

THE FIRST GUIDE MERIDIAN EAST

By Jerry Penry

Forward

The limestone monument located at the intersection of the First Guide Meridian East and the Base Line (Kansas-Nebraska State Line) of the Sixth Principal Meridian Surveys is at an important location since it was the beginning point where the first government surveyed line extended north into Nebraska and south into Kansas. Unlike other guide meridians, the First Guide Meridian East was surveyed on a true meridian or line of longitude its entire length just like a principal meridian. There are no correction lines at the standard parallels. It preceded the establishment of the Initial Point and Sixth Principal Meridian by a full year which formed the basis from which all surveys in Kansas and Nebraska are now referenced north and south by townships and east and west by ranges. The First Guide Meridian East was the most important surveyed line in the territories of Kansas and Nebraska in 1855 and from this the standard parallels, township lines, and section lines were established east from it to the Missouri River and the eastern border of Kansas further south.

The remonumentation and dedication of this corner commemorates both its location and the two United States deputy surveyors, Charles A. Manners and Joseph Ledlie, who placed it exactly 150 years ago on June 24, 1855. The recognition and honor that is hereby given to both men has been long overdue.

The United States Congress established the territories of Kansas and Nebraska on May 30, 1854, through a bill known as the Kansas-Nebraska Act signed by President Franklin Pierce. This public establishment and acknowledgment of two new territories was not a declaration for open settlement, but that did little to stop hundreds or perhaps even thousands of land seekers from crossing the Missouri River to squat on vast areas of unoccupied land, particularly in the eastern portions. There were also political interests to gain by occupying these two territories. The Kansas-Nebraska Act repealed the Missouri Compromise and reopened the question of slavery in the west. Four previous attempts to organize a single territory for this area had already been defeated in Congress, largely because of Southern opposition to the Missouri Compromise. Under no circumstances did proslavery Congressmen want a free territory west of Missouri. Stephen A. Douglas, a senator from Illinois and chairman of the Senate Committee on Territories, decided to offer territorial legislation making concessions to the South. His concession grew in part out of his desire to promote a railroad from Chicago to California through Nebraska. Douglas provided in his bills that the residents of the new territories could decide the slavery question for themselves. The result was a rush into Kansas and Nebraska, as southerners and northerners vied for control of the territories. Shootings broke out, and this became a prelude to the Civil War.

By late summer of 1854, no government surveys had been started in either territory, and the geographical line of the fortieth degree of latitude that would divide the two territories was still an idea on paper with no physical marks upon the ground. The entire situation was cause for alarm in the Pierce administration, who scrambled to get the proper agencies working on the situation due to widespread settlement of squatters.

The entity who dealt with the government surveys was the General Land Office. On August 26, 1854, John Wilson, who was the commissioner of the General Land Office, sent instructions to newly appointed Surveyor General John Calhoun in Springfield, Missouri, to have the forty-degree north latitude surveyed west from the Missouri River as a base line for a distance of 108 miles. The temporary western terminus of this line would be the initial point for the Sixth Principal Meridian and would control the surveys in the Nebraska and Kansas Territories. Wilson's letter to Calhoun read in part:

“For reasons of expediency, because of the apprehension of hostile interruptions from the Indians, it is not deemed proper and prudent to survey a base line further to the west than one hundred and eight miles distant from the Missouri River, at the precise point where it is intersected by the 40th parallel of north latitude. At some future time, when necessary, it is proposed to start a principal meridian, extending on the north of such base to the Missouri River in Nebraska, and on the south of the same to the southern boundary of Kansas, which is the 37th parallel of north latitude.”

The contract for the important base line between the territories of Kansas and Nebraska was awarded to a U. S. Deputy Surveyor named John P. Johnson on November 2, 1854. Johnson was a 37-year-old Harvard University graduate who had vied for the Surveyor General's position of the Kansas and Nebraska Territories against Calhoun. To appease Johnson, and the politically interested people who stood behind him, Calhoun agreed to give Johnson the contract to establish the base line. Although Johnson was well-educated, his actual expertise in the field was very limited, and his knowledge of and familiarity with the solar compass was apparently nonexistent. The solar compass was capable of reading an angle to the nearest one-quarter degree and its main significance was the instrument's ability to provide the deputy surveyor with an azimuth originating with the sun rather than a dependence upon a magnetic needle whose direction was subject to magnetic variation. It was a crucial instrument needed in laying out the great arc of latitude of the Base Line between the two territories. Nevertheless, Johnson wasted no time in getting started on the Base Line, which he began on November 16, 1854, and finished 20 days later on December 5, 1854. His first duty was to assist Captain Thomas J. Lee of the United States Topographical Engineers in setting a post on the west bank of the Missouri River. Lee was experienced in determining exact positions of latitude on the ground and provided Johnson with a place to start the Base Line. Johnson then surveyed west and ended by setting the initial point for the Sixth Principal Meridian on the Base Line 108 miles west of the Missouri River as instructed. Calhoun approved Johnson's field notes on January 12, 1855, without having first examined the line in the field for accuracy. Johnson was eventually paid \$1,006.32 for his services, and as far as anyone knew, the first 108 miles between Kansas and Nebraska had been permanently established.

During the same time that Johnson had been awarded the contract for the base line, United States Deputy Surveyors Charles A. Manners and an acquaintance named Joseph Ledlie were making arrangements for their respective crews to come to the Kansas and Nebraska Territories to establish their own marks upon the land. The younger Manners, at age 27, was experienced with work as a Deputy Surveyor in Christian County, Illinois, and Ledlie, at age 43, was experienced with surveying in nearby Sangamon County, Illinois, where Calhoun had also been the Sangamon County Surveyor in Springfield. Calhoun was also known as having trained Abraham Lincoln as a surveyor.

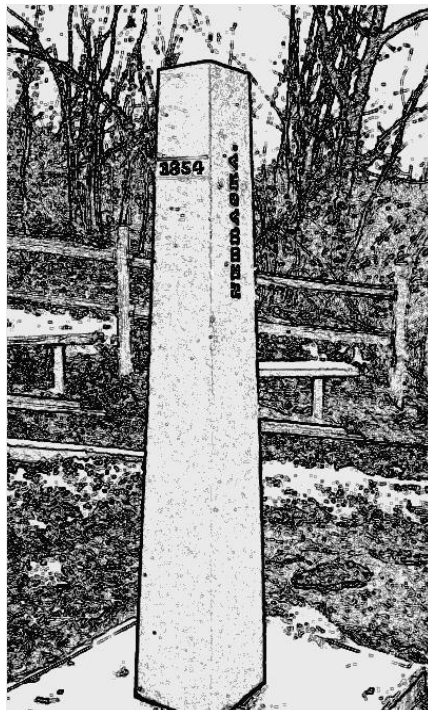
The Surveyor General's Office was opened at Fort Leavenworth, Kansas, on September 15, 1854, where Manners and Ledlie later arrived on April 25, 1855. The following day, Calhoun contracted with Charles A. Manners to survey a guide meridian north from Johnson's established base line that would extend to the intersection with the Missouri River. Joseph Ledlie was awarded a similar contract that would survey on the same guide meridian south into Kansas. Settlement was already taking place in the eastern extremities of the unsurveyed Nebraska and Kansas Territories. It was more practical to have a guide meridian closer to the Missouri River than to establish the Sixth Principal Meridian which was 48 miles further west. This important guide meridian would become known as the First Guide Meridian East of the Sixth Principal Meridian. From this guide meridian, Manners would also survey seven standard parallels, spaced 24 miles apart, eastward to the Missouri River. Joseph Ledlie's contract was awarded the same day as Manner's contract, and he would similarly run

the same guide meridian south into Kansas and then run standard parallels east to the eastern boundary of Kansas. His standard parallels, would, however, be spaced 30 miles apart.

The first specific instructions given to Charles Manners and Joseph Ledlie by John Calhoun came on April 27, 1855, after being awarded the contracts. Manners was given written instructions to first procure a cast iron monument from St. Joseph, Missouri. He would erect it in place of the temporary oak post that had been previously set by Lee and Johnson on the east end of the Base Line along the west bluff of the Missouri River. Manners was then instructed to retrace the Base Line established by Johnson for 60 miles, where he would then verify the point for the First Guide Meridian East to be run northward. Joseph Ledlie and his crew had proceeded directly to the 60-mile-point where they were preparing to survey south into Kansas upon verbal instructions to first examine the corner set by Johnson.

The cast iron monument had previously been shipped up river from St. Louis, but due to low water, it had been stored at St. Joseph. It was then shipped by wagon from St. Joseph to the east bank of the Missouri River across from the dividing line between the Kansas and Nebraska Territories. The nearly 600 lb. monument was then transported by canoe across the river and set in place by Charles A. Manners on May 8, 1855.

On May 9th, Ledlie immediately began noticing problems with the location of Johnson's corner at the First Guide Meridian East location. Manners was into his first day making his way west from the cast iron monument and the error in the Base Line was not as obvious until he had surveyed for several miles. Both men decided it was futile to continue with their contracts and traveled back to Leavenworth in the hopes of catching Calhoun for further instructions.



*The Cast Iron Monument.
Set on May 8, 1855, by
Charles A. Manners.
Located 60 miles east of the
First Guide Meridian East
along the Missouri River.*

On May 30, 1855, Joseph Ledlie penned this letter to his brother, explaining in detail the situation that had been uncovered on the Base Line in regard to Johnson's corners.

*Fort Leavenworth, Kansas Territory
May 30, 1855*

Dear Brother – It is now a long time since I heard anything from you and I feel that I have been derelict in duty in not writing to you more frequently. I came out to this country prepared to execute such contract, or contracts for surveying as I might be able to obtain from the Surveyor General. I have now in my employ ten men; have two teams of mules and all necessary equipment for a regular camp siege. Mr. Charles A. Manners, late surveyor of Christian County, Ill., with a like number of hands is associated with me in the enterprise. We arrived here on the 25th of April last, and shortly afterwards entered into our respective contracts (for the contracts have to be taken separately) with the Surveyor General. My contract was for the survey of the Guide Meridian line between Kansas and Nebraska at a point 60 miles west of the initial point on the Missouri River thence running south on a true meridian 120 miles. Together with four standard parallels or correction lines.

The first standard parallel to commence on the guide meridian 30 miles from my starting point and running thence on a true parallel east to the river, which will be about ten miles above this place. The second standard to commence on the said meridian 30 miles south of the first standard. This will strike the Missouri River near the mouth of the Kansas River. The third to be thirty miles south of the second and so on. The contract is estimated at 474 miles. The price per mile \$12.00. Mr. Manners obtained a contract for a similar survey to be made in Nebraska. He is to commence at the same point I do and run north to the Missouri River, making his standard parallel every 24 miles. His contract amounts to 372 miles by estimate. Mr. M. has also a contract to plant the iron monument at the initial point on the Missouri River, and also another to examine and test the base line as ran by Professor Johnson last fall.

In addition to our written instructions, I received verbal instructions from Gen. Calhoun to test the beginning point of the Guide Meridian line, and if I should find any serious error in the survey of the base line at that point to remain in camp until Mr. Manners should arrive. The Gen. also gave Mr. M. instructions to the effect that if he discovered any error in the base line to push through to my camp with all possible dispatch; and in the event I had started out on my line to follow after, bring me back, return to the office and await further orders. On the 4th inst. we both left for our respective places of destination. Mr. Manners via St. Josephs, thence to the initial point above St. Josephs, thence west on the base line, testing the same as he advanced. I by the way of the California road or old military road to Laramie. The road from this place to Laramie intersects with the St. Josephs road about eight miles east of my beginning point which is situated about two miles north of the road on the waters of the "Big Blue" river. I arrived at my place of destination on the evening of the 8th. On the night of the 9th made the necessary observations of the Polar Star when on the meridian, and again when at its greatest eastern elongation thereby establishing very

satisfactory a true meridian. I now felt pretty well contented and felt strongly in hopes that I could be able to proceed next morning. The next morning I tested the base line by the meridian thus found; and to my horror and astonishment found the base line wrong. At this point it ran south of west nine rods per mile. This was a fix. I was compelled to desist from running – and finally I concluded to start east on the line and meet Mr. M. I left my men in the camp (except one) and taking one of my lightest wagons I proceeded on east, and on the evening of the 13th met Mr. M. 33½ miles from my camp; he was encamped on the waters of the Nemaha. He had not discovered any mistakes so flagrant as those I had discovered though there were inaccuracies more or less most of the way. That night I established a true meridian at his camp with my transit instrument and the next day compared it with Mr. M.'s solar compass, and found to agree to a hair. He continued on his line, westward making the necessary examinations. I continued with him up to my camp where we arrived on the 17th. He found the line worse and worse as he advanced and unfortunately was compelled to make report to the office forthwith as it was evidently too erroneously run to be passed over in silence. We found some places where the old line was run 1 degree south of west, and where there were elbows in the line of six rods to the mile.

On the 18th we started on to this place for the purpose of making report, and arrived on the 21st. We found, on arriving here that the General had returned to Springfield, Illinois. The next day we proceeded (in company with Mr. Ream, chief clerk of the office) to Weston, Missouri, for the purpose of communicating with the General by telegraph. We sent a dispatch on the morning of the 22nd – no answer. Again in the evening I sent a dispatch to Lauphin & Walker, asking if Calhoun was at home. The next day, in the afternoon, I received a dispatch direct from Calhoun informing me that he was at home. Mr. Ream had returned to the office, but before leaving he had made out a dispatch to be forwarded. As soon as I learned that Calhoun was at home, I forwarded Mr. Ream's dispatch. The next day the lightning took possession of the wires and we have not been able to obtain any answer to our dispatch as yet. On yesterday morning we dispatched a special messenger to Springfield fearing that the wires could not be relied upon.

When we shall be able to get away from here is veiled in the future. Our expenses amount in the aggregate, to about \$600 per month. This looks like a very heavy expense, and is so in reality, now while we are earning nothing; but when we get to work we shall be able to make it tell pretty well. We can each earn about \$100 per day on our contracts. Having a bad opportunity for writing; being confined to a small tent, and that too by candle light. I shall here close promising you something more in the future. Write as you can. Direct to Leavenworth City, Kansas Territory.

Joseph Ledlie.

After conferring with Calhoun, Charles A. Manners and Joseph Ledlie returned to the cast iron monument along the west bank of the Missouri River on June 14, 1855. They resurveyed the base line and also tied in all of Johnson's erroneous corners at every half mile for 60 miles until they reached the First Guide Meridian East. At this location they jointly set a limestone measuring 48"x18"x6" on June 24, 1855. Johnson's corner was found to be 63.18 chains (4,169.88') to the south of where it should have been by their measurements. The men then returned to Leavenworth for additional supplies before beginning their contracts on the Guide Meridian. Four days later on June 28, 1855, they returned to the First Guide Meridian East corner and parted company. Manners started northward into Nebraska Territory, while Joseph Ledlie and his crew went south into Kansas Territory. Both men wasted little time since they would now be setting their own marks, and the speed in which they accomplished their task depended upon the amount of profit they would make.

The matter of the erroneously surveyed Base Line by Johnson became a heated matter of discussion. Surveyor General John Calhoun initially wanted to sue Johnson, but after consultation with General Land Office Commissioner Thomas A. Hendricks, the matter was dropped. A predicted lengthy court battle with Johnson would require a large sum of money. It would also involve bringing in witnesses such as Manners and Ledlie to be summoned to appear in court. This would take them away from their current contracts, which were already behind schedule. During the investigation it was found that Johnson was not familiar with using the Burt's Solar Compass, which was vital in establishing the arc of the Base Line on the earth's surface. The instrument, when returned by Johnson to Calhoun's office, was out of adjustment as a result of it either being dropped or by someone attempting to adjust it themselves. Johnson's contract called for payment of \$12.00 per mile with 10% held back pending verification. It is uncertain if the \$1,006.32 that was paid to Johnson for his work on the Base Line amounted to the total (less the 10%), or if it had been another agreed upon price. The total was a sizeable payment and amounts to approximately \$21,000.00 in today's (2005) money.

Both Charles A. Manners and Joseph Ledlie are considered to have been among the very best surveyors in their respective territories of Nebraska and Kansas. Their work has been tested by time and many surveyors in both states have enjoyed retracing their work as they have established their own marks upon the land during the past 150 years.

Pre-Dedication Excavation

On March 19, 2005, a group of seven Kansas and Nebraska surveyors consisting of Jerry Penry, Steve Brosemer, Gene Thomsen, Lynn Engle, Bill Wehling, David Doering and Chris Witulski met at the First Guide Meridian East point in advance of the June 24, 2005, ceremony. The original limestone set by Charles A. Manners was found oriented in the SW-NE direction as described, however it appeared that the top 18" of the original 48" length had at some time in the past been broken off. The width and thickness matched the dimensions of the notes, but the overall length was now 30". No markings could be found on the sides of the limestone and were presumably located on the portion that had been broken off from the main section.

Field Notes of Charles A. Manners
First Guide Meridian East Corner on the Base Line.
June 24, 1855

June 24, 1855, set Limestone 48x18x6 for Cor. to Township 1 N. & 1 S. & Ranges 8 & 9 E. This Cor. being distant 60 miles from monument on Missouri River and the point at which commences the Guide Meridian extending North and South from which Johnson's Cor. bears S 1°30' W, 63.18 ch's. The Cor. is on a low spot on prairie, 2d bottom North of high bluff near the top of which larger quantities of rock outcrop.

Land consists of both Prairie & Timber latter not of a very superior quality. Prairie gently rolling or level of 1st quality. Va. of needle 10°07' E. Compared the Instrument used on the line with that belonging to Surveyor General's Office (now in possession of Joseph Ledlie Dep. Sur. U.S.) and found them both to trace the same meridian. Compared chain used in measuring with Standard & found them 1/8 of an inch too long. The entire line run with Burt's Improved Solar Compass, no other instrument having been used.

The dist. to the corners established by Johnson were double chained at Township Corners only or once in 6 miles.

Base Line chained by two sets of chainmen the one following in the rear of the other. No marks are placed on any Cor. bearing tree, witness post, mound, Cor. stone or post to indicate the number of Sec., Township or Range on the south side of the Base Line.

Field Notes of Charles A. Manners
Beginning the First Guide Meridian East north into Nebraska
June 28, 1855

Begin at the Township corner to Ranges 8 and 9 East of the Sixth Principal Meridian on the Base Line sixty miles west of the monument at the Initial Point of surveys on the Missouri River – Said Township corner being a stone four feet long, (average) eighteen inches wide, and six inches thick set diagonally with the cardinal points and marked for a corner to Section One, Township One South, Range Eight East – Sec. 36 T1N, R8E – Sec. 31, T1N, R9E and Sec. 6, T1S, R9E.

Field Notes of Joseph Ledlie
Beginning the First Guide Meridian East south into Kansas
June 28, 1855

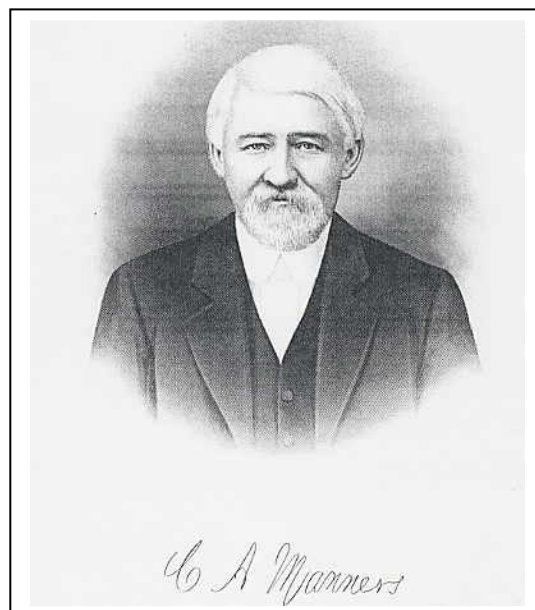
Begin at the Stone the established corner on the Base line, to range Eight and Nine East, set by Charles A. Manners Deputy United States Surveyor on the 24th day of June 1855. Known as the Sixty Mile corner the description of which is as follows to wit.

A Lime Stone Rock 48 in. long 18 In. wide – 6 in. thick, set diagonally. On the southeast side are the letters and figures R.9E. – S. 6. On the NW side R.8E. S. 36. On the S.W. edge S. 1 and on the N.E. edge S. 31. Said stone bears from the corner set by John P. Johnson N 1°30' E., 63.18 ch's. dist.

Obituary of Charles A. Manners

Charles A. Manners died at his residence in this city [Taylorville, Illinois] Jan. 31, '88. He was born in Somerset County, New Jersey, Aug. 2nd 1828, and was in his 60th year. Mr. Manners was of English origin, connected by relationship with the "Manners" family one of whom, Lord John Manners is now a member of the "The House of Peers" and belonged to the nobility of Great Britain. Mr. Manners was a gentleman of liberal education, kindness of spirit, courteous in address, a staunch democrat in politics of the "Benton" school. In early life he was a scholar in a school of which the now celebrated Dr. Talmage was the teacher. Later he followed the sea for 8 years as an under officer on ship board. He came to Illinois in 1852. Was surveyor of this county for four years, and afterwards sheriff for one term. He was also a civil engineer under Buchanan's administration surveying in the territories for 5 years. He was largely interested in railroad contracts during his life and by untiring industry had accumulated considerable property. He was also a member of the Masonic fraternity. In 1861 he married Miss Elizabeth Long of the well known "Long family" of this city. His widow survives him, also one daughter Mrs. Geo. Harner. He was ill for about four years prior to his death with a complication of diseases, but last August received a stroke of paralysis that affected his mind and his whole system giving way he sank from day to day till death ended his sufferings. His funeral conducted by Rev. A. P. Stover was from the house on Thursday, Feb. 2nd, 1888. Mrs. Manners and daughter receive the loving sympathy of the entire community in their affliction.

From the Taylorville Democrat, Taylorville, Illinois.
February 2, 1888.
Transcribed by Jerry Penry



Obituary of Joseph Ledlie

LEDLIE - Died, at his residence, corner of Edwards Street and Douglas Avenue, Thursday, May 4, at 8:45 p.m., Mr. Joseph Ledlie, aged 81 years.

Those who had been following the progress of his illness were not surprised when death called him away, as there seemed no hope for a day or two of his recovery from a severe attack of pneumonia. The news of his death, however, will be learned with profound regret by those who knew him.

Joseph Ledlie was born in Philadelphia, Pa, Jan. 19, 1812. He was the son of Arthur and Catharine Ledlie who emigrated to this country from Ireland in 1801, and settled in the East. The family removed later to Ohio and began farm life there. Joseph remained there until he was 25 years of age when, in company with his brother Arthur, he came to Illinois. They returned to Gallipolis, O., the next year and taught in the academy there. Joseph's longing for the western prairies seems never to have left him and he returned to the state in 1838, settling with his sisters and brothers in Macoupin county, where they farmed and taught school. Joseph came to Springfield in 1846. Mr. Ledlie had inherited an inventive and mathematical mind from his father and it was a natural that he should be appointed by John B. Watson, deputy county surveyor soon after his arrival here. Mr. Watson subsequently went to California and left the office to Mr. Ledlie who conducted it with credit and ability. The following year he was formally elected to the office. In 1855 he was appointed United States Deputy Surveyor of Kansas and Nebraska and remained in the west until 1857.

In 1860 he was nominated by the Democratic Party as a candidate for the legislature against Hon. Shelby M. Cullom, but was defeated by a small majority. He has ably filled the office of county surveyor for several terms. He was also a member of the West Springfield board of trustees and leaves a very creditable record in that capacity. He was city scales inspector during Mayor Hay's administration. He was never married until 1881, when Miss Emma Snell became his bride and she survives him.

Mr. Ledlie was a man of sturdy constitution and one whose appearance belied his age. No one would have judged that he was beyond 65 years of age as his step was light and agile, his eyesight and hearing were good and his voice was like that of a young and vigorous man. He was possessed of an unusual social disposition and was communicative and frank with young and old. He had a fund of information always at command which he told in an interesting way and so unassuming that everyone listened to him with pleasure.

The funeral services will be held at the residence tomorrow afternoon at 2 o'clock.

Planning Committee & State Representatives

Remonumentation and Dedication Ceremony

June 24, 2005

Jerry Penry, RLS
Milford, Nebraska
(Nebraska Coordinator)

Gene Thomsen, RLS
Nebraska Deputy State Surveyor
Lincoln, Nebraska

Steve Cobb, RLS
Nebraska State Surveyor
Lincoln, Nebraska

Bill Wehling, RLS
Gage County, Nebraska
Beatrice, Nebraska

Jerry Hain, RLS
Pawnee County, Nebraska
Wahoo, Nebraska

David Doering, RLS
Beatrice, Nebraska

Chris Witulski, RLS
Filley, Nebraska

Dick Hansen, RLS
President - Professional Surveyors
Association of Nebraska
Blair, Nebraska

Connie Arnold
Executive Secretary -
Professional Surveyors
Association of
Nebraska
Blair, Nebraska

Mike Johnson, RLS
President - Southeast Nebraska
Land Surveyors Association
Lincoln, Nebraska

Steve Brosemer, RLS
Chairman - Historical
Preservation Committee
Emporia, Kansas
(Kansas Coordinator)

Lynn Engle
Great Bend, Kansas

Larry Graham, RLS
President - Kansas Society of
Land Surveyors
Kansas City, Missouri

Cameron Howell, RLS
Trinidad, Colorado

Melany Pearce
Executive Director
Kansas Society of Land
Surveyors
Wichita, Kansas

SCHEDULE OF EVENTS

Friday, June 24, 2005

- 10:00 AM** - Opening remarks and observe the original GLO stone at the First Guide Meridian East site.
- 10:15 AM** - Remonument the First Guide Meridian East stone with the commemorative brass disk and concrete & iron monument box.
Measure south one mile by link chain, steel tape, total station and RTK GPS.
- 1:00 PM** - Lunch break at the Liberty, Nebraska, American Legion Hall with an analysis of the measurements.
Presentation of certificates to the chaining winners and the presentation of commemorative paperweights to notables.
- 1:45 PM** - Historical talk by Jerry Penry and Steve Brosemer on U. S. Deputy Surveyors Charles Manners and Joseph Ledlie, respectively.
- 2:45 PM** - Conclusion of the event or return to the site for more measuring.



Commemorative Paperweight
3½" Diameter Brass
Berntsen International, Inc.



Commemorative Lapel Pin
1" Diameter Brass Plated
Lapel Pin Productions