

Osage Treaty Line Retracement



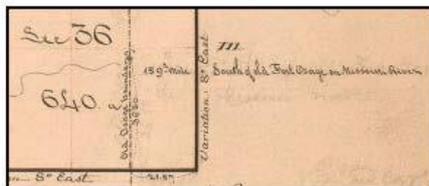
I wanted to start my presentation with our Public Relations effort in 2016 celebrating the 200th anniversary of the running of the Osage Treaty Line. It's Bi-centennial. Our efforts won the NSPS Public Relations and Journalism awards. The following pages are excerpts from the award winning quarterly the Missouri Surveyor

Invitation to the two August events (June 2016 Missouri Surveyor page 10)

200th Anniversary of the Survey of the Osage Treaty Line Commemorations!

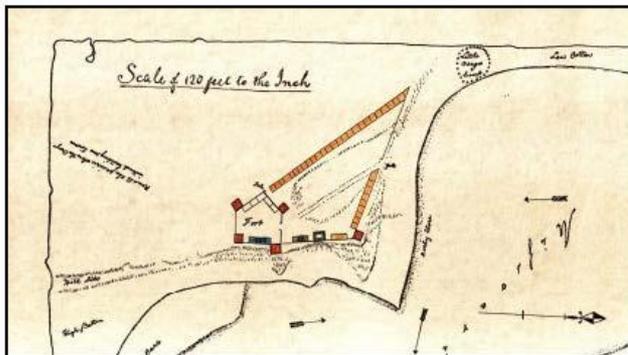
SW Chapter Monumentation & Summer Picnic

The Southwest Chapter of the Missouri Society of Professional Surveyors welcomes all to come join us as we remember our survey history on August 13th at 11:00 A.M. We plan to monument and sign the most southerly point in Missouri on the Osage Treaty Line which was tied to the USPLSS. This township intersection is at Latitude 36° 49' 57.07" N, Longitude 094° 09' 42.96" W, south of Stark City in present-day Newton County.



Upon completion of the monument dedication we will have our *Summer Picnic* at the historic Jolly Mill (Latitude 36° 53' 50" N, Longitude 094° 04' 18" W). Hamburgers and hotdogs will be supplied...we ask you bring a side dish and your own beverages. Those planning to fish for trout you need to purchase a Missouri Fishing License along with a Trout Stamp. - *Joie Clayton*

Survey Party at Fort Osage

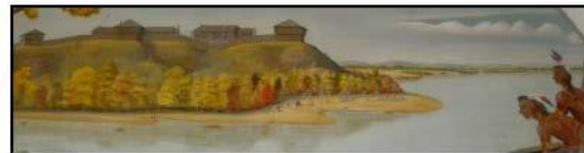


Kickoff the *Osage Treaty Line Initiative* with a celebration at Fort Osage. Tentatively planned for Saturday, August 20th at the Fort near Sibley, Missouri. In addition to food and refreshments, it will feature talks about the efforts to mark the line, and the historical impact it had on the area and the native tribes. The party will include demonstrations of the tools used in that time period and the techniques employed to determine the "variation of the needle". There will also be a reenactment of the running of the first leg of the line to the Initial Point where a replica monument will be dedicated. - *Stan Emerick*

The Osage Treaty Line Initiative

by Stan Emerick, MSPS History Committee Chair

This year marks the 200th anniversary of the surveying of the Osage Treaty Line, the line that was supposed to serve as the western and northern boundaries for the fledgling State of Missouri. It was initially negotiated during an 1808 treaty between the United States of America and chiefs of the Greater and Little Osage nations. This line is the first surveyed boundary line in western Missouri.



Photograph of mural, "Fort Osage - 1808 Jackson County."

Initially there were two components to the boundary, one on each side of the Missouri River. The northern segment ran from the mouth of the Kansas River northward for a hundred miles then loped eastward to the River Des Moines. The southern segment began at Fort Clark, later renamed to Fort Osage, and ran southward to the Arkansas River. The northern segment survived the annals of time serving as both county and state boundaries. The southern segment slipped into obscurity shortly after its inauguration.

In celebration of this anniversary, the Missouri Society of Professional Surveyors is initiating an effort to recover evidence of the southern expedition. During the fall of 1816, the survey party marking the Treaty Line set more than two hundred and fifty monuments along the way. It is the Society's goal to recover viable evidence of at least one of those monuments and perpetuate its existence along with the significance of this truly historic endeavor. This effort to recover surveying antiquities in our contemporary world is the paying homage to our profession's forebears. Join us in seeking the last vestiges of a truly noble effort, which once completed, quickly fell fallow and all but forgotten to history. While paying respect to the original surveyors, today's surveyors may receive pay in the form of a MSPS sponsored "bounty" should original evidence be recovered.

HISTORY OF THE TREATY

Shortly after the United States acquired the lands of the Louisiana Purchase, treaties to extinguish the Indian claims to the territory were initiated. To "treat" with the Indians, Governors William Clark of the Missouri Territory and Ninian Edwards of the Illinois Territory, along with Auguste Chouteau are appointed as Commissioners to represent the

(continued on next page)

THE BOUNTY PROGRAM

MSPS is offering a bounty for the recovery of an original Treaty Line milepost, as set by Brown. The lucky surveyor finding legitimate evidence of a milepost will receive a bounty of \$500. Supplemental stipends will be added to that bounty for the fortunate individual, should that surveyor accept to the preparation of a corner restoration document and collaboration on an article suitable for publication. If he shall also agree to present the results of his investigation at a future societal convention, the Committee will cover the cost of his lodging and registration fee. If one were to fully participate in this effort, the total compensation for their efforts could easily exceed \$1000. If a serious investigation by another individual proves to successful yield another milepost, a second bounty may also be awarded. The successful recipients will receive their rewards during a future MSPS event.

Validation of evidence for a corner shall be determined by a group of judges comprising members of the committee and the Land Survey Program. The surveyor purporting to have found valid evidence of a milepost, shall submit this evidence to the committee for review. The committee's investigation may warrant further engagement by the surveyor, perhaps requiring additional information to reach a final judgement.

While this program is designed to engage members of our Kansas City & Southwestern chapters, it is in fact open to any licensed surveyors or their subordinates. The ultimate goal being to enhance our society's community outreach and public awareness program, as well as preserving our historical record.

Individuals wishing to receive updates on this program should register with the committee by sending an email to Emerick@t-w.com.

The Osage Treaty Line Initiative, history of the treaty and bounty program description

(June 2016 Missouri Surveyor pages 11-18)

The Osage Treaty Line Initiative (continued)

interests of the United States. Clark and Chouteau were well-known to the native tribes; the former through his expedition with the *Corps de Discovery*, the latter as a prominent French fur-trader.

The original treaty with the Osage occurred at Fort Clark in the years 1808 and 1809. Pierre Chouteau, acting as agent and the Osage chiefs parlayed settlement of hostilities and acceptance of terms. In exchange for establishing a trading post at the fort and fiscal considerations, the Osage agreed to relinquish all of their interests to lands east of the fort and north of the river, including a two-league square area around the fort.

Beginning in September of 1815 (the end of the War of 1812) several of the native tribes agreed to meet with the government at Portage Des Sioux, a village near the confluence of the Missouri and Mississippi Rivers. Several treaties were signed to end the hostilities that transpired when the tribes chose to side with the British during the war. The treaties effectively extinguish nearly all of the Indian rights to land within the Territories. This action was compelled by the impending tide of immigrants coming from the eastern states and Europe.

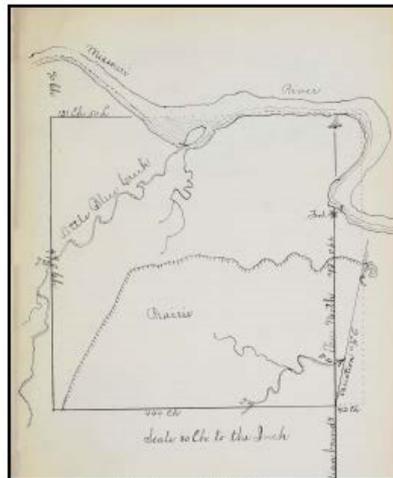
Anxious to secure the boundary with the Indian nations, the Commissioners instructed Surveyor General William Rector in 1816 to have the Indian boundary surveyed. Rector cautioned although he was prepared to employ surveyors he did not have the authority to pay them. It was for the commissioners to provide funds necessary to supply the expedition. Rector nonetheless engaged two of the more prominent surveyors of the day, Joseph Cromwell Brown and John C. Sullivan. Brown to run the southern line and Sullivan the northern one.

In his letter to Brown in July of that year, Rector wrote that the commissioners and members of the Great and Little Osage tribes were to meet at Fort Clark in early August to agree upon the line. He instructed Brown to acquire the necessary supplies to execute the survey and to rendezvous at the fort posthaste to begin the survey. He further instructed Brown that the running of the line will be in a similar fashion to the Surveys of the United States lands. In addition to the setting of mileposts and witnesses, they are instructed to include in their field notes "every object that is worthy of observation". This meant that they were to be on the lookout for any salt or mineral deposits that may be of value to the government. His letter concludes by affirming he is not authorized to pay them, but has no doubt that they will receive "a just Reward". Even back then surveyors were known for taking on work with only a promise of payment.

SURVEY OF THE FORT SQUARE

Brown's first tasks at the fort was to determine magnetic declination. Rector writes that: "*Should the weather permit, you will make frequent observations for the variation of the needle. And will regulate your compass to the true meridian according to the results of your several observations...*" In his reply he stated he had determined the variation to be $11 \frac{1}{4}$ degrees east, "by two sets of observations", and that was the variation with which he would run. He also noted other "calculations by azimuth" produced a variation of only $10 \frac{1}{2}$ degrees, producing a curious fact to be discussed later.

As noted above, part of the treaty included an area surrounding the fort that was set aside for development. This reserve was defined as being "two leagues square". The league was a standard unit of French measure common in the eastern settlements of the territory but seldom seen in the western area. One league would be equivalent to three miles and a sixteenth in English measure. Two leagues would be equal to six miles and a



Brown's map of the Fort Square.

furlong. (Two leagues = 184 French arpents = 490 English chains = 32,340 feet)

While awaiting arrival of the rest of the party, Brown marked off the two-league Fort Square. He began this survey on the 15th of August at the fort's southern gate. He then ran north through the fort on his "true meridian". At roughly seven hundred feet from the gate he finds a large red oak tree on the Missouri River's bank and determines it to be mile point Zero for the southern leg of the Treaty Line.

After marking this point with witnesses, he proceeded to meander the southern bank of the river northeastwardly around the bend. Then turning westward, he continued the line across the mouth of the Little Blue River until reaching a point roughly six miles west of the fort. He departed the bank on a southern meridian to a point he estimated to be slightly above the elongated, latitudinal section of the river bank (see Brown's map). He marked this point as the northwestern corner of the Square. He then ran the northern line eastwardly back to a large cottonwood tree on the bank of the river.

Returning to the northwest corner he set out down the western line, measuring the full two leagues to the southwestern corner. He then turned eastward and ran 444 chains intersecting the treaty line and erecting a mound. This point is at the 4.32 mile point along the Treaty Line. Brown wrote in his letter to Rector that the rest of the Fort Square could be drawn with imaginary lines, as it is "*all together public land*". Generally speaking, the reserve is bounded on the north by the Missouri River, on the west by the Little Blue River and on the south by Fire Prairie Creek.

It may be worth noting that the courses and distances along the meander line do not work well with the mile call for the intersect point. Perhaps this is simply a scrivener's error or a mistake made during transcriptions. For the sake of this investigation, we will assume that his calls to the lengths along the treaty line will hold over his meander of the river. Hence the corners of the Fort Square have been "backed in" from the point of intersect with the treaty line.

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The Osage Treaty Line Initiative (continued)

BROWN'S RUNNING OF THE TREATY LINE

Once the survey party assembled at the Fort they departed on August 24th. Brown noted in his journal that contrary to the original plan, neither Mr. Chouteau nor the Indian chiefs would accompany the surveyors - they will have to run the line on their own volition. What follows are excerpts from their field notes interspersed with commentary:

In the twenty-eighth mile the party experiences every surveyor's bane, crossing the same creek eight different times within the same mile! The good news is it was still August. The bad news: stagnant water and mosquitos. This is probably Crawford Creek located near Pleasant Hill.

Brown's notes routinely reflected his opinion of the soil. More than a log of survey measurements, the field notes serve as a geography lesson for the diversity of the lands that exist in the western parts of the territory. In the fifty-fifth mile Brown's whimsical nature emerges when he observes that all he sees is prairie and a few creeks "which appear merely as marks on this grand meadow..." Brown's linguistic skills eventually strain as the requisites to note the quality of land taxes his vocabulary. In the beginning he soundly records the quality of the land with phrases like "tolerably good prairie". Farther along his adjectival lexis is reduced to "brushy" and "marshy" and "gravelly" and "stony" and "hilly" and "barrenny". I wonder what he would have given for a decent thesaurus?

As fortune would happen, the end of the seventy-eighth mile falls in the Osage River, which he notes as being about 200 feet wide. He was then very close to the former site of the primary village of the Osage nation during the

latter half of the eighteenth century. I doubt that when the treaty was struck, anyone had an idea how close this line would come to that principle encampment. Today the line passes within a mile or so of this site which is now known as the Osage Village State Historic Site in Vernon County, northeast of Nevada.

On the evening of September 6th, at the end of the eighty-fifth mile, Brown makes his first attempt to correct the variation of the needle. He determines it to be only ten degrees east of north and makes the appropriate correction to the compass vernier. The next evening, he makes two more observations and confirms the variation to be identical.

Brown comments in his notes that the two hundred and thirteenth mile runs along the top of a "smart mountain". "This mountain stands on a bottom surrounded by prairie... [which] is not extensive in width anywhere, being enclosed by mountains". Do you think the good people of Arkansas were aware of Brown's prophetic quip when they chose this locale as the site for their flagship university? I wonder if he ever crossed paths with a razorback.

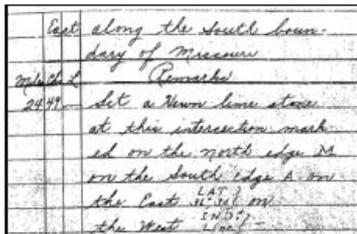
In the two hundred and fiftieth mile he enters a "thorn and brier swamp of the worst sort". Shortly thereafter he encounters cane fields that are virtually impassable. He decides to meander his way toward the river and along its northern edge until he reaches the point of intersect. At that point he cuts a line back to the high bank of the river, where he sets a post inscribed "254 1/2 Miles to Ft Osage" on one side and "Indian Boundary" on the other. The date is October 7th.

Less than a month later, Governor Clark wrote to the Secretary of War William Crawford relaying news that Brown's party had been massacred and that he feared their task was left incomplete. Three days later the party arrives in Saint Louis, and to paraphrase another famous Missourian, "the report of their demise had been greatly exaggerated". Several days later, the Missouri Gazette publishes a letter from Surveyor Brown expounding on his adventures.

EVIDENCE OF THE TREATY LINE IN THE GLO RECORDS

Unfortunately the Treaty Line's tenure as a boundary was short-lived. A few years after its marking, a revised petition for statehood moves the western boundary

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Transcription of Brown's notes at the representative 1827-1828 Arkansas State Line.

The Osage Treaty Line Initiative (continued)

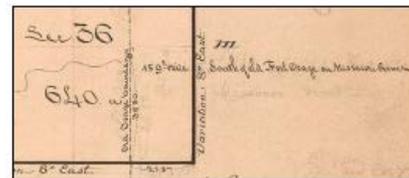
some twenty four miles to the west. Seven years after this excursion, Brown is again employed to run the new state boundary along with its southern connection. This action causes the treaty line to fall dormant, where it has remained for the last two centuries.

Since it served as a true boundary for such a short time, there are few references to it in the public land records. The few US General Land Office (GLO) surveys conducted in the west during that period were the running of a few standard lines and township perimeters. A couple of the township perimeters in Johnson and Lafayette counties should offer us the best prospects for beginning our search.

The first standard line to appear in this area was run by Charles McPherson in 1818. He ran the southern side of Township 48 to the southeastern corner of Section 36 in Range 30 West. He got within a mile of the Treaty Line, but neglected to make a tie to it before turning north and running the eastern boundary of that township.

In 1820, Angus McDonald, under contract with Angus Langham, intersected the treaty line while running the southern line of Township 45 North. He then ran along the treaty line to set the southern lines of Townships 46 & 47 North. Unfortunately, while running along the line, he makes no reference to the mileposts. It is the subsequent breakdown of these two townships that gives us the best indication of the location of the treaty line. The GLO notes and plats for these two townships have multiple instances of calls to the line.

In 1821, under contracts run for William Ashley, the line is again noted when crossed by the southern lines of Townships 25 and 35 North. The crew running the south line of T30N also looked for the treaty line, but to no avail. They noted spending four days searching a wide swath of land trying to find the Indian boundary without success.



GLO plat reporting dimensions from Ashley's notes of October 16, 1821.

The only other documented case of an intersection with the treaty line comes in 1823, when Brown runs the southern boundary of the state. About half way along the twenty-fifth mile, he intersected the Indian boundary at a point that would roughly equate to MP 181.6. There he sets a heavy limestone inscribed with the three boundaries and the latitude (36°30'). By all indications, this appears to be the only stone monument set on the entire treaty line.

South of the state boundary, there does not appear to be any evidence of surveys intersecting the line. Shortly after Brown's effort, a portion of this area in Arkansas is ceded to the Cherokee and Choctaw tribes in substitution for the lands they surrendered their surrendering lands in the southeastern portion of the United States. Unfortunately, disputes between the Osage and Cherokee and colonial settlers force the federal government into another displacement of the tribes. Government surveys do not begin in this area until the early 1830's, during the same timeframe as the forced migration of the Five Civilized Tribes to the Indian Territory (Oklahoma).

LINKING THE TREATY LINE TO THE MODERN WORLD

As noted above, there is little evidence of the line in the GLO records. Determining search locations for lost mileposts can become an arduous task. What follows are estimations of positions for several points along the line. Additional positions are available on the website. Coordinate pairs correspond to the Missouri Coordinate System of 1983, West Zone (MCS83-W), with values expressed in US Survey Feet. Latitudes and longitudes are also provided to assist in searching. It should be noted that these estimations have been produced from a combination of physical measurements (GPS observations) and internet research utilizing the Public Land Survey on Google Earth (PLSGE, part of Earth Survey). These datasets are simply offered as a starting point for field investigations. Reliability cannot be assured.

At the moment, there is only one specific position on the treaty line that can be substantiated. That being the south gate of the fort. The reconstruction of the compound at the Fort Osage National Historic Landmark appears to have been based upon sound archaeological evidence. If correct, it affords us a viable starting point for our expedition. As determined from PLSGE, the south gate of Fort Osage is estimated to be at position 1100160N, 2875860E (39°11'15.7"N, 94°11'33.1"W). According to Brown's notes, this should represent Mile Point (MP) 0.13 along the treaty line.

As noted above, the best opportunities to get a fix on the location of the treaty line occur in Townships 46N and 47N. There are multiply ties shown along the section lines in these two townships. And for a brief period of time, T46N actually closes on the Indian boundary. Unfortunately, those corners were later extinguished during the westward expansion of the township.

Robert Ubben with Affinis Corporation has done some exploratory work near Stasburg. His group has recovered some of the section corners that would have straddled the treaty line in the aforementioned townships. Comparing their coordinates against positions scaled from PLSGE produced some remarkable results. In many cases the coordinate positions were within about twenty feet of each other. Infusing their data with calls from the GLO record has yielded an estimated position for the intersection of the treaty line and the south line of T46N to be 971530N, 2878517E (38°50'04.1"N, 94°11'05.0"W). This point should in fact be fairly close to MP24.

Attempting to apply a validity check on the PLSGE data, positions were determined for the northeast corner of T47N and the southeast corner of T45N. Applying the GLO records to these points produced intercepts with similar limits as the Affinis points. The several sets of points fell within a thirty-foot norm on a linear regression. Certainly reasonable enough to initiate a search field. Allowing for this variance, the position of the intercept along the southern line of Township 45-29 works out to be around 907061N, 2879849E (38°39'26.8"N, 94°10'51.0"W). This point should also be close to MP36.

An analysis of this data generated some insight into Brown's work. The 1827 version of the GLO plat for township 47-30, shows the location of some of the ruleposts along the "Osage Boundary Line". Applying those calls to the calculations noted above, it appears that Brown ran this upper portion of the line with a surplus of about two links per chain. Indices further south along the line will vary some from this estimate, but for the most part, it seems to be fairly consistent.

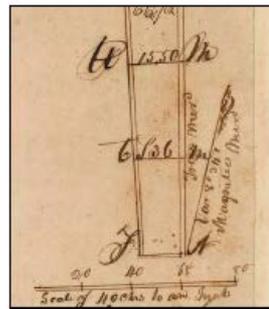
Also apparent from the data is a difference in Brown's level of competence and Brown's ability to determine the correction for declination appears to be superior to others that followed behind. As noted above, Brown ran his line from the fort on an 11 1/4 degree variation. When the subsequent GLO surveyors sectionalized the land, they ran on a variance of 8 1/2 degrees. By today's measurements, those surveys run between two and three degrees east of north. Whereas Brown's 1816 line is only off the true meridian by about a degree. When he makes his adjustment at the eighty-fifth mile, he pulls that error back to within half a degree of true south. All things considered, a rather impressive achievement for the day.

Due to the efforts of Joe Clayton with Anderson Engineering and Jim Harre of Indian Creek Surveying, we also have field verified positions for corners along the south lines of both Township 35-29 and 25-30. Their work has also proved useful. They found several points along the south line of 35 North, including the township corner between Ranges 29 and 30. The GLO record indicates that the treaty line was intersected roughly 88 chains east of there. This would produce an intercept in the vicinity of 579681N, 2886013E (39°11'15.7"N, 94°11'33.1"W).

Their work in Sections 35 & 36 of T25N affords us a bonus point. The GLO plat shows the treaty line intersection at 21.57 chains west of the township corner, which would produce an intercept near 242576N, 2887652E (36°49'57.51"N, 94°09'42.9"W). The plat also shows a tie of 36.5 chains along the line back to the 159th rulepost. Projecting a line from this intercept back towards the correction point at MP85, yields a search position for this milepost at 243032N, 2887648E (36°50'21.3"N, 94°09'42.8"W). If the GLO notes are correct, this position may very well represent one of the best opportunities for finding an original post. Parenthetically, inverting back to the Affinis' points tends to support the two-percent surplus in distances noted above.

Darell Pratte and the Missouri Land Survey Program executed a retracement survey along the boundary between Missouri and Arkansas in 2005. Their goal was to retrace the state line established by Basil Gordon in 1845, and to determine the proper intercepts with the USPLS system running through Ranges 27W to 34W. Through their efforts we have state plane coordinates for the rule posts along the line. Applying this work to Brown's 1823 notes

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GLO plat noting 8 1/2 degree variation.

The Osage Treaty Line Initiative (continued)

and the ties shown on the 1849 plat of Township 21-30 yields a computed position for Brown's intercept point of 122255N, 2887817E (39°36'07.3"N, 94°09'42.9"W). Theoretically, this should be the location of the stone monument set by Brown. It is the fervent hope of this Initiative that someone will be able to successfully recover this lost monument and secure its rightful place in the annals of Missouri history.

Beyond this point there isn't much historical record to reply upon. Brown's notes of meandering the Arkansas River near the mouth of Frog Bayou yields the only reasonable estimation for the position of the closing milepost. Comparing Brown's meander line notes with the 1831 plat of Township 9-30 and the PLSGE yields a vague position for the end of line in the vicinity of 35°26'34"N, 94°09'05"W; a point that today appears to be on an island in the river.

Within the realm of full disclosure, it should be noted that much of Brown's work appears to contain inconsistencies. His traverses around the Fort Square and his meander along the Arkansas River do not work well geometrically speaking. There are sufficient errors in the theoretical closures to give the average surveyor pause. In addition, a cursory review of the available KMZ file will reveal some doubts about the mile-point calls of recognizable features such as creek and river crossings. Nevertheless, the body of the work still appears to be sound. Posts and mounds were obviously set, along with their witnesses. Brown was known as a reputable man, and his legacy as a competent surveyor is unparalleled. If one were to engage in this effort to retrace his work, I have no doubt that they would come away from their journey enriched by the experience, and in awe of his abilities.

FINAL THOUGHTS

The year of 1816 is historically known as the "Year without a summer". From that period, there are reports of ice on the rivers in May and it snowing in June. There was also a peculiar phenomenon perceived as a persistent dry fog that reddened the sky and dimmed the sun to a point where sunspots were visible to the naked eye. This atmospheric anomaly was hypothesized to be the result of the massive Mount Tambora volcanic eruption that occurred in Indonesia in the spring of the previous year. The event was so disruptive to agriculture that it caused the price of grain to skyrocket half a world away. I imagine that this hardship must have burdened Brown's party. Not only on their efforts to supply the expedition, but also on their foraging for food and game during their journey

and the grazing for their animals. Although Brown does not specifically address this adversity, it almost certainly would have had added to their difficulties.

We should try to imagine how grueling this excursion must have been for them. Here they were, trying to mark a significant boundary line, by holding a true and steady course through the wilderness, making precise measurements through often rugged terrain, all the while trying very hard not to be "massacred" along the way. What a phenomenal feat that was! Now here we stand, two hundred years later, marveling at their accomplishments. Wondering if we would have had the wherewithal and fortitude to accomplish such a task. Using the tools they had at hand, could we have come anywhere close to attaining the level of performance that they achieved? In a similar timeframe, without the use of our AIVs and GPS? I for one, have my doubts.

Occasionally I am asked why I have such an interest in history. My immediate reply is: How can one not? We walk through history every day. Both figuratively and literally. Figuratively we "follow in the footsteps" of those who came before. Often oblivious to the lives they led, the joys they felt, and the sorrows they endured. We cross their paths without giving a second thought or pondering what they thought, how they felt or where they supposed they were headed.

We too walk through history literally, sharing the experience with those around us. Witnessing the events of the day, along with our own joys and hardships. In our walk through history our own footprints are left behind in the way we treat each other and the world we live in. What record will we leave behind? Will anyone come looking for our markers? How do we want to be remembered? ■

Report of the TV coverage (September 2016 Missouri Surveyor page 4)

MSPS Surveyors in the News!

Highlighting a Significant Part of Missouri History and Surveying Practice

On August 12th, television station KSN16 of southwest Missouri broadcast the tale of “200 Year Old Missouri Mystery” by reporter Brad Douglas. The mystery? Described in the report as a search for Missouri’s “original western state line from 1816”, surveying lore was shared with their viewers.

Serving as a precursor to an event hosted by the Southwest Chapter of the Missouri Society of Professional Surveyors (MSPS) on August 13th in which the southern point in Missouri on the Osage Treaty Line was to be honored, MSPS members Joe Clayton of Joplin and Bob Shotts of Lebanon met with the television news reporter in Stark City. As reported the position was marked by sign and “a rock” (is that anything like a stone?) after use of “old surveying equipment.”



The duo was reported as stating the role of a surveyor in such matters is “part detective and part historian.” While the news feature reflected on the history of the position, its significance and the skills of Clayton and Shotts, the report bore witness to the bicentennial recognition of Joseph Brown’s survey of Missouri’s western border. This anniversary is being recognized by MSPS this summer at events in southwest Missouri and the Fort Osage historic site on the southern bluffs of the Missouri River near Sibley and Independence Missouri (metro Kansas City). Clayton, of Anderson Engineering in Joplin has devoted much of 2016 towards research and field investigations of this historic position. Joined by Jim Herre of Indian Creek Surveying, they melded their review and interpretation of 200 year old records of America’s *General Land Office* with their own application of 21st century GPS, laser and computer technologies to lead them in their recovery of this site!

The broadcast of the story featured comments from both Clayton and Shotts. It also showcased them using traditional surveying tools of compass, staff and chain while prominently featuring the position’s stone and informative marker. Clayton was quoted referring to all surveyors’ quest in historic preservation as treasure hunting, and this site specifically as a “true treasure.”

Closing the report was an announcement of the position’s dedication and welcoming the public to join in the event on August 13th at the site near 26792 Oak Road, Stark City Missouri. 📍



Report of the two events

(December 2016 Missouri Surveyor pages 27-28)

Osage Treaty Line Bicentennial

This year marked the 200th anniversary of the survey of the *Osage Treaty Line*. This line was supposed to serve as the western and northern boundaries for the State of Missouri, its location was to be along boundaries negotiated in 1808 between the United States of America and chiefs of the Greater and Little Osage nation. This line represents the very first boundary line actually surveyed in western Missouri.

In celebration of this anniversary, the Missouri Society of Professional Surveyors held two commemorative events in August where replica stones were set and the legacy of surveyor *Joseph C. Brown* was honored. The story of these events is presented in the following collection of photos from the festivities. (Photos provided by *Gerald Bader, Joe Clayton and Robert Ubben.*)



MSPS President (and Southwest Chapter President) *Joe Clayton* (center) addresses all gathered at the southern terminus of the *Osage Treaty Line* near *Stark City* on August 13th. Behind *Joe* is the location of a replica stone place as a permanent monument.

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Osage Treaty Line Bicentennial (continued)



State Representative *Robert Ross* (right) of the 142nd District looks on as his wife *Chrissy* (left) and their two sons visit with MSPS Past Presidents and Land Survey Registration Board member *Mae Flowers* at the *Fort Osage* gate. Many members were joined by family, friends and the Fort's visiting public for the celebration of *Joseph C. Brown's* survey of the *Osage Treaty Line*.



State Representative, MSPS Member and Professional Land Surveyor *Robert Ross* (left) presents History Committee Chair *Stan Emerick* with proclamations from the Missouri Senate and House of Representatives recognizing this historic event.



The commemorative "Indian Line" stone is marked on its reverse with the year of *Brown's* original survey and the bicentennial commemoration year. Now a permanent part of the historic *Fort Osage*, MSPS members have commissioned a durable placard to be made and placed near the stone to tell the story of the survey of the *Osage Treaty Line*.



MSPS History Committee Chair *Stan Emerick* (left) commences the festivities at the August 20th commemoration of the *Osage Treaty Line* Bicentennial. Hosted at the historic *Fort Osage* MSPS was graciously helped with this celebration by the Fort's S&E Administrator *Heather Campbell* and her staff.

Neosho Daily News article

Independence newspaper article

WES FRANKLIN: Marking the Osage Treaty Line in Missouri

NEOSHO DAILY NEWS

WES FRANKLIN: Marking the Osage Treaty Line in Missouri

Saturday Posted Aug 6, 2016 at 3:31 PM Next weekend I plan to attend a rather unique ceremony.

<http://www.neoshodailynews.com/opinion/20160806/wes-franklin-marking-osage-treaty-li...>

Next weekend I plan to attend a rather unique ceremony. The Southwest Chapter of the Missouri Society of Professional Surveyors will be re-monumenting the most southerly point in Missouri marking the 1808 Osage Treaty Line. The surveyors' original mile post is long gone, as are the men who placed it. However, by a variety of modern methods and painstaking historical research by people much more knowledgeable than I when it comes to this sort of work, there are believed coordinates for one of those sites. They are: Latitude 36° 49' 57.07" N, Longitude 094° 09' 42.96" W. According to gpscoordinates.net, this should be just east of where Oak Road makes a sharp bend southward onto Terrier Road, southeast of present-day Stark City. I hope I'm right or I'll never find it! Of course, before 1829 there wasn't one white man or woman permanently living in what is today Newton County. When the surveyors left their mark, they were all alone in an empty country, aside from maybe an occasional trapper. Alone except for possibly the fierce Osage, that is. This was still part of their traditional territory. The Osage Treaty took place on No. 10, 1808 at Fort Clark, later renamed Fort Osage, at present-day Sibley, Mo., east of today's Kansas City. It was there the Osage people ceded most of their present-day Missouri and Arkansas land to the US government in exchange for a trading post at the fort and an annual payment of \$1,200 (\$800 to the Great Osage band and \$400 to the Little Osage band). The line ran from Fort Clark due south all the way to the Arkansas River, and then east to the Mississippi River. In Missouri, everything east of that boundary was now controlled by Uncle Sam. Incidentally, the Osage gave up control of the rest of their modern-day Missouri land just 17 years later in another treaty in 1825. As of 1808, however, they still had a western strip. Of course, Missouri was not yet a state then, so there wasn't a political boundary there except for the treaty line, though it was later originally intended to serve as the western boundary of Missouri. That treaty line ran straight through the east end of today's Newton and McDonald Counties. Exactly 200 years ago this year, in 1816, the boundary between "Indian Country" and what was then part of Missouri Territory was officially surveyed. The southern part, from Ft. Clark on the Missouri River to the Arkansas River, was surveyed by the team led by Joseph C. Brown over about a two-month period. That's where this Saturday's ceremony comes in. When the original 1808 Osage Treaty Line was surveyed in 1816, more than 250 survey monuments were established between Ft. Clark and the Arkansas River. They have all seemingly vanished over time. This is largely due to the fact that not very many years after Brown and his men completed their survey of the Osage Treaty Line, the proposed western boundary of the proposed future State of Missouri had moved about 24 miles to the west. Brown got the job again and did it all over. Over time, 200 years to be exact, physical evidence of the original Treaty survey line has been all but lost. At 11 a.m. this Saturday, at the aforementioned location, a group of men and women will remark the known southernmost point of the Treaty Line in Missouri that tied in to the United States Public Lands Survey System. Its part of the Osage Treaty Line Initiative by the Missouri Society of Professional Surveyors, which in this bicentennial year of the surveying of the line, seeks to find evidence of at least one of the original mileposts along the way. For more information about this Saturday's ceremony, call John Birner at 417-389-0300. For more information about the Osage Treaty Line Initiative, go to the Missouri Society of Professional Surveyors website at missourisurveyor.org

THE EXAMINER

Serving Eastern Jackson County, Missouri

Searching for Osage Treaty Line markers

Saturday

Posted Aug 20, 2016 at 5:26 AM

By Jeff Fox jeff.fox@examiner.net

Two hundred years ago this month, a surveying party set out, headed south from Fort Osage and leaving markers mile by mile, well into what is today Arkansas. That line, intended to be Missouri's western border, was soon cast aside and, in the words of the Missouri Society of Professional Surveyors, "all but forgotten to history." Now that group is looking for remnants of that expedition, and events today at Fort Osage will help highlight the effort.

"They are commemorating the 200th anniversary... of the Osage Treaty Line," said Heather Campbell, site administrator at Fort Osage, which today is a historic site run by Jackson County. "During the fall of 1816, the survey party marking the treaty line set more than 250 monuments along the way," the Missouri surveyor's group said in its magazine earlier this summer. "It is the Society's goal to recover viable evidence of at least one of those monuments and perpetuate its existence along with the significance of this truly historic endeavor. I know that folks are out there looking for markers," Campbell said, adding that those markers though set deep in the soil, don't stand out very well. The man who led that effort was Joseph C. Brown. The efforts of Brown and his party will be remembered in today's events, which are from 9 a.m. to 3:30 p.m. The colors will be raised at 11 a.m. A replica treaty line monument is to be dedicated, and there's a re-enactment of the running of the first leg of Brown's survey line, along with an 11:30 firing of the fort's cannon.

Admission to the fort is \$8 for adults, \$4 for youth (5 to 13) and seniors (62 and older), and free for children 4 and younger. Fort Osage is at 107 Osage St. in Sibley. From the post office, take the signs north over the railroad tracks and to the fort.

Lines and markers

Brown was at Fort Osage - Fort Clark at the time - 200 summers ago because of a treaty with the Osage a few years earlier. The 1808 treaty, negotiated at the fort, called for the Osage to cede much of their land in Missouri to the U.S. government. That treaty had what Gov. William Clark -- the Clark of the 1804-06 Lewis and Clark expedition -- "later admitted were shamefully inadequate terms," a marker at the fort says today. That agreement laid out two lines that were to have formed Missouri's western border. The state would look different and likely have developed very differently had the U.S. stuck to that deal. Under the treaty, the Missouri territory's western boundary north of the Missouri River ran straight north from the mouth of Kansas River in what is today Kansas City. Everything west of that line but east of the Missouri River - today that includes St. Joseph, Maryville and Platte City - remained with the Osage. But settlers kept pushing west, and the U.S. kept forcing new treaties on the Osage, who gave up more and more land. That border north of the Missouri River lasted less than 30 years. The Platte Purchase brought in land that became six Missouri counties, though that line still marks the boundary between, for example, Platte and Clay counties.

The other line has a murkier history. It ran due south from Fort Clark for 254 miles to the Arkansas River. Had it been kept as a border, most of today's Jackson County, including Kansas City, Independence and most of Blue Springs, would have been west of Missouri. The Missouri Surveyor magazine notes that Brown's party left on Aug. 24, 1816. The group left stone markers, and Brown kept a journal noting such things as soil conditions and notable geography. Twenty-eight miles in, near Pleasant Hill, they crossed the same creek eight times in one mile. They crossed prairies, swamps and eventually mountains. They reached the Arkansas River in six weeks and left a marker inscribed with "254 1/2 Miles to Ft Osage" on one side and "Indian Boundary" on the other.

Weeks later, Gov. Clark reported to the U.S. secretary of war that Brown's party had been massacred. That was erroneous. The group showed up in St. Louis three days later. Brown's line didn't last. Missouri revised its petition for statehood, pushing the border 24 miles to the west. That line stuck. Seven years after the 1816 expedition, by which time Missouri had just joined the Union, a surveyor had to be sent out to run the new line. It was Joseph C. Brown.

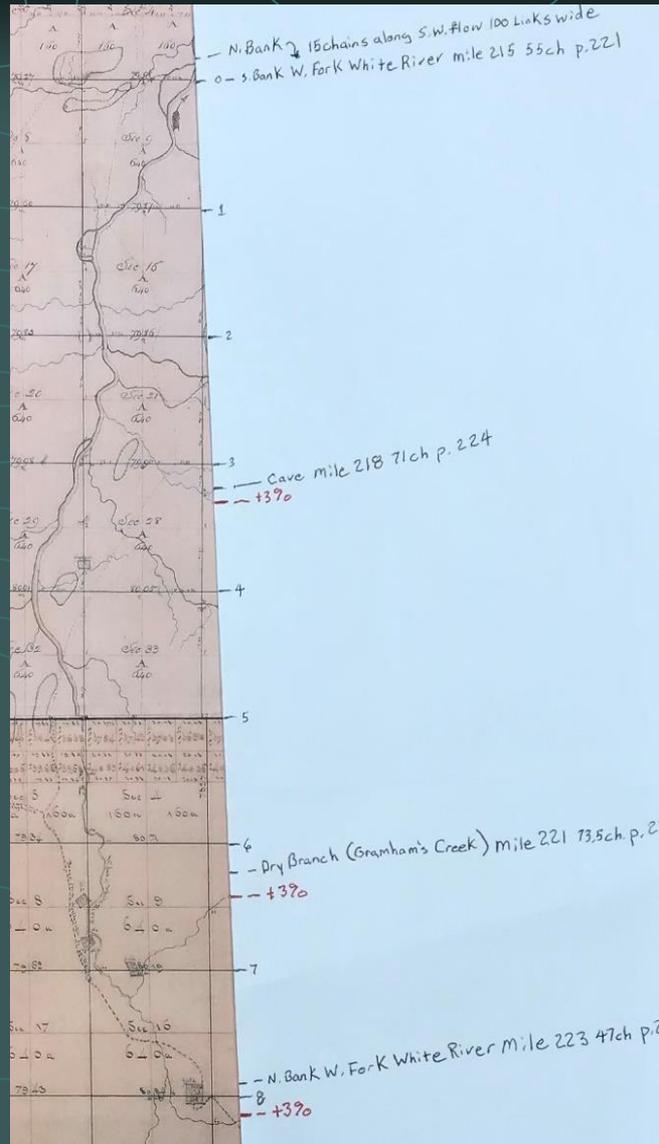
The OTL alignment table created in 2016 Used to set the Commemorative Stones

THE OSAGE TREATY LINE							
Mile Point	Mile Point	Grid Bearing	Grid Distance	Northing	Easting	Mile Point	Description
				1,100,864	2,875,845	0.00	Mile Point Zero
0.00	0.13	S01°11'00" E	704	1,100,161	2,875,860	0.13	South Gate of the Fort
0.13	36.00	S01°11'00" E	193,140	907,061	2,879,849	36.00	South Line of T45N-R29W
36.00	65.83	S01°11'00" E	160,513	746,583	2,883,163	65.83	South Line of T40N-R29W
65.83	85.00	S01°11'00" E	103,198	643,407	2,885,295	85.00	Magnetic Declination Correction Point
85.00	96.84	S00°38'45" E	63,729	579,681	2,886,013	96.84	South Line of T35N-R29W
96.84	128.34	S00°16'43" E	169,587	410,097	2,886,838	128.34	South Line of T30N-R29W
128.34	159.46	S00°16'43" E	167,523	242,576	2,887,652	159.46	South Line of T25N-R29W
159.46	181.60	S00°04'42" E	120,321	122,255	2,887,817	181.60	Brown's South Line of Missouri
181.60	213.00	S00°42'00" E	165,958	-43,690	2,889,844	213.00	Mt. Sequoyah (Smart mountain)
213.00	254.50	S00°42'00" E	219,607	-263,281	2,892,527	254.50	North Bank of the Arkansas River

Coordinates correspond to the Missouri Coordinate System of 1983, West Zone (MCS83). Values are expressed in US Survey Feet. Positions have been obtained by various means and should be considered approximate. Ground dimensions would be roughly fifty parts per million larger than the grid dimensions. Treaty Line lengths between Mile Points 0 and 159 contain roughly a two percent surplus. Distance distortions beyond that point may vary.



Washington County Arkansas 1888 U.S.G.S. Geological survey map.
The OTL Cave circled in red.



Handmade Scale with localized OTL calls near the cave location



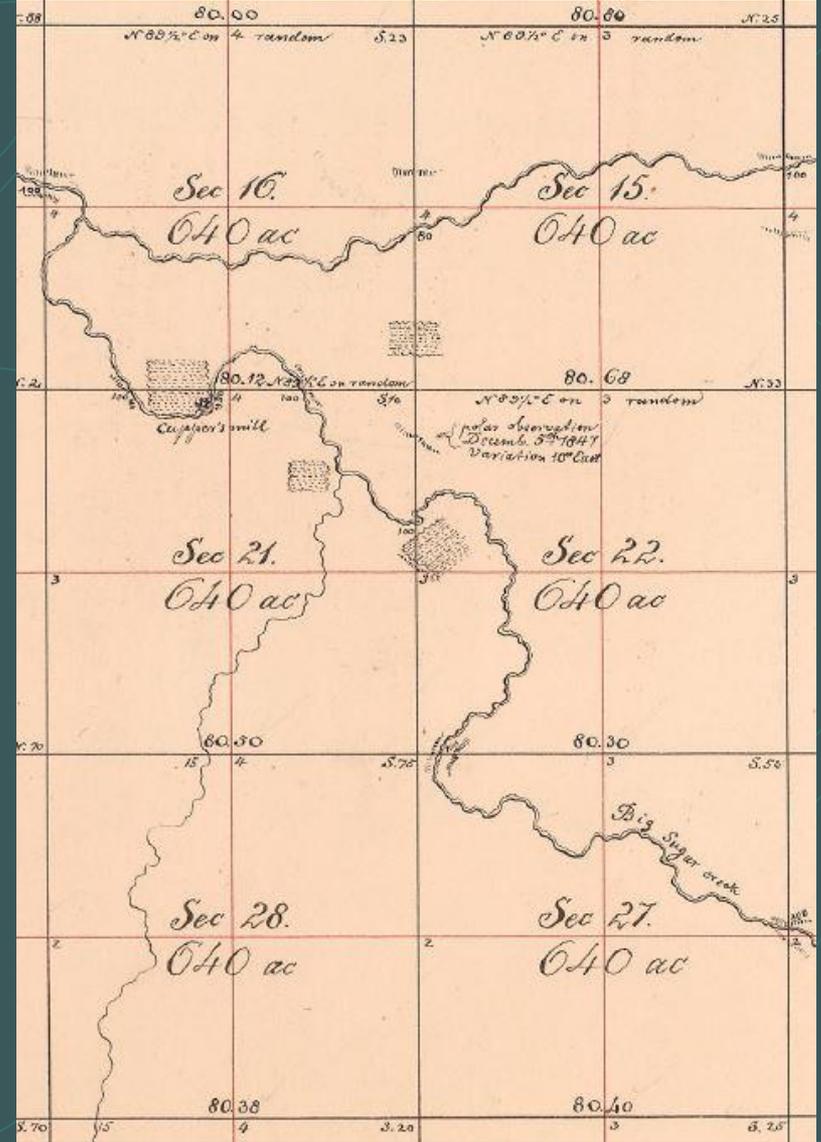
Hand Plotted OTL Arkansas R. Meanders the OTL south end



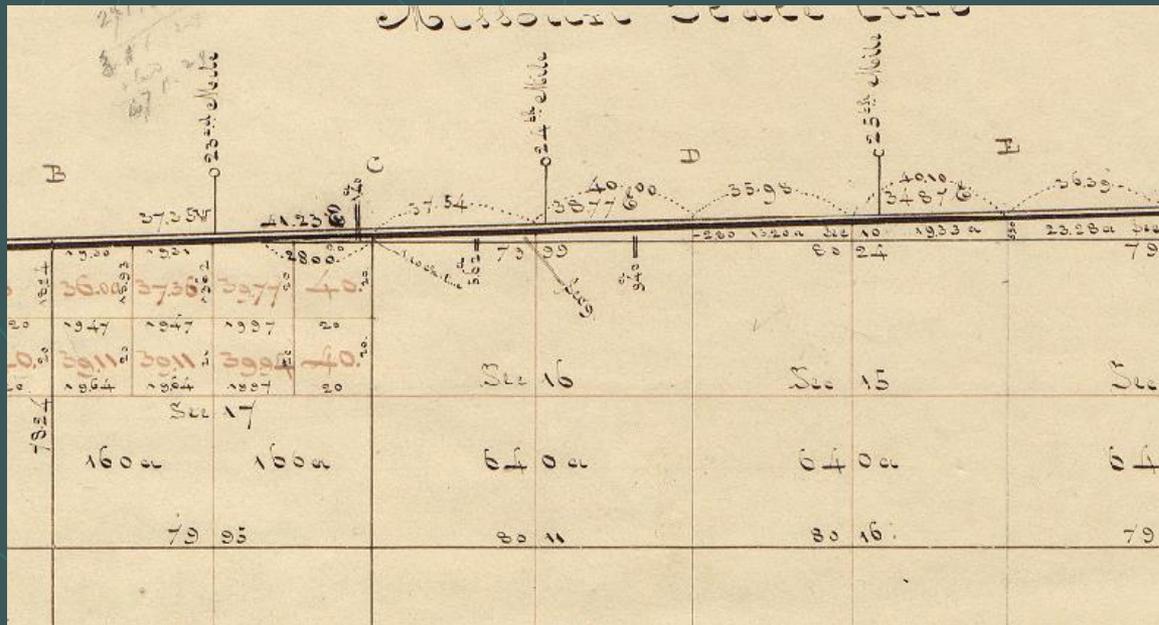
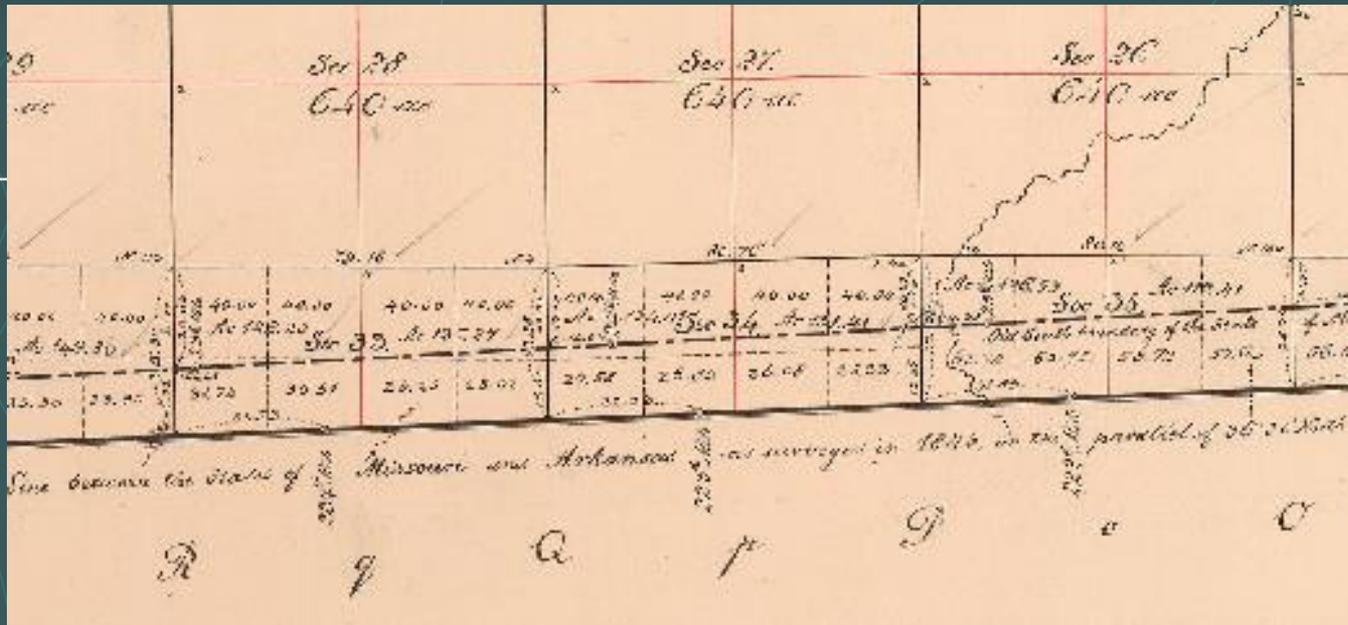
OTL natural mound, river calls and scaled search locations

Is the GLO Plat Correct?

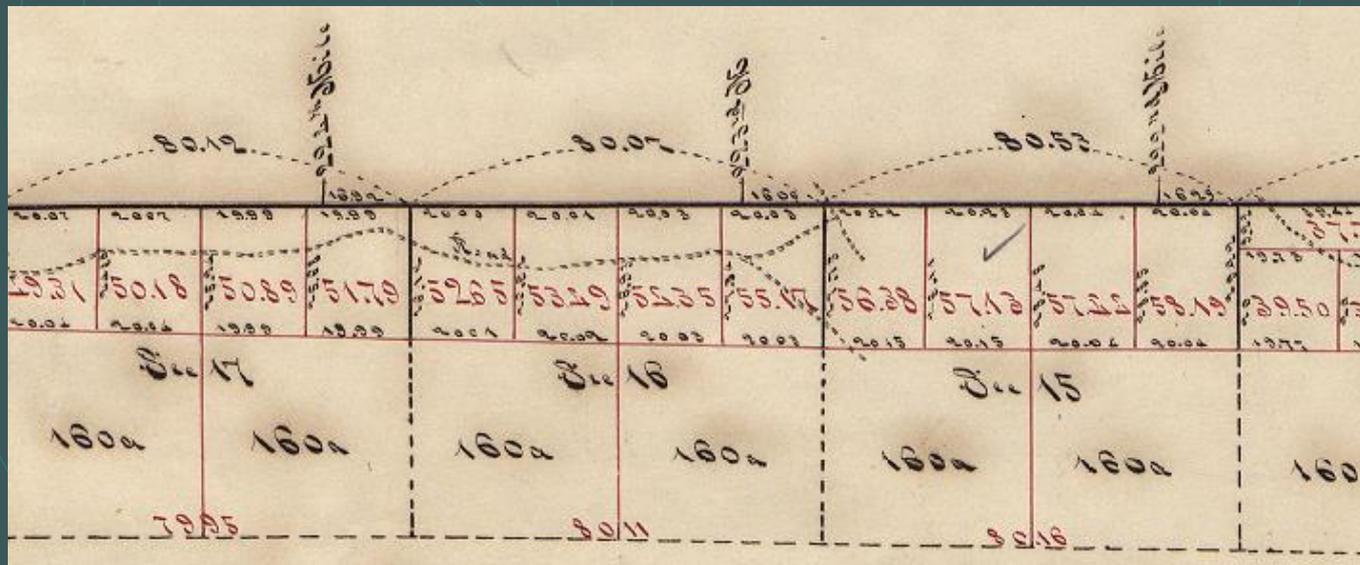
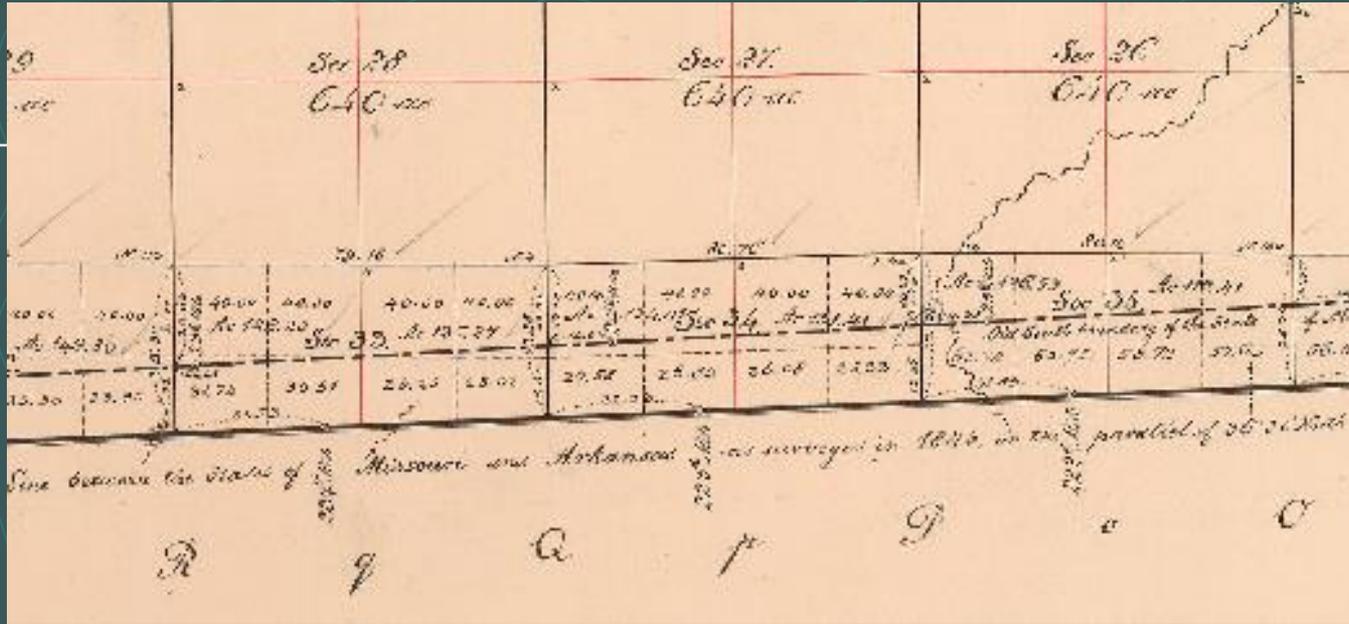
Big Sugar Cr has never been in the north half of Section 27



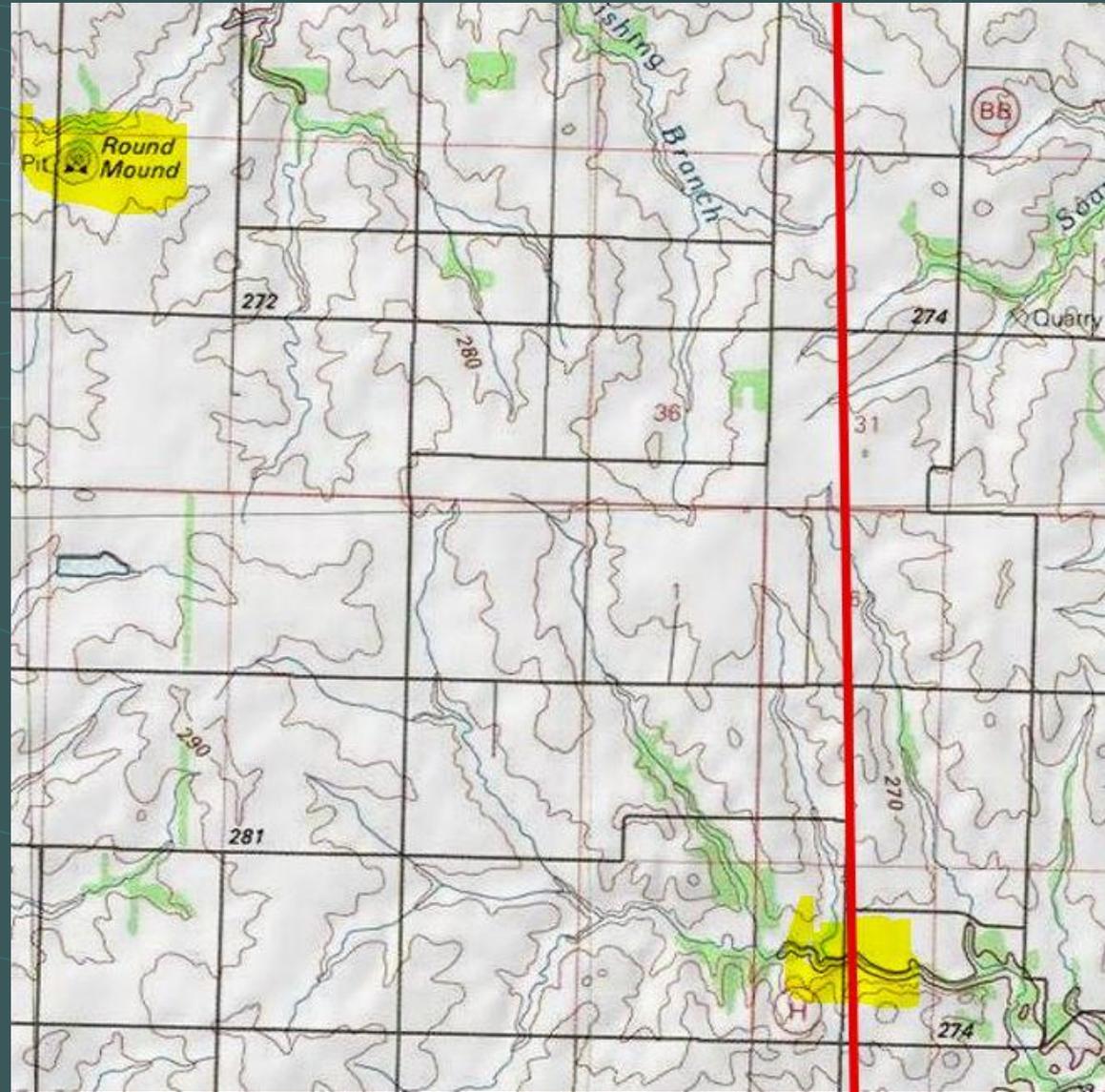
The Missouri Arkansas Line 1



The Missouri Arkansas Line 2



GIS and it's capabilities makes large scale distance comparisons a simplified process



T47N R30W GIS with GLO overlay



T47N R30W GIS with GLO overlay



Table of found milepost mounds & Cave

Found Osage Treaty Line Milepost Mounds & Cave

Mile Point	Mile Point	Grid Bearing	Grid Distance	Northing	Easting	Mile Point	Description
0				1100864	2875845	0	Mile Point Zero
0	54	S1°08'21"E	53mi. 10.14ch.	820410.0979	2881422.242	54	Mile Point 54
54	137	S0°42'59"E	84mi. 74.17ch.	372029.9088	2887028.455	137	Mile Point 137
137	138	S0°24'39"E	79.99ch.	366750.3951	2886990.597	138	Mile Point 138
138	140	S0°48'39"E	2mi. 1.52ch.	356091.0726	2887141.853	140	Mile Point 140
140	143	S0°12'13"E	2mi. 75.07ch.	340576.9205	2887197.047	143	Mile Point 143
143	152	S0°12'13"E	9mi. 97lk.	292993.6069	2887406.558	152	Mile Point 152
152	218 71ch.	S0°18'23"E	59mi. 79.49ch.	-23767.938	2889101.213	218 71ch.	Cave at 218mi. 71ch.
218 71ch.	219	S0°16'04"E	9.18ch.	-24373.83138	2889104.045	219	Mile Point 219

Coordinates correspond to the Missouri Coordinate System of 1983, West Zone (MCS83). Values are expressed in U.S. Survey Feet. Positions have been obtained by various means and should be considered approximate.

Ground dimensions would be roughly fifty parts per million larger than the grid dimensions. Treaty Line lengths between Mile Points 0 and 219 contain roughly a two percent surplus. Distance distortions beyond that point may vary.



Milepost Mound 54



Milepost Mound 55



2'6" X 6' opening, over 10 feet to the floor the cave is said to go back several hundred feet and has graffiti dating back to the mid-1800's



Milepost Mound 219



Dirt Mound at MP151



Rock Mound at MP137



Kenny Copenbarger and Junior at MP143



MP138 camouflaged by a fallen tree & critter den



MP140

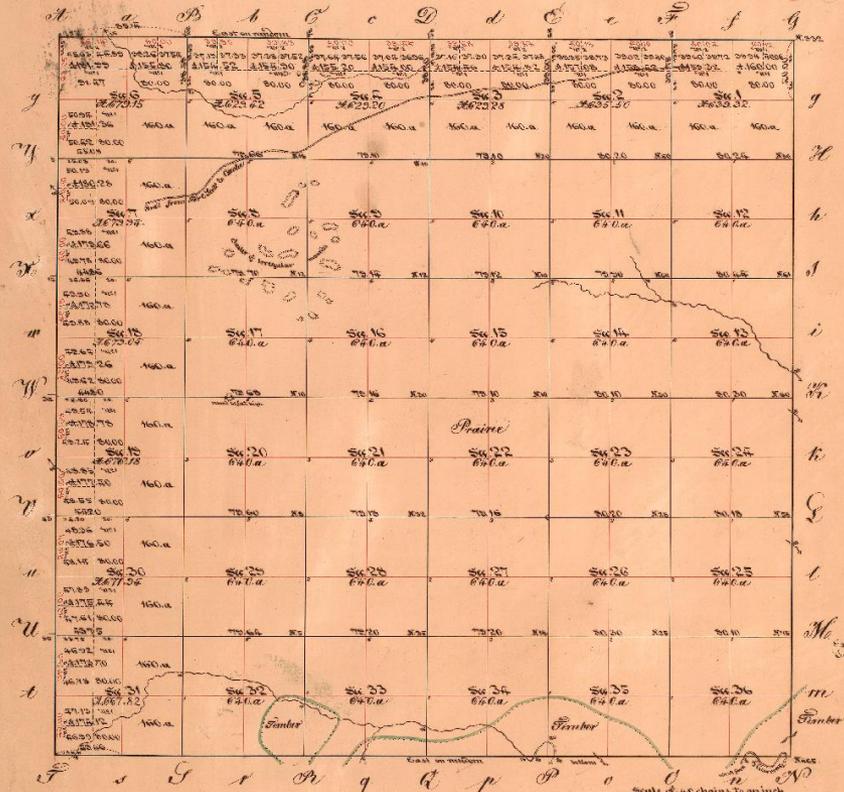
T36N R30W

39

Township 36 North of the base line Range 30 West of the 5th principal Meridian.

Vol. 26

36-c



Variation
Magnetic lines = 7° 40' East
Cathedral line West = 7° 20' East

Line description	By whom run	Date of survey	Amount of survey into chains & links	When corrected	When published	By order of the land office	Remarks
West boundary	Same as before	28 th May 1826	6.00 00	4 th Apr 1827	16 th Feb 1829	2 nd Apr 1830	
West boundary	Same as before	11 th August 1828	6.00 00	4 th Apr 1829	28 th June 1830	10 th Apr 1830	
North boundary	do	do	0.05 12	do	do	do	
South boundary	do	do	0.02 46	do	do	do	
Adjoining lines	B. A. Curtis	18 th August 1840	00.00 21	4 th Apr 1843	10 th February 1844	8 th Apr 1844	

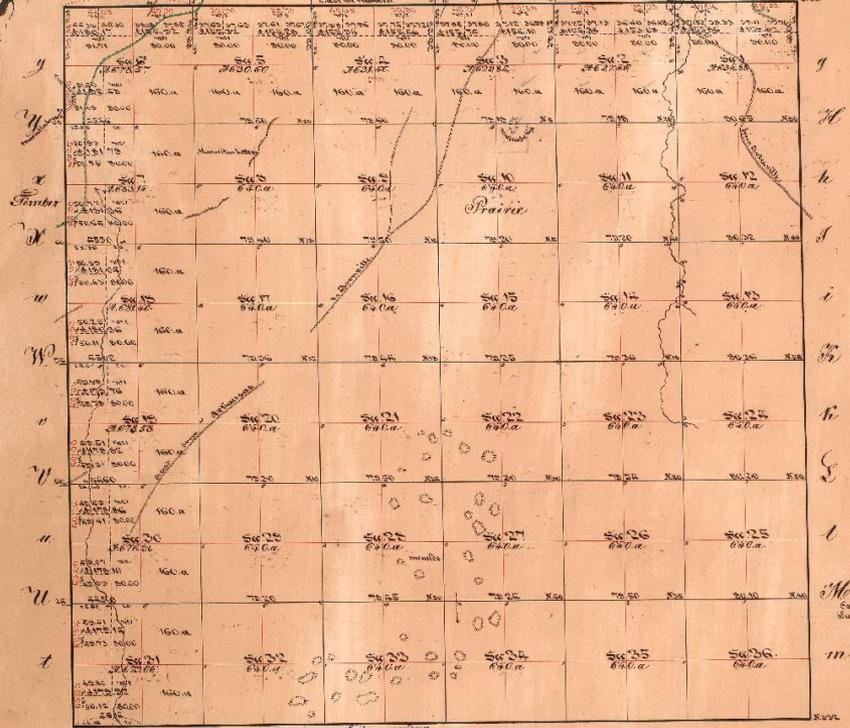
Surveyed by
J. Reed on 15th of March 1844
The above plan of boundary 36th and 37th of the
base line, range 30 west of the 5th principal
meridian, is hereby confirmed to the purpose
of the above report, in full in the office of the
land office, and recorded 5th of April 1844.
J. Reed
Surveyor of the public land in the
State of Wisconsin.

T37N R30W

Township 37 North of the base line Range 30 West of the 5th principal Meridian

Vol. 26

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z



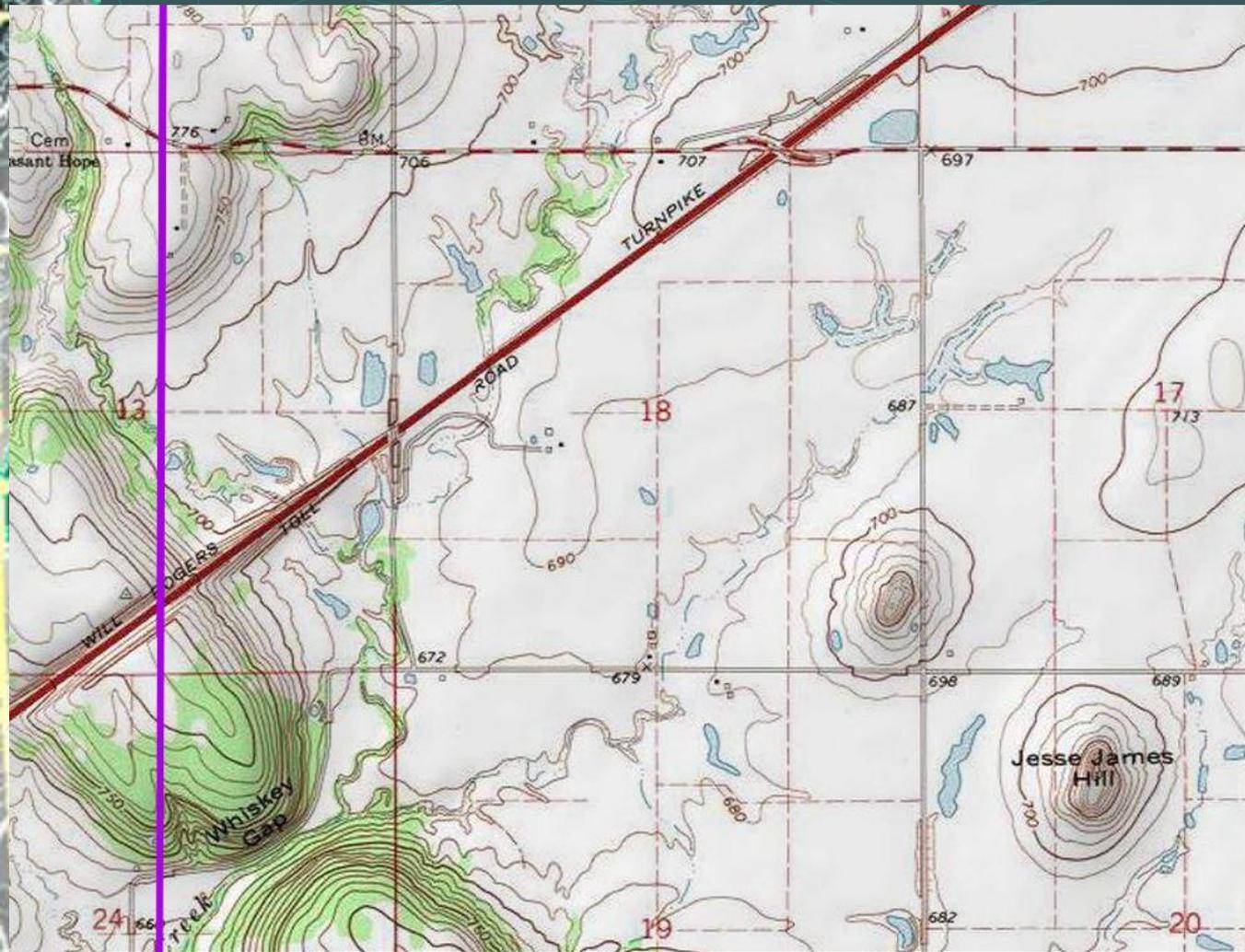
Variation
Earlier lines 74° 40' East
Subsequent lines 74° 34' East

Scale of 40 chains to an inch
Aggregate area = 23231.25 acres.

When designated	By whom certified	Year of certificate	Area of township	Area of section	When surveyed	When paid for	By whom	By whom
Sec 1 to 36	John A. ...	1856	6000.00	166.67	2 nd of 1857	10 th of 1857	2,074,100	...
Sec 1 to 36	John A. ...	1857	6000.00	166.67	4 th of 1857	10 th of 1857	10,274,100	...
Sec 1 to 36	John A. ...	1858	6000.00	166.67	6 th of 1858	10 th of 1858	10,274,100	...
Sec 1 to 36	John A. ...	1859	6000.00	166.67	8 th of 1859	10 th of 1859	10,274,100	...
Sec 1 to 36	John A. ...	1860	6000.00	166.67	10 th of 1860	10 th of 1860	10,274,100	...

Surveyor's Office.
This is a true and correct copy of the original plat of Township 37 North of the base line, Range 30 West of the 5th principal Meridian, as shown, conformable to the plat, and of the survey thereof, as filed in the office, which have been reviewed and approved.
Silas Reed
Surveyor of the under land in the State of Illinois, 1860.

The first 2 miles South 2 ties to 2 Natural Mounds



South Continued the line
 1250 Skirt of wood
 35 left wood
 60 to the S. end of a
 hill like a mound
 S 78 E + in like man
 ner to a similar
 hill S 70 E
 80 End of 2 Miles rais
 ed a mound of Stone
 this near the brow of
 a rocky descent to
 much lower land
 level where the mound
 is + to the above
 observed mounds
 as before S 87 3/4 E S 76 3/4
 E