well has been continued somewhat slowly. At 460 feet a five foot bed of rock was encountered which gave the drillers considerable trouble. Beneath this twenty feet of

shale carrying considerable gas was found and the next bed of black clay which so far has been pierced to a depth of 50 feet. These people have leased an additional 112 acres from a man named Jones, paying a bonus of $1000 therefor. --- Wm. K.

April 10th, 1906:

The drilling has been carried down to a depth of 750 feet, but owing to a rock at 460 feet the hole is crooked and efforts have been made to drill through and straighten the hole by the use of a shoe on the ten inch pipe. These have not proved very successful and the owners now propose to drill a new hole. --- Wm. K.

May 10th, 1906:

The operations in this field are being kept very quiet and admittance to or within reach of the drilling denied to the general public. So far we have been able to obtain the necessary information to enable us to keep track of the operations. At a depth of about 900 feet the drill entered a sand with some broken shells and at about 1000 feet the drill was working in an oyster reef which it is claimed is about forty feet thick. At 1150 feet it is claimed a bed of dolomitic limestone associated with gypsum was passed through and at 1170 feet the drill was in a hard rock which is said to show a little oil. --- Wm. K.

June 13th, 1906;

Drilling has been progressing slowly in this region during the last month. The drill is now down 1589 feet and working in a mixture of rock and blue shale. A small show of gas has been obtained from this depth with traces of oil. --- Wm. K.

July 16th, 1906:

Drilling has been progressing slowly in this region during the last month. The drill is now down to the depth of 1750 feet and working in a mixture of rock and blue shale. The rock is said to be very hard. Some gas was found in this well at 1589 feet. The fauna of this well appears to be confined to the gnathadon cuneata in rock and shale at 800 feet and a small mactra found in a mixture of shale, rock and fine gravel at 1730 feet. This fossil appears to be the same as found in the Galveston well at 2206 feet. --- Wm. K.

August 7th, 1906:

Work in this territory has been practically suspended during the past month. When work began it was the intention to use wood as fuel for steam purposes and several hundred cords of wood were prepared for this purpose. Owing to the slowness of the work on account of many delays and stoppages the wood supply became exhausted and labor being scarce no fresh supplies could be obtained with any degree of certainty. Under these conditions the owners decided to use oil as fuel and considerable delay was incurred in making the change and arranging for the transportation of the oil. It is expected work will be resumed within the next few days. This well has not yet reached the depth of 1800 feet. --- Wm. K.

September 10th, 1906:

Work in this territory has been slow on account of the difficulty of getting the requisite fuel. The hole has been drilled down to about 1800 feet where a rock with salt water was encountered. This rock was drilled into about 7 feet with a two inch bit. Four inch casing was set on rock and well bailed. This brought nothing but water. The casing was then pulled out and while doing so a

small show of oil occurred. Forty feet of strainer was then put on and four inch casing sent down to about 1500 feet. The well was then washed and bailed but without success. At this depth the four inch casing stuck and they are now drilling over it with a six inch casing. The only other casing in this well is 500 feet of 10-inch. --- Wm. K.

October 6th, 1906:

Work in this field is still being carried on but very little progress is being made. Efforts were made to test the various sands found during the course of the drilling and in which it was thought oil might be found. These, however, have proved unsuccessful and the hole is to be drilled deeper. A small showing of 15 deg. B. oil was found about 700 feet and a second showing of 22 deg. B. oil was found somewhere below the 1500 ft. level. These showings were not in sufficient quantity to justify developments being made. --- Wm. K.

December 12th, 1906:

Work in this field is still being carried on but very little progress is being made. During the last two months the drill has been working in rock at a little over 1800 feet. So far this rock is said to be over 47 feet in thickness but the lower portion appears from the samples taken to be made of a conglomerate in which the pebbles are small clear quartz crystals. The drillers claim they have encountered several streaks of this material interstratified with a solid sandstone. Overlying these beds a blue shale occurs with natica at 1740 feet. Signs of oil were said to have been met with in the upper division of the rock. This oil is said to be of a much lighter gravity and color than that found at 700 feet. This oil may be that said to have been obtained below 1500 feet but no efforts have been made to ascertain the quantity or depth of this oil. --- Wm. K.

March 20th, 1907:

This well is now down over 1800 feet and preparations are being made to abandon the drilling. The four inch casing was set on a rock at 1800 feet and an attempt made to drill through with a two and a half inch bit. This was found to be very slow work as the rock appears to be more of the nature of a fine conglomerate made up largely of rounded quartz grains or small pebbles. Underneath this rock a loose gravel carrying salt water was found. --- Wm. K.

May l0th, 1907:

The first well has been abandoned and a second well is being drilled. This is now down about 800 feet. --- Wm. K.

August 17th, 1907;

Operations have been suspended in this field for some time. The second test well was drilled to a depth of about 900 feet when the rotary broke and work necessarily suspended. It is generally supposed the work will be abandoned. --- Wm. K.

January 31st, 1908;

This field is located on the north side of Tabb's Bay, a sheet of shallow water connected with Buffalo Bayou near Morgan's Point. Two wells have been drilled in this field and two are at present being drilled. The first well drilled was abandoned as dry at 1800 feet. The second well was drilled a short distance away to the northeast and was carried down to a depth of 1200 feet. A fair show of oil was found in a sand at about 1100 feet. This is said to be about 10 barrels daily. This showing induced the operators to drill their No. 3 well about 200 feet farther towards

the northeast. This well has been carried down to a depth of about 1600 feet. A strainer was set at 1500 feet and in washing the well blew out. The blow comes from several points in the hole, as gas, mud, water and a little oil comes from between the 6-inch and 4-inch casing as well as up around the 8-inch casing.

The Simms & Farrish well on the Jones tract about half a mile to the northeast is reported as being down 1600 feet.

The structure of the field is not yet known. In the first well 5 feet of hard limestone with streaks and seams of calcite filling fractures in the rock were found. This was succeeded by 20 feet of shale carrying considerable gas. At 800 feet the drill entered the shale with broken shells, of which the gnathadon appeared to be the most prolific. At 900 feet sand with broken shells was found, and at 1000 feet the drill passed through an oyster reef about 40 feet in thickness. A bed of dolomite and gypsum was passed through at 1150 feet and a small show of oil was found in a hard rock at 1170 feet. From here to a depth of 1750 feet the drill passed through a mixture of shale and rock. A small mactra apparently the same found in the Galveston well at 2206 feet was found in the Goose Creek well in a mixture of shale, rock and fine gravel at 1730 feet, and a natica in a shale at 1740 feet. From 1750 feet to the bottom of the well the material drilled through was a mixture of shale, rock and gravel. The rock is mostly a conglomerate made up of rounded white quartz grains with small pebbles. A large proportion of the quartz grains were clear or translucent. Under the rock, a loose gravel carrying salt water was found. Operations are still being carried on in this field. --- Wm. K.

June 8th 1908: [Gusher on Minnie Gaillard, see map Houston Chronicle, Jun 8, 1908, p5]

Examination of the Goose Creek field shows that the oil being produced there is of dark green color and of a little over 17 deg. gravity, without a great amount of gas, and the indications are that the well is most likely on the edge of the field. They have shut the well down for the present and have arranged with Mr. Woodworth to put in an earth tank for them. --- E. T. Dumble.

June 9th, 1908:

A force of men and twenty teams were put to work Tuesday at the Goose Creek well, under a contract made in Houston Monday afternoon for the construction of an earthen tank with a capacity of 50,000 barrels, for the purpose of storing the product of the well on the Gaillard place. The contract was awarded to a man by the name of Woodward of Humble, who is familiar with this character of construction. At the same time orders were placed for settling tanks, which are said to be en route to Houston to be shipped to the well.

As stated in The Chronicle yesterday, all possible haste will be made in the preparations for taking care of the oil, and it is the purpose of the owners to get matters in shape so that the well may be permitted to flow at the earliest possible date. It is believed the tank can be completed within a week. It was learned Tuesday morning that preparations are also being made to sink two or three additional wells on the Gaillard place, and it is stated that operations will be commenced at once. About a score of oil men went to La Porte Tuesday. Half as many went Monday, and the new field across the bay continues to attract wide attention. Numerous rumors are afloat involving land deals of varying proportions, and one which was started Tuesday morning was to effect that the Guffey Company has closed a proposition for the purchase of ten acres out of the Henry Busch tract, adjoining the Gaillard place, the price agreed upon being $15,000. A ten-acre

tract was purchased from Mr. Busch last Saturday by E. A. Peden and others for $8400. The Guffey rumor could not be verified. --- Houston Chronicle.

June 11th, 1908:

I am informed that Messrs. Welch, Armstrong, Isenhour *et al.*, who brought in the Goose Creek well, have turned all the lands at that point which they have under lease to the Producers Co. for a cash bonus of $50,000 and a royalty of 37½%. As their leases are l/8th, this will leave them 25% net royalty.

Their expenditures in the field have been in the neighborhood of $40,000. --- E. T. Dumble.

July 10th, 1909:

The Producers well No. 3 on the Read tract, part of the Ashbel Smith survey, on Tabb's Bay at Goose Creek, is something over 2900 feet deep, but the well is quarantined and no one is allowed near it, and it seems to be impossible to get any real information concerning it. They (the Producers Co) have however within the last few days acquired additional territory just east of this well.

There have been three wells drilled in a line and a few hundred feet west of this well and between it and the west line of the tract. Two of these had gas blowouts, but neither of them got below 2600 feet. --- E. T. Dumble.

June 12th, 1911:

Old well abandoned by Producers Company at Goose Creek cleaned by other parties now brought in with a five hundred barrel production. Came in June 14th. --- Wm. K.

April 8th, 1914:

Bunny Moore tells us that the well he is drilling in San Jacinto Bay at Goose Creek has reached the oil sand at 1420 feet and is now being bailed in. Location is given on Goose Creek map. --- Wm. K.

August 7th 1914:

Producers Oil Co. has deepened Barlow well No. 11 on Gaillard lease from 1910 to 2010 feet, making it a 400 barrel well. --- Wm.K.

January 14th, 1915;

Yesterday George Newman and others brought in a well on the Rucker lease in the submerged lands on the western side of the field at the depth of 1760 feet. This well is good for 400 bbls. per day and is an old well deepened from 1400 feet. --- Wm. K.

March 4th, 1916;

Gulf Production Co. abandoned its test on the De Merritt lease at 2500 feet. Also the Producers State land at 956 feet. The Gulf Company will drill several wells on the Tabb lease for the shallow pay found between 800 and 1200 feet.

Newman *et al*. cleaned out No. 11 Sweet, an old hole, and is making 50 barrels on air. --- C.L. Spooner.

March 18th, 1916:

Quite a revival of operations has begun in this locality. A pumper of West & Newman was increased from 25 barrels to 250 bbls, flowing, by changing strainers. West & Newman are to drill 10 wells on F. H. Scott 2½ acres. --- C.L.S

April 12th, 1916:

The Churchill Oil Co. on the Jno. Gilliard lease have a flowing well at 1570 feet, estimated at 250 barrels. They are now drilling 300 feet north of this well. --- C.L.S

June 24th, 1916:

The Hoffman Goose Creek Oil Co. are preparing to drill on the Kittridge 200 acres. The Hoffman Deep Well Oil Co. are setting 6" at 860 feet on the Gilliard. The Hoffman No. 2 on the Ashbel Smith just east of the Scott lease has just started drilling.

July 1st, 1916:

Hoffman Deep Well Co. has set casing in No. 2 Smith at 1240 feet. No. 2 Gilliard is drilling at 900 feet.

July 15th, 1916:

The Hoffman Deep Well Oil co. No. 2 blew out at 1250 feet on the night of the 13th, wrecking the derrick and otherwise demoralizing the entire works. Rock and fine sand covered the surrounding surface of the lease. No appearance of oil was present.

Newman *et al*. No. 13 Gilliard set casing and cemented at 1500 feet.

Hoffman No. 3 Smith started to drill.

Gulf Production Co. drilling deep hole on the Taft.

July 22nd, 1916:

The Hoffman Deep Well co. will start No. 4 on the Gilliard tract soon.

Smith No. 2 on the Gilliard was completed at 1260 feet with 100 barrels.

August 11th, 1916:

Gulf Production Co. on No. 1 Smith got a dry hole at 1274 ft.

Newman *et al*. on No. 1 Sweet got a pumper at 1470 ft. 150 barrels.

Hoffman No. 3 Gilliard [sic] drilling at 600 feet. Hoffman No. 4 Gilliard drilling at 300 feet.

Great Southern Oil Co. are rigging up No. 1 on the Gilliard.

Hoffman Oil Assn. has filed ·on 1000 acres in the bay above Hog Island.

J. B. Moore is putting in crib for derrick 200 feet from shore on the Rosenthal filing of State land.

August 22th, 1916:

The American Pet. Co. on the Gilliard 500 ft. west of production brought in a 2500 barrel gusher August 23rd. This was formerly drilled by the Creek Shore Oil Co. This well sanded up a few days after it came in.

August 31st, 1916:

The Roxana Oil Company has bought 800 acres of the Ashbel Smith tract.

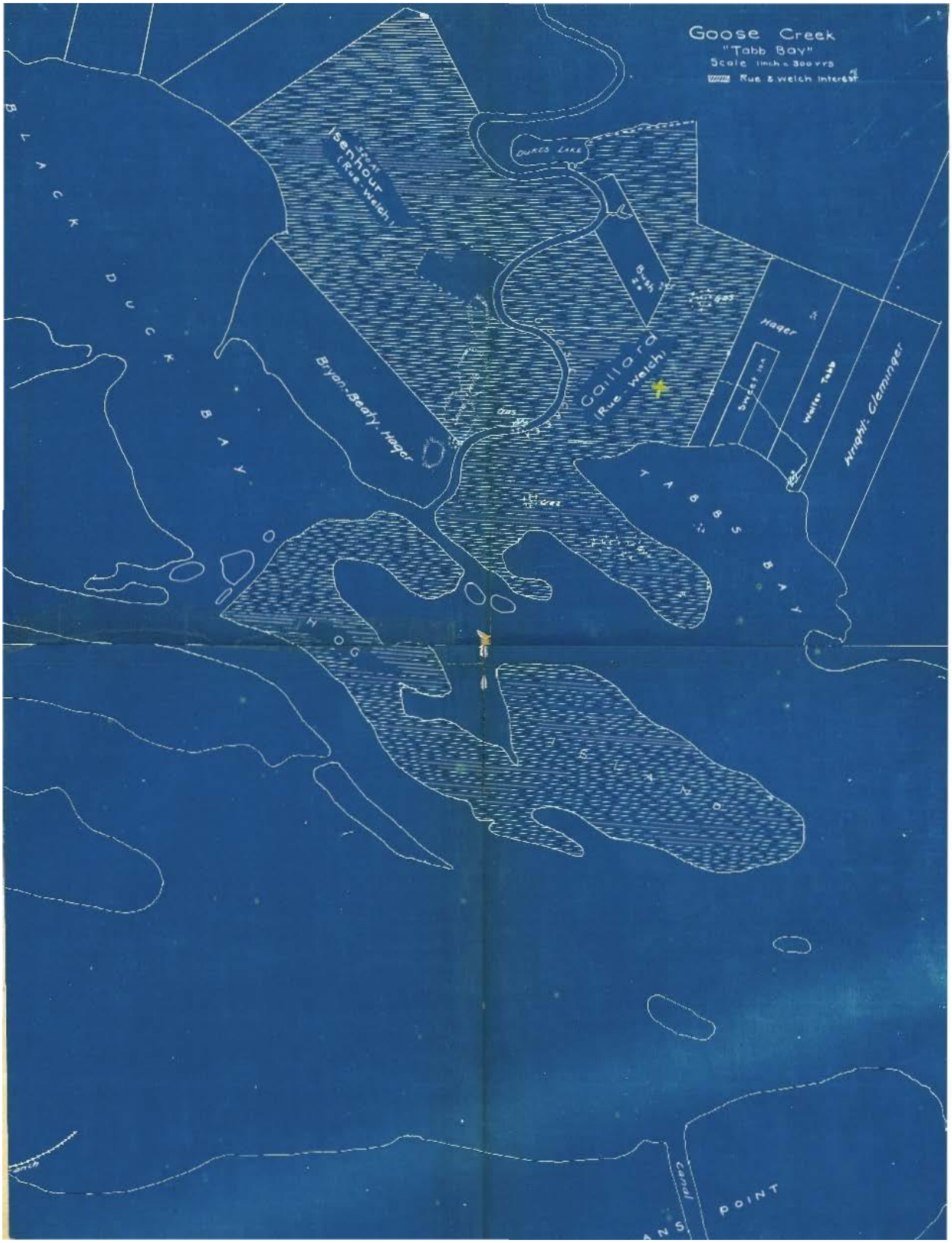
The Southern Pipe Line Co. has contracted for all oil for six months after January 1, 1917 and are putting in a 4-inch line. 55¢ is the price paid.

The well of the American Petroleum Co. is still sanded up.

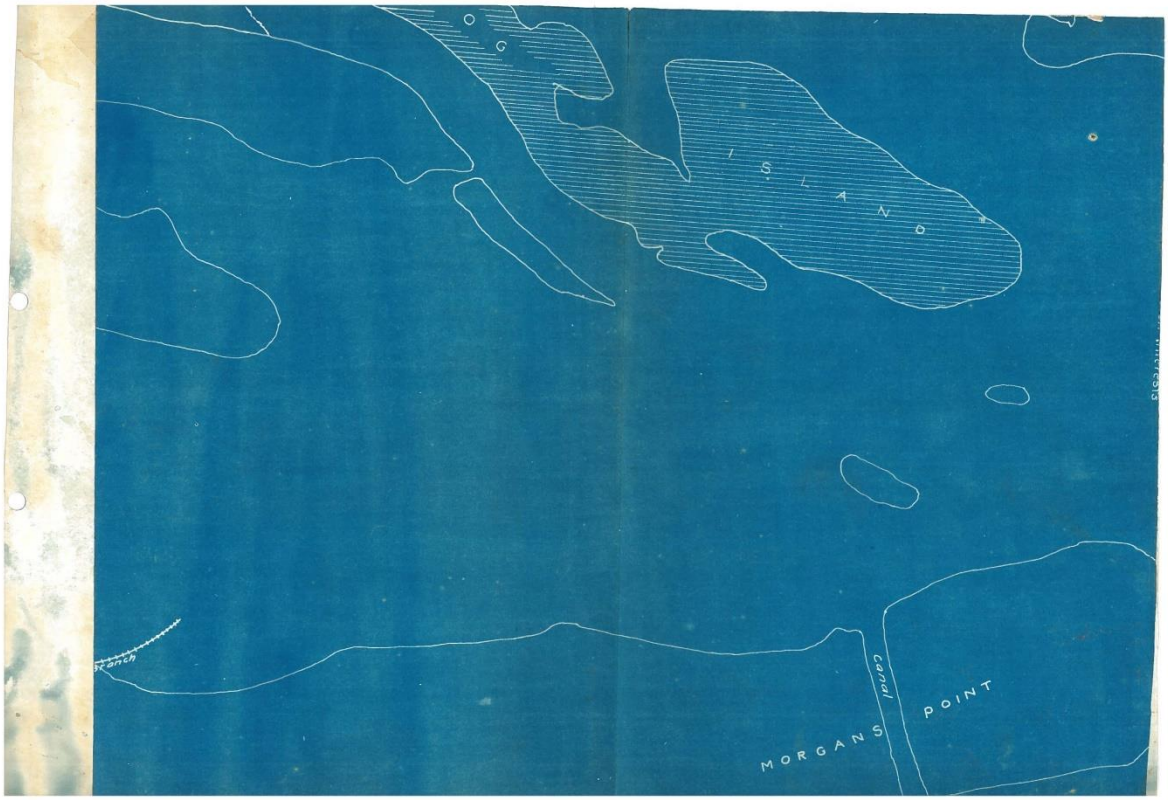
September 6th, 1916:

I have just returned from trip to Goose Creek. This looks now like a coming oil field. As nearly as I am able to determine, the new well gets its oil from a sand which has not been found in other parts of the field. The flow has been quite large. The driller, who is one of our former employees in Mexico, told me that the well had flowed altogether about 5-1/2 days and that the total production actually run to pipe lines and barges was between 75,000 and 80,000 barrels, practically 15,000 barrels a day production.

This well has, of course, made an oil boom at this place. And leases which were selling at $400 to $500 per acre bonus will now bring from $2000 up. The ordinary royalty was one-sixth. The Guffey Company took over one tract near the new gusher for which they paid $1750 per acre cash and an additional one-eighth royalty. --- E.T. Dumble



Sketch from Garrett's Journal



Sketches from Garrett's Journal

Endnotes

[1] Sponsored by Chevron USA, Contact Mart Barillas, marty.barillas@chevron.com.

The Gulf Oil Corporation was an expansion of the J. M. Guffey Petroleum Company, which was organized in May 1901. In January 1907 the Gulf Oil Corporation was formed with A. W. Mellon as president, and Guffey's interest was purchased for about $3 million. By 1928, Gulf's organization was characterized by integration from production of crude to retailing of refinery products. On March 5, 1984, the Gulf board voted to sell the company to Chevron (Standard Oil of California) for $13.2 billion. Gulf operations were merged into Chevron in what was the largest corporate merger to date. Gulf Oil Corporation; TSHA Online.

[2] Member, Harris County Historical Commission. Retired from ExxonMobil.

[3] Genesis 6:14.

[4] Early Uses of Asphalt, from the magazine of the Asphalt Institute.

[5] Ancient Chinese Drilling, from the Recorder, Official publication of the Society of Canadian Exploration Geophysicists.

[6] U.S. Patent 0011203 - Abraham Gessner, 'A' Kerosene, 1854

U.S. Patent 0011204 - Abraham Gessner, 'C' Kerosene, 1854

U.S. Patent 0011205 - Abraham Gessner, 'B' Kerosene, 1854

[7] "Growth of Petroleum Production," The Galveston Daily News, September 29, 1884, p2, c6.

[8] Drake Well Museum, Titusville, Pa

[9] "Growth of Petroleum Production," The Galveston Daily News, September 29, 1884, p2, c6.

[10] TSHA Online, Oil Springs, Texas

[11] "Petroleum in Texas," Flake's Bulletin, March 22, 1866, p1.

[12] "Online Petroleum," Flake's Bulletin, June 21, 1866, p4.

[13] Saratoga; THSA.

[14] "A Flowing Well in Texas," Flake's Bulletin, February 17, 1867, p4.

[15] Galveston Weekly News, November 13, 1880, p4.

[16] "Water Gas for Ocean Steamer," Galveston Weekly News, May 31, 1883, p5.

[17] National Geographic Magazine, October 2021, p55.

[18] https://www.npr.org/templates/story/story.php?storyId=92216092

[19] https://bostonraremaps.com/inventory/1830-stephen-austin-map-of-texas/

[20] Ashbel Smith (August 13, 1805 – January 21, 1886) was a pioneer physician, diplomat and official of the Republic of Texas, Confederate officer and first President of the Board of Regents of the University of Texas. https://tshaonline.org/handbook/online/articles/fsm04

[21] Mary Smith McCrory Jones (1819–1907) was the last First Lady of the Republic of Texas as wife of Anson Jones, the last president of the Republic. She was the first president of the newly founded Daughters of the Republic of Texas in 1891. https://tshaonline.org/handbook/online/articles/fjo93

[22] Henry Flavel Gillette, (1816–1896) In 1866 he was one of a group of men who met in Houston and laid plans for establishing an orphans' home. When, on January 15, 1867, the board of trustees was organized, he was elected superintendent of Bayland Orphans' Home, which he served as manager for fifteen years. After severing his connection with the institution, Gillette spent his declining days at Bell Prairie, where he died on April 25, 1896. https://www.tshaonline.org/handbook/entries/gillette-henry-flavel

[23] The Bayland Orphan Home, State of Texas Historical Marker, by Trevia Wooster Beverly (downloads as pdf)

[24] Sam Houston (March 2, 1793 – July 26, 1863) was an American soldier and politician. His victory at the Battle of San Jacinto secured the independence of Texas from Mexico in one of the shortest decisive battles in modern history. He was also the only governor of a future Confederate state to oppose secession (which led to the outbreak of the American Civil War) and to refuse an oath of allegiance to the Confederacy, a decision that led to his removal from office by the Texas secession convention. https://tshaonline.org/handbook/online/articles/fho73

[25] David Gouverneur Burnet (April 14, 1788 – December 5, 1870) was an early politician within the Republic of Texas, serving as interim President of Texas (1836 and again in 1841), second Vice President of the Republic of Texas (1839–1841), and Secretary of State (1846) for the new state of Texas after it was annexed to the United States of America. https://tshaonline.org/handbook/online/articles/fbu46

[26] *At Rest: A Historical Directory of Harris County, Texas, Cemeteries (1822-2001) Including Burial Customs and Other Interesting Facts, With a Listing of Past and Present Communities, Funeral Home and Monument Companies*. 1st Edition 1994; 2nd Edition enlarged from 307 to 509 cross-indexed listings. Compiled by Trevia Wooster Beverly (Tejas Publications & Research, Houston, 2001).

[27] "Election Notices," Telegraph and Texas Register (Houston, Tex.), August 18, 1841, p3.

[28] HCDB 54, page 333 et seq.

[29] "Personal," The Galveston Daily News, December 25, 1886, p5.

[30] "An Oil Well at Cedar Bayou," Houston Chronicle, July 22, 1904, p3, c3.

[31] Harris County Tax Assessment, 1870.

[32] "J. Dabney Tabb, Pioneer Harris County Man, Dead," The Houston Post, November 30, 1916, p5.

[33] HCDB 37, p448.

[34] "Sour Lake," Weekly Houston Telegraph, May 4, 1848, p3.

"From the Banner," Weekly Houston Telegraph, September 7, 1848, p2.

[35] Statistics of Coal: Including Mineral Bituminous Substances. By R. C. Taylor, Philadelphia, Published by J.W. Moore, 1855, Page 498.

[36] "Sour Lake Hotel," Galveston Daily News, October 1, 1878, p4.

[37] "Jefferson," The Galveston Daily News, April 8, 1880, p3, c7.

[38] Galveston Weekly News, May 18, 1882, p3, c9.

[39] The Galveston Daily News, August 1, 1890, p4, c5.

[40] "The Oil Area of South Texas" The Houston Daily Post, January 20, 1901, p4.

[41] "Petroleum," Flake's Bulletin, July 11, 1866, p4.

[42] "Facts that Beat Fable," The Galveston Daily News, March 10, 1878, p1.

[43] "A Thousand Barrel Well at Goose Creek," Houston Chronicle, June 4, 1908, p1.

[44] "The Oli Area of South Texas," The Houston Daily Post, January 20, 1901, p4.

[45] "Valet Jones may yet be Wealthy. Proposition to bore for oil near his father's Farm." Houston Chronicle, December 21, 1903, p12.

[46] "Above this clump of timber arose a tall, drooping cypress tree whose receding foliage gave the tree the outlines of an inverted spindletop. This tree could be seen many miles from the surrounding prairie, and early travelers reckoned their locations by marking positions as compared with the spindletop, as the cypress tree was called." *A History of the Spindletop Oil Field*, by Everette Armstrong Martin, August, 1934. University of Texas Master's Thesis.

[47] "Newsy Notes" The Galveston Daily News, June 9, 1897, p4.

[48] TSHA Online/Spindletop Oilfield

[49] "Oil at Shepherd," Houston Chronicle, August 22, 1902, p5.

[50] "La Porte Man Given Credit for Discovery by Igniting Gas Rising to Top of Water." News Tribune, April 13, 1934, p .

"First Well brought in During 1906." The Tri-Cities Sun, July 28, 1933, p31.

"Kern Does Research on Oil Development," The Daily Sun, May 12, 1942, p3.

[51] "An innovative geologist, Lovic Pierce Garrett (1880-1943) was able to detect, adopt and apply significant and worthy in exploration technology much to the benefit of Gulf Oil Corp. Garrett graduated from the University of Texas in 1902 with a degree in geology and went to work for Rio Bravo Oil Company, a subsidiary of Southern Pacific. By 1908, Garrett had gone to work for the Guffey Petroleum Co., soon to be part of the Gulf Production Co., as chief of the land and lease department." Midland Reporter Telegram, Feb 23, 2002.

[52] See APPENDIX – Field notes of geologist L.P. Garrett, William Kennedy and E.T. Dumble.

[53] In 1903 William Kennedy coauthored a groundbreaking report in petroleum geology for the United States Geological Survey on the oilfields of the Texas and Louisiana Gulf Coastal Plain. TSHA Online – William Kenney.

[54] Edwin Theodore Dumble was appointed Texas State Geologist in 1888 and conducted the most thorough geological survey to date, which came to be known as the "Dumble Survey." The Southwestern Historical Quarterly, Volume 68, July 1964 - April, 1965 Page: 53.

[55] "Valet Jones may yet be Wealthy. Proposition to bore for oil near his father's Farm." Houston Chronicle, December 21, 1903, p12.

[56] "A Murder, a Mystery, and a Vision." https://magazine.rice.edu/2018/10/a-murder-a-mystery-and-a-vision/

[57] The family name was originally Gillett and was later spelled Gillette.

[58] "The Goose Creek Well." Houston Post, September 1, 1908, p48.

[59] Garrett, p1.

[60] "Goose Creek Oil Field, Harris County, Texas." by H.E. Minor, p546. *Geology of Salt Dome Fields, 1926.*Published by The American Association of Petroleum Geologists.

[61] The Galveston Daily News, July 5, 1896, p23, c3.

[62] "Personal Mention," The Houston Daily Post, March 25, 1898, p6, c3.

[63] "R. Matthews & Co, Real Estates Agts." Houston City Directory, 1902-1903, p172.

[64] "Real Estate for Sale," The Houston Daily Post, January 26, 1902, p17, c3.

[65] "New Corporations," The Houston Post, July 29, 1904, p7.

[66] "Lee Hager, Mining Engineer and Geologist," The Houston Daily Post, January 11, 1902, p7.

[67] Memorial - Lee Hager (1874-1944). Bulletin of the American Association of Petroleum Geologists, Nov 1944.

[68] In April 1905, R.C. Briggs purchased a 43 acre tract on Tabbs Bay from Walter Tabb. The deed says nothing about oil and likewise mentions nothing about association with any company. HCDB 180, p510.

In January 1906 the tract was partitioned among the shareholders, all in the oil business. HCDB 185, p224.

[69] Garrett, p3.

[70] "Government Geologist at Dayton," The Houston Daily Post, September 6, 1901, p3, c3.

[71] Mary Gaillard interview, p17

[72] HCDB 180, p9, Henry Kittredge et al. to John Gaillard, Jul 19, 1905.

[73] Garrett, p1.

[74] The drilling rate of the Spindletop gusher was 20-25 feet per day. Identical technology would have been used at Goose Creek. "Turning to the Right," by Bobby Weaver, January 1, 2017. From the Permian Basin petroleum Association Magazine. https://pboilandgasmagazine.com/turning-to-the-right/

[75] Sands. P203.

[76] "Barge of Pipe Stuck," Houston Chronicle, July 6, 1908, p5.

[77] "Building A Wooden Oil Drilling Rig in 1913," Calgary Herald, https://calgaryherald.com/news/local-news/building-a-wooden-oil-drilling-rig-in-1913

Wood Derrick Standard Rig materials list published in Jarecki Manufacturing Co Catalog, http://www.petroleumhistory.org/OilHistory/pages/Cable/walking.html

[78] U. S. Patent No. 130,706. Improvements in Derricks, by S.S. Fertig, August 20, 1872.

[79] https://www.elsmerecanyon.com/oil/cabletoolrig/cabletoolrig.htm

[80] http://www.petroleumhistory.org/OilHistory/pages/Portable/combination.html

[81] See Appendix Image 6.

[82] https://ethw.org/Drilling_is_Established

[83] The Drillers Oil Co was one of the first of the smaller incorporations of the Splndletop boom period. The directors were G. W. Hardy, W. C. Tyrrell, R. E. Hardwicke and Ed Prather. In 1918 the company still had producing properties in the Goose Creek, Tex., fields. *Oil Trade Journal*, January 1918, p85. (downloads as pdf)

[84] "Oil Stock for Sale," The Houston Daily Post, April 22, 1901, p8.

[85] HCDB 180, p510. Walter G. Tabb to R.C. Briggs et al., Apr 3, 1905.

[86] "Producers Company is in Control." Houston Chronicle, June 12, 1908, p3.

[87] Mary Gaillard Interview, p20

"A Gusher on Coast" Brenham Banner, June 11, 1908, p3, c4.

[88] Texaco, TSHA Online, https://www.tshaonline.org/handbook/entries/texaco

[89] Houston Chronicle November 29, 1906, p7. Howard R. Hughes to Producers Oil Company,

[90] "Producers Company is in Control," Houston Chronicle, June 12, 1908, p3.

[91] "Cullinan Sues Texas Co on Producers Oil Deal," Oil Trade Journal, July, 1920, p13.

[92] James A. Clark and Mark Odintz, "Gulf Oil Corporation," Handbook of Texas Online, accessed October 31, 2021, https://www.tshaonline.org/handbook/entries/gulf-oil-corporation.

[93] "Trip to Goose Creek Field," Houston Chronicle, May 2, 1910, p6.

[94] Garrett, p1

[95] "Have Struck Rock," Houston Chronicle, February 11, 1908, p3.

[96] "Oil Men Interested in the Work of Development," The Houston Post, March 14, 1906, p6.

"A Thousand Barrel Well at Goose Creek," Houston Chronicle, June 4, 1908, p1.

[97] "Big Land Deal at La Porte," Houston Chronicle, September 30, 1907, p9.

[98] Harris County Deed Book 208, p580. Kittridge to J.A. Read

[99] "The Well Produced," The Houston Post, October 9, 1907, p1.

[100] Oilfield Glossary from Schlumberger.

[101] See excerpts from the 1913 Southern Well Works Catalog on pages 44 through 48 of this narrative.

[102] M.T. Chapman patented a rotary for use in drilling water wells in 1889. US Patent 409272.

[103] See the swivel illustrated in the 1913 Parker Catalog in the Appendix above.

[104] It is not known which design the Parker hydraulic swivel was modeled after, but there were several patents issued for similar-looking devices prior to 1906, all issued to Texas drillers.

US Patent 0742667 - H.G. Johnston, 1903

US Patent 0800185 - A. Thomson & M.J. McGlaughlin, 1905

[105] THE STORY OF A ROTARY-DRILLED OIL WELL. The drilling process is shown in this excellent silent movie on YouTube. It was taken in the Goose Creek field in about 1925 and explains the operation of a rotary drill, using, for demonstration, the Goose Creek (Texas) oil fields. It shows bits, casings, and other equipment that is necessary for rotary drilling. Diagrams indicate the progress of the drilling. It also explains the use of various casings and shows how they are cemented to control the flow of oil. Department of the Interior. Bureau of Mines. Pittsburgh Experiment Station.

[106] "The Petroeum Dictionary," by Lalia Phillips Boone, University of Oklahoma Press, 1952.

[107] See Appendix Image 9.

[108] See Appendix Image 21.

[109] "Land Company Seeks Charter," Houston Chronicle, December 12, 1907, p15.

[110] "Blowout at Goose Creek," Houston Chronicle, February 2, 1908, p9.

[111] "Will Drill New Well," Houston Chronicle, February 10, 1908, p6.

[112] "New Oil Field Comes In." Houston Post, June 5, 1908, p9.

[113] "The Pipe is Stuck," Houston Chronicle, March 8, 1908, p22.

[114] Mary Gaillard Interview, p20.

[115] "A Thousand Barrel Well at Goose Creek," Houston Chronicle, June 4, 1908, p1.

[116] "The Well at Goose Creek," Houston Chronicle, June 5, 1908, p1.

[117] "Returning Oil Men Think Well of It," Houston Post, June 11, 1908, p?.

[118] "The Oil Field Comes In," The Houston Post, June 5, 1908, p9.

[119] "History of the 42-Gallon Oil Barrel," American Oil & Gas Historical Society.

[120] "Remarkable Nellie Bly's Oil Drum," American Oil & Gas Historical Society.

[121] "The Goose Creek Field," Houston Chronicle, June 11, 1908, p10.

[122] "Barge of Pipe Stuck," Houston Chronicle, July 6, 1908, p5.

[123] David Kokernot had the first ferry on Cedar Bayou located where today's Needlepoint Road crossed Cedar Bayou. In 1847 Cedar Bayou Postmaster W. J. Mills ran that ferry which became part of the original Wallisville Road and was referred to by Harris County Commissioners as the mail crossing from Lynchburg to Liberty.

[124] "Activity in Oil," Houston Post, June 12, 1908, p5.

[125] "To Well by Water," Houston Post, June 28, 1908, p15.

[126] "Suit to Secure Goose Creek Land," Houston Chronicle, June 15, 1908, p7.

[127] "Verdict for Defendants," Houston Chronicle, June 21, 1908, p12.

[128] "Moved a House on a Dark Night," Houston Chronicle, July 11, 1908, p1.

[129] "Oil Field in Controversy," Houston Chronicle, July 15, 1908, p10.

[130] "Rushing Work at Goose Creek," Houston Chronicle, June 21, 1908, p5.

[131] "New Derricks Up at Goose Creek," Houston Chronicle, June 26,1908, p92.

[132] HCDB 220, p251. Dollie Hauff to E.A. Peden, June 5, 1908, 67 A.

[133] "Valet Jones May Yet be Wealthy," Houston Chronicle, December 21, 1903, p12.

[134] See Appendix Image 7

[135] US Patent 930,758 - H.R. Hughes, patent filed Nov 20, 1908.

[136] 1900 Jasper Co, Joplin, Missouri Census. ED 39 Joplin Township Joplin city Ward 4, p5B.

[137] "Beaumont Gas Low," Times-Democrat (New Orleans, LA), July 21, 1902, p3.

[138] "Big Fire at Sour Lake," The Crowley Posr-Signal (Crowley, LA), August 21, 1903, p1.

[139] In the Humble Oil Field," Houston Post, November 15, 1904, p7.

"A Valuable Oil Field," Houston Post, November 30, 1904, p1.

[140] "The Oil Fields," The Houston Post, December 20, 1906, p17.

[141] HCDB 180, p510. Walter Tabb to R.C. Briggs, Apr 3, 1905.

[142] HCDB 185, p224, R.C. Briggs to Howard Hughes. Feb 10, 1906.

[143] "Real Estate Transfers," Houston Chronicle November 29, 1906, p7.

[144] In 1906, Hughes and Jim Sharp were partners on a well at Pierce Junction, just southwest of the intersection of I-610 and Hwy 288 in Houston when a well they were drilling had a tremendous blowout which brought in that field. The Houston Post, Mar 16, 1906, p5.

[145] US Patent 726255 - Drill Bit, W.H. Clark & F.J. Currier, 1903

[146] US Patent 51902 - P. Sweeny, Stone Drill, 1866.

American Oil & Gas Society. https://aoghs.org/technology/1866-patent-rotary-rig/

[147] http://www.petroleumhistory.org/OilHistory/pages/Diamond/desc.html

[148] U.S. Patent 322642 - Isaac Reese, Rock Drill, 1885

U.S. Patent 633974 - F.M. McLarty, Bit for Cutting Stone, 1899

U.S. Patent 839837 - C.W. Guttzeit, Drill Bit for Wells, 1907

[149] "Oral History of the Texas Oil Industry Collection, Dolph Briscoe Center for American History, The University of Texas at Austin." Reel 102: G. A. Humason Interview, July 7, 1953.

[150] US Patent 1,375,094, Reamer, G.A. Humason, April 19, 1921.

[151] Reed Roller Bit Co. v. Hughes Tool Co. 1926.

Caddo Rock Drill Bit Co. v. Reed, 4 F.2d 136 (S.D. Tex. 1925).

[152] Unpublished family story passed down through the Fayle lineage. I heard it from Anna Yowell, tourism Director for the City of Baytown, who possesses a photo album with the story printed out.

[153] US Patent 0930758, Howard Hughes Drill, 1909.

US Patent 0930759, Howard Hughes Drill, 1909.

[154] Hughes, Howard Robard, Jr. (1905–1976), TSHA Online.

[155] Baker-Hughes; TSHA Online.

[156] "#246 Hughes Two-Cone Drill Bit," Historic Mechanical Engineering Landmark.

[157] Houston Chronicle, December 10, 1909, p2, c6.

[158] "Texas Fields," The Houston Post, January 10, 1910, p3.

[159] "May Abandon Oil Field," Houston Post, July 16, 1910, p.

[160] "New Well Started," Houston Chronicle, August 7, 1911, p5.

[161] "Gusher Struck in Goose Creek," Houston Chronicle, December 17, 1911, p1.

[162] "Independent Operators Seem to have Won Fight," Houston Chronicle, March 31, 1912, p18.

[163] "To Pipe Goose Creek Oil to Ship Channel," Houston Chronicle, August 20, 1911, p8.

[164] "First Teacher Recalls 'How it Was' Back in 1911," Baytown Sun, June 1, 1975, p1.

[165] "Texas Postal Changes," The Houston Post, January 26, 1913, p2, c4.

[166] "Goose Creek Needs a New Post Office," The Houston Post, March 11, 1917, p15, c1.

[167] "Patent is Taken Out on Portion of Bay," Houston Chronicle, June 14, 1908, p21.

[168] "Cannot Sell Lands in Bay," Houston Chronicle, August 6, 1908, p1.

[169] "State Cannot Sell Bottom of Bay," Houston Chronicle March 10, 1909, p1.

[170] Gammel, Hans Peter Mareus Neilsen. The Laws of Texas, 1913-1914 [Volume 16], book, 1914; Austin, Texas. (https://texashistory.unt.edu/ark:/67531/metapth10838/m1/419: accessed November 7, 2021), University of North Texas Libraries, The Portal to Texas History, https://texashistory.unt.edu; .

[171] "Rush on for State Oil Land," The Houston Post, April 13, 1913, p11.

[172] "106 Applications Filed for Oil Leases at Goose Creek," Houston Chronicle, July 2, 1913, p11.

[173] "Lee Hager, Goose Creek Operator, Sends State First Royalty," Houston Chronicle, May 23, 1914, p7.

[174] See Appendix Image 15.

[175] See Appendix Image 18.

[176] This hurricane was at least as powerful, and probably more so, than the 1900 Galveston hurricane. However the damage to the island was infinitesimal as compared to that storm due to the construction of the seawall and subsequent raising of the island. In addition, as the storm approached, there was a mass exodus of residents living outside the seawall. Hurricanes; Science and Society.

[177] US Patent 1015821 - L.C. Moore, Steel Derrick, 1912.

[178] Fuel Oil Journal, September 1915, p89.

[179] HCDB 370, p116, Map of the Goose Creek Town Site out of the Wright Tract, September 27, 1916. Blocks 1-12.

[180] Fuel Oil Journal, November 1916, p93.

[181] HCDB 377, p233, Map of the Goose Creek Town Site out of the Wright Tract, February 9, 1917. Blocks 13-24.

[182] "Corporations Chartered," The Houston Post, September 23, 1917, p23.

[183] The four brothers were named Louis, J.E., Lafayette and Oscar Pearce. "Industry Paved the Way," The Baytown Sun, March 21, 2019, p13.

[184] "10,000 Barrel Well At Goose Creek. Deep Sand Field Believed Found; Oil High Grade," Houston Chronicle, August 24, 1916, p1, c2.

[185] See Appendix Image 13.

[186] "School Officials are Up a Tree". The Houston Post, September 21, 1916, p9

[187] "Big Gusher in Goose Creek Field was Again Open," Houston Post, September 2, 1916, p14.

[188] "Goose Creek Could Not Contain Men's Rush," Houston Post, September 8, 1916, p1.

Also see Appendix Image 2 for the extent of the town. Image 3 shows the area a couple of months later.

[189] "How Goose Creek became an Oil Center Overnight," Houston Chronicle, September 10, 1916, p14.

[190] "Goose Creek Must Move to Make Room for Gushers," Houston Post, October 25, 1916, p7.

[191] "Goose Creek Landowners Exacting in Requirements; Royalties are Advanced," Houston Chronicle, September 7, 1916, p3.

[192] "Five Wells at Goose Creek Add 5875 Barrels Initial Production to Gulf Coast," Houston Chronicle, December 3, 1916, p32.

[193] "Machine Shop at Goose Creek," Houston Chronicle, December 3, 1916, p31.

[194] See Appendix Image 12.

[195] "Gasser put Goose Creek to Flight," Houston Post, December 19, 1916, p1.

[196] "Uncontrolled Well Depopulates Town," The Eagle (Bryan, TX), December 19, 1917, p1.

[197] US Patent 732925 - Harry Decker, Oil Well Drill, 1903.

[198] "New Level in Goose Creek Field Produced by Big Gusher," Houston Post, January 1, 1917, p1.

[199] This number is based on the fatalities reported in the Houston Chronicle and Post newspapers. Undoubtedly many fatalities went unreported.

[200] "Boiler Explodes; Oil Field Man Badly Scalded," Houston Chronicle, November 1, 1913, p5.

[201] "The Courts," Houston Chronicle, July 2, 1915, p3.

[202] "Killed in Fall from Oil Derrick; Another hurt," Houston Chronicle, August 28, 1917, p6.

[203] "Hurt While Drilling," The Houston Post, March 23, 1919, p23

[204] HCDB 446, p270. G.F. & J.P. Mitchell and R.C. Stephenson to C. Trifon, Jan 8, 1920, Cozy Theater

[205] "Gas Blowout Kills Three at Goose Creek," Houston Chronicle, May 29, 1918, p3.

[206] "Presence of Mind Saved Oil Worker," The Houston Post, March 22, 1917, p1.

[207] *Sketches in crude-oil*, by John P. McLauren, 1902, Chapter 17, "Nitroglycerine in This."

[208] 1920 Harris County Texas Census, Precinct 3, ED112, p41B.

[209] Certificate of Death, Martin Thompson Woods, Occupation, Well Shooter, Cause of Death, Explosion of Dynamite.

[210] "Bury Victims of Accident at Oil Town," Houston Chronicle, August 23, 1922, p6.

[211] "Blazing Gasser at Goose Creek Lights up Country," Houston Post, Nov 8, 1916, p1.

[212] "15,000 Worth of Oil Destroyed at Goose Creek," Houston Chronicle, July 31, 1917, p2.

[213] "Goose Creek Fire Damage is $17,000," Houston Post, September 24, 1917, p1.

[214] See Appendix Image 10.

[215] "Local Color," Fuel Oil Journal, October, 1916, p71.

[216] "Awakes Man and Then Kills Him at Goose Creek," Houston Chronicle, October 25, 1917, p1.

[217] "Pardon Sought by Court for Young Slayer," Houston Chronicle, December 19, 1917, p13.

[218] "Two Soldiers Shot at Goose Creek," Houston Chronicle, December 25, 1917, p1.

"Christmas Morn Shooting ends in Long's Death," Houston Chronicle, December 26, 1917, p8.

[219] "Site Bought for Goose Creek Jail," Houston Post, October 26, 1916, p10, c3.

[220] "Goose Creek to Get a New Jail; Goes on a Barge," Houston Chronicle, February 6, 1917, p11.

[221] "Li'l Ole Jail Sets Sail," Houston Chronicle, February 7, 1917, p1.

[222] "Goose Creek Needs More Room in Jail," Houston Chronicle, June 10, 1917, p4.

[223] "Small Wells are Producing Money," Houston Post, January 7, 1917, p45.

[224] "Churches Start New Year with Big Programs," Houston Chronicle, January 1, 1917, p3.

[225] "New Methodist Church for Goose Creek," The Houston Post, March 5, 1917, p 9.

[226] Oil and Gas Journal, February 1, 1917, p14.

[227] "Bill for Channel to Goose Creek," The Houston Post, January 4, 1917, p4.

"Will Dredge Channel to Goose Creek," Houston Post, January 14, 1917 Page 1.

[228] "Another Lease at Goose Creek," Houston Chronicle, July 20, 1908, p6.

[229] "New Well Adds 1/2 mile to Are at Goose Creek," Houston Chronicle, January 15, 1917, p1.

[230] "$500,000 is Paid for J.I. Gaillard Oil 'Farm' Down at Goose Creek," Houston Chronicle, January 15, 1917, p1.

[231] Gaillard-Mitchell Cemetery. Texas Historical Marker by Trevia Wooster Beverly.

[232] "Houston Labor Council Holds Annual Meeting," Houston Post, January 17, 1917, p5.

[233] "Can't Cook Food Because Of Gas," The Houston Post, January 21, 1917, p1.

[234] "Goose Creek Gassers Are Still Cutting Up," The Houston Post, January 21, 1917, p39.

[235] "Expert Trying to Cut Off Goose Creek Well," The Houston Post, January 22, 1917, p1.

[236] "Oil & Gas Lease," Contract Records, Vol 66, p354, March 6, 1917.

[237] "Humble Oil Co Buys Pipe Line," Houston Chronicle, January 25, 1917, p1.

[238] "More Land is Sued For; Want $100,000 Damage," Houston Chronicle, January 28, 1917, p2.

[239] Goose Creek Needs a New Postoffice," The Houston Post, March 11, 1917, p15.

[240] "Goose Creek may be Without Water," Houston Post, September 7, 1917, p13.

[241] "Goose Creek Is Given 30 Days to Move Town," Houston Chronicle, October 27, 1916, p6.

[242] "Goose Creek Field Hit by Gas Quake," The Houston Post, January 26, 1917, p1.

[243] "Gulf Coast Operations – Gas Hinders Drilling," Oil & Gas Journal, February 1, 1917, p14.

[244] "Big Gasser Gave Kiddies Vacation," The Houston Post, February 11, 1917, p10.

[245] "Goose Creek Well is Still Gassing," The Houston Post, January 19, 1917 Page 1.

[246] See Appendix Image 14.

[247] "6 Ready-Made Houses to go to Creek in a Day," Houston Chronicle, February 9, 1917, p11.

"Pails, Spigots and Dippers to Goose Creek," Houston Chronicle, February 13, 1917, p1.

"Portable Houses in Use at Goose Creek," The Houston Post, February 13, 1917 Page 7.

[248] "McNair Resident Got Here in 1917, Saw the Gushers," The Baytown Sun, July 4, 1976, p27.

[249] "Coastal Production Steadily Climbing," The Houston Post, June 24, 1917, p 9.

[250] "Goose Creek Has Largest Gusher in United States," Houston Chronicle, August 5, 1917, p1.

Also see Appendix Image 8.

[251] Goose Creek Boiler Works, HCDB 396, p23.

[252] Early Texas Oilfield Photographers, by Jeff Spencer, American Association of Petroleum Geologists.

[253] See Appendix Image 8.

[254] "Goose Creek's 'Rough Neck' Photographer Comes to Town To Give His Roll to Red Cross," Houston Chronicle, December 16, 1917, p34.

[255] "Early Texas Oil Field Photographers" by Jeff Spencer.

[256] "Death takes Frank Allen, Camera Man," Houston Chronicle, December 16, 1921, p1.

[257] See Appendix Image 3.

[258] Other almost identical attributed photographs were published in the *Engineering and Mining Journal*, Nov 20, 1920, p1003; *The Columbian Crew*, June 1922; and *Compressed Air Magazine*, June 1926, p1643.

[259] "Water Troubles at Goose Creek Can't be Soothed by Pouring Oil," Houston Chronicle, September 7, 1917, p13.

[260] "Goose Creek may be Without Water," Houston Post, September 7, 1917, p13.

[261] "Water is Cause of Goose Creek Fever," The Houston Post, October 4, 1917, p9,

[262] "Goose Creek Visited by Health Officers," Houston Post, October 18, 1917, p7.

[263] "What to Do With Goose Creek is Problem of Day," Houston Chronicle, October 17, 1917, p10.

[264] Fuel Oil Journal, October, 1916, page 72.

[265] "15 Men Held on Lynching Charge Exonerated," Houston Chronicle, October 14, 1917, p44.

"Lynching of Bert Smith," Lynching In Texas, accessed January 31, 2020, http://www.lynchingintexas.org/items/show/481

[266] See Appendix Image 11.

[267] "Vote on strike Indicative of Early Walkout," Houston Chronicle, October 25, 1917, p1.

[268] "Conference of Oil Interests Called," Houston Post, October 27, 1917, p12.

[269] "Oil Operators Take an Appeal on Strike Issue," Houston Chronicle, January 3, 1918, p8.

[270] "Strike Ties up Operations in all But 3 Fields," Houston Chronicle, November 1, 1917, p1.

[271] "Strike is Quiet in the Oil Fields on Second Day," Houston Chronicle, November 2, 1917, p1.

[272] The Oil Trade Journal, January, 1918, p87.

[273] "Troops Quietly Sent to Patrol Strike District," Houston Chronicle, November 3, 1917, p1.

[274] "Reed's Findings all the Strikers Could Ask For," Houston Chronicle, December 29, 1917, p2.

[275] "Oil Operators to Confer on Reed Strike Findings," Houston Chronicle, December 23, 1917, p10.

[276] "History of Humble Oil & Refining Company : a study in industrial growth," by Henrietta M Larson; Kenneth Wiggins Porter, New York, Harper [©1959].

[277] East Baytown and North Baytown were both established as Humble Oil & Refining Company projects, with lots sold only to Humble employees. Houses on Humble and Gulf Streets in Goose Creek were built as company housing for those companies. And houses on American, Republic, and Pearce Streets were probably first built for company housing.

[278] "Goose Creek Paving and Sprinkling Streets," Houston Chronicle, May 11, 1918, p9.

[279] See Appendix Image 16.

[280] Exxon Company, U.S.A., TSHA Online.

[281] "Rail Line is Under Way to Goose Creek," The Houston Post, March 17, 1917 , p1.

[282] Dayton-Goose Creek Railway, TSHA Online.

[283] "Train Makes First Dayton-Goose Creek Trip," Houston Post, July 17, 1920, p14.

[284] *The Houston Post*. (Houston, Tex.), Vol. 34, No. 171, Ed. 1 Sunday, September 22, 1918 Page: 38 of 55. "Heavy Enrolment at Goose Creek School". https://texashistory.unt.edu/ark:/67531/metapth608144/m1/38/?q=goose%20creek

[285] "Gaillard Sells Hog Island to J.R. Cheek for $303,000," Houston Chronicle, July 10, 1918, p11.

[286] "No. 16 Sweet is Week's Big Event in Coast Fields," Houston Chronicle, September 8, 1918, p23.

The Oil Trade Journal, October, 1918, p92.

[287] HCDB 431, pp419-439, Miscellaneous Grantors to F.F. Arnim.

[288] "Five Hundred Million Dollars in Oil Taken from Domes near Houston," Houston Chronicle, January 12, 1919, p29.

Humble Oil & Refining Co, Texas Historical Marker. (Download to read). http://www.baytownlibrarylocal.org/piwigo/picture.php?/1176/category/18

[289] "Ten Million Barrels of Oil," Houston Chronicle, April 6 1919, p35.

[290] Oildom Magazine, July 1919, p

[291] See Appendix Image 19.

[292] "City of Pelly," Texas Historical Marker, Chuck Chandler.

[293] "Goose Creek: An Established, Clean, Orderly and Prosperous Oil Field," Houston Chronicle, December 12, 1920, p12.

[294] "Humble Oil Company has Huge Development Plans," Houston Chronicle, February 4, 1919, p3.

[295] "Big Oil Refinery To Be Built by Houston Comp'y," Houston Chronicle, April 20, 1919, p31.

[296] Oil & Gas Journal, May 4, 1920, p34.

[297] "Goose Creek History Dates Back to 1907," Houston Post, December 20, 1920, p14.

[298] Oil Trade Journal, May 1920, p121.

[299] The Oil Weekly, January 29, 1921.

[300] Oil Trade Journal, August 1921, p15.

[301] See Appendix Image 20.

[302] See Appendix Image 1.

[303] "Tide New Feature at Goose Creek," Houston Post, September 29, 1916, p7.

"State may Claim Peninsula at Goose Creek," Houston Chronicle, September 29, 1916, p1.

[304] "Texas Claims Peninsula at Goose Creek," Houston Chronicle, September 23, 1925, p19,

[305] HCDB 401, p634, John Gaillard to J.R. Cheek, Jul 9, 1918.

[306] "To Determine if Peninsula is Submerged Land," Houston Chronicle, October 15, 1925, p26.

[307] "Sunken Peninsula Case is Concluded," The Galveston Daily News, Oct 17, 1925, p3.

[308] Pratt, Wallace E., and Douglas W. Johnson. "Local Subsidence of the Goose Creek Oil Field." *The Journal of Geology* 34, no. 7 (1926): 577–90. http://www.jstor.org/stable/30056838.

[309] Goose Creek Oil Field, TSHA Online.

[310] "Goose Creek Needs More Room in Jail," Houston Chronicle, June 10, 1917, p4.

[311] "Evolution of a Drilling Rig," https://energyhq.com/2017/02/evolution-of-a-drilling-rig/

[312] See Appendix Image 22.

[313] "Backyard Oil Decision Set at Baytown," Houston Chronicle, April 18, 1954, p20.

[314] "Baytown Booming with New Oil Strike," Houston Chronicle, July 16, 1954, p7.

[315] "Veteran Goose Creek Field Belies Early Predictions." Houston Chronicle April 24, 1960, p90.

[316] "Meet 'Hellfighters' Devil," The Baytown Sun, March 15, 1968, p11.

[317] "'Hellfighters' Set for Premiere on Dec. 20," The Baytown Sun, December 13, 1968, p15.

[318] "Oil Derricks Coming Down," Baytown Sun, October 23, 1983, p1.

[319] See Appendix Image 23.

[320] Foothills Texas Inc. Presentation to City of Baytown Planning and Zoning Commission, November 19, 2013. (Downloads as a pdf).

[321] Southern Well Works Catalog, 1913.

The Goose Creek Oil Field - Appendix

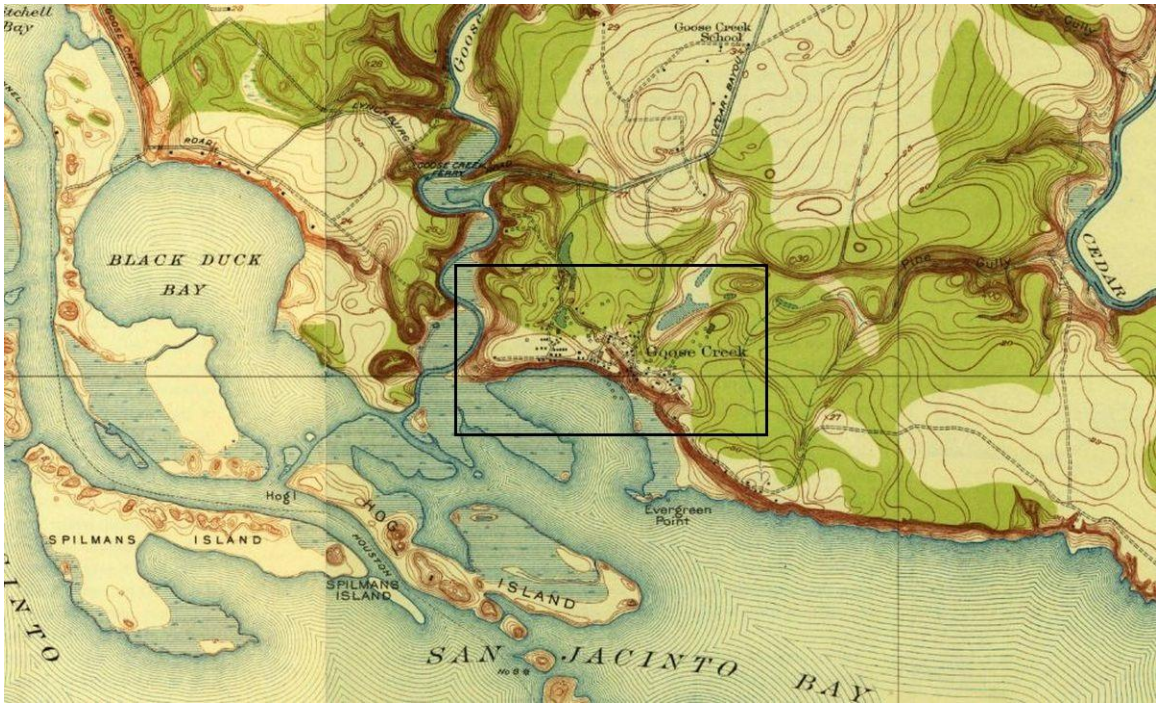


Image 1. The Goose Creek neighborhood from the 1916 United States Geographic Survey. Gaillard's peninsula at the mouth of Goose Creek was a marshy piece of land which separated Tabb's Bay from the San Jacinto River and Hog Island is just to the south. Both of those wetlands features sank beneath the waters between 1916 and 1925. As a point of reference, the road labeled Cedar Bayou is today's South and West Main Streets and the Goose Creek School is near today's G.W. Carver Elementary School. The rectangle outlines the extent of Image 2.

Image 2. The same 1916 map enlarged to show features in the oil field. There are fifty round circles which represent oil wells and the black squares represent structures. The shaded rectangles are earthen oil pits. Judging from the number of oil wells, the survey was probably done in September 1916.

Image 3. "Pondering Goose Creek." This photograph was taken in the winter of 1916 by New York based photographer Ewing Galloway. He was looking south down Goose Creek between Busch Landing and Durain Ferry. There are wells on both sides of Goose Creek stream so it would have been taken after the 1916 USGS survey was completed. Busch Landing is on the left bank at the point where the creek turns back to the left.

Image 4. The Standard Rig, also known as a cable tool rig, was still being used years after rotary drilling started and even after the Hughes cone bit hit the market. Here, it is used to pump a finished well. This picture was probably taken in late 1916. Courtesy Jeff Spencer.

Image 5. This photograph, probably taken after the 1919 cyclone or 1921 hurricane, shows a walking beam and bull wheel in the background. The walking beam served as a pump jack to extract oil from wells which had stopped flowing. They did not have the characteristic "donkey head" shape of modern pump jacks. Texas Energy Museum.

Image 6. View of the well deck drilling in San Jacinto or Tabb's Bay. The rotary table is driven by an unguarded chain spinning on the right side. Houston Public Library.

Image 7. These were the common drilling bits used in the Goose Creek field. The Hughes rock bit was developed and tested at Goose Creek. From the *1913 Parker Tool Catalog*.

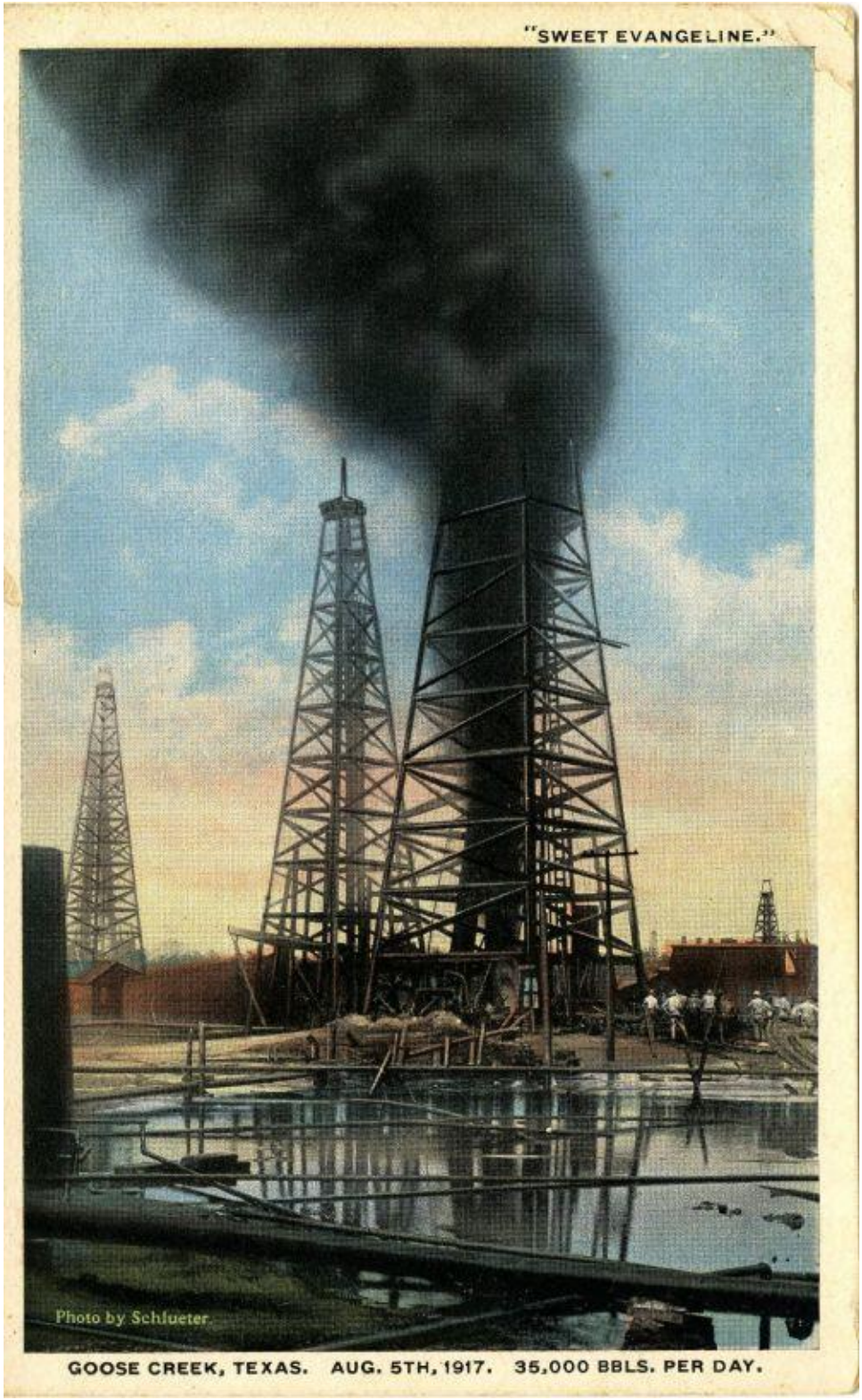
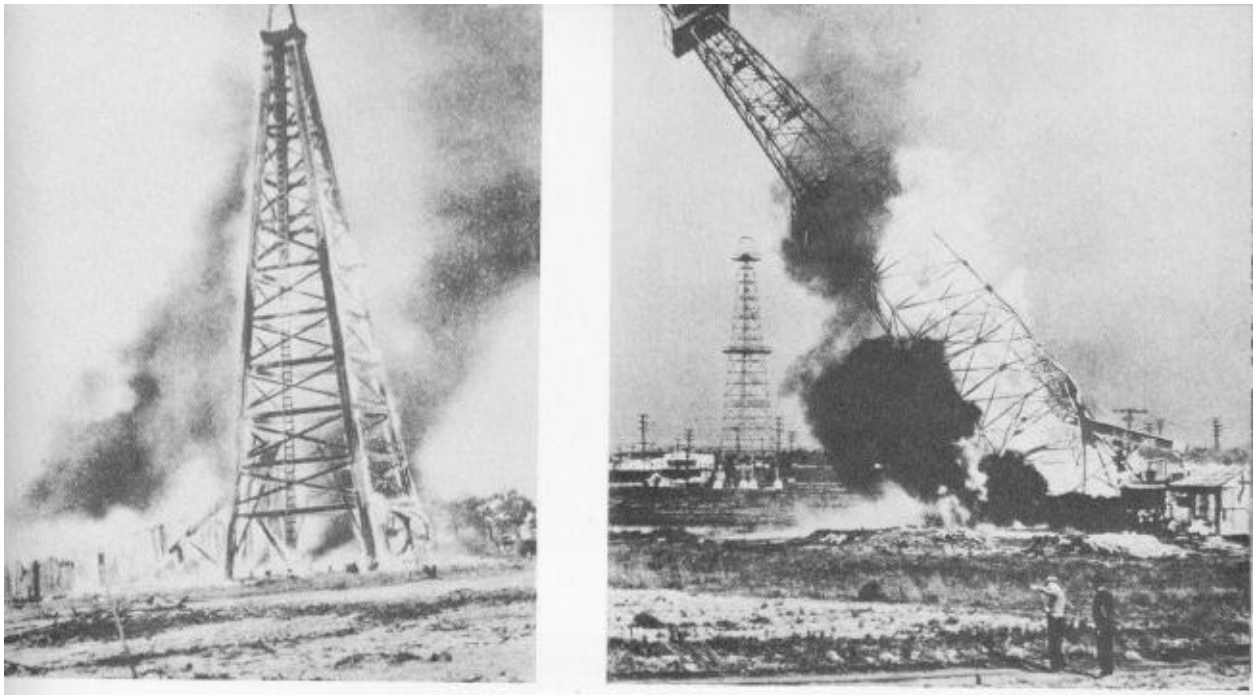


Image 8. On August 3, 1917 drillers Harper & Mitchell bought in the biggest and deepest well in the Goose Creek field from a depth of 3,050 feet. The well sanded in after two weeks and was abandoned. The postcard was made from a photograph by oilfield photographer Frank Schlueter. Courtesy Jeff Spencer

Image 9. After Battling a Wild Gusher in the Goose Creek Oil Field.
These men have been right in the thick of it, trying to shut off the flow of oil from a well that had gotten beyond control. They are as accustomed to oil baths as jack tars are to the waters of the sea. Workers in the oil fields are said to be the healthiest class of men in the world. Crude oil kills germs, keeps the skin in good condition, and is a disinfectant. In the picture, from left to right: J.W. Mitchell, F. Peck and I. Miles.
Quoted directly from the Oil Trade Journal, March 1918, p117.



Left: A wooden derrick burns at Goose Creek, June 17, 1924. *Southwest Collection. Right:* Flames toppling a steel derrick. *American Petroleum Institute.*

Image 10. When the sole purpose of your entire product line is to burn and explode, fire is always a danger. Fires were so commonplace in the early oilfield that many, like these, went unreported in the newspapers. *Early Texas Oil*, by Water Rundell, Jr.

SOLDIERS OF THE REGULAR ARMY ON GUARD AT GOOSE CREEK, TEXAS

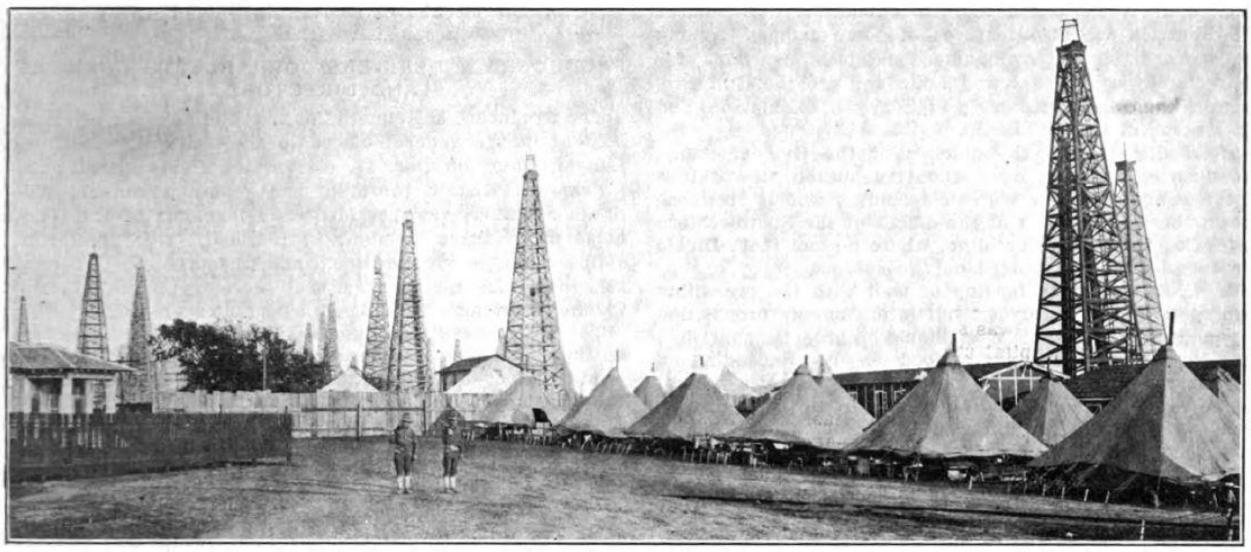
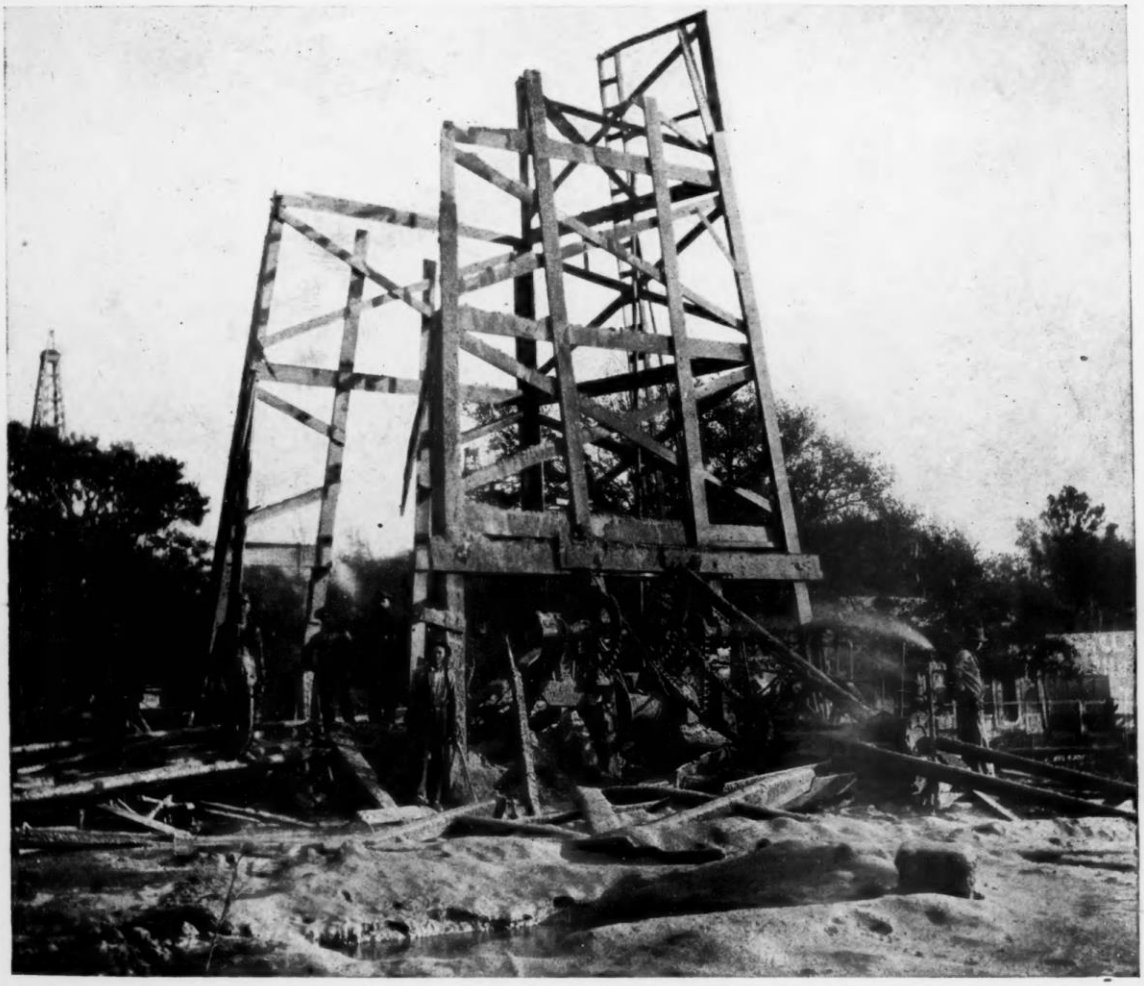


Image 11. During the oilfield strike of 1917, units from Camp Logan were deployed to Goose Creek to maintain martial law. *The Oil Trade Journal*, January, 1918, p87.

Wreck of Gasser, Townsite No. 1, Goose Creek Field



With almost volcanic fury, the earth belched a volume of gas that hurled piping skyward like straws before the wind, while the air was filled with slivered derrick timbers, rocks, mud and water, which fell in showers about the stampeded villagers, who vacated without legal process to enforce the 24-hour notice.

Image 12. In October, 1916, C.T. Rucker signed a lease for two and a half acres from Annie Schilling in the old Goose Creek town site. A clause in the lease required the residents, who were all renting their property from her, to move within thirty days if the land was wanted for drilling purposes. The clause in the lease was viewed as a formality by all parties so they would not have grounds for damage lawsuits should a blowout occur or a big gusher be brought in and people continued to live among the derricks. They didn't have to be told to move when this well blew up in December, spewing rocks, sand, mud, and millions of cubic feet of natural gas per day. Fires for cooking and heating were outlawed in town, smoking was outlawed, and steam boilers had to be extinguished around the well. They could smell the gas fumes as far away as Houston. A similar gasser a month later closed down the Goose Creek school.
The Oil Weekly, December 30, 1916, p1.

Image 13. Cora Lazenby (Mrs. Perkins Wright) was teaching sixty students in this building when a nearby oil well blew out in January, 1917. It spewed oil, sand, rocks and gas at the rate of several million cubic feet per day and the deafening roar and the danger of explosion forced the school to permanently close. Baytown History Museum.

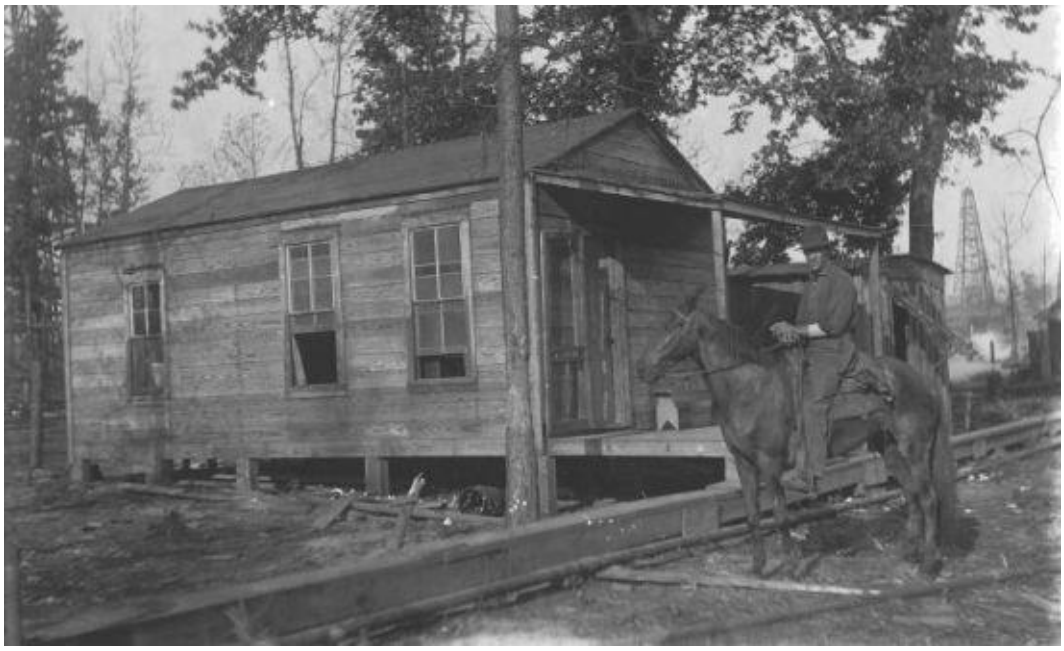


Image 14. So-called "shotgun houses" were popular in the oil field because they were more comfortable than tents. They were delivered by barge and could be easily assembled and moved from place to place as needed. Baytown History Museum.

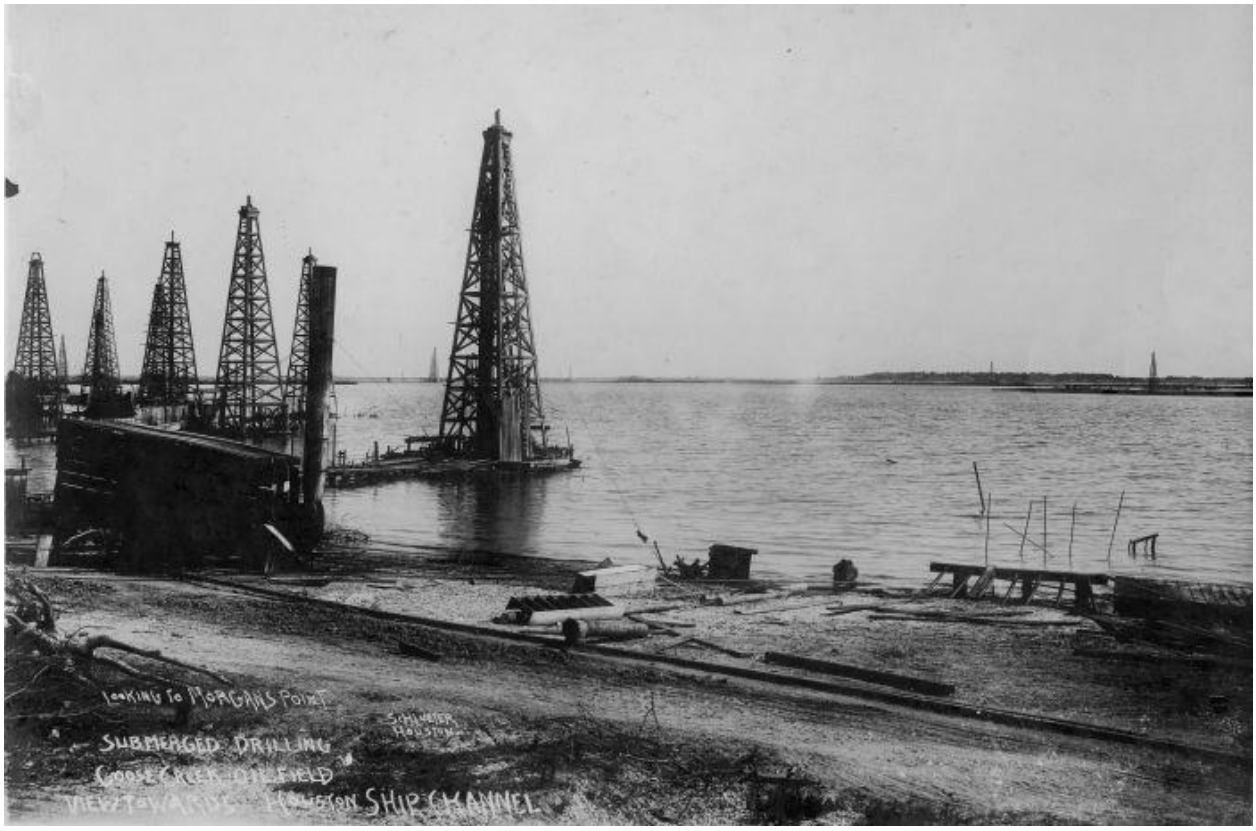


Image 15. Offshore drilling in Texas began at Goose Creek in 1913. Houston Public Library

Image 16. When the shallow water wells were contaminated, contributing to a typhoid epidemic in 1917, Ed Eisemann began delivering water from an artesian well located north of the oil field. The lettering on the tank says "Ed Eisemann; I Want Your Business." Baytown History Museum

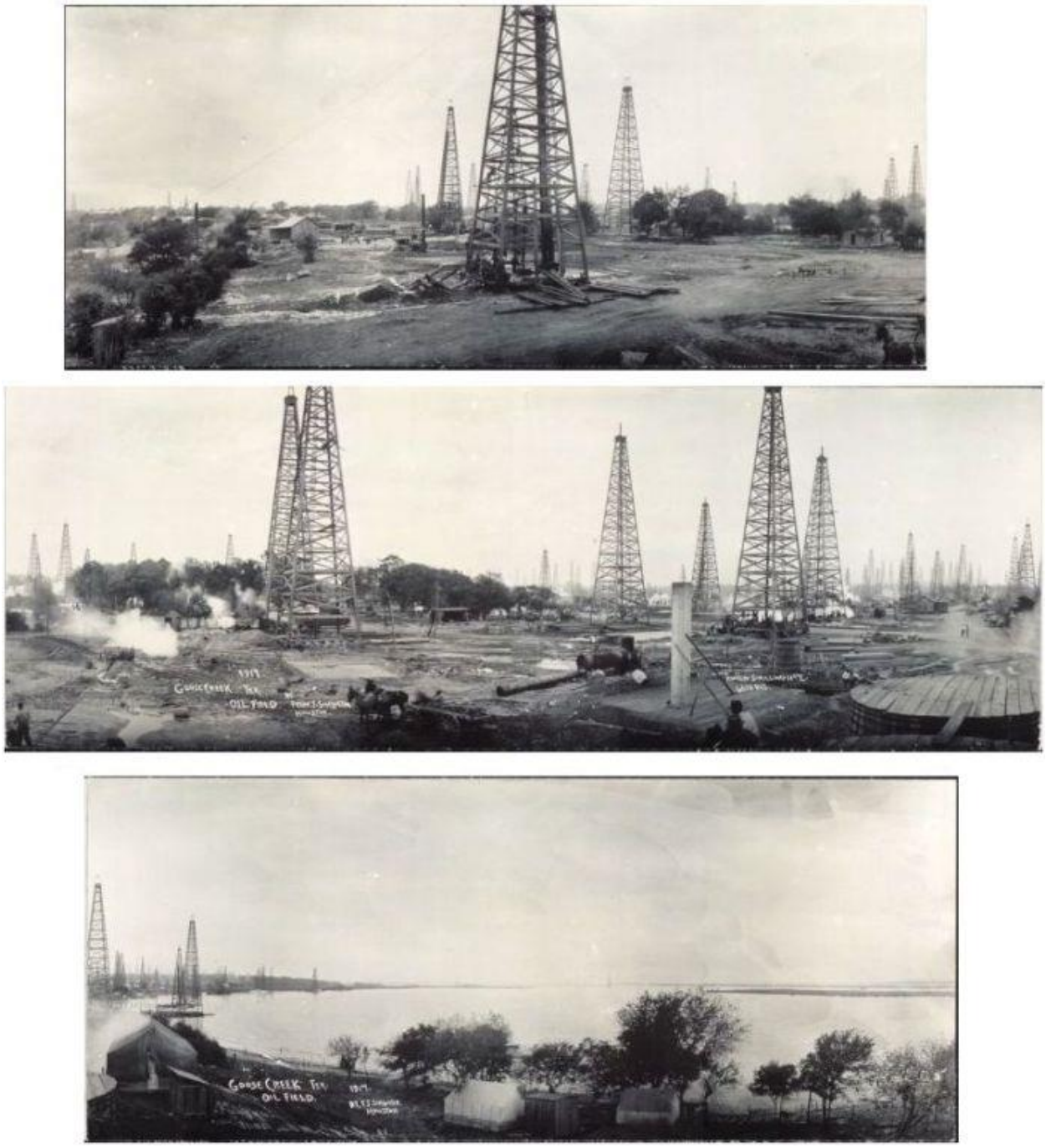


Image 17. This panoramic photograph (split into three images) shows the Goose Creek field in 1917 shortly after the beginning of the oil boom. Library of Congress

Image 18. Offshore drilling began in Texas in 1913 when Lee Hager drew the first lease in Tabb's Bay. He also drilled the first successful well and sent the first royalty check to the state. This panoramic photograph divided into three parts was taken in early 1919 before the cyclone hit. Library of Congress

Image 19. The cyclone on May 24th, 1919 destroyed more than forty-five derricks and almost all the buildings in the Goose Creek Oil Field. This panoramic image is split into three parts. Library of Congress

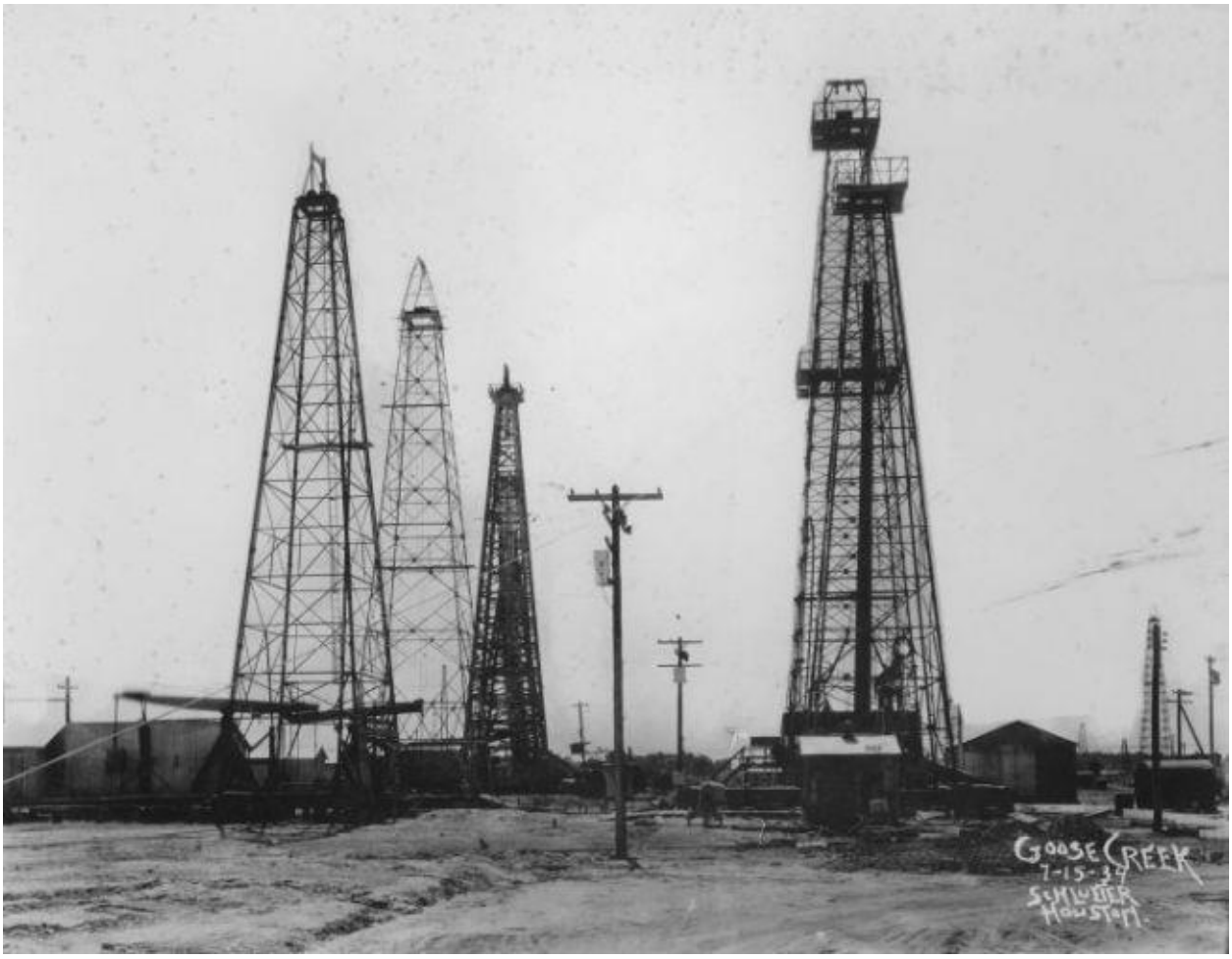


Image 20. This 1934 photograph shows five types of derricks. From left is an early structural steel derrick, a derrick made from tubular steel, a wood derrick and a modern structural steel derrick with a "crow's nest" on top and another derrick with a crow's nest and a "fourble board" midway up the derrick. Houston Public Library

Image 21. If the pressure at depth is not sufficient to push oil to the surface, a pump jack is used to draw it out. Initially, they were driven by steam engines, but by 1921, the switch was made to electric motors, with a motor installed at each pump jack. At the head of the well casing, shown in this picture where the "sucker rod" enters the well, there is a series of valves and piping, called a "Christmas tree," which allows the oil to be routed to different destinations. This well in the Goose Creek field is located near the Sweet Sixteen well from 1918. Compare it with earlier pump jacks in Images 4 & 5. This familiar design commonly referred to as nodding donkey, grasshopper, horse-head, or thirsty bird was designed in Lufkin, Texas in 1925.

Image 22. During the early 1950s, there were about 150 backyard wells drilled in Baytown. This one at 1104 S. Seventh Street, on property owned by Woody Walker, was just around the corner from my house. Image courtesy of John Walker.

Image 23 (below). The Goose Creek oil field, shown on the 2021 Railroad Commission historical image of all the more than 1,500 wells that have ever been drilled at Goose Creek. Each dot represents a well regardless of whether it was producing or dry. The black rectangle marks the extent of the field shown in Image 2.
https://gis.rrc.texas.gov/GISViewer/