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Searching For The True 100th Meridian

By Maxine Wilhelm

The 100th Meridian was surveyed or located at least eight times. But it finally took a decree of the U.S. Supreme Court March 17, 1930 to settle the boundary dispute, by declaring the last survey by Gannett the true 100th Meridian. It is said the Texas-Oklahoma line on the west is the most scientifically accurate boundary line in the United States.

Few of us realized the history and stories we would uncover when a group of interested people started a small museum in 1977 called the 100th Meridian in Erick, Oklahoma. The museum has grown with the research that has been done.

The history of the 100th Meridian began in 1803 with the purchase from France of the Louisiana Territory and the 1819 Treaty with Spain. These were the most important steps in the development of the United States as a nation, both involved the 100th Meridian. The 1803 lines were indefinite, but apparently went as far west as the Rocky Mountains. But the 1819 treaty with Spain named the 100th Meridian as boundary from the Red River to the Arkansas River.

The Mississippi River and its tributaries constituted

the means of transportation in that day, and prior to these treaties both France and Spain had refused the United States access to the Mississippi through the New Orleans entrance except by special permit.

These treaties with France and Spain specified boundaries of the Louisiana Purchase, beginning at the Gulf of Mexico, running up the Sabine River to the 32nd Parallel, then north to the south bank of Red River, west along the River to the 100th Meridian, and finally north to the Arkansas River. The boundary followed the Arkansas to its source, and then became a wavering line north across what is now Wyoming and western Montana to the 49th parallel present boundaries between Canada and U.S.A. west to the Pacific Ocean. Texas at this time belonged to Spain.

Lieutenant Zebulon Pike was sent in 1806 to explore the headwaters of the Arkansas and Red Rivers with particular attention to the latter. He penetrated the Rocky Mountains where the Arkansas issues, but was prevented from exploring the Red because of the hostility of the Spaniards. A party headed by Captain Sparks proceeded by boat 635

miles up the Red River. They were stopped by a force of Spaniards who gave them the alternative of turning back or being fired upon. Consequently, we were ignorant concerning the Red River when conducting the negotiations that resulted in the treaty of February 22, 1891, establishing the boundaries between the Louisiana Purchase and New Spain. The map made by John Melish in 1818 — placing the 100th Meridian a few miles east of the present location of Ft. Sill — was used in part to identify the boundaries. While ratification was pending (Ratified Feb. 19, 1821), Major Stephen H. Long ascended the Arkansas, and descended a river which he thought to be the Red River. But at its mouth, emerging upon the Arkansas River, he realized that he had descended the Canadian instead.

In 1824, Mexico achieved Independence from Spain, and in 1828 reaffirmed the 1819 boundaries. Still, the United States did not know where the upper Red River was or what it was like.

In 1852, Captain R. B. Marcy and Captain George B. McClellan explored the upper Red River. It developed that there were two principle branches, each nearly two hundred miles in length. The northern one rising near Santa Fe and the other in the Llano Estacado mountains of New Mexico, about 75 miles south. The 100th Meridian, as located by Captain McClellan in 1852, was about six miles east of the forks of the Red Rivers, and was ascertained by the use of a pocket chronometer. This survey was one degree off, about 56 miles off the true 100th Meridian. Later, it was found McClellan's chronometer was not running correctly.

The question arose: Did the treaties intend the South or the North Fork as the boundary extending to the 100th Meridian? When Texas was admitted to the Union in 1845, she claimed the land between the forks east of the Meridian. the United States contended that the South Fork was the main stream, and the area a part of United States territory.

In 1857, Government surveyors headed by John H. Clark located the 100th Meridian about 80 miles west of the forks. This was to be the line between the Texas Panhandle and the Choctaw-Chickasaw country. Texas again claimed the Meridian was much farther east! A contract was made with A. H. Jones and H. M. C. Brown to follow through with this survey of the boundary lines the same year. These surveyors were better equipped than Captain McClellan. Their initial marking of the 100th Meridian was set on the North bank of the South Fork of Red River, then north, placing a marking every mile ending 19 miles north of the Canadian River.

In 1860, Texas named the area of 1,571,575 acres (the size of the State of Delaware) between the forks, bounded on the west by the 100th Meridian, Greer County.

Other surveys or locations of the 100th Meridian were done by O. T. Morrell in 1873, H. C. F. Macbush, C. L. DuBois, and Ehud H. Darlin, 1875.

In February, 1886, a joint Texas Commission and the United States assembled but could not agree. Texans and Greer County settlers assembled at Mobeetie, Wheeler County, Texas later the same year and organized Greer County with Mangum the county seat. County Commissioners immediately started building a county jail at a cost of \$11,000.

President Cleveland issued a proclamation December, 1887, declaring the disputed lands to be Indian Territory and warning against buying, selling or homesteading. That was the situation when Congress in May, 1890, created the territory of Oklahoma. Suit was brought in the United States Supreme Court for a determination of title to Greer County, which again turned on the question of whether the North or the South Fork was contemplated in the 1819 Spanish Treaty.

In 1892, Professor Pritchett left his survey marker on the 100th Meridian. The same year the Cheyenne-Arapaho area was open for white settlement, which added six counties to Oklahoma Territory, including Roger Mills and Day (now Ellis), both bordering the 100th Meridian. At that time, Roger Mills extended South to the North Fork of Red River. The courts on March 16, 1896, held that the South Fork was the main stream, and therefore Greer County was a part of Oklahoma Territory. In 1902, Arthur Kidder surveyed another location on the 100th Meridian. The day Oklahoma became a state, November 16, 1907, Greer County was divided into smaller counties. They were Jackson, Greer, Harmon and Beckham from the North Fork of Red River south. The rest of Beckham was taken from Roger Mills County. The squabble over the oil wells being drilled in the Red River bed east of the forks helped to bring on the suit in the Supreme Court for a final determination of the true 100th Meridian. The court appointed Samuel S. Gannett, Geodetic and Astronomic Engineer, to run, locate, and mark the boundary between the two states. Mr. Gannett located the intersection of the 100th Meridian, with the South Fork of Red River, and placed his first monument on the South bank. He then ran the line north, and found it to pass 340.28 feet east of the Kidder marking, and 4040 feet east of the Jones-Brown monument. The line was then continued to its intersection with 36 degrees 30 minutes parallel, a distance of 133.6 miles from the south bank of Red River to the south line of the Oklahoma panhandle. Gannett worked from 1927 through 1929, mostly at night to avoid the aberration of heat waves. One hundred and sixty concrete markers with brass benchmarks on top were spaced along the new survey.

Two men from Erick helped with the survey; they were Milo and Clifford Simmonds. Mr. Gannett gave

them one of the extra benchmarks that was left from the survey. It is now in the museum along with letters of recommendation from Mr. Gannett.

From the treaty of 1819, the boundary was established, but it took the combined efforts of the U.S., the Republic of Texas, and later the states of Texas and Oklahoma over 100 years to actually locate and mark the 100th Meridian.

Some of the methods used to mark the 100th Meridian line during the different surveys were carving on trees, carving on rocks, mounds of earth with charred stakes in the center, piles of rocks, and concrete markers with the bronze (benchmark) engravings.

It is interesting to know a little about how the last survey by Mr. Gannett was done. He used a method known as "Geodetic Triangulation." He selected sites located on hilltops about five to ten miles apart. The sites were located on either side of the 100th Meridian along the entire length of the Oklahoma-Texas border. A tall wooden tower about ten to thirty feet tall was erected at each site. From each site, at least three towers were visible. The angles between each of the towers were measured using a theodolite. Measurements were taken at night to reduce optical aberrations of heat waves. Communication between towers was done with signal lights using Morse code. The distance between some of the sites had to be measured with special steel tapes, the measured distance between two sites was called a "base line."

Each triangle in the grid must contain a "base line." From this data the geodetic latitude and longitude of any site could be calculated.

A separate observation of several stars was made at some of the sites. The astronomic latitude and longitude was determined for the site. Although the difference between the geodetic position and the astronomic position is the deflection of the vertical, both sets of data are used to improve the accuracy of measured location of the sites.

Having established the position of each of the triangulation sites accurately, the 100th Meridian could be calculated and then measured from the triangulation sites. The Gannett survey located the 100th Meridian to approximately one foot of its true position.

The settlers along the southwestern Meridian sometimes lived in Texas, Indian Territory, Greer County Texas, Oklahoma Territory, and Oklahoma without ever moving. When Texas claimed the land, Oklahoma settlers sometimes had to clear their titles by buying back the strip of land for \$1.25 per acre. Texas kept 1/16 of the mineral rights. Since money was so scarce it was a real hardship for the settlers. Many could not pay the price, and the lapland (overlap into Texas) land that many homesteaded was sold to others. ■

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