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Southern boundary of Tennessee [to accompany bill H. R. no. 464].

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SOUTHERN BOUNDARY OF TENNESSEE.

[To accompany bill H. R. No. 464.]

MAY 6, 1834.

Mr. CAVE JOHNSON, from the select committee to which the subject had been referred, made the following

REPORT :

The select committee to which was referred the resolution of the 6th of February, by which they were instructed "to inquire whether any or what steps should be taken on the part of the United States for ascertaining the true northern boundary of the Chickasaw Indians, between the Tennessee and Mississippi rivers; and, also, the true line between the States of Tennessee and Mississippi; and, also, into the propriety of delaying the sales of the public lands in the northern part of the State of Mississippi, until the true boundary line between the said States be ascertained," have had the same under consideration, and report :

That, by a charter granted by the King of Britain to on the day of , the southern boundary line of the State of North Carolina is the thirty-fifth degree of north latitude; and that portion of North Carolina now constituting the State of Tennessee, transferred to the United States by the cession act of the second day of April, 1790, is bounded by the same parallel of latitude, and it is not believed by the committee to have been disputed; the necessity of the inquiry proposed in the resolution seems to have arisen from the difficulty of ascertaining the true latitude.

Prior to the year 1818, the Chickasaw Indians were the claimants to the soil north and south of the thirty-fifth degree of latitude between the Mississippi and Tennessee rivers. On the 19th of October of that year, a treaty was made and concluded with them, by Gen. Jackson and Governor Shelby, commissioners on the part of the United States, settling the boundaries of the territories claimed by them, and purchasing of them their claim to the lands in Tennessee and Kentucky, north of the thirty-fifth degree of latitude. The second article of the treaty describes the lands purchased of them in the following words:

"ART. 2. To obtain the object of the foregoing article, (securing peace and friendship,) the Chickasaw nation of Indians cede to the United States of America (with the exceptions of such reservations as shall be hereafter named) all claim or title which the said nation has to the land lying north of the south boundary of the State of Tennessee, which is bounded south by the thirty-fifth degree of north latitude, and which lands hereby ceded, lie within the following boundaries, to wit: Beginning on the Tennessee river, about thirty-five miles by water below Col. George Colbert's

ferry, where the thirty-fifth degree of north latitude strikes the same; thence, due west with said degree of north latitude, to where it cuts the Mississippi at or near the Chickasaw bluffs; thence, up the said Mississippi river, to the mouth of the Ohio; thence, up the Ohio, to the mouth of the Tennessee river; thence, up the Tennessee river, to the place of beginning."

For the purpose of ascertaining the thirty-fifth degree of latitude between the rivers Mississippi and Tennessee, the sixth article of the treaty made the following provision: "The two contracting parties agree that the line of the south boundary of the State of Tennessee, as described in the second article of this treaty, shall be ascertained and marked by commissioners appointed by the President of the United States; that the marks shall be bold, the trees to be blazed on both sides of the line, and the fore and aft trees marked U. S.; and that the commissioners shall be attended by two persons, to be designated by the Chickasaw nation of Indians, and the said nation shall have due and seasonable notice when said operation shall commence."

Gen. James Winchester was appointed a commissioner on the part of the United States, and run and marked a line from the Tennessee to the Mississippi rivers, which has been, until lately, regarded and acted upon by the State of Tennessee as the true southern boundary of said State. There seems to have been no formal report made by Gen. Winchester to the Government, of his proceedings under the sixth article of said treaty. A plat and field notes of the line run by him have been furnished to the Commissioner of the General Land Office.

Another treaty was made with the Chickasaw nation of Indians on the 22d of October, 1832, by Gen. Coffee, acting as commissioner on the part of the United States, by which they sell to the United States "all the land which they own on the east side of the Mississippi river, including all the country where they at present live and occupy;" and the United States agree on their part, in consideration thereof, "to have the whole country ceded surveyed as soon as it can be conveniently done," in the same manner that other public lands are surveyed in the States of Alabama and Mississippi, and to have said lands prepared for sale, and sold in the manner prescribed in said treaty, and to pay over the whole proceeds of said sale, after deducting expenses, to the Chickasaw nation of Indians.

Some doubt has arisen, within a few years past, as to the correctness of the line run by Gen. Winchester, under the sixth article of the treaty of 1818; and the States of Mississippi and Tennessee appointed commissioners on their respective parts, for ascertaining and fixing the true southern boundary line of the State of Tennessee, and the committee accompany this report by a report made to the Governor of the State of Tennessee, by John Thomson, dated the 28th of November, 1831, and which is marked A, and a second report made by the same individual to the Governor of Tennessee, dated the 17th of August, 1833, marked B; and also the report of J. Holbrook to the Governor of Mississippi, marked C.

From these reports, it seems probable that the line run by Gen. Winchester, where it strikes the river Mississippi, is near four miles and one-half further north than the thirty-fifth degree of north latitude, and where it strikes the Tennessee river near one-mile and one-half further north than said thirty-fifth degree of latitude, embracing between the two lines two hundred and fifteen thousand nine hundred and twenty-seven acres of land. The State of Tennessee has caused to be run and marked lately the

southern line of the State of Tennessee, according to the report of John Thomson, made in 1833, and has caused to be transmitted to the Commissioner of the General Land Office, accompanying the reports of Mr. Thomson, a plat made out by him of the line run agreeably to his last report. Whether the said line, as run by Thomson, has been recognised by the two States as the true boundary between them, is unknown to the committee. Enough appears from these documents to render it more than probable that the line run by Gen. Winchester is not the true line as designated in the treaty of 1818; and if the surveys and sales of the Chickasaw country, under the treaty of 1832, are made to the line run by Winchester, that the United States will probably lose over two hundred thousand acres of land. The language of the second article of the treaty of 1818 is too explicit to admit a doubt that the thirty-fifth degree of north latitude was the line intended by the parties to the treaty; and if, in the execution of the treaty, the line has been improperly run, whether for or against the interest of the United States, no reason is perceived by the committee why it should not be corrected. In addition to the justice and propriety of correcting the error, if any exists, in the running of the south boundary line of the State of Tennessee, as between the United States and the Chickasaw Indians, an equal, if not a superior obligation exists on the part of the United States to have the line corrected, to enable the United States to comply with their contract with the State of North Carolina.

The State of Tennessee formerly constituted a part of the State of North Carolina, and was ceded to the United States by the act of North Carolina, of the 2d of April, 1790, upon certain conditions specified in said act, and which were accepted by the United States upon the terms specified therein.

The second condition specified in the act of cession recites that the General Assembly of North Carolina had laid off certain tracts of land in the State of Tennessee, to satisfy the claims of the officers and soldiers of the revolutionary war, and provides as follows: "And if the bounds of the land already prescribed for the officers and soldiers of the continental line of this State shall not contain a sufficient quantity of land fit for cultivation, to make good the several provisions intended by law, that such officer or soldier, or his assignee, who shall fall short of his allotment or portion, after all the lands within the said bounds, fit for cultivation, are appropriated, be permitted to take his quota, or such part thereof as may be deficient, in any other part of said territory intended to be ceded by virtue of this act, not already appropriated."

Prior to the year 1806, some difficulty existed between the United States and the State of Tennessee, which need not now be particularly examined, as to the disposition to be made of the unappropriated lands in the State of Tennessee, which were made liable, under the legislation of North Carolina, to the satisfaction of the claims of the officers and soldiers of North Carolina for services rendered during the revolutionary war; and shortly after the treaty with the Chickasaw Indians, of the 5th of July, 1805, by which the boundary line was fixed between the Chickasaw nation of Indians and the United States. A compact was entered into between the United States and the State of Tennessee, adjusting the difficulty that had existed for some years; the conditions upon which this was done are specified in the act of Congress of 29th of April, 1806. The lands lying south and west of the line established by the treaty of the 5th of July, 1805, and since

known as the congressional reservation line, are reserved to the United States, including that portion of Tennessee between the Mississippi and Tennessee rivers; and the lands lying north and east of that line were given up to the State of Tennessee for the satisfaction of the claims aforesaid, and a portion of them to be applied to the uses of colleges and academies in said State.

The third section of the act of 1806 expressly stipulates, "that if the territory hereinbefore ceded to the State of Tennessee shall not contain a sufficient quantity of land fit for cultivation, according to the true intent and meaning of the original act of cession, including the lands within the limits reserved by the State of North Carolina to the Cherokee Indians, to perfect all existing legal claims charged thereon, by the conditions contained in the act of cession, Congress will hereafter provide by law for perfecting such as cannot be located in the territory aforesaid, out of the lands lying west and south of the before described line."

On the 4th of April, 1818, Congress passed an act supplementary to the preceding one, which authorized the holders of the claims for land, issued to the officers and soldiers of the North Carolina line, to locate their claims south and west of the congressional reservation line in the State of Tennessee, in compliance with the conditions of the act of cession of 1790, and the agreement with Tennessee in 1806, as above recited.

And in the opinion of the committee, individuals holding claims for land for revolutionary services, under the several laws of North Carolina, are justly entitled, under the preceding acts of Congress, to have them satisfied out of any lands lying between the Tennessee and Mississippi rivers, and within the chartered limits of the State of Tennessee. It seems, however, that the State of Tennessee has until lately acted upon the idea that Winchester's line was the true southern boundary of the State, and the counties and surveyors' districts laid off by the Legislature of Tennessee were run to that line, so that the holders of the North Carolina land claims have not been able to apply any of the lands between the thirty-fifth degree of north latitude and Winchester's line, to the satisfaction of their respective claims; and in consequence of it petitions have been presented to the present Congress, asking permission to locate them upon the lands lying between the said lines. These applications, however just, have been rejected by a committee of the House, upon the ground that the true line should be ascertained by order of Congress, and that those claimants, together with all others similarly situated, would be provided for without the legislation of Congress for each particular case.

The preceding statement of facts shows the necessity and importance of ascertaining accurately the thirty-fifth degree of north latitude, in the first place, to enable the United States to comply with the stipulations of the treaty of 1832 with the Chickasaw Indians; in the second place, to discharge the obligations incumbent on the United States, under the cession act of 1790, to North Carolina, and to the State of Tennessee, under the compact of 1806; and by the ascertainment of that line the United States will be enabled to do justice to the Chickasaw Indians, and to the claimants under North Carolina.

The United States, in the opinion of the committee, might with propriety rely upon the late line as established by the commissioners of the States of Mississippi and Tennessee: the latitude having been taken and the line run by mathematicians of high character, representing their respective

States, with interests directly opposing, and sanctioned, as their statements are, by the present Surveyor General of the United States for the upper part of Mississippi, affords a reasonable certainty of the correctness of the line run by them, but the committee do not think it prudent to recommend any legislation predicated upon the idea of the correctness of the late line run by Mr. Thomson.

The treaties with the Chickasaws should be carried into effect in that good faith in which they were made, and with a scrupulous regard to their rights, and no steps should be taken by the United States, by which their interests and rights are to be affected, without every precaution being used to do them full and ample justice.

The committee therefore recommend the adoption of some measure for accurately ascertaining the thirty-fifth degree of north latitude, and running the true line between the rivers Mississippi and Tennessee, and giving notice thereof to the chiefs and headmen of the Chickasaw Indians.

So much of said resolution as relates to the jurisdictional limits of the States of Tennessee and Mississippi, Congress cannot perhaps with propriety do more than give them notice of the running of the line, and requesting commissioners to be sent, if thought desirable by them.

So much of said resolution as relates "to the propriety of delaying the sales of the public land in the northern part of Mississippi," has also been made the subject of consideration by the committee; and, upon application to the Commissioner of the General Land office, it is ascertained that steps have been already taken in that department, to avoid any difficulty which might hereafter arise from the uncertainty as to the true southern boundary of the State of Tennessee. The committee accompany the report with the following letters, which will be satisfactory to the House upon that subject:

Extract of a letter from the Commissioner of the General Land Office to John Bell, Surveyor General of the Chickasaw lands, dated the 1st August, 1833, marked D.

Extract of a letter from John Bell to the Commissioner of the General Land Office, dated 13th July, 1833, marked E.

From same to same, dated 9th August, 1833, marked F.

A.

To his Excellency William Carroll, Governor of the State of Tennessee :

SIR : In compliance with your instructions in regard to ascertaining the point on the Mississippi river, corresponding to the 35th degree of north latitude, I have the honor of submitting to your Excellency the following report :

In order to ascertain the position of the 35th degree of north latitude on the Mississippi river, it was thought advisable to take the latitude of a central point in Memphis, and to measure due south from the same point a distance corresponding to the excess of the latitude of Memphis over 35 degrees, then to run westward to the Mississippi river.

The instrument used for ascertaining the latitude was a reflecting sextant of the best kind, with an artificial horizon of mercury. The instrument is graduated to the eighth part of a minute, or $7\frac{1}{2}$ seconds, consequently the altitude of an object may be ascertained correct to within the sixteenth part

of a minute, or $3\frac{3}{4}$ seconds, on the supposition that the instrument be truly graduated, and correctly adjusted. There are, however, unavoidable errors, though small, in the best instruments, to obviate which it is necessary to make a number of observations, and adopt the mean result of the whole as correct. Great care was taken to ascertain those small errors of the instrument which may sometimes be found after the most careful adjustment. In applying the refraction, as given by the tables, to the apparent altitude, correction was made for the state of the thermometer at the time of the observation. The correction indicated by the barometer, not amounting perhaps to more than one-third of a second at Memphis, was omitted. The observations were made near the central part of Memphis, and the mean result of the collective observations gave for the latitude of that place $35^{\circ} 9' 37.7''$ N. The latitude, as ascertained by Major Holbrook, the agent from Mississippi, was $35^{\circ} 9' 48.8''$. Hence the 35th degree of north latitude is south of Memphis, by the former observation, 11 miles and 114 yards, and, by the observation of Major Holbrook, the distance is 11 miles and 488 yards, making a difference of 374 yards.

In order to find the position of the 35th degree of north latitude on the Mississippi river, as indicated by my own observation, I engaged the services of Mr. John D. Graham, an experienced surveyor, with two assistants. After ascertaining the variation of the needle, we proceeded in southern and western directions to the required point on the Mississippi river, which was found to be on the eastern bank of the eastern chute of island No. 47, commonly called Cow island, about half a mile above the lower point of the island. This point we marked by a stake on the bank, from which, bearing N. 86 E. and distant 66 links, stands a large cottonwood tree, marked on the eastern side S 5 N. L. A number of other trees were also marked as pointers.

The present Mississippi line was found distant from Memphis, in a direct southern course, 6 miles 51 chains 54 links, a little more than six miles and a half. This line we found to have been run with a magnetic variation of about six and a half degrees, too small by nearly a degree and a half. Hence the line does not run in a direction due east and west, but is constantly receding northward in approaching the Mississippi river. This may account, in part, for the northern position of this end of the line, as it was said to have been run westward from the Tennessee river, without changing the variation or the nonius of the compass. Should the line continue to run in the same direction eastward, it will meet the new line (if run) about 170 miles from the Mississippi river. It may be, however, that the variation of $6\frac{1}{2}$ degrees, with which the line was run, was correct for the middle part of the Alabama line, and that the same variation was continued by the surveyor in running westward to the Mississippi river. Should this be true, the lines may not meet, but they will still approach each other as we advance eastward to the Tennessee river.

Should it be found expedient to run the new line, special attention should be given to ascertain the variation of the needle, as the greatest error is to be feared from a mistake in regard to it. The variation should also be noted frequently along the line, as it is not constant for different places, nor indeed at the same place, for any great length of time. As the needle may also be affected by iron localities, back sights should frequently be taken, especially when very distant objects are taken to run by. Another source of error is, that the surveyor, in going east or west on a direct line

from one object to another, proceeds on a great circle, and consequently leaves the parallel of latitude on which he started. The error arising from this source is altogether imperceptible for the distance of a few miles, but when the distance is very great, the error may become considerable. As the new line, however, must be run chiefly through woodland, the successive distances from one object to another must be very short, and the error arising from this source may be presumed to be small for the distance of two or three hundred miles.

As Major Holbrook did not ascertain the point on the Mississippi river indicated by his observations at Memphis for the 35th degree of north latitude, it may be found by running 374 yards south from the mark described above.

The longitude of Memphis was found to be, by lunar observations, 5h. 59m. 17sec. in time, or $89^{\circ} 49' 22''$ west from Greenwich. In these observations, the lunar tables of the American almanac were used, as they are acknowledged to be much more accurate than those of the British nautical almanac.

The above is very respectfully submitted by

Your obedient servant,

JOHN THOMSON, *Commissioner.*

NASHVILLE, Nov. 28, 1831.

B.

To his Excellency William Carroll, Governor of the State of Tennessee *

SIR: In compliance with your instructions given to me as commissioner, to run and mark the southern boundary line of Tennessee, I have the honor of submitting to your Excellency the following report:

It will be recollected that in ascertaining the latitude of the central part of Memphis, in the fall of the year 1831, with the view of ascertaining the position of the 35th degree of north latitude on the Mississippi river, the commissioners appointed for that purpose by the States of Mississippi and Tennessee differed in the result of their observations by the small amount of $11\frac{1}{10}$ seconds, the agent from Mississippi making the latitude of Memphis $35^{\circ} 9' 48 8''$, and the agent from Tennessee making the latitude of the same place $35^{\circ} 9' 37.7''$.

The above difference being comparatively small, your instructions in reference to the location of the boundary line between the States, were that a mean between the above latitudes should be adopted, viz. $35^{\circ} 9' 43 25''$.

In order to ascertain precisely the latitude of 35° on the Mississippi river for the location of the line, it was necessary to run, directly south from the place of observation in Memphis, a distance corresponding to $9' 43.25$ seconds. In order to change this angular quantity into miles on the earth's surface, it was necessary to know the length of a degree of latitude in miles, at the 35th degree of north latitude. The common estimation of $69\frac{1}{2}$ miles to a degree on a great circle is erroneous. From a series of the best observations made in different parts of Europe, the length of a degree in latitude 35 is 68.9523 miles. These observations were instituted for scientific purposes. In France they were undertaken chiefly for the pur-

pose of establishing a national standard of weights and measures, derived from the length of a quadrant of the meridian. The distance, therefore, corresponding to $9' 43.25''$ is 11 miles and 301 yards, and at this distance south from the point of observation in Memphis runs the parallel of 35° north latitude, along which it was our object to run and mark the boundary line between Mississippi and Tennessee.

Before commencing the running of the line, it was necessary to ascertain with much precision the variation of the magnetic needle. Most of the errors found in running lines of great length, arise from a want of attention to this subject. The line which has hitherto been the boundary between Mississippi and Tennessee, was a degree and a half out of an east and west course. The whole line, from Georgia to the Mississippi river, was run with the constant variation of $6\frac{1}{2}$ degrees, whereas the variation increases at the latter places to $8^\circ 5'$. The consequence of this mistake was to throw the whole line too far to the north, the error increasing on approaching the Mississippi river. This circumstance would, of itself, have been sufficient to show that the line was run too far to the north, without the necessity of astronomical observation.

In ascertaining the magnetic variation, we used a telescope instrument of fine construction. The instrument is made much in the form of a theodolite, except that it wants the vertical arc of graduation. Before the observations were made with this instrument, great care was taken in its adjustment, in order to avoid all errors that might arise from any derangement of its parts, caused by carrying it from place to place. Six different observations were made on successive nights, two at Memphis, and four on the State line immediately south of the latter place. In these observations four different circum-polar stars were used, in order to corroborate the results obtained from each. The mean of these observations gave for the magnetic variation at Memphis $7^\circ 59\frac{1}{2}'$, wanting a half-minute of being 8 degrees east. The record of the several observations, together with others made along the line, and other field notes, are contained in a copy of the field book, which will accompany this report. A map of the country lying between the two lines, and extending from the Mississippi to the Tennessee river, will also be presented with the field book.

In the running of the line, I employed the services of Mr. J. D. Graham, as surveyor, together with the requisite number of steady and faithful assistants. The instrument used by the surveyor was adjusted to run a true east and west line, by comparing it with the instrument used for ascertaining the variation of the needle. A precaution of this kind will be seen to be necessary, from the fact that few compasses will traverse exactly in the same line, when set at the same variation, owing to errors in the construction of the instruments. The most important errors of this kind commonly consist of defects in centering the needle.

As the variation changes in going eastward or westward, it was necessary, in order to run a true east and west line, to make corresponding changes on the nonius divisions of the compass. Knowing nearly the variation at Tennessee river, where the line crosses it, from observations taken in the vicinity of that place by others, and by comparing its situation with other places where the variation was well known, we adopted a change of variation of 5 minutes to $10\frac{2}{5}$ miles. That this rate of running was very near the truth, will appear from the fact, that, on taking the vari-

ation at Lagrange by observation, it was found to be $7^{\circ} 36'$. We were then running at the rate of $7^{\circ} 37\frac{3}{4}'$. At Tennessee river, the variation was found to be $7^{\circ} 8'$, very nearly the same as derived from the rate of running at first adopted. It is probable, however, that the variation at Tennessee river was in some small measure affected by local causes. In running from the vicinity of Big Hatchie, to within about fifteen miles of Tennessee river, the variation gradually increased to $7^{\circ} 40'$, nearly; it then decreased rapidly on approaching the Tennessee river, where it was found to be $7^{\circ} 8'$. Iron ore was found to abound throughout this part of the country. Pieces of this ore, weighing from two to three pounds, when brought near the needle, would draw it from its stationary position from one to two degrees. This circumstance rendered it necessary constantly to test our running by back-sighting. If this increase of variation from local causes was not noticed in running the old line, the effect would be to throw the line still further to the north, in running over this district.

The distance between the old and new lines, immediately south from the termination of the old line on the Mississippi river, is $4\frac{1}{2}$ miles, less 454 feet. At Lagrange, nearly at the middle of the line, the distance between the lines is three miles, less 365 feet. At Tennessee river, the distance is one mile and a half, less 475 feet.

The length of the whole line between the Mississippi river and the Tennessee river is 114 miles 2,660 feet, or nearly $114\frac{1}{2}$ miles. The length of the old line was reported to be 110 miles. There is a small degree of curvature in this line, which makes the distance between it and the new line at Lagrange about 230 yards less than it would have been if the line had been run perfectly straight between its points of termination on the Mississippi and Tennessee rivers. This curvature was the necessary result of the causes already explained.

The whole content of the land between the two lines amounts to 215,927 acres, correction being made for the curvature of the old line. The map which is intended to accompany this report, will exhibit the general outlines of the whole, together with the courses of streams, roads, &c. that are intersected by the boundary lines.

In high latitudes, where a line is to be traced along a parallel of latitude for a great distance, it becomes necessary to make correction for the gradual departure from the parallel. This departure arises from the fact that the surveyor, in passing from one object to another, traverses for that distance the arc of a great circle, which it is evident cannot coincide with a smaller circle of latitude. In the latitude of 35° , and for the distance of 110 miles, this departure from the parallel is so small, that it may be altogether neglected, as the error in running, that arises from this cause, is only three feet in about 110 miles. The demonstration of this proposition would be unnecessary and out of place here, but the formula is inserted in the copy of the field book.

The longitude of Memphis was found from observation to be $89^{\circ} 49' 23''$ west from Greenwich. By making the proper correction for distance, the longitude of the Tennessee river, where the south boundary line intersects it, is $88^{\circ} 1'$. Notices of this kind, although not strictly within the prescribed duties of the commissioner, were deemed not to be out of place, as they would give, if more generally attended to, a more accurate knowledge of the topography of the country, and afford more correct data for the construction of maps, &c., a want of which has frequently been the cause

of complaint among our best topographers, in collecting the requisite materials for their work.

The above is very respectfully submitted by

Your obedient servant,
JOHN THOMSON, *Commissioner.*

MEMPHIS, *August 17, 1833.*

C.

To his Excellency Gerard C. Brandon, Governor of the State of Mississippi :

Report of the determination of the latitude of Memphis, in the State of Tennessee. The observations were commenced on Tuesday, the 4th October, and continued during one week, excepting Friday, the weather not permitting. The observations were then calculated, and found to agree nearly. A mean of all corrected gave the place of observation in Memphis on the bluff to be $35^{\circ} 9' 48.8''$. The parallel of the 35th degree will therefore intersect the Mississippi river, between *nine* and ten miles south of Memphis.

In Tennessee the townships or division of land are *five* miles square, and, from information I could rely on, Memphis is less than one mile south of the north line of the 2d township, according to which Memphis is about the same distance north of the boundary line between Mississippi and Tennessee, as determined by my recent observations. Finding, therefore, the observations of the commissioner of the United States for Tennessee, in 1819, and my own, to agree so nearly, I considered it unnecessary to be more particular in determining the place where the 35th degree intersects the Mississippi river.

Should it, however, be a matter of any importance to the State of Mississippi or Tennessee, to have the exact point of the 35th degree more definitely ascertained, it can readily be done, assuming a place near the present line, and repeating the observations, or by surveying a line due south $9' 48.8''$ of a degree from Memphis.

The above report is respectfully submitted.

I have the honor to be,

Yours, very respectfully,

J. HOLBROOK,

Commissioner on the part of the State of Mississippi.

OFFICE OF THE SECRETARY OF STATE,

Jackson, July 2, 1833.

I do hereby certify the foregoing to be a true copy from the original on file in my office.

DAVID DICKSON,
Secretary of State.

D.

Extract of a letter dated 1st August, 1833, from the Commissioner of the General Land Office to John Bell, Esq. Surveyor General of the Chickasaw lands in Mississippi.

“I have to acknowledge the receipt of your letter of the 13th ultimo. On the 28th of June, a copy of the map of the southern boundary of

Tennessee, as run by General Winchester, was transmitted to you, with the information that the office had failed in its endeavors to procure a copy of the field notes of that survey. Under the circumstances stated by you, I am of opinion that the standard meridian should start from a point on that line, and not from the line now running under the authority of Tennessee; and the line separating townships one and two south should be a true east and west line: and although all your range lines should close upon the line run by Winchester, you will not proceed in having any township bounding upon the State line laid off into sections, until further advised on the subject. By pursuing this course, all the embarrassments which would arise from surveying or selling lands which might eventually be found to be north of the ascertained Mississippi boundary, will be prevented."

E.

Extract of a letter from John Bell, Surveyor of the Chickasaw lands, to Elijah Hayward, Commissioner of the General Land Office, dated Cotton Gin Port, Miss., July 13, 1833.

"I regret that I cannot be furnished with a "copy of the field notes of the line between the Mississippi and Tennessee rivers," before I commence operations, as I am at a loss to know whether you allude to the field notes of the *old line*, or to the field notes of the line *now running*, by the *authority* of the State of Tennessee, and which is not yet completed. The commissioner and surveyor had advanced as far as Wolf river about ten days since, going eastward.

"In order to ensure accuracy in running those lines to the true cardinal points, as required in your instructions of 9th April, I conceive it important that the variation of the needle should be corrected every six or twelve miles, upon the standard parallel in particular, as I know, from frequent observations made by myself, as well as from the observations of several skilful surveyors besides, that the variation of the needle in the thirty-second degree of latitude decreases nearly about $2\frac{1}{2}$ minutes every six miles going eastward. Should this matter be not strictly attended to upon the Tennessee line, if the *new line* should be taken as the base line of my surveying district, I am fearful that some difficulty will arise in closing the work north of the standard parallel; if I take the *old line*, I am almost certain there will be a difficulty. It is for this reason, principally, that I desire a copy of the field notes of the line between the abovementioned rivers, before I commence operations. Should any difficulty arise, however, from the circumstances above mentioned, I would suggest that it could be corrected upon the first block of townships upon the Tennessee line; and upon this subject I would be glad to receive your advice."

F.

SURVEYOR'S OFFICE,
Cotton Gin Port, August 9, 1833.

SIR: I have to acknowledge the receipt of a map of the line between the Mississippi and Tennessee rivers; a copy of a letter from General Win-

chester to John C. Calhoun; and a communication from John Moore, Esq., acting commissioner, &c., which accompanied the same.

In a letter to you, under date of the 13th July, I mentioned that I was at some loss to know the particular line to which you had reference; whether the *old line*, (run by General Winchester,) or the *new line*, at that time running by the authority of the State of Tennessee.

The reception of the above communication, and accompanying documents, however, has relieved me from my suspense, and will, without doubt, enable me to understand the proper point from which to start the basis meridian line, which you directed me to have raised.

The basis meridian, to the distance of forty-eight miles, and also the standard parallel, east of the meridian, to the Alabama line, are under contract, and will be commenced in a few days. By the time that the basis meridian is extended to the distance of forty-eight miles, other deputies will be at that point, to extend the meridian through the cession, and the parallel west to the Mississippi river.

I have directed the deputy surveyor to commence and start the basis meridian from a point immediately on the left bank of Wolf river, where the Tennessee line intersects and crosses the same, for the first line, in running west from the Tennessee river. This point is about three and a half miles from an equidistant point between the two rivers, but it appeared to be the most eligible one that I could select, and it is believed that it will divide the whole cession into two very nearly equal parts.

In my letter to you of the 13th July, before referred to, I mentioned that I apprehended some difficulty would take place in closing the work north of the parallel, on account of the course of the Tennessee river, especially if the surveys should be based upon the *old line*, (or line run by General Winchester,) or the *new line*, if the correction for the magnetic variation should not, in running it, be strictly attended to. Believing it my duty to do so, since the date of my letter above alluded to, I took steps to procure, and have procured, satisfactory information concerning the courses of both of those lines. The magnetic variation upon the 35th degree of latitude, (from the observations of Mr. John Thomson, the commissioner appointed by the Governor of Tennessee to superintend the running of the *new line* spoken of, and who is said to be a mathematician of the first order,) decreases five minutes in every $10\frac{1}{2}$ miles, going eastward, which corresponds very nearly with the decrease of variation in latitude 32° , which was ascertained to be $2\frac{1}{2}$ minutes in every 6 miles, which I stated in my letter referred to. Great care, I understand, was taken in running this late line, and in attending to the correction for the magnetic variation at short distances. They commenced their operations immediately to the magnetic south of Memphis, (variation 8° east,) and four and a half miles south of the line run by General Winchester; and upon approaching the Tennessee river, they had approached to within one mile and one hundred and thirty poles of the *old line*, inclining upon the same at an angle of $1^\circ 32'$, or nearly.

The line run by General Winchester, as I have been credibly informed, was commenced at the Tennessee river at a variation of $6^\circ 30'$, and run through to the Mississippi river, without a change of variation; consequently it cannot be exactly a straight line, but must form a curve, owing to the increasing variation of the needle in going westward.

Should the course of the Tennessee line be as above stated, and of its truth, from the information obtained, I am, myself, well satisfied, it must

incline upon the standard parallel, east of the basis meridian, at an angle of $1^{\circ} 32'$ minutes, or nearly, and west of the basis meridian must diverge from the parallel at the same angle, or rather an increasing one. And if the south boundaries of township one east of the basis meridian should be run, and still extended from corner to corner, due east, through the cession, the north and south boundaries of the most easterly township upon the Tennessee line must fall short of six miles *upwards of one and a half miles*, and the north and south boundaries of the most westerly township must exceed their proper length by *more than that quantity*.

Apprehending some difficulty in regard to this matter, at the time of the date of my letter, several times alluded to, and presuming that you were entirely unapprised of the existence of these facts, I thought it not improper respectfully to call your attention to the matter, and to ask your advice, in case my apprehensions were ascertained to be correct. Since receiving more satisfactory information concerning the true course of the line, I feel it my duty to apprise you again of the probable difficulty that will arise in making from it; and to request special instructions on the subject as early as practicable, if you should not already have given them in answer to mine of July 13.

In my former letter I respectfully suggested that the difficulty might be corrected upon the first block of townships upon the Tennessee line; and I would still *most respectfully* suggest the same plan, to wit: By running a line due east and west through the cession each way, from a point on the basis meridian, just six miles, or one township from the Tennessee line, which will serve as a kind of base *de facto*, for the purpose of executing the work, and which need not interrupt the regular numbering of townships south of the Tennessee line.

By adopting this plan, running north from this line, and closing to the Tennessee line, the course of the latter line cannot affect the closes of any work south of this *virtual base*.

Fractional work will have to be made upon the Tennessee line, upon any plan that can be adopted; and no better plan has presented itself to my mind than the one above suggested, and which I again most respectfully submit for your consideration.

I am, very respectfully,

Your obedient servant,

JOHN BELL,

Surveyor of Chickasaw lands.

ELIJAH HAYWARD, Esq.

Com. Gen. Land Office.