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RESULTS OF SPIRIT LEVELING IN MISSOURI

1896 TO 1914, INCLUSIVE

R. B. MARSHALL, CHIEF GEOGRAPHER

WORK DONE IN COOPERATION WITH THE STATE OF MISSOURI
FROM 1907 TO 1914, INCLUSIVE



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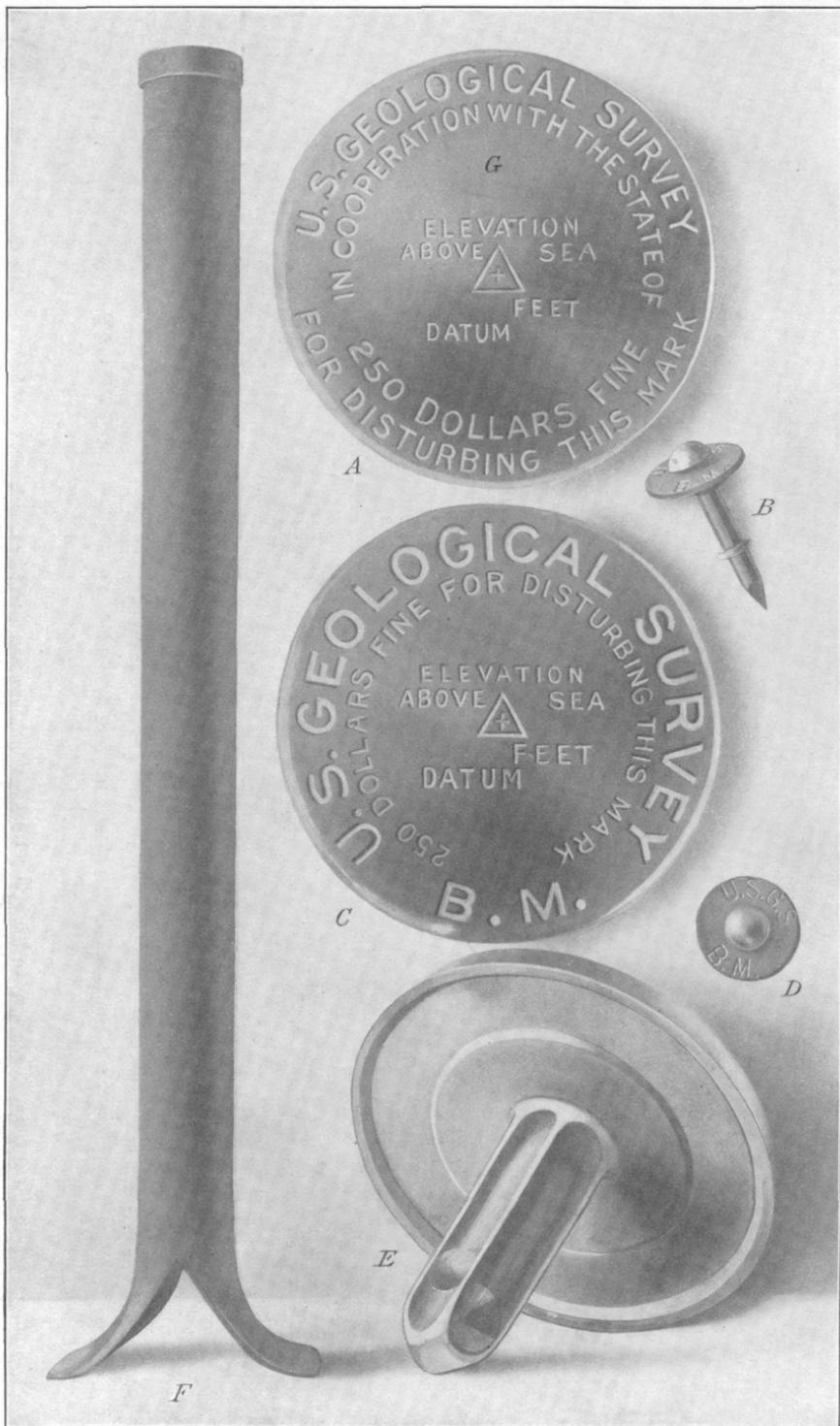
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GEOLOGICAL SURVEY BENCH MARKS.

- A*, Tablet used in cooperating States. The State name is inserted at *G*.
B and *D*, Copper temporary bench mark, consisting of a nail and copper washer.
A, *C*, and *E*, Tablets for stone or concrete structures.
F, Iron post used where there is no rock.

RESULTS OF SPIRIT LEVELING IN MISSOURI, 1896 TO 1914, INCLUSIVE.

R. B. MARSHALL, Chief Geographer.

INTRODUCTION.

Cooperation.—The State of Missouri contributed financially to nearly all the work done in the State from 1907 to 1914, inclusive, through the Bureau of Geology and Mines, of which E. R. Buckley was State geologist in 1907 and H. A. Buehler has been State geologist since 1907.

Previous publication.—The results of spirit leveling previously published in Bulletin 459, containing descriptions and elevations of bench marks established in Missouri from 1896 to 1909, inclusive, and based on the 1907 adjustment, have been corrected to agree with the 1912 adjustment of precise leveling of the Coast and Geodetic Survey and are here republished, together with all results of spirit leveling by the United States Geological Survey since 1909. The elevations are likely to be changed but slightly by any future adjustment.

The part of the precise-level net which lies within or along the borders of Missouri comprises the line of the Coast and Geodetic Survey across the State from St. Louis to Kansas City and from Kansas City southward to the southwest corner of the State; the line of the Mississippi River Commission along the eastern boundary of the State; and the line of the Missouri River Commission along the Missouri River from its mouth northwestward to the northwest corner of the State.

Personnel.—The field work previous to 1903 was done under the general direction of J. H. Renshawe, geographer; that from 1903 to 1906, inclusive, under H. M. Wilson, geographer; and the later work under W. H. Herron, geographer, under the general direction of R. B. Marshall, chief geographer. The names of the various levelmen are given in the introduction to each list. The office work of computation, adjustment, and preparation of lists was done mainly by S. S. Gannett, geographer, and D. H. Baldwin, topographer, and since 1907 under the general direction of E. M. Douglas, geographer.

Classification.—The elevations are classified as precise or primary according to the methods employed in their determination. For precise-level lines instruments and rods of the highest grade known are used, each line is run both forward and backward, and every precaution is taken to guard against error. The allowable divergence between the forward and backward lines in feet is represented by the

formula $0.017\sqrt{D}$, in which D is the distance in miles between bench marks. For primary lines standard Y levels are used; lines are run in circuits or are closed on precise lines, with an allowable closing error represented in feet by the formula $0.05\sqrt{D}$, in which D is the length of the circuit in miles, sufficient care being given to the work to maintain this standard. For levels of both classes careful office adjustments are made, the small outstanding errors being distributed over the lines.

Bench marks.—The standard bench marks are of two forms. The first form is a circular bronze or aluminum tablet (C and E , Pl. I), $3\frac{1}{2}$ inches in diameter and one-fourth inch thick, having a 3-inch stem, which is cemented in a drill hole in solid rock in the wall of some public building, bridge abutment, or other substantial masonry structure. The second form (F , Pl. I), to be set in the ground where no masonry or rock is available, consists of a hollow wrought-iron post $3\frac{1}{2}$ inches in outside diameter and 4 feet long. The bottom is spread out to a width of 10 inches in order to give a firm bearing on the earth. A bronze or aluminum-bronze cap is riveted upon the top of the post. A third style of bench mark with abbreviated lettering (B and D , Pl. I) is used for unimportant points. This consists of a special copper nail $1\frac{1}{2}$ inches in length driven through a copper washer seven-eighths inch in diameter. The tablets as well as the caps on the iron posts are appropriately lettered, and where States have cooperated in the work the fact of such cooperation is indicated by the addition of the State name (G , Pl. I).

The numbers stamped on the bench marks described in the following pages are the elevations to the nearest foot as determined by the levelman. These numbers are stamped with $\frac{3}{16}$ -inch steel dies on the tablets or post caps, to the left of the word "feet." The office adjustment of the notes and the reduction to mean sea level datum may so change some of the figures that the original markings are 1 or 2 feet in error. It is assumed that engineers and others who have occasion to use the bench-mark elevations will apply to the Director of the United States Geological Survey, at Washington, D. C., for their adjusted values, using the markings as identification numbers only.

Datum.—All elevations taken by the United States Geological Survey are referred to mean sea level, which is the level that the sea would assume if the influence of tides and winds were eliminated. This level is not the elevation determined from the mean of the highest and lowest tides, nor is it the half sum of the mean of all the high tides and the mean of all the low tides, which is called the half-tide level. *Mean sea level is the average height of the water, all stages of the tide being considered.* It is determined from observations made by means of tidal gages placed at stations where local conditions, such as long, narrow bays, rivers, and like features will not affect the height of the water. To obtain even approximately correct results, these observations must extend over at least

one lunar month, and if great accuracy is desired they must extend over several years. At ocean stations the half-tide level and mean sea level usually differ but little. It is assumed that there is no difference between the mean sea level as determined from observations in the Atlantic Ocean, the Gulf of Mexico, or the Pacific Ocean.

The connection with tidal stations for bench marks in certain areas that lie at some distance from the seacoast is still uncertain, and this fact is indicated by the addition of a letter or word to the right of the word "Datum" on tablets or posts. For such areas corrections for published results will be made from time to time as the precise-level lines of the Geological Survey or other Government organizations are extended.

Topographic maps.—Maps of the following quadrangles wholly or partly in Missouri have been published by the United States Geological Survey up to April 15, 1915. They may be obtained, except as noted, for 10 cents each, or \$3 for 50, on application to the Director of the Survey at Washington, D. C.

Atchison (Kans.-Mo.).	Leavenworth (Kans.-Mo.).
Atlanta.	Lexington.
Aurora.	Louisiana (Mo.-Ill.).
Bolivar.	Macon.
Bonneterre.	Marshall.
Boonville.	Mexico.
Butler.	Moberly.
Carthage.	Mound City (Kans.-Mo.).
Chester (Ill.-Mo.)	Mountain Home (Ark.-Mo.)
Clinton.	Nebraska City (Nebr.-Iowa-Mo.).
Crystal City.	Nemaha (Mo.-Nebr.)
De Soto.	Nevada.
Edina.	O'Fallon (Mo.-Ill.).
Eldon. ¹	Olathe (Kans.-Mo.).
Eureka Springs (Ark.-Mo.).	Oskaloosa (Kans.-Mo.).
Farmington.	Palmyra.
Fayetteville (Ark.-Mo.).	Potosi.
Forsyth.	Queen City.
Fort Scott (Kans.-Mo.).	Renault (Mo.-Ill.).
Fulton.	St. Louis (Mo.-Ill.), double sheet (20 cents).
Glasgow.	St. Louis, city of (60 cents).
Gravois Mills. ¹	Sedalia.
Greenfield.	Springfield.
Harrison (Ark.-Mo.).	Stockton.
Harrisonville.	Sullivan.
Hermann.	Tuscumbia.
Higdon.	Versailles. ¹
Independence.	Warrensburg.
Jefferson City.	Warsaw.
Joplin (Kans.-Mo.-Okla.).	Weingarten (Mo.-Ill.).
Joplin district (Mo.-Kans.-Okla.), double sheet (20 cents).	Wyandotte (Okla.-Mo.-Kans.).
Kahoka (Mo.-Iowa-Ill.).	Yellville (Ark.-Mo.).
Kansas City (Kans.-Mo.).	

¹ Eldon and Gravois Mills sheets show parts of Versailles quadrangle on larger scale.

PRECISE LEVELING.

De Soto, O'Fallon, and Sullivan (30') quadrangles and Condray, Redbird, and Rolla (15') quadrangles.

CRAWFORD, FRANKLIN, AND PHELPS COUNTIES.

The elevations in the following list are based upon the 1912 adjustment elevation of a bench mark of the United States Army Engineers near Labadie, Mo. Precise methods were used, the line being run in both directions. The line begins near Labadie and follows the Missouri Pacific Railway east to Pacific, thence southwest along the St. Louis & San Francisco Railroad to Arlington, a total distance of 99 miles.

The work was done in 1908 by E. L. McNair.

O'FALLON QUADRANGLE.

[Latitude 38° 30'-39°; longitude 90° 30'-91°.]

Near Labadie.

Labadie, 1.1 miles west of, at west end of large rock through cut about 18½ feet lower than track, 1 foot inside wire fence along right of way; United States Army Engineer's bench mark, iron post, top of cap.....	Feet. 472.572
Labadie, in front of station; top of rail.....	495.0

DE SOTO QUADRANGLE.

[Latitude 38°-38° 30'; longitude 90° 30'-91°.]

From Gray Summit east along Missouri Pacific Ry. to Pacific, thence southwest along St. Louis & San Francisco R. R. to St. Clair.

Gray Summit, about 55 feet west of station, 26 feet northeast of main track, 6 feet southeast of milepost 41, 25 feet northwest of road crossing; iron post stamped "633".....	633.273
Gray Summit, in front of station; top of rail.....	632.9
Pacific, L. E. Roemer's store on Main Street, two doors east of post office, in southeast corner of foundation; bronze tablet stamped "466".....	466.775
Pacific station, about 0.4 mile west of, 55 feet east of center of track of main line St. Louis & San Francisco R. R., 40 feet west of corner of Anton Brandt's house, just outside picket fence, 3 feet southwest of fence corner, 9 feet east of center of highway; iron post stamped "465".....	465.129
Pacific, 2.5 miles west of, north side of track, at east end of Meramec River bridge, on top of pier; chiseled square.....	469.05
Catawissa, in front of station; top of rail.....	531.1
Robertsville, about 90 feet east of station, 22 feet south of center of track, at fence corner inclosing section house; iron post stamped "515".....	504.392
Robertsville, in front of station; top of rail.....	504.1
Moselle, 2.25 miles east of, about 0.5 mile east of milepost 44, 5 feet east of farm crossing, 10 feet north of center of track; iron post stamped "517".....	507.369
Moselle, 65 feet west of station, about 30 feet north of center of track, 2 feet west of telegraph pole; iron post stamped "507".....	497.324
St. Clair, 3.1 miles east of, about 470 feet west of milepost 49, 20 feet west of road crossing, at corner of right of way fences; iron post stamped "699".....	688.345
St. Clair, northwest corner of North Street and Springfield road, 2.3 feet from fire hydrant, in pavement; copper bolt stamped "780" (old bench mark).....	769.678
St. Clair, in front of station; top of rail.....	767.6

SULLIVAN QUADRANGLE.

[Latitude 38°-38° 30'; longitude 91°-91° 30'.]

From St. Clair southwest along St. Louis & San Francisco R. R. to Fanning.

	Feet.
Anaconda, in front of station; top of rail.....	842. 5
Anaconda, about 72 feet north of center of track, about 2.5 feet from telephone pole and near fence corner of lot owned by W. M. Daugherty; iron post stamped "851".....	840. 862
Stanton, in front of station; top of rail.....	872. 4
Stanton, about 60 feet west of station, 60 feet from center of track, in southeast corner of foundation to dwelling house and hotel owned by Joseph Schumke, in corner stone; bronze tablet stamped "882".....	872. 130
Stanton, 2 miles west of, 100 feet west of road crossing, 2.5 feet inside of right of way fence, 10 feet northwest of telegraph pole; iron post stamped "910".....	898. 588
Sullivan, about 100 feet east of station, in foundation of Bennett Hotel, at south side of main entrance; aluminum tablet stamped "987".....	976. 595
Sullivan, in front of station; top of rail.....	970. 9
Sullivan, 3 miles west of, about 35 feet west of road crossing, near milepost 71, 20 feet south of center of track, 3 feet from wire fence; iron post stamped "1035".....	1, 023. 892
Bourbon, in front of station; top of rail.....	954. 5
Bourbon, about 150 feet west of station, 60 feet north of center of track, in corner stone of foundation wall at southeast corner of Bourbon Hotel; old bench mark stamped "967".....	956. 683
Coffeyton station, opposite semaphore stand, 65 feet west of center of track, 35 feet southwest of oak tree, 1.5 feet from picket fence; iron post stamped "1036".....	1, 024. 703
Coffeyton, in front of station; top of rail.....	1, 023. 2
Leasburg, about 35 feet east of station, in west foundation wall of old Exchange Hotel, 2 feet from corner, building owned by W. D. Davis; aluminum tablet stamped "1036".....	1, 024. 750
Hofflin flag station, about 700 feet east of, on south side of track, 6 feet from right of way fence, about 7 feet above track; iron post stamped "1049".....	1, 037. 645
Hofflin flag station, in front of; top of rail.....	1, 039. 0
Cuba, in front of station; top of rail.....	1, 015. 4
Cuba, southwest corner of foundation of Grand Hotel; aluminum tablet stamped "1045" (old bench mark).....	1, 035. 124
Fanning, in front of station; top of rail.....	1, 059. 0
Fanning, 15 feet west of station platform, 15 feet south of center of track, 15 feet north of right of way fence; iron post stamped "1071".....	1, 060. 425

REDBIRD QUADRANGLE.

[Latitude 38°-38° 15'; longitude 91° 30'-91° 45'.]

From Fanning southwest along St. Louis & San Francisco R. R. to St. James.

Knobview, 90 feet east of station, about 45 feet south of center of track, 12 feet east of gate at farm road crossing, 2 feet north of right of way fence; iron post stamped "1084".....	1, 074. 005
Knobview, in front of station; top of rail.....	1, 072. 1

CONDRA Y QUADRANGLE.

[Latitude 37° 45'-38"; longitude 91° 30'-91° 45'.]

From St. James southwest along St. Louis & San Francisco R. R. to Rolla.

	Feet.
St. James, in front of station; top of rail.....	1,089. 4
St. James, corner of Meramec and Washington streets, about 70 feet north of center of track, 25 feet from corner of Commercial Hotel, in angle between crosswalk and sidewalk; iron post stamped "1098".....	1,087. 800
St. James, 2.5 miles west of, 35 feet east of road crossing, 35 feet south of center of track, 2.5 feet from corner fence post in right of way fence; iron post stamped "1098".....	1,087. 723
Dillon, in front of station; top of rail.....	1,093. 4
Dillon, 55 feet west of station, 40 feet south of center of railroad track, 2 feet north of right of way fence; iron post stamped "1103".....	1,092. 550
Dillon, 1.8 miles west of, 65 feet west of road crossing, 10 feet west of telephone pole, 2 feet north of right of way fence; iron post stamped "1185".....	1,184. 537

ROLLA QUADRANGLE.

[Latitude 37° 45'-38"; longitude 91° 45'-92".]

From Rolla west along St. Louis & San Francisco R. R. to Arlington.

Rolla, on Pine Street, in yard of residence owned by B. L. Knapp, 8 feet west of cement house walk, 4 feet south of public sidewalk; iron post stamped "1130" (originally set as meridian mark).....	1,129. 446
Rolla, in front of station; top of rail.....	1,098. 9
Rolla, 2.25 miles west of, about 30 feet south of center of track, 6 feet east of corner post of right of way fence, 15 feet east of road at crossing; iron post stamped "975".....	975. 001
Newburg, 3.5 miles east of, on top of bank of cut, 6 feet above track, 40 feet west of little used public road, 2 feet north of right of way fence; iron post stamped "807".....	807. 264
Newburg, in front of station; top of rail.....	711. 8
Newburg, 10 feet south of southeast corner of Sullivan House, in line with row of maple trees, about 3 feet from sidewalk; iron post stamped "712".....	711. 733
Newburg, 1.8 miles west of, about 70 feet west of road crossing, 28 feet south of center of track, 25 feet north of northeast corner of brick building (former storehouse of Ozark Iron Works), 2 feet north of wire fence; iron post stamped "701".....	700. 777
Arlington, in front of station; top of rail.....	695. 3
Arlington, 0.2 mile west of station, south end of east pier of bridge over Gasconade River, 1 foot south of outside anchor bolt, in capstone; aluminum tablet stamped "687".....	686. 848

PRIMARY LEVELING.

St. Louis quadrangle.

ST. LOUIS COUNTY.

The elevations in the following list are based on the "city directrix" or bench mark "K₃" of the Coast and Geodetic Survey at St. Louis, a T cut on the top surface of a pedestal level with the curbstone on Front Street near Market Street. The elevation of this pedestal, which formerly supported a monument, accepted as 413.969 feet

above mean sea level, was not changed by the 1912 adjustment. The connection with this bench mark was obtained through precise leveling of the city of St. Louis.

The leveling was done in 1903 by L. Scott Smith. Additional leveling was done near Fenton in 1913 by G. W. Lucas.

ST. LOUIS QUADRANGLE.

[Latitude 38° 30'–38° 45'; longitude 90°–90° 30'.]

From St. Louis west along highway to Barrett, thence south to Valley Park and east via Mehlville to St. Louis.

	Feet.
St. Louis, south side of Manchester Avenue, at city limits, 260 feet west of junction of avenue and Blenton Place; point in square cut in northeast angle of cross on top of city-limit stone 71.....	482. 643
Kirkwood, southwest abutment of bridge across Missouri Pacific Ry. tracks, south of Main Street; aluminum tablet stamped "648 St. Louis".....	647. 915
Barret, 1 mile northeast of station, iron bridge over Sugar Creek; center of square cut on southeast abutment.....	446. 52
Fenton, iron bridge over Meramec River; square cut on southwest abutment.....	423. 468
Mehlville, 0.25 mile northwest of, stone culvert on south side of road; aluminum tablet stamped "595 St. Louis".....	594. 808

From Kirkwood north along highway to Dwyers, thence east to St. Louis.

Clayton, courthouse grounds, northwest of courthouse, in large square stone; aluminum tablet stamped "610 St. Louis".....	609. 259
St. Louis, city bench mark No. 69, city elevation 511.890.....	511. 89

From Barret station north along highway to Fern Ridge, thence east to Strattman and south to Dwyers.

Fern Ridge post office, 0.2 mile east of, at junction of Mason and Olive streets, on south side, in stone culvert; aluminum tablet stamped "559 St. Louis".....	558. 913
Creve Cœur post office, 1 mile east of, at road fork to north, just north of telegraph pole, in center of triangle; cross cut on top of section stone..	683. 25

From Fern Ridge northeast along highway to Pattonville, thence east and south to city limits.

Pattonville, 1.6 miles southeast of, northeast abutment of wagon bridge; aluminum tablet stamped "554 St. Louis".....	554. 09
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Near Fenton.

Murphy, 1.34 miles northeast of, at road forks on Gravois road, 150 feet west of house, in root of tree which supports several mail boxes; copper nail marked "575.2".....	575. 24
Murphy, 2.39 miles northeast of, at road fork on Gravois road, 50 feet northeast of old blacksmith shop, in base of telephone pole; copper nail marked "449.8".....	449. 77
Fenton, iron bridge over Meramec River; square cut on southwest abutment.....	423. 468

O'Fallon quadrangle.

FRANKLIN, LINCOLN, ST. CHARLES, AND ST. LOUIS COUNTIES.

The elevations in the following list are based on the Missouri River Commission bench mark No. 21 at St. Charles. The bench mark is on the north side of Lawrence Street, 25 feet west of the center of Missouri, Kansas & Texas Railway track, in the southeast corner of David Lane's lot, 1 foot west from the fence. It is the top of an iron post over a copper bolt in the bench-mark stone. The elevation is 449.454 feet above mean sea level.

The leveling in the part of the quadrangle south of the Missouri River was done in the season of 1897 by Jesse L. Holman, and that in the part north of the river in the season of 1898 by Charles La Rue.

O'FALLON QUADRANGLE.

[Latitude 38° 30'-39°; longitude 90° 30'-91°.]

	Feet.
Manchester, SE. $\frac{1}{4}$ sec. 36, T. 45 N., R. 4 E., near Henry Avenue and Manchester rock road; iron post stamped "St. L. 512".....	513. 478
T. 44 N., R. 4 E., SW. $\frac{1}{4}$ sec. 5, north of State road, 500 feet northeast of Mr. Shotwell's log house; iron post stamped "St. L. 739".....	740. 424
T. 44 N., R. 3 E., SE. $\frac{1}{4}$ sec. 17, on south side of State road; iron post stamped "St. L. 670".....	671. 284
T. 44 N., R. 2 E., NW. $\frac{1}{4}$ sec. 25, near junction of Manchester rock road and road to Pacific; iron post stamped "St. L. 799".....	800. 714
T. 45 N., R. 3 E., near southwest corner H. Hilkenkamp's store; iron post stamped "St. L. 670".....	672. 052
Chantilly, T. 49 N., R. 1 E., NE. $\frac{1}{4}$ sec. 24, northwest corner schoolhouse grounds; iron post stamped "St. L. 634".....	634. 968
Troy, in foundation of county courthouse; aluminum tablet stamped "572".....	573. 159
Moscow Mills, wagon-road bridge over Cuivre River, north end of abutment; aluminum tablet stamped "St. L. 461".....	462. 386
Flint Hill, stone doorsill of stone building owned by Bernard Beller; aluminum bolt stamped "St. L. 551".....	552. 17
T. 49 N., R. 3 E., NE. $\frac{1}{4}$ sec. 29, in yard of Smedley district schoolhouse; iron post stamped "St. L. 574".....	575. 532
T. 44 N., R. 2 E., Vals, foundation of Catholic-school building; aluminum tablet stamped "St. L. 518".....	518. 902
Gilmore, opposite east end of Wabash R. R. station, T. 44 N., R. 2 E.; iron post stamped "St. L. 562".....	562. 869
St. Peters, T. 47 N., R. 3 E., in parapet wall of west abutment of Wabash R. R. bridge; aluminum tablet stamped "St. L. 445".....	446. 528
Cottleville, T. 46 N., R. 3 E.; foundation of public-school building; aluminum tablet stamped "St. L. 516".....	517. 735
Mechanicsville, T. 46 N., R. 2 E., in yard of Howell Institute building; iron post stamped "St. L. 719".....	720. 866
T. 45 N., R. 2 E., Missouri, Kansas & Texas Ry. bridge over Little Femme Osage Creek, north end of east abutment; aluminum bolt stamped "St. L. 462".....	463. 246
Augusta, SE. $\frac{1}{4}$ sec. 11, T. 44 N., R. 1 E., 350 feet northwest of German Evangelical Church, in ledge of white limestone rock; aluminum tablet stamped "St. L. 613".....	614. 357

	Feet.
Dutzow, T. 44 N., R. 1 E., south wall of Wengleford's hardware store; aluminum tablet stamped "St. L. 497".....	498. 209
Femme Osage, SW. $\frac{1}{4}$ sec. 20, T. 45 N., R. 1 E., in foundation of German Evangelical Church; aluminum tablet stamped "St. L. 659".....	660. 409
T. 44 N., R. 1 W., NE. $\frac{1}{4}$ sec. 24, on land of Charles Birbonne, north side of road from Femme Osage to Mechanicsville; iron post stamped "St. L. 778".....	779. 490
Coppeln, SW. $\frac{1}{4}$ sec. 5, T. 45 N., R. 1 E., in stone doorsill of brick store building; aluminum bolt stamped "St. L. 829".....	829. 883
T. 48 N., R. 1 W., NE. $\frac{1}{4}$ sec. 25, on land owned by Elizabeth Condor, west side of north-south wagon road; iron post stamped "St. L. 532".....	533. 467
T. 46 N., R. 1 W., SE. $\frac{1}{4}$ sec. 1, 3 miles south of Foristell, on north side of road; iron post stamped "St. L. 745".....	745. 892
T. 47 N., R. 1 W., SE. $\frac{1}{4}$ sec. 24, north wall of stone box culvert under Wabash R. R. track, 0.25 mile west of Foristell; aluminum bolt stamped "St. L. 695".....	696. 372
Dardenne, sec. 2, T. 46 N., R. 2 E.; cross mark cut on west end of upper stone step of Catholic Church.....	619. 13

De Soto quadrangle.

FRANKLIN, JEFFERSON, AND WASHINGTON COUNTIES.

The elevations in the following list are based on that of a bronze tablet stamped "508," in the foundation of the opera-house building at De Soto. The initial height on which the leveling in this locality rests is a level bench mark at De Soto, connected with the Mississippi River Commission bench mark "45/3" at Riverside, Mo. From these data the elevation of the central datum point is accepted as 508.971 feet above mean sea level.

The leveling was done by A. F. Montmorency and C. H. Dana in 1896.

Owing to excessive errors in closure of circuits the elevations given in this list are only approximate, excepting for the bench marks at Pacific and St. Clair, which were included in the precise leveling done in 1908. Additional leveling was done near Jarvis, St. Paul's Church, and Victoria in 1913 by G. W. Lucas.

DE SOTO QUADRANGLE.

[Latitude 38°-38° 30'; longitude 90° 30'-91°.]

Jefferson County.

T. 43 N., R. 5 E., NE. $\frac{1}{4}$ sec. 7, on Gravois Road 3 miles north of High Ridge, at junction of road to Valley Park; iron post stamped "714".....	714. 706
High Ridge, SE. $\frac{1}{4}$ sec. 14, T. 43 N., R. 4 E., on road opposite post office; iron post stamped "926".....	927. 296
House Springs, NE. $\frac{1}{4}$ sec. 4, T. 42 N., R. 4 E., on north end of east abutment of bridge across Hedge Creek; bronze tablet stamped "465".....	466. 536
T. 42 N., R. 5 E., SE. $\frac{1}{4}$ sec. 18, 200 yards south of St. Paul's Church on road from House Springs to Antonia; iron post stamped "881".....	882. 164
Byrnesville, sec. 12, T. 42 N., R. 3 E., near center of southwest abutment of iron bridge over Big River; copper bolt stamped "459".....	460. 433

	Feet.
Bellows Creek post office, SW. $\frac{1}{4}$ sec. 10, T. 41 N., R. 4 E., iron post stamped "708".....	709.485
Morse Mills, in north abutment of bridge over Big River; bronze tablet stamped "494".....	495.389
Hillsboro, sec. 3, T. 40 N., R. 4 E., in corner stone of county courthouse; bronze tablet stamped "801".....	802.677
Ware, near post office, about center of sec. 11, T. 40 N., R. 3 E., in sandstone ledge on north bank of Dry Creek; copper bolt stamped "552"....	552.646
De Soto, southeast corner of foundation of opera-house building; bronze tablet stamped "508".....	508.971
Valles Mines, 45 feet southwest of station; iron post stamped "745".....	745.665
T. 43 N., R. 3 E., near center of sec. 27, near Wilson's house, on rock on road from Pacific to Byrnesville; copper bolt stamped "479".....	479.793
T. 39 N., R. 5 E., near southeast corner of sec. 30, on ledge of rock 300 feet east of Coles Mill, 2.5 miles northwest of Valles Mines station; copper bolt stamped "646".....	647.437

Franklin County.

T. 43 N., R. 1 W., SW. $\frac{1}{4}$ sec. 26, 0.5 mile east of Union, on capstone of southeast corner of stone bridge over Flat Creek; bronze tablet stamped "516".	516.811
T. 43 N., R. 1 E., SW. $\frac{1}{4}$ sec. 16, 4 feet south of Coast and Geodetic Survey monument "Halleck;" iron post stamped "789".....	790.242
Pacific, in northeast corner of sec. 12, T. 43 N., R. 2 E., southeast corner of foundation of L. E. Roemer's store on Main Street, two doors east of post office; bronze tablet stamped "466".....	466.895
T. 42 N., R. 1 E., near center of sec. 26, 3.5 miles southeast of Moselle on main road to Grubville; templet of northwest abutment of iron bridge over Meramec River.....	508.0
T. 41 N., R. 1 W., 6 feet south of northwest corner of sec. 1, in rock west of road; copper bolt stamped "699".....	699.684
St. Clair, 200 feet north of station, near northwest corner of sec. 36, T. 42 N., R. 1 W., corner stone of curb on southeast corner of Frederick Augerer's store; copper bolt stamped "769".....	769.798
T. 41 N., R. 1 E., NW. $\frac{1}{4}$ sec. 1, 15 feet east of spring at S. H. Dixon's place, in rock; copper bolt stamped "515".....	515.714
Grubville post office, near, NW. $\frac{1}{4}$ sec. 23, T. 41 N., R. 2 E., in southeast corner of yard of Dr. Davis's house; iron post stamped "908".....	908.623
T. 41 N., R. 2 E., near southeast corner of sec. 32, in root of tree at forks of road; nail.....	803.1
T. 42 N., R. 2 E., near southwest corner of SW. $\frac{1}{4}$ sec. 26, on road from Robertsville to Grubville, at fork to Catawissa; iron post stamped "787"..	787.98

Washington County.

Richwoods post office, near center of south side of crossroads, in root of walnut tree; nail.....	823.470
T. 40 N., R. 1 E., NW. $\frac{1}{4}$ sec. 23, 50 yards west of road from Richwoods down Indian Creek and 75 yards east of Flannigan's house, in ledge of rock on west bank of Little Indian Creek; copper bolt stamped "637".....	637.719
Hulsey post office, 80 feet east of, near northwest corner of SW. $\frac{1}{4}$ sec. 36, T. 40 N., R. 1 W., in rock; copper bolt stamped "631".....	632.543
T. 39 N., R. 1 W., near southeast corner of NE. $\frac{1}{4}$ sec. 22, 60 feet northeast of barn on J. B. Muerhaney's farm, in flat rock; copper bolt stamped "761".....	762.306

	Feet.
T. 38 N., R. 1 W., near southwest corner of NW. $\frac{1}{4}$ sec. 1, 40 feet south of J. W. Boyd's house, in rock; copper bolt stamped "830".....	831. 313
Troutt post office, northeast of, near northeast corner of sec. 35, T. 39 N., R. 1 E., at forks in roads, in rock; copper bolt stamped "1079".....	1, 081. 872
Richwoods post office, 2 miles south of, on road from Richwoods to Old Mines, in crossroads; iron post stamped "851".....	852. 997
Fourche a Renault post office, 250 feet west of, near center of sec. 13, T. 38 N., R. 1 E., near big spring; iron post stamped "709".....	710. 245
Old Mines post office, north end of lower step at gate to Catholic Church; copper bolt stamped "820".....	820. 729
T. 38 N., R. 3 E., SE. $\frac{1}{4}$ sec. 4, at fork in road to Fillmore, 2.5 miles southwest of Fertile post office, in sandstone rock on east side of road from Fertile to Old Mines; copper bolt stamped "913".....	913. 991
Fertile post office, 60 feet south of, sec. 27, T. 39 N., R. 3 E., side of top step of doorsill at Higginbotham's house; bronze tablet stamped "763"	764. 460
T. 38 N., R. 4 E., NE. $\frac{1}{4}$ sec. 7, north abutment of St. Louis, Iron Mountain & Southern Ry. bridge 46, 0.8 mile south of Blackwell station; copper bolt stamped "594".....	594. 910

From point near Jarvis to Jarvis, thence north along highway to point 1.7 miles northeast of Goldman.

Horine, 4.3 miles northwest of, at road-fork signpost "Hillsboro 5 $\frac{1}{2}$ miles," 200 feet south of log farmhouse, in corner of fence post; spike.....	647. 38
Jarvis, about 175 feet south of post office, SE. $\frac{1}{4}$ sec. 19, T. 41 N., R. 5 E., in rock; bronze tablet stamped "532 Mo.".....	531. 809
Jarvis, 0.97 mile due north of, at intersection of Pevely-Goldman and Jarvis roads, in base of telephone pole; spike.....	502. 61
Goldman, at intersection of Le May Ferry and Jarvis roads, 80 feet south of store; iron post stamped "Mo. 481".....	481. 311
Goldman, 1.7 miles northeast of, on top of big hill at road fork, in base of telephone pole; spike.....	905. 33

Near St. Paul's Church.

Antonia, 2.18 miles west of, about 350 yards north of St. Paul's Church, at intersection of Antonia, House Springs, and Murphy roads, iron post Prim. Trav. Sta. No. 5. (See U. S. Geol. Survey Bull. 459, p. 13, for old elevation, 882.164 feet, now discarded).....	879. 615
Antonia, 3.78 miles northwest of, about the center of sec. 7, T. 42 N., R. 5 E., at intersection of High Ridge and Murphy roads, in top of oak stump; copper nail.....	927. 06

Near Victoria.

Victoria, about 1 mile north of, in north abutment bridge 28, St. Louis, Iron Mountain & Southern Ry.; bronze tablet stamped "Mo. 452".....	452. 599
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NOTE.—The copper bolt stamped "451" in 1896 could not be found. Probably destroyed by improvements to bridge.

Berryman, Bonnetterre, Crystal City, Farmington, and Potosi quadrangles.

JEFFERSON, ST. FRANCOIS, STE. GENEVIEVE, AND WASHINGTON COUNTIES.

The elevations in the following list are based on the Mississippi River Commission bench mark "45/3" at Riverside, which is situated 2,378 feet (725 meters) south of the station, on the north bank of the

second creek below the station, 114.8 feet (35 meters) from the river shore, on land of Mr. Parsons. The bench mark is a stone post under a sycamore tree; its elevation is 401.524 feet above mean sea level.

The leveling was done in 1903 and 1904 by D. V. Vandiver. Additional leveling was done in Crystal City and Farmington quadrangles in 1913 by G. W. Lucas.

BONNETERRE QUADRANGLE.

[Latitude 37° 45'-38°; longitude 90° 30'-90° 45'.]

From Valles Mines south along Mississippi River & Bonne Terre Ry. to Bonneterre (single line).

Silver Springs, in northwest abutment of stone of trestle 38, 300 feet north of station; aluminum tablet stamped "824".....	Feet. 825. 813
Bonneterre, on southeast corner of station platform.....	829. 77

From Bonneterre south along Mississippi River & Bonne Terre Ry. to Elvins.

Bonneterre, in east face of southeast corner of foundation of station; bronze tablet stamped "829".....	830. 248
Bonneterre, in front of foundation of Farmers & Miners Bank; aluminum tablet stamped "824".....	825. 810
Elvins, in southeast corner of foundation of white building 40 feet west of tracks; aluminum tablet stamped "765".....	766. 347

From Bonneterre west along Chat road to Hopewell; thence southwest to Bismarck; thence along St. Louis, Iron Mountain & Southern Ry. to Doe Run Junction; thence along Mississippi River & Bonne Terre Ry. to Elvins; thence west along Illinois Southern Ry. to Bismarck.

Bonneterre, 3.5 miles west of, on Chat road, 300 feet north of spring, 100 feet from fork, in ledge of stone at forks; bronze tablet stamped "905".....	906. 817
Hopewell, 600 feet west of railroad track, 300 feet south of post office, in foundation of stone surrounding big spring; aluminum tablet stamped "858".....	859. 018
Irondale, in column stone of Irondale Bank, right of entrance; aluminum tablet stamped "810".....	811. 293
Bismarck, in front of Bismarck Bank, left of entrance; aluminum tablet stamped "1028".....	1, 029. 855

From Bonneterre northwest along highway to Cadet; thence southwest along St. Louis, Iron Mountain & Southern Ry. to Mineral Point; thence along highway south to Hopewell.

Bonneterre, 6.5 miles west of, 30 feet above ford of Three Hills Creek, on east side, 4 feet above edge of water, in ledge of stone; bronze tablet stamped "678".....	679. 676
Mineral Point, 600 feet south of station, in southeast abutment stone of bridge over Mill Creek; bronze tablet stamped "854".....	855. 145

From Hopewell south along highway to Caledonia, thence east to Bismarck.

Caledonia, in front of Methodist Church, in large sandstone step; aluminum tablet stamped "923".....	924. 411
Irondale, 4.5 miles southwest of, 90 feet southwest of forks, on top of hill, in flint stone; bronze tablet stamped "1104".....	1, 105. 581

CRYSTAL CITY QUADRANGLE.

[Latitude 38°-38° 15'; longitude 90° 15'-90° 30'.]

From Riverside southwest along Mississippi River & Bonne Terre Ry. to Valles Mines (double-rodde line).

Riverside, 2,378 feet south of station (Miss. Riv. Comm. b. m.), on north bank of second creek below station, 114.8 feet from Mississippi River shore, on land of Mr. Parsons; stone post set under sycamore tree.....	Feet. 401.524
Herculaneum, on northwest stone pier of stone bridge; cross.....	409.62
Genevieve, northeast side of station, east of railroad; chisel mark on ledge of sandstone.....	444.60

From point near Bloomsdale west along highway to Valles Mines, thence north to Horine.

Bloomsdale, 2.25 miles northwest of, at road forks, at Clay Bill farmhouse, on 1 by 1 foot sandstone boulder; chiseled point.....	431.98
Bloomsdale, 3.04 miles northwest of, pointed rock at road fork in creek bed; top of rock.....	445.58
Bloomsdale, 4.12 miles northwest of, at angle of road west to north, on hillside in southwest corner of angle in the road, rocks piled around top of, in low brush across rock-bed ditch; iron post stamped "Mo 591".....	590.730
Bloomsdale, 5.27 miles northwest of, in front of log farmhouse; painted rock.....	543.78
Kinsey, on bottom doorstep of saloon; chisel point.....	572.08
Kinsey, 0.82 mile northwest of, in southeast corner of road intersection; iron post stamped "Mo 717".....	716.853
Kinsey, 2.13 miles northwest of, on rock 2.5 feet in diameter, 8 inches thick, at intersection of new road; paint spot.....	842.59
Kinsey, 2.89 miles northwest of, on top of oak stump in road fork; paint point.....	880.53
Kinsey, 3.23 miles northwest of, at junction of French Village and Crystal City road, set at foot of mile board "French Village 5 miles"; iron post stamped "Mo 900".....	900.382
Kinsey, 3.99 miles northwest of, Bosler's farm, in root of big oak tree between house and barn; spike.....	913.99
Kinsey, 5.27 miles northwest of, at S. P. Elliott's farm, in root of 12-inch oak tree 100 feet in front of house; spike.....	916.18
Kinsey, 6.77 miles northwest of, about 0.5 mile northeast of Koester's mill, near northeast corner of new Koester schoolhouse; iron post stamped "Mo 862".....	862.589
Koester, 0.42 mile west of, in top of 1-foot diameter stump, 100 feet north of old house by big mill spring; screw.....	677.95
Koester, 1.43 miles west of, in root of large oak tree in front of old stone foundation about 150 feet north of road fork; spike.....	862.20
Koester, 2.45 miles west of, in root of first tree on east side of drain at road fork; spike.....	698.78
Koester, 2.95 miles west of, on top of wooded hill, set on north side of road about 0.5 mile east of Ruggles School; iron post stamped "Mo 816".....	815.722
Koester, 3.98 miles west of, at road fork on side of Grandjean Hill, in foot of large oak tree 3 feet in diameter; spike.....	848.55
Koester, 4.97 miles west of, 10 feet northeast of orchard gate at Sykes farm; top of pointed rock.....	842.75
Valles Mines, 50 feet southwest of Mississippi River & Bonne Terre Ry. station, near center of sec. 5, T. 38 N., R. 5 E.; iron post stamped "745".....	745.665

NOTE.—See U. S. Geol. Survey Bull. 459, p. 13, for old elevation 745.934 feet, now discarded.

Valles Mines, 1.03 miles north of, 100 feet south of road crossing opposite E. F. Wadlow's farm; on rail.....	Feet. 766. 41
Valles Mines, 2.52 miles north of, on top of northwest corner of platform at Papin siding; spike.....	822. 56
Valles Mines, 3.49 miles northwest of, about 0.75 mile beyond Mississippi River & Bonne Terre Ry. crossing (N) on west side of road on hillside; iron post stamped "Mo 728".....	728. 002
Valles Mines, 4.50 miles northwest of, on outcropping sandstone at intersection of De Soto and Plattin-Valles Mines roads about 5 feet west of Oakvale depot; chisel square.....	593. 72
Valles Mines, 5.32 miles northwest of, in bottom of large fence post at road fork; spike.....	756. 59
Valles Mines, 7.10 miles northwest of, near center of sec. 4, R. 5 E., T. 39 N., at road-crossing mile board "Plattin 4 miles"; primary traverse post stamped "Prim. Trav. Sta. No. 2 Mo 756".....	755. 745
Valles Mines, 8.54 miles northwest of, 0.62 mile north of Wariner's, in top of stump 200 feet north of old barn on ridge; spike.....	686. 76
Valles Mines, 11.24 miles northwest of, on rock on west side of creek at road crossing by big barn; chisel point.....	447. 44
Victoria, 1.98 miles north of, on St. Louis, Iron Mountain & Southern Ry., opposite milepost 37, 1,000 feet south of road crossing; west rail.....	442. 17
Hematite, opposite and northeast of station about 100 feet, set in top of concrete headstone of culvert under St. Louis, Iron Mountain & Southern Ry. tracks; bronze tablet stamped "Mo 434".....	434. 306
Hematite, 1.31 miles north of (Donnell milk station), on southeast corner of concrete block as support of iron ladder to semaphore on St. Louis, Iron Mountain & Southern Ry., 120 feet southwest of road crossing; chisel point.....	429. 76
Hematite, 2.62 miles north of, 100 feet south of sign board "Silica 1 mile"; point on top of iron switch box.....	418. 16
Silica, northwest corner of railroad crossing by corner of right of way fence 40 feet east of store; iron post stamped "Mo 425".....	425. 371
Silica, 0.93 mile north of, on northwest corner of concrete base of semaphore 300 feet south of overcrossing (Horine Junction); chisel point.....	420. 12
From Brickeys west along highway to Plattin, thence north along Mississippi River & Bonne Terre Ry. to Festus (Crystal City), thence northwest along highway to Horine.	
Brickeys, 2.69 miles southwest of, summit of big hill, on north side of road 1.04 miles east of intersection of St. Louis-Ste. Genevieve and Brickeys roads; iron post stamped "Mo. 860".....	859. 640
Brickeys, 3.7 miles southwest of, on sandstone outcropping at crossing of St. Louis-Ste. Genevieve and Brickeys roads; chisel point.....	658. 70
Brickeys, 5.4 miles northwest of, in telephone pole at road fork, near large unpainted house; spike.....	471. 55
Brickeys, 6.5 miles northwest of, in front of Lebanon Church, in root of big tree; spike.....	409. 93
Danby, 0.5 mile west of, in root of tree used as sign post "Festus 12 miles—Danby ½ mile—Rush Tower 4 miles" on St. Louis-Ste. Genevieve road; spike.....	542. 74
Danby, 1 mile northwest of, at intersection of St. Louis-Ste. Genevieve and Danby roads, 140 feet west of white house; iron post stamped "Mo. 494".....	494. 268

	Feet.
Danby, 2.82 miles northwest of, in root of big dead oak tree, 50 feet west of road fork; spike.	726. 40
Danby, 4.36 miles northwest of, in root of sign tree at intersection of St. Louis-Ste. Genevieve and Plattin roads; spike.	705. 01
Danby, 5.05 miles northwest of, about 5 miles east of McClain farmhouse, on west slope of big ridge 75 feet above creek bottom on south side of road about 60 feet south of wagon track, conspicuous limestone strata outcropping around southwest slope; bronze tablet stamped "Mo. 562".	562.403
Danby, 6.21 miles northwest of, in root of large oak tree opposite house on top of first ridge east of Plattin; spike.	681. 81
Danby, 7.46 miles northwest of, 0.5 mile east of Plattin, 300 feet south of Plattin church, at turn of road, foot of large fence post; spike.	437. 57
Plattin, 100 feet west of Mississippi River & Bonne Terre Ry. station just outside of right of way fence in lot owned by railroad company; iron post stamped "Mo. 440"	440. 214
Plattin, 0.94 mile north of, at milepost 11, on Mississippi River & Bonne Terre Ry., 300 feet east of big farmhouse, 114 feet north of road crossing; spike in post (rail support).	437. 16
Plattin, 1.93 miles north of, on Mississippi River & Bonne Terre Ry., at milepost 10, in east side of post denoting secs. 2 and 3; spike.	424. 01
Plattin, 2.92 miles north of, on Mississippi River & Bonne Terre Ry., Drake's milk station, at milepost 9, in southeast corner of platform; spike.	417. 36
Genevieve, southwest corner of road crossing 150 feet south of Mississippi River & Bonne Terre Ry. station; iron post stamped "423"	423. 884
Genevieve, 1.06 miles north of, on Mississippi River & Bonne Terre Ry., 400 feet north of milepost 7, at road crossing; top of west rail.	430. 16
Genevieve, 1.69 miles north of, on Mississippi River & Bonne Terre Ry., at road crossing; on top of west rail.	407. 88
Festus and Crystal City, 180 feet southeast of Mississippi River & Bonne Terre Ry. station just outside of right of way fence near open drain under lone sycamore; iron post stamped "Mo. 395"	394. 930
Festus, 1 mile northwest of, on southeast abutment of bridge of milepost 38.2 on St. Louis & San Francisco R. R.; bolt	461. 53

FARMINGTON QUADRANGLE.

[Latitude 37° 45'-38"; longitude 90° 15'-90° 30'.]

From Elvins east along Illinois Southern Ry. via Farmington Junction to Weingarten.

Elvins, in foundation stone at southeast corner of white building 40 feet west of Mississippi River & Bonne Terre Ry. tracks; aluminum tablet stamped "765"	766. 347
Farmington Junction, in southeast corner of foundation of station; bronze tablet stamped "955"	956. 489

From Plank road crossing near Jonca Creek (on Illinois Southern Ry.) southwest via Farmington to Doe Run Junction.

Jonca Creek, 2.5 miles south of railroad crossing plank road, in northeast corner abutment stone of iron bridge; aluminum tablet stamped "760"	760. 951
Valley Forge, in northeast corner abutment stone of Wolf Creek bridge; bronze tablet stamped "853"	853. 888
Farmington, in south front of foundation of courthouse, west side of entrance; aluminum tablet stamped "917"	918. 641

From crossing 2 miles west of Sprott (on Illinois Southern Ry.) north along highway to Jaydee post office, thence west to Bonneterre.

Salem Church, in southwest corner of stone foundation; bronze tablet stamped "834".....	Feet. 835. 051
Jaydee post office, opposite, in southeast corner of foundation of N. Chatman's house; bronze tablet stamped "804".....	805. 368
Bonneterre, Farmers & Miners Bank, in foundation stone; aluminum tablet stamped "824".....	825. 809

From plank road fork 5 miles east of Farmington east to Oak Grove schoolhouse, thence northeast and northwest to plank road crossing at 17-mile Rock.

Pickle, 0.9 mile east of northeast corner of Oak Grove schoolhouse; bronze tablet stamped "1053".....	1, 053. 725
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From Hickory Creek northwest along road via Lawrenceton to French Village, thence south to Jaydee.

Lawrenceton, 250 feet west of church, 100 feet north of road, in limestone outcrop in small branch; aluminum tablet stamped "561 Adj 1903".....	562. 076
French Village, in southeastern corner of foundation of spring house; bronze tablet stamped "898".....	899. 392

Near French Village.

French Village, 2 miles northwest of, 100 feet south of road fork on east side of road; paint spot on rock, marked "877".....	877. 01
French Village, 1 mile northwest of, 0.5 mile south of little log schoolhouse; paint point on outcropping limestone, marked "875".....	875. 16
French Village, in southeast corner of foundation of spring house; bronze tablet stamped "898".....	899. 392

POTOSI QUADRANGLE.

[Latitude 37° 45'-38°; longitude 90° 45'-91°.]

From Mineral Point west along highway to Potosi, thence northwest to Pleasant Grove, thence north to Fourche a Renault.

Potosi, in south foundation of courthouse, 5 feet west of front door, 3.5 feet above ground; aluminum tablet stamped "904 Adj 1903".....	905. 065
Pleasant Hill (Grove) Church, in southeast corner of foundation stone, 1.5 feet above ground; aluminum tablet stamped "816 Adj 1903".....	817. 829

From Pleasant Grove west along highway to Little Pilot Knob, thence southeast to Belgrade, thence east to Caledonia, thence north to Potosi.

Latty, 1.4 miles southwest of, 1,000 feet west of Fourche a Renault Creek, 70 feet west of spring house, opposite Henry Smith's house, in ledge of natural stone; aluminum tablet stamped "Prim. Trav. Sta. No. 79, 790 Adj 1913".....	791. 122
Floyd, 2.5 miles northwest of, 1 mile southwest of Knob, Little Pilot Knob primary traverse station No. 167, in large porphyry boulder; aluminum tablet stamped "1243 Adj 1903".....	1, 244. 150
Floyd post office, in east foundation stone of Earles's house, 4 feet west of corner of front porch; aluminum tablet stamped "877 Adj 1903".....	878. 422
Shirley, 300 feet southwest of store, 150 feet east of Berryman road, at northwest corner of barn, in natural sandstone boulder; aluminum tablet stamped "941 Adj 1903".....	941. 751

Potosi, 8 miles southwest of, 1,500 feet east of lead company's barn, 400 feet west of Gibson's house, 100 feet west of road, 300 feet north of Baptist Church, in limestone ledge; aluminum tablet stamped "1004 Adj 1903".	Feet. 1, 004. 969
Belgrade, 3 miles north of, 80 feet northeast of Johnson's house, 100 feet northwest of ford, north side of north fork of Clear Creek; iron post stamped "912 Adj 1903".	913. 356
Belgrade, 1.5 miles east of, 3 miles west of Caledonia, on east bank of small branch, in large porphyry stone; aluminum tablet stamped "923 Adj 1903".	924. 015
Caledonia, in south stone step, front entrance of Methodist Church; aluminum tablet stamped "923 Adj 1903".	924. 411
Caledonia, 3 miles north of, 300 feet east of crossing of Belgrade-Irondale and Caledonia-Potosi roads, 200 feet west of Newcomb's blacksmith shop, in limestone ledge; aluminum tablet stamped "821 Adj 1903".	822. 479
Potosi, 5 miles south of, 1,000 feet south of Pine Hill, 3 feet west of road, in sandstone boulder; aluminum tablet stamped "1110 Adj 1903".	1, 111. 796

From Floyd post office south along highway via Palmer to Crystal Blossom store, thence east to Belgrade.

Levy, 1 mile east of, in southwest corner of foundation stone of Lost Creek Baptist Church, 2.5 feet above ground; aluminum tablet stamped "924 Adj 1903".	925. 014
Palmer, 4 miles north of, in sandstone boulder where two trails fork; aluminum tablet stamped "Prim. Trav. Sta. No. 217 1002 Adj 1903".	1, 002. 988
Palmer, in southwest corner of foundation stone of post office, 5 feet above ground; aluminum tablet stamped "900 Adj 1903".	901. 683
Sunlight, 4 miles west of, near Crystal Blossom store, 7 feet above good spring which runs out across road 500 feet east of house; aluminum tablet stamped "1021 Adj 1903".	1, 022. 135
Sunlight, 0.25 mile south of, in southeast corner of stone foundation of Ramsay Grove Church, 300 feet south of Brock Creek; aluminum tablet stamped "988 Adj 1903".	989. 603
Belgrade, 1.5 miles west of, 2 miles east of Sunlight, south side of Brock Creek, 2 feet above water, in ledge; aluminum tablet stamped "904 Adj 1903".	905. 078

BERRYMAN QUADRANGLE.

[Latitude 37° 45'-38"; longitude 91°-91° 15'.]

Palmer, 3.5 miles southwest of, in flint and limestone boulder; aluminum tablet stamped "Prim. Trav. Sta. No. 394 1164 Adj 1903".	1, 165. 578
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Sullivan quadrangle.

CRAWFORD, FRANKLIN, GASCONADE, AND WASHINGTON COUNTIES.

The elevations in the following list are based on the St. Louis city directrix, the elevation of which is accepted as 413.969 feet above mean sea level.

The leveling was done by Jesse L. Holman and H. V. Rees in 1899.

Owing to excessive errors in closure of circuits the elevations in this list are only approximate, excepting for those bench marks along the St. Louis & San Francisco Railroad included in the precise-level line of 1908.

SULLIVAN QUADRANGLE.

[Latitude 38°-38° 30'; longitude 91°-91° 30'.]

	Feet.
Union; cross mark on northwest corner of stone steps of courthouse.....	567. 72
Krakow, NE. $\frac{1}{4}$ sec. 8, T. 43 N., R. 1 W., 100 feet northwest of post office; copper nail in root of oak tree.....	764. 15
Casco, NE. $\frac{1}{4}$ sec. 17, T. 43 N., R. 2 W., in northwest corner of foundation of former post-office building; aluminum tablet stamped "St. L. 781" ..	782. 136
Jeffriesburg, SE. $\frac{1}{4}$ sec. 25, T. 43 N., R. 2 W., 100 feet southeast of post office; cross mark on large rock.....	767. 39
Cedar Fork, NE. $\frac{1}{4}$ sec. 19, T. 43 N., R. 3 E., 300 feet west of former post office; nail in root of oak tree.....	812. 09
Port Hudson, SW. $\frac{1}{4}$ sec. 22, T. 43 N., R. 3 W., 1 mile south of former post office, in foundation of store building at crossroads; aluminum tablet stamped "St. L. 867" ..	868. 318
Beemont, NE. $\frac{1}{4}$ sec. 23, T. 43 N., R. 4 W., 2.5 miles southeast of post office, in sandstone ledge on State road; aluminum tablet stamped "St. L. 795" ..	795. 82
Drake, SE. $\frac{1}{4}$ sec. 10, T. 43 N., R. 5 W., in foundation of post-office building; aluminum tablet stamped "St. L. 868" ..	869. 034
Neirer, NE. $\frac{1}{4}$ sec. 14, T. 42 N., R. 2 W., on bottom step of former post-office building; cross mark.....	821. 343
Shotwell, near center of sec. 7, T. 42 N., R. 3 W., in foundation of former post-office building; aluminum tablet stamped "St. L. 855" ..	855. 614
Bourbois, NE. $\frac{1}{4}$ sec. 17, T. 42 N., R. 4 W., one-fourth mile west of post office, in foundation of Wortmann's stone building on Springfield road; aluminum tablet stamped "St. L. 897" ..	897. 62
T. 42 N., R. 5 W., SE. $\frac{1}{4}$ sec. 23, in foundation of frame house on Springfield road owned by Mr. Holt; aluminum tablet stamped "St. L. 921" ..	921. 755
Stanton, near St. Louis & San Francisco R. R. station, in foundation of hotel building; aluminum tablet stamped "St. L. 872" ..	872. 130
Japan, 3 miles north of, NE. $\frac{1}{4}$ sec. 19, at northeast corner of junction of crossroads, on main road to Champion City; iron post stamped "St. L. 778" ..	779. 178
Tea, SW. $\frac{1}{4}$ sec. 8, T. 41 N., R. 4 W., in foundation of T. H. Mathews's store building; aluminum tablet stamped "St. L. 740" ..	740. 887
Bem, near center of sec. 27, T. 41 N., R. 5 W., in yard of post-office building; iron post stamped "St. L. 833" ..	834. 041
Sullivan, near St. Louis & San Francisco R. R. station, in wall of Bennett Building; aluminum tablet stamped "St. L. 977" ..	976. 595
Bourbon, near St. Louis & San Francisco R. R. station, in foundation of brick hotel building; aluminum tablet stamped "St. L. 954" ..	956. 683
Oak Hill, NW. $\frac{1}{4}$ sec. 18, T. 40 N., R. 4 W., in foundation of post-office building; aluminum tablet stamped "St. L. 749" ..	751. 195
Oak Hill, 3.2 miles southeast of, NW. $\frac{1}{4}$ sec. 22, T. 40 N., R. 5 W., at crossroads on Oak Hill and Jake Prairie road; iron post stamped "St. L. 963" ..	965. 841
Vilander, NE. $\frac{1}{4}$ sec. 15, T. 39 N., R. 2 W., 160 yards east of post office, south side of county road; iron post stamped "St. L. 638" ..	640. 363
Leasburg, near the St. Louis & San Francisco R. R. station, in foundation of Exchange Hotel building; aluminum tablet stamped "St. L. 1023" ..	1, 024. 750
Cuba, near the St. Louis & San Francisco R. R. tracks, in foundation of Grand Hotel building; aluminum tablet stamped "St. L. 1033" ..	1, 035. 124
Jacobston, 0.1 mile west of post office, NW. $\frac{1}{4}$ sec. 12, T. 39 N., R. 5 W., in rock bluff 30 feet south of Cuba and Jake Prairie road; aluminum tablet stamped "St. L. 852" ..	853. 629

T. 38 N., R. 2 W., NW. $\frac{1}{4}$ sec. 5, at north edge of road, 50 yards west of foundation of Mudd's store building on road from Anthonies Mill to Scotia; iron post stamped "St. L. 868".....	Feet. 870. 434
Scotia, 0.2 mile northeast of post office, NE. $\frac{1}{4}$ sec. 11, T. 38 N., R. 3 W., in limestone bluff at north edge of road to Anthonies Mill; aluminum tablet stamped "St. L. 644".....	646. 945
T. 38 N., R. 4 W., SW. $\frac{1}{4}$ sec. 5, 1.8 miles south of Cuba, 25 feet east of St. Louis & San Francisco R. R. track, at road crossing; iron post stamped "St. L. 966".....	967. 804
Fanning, SE. $\frac{1}{4}$ sec. 4, T. 38 N., R. 5 W., 15 feet west of platform of St. Louis & San Francisco R. R. station, 10 feet south of track; iron post stamped "St. L. 1059".....	1, 060. 425

Chester, Higdon, Kimmswick, Renault, and Weingarten quadrangles.

BOLLINGER, MADISON, PERRY, AND STE. GENEVIEVE COUNTIES.

The elevations in the following list are based upon Mississippi River Commission bench marks at Ste. Genevieve and St. Marys.

Most of the leveling was done in 1907 by Edward Bandli. One bench mark on Weingarten quadrangle was established in 1903 by D. V. Vandiver. Additional leveling in Chester and Weingarten quadrangles, as well as leveling in Renault and Kimmswick quadrangles, was done in 1913 by R. G. Clinite and G. W. Lucas.

The leveling was done in cooperation with the State, and the bench marks are stamped with the State name. There is doubt as to the marking of some of the bench marks.

WEINGARTEN QUADRANGLE.

[Latitude 37° 45'-38"; longitude 90°-90° 15'.]

From Ste. Genevieve west along Potosi road via Zell to point 5.5 miles west of Zell, thence south to Weingarten.

Ste. Genevieve, permanent bench mark 33, in side at southeast corner of public-school building, 4 inches from corner in fifth course of stone, center of copper bolt leaded horizontally (the letters "U. S. P. B. M." are cut near bolt).....	Feet. 400. 999
Ste. Genevieve, 3.9 miles west of, 300 feet east of forks of road, in large ledge forming south bank of dry creek at forks of Potosi and St. Louis roads, 100 feet south of road across dry creek; aluminum tablet stamped "476"....	476. 758
Zell, 500 feet north of, at first intersection north of Zell, in rock between two trees opposite road fork; aluminum tablet stamped "614".....	613. 897
Zell, 2.7 miles northwest of, 15 feet north of road, top of hill, 3 feet south of fence, in large sandstone ledge; aluminum tablet stamped "607".....	609. 765
Weingarten, 5 miles north of, 20 feet east of fence, 300 feet south of T road, 5 feet west of road, in ledge of rock; aluminum tablet stamped "587"....	587. 662
Weingarten, 2.7 miles north of, 30 feet east of T road, 20 feet east of southeast fence corner where oak stands, 0.12 mile from Mr. Repson's house (private road leads to his house); iron post stamped "767".....	770. 292
Weingarten, in concrete foundation of Illinois Southern Ry. water-tank foundation, southwest corner of; aluminum tablet stamped "833".....	833. 316

From Weingarten northwest to Hickory Creek.

Weingarten, 4.5 miles northwest of, at Hickory Creek ford on Lawrenceville road, south side of creek, 50 feet south of road, 200 feet southwest of old sawmill, in limestone bluff; bronze tablet stamped "503".....	Feet. 504. 813
From Weingarten east along road to Staabtown, thence south to Coffman, thence east to Minnith, thence northeast to point 6 miles southwest of St. Marys.	
Weingarten, 2.4 miles from, 30 feet south of curve of road to east, 0.1 mile from Brischle house, on ledge of rock on opposite side of dry creek from road; aluminum tablet stamped "606".....	606. 162
Staabtown, 0.8 mile north of, in front of church, 15 feet south of road leading from church to Weingarten, in ledge of rock; aluminum tablet stamped "475".....	475. 177
Staabtown, 3.3 miles from, on road to Coffman, 0.2 mile northeast from house and old blacksmith shop, in large rock at intersection of another road from southwest; aluminum tablet stamped "886".....	885. 726
Staabtown, 5.2 miles south from, 3 miles north of Coffman, on north side of road, north 0.4 mile from house on north side of hill, 200 feet from intersection of roads to northwest, 60 feet from intersection of roads to southeast; aluminum tablet stamped "947".....	946. 485
Coffman, 0.5 mile from, 33 feet north of road, 15 feet south of fence, in ledge of rock at foot of hill; aluminum tablet stamped "715".....	715. 359
Coffman, 3.2 miles east of, near Saline Valley R. R. track, 250 feet northeast of road crossing, 60 feet north of road, in ledge of rock; aluminum tablet stamped "558".....	563. 665
Coffman, 7.1 miles east of, 100 feet north of Saline Valley R. R. track and 140 feet west of road, 180 feet northwest of road crossing, in ledge of rock; aluminum tablet stamped "448".....	467. 464
Minnith, 960 feet south of, 22 feet east of Saline Valley R. R. track, in ledge of rock 4 feet from cedar tree; aluminum tablet stamped "437".....	437. 265
Minnith, 1.2 miles from, opposite overhead railroad bridge on private road to northwest, 18 feet southeast of St. Marys road, 300 feet south of curve of road to east toward St. Marys, 8 feet south of large oak tree; aluminum tablet stamped "416".....	417. 471
St. Marys, 6 miles southwest of, on north side of road near valley, leading north from road, in ledge of rock; aluminum tablet stamped "482".....	485. 473

From Saline Valley south to point near Ulam.

Womack, 7.8 miles from, 2.1 miles from railroad, 36 feet south of gate, 3 feet east of fence; iron post stamped "Prim. Trav. Sta. No. 9, 528".....	527. 978
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At Ste. Genevieve.

Ste. Genevieve, south side of southeast corner of public-school building, 4 inches from corner, in fifth course of stone below bricks; center of copper bolt with letters U. S. P. B. M. cut near it (Miss. Riv. p. b. m. 33)....	400. 999
Ste. Genevieve, near center of east side of county courthouse yard, 3 feet inside of iron fence; iron post stamped "401".....	400. 900

From Bloomsdale south along highway to point 2.5 miles northwest of Zell.

Bloomsdale, 0.8 mile south of, south side of creek, 5 feet south of telephone pole; top point of large rock.....	391. 55
Bloomsdale, 2.1 miles south of, at angle in road to west, on east side of road, 700 feet south of one-story house, in root of 30-inch oak tree; spike.....	506. 46
Zell, 2.7 miles northwest of, 15 feet north of road, top of hill, 3 feet south of fence, in large sandstone ledge; aluminum tablet stamped "607".....	609. 765

HIGDON QUADRANGLE.

[Latitude 37° 30'-37° 45'; longitude 90°-90° 15'.]

From Minnith south along road via Silver Lake to Patton, thence west to Castor River, thence north to point near Higdon, thence west to point near Fredericktown, thence northeast to point near Ulam.

	Feet.
Minnith, 6.3 miles south of, 7.7 miles northwest of Silver Lake, halfway up hill, west side of road where road curves to south, 20 feet west of road, 5.4 feet southeast of large oak west of road, in ledge of rock; aluminum tablet stamped "650".....	650. 406
Silver Lake, 5.6 miles north of, 8.4 miles south of Minnith, near signpost at forks of road, in root of tree; nail.....	846. 06
Silver Lake, 1.8 miles northwest of, 20 feet north of public road, 10 feet west of private road, in northwest corner of intersection, on ledge of rock north of road; aluminum tablet stamped "608".....	608. 008
Silver Lake, 0.6 mile south of, 400 feet from center of crossroads, 25 feet east of bunch of trees, 15 feet north of a second bunch of trees, in ledge of rock across small stream from road intersection; aluminum tablet stamped "545".....	544. 648
T. 34 N., R. 9 E., near center of sec. 14. Tucker's house, 0.1 mile northeast of, 200 feet south of creek, 10 feet from road, 6 feet north of large oak, in ledge of sandstone 3.5 feet northeast of small tree east of road; aluminum tablet stamped "607".....	606. 565
Silver Lake, 6.9 miles south of, 0.1 mile south of Yount post office, northwest corner of crossroads, in root of tree; nail.....	627. 01
Yount post office, 1.3 miles from, 0.25 mile from Yount's house, 220 feet west of intersection of private road with Fredericktown road, in ledge of rock opposite side of creek from road; aluminum tablet stamped "609".....	610. 330
Patton, 4.2 miles from, 0.1 mile southeast of George Regan's house, 30 feet southeast of bridge, 10 feet east of road; aluminum tablet stamped "700".....	700. 400
Patton, southeast corner of flour mill, in third layer of stone from ground, west side of Main Street; aluminum tablet stamped "Prim. Trav. Sta. No. 8, 605".....	604. 998
Patton, 2.3 miles from, 300 feet north of road, 90 feet east from spring flowing from ledge of rock, 200 feet north of Schneider's house at private road intersection with Fredericktown road; aluminum tablet stamped "639".....	640. 978
Patton, 5.2 miles northwest of, 55 feet west of northwest corner of T road intersection from north, 13 feet south of fence, in large sandstone; aluminum tablet stamped "939".....	939. 207
Patton, 8.1 miles from, 20 feet north of road, 50 feet northwest of northwest corner of field, where road leaves field, in ledge of rock north of road; aluminum tablet stamped "691".....	691. 393
Patton, 10.4 miles from, 20 feet east of road at curve uphill to west, in ledge of rock, 300 feet southeast of house; aluminum tablet stamped "686".....	685. 862
Higdon, 2.5 miles southwest of, 4.6 miles from Fredericktown, 10 feet north of road, near top of hill, 0.25 mile west from house at forks of road, also 0.25 mile east of house on top of hill, in granite ledge; aluminum tablet stamped "910".....	910. 423
Fredericktown, 3 miles northeast from, 20 feet north of road, 0.12 mile west of Freeland's house, at foot of first small hill west of house, in ledge of rock; aluminum tablet stamped "855".....	855. 046
Womack, 6.9 miles from, 200 feet north of intersection, 30 feet east of road, in northeast corner of road intersection, east of road; large rock.....	1, 063. 94

Womack, 4.4 miles south of, 30 feet north of dry creek, 0.5 mile east of Rydan's house, 3 feet north of road, on large boulder; aluminum tablet stamped "949".....	Feet. 949. 052
Womack, 2.6 miles south of, 1.5 miles north of Hicks, 4.5 feet west of road up Castor, west of road at bend, in large granite boulder; aluminum tablet stamped "966".....	965. 503
Johnson, on ridge, 0.4 mile north of, 60 feet north of road, in large boulder in hill across dry creek from road, where road curves to east foot of hill; aluminum tablet stamped "927".....	926. 732
Womack, 4 miles from, 0.25 mile from house of Mr. Nation, jr., in ledge on opposite bank of Cold Water Creek from road, 60 feet east from road; aluminum tablet stamped "694".....	694. 200
Womack, 6. 8 miles northeast of, 3 miles from Saline Valley R. R., in west bank of creek, 120 feet west of road, across Cold Water Creek, north of road intersection; aluminum tablet stamped "557".....	557. 227

CHESTER QUADRANGLE.¹

[Latitude 37° 45'-38"; longitude 89° 45'-90°.]

From point 6 miles southwest of St. Marys northeast to St. Marys.

St. Marys, 4.5 miles from, halfway between house near foot and near top of hill, about 30 feet south of road near edge of bluff, 11 feet southwest of large tree, in ledge of rock on hill; aluminum tablet stamped "466".....	468. 049
St. Marys, in west end of water table in southwest corner of storehouse belonging to E. S. Tundaugh on northeast corner of Second and Walnut streets; copper bolt countersunk about 0.2 inch (5 millimeters) in stone, center of bolt leaded horizontally (Miss. Riv. Comm. b. m. 35, marked "U. S. P. B. M.").....	389. 015
St. Marys, in southwest corner of Martin Roundstone's icehouse, on east side of Walnut Street, in fifth course of stone from bottom; center of copper bolt leaded horizontally (Miss. Riv. Comm. b. m. 36, stone marked "U. S. B. M.").....	395. 961

From St. Marys southwest along highway to Lead, thence east along Cape Girardeau Northern R. R. and highways to near Menfro, thence northwest along St. Louis & San Francisco R. R. to St. Marys.

St. Marys, in west end of water table in southwest corner of storehouse belonging to E. S. Lawbaugh, on northeast corner of Second and Walnut streets; copper bolt countersunk about 0.2 inch (5 millimeters) in stone, center of bolt leaded horizontally (Miss. Riv. Comm. bench mark 35, marked "U. S. P. B. M.").....	389. 015
St. Marys, 1.37 miles south of, at intersection of Old Lead and Perryville (Hollow) roads, 300 feet south of bridge, in base of southwest corner fence post; copper nail.....	399. 69
St. Marys, 2.86 miles southwest of, at intersection of Old Lead road and St. Marys and Perryville (High) road, about 500 feet northwest of brick house, just inside of wire fence and south of intersection, in top of oak stump; copper nail.....	605. 45
St. Marys, 3.31 miles southwest of, T road south, 250 feet west of house, in triangle formed by road intersection; iron post stamped "Mo. 592".....	592. 282
St. Marys, 4.8 miles southwest of, at road fork, 100 feet east of Big Saline Creek, bottom of Rocky Hill, in root of 24-inch oak tree; copper nail..	399. 54
St. Marys, 5.62 miles southwest of, at T road north, south of road intersection, set in root of lone oak tree; copper nail.....	421. 26

¹ Only the Missouri elevations for this quadrangle, a part of which is in Illinois, are given here.

St. Marys, 6.26 miles southwest of, about 1 mile west of Lead station, at road crossing on the Cape Girardeau Northern R. R., 60 feet north of railroad track, 30 feet east of wagon road; iron post stamped "404 Mo."..	Fect. 404. 221
Lead station, on Cape Girardeau Northern R. R., north of road crossing, set in base of warning post, north of track east of wagon road; copper nail.....	489. 04
Lead station, 0.91 mile east of, road crossing on Cape Girardeau Northern R. R., 40 feet north of track, 10 feet east of wagon road, in root of 15-inch oak tree; copper nail.....	542. 85
Lead station, 2.30 miles east of, at road crossing on Cape Girardeau Northern R. R., 40 feet north of track, 60 feet west of wagon road, 15 feet east of lone oak tree; iron post stamped "Mo. 565".....	564. 940
Lead station, 3.61 miles east of, at road crossing on the Cape Girardeau Northern R. R., 10 feet east of wagon road, 5 feet north of track, set in top of 6 by 8 inch post; copper nail.....	580. 13
Saline Junction, 0.87 mile west of, at road crossing on Cape Girardeau Northern R. R., 100 feet east of derailing switch, set in base of warning post; copper nail.....	513. 37
Saline Junction, set in switch post at south end of triangle, Cape Girardeau Northern R. R.; spike.....	493. 02
Saline Junction, 0.26 mile south of, at road crossing on Cape Girardeau Northern R. R., near right of way fence 50 feet east of track, 20 feet north of road; iron post stamped "Mo. 521".....	520. 476
Saline Junction, 0.73 mile east of, at intersection of Sereno road, with Perryville-Lithum road, in root of 18-inch oak tree bearing sign "Lithum 2½ miles"; railroad spike.....	559. 56
Sereno, 1.3 miles west of, at road forks, on top of hill, 300 feet west of house, set in root of 18-inch oak tree; copper nail.....	542. 30
Sereno, in southeast corner of lot owned by Catholic Church, 100 feet west of store 150 feet north of blacksmith shop; iron post stamped "Mo. 622".....	621. 893
Sereno, 1.04 miles southeast of road fork 150 feet west of, at turn in road, blazed 20-inch oak tree, in root of tree; spike.....	582. 71
Sereno, 1.35 miles southeast of, T road south, 600 feet north of house, set in root of 30-inch oak tree; copper nail.....	601. 62
Sereno, 2.37 miles southeast of, at road fork, 500 feet east of unpainted house of Mr. Manning, 150 feet north of where new Allens Landing road forks, set in root of 15-inch oak tree; copper nail.....	517. 14
Sereno, 2.81 miles southeast of, at road fork, 200 feet south of creek, in root of 24-inch oak tree; copper nail.....	497. 05
Perryville, 5 miles northeast of, 4.37 miles southeast of Sereno, at road forks on old Allens Landing road, on south side of road, 100 feet south of house; iron post stamped "Mo. 588".....	587. 667
Perryville, 5.97 miles northeast of, on old Allens Landing road, 300 feet east of big red barn of J. J. Klump, 20 feet east of wooden gate, north of road, in root of persimmon tree; copper nail.....	577. 48
Perryville, 7.41 miles northeast of, at road fork, on top of big hill, 100 feet north of large house, 150 feet northeast of old store building, 10 feet north of Allens Landing road, in root of small oak tree; copper nail....	535. 55
Menfro, 2 miles northwest of, at road crossing on St. Louis & San Francisco R. R. and T road south, 75 feet west of track, 20 feet north of road fork; iron post stamped "Mo. 363".....	362. 568
Menfro, 2.59 miles northwest of, on east guardrail on north end of bridge 85.8 on St. Louis & San Francisco R. R.; bolt.....	370. 74

Menfro, 3.84 miles northwest of, road crossing on St. Louis & San Francisco R. R., 150 feet west of house, set in northeast cattle guard; copper nail..	Feet. 375. 64
Menfro, 5.09 miles northwest of, at undercrossing on St. Louis & San Francisco R. R. north side of road and west of track, set just outside of right of way; iron post stamped "Mo. 363".....	362. 944
Menfro, 6.5 miles northwest of, near road crossing, in southwest corner of wooden abutment of bridge 81.9 on St. Louis & San Francisco R. R.; copper nail.....	373. 28
McBride, at road crossing 100 feet south of St. Louis & San Francisco R. R. depot, north of wagon road by west right of way fence; iron post stamped "Mo. 370".....	370. 144
McBride, 1.89 miles northwest of, at road crossing on St. Louis & San Francisco R. R., 7 feet east of track, 20 feet north of road, on top of 6 by 6 inch post, projecting 2 feet above ground; copper nail.....	376. 87
McBride, 2.60 miles northwest of, at road crossing, milepost 78, Marie siding on St. Louis & San Francisco R. R., set on 6 by 6 inch post, 7 feet east of track, 20 feet north of road; copper nail.....	377. 78
McBride, 3.73 miles northwest of, on west guardrail south end of bridge 76, St. Louis & San Francisco R. R.; end bolt.....	377. 25
Perryville Junction, under 24-inch elm tree, 100 feet west of St. Louis & San Francisco R. R. depot; iron post stamped "Mo. 374".....	373. 378
Perryville Junction, 0.71 mile northwest of, at road crossing on St. Louis & San Francisco R. R., 15 feet west of track, 5 feet south of wagon road, in base of warning post; copper nail.....	377. 72

KIMMSWICK QUADRANGLE.

[Latitude 38° 15'-38° 30'; longitude 90° 15'-90° 30'.]

From Riverside southwest along St. Louis & San Francisco Ry. to Horine.

Riverside, 2,378 feet south of station (Miss. Riv. Comm. bench mark) on north bank of second creek below station, 114.8 feet from Mississippi River shore, on land of Mr. Parsons, set under sycamore tree; stone post.....	401. 524
Riverside, at Mississippi River & Bonne Terre Ry. station, in second telephone pole southeast of lunch room; spike marked "435".....	435. 44
Pevely, 140 feet north of St. Louis, Iron Mountain & Southern Ry. depot, 40 feet east of track, in telephone pole; spike marked "442".....	442. 08
Jerseydale, in northeast corner of milk platform; spike marked "422"....	421. 81
Horine, in front of St. Louis & San Francisco R. R. depot; top of rail, marked "434".....	434. 5

From Horine along highways west to Jarvis, thence north to Murphy, thence northeast to Fenton.

Horine, near garden fence corner, 30 feet west of well, opposite St. Louis, Iron Mountain & Southern R. R. depot; iron post stamped "420 Mo."..	420. 363
Horine, 1.25 miles west of, on top of first ridge at road fork, in base of telephone pole; spike.....	566. 79
Horine, 2.47 miles west of, at road forks of old State and Jarvis roads, under 30-inch oak tree; iron post.....	576. 480
Horine, 3.27 miles west of, on concrete abutment, southwest end of bridge over creek; chisel point.....	462. 82
Goldman, 3.03 miles northeast of, in triangle formed by road forks at bottom of big hill on Le May Ferry road; iron post stamped "Mo. 699"....	698. 754

Goldman, 3.97 miles northeast of, at road fork on Le May Ferry road, in telephone pole 1278; spike.....	Feet. 634. 64
Goldman, 5.06 miles northeast of, on Le May Ferry road, in pole opposite telephone pole 1230; spike.....	556. 13
Antonia (Prim. Trav. Sta. 4), at northeast corner of the intersection of Le May Ferry and Barnhart roads, 100 feet north of saloon, at corner of feed yard; iron post stamped "Prim. Trav. Sta. No. 4, Mo. 511".....	510. 861
Antonia, 1.13 miles west of, in east gatepost at Wm. Kunsler farm at bottom of big hill; copper nail.....	585. 47
Antonia, 4.28 miles northwest of, under lone oak tree, 80 feet northeast of "Four Ridge schoolhouse," 6 feet south of road; iron post stamped "Mo. 939".....	938. 623
Antonia, 7.01 miles northwest of, at road forks 1,000 feet north of Rock Creek, 100 feet east of house, in top of 24-inch stump; copper nail.....	613. 56
Antonia, 8.01 miles northwest of, at road forks 0.41 mile east of Leicht School, 200 feet northwest of Yates farmhouse; iron post.....	806. 176
Antonia, 9.68 miles northwest of, 1.26 miles north of Leicht School, 50 feet north of ford through Sugar Creek, 5 feet east of road, in base of telephone pole; copper nail.....	577. 03
Antonia, 10.81 miles northwest of, 2.39 miles north of Leicht schoolhouse, 50 feet east of Frank J. Diehl's farmhouse, in base of telephone pole; copper nail.....	547. 18
Bowles School, center of sec. 8, T. 43 N., at crossroads, in base of mailbox post; copper nail.....	637. 01
Murphy, 50 feet northeast of store, 5 feet south of Gravois Rock road; iron post stamped "Mo. 582".....	582. 326

From Fenton south and east along highways to Tenbrook, thence south along St. Louis & San Francisco R. R. to Horine.

Fenton, 1.03 miles southeast of, at Paul Brown's Horseshoe Lake farm gate, in root of oak tree that is used for corner fence post; copper nail...	440. 65
Fenton, 2.11 miles southeast of, at road forks 150 feet east of small yellow house, in root of 24-inch black-oak tree; copper nail.....	584. 34
Fenton, 3.25 miles southeast of, in foundation at northwest corner of Salin schoolhouse; bronze tablet.....	439. 504
Fenton, 4.73 miles southeast of, 5 miles east of Romine Creek, 100 feet south of old sawmill, 40 feet east of open well, 8 feet north of road, in root of white-oak tree; copper nail.....	409. 16
Fenton, 5.85 miles southeast of, at road forks, 100 feet north of creek, 400 feet southeast of house, in root of 36-inch oak tree; copper nail.....	415. 91
Fenton, 6.72 miles southeast of, at road forks (T road), 1 mile north of Maxville, in base of telephone pole; copper nail.....	591. 15
Maxville, 10 feet north of Le May Ferry road, opposite Becker Bros. store, 3 feet south of picket fence on Dr. Baker's place; iron post stamped "Mo. 578".....	577. 745
Maxville, 0.96 mile east of, at road forks 150 feet north of little store 20 feet east of house, in root of small cedar tree; copper nail.....	605. 70
Maxville, 2.05 miles east of, at crossroads, 200 feet north of large brick house, set in telephone pole; copper nail.....	500. 39
Tenbrook, at road crossing 600 feet south of St. Louis & San Francisco R. R. depot, south of road east of track just inside right of way; iron post stamped "Mo. 429".....	428. 464
Tenbrook, 0.78 mile south of, west guardrail at north end of bridge which crosses county road; top of bolt.....	427. 62

Tenbrook, 2.42 miles south of, on St. Louis & San Francisco R. R., at mile-post 233, west side of track, in top of bottom brace of wooden viaduct; copper nail.....	Feet. 502. 40
Hencke, iron post 60 feet southeast of, St. Louis & San Francisco R. R. station just outside of right of way; iron post stamped "Mo. 500".....	499. 855
Oak Ridge farm at road crossing 50 feet south of St. Louis & San Francisco R. R. station, on top of 4 by 4 inch wooden post; copper nail and washer..	448. 15
Byers siding on St. Louis & San Francisco R. R., at road crossing 25 feet east of track, in base of telephone pole; copper nail.....	420. 52
West Kimmswick, 75 feet southeast of St. Louis & San Francisco R. R. depot at end of right of way fence south of wagon road; iron post stamped "Mo. 447".....	446. 444
West Kimmswick, 0.88 mile south of, south end of bridge 27.4 on St. Louis & San Francisco R. R.; on top of bolt on west guardrail.....	469. 02
Barnhart, 200 feet southwest of St. Louis & San Francisco R. R. depot, 50 feet west of right of way fence west side of wagon road 4 feet south of wire gate; iron post stamped "Mo. 439".....	438. 342
Engle, in southwest corner of St. Louis & San Francisco R. R. platform; copper nail.....	472. 10
Schmidt, at road forks 75 feet southeast of St. Louis & San Francisco R. R. station just outside of right of way fence corner; iron post stamped "Mo. 518".....	517. 851
Schmidt, 1.03 miles south of east guardrail at south end of bridge 32.8 St. Louis & San Francisco R. R.; top of bolt.....	465. 68
Jersey, west guardrail at south end of bridge 33.7 St. Louis & San Francisco R. R.; on top of bolt.....	422. 65

RENAULT QUADRANGLE.

[Latitude 38°-38° 15'; longitude 90°-90° 15'.]

From Clements northwest along St. Louis & San Francisco R. R. to Brickeys, thence south along highway to Bloomsdale and west 1 mile.

Establishment Creek, 440 meters above (northeast of) railroad bridge across, directly opposite main-shore end of hurdle 2 of the Fort Chartres system, leaded horizontally into point of limestone bluff in Missouri, about 1 foot above the ground, 50 meters north of farmhouse; copper bolt (Miss. Riv. Comm. p. b. m. 29).....	409. 927
Clements, 1.3 miles northwest of, 80 feet south of mile board 55 St. Louis & San Francisco R. R., on top of northwest corner of stone culvert; chiseled square.....	394. 17
Clements, 2.32 miles northwest of, at mile board 54, St. Louis & San Francisco R. R., northwest corner of trestle over small creek; top of bolt, painted.....	394. 88
Brickeys, 5 feet southwest of, in outcropping rock; bronze tablet stamped "Mo. 395".....	395. 212
Brickeys, 20 meters (65.6 feet) above the upstream corner of mill, on horizontal surface of natural rock; raised square with letters U. S. B. M. above and the number 18 below (Miss. Riv. Comm. B. M. 18=41, Holman)....	377. 69
NOTE.—Established in 1872 by Smith.	
Brickeys, 0.8 mile south of, at summit of ridge, dim road east, in northeast corner of road forks, in root on north side of hickory tree; spike.....	612. 19
Brickeys, 2.1 miles south of, on west side of road, near summit of hill, 120 feet south of road forks, in root of 4-inch black-oak tree; spike.....	686. 63

Brickeys, 3 miles south of, in northwest corner of road forks, secondary road northwest, 40 feet northwest of junction point of roads; iron post stamped "Mo. 750".....	Feet. 749. 654
Brickeys, 4.1 miles south of, in center of road, 100 feet north of summit of ridge, in root east side of 30-inch white-oak tree; nail.....	800. 42
Brickeys, 5.2 miles south of, at junction of Bloomsdale-Brickey and St. Louis-Ste. Genevieve roads at southeast corner of roads fork, in base of 18-inch oak tree; spike.....	632. 04
Bloomsdale, 180 feet east of post office, about 50 feet west of center of T road southeast and 50 feet south of blacksmith shop, 15 feet southeast of public telephone station; iron post stamped "487 Mo. 1913".....	487. 328
NOTE.—Described from memory by F. W. Hughes.	
Bloomsdale, 1.09 miles northwest of, at turn in road, east side of road, opposite rock fence, on top of stump; spike.....	409. 05

From Brickeys southwest along highway 2 miles to Needmore (settlement).

Brickeys, 5 feet southwest of station of St. Louis & San Francisco R. R.; bronze tablet stamped "Mo. 395".....	395. 212
Brickeys, 0.8 mile southwest of, on north side of road on top of ridge summit of small hill, in root of hickory tree just west of wire gate; spike.....	656. 85
Brickeys, 1.9 miles southwest of, in settlement called Needmore, on south side of road opposite small one-story house 70 feet northeast of log chicken house, in top of stump; spike.....	779. 09

Condray, Edgar Springs, Franks, and Rolla quadrangles.

DENT AND PHELPS COUNTIES.

The elevations in the following list are based upon a precise-level line run in 1908 by E. L. McNair from the United States Army Engineers' bench mark at Labadie, the accepted elevation of which is 472.572 feet.

The leveling was done in 1908 and 1909 by C. H. Swift.

ROLLA QUADRANGLE.

[Latitude 37° 45'-38"; longitude 91° 45'-92".]

From Rolla south 9 miles.

Rolla, three blocks north of Grant Hotel, east side of street, in B. L. Knapp's yard; iron post stamped "1130".....	Feet. 1, 129. 446
Rolla, 1.1 miles southeast of, on Lecoma road, road fork to northeast, in root of 16-inch black-oak tree; nail marked "1107.30".....	1, 097. 0
Rolla, 6.6 miles southeast of, on Lecoma road, 30 feet west of corner of secs. 1, 6, 7, and 12, T. 36 N., Rs. 7 and 8, in stone; aluminum tablet stamped "Trav. Sta. No. 8, 1173".....	1, 172. 674
Rolla, 8.1 miles southeast of, on Lecoma road, dim crossroads, in root of 18-inch black-oak tree 15 feet west of road; nail marked "1240.6".....	1, 230. 38

From Lecoma southwest 5 miles.

Lecoma, 3 miles south of, at fork of road to south, in root of black-oak tree; nail.....	1, 148. 46
Lecoma, 4.3 miles southwest of, on Lecoma and Edgar Springs road, T road south, in root of 18-inch post-oak tree; nail marked "1129.4".....	1, 119. 18

From point 3 miles northwest of Flat post office to point 6.4 miles northwest.

Flat post office, 3 miles northwest of, 200 feet southwest of B. M. Hartung's barn, also 200 feet west of road, north of small ravine, in sandstone ledge; aluminum tablet stamped "1092".....	Feet. 1, 092. 139
Flat post office, 5.8 miles northwest of, 725 feet north of lane running east to Joiner's house, 40 feet east of road and 2 feet west of rail fence, in sandstone rock 24 by 24 inches, in ravine; aluminum tablet stamped "1086.4".....	1, 086. 288
Flat post office, 6.4 miles northwest of, plain road fork to south known as Arlington and Spring Creek road, signboard "3.5 miles to Spring Creek," 10 feet west of road, in root of 20-inch black-oak tree; nail marked "1119.6".....	1, 109. 46

From Clementine northeast to railroad bridge over Gasconade River.

Arlington, 1.4 miles south of, 300 feet south of small graveyard, 50 feet east of road, in sandstone ledge; aluminum tablet stamped "779".....	778. 762
Arlington, in east pier of railroad bridge across Gasconade River; aluminum tablet stamped "687".....	686. 653

From Arlington north and east along highways via Gatchel and Oak Grove schoolhouse to Rolla.

Arlington, 1.2 miles northeast of, dim road fork to north, 15 feet south of road, in root of 10-inch sycamore tree; nail marked "684".....	684. 03
Arlington, 3.9 miles northeast of, in southwest corner of foundation of Gatchel schoolhouse; aluminum tablet stamped "973".....	973. 050
Wellington, 4.5 miles northeast of, road fork north known as Brickhouse Ford road, 10 feet southeast of road, in root of 12-inch black-oak tree; nail marked "1002.3".....	1, 002. 28
Arlington, 6.4 miles northeast of, 565 feet southwest of center of sec. 33, T. 28 N., R. 9 W., in sandstone ledge jutting out of point of ridge; aluminum tablet stamped "908".....	907. 519
Arlington, 9.4 miles northeast of, 2 feet north by 6 feet east of northwest corner of Oak Grove schoolhouse, in sandstone jutting out of ground; aluminum tablet stamped "1006".....	1, 005. 972
Rolla, 5.4 miles northwest of, road fork south at R. A. Collyer's mail box, 5 feet south of road, in root of 10-inch post-oak tree; nail marked "1109" ..	1, 109. 319
Rolla, 3.9 miles northwest of, 1,500 feet west of north fork of Beaver Creek, 15 feet south of road, in sandstone ledge; aluminum tablet stamped "1013".....	1, 012. 940

CONDRAV QUADRANGLE.

[Latitude 37° 45'-38; longitude 91° 30'-91° 45'.]

From point 2.5 miles north of Lecoma to point 2.5 miles southwest of Lecoma.

Rolla, 9 miles southeast of, on Lecoma road, in sandstone ledge 20 feet east of road, at southwest corner of Will Carson's farm; aluminum tablet stamped "1170".....	1, 170. 199
Lecoma, 1.4 miles north of, on Rolla and Lecoma road, in root of 14-inch post-oak tree at camp; nail marked "1151.9".....	1, 141. 69
Lecoma, in southeast corner of flour mill; aluminum tablet stamped "1197".....	1, 196. 583
Lecoma, 0.3 mile south of, on Lecoma and Edgar Springs road, road fork to south, line on ridge road southwest, in root of 12-inch post-oak tree; nail marked "1214.8".....	1, 204. 53
Lecoma, 1 mile southwest of, on Lecoma and Edgar Springs road, 10 feet south of road, dim crossroads, in root of 12-inch black-oak tree; nail marked "1186.8".....	1, 176. 54

Lecoma, 2 miles southwest of, on Lecoma and Edgar Springs road, in south side of T road north, east of S. L. Amerson's place, in sandstone rock 24 by 8 by 8 inches; aluminum tablet stamped "Prim. Trav. Sta. No. 7, 1173" Feet. 1, 172. 854

At point 3.1 miles southeast of Rolla.

Rolla, 3.1 miles southeast of, on Lecoma road, in front of vacant house 15 feet west of road; iron post stamped "1073" 1, 073. 262

EDGAR SPRINGS QUADRANGLE.

[Latitude 37° 30'-37° 45'; longitude 91° 45'-92°.]

From junction of Horse Creek and Little Piney River to point 3 miles west of Flat.

Lecoma, 5 miles southwest of, on Lecoma and Edgar Springs road, sec. 21, T. 35 N., R. 8 W., 400 feet southwest of 40-acre corner, 0.3 mile south of northeast corner sec. 21, in sandstone ledge 10 feet north of road; aluminum tablet stamped "1061" 1, 060. 901

Lecoma, 6.8 miles southwest of, on Lecoma and Edgar Springs road, road fork to south, first road fork west of Little Piney River, on 14-inch post-oak tree, in root; nail marked "1146.5" 1, 136. 35

Lecoma, 7.3 miles southwest of, on Lecoma and Edgar Springs road, road fork to north known as Yancy Mill road, in root of 18-inch black-oak tree; nail marked "1171.8" 1, 161. 60

Lecoma, 8.7 miles southwest of, on Lecoma and Edgar Springs road, dim crossroad running north, in root of 16-inch post-oak tree; nail marked "1204.1" 1, 193. 96

Lecoma, 9.3 miles southwest of, where Lecoma and Edgar Springs road and Houston road fork, 600 feet south of northeast corner of NW. ¼ sec. 30, T. 35 N., R. 8 W., 100 feet northwest of T road west, 100 feet north of small ravine, in sandstone ledge; aluminum tablet stamped "1153" 1, 153. 318

Houston road, 1.7 miles west of, 2,000 feet east of Avert Jenkin's residence in top of large sandstone jutting in Corn Creek at ford near fork, in center of stone 10 by 5 feet; aluminum tablet stamped "1057" 1, 056. 963

Flat post office, 1.2 miles east of, road fork to north known as Edgar Springs and Newburg road, in root of post-oak tree 10 inches in diameter; nail marked "1145.3" 1, 135. 19

Flat post office, 0.4 mile southwest of, on Relfe road, in sandstone ledge 10 feet east of, 150 feet north of road fork, headwaters of Mill Creek; aluminum lablet stamped "1116" 1, 116. 174

Flat post office, 0.9 mile west of, on ridge road to Arlington, road fork to south, 300 feet west of vacant log house known as Main Hotel, in root of 12-inch white-oak tree; nail marked "1175.6" 1, 165. 48

FRANKS QUADRANGLE.

[Latitude 37° 45'-38°; longitude 92°-92° 15'.]

Clementine.

Clementine post office, 0.8 mile south of, road fork to right, in root of post-oak tree at small white house; nail 1, 072. 40

Clementine post office, road at T west, 40 feet south by 30 feet west to quarter corner between secs. 3 and 10, T. 36 N., R. 10 W., in sandstone 30 by 14 by 8 inches; aluminum tablet stamped "Prim. Trav. Sta. No. 4. 1058" 1, 058. 045

Clementine post office, 1 mile northwest of, road fork to east at northwest corner of Slaughter's fence, in root of 18-inch black-oak tree; nail marked "1033.7" 1, 023. 60

Eldon and Gravois Mills quadrangles.

MONITEAU, MORGAN, AND MILLER COUNTIES.

The elevations in the following list are based upon an aluminum tablet stamped "1037 Vrsls" in the foundation at the southwest corner of the courthouse at Versailles, the elevation of which is accepted as 1,036.700 feet above mean sea level. The initial points upon which this leveling depends are the triangulation stations "Hunter" and the "North Base" of the Coast and Geodetic Survey, which are also bench marks on a spur line of its transcontinental precise-level line.

The leveling was done in 1902 by O. Laurgaard.

GRAVOIS MILLS QUADRANGLE.

[Latitude 38° 15'-38° 30'; longitude 92° 45'-93°.]

From Hunter triangulation station along road to North Base triangulation station.

	Feet.
Hunter triangulation station (C. & G. S.), 4 miles east of Versailles, in surface stone marking station; top of copper bolt.....	1,048.108
Versailles, on southwest corner of foundation of courthouse; aluminum tablet stamped "1037 Vrsls".....	1,036.700
Versailles, 3.5 miles north of, about 300 feet west of bridge 23, in Moreau Creek, on flat stone; aluminum tablet stamped "903 Vrsls".....	903.074
Versailles (North Base of C. & G. S.) triangulation station and bench mark.	1,057.380

From Hunter via Versailles to Gravois Mills.

Gravois Creek, branch of, 150 paces south of McDaniel's house, 57 paces west of road, on north edge of creek; aluminum tablet stamped "818 Vrsls" (set in rock).....	817.242
Huhn's store, 1 mile west of, 15 paces northwest of road, in projecting rock beneath an 8-inch tree; bronze tablet stamped "719 Vrsls".....	719.124

From Gravois Mills to Gladstone.

Gravois Mills, in foundation of J. T. Washburn's store; aluminum tablet stamped "673 Vrsls".....	672.563
Gladstone, in foundation of Seydebothan's Hotel; aluminum tablet stamped "614 Vrsls".....	614.063

At Proctor (single spur line).

Proctor, in front of Talbot's house, in foundation; bronze tablet stamped "652 Vrsls".....	651.458
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ELDON QUADRANGLE.

[Latitude 38° 15'-38° 30'; longitude 92° 30'-92° 45'.]

From Rocky Mount via Barnett to Hunter.

Rocky Mount, opposite post office, in foundation of church; bronze tablet stamped "996 Vrsls".....	995.915
Barnett, in front of Beckman's store, in foundation of church; aluminum tablet stamped "917 Vrsls".....	916.588

From Versailles (North Base) via Olean and Eldon to Rocky Mount.

Excelsior, 0.1 mile east of, 50 paces south of road, in creek bed, in large flat rock; bronze tablet stamped "863 Vrsls".....	Feet. 862.271
High Point, in brick front of Tising's store; bronze tablet stamped "904 Vrsls"	903.599
Olean, in brick front of Dr. Allees's drug store; aluminum tablet stamped "770 Vrsls".....	769.867
Eldon, in brick front of bank; aluminum tablet stamped "934 Vrsls".....	933.828

From Eldon to Bagnell and return.

Bagnell, 170 yards northwest of station, 7 yards southeast of switch, 4 paces north of track, in rock; bronze tablet stamped "587 Vrsls".....	586.742
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New Madrid 30' quadrangle, including Bloomfield, Malden, New Madrid, and Sikeston 15' quadrangles.

NEW MADRID COUNTY.

The following elevations are based on a bench mark of the United States Army Engineers described as follows: "New Madrid, post set near river bank in woods, 54 meters from river bank, 50 meters from top of bank of St. Johns Bayou, on land of Harry Powers, top of brass cap." The elevation of this bench mark is accepted as 286.970 feet.

The line was run between New Madrid and Malden and return by Leigh D. Townsend in 1908.

NEW MADRID QUADRANGLE.

[Latitude 36° 30' - 36° 45'; longitude 89° 30' - 89° 45'.]

From New Madrid via St. Louis Southwestern Ry. to Malden.

New Madrid, 25 feet south of St. Louis Southwestern Ry., east of north-south street, in water stem to fire hydrant; top of bolthead marked "U. S. B. M. 298.40".....	Feet. 298.385
New Madrid, 0.8 mile west of, between railroad tracks, in top of corner stone; copper bolt; post has letters "U. S." chiseled in top.....	299.259
New Madrid, 3.6 miles west of, at northeast corner of T roads, 45 feet north of center of track, 20 feet east of center of wagon road running north, inside fence 2 feet from corner post; iron post stamped "301".....	301.237
Leave track and turn north to Lilbourn:	
Lilbourn, east of station, 315 feet from railroad crossing, at northeast corner of crossroads, in fence corner at southwest corner of field; iron post stamped "285".....	284.866
Lilbourn, crossing of St. Louis & San Francisco R. R.; top of rail.....	286.44
Lilbourn, 1 mile west of, short distance east of Boden, about middle of first bridge west of Lilbourn on north side; top of bolt, marked "U. S. B. M. 280.64 □".....	285.531
Lilbourn, 2.6 miles west of, south side of railroad right of way, 24.8 feet from south rail, 9.5 feet west of milepost 39, in line with telegraph poles; iron post stamped "281".....	280.509
Catron, on grounds of old sawmill, just outside of north side of right of way, 50 feet north of center of main track, southwest of patch of woods, west of easternmost house in Catron; iron post stamped "282".....	281.709

Como, north of railroad right of way, 47 feet north of center of track, somewhat west of section house 8, on opposite side of track, in line with cattle guard and right of way fence, in corner formed by fence; iron post stamped "283"	Feet. 282. 613
Parma, 51.5 feet south of center of St. Louis Southwestern Ry. track, 54 feet from center of St. Louis & San Francisco R. R. track, opposite Union Station, at intersection of west fence of St. Louis & San Francisco R. R. right of way and south fence of St. Louis Southwestern Ry. right of way, just inside fence on athletic grounds; iron post stamped "281"	281. 305
Hyman, east of, 49 feet north of center of track in right of way of St. Louis Southwestern Ry., in corner formed by right of way fence and fence running out from cattle guard; iron post stamped "281"	280. 688
Malden, 3.1 miles northeast of, 43 feet southeast of southeast corner of railroad bridge over ditch 4, 80 feet east of center of ditch 4, east of and along south edge of St. Louis Southwestern Ry. right of way, just outside of right of way of ditch 4; iron post stamped "279"	279. 413
Malden, 2 miles northeast of, northwest of mile sign 56 on telegraph pole at east end of bridge 138-A, on top of bridge stringer on north side at east end of bridge 138-A, last bolthead on top; marked "U. S. B. M. 282.56" ..	282. 49
Malden, directly across street from city hall, north side of Main Street, about 200 feet east of Four Corners, west of livery barn belonging to W. B. Bladsoe, in concrete foundation of brick office building belonging to Drs. E. T. Penny, E. T. Van Cleve, and E. M. Edwards, south side in southeast corner about 1.5 feet above ground; aluminum tablet stamped "294"	294. 043

NOTE.—This line was continued south to Senath as a single unchecked line; results are not published.

Palmyra quadrangle.

LEWIS, MARION, MONROE, RALLS, AND SHELBY COUNTIES.

The elevations in the following list are based upon Mississippi River Commission permanent bench mark 12, at West Quincy, a copper bolt leaded horizontally in the third course of masonry from the bottom and the ninth from the top of the west abutment of the Quincy, Omaha & Kansas City Railroad bridge, in north face, 2 inches from east corner. The elevation of this bench mark is 477.810 feet by the 1912 adjustment. In 1902 this leveling was checked by connecting with United States permanent bench mark 16, at Hannibal, the accepted elevation of which is 489.436 feet.

The leveling was done in 1901 and 1902 by H. V. Rees.

PALMYRA QUADRANGLE.

[Latitude 39° 30'-40°; longitude 91° 30'-92°.]

From West Quincy west along railroad via Maywood to Dunham.

West Quincy (Miss. Riv. Com. p. b. m. 12), in third course of masonry from bottom and ninth from top of west abutment of Quincy, Omaha & Kansas City R. R. bridge, in north face, 2 inches from east corner; center of copper bolt leaded horizontally	Feet. 477. 810
West Quincy, on northeast corner of station platform	483
Taylor, in northwest corner of station platform; copper nail	490. 96
Maywood, at southwest corner of station platform; copper nail	518. 51

From Maywood along highway south to Hester and west to Naomi.

T. 59 N., R. 6 W., in southern part of NW. $\frac{1}{4}$ sec. 18, 0.3 mile east of Hester, in sixth tier of stone from top of south abutment of wagon bridge over South Fabius River; bronze tablet stamped "511 Q".....	Feet. 510. 722
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From Hester south along highway to Palmyra.

Palmyra Junction, in southeast corner of station platform; copper nail....	652. 88
Palmyra Junction, in front of station; top of inside rail.....	651. 9

From Palmyra along railroad to Woodland, thence south along highway to Rensselaer and east to Ely.

T. 57 N., R. 6 W., in southeastern part of NW. $\frac{1}{4}$ sec. 8, at Woodland, in southeast corner of stone foundation of brick schoolhouse; bronze tablet stamped "685 Q".....	685. 304
Woodland, in front of station; top of rail.....	681. 3
West Ely, in front of post office, at foot of hitching post; cross on large rock.	718. 58
Rensselaer, in southwest corner of station platform; copper nail.....	734. 15
Rensselaer, in front of station; top of rail.....	734. 3
Huntington, in northwest corner of station platform; copper nail.....	729. 07
T. 56 N., R. 6 W., in center of SW. $\frac{1}{4}$ sec. 8, in front of stone, under porch, in northeast foundation stone; bronze tablet stamped "727.5 Q".....	727. 830
Ely, in southwest corner of station platform; copper nail.....	735. 54
Ely, in front of station; top of inside rail.....	735. 1
T. 56 N., R. 7 W., in north part of NE. $\frac{1}{4}$ sec. 2, in north face of stone foundation of house; bronze tablet stamped "729 Q".....	7 28. 84

From Ely north along highway via Mount Vernon, Emerson, and Naomi, to Durham.

T. 57 N., R. 7 W., 100 yards east of southwest corner of sec. 15, Mount Vernon, in southwest stone of coping around church; bronze tablet stamped "664 Q".....	663. 764
T 58 N., R. 7 W., at northeast corner of SE. $\frac{1}{4}$ sec. 29, at crossroads, in south face of stone foundation near southwest corner of schoolhouse; bronze tablet stamped "695 Q".....	695. 423
Philadelphia, in southeastern part of NE. $\frac{1}{4}$ sec. 12, T. 58 N., R. 8 W., in northeast corner of stone foundation of Baptist Church; aluminum tablet stamped "711 Q" (on spur not checked).....	711. 056
Emerson, center of NE. $\frac{1}{4}$ sec. 29, T. 59 N., R. 7 W., in southeast corner of stone foundation of Christian Church; bronze tablet stamped "672 Q"....	672. 046
Naomi, in front of post office, in northeast corner of platform; copper nail..	566. 86
Durham, in southwest corner of station platform; copper nail.....	647. 13
Durham, in front of station; top of rail.....	646. 8

From Durham along highway east to Argola, thence south to Nelsonville.

Argola, in front of post office, about 6 feet from southwest corner; cross on large stone.....	703. 92
Nelsonville, in front of post office; cross on northeast corner of step.....	716. 23

From Naomi west along highway to Nelsonville.

Benbow, at west end of step in front of post office; cross on stone.....	693. 63
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From Nelsonville south along highway via Cherrydell and Emden to Lakeman.

Cherrydell, in northwest corner of NW. $\frac{1}{4}$ sec. 30, T. 59 N., R. 8 W., in stone foundation of west side of post office, 7.5 feet north of southwest corner; bronze tablet stamped "695 Q".....	694. 685
Emden, in front of post office, in southeast corner of platform; copper nail.	745. 50

Emden, in southwest corner of NW. $\frac{1}{4}$ sec. 25, T. 58 N., R. 9 W., in southwest corner of stone foundation under Christian Church; bronze tablet stamped "743 Q".....	Feet. 743. 221
From Cherrydell northwest via Sigsbee toward Elgin (single spur line).	
Sigsbee, in west part of SE. $\frac{1}{4}$ sec. 14, T. 59 N., R. 9 W., in south side of stone foundation of house owned by D. J. Bevill; bronze tablet stamped "739 Q".....	739. 454
T. 59 N., R. 10 W., SW. $\frac{1}{4}$ NW. $\frac{1}{4}$ sec. 12, in southwest corner of stone foundation of T. G. Moore's house; bronze tablet stamped "756 Q".....	755. 608
From Sigsbee southwest along highway via Burkesville (single spur line).	
Burkesville, in northeast part of SE. $\frac{1}{4}$ sec. 1, T. 58 N., R. 10 W., in northeast corner of stone foundation of Charles Buckingham's house; aluminum tablet stamped "749 Q".....	749. 468
From Ely west along Chicago, Burlington & Quincy R. R. to point west of Lakenan (single spur line).	
Monroe City, in southeast part of NE. $\frac{1}{4}$ sec. 13, T. 56 N., R. 8 W., in north face of stone coping of First Baptist Church; bronze tablet stamped "748 Q".....	748. 117
Hunnewell, in southeast corner of station platform; copper nail.....	757. 89
Hunnewell, in front of station; top of rail.....	757. 9
Lakenan, in northwest corner of station platform; copper nail.....	732. 20
Lakenan, in front of station; top of inside rail.....	732. 4
T. 56 N., R. 10 W., at west side of NE. $\frac{1}{4}$ sec. 1; iron post stamped "747 Q".	752. 691
From Lakenan northwest 2.5 miles (single spur line).	
T. 57 N., R. 10 W., in west side of SE. $\frac{1}{4}$ sec. 36, in west face of stone foundation under J. Clark's house; bronze tablet stamped "739 Q" (fly levels from Emden gave elevation 6 feet less).....	744. 980
From Hunnewell northwest 2.3 miles (single spur line).	
Hunnewell, in south part of NW. $\frac{1}{4}$ sec. 12, T. 57 N., R. 9 W., in southwest corner of stone foundation of A. C. Spalding's drug store; bronze tablet stamped "758 Q".....	758. 687
T. 57 N., R. 9 W., at southeast corner of SW. $\frac{1}{4}$ sec. 35; iron post stamped "754 Q".....	754. 165
From Hunnewell northeast 1.5 miles (single spur line).	
T. 57 N., R. 8 W., in south part of SW. $\frac{1}{4}$ sec. 31, 1.5 miles northeast of Hunnewell, in north face of stone foundation of James McClintock's house; bronze tablet stamped "754 Q".....	754. 452
From Hunnewell southwest along highway toward Hawkins and southeast toward Stoutsville.	
T. 55 N., R. 10 W., at northwest corner of NE. $\frac{1}{4}$ sec. 1; iron post stamped "691.5 Q".....	691. 691
T. 55 N., R. 9 W., in central part of NE. $\frac{1}{4}$ sec. 5; in ledge of rock about 20 feet east of road; bronze tablet stamped "697 Q".....	697. 532
From Monroe City southeast via Hatch to Cincinnati.	
T. 55 N., R. 8 W., in northeast part of NE. $\frac{1}{4}$ sec. 1, in ledge of rock on creek bank about 100 yards from road; bronze tablet stamped "650 Q".....	650. 432
T. 55 N., R. 7 W., in northeast part of SW. $\frac{1}{4}$ sec. 2, in northeast corner of stone schoolhouse; bronze tablet stamped "723 Q".....	723. 205

Cincinnati, in northeast corner of SW. $\frac{1}{4}$ sec. 8, T. 55 N., R. 6 W., in east face of stone foundation of Methodist Church; bronze tablet stamped "527 Q".....	Feet. 527. 024
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From Woodland east along railroad via Oakwood to Hannibal.

Withers Mill, northeast corner of station platform; copper nail.....	607. 80.
Bear Creek, southeast corner of station platform; copper nail.....	587. 30
Oakwood, Chicago, Burlington & Quincy R. R. station, at southeast corner of platform; copper nail.....	510. 89
Oakwood, Missouri, Kansas & Texas Ry. station, southeast corner of station platform; copper nail.....	507. 67
Permanent bench mark 16, copper bolt leaded horizontally in face of natural rock at east entrance of tunnel at Missouri end of railroad bridge at Hannibal. Bolt is in rock facing east and on south side of tunnel, 7 feet south of entrance and about 4 feet above road level.....	489. 436

Donnellson, Edina, Green City, Kahoka, Pulaski, and Queen City quadrangles.

ADAIR, CLARK, KNOX, LEWIS, MACON, PUTNAM, SCHUYLER, SCOTLAND, AND SULLIVAN COUNTIES.

The elevations in the following list are based on a bench mark of the United States Corps of Engineers (Mississippi River Commission), at Alexandria, in sec. 8, T. 64 N., R. 5 W. The bench mark is an eyebolt in top of mooring stone at boat landing, and its elevation is accepted as 493.605 feet above mean sea level.

The leveling was done in Donnellson quadrangle in 1900 by H. V. Rees; in Edina quadrangle in 1900 by Rees, in 1905 by D. V. Vandiver, in 1910 by P. W. McMillen, and in 1911 by McMillen, J. Rayburn, and S. R. Archer; in Green City quadrangle in 1911 by McMillen and Rayburn; in Kahoka quadrangle in 1900 by Rees; in Queen City quadrangle in 1910 and 1911 by McMillen; and in Pulaski quadrangle in 1900 by Rees.

KAHOKA QUADRANGLE.

[Latitude 40°-40° 30'; longitude 91° 30'-92°.]

Near public-land corners.

Weber, T. 60 N., R. 6 W., in west part of NE. $\frac{1}{4}$ sec. 7, on east side of large brick house of J. W. Willows, commonly known as old Tate place, in stone foundation; bronze tablet stamped "615 A".....	Feet. 616. 092
Ewing, T. 60 N., R. 7 W., SE. $\frac{1}{4}$ sec. 7, in east face of solid stone foundation of Reformed Lutheran Church; bronze tablet stamped "687 A".....	688. 364
T. 60 N., R. 8 W., quarter corner east side of sec. 10, on property of William Jusfram; iron post stamped "681 A".....	682. 208
T. 60 N., R. 9 W., in north part of SE. $\frac{1}{4}$ sec. 8, on place of W. E. Piner, at side of road under hedge fence north of gateway; iron post stamped "681 A".....	681. 732
T. 61 N., R. 6 W., in northern part of SE. $\frac{1}{4}$ sec. 20, on east side of large brick house owned by Eliza Glavin, in stone casing over cellar window; bronze tablet stamped "640 A".....	640. 111
Lewiston, T. 61 N., R. 8 W., sec. 17, on bank building at southeast corner of Main and Elm streets; aluminum tablet stamped "725 A".....	725. 863
La Belle, T. 61 N., R. 9 W., sec. 5, in northwest corner of stone foundation of bank; aluminum tablet stamped "738 A".....	738. 336

	Feet.
T. 62 N., R. 6 W., near northwest corner of sec. 29, in northwest corner of yard of M. L. Spalding; iron post stamped "637 A".....	636. 561
T. 62 N., R. 7 W., about center of SE. $\frac{1}{4}$ sec. 16, 40 feet west of lane to L. E. Moore's house, on north side of road at foot of choke-cherry tree; iron post stamped "671 A".....	671. 058
Bunker Hill, T. 62 N., R. 8 W., SE. $\frac{1}{4}$ sec. 11, in southeast corner of doorway of George Nelson; iron post stamped "701 A".....	701. 858
T. 62 N., R. 9 W., northeast part of sec. 20, in southeast corner of dooryard of H. P. Gregory; iron post stamped "674 A".....	675. 067
T. 63 N., R. 6 W., sec. 6, schoolhouse No. 1, in southeast corner of stone foundation; bronze tablet stamped "538 A".....	537. 741
Derrahs, T. 63 N., R. 7 W., SW. $\frac{1}{4}$ sec. 27, on north side of road, in fence corner southeast of schoolhouse; iron post stamped "609 A".....	609. 426
Williamstown, T. 63 N., R. 8 W., SE. $\frac{1}{4}$ sec. 20, in west side of stone foundation of Southern Methodist Church; bronze tablet stamped "721 A"....	722. 757
T. 63 N., R. 9 W., quarter corner west side of sec. 28, at northeast corner of crossroads, on property of J. A. Arthur; iron post stamped "709 A"....	710. 260
T. 63 N., R. 10 W., near center of sec. 23, 0.5 mile southeast of Colony, in north face of stone foundation of H. S. Coleman's house; bronze tablet stamped "745 A".....	746. 032
Alexandria, T. 64 N., R. 5 W., sec. 8, in top of mooring stone at boat landing; eyebolt (Miss. Riv. Comm. b. m. 5).....	493. 602
T. 64 N., R. 6 W., near northwest corner of sec. 8, at crossroads, in stone step of west door of Fox River Church; aluminum tablet stamped "533 A".....	532. 883
Antioch, T. 64 N., R. 7 W., SE. $\frac{1}{4}$ sec. 20, in northwest corner of Elwell's store; bronze tablet stamped "698 A".....	698. 010
Neeper, T. 64 N., R. 8 W., center of sec. 21, in southeast corner of churchyard; iron post stamped "730 A".....	730. 990
Fairmount, T. 64 N., R. 9 W., SW. $\frac{1}{4}$ sec. 21, in northeast corner of public square; iron post stamped "780 A".....	780. 663
St. Francisville, T. 65 N., R. 6 W., SW. $\frac{1}{4}$ sec. 3, 1 block northwest of post office, in southwest corner of H. C. Campbell's residence; aluminum tablet stamped "536 A".....	542. 362
Kahoka, in front of station; top of inside rail.....	697. 4
Kahoka, T. 65 N., R. 8 W., sec. 24, at southwest corner of county courthouse, in window ledge; aluminum tablet stamped "704 A".....	705. 017
Medill, in front of station; top of inside rail.....	703. 7
Medill, T. 65 N., R. 8 W., sec. 16, 450 feet west of crossing of Chicago, Burlington & Quincy R. R. and Atchison, Topeka & Santa Fe Ry., in masonry around signal post; aluminum tablet stamped "703 A".....	704. 116
Luray, T. 65 N., R. 9 W., in SE. $\frac{1}{4}$ sec. 10, in northwest corner of Baptist Church foundation; bronze tablet stamped "746 A".....	746. 564
Granger, sec. 2, T. 65 N., R. 10 W., in southwest corner of foundation of Granger Exchange Bank; bronze tablet stamped "761 A".....	761. 596
Revere, T. 66 N., R. 7 W., in NW. $\frac{1}{4}$ sec. 28, in middle of south side of stone foundation of Hotel Revere; aluminum tablet stamped "682 A".....	683. 635
T. 66 N., R. 8 W., quarter corner south side of sec. 28, in southwest corner of dooryard of J. O. Murphy; iron post stamped "713 A".....	713. 855
T. 66 N., R. 9 W., quarter corner west side of sec. 28, on property of J. S. Snyder; iron post stamped "733 A".....	734. 130

DONNELLSON 15' QUADRANGLE.

[Latitude 40° 30'-40° 45'; longitude 91° 30'-91° 45'.]

T. 66 N., R. 10 W., 0.1 mile east of northwest corner, in fence corner on property of Joseph Miller; iron post stamped "745 A" 746. 149

EDINA QUADRANGLE.

[Latitude 40°-40° 30'; longitude 92°-92° 30'.]

Near public-land corners.

La Plata, foundation stone under first window north of southeast entrance to savings bank; aluminum tablet stamped "934 Adj 1904." (Set in 1905 on double line from Glasgow to Gibbs) 933. 110

T. 61 N., R. 10 W., southwest corner of NW. ¼ sec. 9, at northeast corner of crossroads; iron post stamped "696 A" 696. 547

T. 61 N., R. 11 W., SE. ¼ sec. 9, in corner of Robert Hysell's dooryard; iron post stamped "735 A" 735. 891

T. 61 N., R. 12 W., at southwest corner of sec. 17, 200 yards east of road, in corner of dooryard of J. C. Beck; iron post stamped "855 A" 855. 715

T. 61 N., R. 13 W., in southwest corner of sec. 11, in corner of dooryard of Thomas Powers; iron post stamped "874 A" 874. 829

Gibbs, SW. ¼ sec. 12, T. 61 N., R. 14 W., in northwest face of Gibbs Savings Bank; aluminum tablet stamped "910 A" 910. 433

Knox City, southeast of center of sec. 28, T. 62 N., R. 10 W., in west side of Cater & Hunsaker's store; aluminum tablet stamped "766 A" 766. 115

Edina, sec. 18, T. 62 N., R. 11 W., in front of station; top of rail. 733. 9

Edina, NW. ¼ sec. 19, T. 62 N., R. 11 W., 50 feet east of stand in public square, in meridian post; aluminum tablet stamped "814 A" 814. 661

T. 62 N., R. 12 W., in west center of NE. ¼ sec. 21, about 30 yards south of railroad track, in road corner; iron post stamped "842 A" 842. 152

Brashear, in center of NW. ¼ sec. 29, T. 62 N., R. 13 W., in casing of east window on north side of schoolhouse; aluminum tablet stamped "868 A" . 868. 750

T. 62 N., R. 14 W., in NE. ¼ sec. 22, in corner of road adjacent to property of G. M. Leo; iron post stamped "921 A" 921. 284

T. 63 N., R. 11 W., in southeast corner of SE. ¼ sec. 6, in corner of dooryard of property of M. Beck; iron post stamped "777 A" 778. 180

T. 63 N., R. 12 W., near northwest corner of sec. 9, in west face of stone foundation of James McWilliams's house; aluminum tablet stamped "845 A" 846. 116

Adair, NE. ¼ sec. 20, T. 63 N., R. 13 W., in west face of brick foundation of Catholic parish house; aluminum tablet stamped "926 A" 926. 871

Clay, NW. ¼ sec. 34, T. 63 N., R. 14 W., about 80 yards east of post office, near large oak tree; iron post stamped "931 A" 930. 210

T. 64 N., R. 10 W., in south part of SW. ¼ sec. 28, in southwest corner of dooryard of property of Mary Boyer; iron post stamped "652 A" 652. 989

Sandhill, center of sec. 33, T. 64 N., R. 11 W., 200 yards from post office, in brick foundation of house of S. P. Childers; aluminum tablet stamped "802 A" 803. 490

T. 64 N., R. 12 W., center of SW. ¼ sec. 7, in corner of dooryard of William Purvis; iron post stamped "837 A" 837. 372

Hazelville, south of center of SW. ¼ sec. 35, T. 64 N., R. 13 W., corner of road on Fred Fraser's property; iron post stamped "870 A" 871. 268

Willmathsville, northwest quarter corner on east side of sec. 25, T. 64 N., R. 14 W., at southeast corner of Union Church; iron post stamped "939 A" 939. 315

Memphis, in front of station; top of inside rail. 757

	Feet.
Memphis, sec. 7, T. 65 N., R. 11 W., in schoolhouse yard, in top of meridian post; bronze tablet stamped "786 A".....	787. 069
T. 65 N., R. 12 W., in south part of NW. $\frac{1}{4}$ sec. 25, in northwest corner of Miller schoolhouse yard; iron post stamped "796 A".....	797. 116
T. 65 N., R. 13 W., in south part of NE. $\frac{1}{4}$ sec. 3, in corner of S. B. Pile's orchard; iron post stamped "855 A".....	855. 840
T. 65 N., R. 14 W., in east part of SW. $\frac{1}{4}$ sec. 26, at southeast corner of crossroads, adjacent to property of J. N. Cannon, in large stone; bronze tablet stamped "829 A".....	830. 305
T. 66 N., R. 11 W., near center of sec. 34, adjacent to land owned by W. H. Summers; iron post stamped "760 A".....	761. 397
T. 66 N., R. 12 W., southwest part of NW. $\frac{1}{4}$ sec. 33, on John Ridges's property, in northeast corner of crossroads; iron post stamped "790 A".....	790. 501
Downing, NW. $\frac{1}{4}$ sec. 33, T. 66 N., R. 13 W., in foundation of store opposite station; bronze tablet stamped "875 A".....	875. 511

From Gibbs north along highways via Brashear and Clay to Bryant School.

(This line run twice. Between Gibbs and Brashear all old bench marks were recovered and considerable error was corrected. Two gross errors remain to be found in old lines, one of 2 feet northeast of Clay and one of 0.5 foot in circuit east from Brashear.)

Gibbs, SW. $\frac{1}{4}$ sec. 12, T. 61 N., R. 14 W., in northwest face of Gibbs Savings Bank; aluminum tablet stamped "910 A".....	910. 433
Gibbs, 1.25 miles northeast of, along Atchison, Topeka & Santa Fe Ry., northwest corner of sec. 7, T. 61 N., R. 13 W., northwest corner of overhead highway bridge 305 A over railroad; chiseled square on concrete-pillar foundation.....	875. 20
T. 62 N., R. 13 W., near northeast corner of SE. $\frac{1}{4}$ sec. 29, 0.5 mile west of Brashear, at T road south, southeast corner of bridge 58/3 on Quincy, Omaha & Kansas City R. R.; bolthead in top of south end of timber bridge seat.....	812. 15
T. 62 N., R. 13 W., NW. $\frac{1}{4}$ sec. 30, 1.5 miles northwest of Brashear, northwest corner of bridge 59/3, top of west end of guardrail; bolthead.....	822. 86
T. 62 N., R. 14 W., in northeast corner of sec. 22, in corner of road adjacent to property of G. M. Leo, at T road west, 420 feet north of railroad; iron post stamped "921 A".....	921. 284
T. 62 N., R. 14 W., 200 feet south of east center of NE. $\frac{1}{4}$ sec. 15, northwest corner of highway bridge over Salt Creek, west side of bridge floor, in southwest corner of north approach of main span; spike.....	839. 92
T. 62 N., R. 14 W., northeast corner of sec. 15, in southwest corner of crossroads, in root on north side of 24-inch oak tree; spike.....	871. 12
Clay, at north center of NW. $\frac{1}{4}$ sec. 34, T. 63 N., R. 14 W., on north side of road at road forks, at foot of north side of oak tree, 60 feet west of new store building; iron post stamped "931 A".....	930. 210
T. 63 N., R. 14 W., near center of SE. $\frac{1}{4}$ sec. 28, 0.9 mile west of Clay, 600 feet east of large white house, north edge of road, in root of 18-inch oak stump; copper nail stamped "902.5".....	901. 031
T. 63 N., R. 14 W., NW. $\frac{1}{4}$ sec. 28, 2 miles northwest of Clay, west bank of north fork of Salt River; copper nail in oak tree, stamped "853".....	850. 493
T. 63 N., R. 14 W., 200 feet west of corner of secs. 16, 17, 20, and 21, northeast corner of iron bridge over Salt River; bolthead marked "859.6".....	858. 146
T. 63 N., R. 14 W., quarter corner of secs. 17 and 20, northeast corner of crossroads; iron post stamped "926".....	924. 907

T. 63 N., R. 14 W., near center of sec. 17, about 1 mile south of Sperry; nail in floor of bridge over North Fork of Salt River, marked "866.9" ..	Feet. 864. 493
Sperry, about 1 mile west of, 700 feet west of wooden bridge over Salt River, north edge of road, in root of 6-inch oak tree; copper nail stamped "868.8"	866. 242
T. 63 N., R. 15 W., at quarter corner between secs. 12 and 13, 1.5 miles southeast of Bryant schoolhouse, southeast corner of T road south, in post; copper nail marked "922.1"	919. 63

From point 1 mile north of Mount Zion Church east to Walker Chapel.

T. 66 N., R. 14 W., at quarter corner between secs. 30 and 31, 50 feet north of road, 100 feet west of small wooden bridge; in root of 24-inch elm tree; copper nail stamped "880.2"	877. 65
T. 66 N., R. 14 W., 0.25 mile north of SW. $\frac{1}{4}$ sec. 29, at Tippecanoe School, 500 feet east of T road south, in root of elm tree 30 feet north of highway; copper nail stamped "957.3"	954. 70
T. 66 N., R. 14 W., near center of sec. 28, northwest corner of T road north, in root of 10-inch oak tree; copper nail stamped "942.3"	939. 71
T. 66 N., R. 14 W., 0.5 mile north of NW. $\frac{1}{4}$ sec. 27, at Pin Oak School, 600 feet south of T road east, 25 feet west of highway, in root of 15-inch elm tree; copper nail stamped "936.9"	934. 37
Walker Chapel, north end of; iron post stamped "900 A"	901. 375

QUEEN CITY QUADRANGLE.

[Latitude 40° 15'-40° 30'; longitude 92° 30'-92° 45'.]

From Bryant School north along highway and Wabash R. R. to point 1 mile north of Mount Zion Church.

T. 63 N., R. 15 W., quarter corner between secs. 11 and 12, 0.5 mile east of Bryant schoolhouse, northwest corner of T road north; iron post stamped "973"	970. 111
T. 63 N., R. 15 W., on north-south line between secs. 1 and 2, 1.25 miles northeast of Bryant schoolhouse, 600 feet west of large white house, near sharp turn in road, south edge of road, in root of 8-inch tree; copper nail stamped "894.1"	891. 57
T. 63 N., R. 15 W., at quarter corner between sec. 35 (T. 64 N.) and sec. 2 (T. 63 N.), northeast corner of crossroads, 1.5 miles east of Sublette, in root of willow tree; copper nail stamped "929.1"	926. 62
T. 64 N., R. 15 W., near middle of sec. 35, 1.5 miles northeast of Sublette, west edge of north-south road, opposite T road leading east; iron post stamped "973"	970. 156
Sublette, 1 mile east of, northeast corner of T road north; point on culvert, marked "960"	957. 5
Sublette, 1 mile northeast of, on north-south road, 600 feet north of junction with east-west road, west edge of road, in root of 8-inch elm tree; copper nail stamped "972"	969. 50
T. 64 N., R. 15 W., at quarter corner between secs. 22 and 23, 0.75 mile southeast of Greentop, north edge of T road east; iron post stamped "926" ..	923. 282
Greentop, 700 feet north of station, 20 feet east of track, in base of telegraph pole, marked "992.8"; spike	990. 22
Greentop, 1.3 miles north of, north edge of east-west road intersecting railroad, 100 feet west of track; iron post stamped "979"	976. 926
Greentop, 2 miles north of, 200 feet north of milepost 122, 50 feet east of railroad, in base of telegraph pole, marked "1000.9"; spike	998. 35

	Feet.
Greentop, 3 miles north of, 70 feet northeast of milepost 121, in base of telegraph pole, marked "993.1"; spike.....	990. 51
Queen City, south side of public square, north edge of Main Street, 50 feet north of post office; iron post stamped "1005".....	1, 002. 765
Queen City, 1.2 miles northeast of, southwest corner of crossroads, in base of telephone pole; spike marked "998.6".....	996. 08
T. 65 N., R. 15 W., northeast corner of sec. 26, 75 feet east of crossroads, 100 feet north of large white house, in stump of cottonwood tree near cement walk; spike marked "984.2".....	981. 68
T. 65 N., R. 15 W., near middle of sec. 23, 0.5 mile southwest of Black School, inside of gate at north edge of private road leading east; iron post stamped "986 Mo".....	983. 358
T. 65 N., R. 15 W., 0.25 mile north of center of sec. 14, on road through middle of section, 40 feet east of road, 150 feet west of unpainted house, in root of 18-inch elm tree; copper nail stamped "952.9".....	950. 38
New Hope Church, 60 feet northwest of, 20 feet east of center of highway; iron post stamped "852 Mo".....	849. 513
Mount Zion Church, 0.25 mile east of, 75 feet northwest of new unpainted house, northeast corner of crossroads, in bottom of post in wire fence; copper nail stamped "978.3".....	976. 27
New Hope Church, 2 miles north of, near northeast corner of NW. $\frac{1}{4}$ sec. 36, T. 66 N., R. 15 W., 60 feet east of white house, in 10-inch locust stump; copper nail stamped "968".....	965. 44
From Mount Zion Church west along highway to point 1 mile east of Glendale School.	
Mount Zion Church, 0.25 mile east of, 75 feet northwest of unpainted house, northeast corner of crossroads, in bottom of corner fence post; copper nail stamped "978.8".....	976. 270
Mount Zion Church, 0.9 mile west of, on bank of small stream at south edge of highway, in root of 24-inch elm tree; copper nail stamped "885.3" ..	882. 79
Mount Zion Church, 1.75 miles west of, on east and west road line between sec. 34, T. 66 N., R. 15 W., and sec. 3, T. 65 N., R. 15 W., north edge of road opposite T road leading south; iron post stamped "941 Mo".....	938. 109
T. 65 N., R. 15 W., near center of sec. 33, 3 miles south of Glenwood, east edge of north-south road, opposite T road west, in root of elm tree; copper nail stamped "992.2".....	989. 69
Julesburg, 1 mile north of, 75 feet west of road crossing over Wabash R. R., in root of 24-inch elm tree; copper nail stamped "978.9".....	976. 35
T. 66 N., R. 16 W., near center of SE. $\frac{1}{4}$ sec. 31, 0.7 mile west of Bethel Church, north edge of east-west road; iron post stamped "984 Mo".....	981. 567
Elm Creek, east bank of, 20 feet south of road, in root of 24-inch maple tree; copper nail stamped "835.2".....	832. 63
T. 65 N., R. 16 W., near center of sec. 36, east end of wooden bridge; copper nail in cottonwood stump, marked "868.7".....	866. 15
T. 66 N., R. 16 W., 2.1 miles west of sec. 35, at junction of north-south road with east-west road, 75 feet west of white house, at Grogan Bridge; iron post stamped "965 Mo".....	962. 324
Grogan Bridge, 1.3 miles east of, north edge of east-west road, in root of 24-inch oak tree; copper nail stamped "926.0".....	923. 46
Livonia, 0.5 mile southeast of, southeast abutment of Grogan Bridge over Chariton River; bolthead marked "803.9".....	801. 38
Livonia station, 0.25 mile south of, highway crossing over Iowa & St. Louis R. R.; center of track marked "830.2".....	828

Livonia, 0.7 mile west of, corner of secs. 28, 29, 32, and 33, T. 66 N., R. 16 W., southeast corner of T road leading south; iron post stamped "957 Mo" ..	Feet. 954. 397
T. 66 N., R. 16 W., near southwest corner of sec. 29, 50 feet east of bridge over Little Brushy Creek, north edge of road, in root of 10-inch maple tree; copper nail stamped "829.2"	826. 66
T. 66 N., R. 16 W., NW. $\frac{1}{4}$ sec. 31, 100 feet south of road forks, 200 feet west of bridge over Big Brushy Creek, west edge of road, in root of oak tree; copper nail stamped "842.5"	839. 93

From point 2 miles east of Martinstown east along highway to Queen City.

T. 64 N., R. 16 W., NW. $\frac{1}{4}$ sec. 29, 1.5 miles west of Worthington, top of ridge 0.25 mile north of schoolhouse, east edge of road; iron post stamped "947 Mo"	944. 294
Worthington, 0.5 mile west of, on Worthington-Martinstown road, north edge of road; chisel mark on bowlder marked "857.6"	855. 08
Worthington, 600 feet north of station, 50 feet east of highway crossing over Iowa & St. Louis R. R.; spike in base of telegraph pole, marked "802.6" ..	800. 10
Worthington, 0.6 mile northeast of, 100 feet west of Slate Ford on Chariton River, south edge of wagon road; iron post stamped "795 Mo"	792. 931
Slate Ford, about 1 mile north of, southwest corner of iron bridge over Elm Creek; bolthead marked "800.7"	798. 19
Satterfield School, 1 mile north of, 0.25 mile from William Funk's residence, top of ridge at road forks, north edge of road, in root of 12-inch oak tree; copper nail stamped "922.8"	920. 22
Satterfield School, 200 feet west of, north edge of road, in root of 24-inch oak tree; copper nail stamped "924.3"	921. 74
T. 65 N., R. 16 W., near line between secs. 25 and 30, south edge of road, 1.2 miles west of Patterson School; iron post stamped "975 Mo"	972. 434
Patterson School, 300 feet west of, 50 feet south of road, in root of 10-inch hickory tree; copper nail stamped "991.6"	989. 03
Queen City, about 1 mile west of, top of hill in front of barn, south edge of road; spike in base of telephone pole, marked "1000.5"	997. 99

From point 2 miles northwest of Green Grove School south and east along highways to Bryant School.

Shibley Point, about 2 miles north of, near center of NW. $\frac{1}{4}$ sec. 24, T. 64 N., R. 17 W., 200 feet east of abandoned road leading north, north edge of east-west road; iron post stamped "966 Mo"	964. 004
Green Grove School, about 1 mile west of, top of hill at turn in road, 200 feet southwest of log house, south edge of road; chisel mark on bowlder marked "929.2"	926. 68
Green Grove School, 200 feet south of, west edge of road, in root of oak tree; copper nail stamped "918.7"	916. 15
Connelsville, 0.8 mile northwest of, 700 feet east of iron bridge over Shut-eye Creek, northwest corner of T road north, in root of 24-inch maple tree; copper nail stamped "785.7"	783. 091
Connelsville, about 0.25 mile north of station, 600 feet north of iron bridge over Shuteye Creek, 200 feet west of track, east edge of north-south road; iron post stamped "768 Mo"	765. 741
Connelsville, 0.8 mile south of, northwest abutment of iron bridge over Chariton River; bolthead marked "773"	770. 39
Connelsville, about 1 mile east of, top of ridge on Fegley road, 100 feet east of new square house, south edge of road, in root of 18-inch hickory tree; copper nail stamped "872.2"	869. 59

	Feet.
Fegley, 0.8 mile west of, 300 feet east of T road north, 50 feet east of center of road, in root of 12-inch oak tree; copper nail stamped "925.1".....	922. 56
Fegley, about 700 feet south of store, east edge of road leading south; iron post stamped "941 Mo".....	938. 654
Fegley, about 1 mile east of, 100 feet north of W. F. Miller's residence, north edge of road, in root of 10-inch oak tree; copper nail stamped "939.3".....	936. 73
Sublette, 2.5 miles southwest of, top of hill, 150 feet west of large yellow house, north edge of road, in root of 12-inch hickory tree; copper nail stamped "934".....	931. 43
Sublette, 1.8 miles south of, on east-west road about 0.8 mile west of Wabash R. R., 100 feet west of small frame house, north edge of road, in root of 14-inch cottonwood tree; copper nail stamped "920.9".....	918. 28
Refuge Church, about 1 mile west of, 50 feet west of highway crossing over Wabash R. R., in base of telegraph pole, marked "960.8"; spike.....	958. 21
Refuge Church, 250 feet south of, southeast corner of cemetery, 25 feet north of center of road; iron post stamped "937 Mo".....	934. 584
Bryant School, about 0.5 mile southwest of, 200 feet east of large square house, 30 feet north of center of east-west road, in root of 12-inch elm tree; copper nail stamped "955.4".....	952. 77
Bryant School, about 0.5 mile east of, at quarter corner between secs. 11 and 12, T. 63 N., R. 15 W., northwest corner of T road north; iron post stamped "973".....	970. 111

PULASKI QUADRANGLE.

[Latitude 40° 30'-40° 45'; longitude 92° 15'-92° 30'.]

T. 66 N., R. 14 W., near center of NE. $\frac{1}{4}$ sec. 26, at northeast corner of church; iron post stamped "900 A".....	$\left. \begin{array}{l} 1\ 901. 375 \\ 2\ 900. 917 \end{array} \right\}$
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GREEN CITY QUADRANGLE.

[Latitude 40° 15'-40° 30'; longitude 92° 45'-93°.]

From point 1 mile east of Glendale School south along highways to point 2 miles east of Martinstown.

Glendale School, about 1 mile west of, on Shoal Creek road, 300 feet east of large white house, north edge of road, in root of large box-elder tree; copper nail stamped "819.8".....	817. 19
T. 66 N., R. 16 W., near center of NE. $\frac{1}{4}$ sec. 32, 0.5 mile south of Glendale School, 200 feet west of wooden bridge over branch of Shoal Creek, 700 feet east of J. Stevens's residence, south edge of road; iron post stamped "822 Mo".....	819. 130
Graysville, about 2 miles north of, at foot of Keller Hill, 100 feet south of bridge over small stream, east edge of road, in root of 24-inch maple tree; copper nail stamped "849.4".....	346. 83
Graysville, about 1 mile north of, 300 feet northwest of J. P. Collin's residence, west edge of road, in root of 15-inch oak tree; copper nail stamped "980.3".....	977. 72
Graysville, 50 feet west of schoolhouse, 25 feet east of large elm tree near wire fence; iron post stamped "1001 Mo".....	998. 802
Graysville, 1.1 miles south of, 60 feet east of T road south, 20 feet north of house, point on corner of cement walk, marked "983.7".....	981. 09
Martinstown, 0.5 mile north of, 30 feet north of entrance to Lone Pine Cemetery, in root of 12-inch hickory tree; copper nail stamped "983.9".....	981. 30

¹ From south, Glasgow.

² From east, Alexandria.

Martinstown, northwest corner of church lot, 25 feet from corner of church; iron post stamped "993 Mo".....	Feet. 990. 161
Martinstown, 1.25 miles east of, in creek bottom, 150 feet west of bridge, north edge of road, in 4-foot cottonwood stump; copper nail stamped "863.5".....	860. 94
Worthington, 2 miles west of, on level stretch of ridge road 40 feet west of unpainted house, north edge of road, in base of telephone pole, marked "976.1"; spike.....	973. 53

From Martinstown south along highways to point 2 miles northwest of Green Grove School.

Martinstown, northwest corner of church lot, 25 feet from corner of church; iron post stamped "993 Mo".....	990. 161
Martinstown, 1.4 miles south of, southwest corner of bridge over North Blackbird Creek; bolt-head marked "818.4".....	815. 84
T. 65 N., R. 17 W., near center of SW. $\frac{1}{4}$ sec. 34, top of ridge between North and South forks of Blackbird Creek, at junction of road leading north with ridge road, in root of 10-inch oak tree; copper nail stamped "977" ..	974. 43
T. 64 N., R. 17 W., at quarter corner between secs. 3 and 10, 1.5 miles north-east of Sidney, at southwest corner of crossroads; iron post stamped "811 Mo".....	808. 763
Hursted School, 0.5 mile west of, top of hill, southeast corner of T road south, in root of 12-inch oak tree; copper nail stamped "932.7".....	930. 07
Hursted School, 1.25 miles southwest of, on wooded ridge road running north, west edge of road, in root of 15-inch hickory tree; copper nail stamped "973.4".....	970. 83
T. 64 N., R. 17 W., near center of sec. 14, 50 feet north of E. Robison's residence and south edge of road, in root of 12-inch hickory tree; copper nail stamped "986.8".....	984. 21
Shibley point, 2 miles north of, near center of NW. $\frac{1}{4}$ sec. 24, T. 64 N., R. 17 W., 200 feet east of old road north; iron post stamped "966 Mo" ..	964. 004

From Glendale School west along highways to Unionville and thence south to Penville.

Glendale School, 0.5 mile south of, near center of NE. $\frac{1}{4}$ sec. 32, T. 66 N., R. 16 W., 200 feet west of wooden bridge over branch of Shoal Creek, 700 feet east of J. Steven's house, south edge of road; iron post stamped "822 Mo".....	819. 130
Glendale School, 1.3 miles west of, summit of hill, in root of oak tree on north side of road; copper nail stamped "930.2".....	927. 65
Glendale School, 2.4 miles west of, at turn in road to north, north side of road, in sec. 34, T. 65 N., R. 17 W., in oak tree; copper nail stamped "977.4".....	974. 87
Glendale School, 3.2 miles west of, intersection of Graysville-Hartford road, about 2.5 miles northwest of Graysville, in stump at center of intersection; copper nail stamped "1005.5".....	1, 002. 92
Hartford, 0.8 mile east of, 200 feet east of residence of W. M. Willson, south side of road, at right-angle turn north and west, 600 feet south of north-west corner of sec. 4, T. 65 N., R. 17 W.; iron post stamped "994 Mo" ..	991. 800
Hartford, 1.4 miles northwest of, T road north, in tree at northwest angle, marked "1011.8"; copper nail stamped "1011.8".....	1, 009. 23
Hartford, 2.7 miles west of, north-south section line crossing east-west road, opposite house on south side of road, on north side of road, at fence line on north-south section line; iron post stamped "982".....	979. 794

	Feet.
Wooden bridge over Blackbird Creek, southwest end of; top of nut on horizontal bolt, marked "875.2".....	872. 63
Summit of third hill west of Blackbird Creek, 15 feet south of road, in root of hickory tree; copper nail stamped "1009.98".....	1, 007. 45
Unionville, 3.8 miles east of, at intersection of east-west and north-south roads, in R. 18 W., T. 66 N., on west side of road; iron post stamped "1045 Mo".....	1, 042. 501
T. 66 N., R. 18 W., 0.25 mile west of corner of secs. 31 and 32, T road north, in south side of road, in telephone pole; spike marked "1051.6".....	1, 049. 05
Unionville, southeast edge of, southwest corner of crossroads, in telephone pole, marked "1001.8"; copper nail.....	999. 31
Unionville, in northwest corner of Putnam County courthouse square, 75 feet southeast of intersection of Seventeenth and Main streets; iron post stamped "Prim. Trav. Sta. No. 11, 1910, Mo., 1064".....	1, 061. 848
Unionville, 1.8 miles south of, in poplar tree on east side of road, house on west side, in root of tree; copper nail stamped "1054.4".....	1, 051. 90
T. 65 N., R. 19 W., corner of secs. 10, 11, 14, and 15, in elm tree on west side of road east; copper nail stamped "942.97".....	940. 46
T. 65 N., R. 19 W., about 0.25 mile west of corner of secs. 11, 12, 13, and 14, at white house on south side of road, in maple tree on south side; copper nail stamped "988.8".....	986. 27
T. 65 N., R. 18 W., corner of secs. 7, 12, 13, and 18, in fence post at southwest corner of intersection; copper nail stamped "991.3".....	988. 77
T. 65 N., R. 18 W., 0.3 mile north of corner of secs. 13, 18, 24, and 19, in floor at southwest corner of bridge over creek; bolt marked "912.9".....	910. 40
T. 65 N., R. 18 W., 0.8 mile west of corner of secs. 17, 18, 19, and 20, in northwest corner of crossroads; iron post stamped "933 Mo".....	931. 014
T. 65 N., R. 18 W., 0.25 mile west of corner of secs. 19, 20, 29, and 30, 700 feet west of projection on rock, north side of road at intersection; marked "927.6".....	926. 10
T. 65 N., Rs. 18 and 19 W., 0.25 mile east of corner of secs. 19, 30, 25, and 24, in root of oak tree on north side of road at intersection; copper nail stamped "1051.4".....	1, 049. 89
Tps. 64 and 65 N., Rs. 18 and 19 W., corner of secs. 36, 31, 1, and 6, on range line; chiseled square on rock at intersection, marked "1045.4"....	1, 043. 92
Tps. 64 and 65 N., Rs. 18 and 19 W., 0.25 mile south of corner of secs. 1, 6, 31, and 36, in southeast corner of road southeast; iron post stamped "1037 Mo".....	1, 035. 258
T. 64 N., R. 18 W., about middle of sec. 6, southwest side of road at T road north, in root of oak tree; copper nail stamped "1038".....	1, 034. 43
Penville, about 850 feet north of white store building, 100 feet west of white house, west edge of road, in root of 12-inch hickory tree; copper nail stamped "1046.011".....	1, 043. 341

From Sidney west along highways to Penville.

Sidney, 1.5 miles northeast of, at quarter corner between secs. 3 and 10, T. 64 N., R. 17 W., southwest corner of crossroads; iron post stamped "811 Mo".....	808. 763
Sidney, 1.5 miles north of, north edge of east-west road on line between secs. 4 and 9, T. 64 N., R. 17 W.; chiseled square on large boulder, marked "891.6".....	888. 65
Clark School, 0.5 mile north of, top of ridge at road forks, in root of 10-inch oak tree; copper nail stamped "972.1".....	969. 51

	Feet.
Elks, about 2 miles south of, near northeast corner of sec. 6, T. 64 N., R. 17 W., 200 feet east of T road north, east edge of road, in root of 12-inch hickory tree; copper nail stamped "1006.6".....	1, 003. 94
Henley ranch, northeast corner of, 50 feet west of large white house, south edge of east-west ridge road; iron post stamped "1018 Mo".....	1, 015. 848
T. 64 N., R. 18 W., near northeast corner of sec. 2, southeast corner of bridge over Shuteye Creek; bolthead marked "933.3".....	930. 70
Tps. 64 and 65 N., line between, R. 18 W., corner of secs. 34, 35, 2, and 3, northwest corner of crossroads, in root of 12-inch hickory tree; copper nail stamped "1033.9".....	1, 031. 21
Road north; ground at middle of, marked "1043".....	1, 041
T. 64 N., R. 18 W., near center of NE. $\frac{1}{4}$ sec. 4, about 2 miles northeast of Penville, north edge of east-west road opposite T road south; iron post stamped "1034 Mo".....	1, 031. 906
Penville, about 1 mile northeast of, 300 feet east of bridge over North Spring Creek, north edge of road, in root of 12-inch elm tree; copper nail stamped "914.9".....	912. 28
Penville, 850 feet north of white store building, 100 feet west of white house, west edge of road, in root of 12-inch hickory tree; copper nail stamped "1046.01".....	1, 043. 341

From Penville south along highways to Green City.

Penville, about 1 mile south of, 200 feet west of small log cabin, west edge of road, in root of 18-inch oak tree; copper nail stamped "1035.4".....	1, 032. 68
Penville, 1.5 miles south of, near line between secs. 18 and 19, T. 64 N., R. 18 W., 200 feet north of bridge over South Spring Creek, east edge of road; iron post stamped "896 Mo".....	893. 658
Crumb School, 1 mile north of, west edge of road, in base of corner fence post; nail marked "1041.5".....	1, 038. 83
Crumb School, 0.25 mile south of, 100 feet south of T road west, west edge of road, in root of 10-inch wild-cherry tree; copper nail stamped "1051.8".....	1, 049. 14
Tps. 63 and 64 N., range line between Rs. 18 and 19 W., corner of secs. 1, 6, 31, and 36, west edge of north-south road, opposite T road east; iron post stamped "1064 Mo".....	1, 061. 166
T. 63 N., R. 18 W., corner of secs. 5 and 6, 2 miles north of Green City, north edge of east-west road opposite T road south, in base of telephone pole; spike marked "1048.3".....	1, 045. 62
Green City, 1 mile north of, southeast corner of crossroads at corner of secs. 5, 6, 7, and 8, T. 63 N., R. 18 W., in root of 20-inch maple tree; copper nail stamped "1057.7".....	1, 054. 99
T. 63 N., R. 18 W., quarter corner between secs. 7 and 8, 0.5 mile north of Green City, southwest corner of cemetery; iron post stamped "1045 Mo".....	1, 042. 860
Green City, 600 feet north of station, center of highway crossing over Quincy, Omaha & Kansas City R. R.; top of rail marked "1060.2".....	1, 057. 6

From Green City east along Quincy, Omaha & Kansas City R. R. and highways to Bethel Church.

Green City, 0.5 mile east of, southwest corner of bridge 93/1; bolthead marked "1021.7".....	1, 018. 98
Green City, 1.5 miles east of, southwest corner of bridge 92/2; bolthead marked "1005.9".....	1, 003. 23

	Feet.
Greencastle, 1 mile west of, 50 feet south of railroad, in base milepost 91; spike marked "994.5"	991.774
Greencastle, 1.5 miles west of, quarter corner between secs. 9 and 10, T. 63 N., R. 18 W., 0.25 mile south of west edge of north-south road; iron post stamped "1041 Mo"	1,038.272
Greencastle, 0.25 mile east of station, northeast corner of highway bridge over railroad cut, in base of telephone pole, marked "1041.6"; spike... ..	1,038.90
Greencastle, 1.2 miles northeast of, north edge of east-west road, in root of 18-inch oak tree; copper nail stamped "1043.6"	1,040.900
Greencastle, 1.8 miles northeast of, northeast corner of sec. 12, T. 63 N., R. 18 W., south edge of road; iron post stamped "1025 Mo"	1,022.524
Port Arthur School, 1.2 miles west of, near private road leading south, north edge of road, in root of 15-inch oak tree; copper nail stamped "1009.0"	1,006.31
Port Arthur School, 250 feet south of, east edge of road, in root of 12-inch oak tree; copper nail stamped "980.4"	977.67
Stahl, 1.8 miles west of, northeast corner of highway bridge; bolthead marked "819.7"	816.96
T. 63 N., R. 17 W., near center of NW. $\frac{1}{4}$ sec. 3, 0.4 mile west of Stahl, north edge of east-west road, 100 feet east of small wooden bridge; iron post stamped "807 Mo"	804.606
Stahl, 1.2 miles northeast of, at junction of east-west road with road south, in root of 12-inch oak tree; copper nail stamped "977"	974.26
Stahl, 1.8 miles northeast of, north edge of east-west road, in root of 15-inch oak tree; copper nail stamped "973.1"	970.39
Bethel Church, 0.8 mile west of, at junction of east-west road with road south, in root of 18-inch oak tree; copper nail stamped "986.5"	983.78
Bethel Church, 50 feet north of, in root of 12-inch oak tree; copper nail stamped "969.9"	967.18
Connelsville, about 3 miles northwest of, 700 feet east of iron bridge over Shuteye Creek, northwest corner of T road north, in root of 30-inch maple tree; copper nail stamped "785.7"	783.091

Atlanta, Boonville, Glasgow, Macon, Moberly, Shelbina, Shelbyville, and Sturgeon quadrangles.

BOONE, HOWARD, KNOX, MACON, MONROE, RANDOLPH, AND SHELBY COUNTIES.

The elevations in the following list are based upon the Missouri River Commission bench marks at Glasgow, from which a double-rodged line was run during 1905 along the railway via Higbee, Moberly, Macon City, and Laplata to Gibbs, in Adair County, connecting there with levels brought from the Mississippi River Commission bench mark of the United States Army Engineer Corps at Alexandria.

The leveling was done in 1905 by D. V. Vandiver. Additional work was done in 1906 in the Atlanta and Macon quadrangles by F. H. West, and in 1912 in Boonville and Glasgow quadrangles by E. C. Bibbee, in Moberly quadrangle by P. W. McMillen, and in Sturgeon quadrangle by McMillen and Bibbee.

None of this work was done in cooperation.

GLASGOW QUADRANGLE.

[Latitude 39°-39° 30'; longitude 92° 30'-93°.]

From Glasgow along Chicago & Alton R. R. to Higbee.

Glasgow, at west side of second pier from southeast abutment of railroad bridge; copper bolt in bench-mark stone set 3.5 feet under ground; above and concentric with the bolt was set an iron pipe with 10-inch flange at bottom and cap at top (now missing), terminating in rounded knob which is also taken as a permanent bench mark (159 47-3).....	Feet. 617. 607
Top of cap.....	621. 662
Steinmetz, 100 feet southeast of station, in northwest corner of stone foundation of post office; aluminum tablet stamped "800 Adj 1905".....	799. 400
Armstrong, 100 feet south of station, in southwest corner of stone curbing of station platform; aluminum tablet stamped "832 Adj 1905".....	831. 384
Howard-Randolph county line, 0.25 mile west of, 0.25 mile east of milepost "Chi. 368, St. L. 199," in northeast corner of concrete foundation bridge D 3677; aluminum tablet stamped "835 Adj 1905".....	834. 510
Yates, 0.8 mile east of, 20 feet north of track, bottom of 20-foot embankment, in top of second culvert stone from end; aluminum tablet stamped "816 Adj 1905".....	815. 093

From sec. 30, T. 49 N., R. 14 W., to sec. 16, T. 49 N., R. 14 W.

Rocheport, 2.8 miles northeast of, 1 foot west of fence, 120 rods west of southeast corner of sec. 20, T. 49 N., R. 14 W.; copper nail in top of stump on east side of road.....	717. 40
Rocheport, 3.9 miles northeast of, 100 feet south of intersection of Y road, in front of Walnut Grove Baptist Church, at northeast corner of cemetery; iron post stamped "Prim. Trav. Sta. No. 5, 773".....	772. 710
Rocheport, 5 miles northeast of, south side of road, opposite old barn; highest point on granite rock.....	802. 10
Rocheport, 6.2 miles northeast of, northeast corner of T road east, near southwest corner of SE. ¼ sec. 16, T. 49 N., R. 14 W.; copper nail in root of locust tree.....	788. 83

At Higbee.

Higbee, northwest corner of C. W. Williams's jewelry store; aluminum plug formerly stem of aluminum tablet.....	885. 674
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BOONVILLE QUADRANGLE.

[Latitude 38° 30'-39°; longitude 92° 30'-93°.]

From point 3 miles below Rocheport north to sec. 30, T. 49 N., R. 14 W.

Rocheport, 3 miles below point opposite, in southwest corner of John Campbell's dooryard; copper bolt in bench-mark stone marked "Missouri R. C. p. b. m. 132" (Mo. Riv. Com. b. m. 132).....	580. 944
Old Overton, 2 miles down river, 15 feet south of public road, at lane leading to Gilbert Karles's residence; copper nail in root of 2-foot honey-locust tree.....	581. 53
Old Overton, 1.3 miles down river, along public road, 20 feet south of road, in cultivated field, 300 feet east of T. Sieckman's residence; copper nail in root of sycamore stump.....	582. 89
Old Overton, T road at southeast corner, 1,000 feet south of Missouri River; copper nail in root of large maple tree.....	587. 69
Missouri River, surface of water at Rocheport, Nov. 13, 1912.....	567. 8

Rocheport, 20 feet north of railroad, on southeast corner of concrete sidewalk in front of Funk Hotel; chiseled square.....	Feet. 591.62
Rocheport, 0.9 mile northeast of, 150 feet west of junction of Hamsburg road and gravel pike, near center of sec. 1, T. 48 N., R. 15 W.; chiseled square on limestone ledge.....	581.90
Rocheport, 1.7 miles northeast of, on east side of road, 150 feet south of lane leading to A. T. Selt's residence, in SE. $\frac{1}{4}$ sec. 30, T. 49 N., R. 14 W.; copper nail in root of walnut tree.....	693.23

MOBERLY QUADRANGLE.

[Latitude 39°-39° 30'; longitude 92°-92° 30'.]

From Higbee southeast to point 2.5 miles northwest of Rucker.

Higbee, 1.1 miles southeast of, 20 feet east of spur of Chicago & Alton R. R. to coal mine, 400 feet south of mine; copper nail in root of 24-inch elm tree, painted "868.2".....	867.75
T. 52 N., R. 14 W., center of sec. 21, south edge of road opposite small house; copper nail in root of 18-inch oak tree, painted "860.6".....	860.20
T. 52 N., R. 14 W., NW. $\frac{1}{4}$ sec. 22, 75 feet east of bridge over Moniteau Creek, south edge of road; copper nail in root of 12-inch elm tree, marked "748.6".....	748.21
Oak Grove schoolhouse, 150 feet northwest of, 60 feet east of crossroads, south edge of east-west road; copper nail in root of 24-inch oak tree, painted "878.4".....	878.03
Oak Grove schoolhouse, 1 mile south of, edge of road, opposite new house; copper nail in root of 20-inch oak tree, painted "871.3".....	870.86
Oak Grove schoolhouse, 2.1 miles south of, at first road forks (road southwest), east edge of north-south road; copper nail in root of 12-inch oak tree, painted "882.4".....	881.98
T. 52 N., R. 14 W., near corner of secs. 25, 36, 30, and 31, east bank of Hardin Creek, 60 feet south of bridge; copper nail in root of 24-inch elm tree, painted "747.1".....	746.68
Rucker, 2.5 miles northwest of, north edge of east-west road, 100 feet west of iron bridge over Big Perche Creek; copper nail in root of 10-inch ash tree, painted "740.0".....	739.61

From Higbee along Wabash R. R. to Cairo.

Elliott, 700 feet north of station, in northwest base of foundation stone of culvert; aluminum tablet stamped "857 Adj 1905".....	856.458
Moberly, in southeast corner of express office adjoining Wabash station, 4 feet north of south edge of foundation, bench mark faces tracks; aluminum tablet stamped "872 Adj 1905".....	871.553
Brown's station, 2.7 miles north of, 100 feet southwest of intersection of road through middle of sec. 27, T. 50 N., R. 12 W., with Wabash R. R.; copper nail in root of 12-inch thorn-locust tree, painted "905.4".....	905.05

MACON QUADRANGLE.

[Latitude 39° 30'-39° 45'; longitude 92° 15'-92° 30'.]

From Cairo along Wabash R. R. to Macon.

Cairo, in north face of Bank of Cairo, 4 feet west of east edge; aluminum tablet stamped "864 Adj 1905".....	863.890
Jacksonville, 300 feet west of tracks, in south front 6 feet west of east edge of bank building, north side of Randolph Street; aluminum tablet stamped "868 Adj 1905".....	867.170

	Feet.
Excello, 360 feet southwest of station, 200 feet west of tracks, in wall of Powell's drug store; aluminum tablet stamped "871 Adj 1905".....	870. 313
Macon, 3.5 miles south of, 600 feet east of railroad, 150 feet east of public road, in small graveyard on Grant's farm, in base stone of Grant Monument; aluminum tablet stamped "849 Adj 1905".....	848. 615
Macon, courthouse, in limestone foundation 3 feet east of southwest corner, 20 feet west of south entrance; aluminum tablet stamped "875 Adj 1905".....	874. 050
Macon City, bronze tablet in meridian stone courthouse yard, 100 feet southwest of south entrance of courthouse; stamped "873 Adj 1905".....	872. 628

From Clarence west along Chicago, Burlington & Quincy R. R. to Macon.

Clarence, 150 feet south of station, south side of park, 70 feet northwest of Shelby County State Bank, 70 feet north of Parlor drug store; iron post stamped "823 Adj 1905".....	823. 130
Anabel, 70 feet south of east end of station, 40 feet north of E. I. Hogen's store; iron post stamped "838 Adj 1905".....	837. 726
Anabel, 3 miles west of sec. 1, northwest corner of road crossing; iron post stamped "837 Adj 1905".....	836. 619
Macon, 3 miles east of, on northeast corner of stone abutment of bridge over small stream, bridge numbered 67.67, 0.25 mile east of road crossing; aluminum tablet stamped "784 Adj 1905".....	783. 626

From Clarence south along roads to Duncans Bridge, thence southwest to Cairo.

T. 57 N., R. 12 W., southwest corner of sec. 33, 3.5 miles south of Clarence road crossing; iron post stamped "787 Adj 1905".....	786. 884
Enterprise, T. 57 N., R. 12 W., southeast corner of sec. 17, at road crossing; iron post stamped "811 Adj 1905".....	811. 226
Enterprise, 3 miles south of, on Marion-Shelby county line, in northwest corner of T in roads; iron post stamped "808 Adj 1905".....	807. 810
Duncans Bridge post office, in southeast corner of F. Wedding's yard, west side of road; iron post stamped "717 Adj 1905".....	716. 741
T. 55 N., R. 12 W., northeast corner of NW. $\frac{1}{4}$ NE. $\frac{1}{4}$ sec. 30, in corner of field at southwest corner of junction of T roads, 2 feet southwest from center curve post in wire fence, 15 feet from either fence, property of J. T. Mitchell, post 100 yards northeast of east of house; stamped "777 Adj 1905".....	776. 631
Ash post office, T. 55 N., R. 12 W., center of sec. 31, in northeast corner of Hickory Grove Baptist Church yard, 35 feet northeast of northeast corner of church, 2 feet from wire fence on east side of yard and 5 feet southwest from 3-foot oak tree; iron post stamped "812 Adj 1905".....	811. 237
T. 55 N., R. 13 W., northwest corner of SW. $\frac{1}{4}$ sec. 35, 5.25 miles east by 0.5 mile north of Cairo, in corner of field at L in road, 10 feet east from 12-inch persimmon tree, 12 feet southeast from corner post of fence line, 0.12 mile west from F. Ingram's house (vacant); iron post stamped "812 Adj 1905".....	820. 558
T. 54 N., R. 13 W., northeast corner of sec. 6, 3 miles east of Cairo, northeast corner of C. E. Wood's yard, southwest corner of junction of T roads, in corner of fence, 2 feet from either fence; iron post stamped "836 Adj 1905".....	835. 993
Cairo, T. 54 N., R. 14 W., quarter corner on west side of sec. 2, in Bank of Cairo, 4 inches west of east edge and 4 feet above ground; aluminum tablet stamped "864".....	863. 890

From Enterprise via Cox post office to Jacksonville.

T. 56 N., R. 13 W., southeast corner of sec. 13, in southwest corner of W. N. Trussell's yard, 3 feet from either side of angle of fence line; iron post stamped "781 Adj 1905".....	Feet. 780. 511
Cox post office, T. 56 N., R. 13 W., northwest corner of SW. $\frac{1}{4}$ SW. $\frac{1}{4}$ sec. 20, near northeast corner of Fairview Church; iron post stamped "833"....	832. 787
T. 55 N., R. 13 W., southeast part of NE. $\frac{1}{4}$ sec. 7, 3.8 miles east by 0.25 mile north of Jacksonville, in southwest corner of D. R. Haliburton's yard, at northeast corner of junction of T roads; iron post stamped "811".	810. 388
Jacksonville, sec. 10, T. 55 N., R. 14 W., in bank, 4 inches from east edge and 4 feet from ground; aluminum tablet stamped "867".....	867. 270

ATLANTA QUADRANGLE.

[Latitude 39° 45'-40'; longitude 92° 15'-92° 30'.]

From Macon along Wabash R. R. to La Plata.

Macon, 3.5 miles north of, at northwest corner of road crossing; iron post stamped "887 Adj 1905".....	886. 538
Axtell, 200 feet west of track, 200 feet north of wagon road, in southwest corner of foundation of house of A. L. Epperson; aluminum tablet stamped "895 Adj 1905".....	894. 076
Axtell, 2 miles north of, 100 feet west of track, at public-road crossing and railroad crossing, on land of B. J. Simmons, inside of fence corner; iron post stamped "901 Adj 1905".....	900. 116
Atlanta, 12 feet south of Atlanta State Bank, corner of street and alley in northwest corner stone of foundation of Attleberry brick building; aluminum tablet stamped "902 Adj 1905".....	901. 833
Love Lake, 200 feet west of station, in southeast corner of foundation of post office; aluminum tablet stamped "915 Adj 1905".....	914. 187
La Plata, 2.5 miles south of, at road crossing, 2 feet inside of field; iron post stamped "937 Adj 1905".....	936. 875

From Love Lake east along public roads via Sue City to Pleasant Grove School.

Love Lake, 3.8 miles east of, sec. 35, T. 60 N., R. 14 W.; iron post stamped "885 Adj 1905".....	884. 076
Sue City, in east side of southeast corner foundation stone of Baptist Church; aluminum tablet stamped "871 Adj 1905".....	870. 139
Sue City, 3.5 miles east of, T. 60 N., R. 13 W., line between secs. 36 and 25, 0.25 mile east of Sailing Creek, 0.25 mile south of Asa Blanchard's dwelling; iron post stamped "768 Adj 1905".....	767. 757

From Anabel north to Sue City.

T. 57 N., R. 13 W., 0.25 mile north of center of sec. 4, 12 feet from south end of tall hedge, 8 feet from west edge of road; iron post stamped "841 Adj 1905".....	841. 495
T. 58 N., R. 13 W., middle of east boundary of SW. $\frac{1}{4}$ sec. 16, on north side of road, 50 feet southeast from southeast corner of house, opposite junction of T roads, 4 feet from fence around yard; iron post stamped "849 Adj 1905".....	848. 451
T. 59 N., R. 13 W., middle of south boundary of sec. 33, northeast corner of junction of crossroads, 5 feet from edge of either road, in southwest corner of S. S. Ingersoll's yard, 60 feet from southwest corner of house; iron post stamped "836".....	835. 825.
T. 59 N., R. 13 W., northeast corner of sec. 20, at southwest corner of crossroads, 7 feet from edge of either road, 3 feet northeast from corner post in wire fence around field; iron post stamped "825 Adj 1905".....	824. 898



SHELBYVILLE QUADRANGLE.

[Latitude 39° 45'-40°; longitude 92°-92° 15'.]

From Pleasant Grove schoolhouse southeast along highway to Plevna, thence south to Shelbyna.

Pleasant Grove schoolhouse, district No. 3, 4 miles north of Cherry Box post office, opposite C. J. Moté's and J. E. Douglas's mail boxes, 60 feet west of schoolhouse, at road forks; iron post stamped "849 Adj 1905".....	Feet. 848. 070
Plevna, 6 miles west of, 200 feet east of road turning south to Clarence, 100 feet southeast of Washington schoolhouse, southeast corner of schoolhouse yard; iron post stamped "830 Adj 1905".....	829. 381
Plevna, 3 miles west of, in northwest corner of Rhodes schoolhouse yard, district No. 2; iron post stamped "801 Adj 1905".....	800. 626
Plevna, 1.5 miles south by 0.5 mile west of, 700 feet south of Shelby-Knox county line, northwest corner of sec. 2, in northwest corner of foundation stone of Hickman's house; aluminum tablet stamped "791 Adj 1905" ..	791. 052
T. 58 N., R. 11 W., southeast corner of sec. 2, 5 miles northwest of Shelbyville, 300 feet east of O'Brien Chapel, in northeast corner stone of O'Brien schoolhouse; aluminum tablet stamped "788 Adj 1905"	788. 119
T. 58 N., R. 11 W., southwest corner of sec. 5, 3 miles northwest of Shelbyville, in southwest corner of William Werter's house; aluminum tablet stamped "785 Adj 1905".....	784. 433
Shelbyville, in foundation stone of courthouse, 2 feet east of south entrance; aluminum tablet stamped "774 Adj 1905".....	773. 948
Shelbyville, 3.5 miles southwest of, sec. 8, T. 57 N., R. 10 W., T road, Primary Traverse Station 7; iron post stamped "762 Adj 1905".....	761. 983

From Pleasant Grove schoolhouse south along public roads to Clarence.

Cherry Box, 0.25 mile south of, 120 feet northwest of Mennonite Church, inside of field east of road; iron post stamped "838 Adj 1905".....	837. 631
Cherry Box, 3 miles south of, on northeast corner of crossroads on property of Alex Brown; iron post stamped "835 Adj 1905".....	834. 196
Hagers Grove, 1 mile north of, in southwest corner of yard of Grove schoolhouse, district No. 1; iron post stamped "797 Adj 1905".....	795. 448
Hagers Grove, 1.5 miles southwest of, in pear orchard opposite Withrell's house; iron post stamped "769 Adj 1905".....	768. 619
Clarence, 2.5 miles north by 0.5 mile east of, southeast corner of field, 2 feet from fence corner, at turn west in road; iron post stamped "803 Adj 1905".....	802. 087

SHELBYNA QUADRANGLE.

[Latitude 39° 30'-39° 45'; longitude 92°-92° 15'.]

From Shelbyna along Hannibal & St. Joseph Ry. to Clarence.

Shelbyna, opposite west end of station, directly opposite Waverly Hotel; iron post stamped "780 Adj 1905".....	779. 261
Lentner, 1.25 miles east of, 4.5 miles west of Shelbyna, 70 feet south of track, east end of wedge-shaped piece of ground owned by Mr. Coopwriter; iron post stamped "789 Adj 1905".....	788. 535
Lentner, 1.5 miles west of, T. 57 N., R. 12 W., sec. 19, 56 feet north of track, in southwest corner of F. A. Hall's orchard; iron post stamped "791 Adj 1905".....	790. 719
T. 57 N., R. 12 W., sec. 23, 2.8 miles east of Clarence, 110 feet south of track, 2 feet south of public road; iron post stamped "790 Adj 1905"....	788. 658

STURGEON 15' QUADRANGLE.

[Latitude 39°-39° 15'; longitude 92° 15'-92° 30'.]

From sec. 16, T. 49 N., R. 14 W., north via Harrisburg to Rucker.

Woodlandville, 1 mile south of, near southwest corner of SE. $\frac{1}{4}$ sec. 9, T. 49 N., R. 14 W., on west side of public road, on property line at crest of hill; copper nail in root of 2-inch oak tree.....	Feet. 798.46
T. 49 N., R. 14 W., NE. $\frac{1}{4}$ sec. 10, 0.3 mile south of Woodlandville, on east side of road 2 feet west of fence, opposite T road west; iron post stamped "811".....	810.796
T. 50 N., R. 13 W., near southeast corner of SE. $\frac{1}{4}$ sec. 34, 1.2 miles north of Woodlandville, 420 feet northeast of Richland schoolhouse, in northwest corner of T road; copper nail in root of oak tree.....	818.31
T. 50 N., R. 14 W., near center of sec. 34, 4.4 miles south of Harrisburg, at northwest corner of crossroads; copper nail in root of 2-foot oak tree...	806.40
Harrisburg, 3.4 miles south of, 75 feet south of southwest corner of crossroads, near center of sec. 27, T. 50 N., R. 14 W.; iron post stamped "798".....	797.067
T. 50 N., R. 14 W., near west center of sec. 23, 2.2 miles south of Harrisburg, on west side of road opposite T road east; copper nail in root of hickory tree.....	814.89
Harrisburg, 1.1 miles south of, near center of sec. 14, T. 50 N., R. 14 W., northeast corner of T road east; spike in base of telephone pole.....	831.83
Harrisburg, southwest corner of public-school grounds; iron post stamped "Prim. Trav. Sta. No. 9, 1912, 843".....	842.499
T. 50 N., R. 14 W., on road between secs. 2 and 3, 1,060 feet north of right-angle corner, east edge of road; copper nail in root of 15-inch oak tree, painted "841.9".....	841.71
Minnie, 1.7 miles southwest of, at west end of east-west road in front of log house; copper nail in root of 18-inch oak tree, marked "838.3".....	838.09
Minnie, 0.2 mile north of, 25 feet northwest of road forks at crossing of Howard-Boone county line; iron post stamped "848".....	848.031
T. 51 N., R. 14 W., on road through middle of sec. 24, 440 feet east of T road south, south edge of road; copper nail in root of 18-inch elm tree, painted "759.1".....	758.95
T. 51 N., R. 14 W., on line between secs. 13 and 24, at east end of east-west road at right-angle corner; copper nail in root of 10-inch oak tree, painted "807.0".....	806.88
T. 51 N., R. 14 W.; stone on line between secs. 12 and 13, painted "790".....	790.03
T. 51 N., R. 14 W., near center of southeast quarter of sec. 12, 100 feet south of T road south, east edge of road; iron post stamped "847".....	846.822
From sec. 12, T. 51 N., R. 14 W., to iron bridge over Moniteau Creek (double spur line).	
Naylor schoolhouse, 0.5 mile south of, in east point of large triangle in road forks; copper nail in root of 12-inch oak tree, painted "862.7".....	862.51
Naylor schoolhouse, 1.8 miles west of, in large triangle in road forks; copper nail in root of 12-inch black-oak tree, painted "847.3".....	847.17
Rucker, 5.4 miles west of, 130 feet northwest of iron bridge over Moniteau Creek, north edge of road; iron post stamped "695".....	695.046
From Barnes schoolhouse west to Perche, thence south to sec. 15, T. 49 N., R. 13 W.	
T. 50 N., R. 12 W., center of sec. 17, 150 feet west of south edge of road at T road south; copper nail in root of 24-inch elm tree, painted "883.8".....	883.40
T. 50 N., R. 12 W., 1,350 feet west of quarter corner between secs. 17 and 18, 300 feet northeast of Middletown schoolhouse, 75 feet west of T road south, south edge of road; iron post stamped "827".....	826.890

T. 50 N., Rs. 12 and 13 W., quarter corner between secs. 13 and 18, north edge of road; copper nail in root of 20-inch hackberry tree, painted "792.8"	Fect. 792. 42
T. 50 N., R. 13 W., corner of secs. 13, 14, 23, and 24, 40 feet north of center of crossroads, in middle road north; copper nail in root of 24-inch elm tree, painted "688.6"	688. 22
T. 50 N., R. 13 W., near center of sec. 15, 30 feet south of junction of center line of three roads, north, east, and southwest; iron post stamped "832"	831. 405
T. 50 N., R. 13 W., 150 feet east of crossroads near center of NE. $\frac{1}{4}$ sec. 21, north edge of road; copper nail in root of 12-inch hickory tree, painted "790.0"	789. 61
Dripping Springs Church, 2.2 miles north of, on west side of road, 7 feet east of fence, 200 feet south of James E. Barnes's residence; copper nail in root of 18-inch hickory tree	733. 95
Dripping Springs Church, 1 mile north of, 2 feet west of fence on west side of road, 500 feet north of house; copper nail in root of 18-inch maple tree	695. 64
Dripping Springs Church, 700 feet east of, 100 feet south of southeast corner of T road south, 80 rods east of northwest corner of sec. 34, T. 49 N., R. 13 W.; iron post stamped "Prim. Trav. Sta. No. 8, 664"	663. 852
Dripping Springs Church, 1 mile south of, 40 feet west of northeast corner of T road east; copper nail in root of twin-oak tree	785. 73
Dripping Springs Church, 1.9 miles south of, 85 feet east of southeast corner of T road east, near center of sec. 3, T. 49 N., R. 13 W.; copper nail in root of 2-foot oak tree	767. 61
T. 49 N., R. 13 W., near center of sec. 10, at southeast corner of crossroads; copper nail in fence post	675. 26
From point 1 mile north of Rucker east to Sturgeon, thence south to Oakland Church, thence west to sec. 16, T. 49 N., R. 14 W.	
Rucker, 1.1 miles north of, 50 feet north of T road east, some distance north of unpainted house, west edge of north-south road; copper nail in root of 15-inch oak tree, painted "851.9"	851. 54
Rucker, 75 feet east of Sword & Sons store, 40 feet north of white and green house, in center of east-west road; copper nail in root of 12-inch hickory tree, painted "809.3"	808. 94
Rucker, 0.9 mile east of, at right-angle corner, private road southwest, north edge of road; copper nail in root of 12-inch oak tree, painted "839.9"	839. 51
T. 51 N., R. 13 W., east half of sec. 4, northwest corner of road forks; iron post stamped "866"	865. 458
T. 51 N., R. 13 W., center of sec. 3, southeast corner of T road south; copper nail in root of 12-inch oak tree, painted "856.7"	855. 87
T. 51 N., R. 13 W., center of sec. 2, 90 feet northeast of crossroads; copper nail in root of 12-inch oak tree, painted "859.1"	858. 72
T. 51 N., R. 13 W., center of sec. 1, northwest corner of T road north; iron post stamped "869"	868. 538
T. 51 N., R. 12 W., west half of sec. 6, 300 feet east of T road south, south edge of road; copper nail in root of 10-inch ash tree, painted "858.1"	857. 81
Sturgeon, 1,200 feet west of station, 60 feet southwest of north-south crossing over Wabash R. R.; iron post stamped "858"	858. 050
Sturgeon, at east end of station; center of track at crossing, painted "852"	851. 9

	Feet.
T. 51 N., R. 12 W., 70 feet west of crossroads on line between secs. 8 and 17, north edge of road; copper nail in root of 24-inch thorn-locust tree, painted "857.1".....	856. 76
T. 51 N., R. 12 W., on line between secs. 17 and 20, east end of east-west jog in road; copper nail in root of 30-inch thorn-locust tree, painted "855.6".....	855. 28
T. 50 N., R. 12 W., SW. $\frac{1}{4}$ sec. 21, east edge of road at right-angle corner, south edge of road to G. W. Eubank's residence; iron post stamped "821".....	820. 337
T. 51 N., R. 12 W., NE. $\frac{1}{4}$ sec. 33, 200 feet south of iron bridge over Silver Fork, east edge of road; copper nail in root of 30-inch oak tree, painted "774.7".....	774. 37
Tps. 50 and 51 N., R. 12 W., 75 feet south of T road west on line between secs. 4 and 33, on west edge of road; copper nail in root of 12-inch hickory tree, painted "868.4".....	868. 00
T. 50 N., R. 12 W., northeast corner of crossroads on line between secs. 4 and 9; iron post stamped "862".....	862. 089
T. 50 N., R. 12 W., center of SE. $\frac{1}{4}$ sec. 9, west edge of road, at right-angle corner; copper nail in root of 24-inch oak tree, painted "867.6".....	867. 24
Hallsville, 2.5 miles west of, east side of Barnes schoolhouse; copper nail in root of 24-inch hickory tree, painted "855.9".....	855. 51
T. 50 N., R. 12 W., center of S. $\frac{1}{2}$ sec. 21, 150 feet south of crossroads, on east edge of road; copper nail in root of 20-inch wild-cherry tree, painted "899.4".....	899. 99
T. 50 N., R. 12 W., center of sec. 28, west edge of road, south edge of private road west; iron post stamped "843".....	842. 708
Brown's station, 2.1 miles north of; center of track at private road crossing over Wabash R. R., painted "922".....	921. 8
Brown's station, 1.7 miles north of, 50 feet east of intersection of east-west road through center of sec. 34, T. 50 N., R. 12 W., and north edge of road; copper nail in root of 12-inch hickory tree, painted "920.0".....	919. 64
Brown's station, 0.8 mile north of, 25 feet east of intersection of east-west road through sec. 3, T. 49 N., R. 12 W., with Wabash R. R., south edge of road; copper nail in base of telegraph pole, painted "918.3".....	917. 91
Brown's station, opposite operator's window, top of east rail; painted "915".....	914. 4
Brown's station, 0.3 mile south of, 50 feet east of east-west crossing over Wabash R. R., south edge of road, inside of right of way fence; iron post stamped "910".....	909. 170
Brown's station, 1 mile south of, 75 feet east of intersection of Wabash R. R. with east-west road on line between secs. 9 and 16, T. 49 N., R. 12 W., south edge of road; copper nail in 16-inch oak tree, painted "874.2"....	873. 82
Stephen's flag station, 0.3 mile west of; floor of wooden bridge, painted "811".....	810. 6
T. 49 N., R. 12 W., 750 feet west of center of sec. 16, north edge of road; copper nail in root of 24-inch sycamore tree, painted "818.7".....	818. 25
Oakland Church, 300 feet east of, 300 feet south of T road east at center of sec. 17, T. 49 N., R. 12 W., west edge of road; iron post stamped "838".....	837. 613
Oakland Church, 1.4 miles west of, east side of road, 1 foot west of fence, 60 feet south of lane leading to A. B. Shepard's residence, 20 rods east of northwest corner of SW. $\frac{1}{4}$ sec. 18, T. 49 N., R. 12 W.; copper nail in root of cherry tree.....	735. 16

Hinton, 1.5 miles south of, northwest corner of T road west, 20 rods east of southwest corner of NW. $\frac{1}{4}$ sec. 13, T. 49 N., R. 13 W.; copper nail in root of walnut tree.....	Feet. 690. 02
Hinton, 1.5 miles southwest of, southwest corner of T road west, near north quarter corner of sec. 14, T. 49 N., R. 13 W.; iron post stamped "777" ..	776. 606
Hinton, 2.5 miles southwest of, southeast corner of crossroads, 0.5 mile west of northeast corner of sec. 15, T. 49 N., R. 13 W.; copper nail in root of oak tree.....	718. 23
Hinton, 3.5 miles southwest of, east side of public road, 145 rods west of northeast corner of sec. 16, T. 49 N., R. 13 W.; copper nail in side of 18-inch white-oak tree.....	713. 95
Woodlandville, 6 miles southeast of, 50 feet west by 25 feet south of southwest corner of crossroads, 40 rods east by 40 rods south of northwest corner of sec. 17, T. 49 N., R. 13 W.; iron post stamped "758".....	757. 663
Woodlandville, 5 miles southeast of, on north property line of road, 150 feet north of T road south, 20 rods northeast of center of sec. 18, T. 49 N., R. 13 W.; copper nail in root of oak tree.....	665. 76
Woodlandville, 4 miles southeast of, 15 feet south of public road, 700 feet east of O. J. Brown's residence, near southeast corner of NE. $\frac{1}{4}$ sec. 13, T. 49 N., R. 14 W.; copper nail in root of stump.....	669. 24
Woodlandville, 3 miles southeast of, 600 feet south of crossroads, 20 feet west of southwest corner of T road west, 1 foot north of fence, near center of sec. 13, T. 49 N., R. 14 W.; iron post stamped "617".....	616. 250
Woodlandville, 2.5 miles south of, 5 feet west of public road at crest of hill, 20 rods south of center of sec. 14, T. 49 N., R. 14 W.; bolthead in root of honey-locust tree.....	733. 53
Woodlandville, 2 miles south of, northwest corner of crossroads, near southeast corner of SW. $\frac{1}{4}$ sec. 15, T. 49 N., R. 14 W.; bolthead in base of corner post.....	756. 88
From point 3.5 miles west of Sturgeon south to Butler, thence west to Harrisburg.	
T. 51 N., R. 13 W., stone at quarter corner between secs. 2 and 11, painted "846".....	846. 1
T. 51 N., R. 13 W., center of sec. 11, 700 feet northwest of Turner school-house, east edge of road; copper nail in root of 15-inch oak tree, painted "832.1".....	831. 78
Lick Fork Church, 150 feet east of, east edge of road; copper nail in root of 12-inch oak tree, painted "853.3".....	852. 69
T. 51 N., R. 13 W., quarter corner between secs. 14 and 15, 460 feet west of, 150 feet east of iron bridge over East Fork of Kile Creek, north edge of road; iron post stamped "773".....	772. 234
T. 51 N., R. 13 W., center of sec. 22, 100 feet south of T road west, east edge of road; copper nail in root of 18-inch oak tree, painted "840.3" ..	839. 97
T. 51 N., R. 13 W., center of sec. 27, west edge of road at right-angle corner; copper nail in root of 10-inch hickory tree, painted "826.2".....	825. 92
T. 51 N., R. 13 W., 800 feet west of, quarter corner between secs. 26 and 27, iron bridge over Lick Fork; floor of bridge, painted "748".....	748. 1
T. 51 N., R. 13 W., 450 feet west of corner of secs. 26, 27, 34, and 35, south edge of road, west bank of small stream; copper nail in root of 24-inch elm tree, painted "750.9".....	750. 67

T. 51 N., R. 13 W., center of west half of sec. 34, south edge of road at right-angle corner; copper nail in root of 18-inch oak tree, painted "812.7" ..	Feet. 812. 43
Ariel Church, in line with and 75 feet south of east end of; iron post stamped "835" ..	334. 996
T. 50 N., R. 13 W., 600 feet south of intersection of north-south road with line between secs. 4 and 9, west edge of road, opposite road east; copper nail in root of 12-inch oak tree, painted "807.6" ..	807. 38
T. 50 N., R. 13 W., 100 feet north of road forks on line between secs. 9 and 16, west edge of road; copper nail in root of 24-inch oak tree, painted "793.7" ..	793. 45
Butler, 1.1 miles southeast of, in east end of large triangle at road forks; iron post stamped "770" ..	770. 135
Butler, 140 feet west of store, north edge of east-west road, west bank of small stream; copper nail in root of 10-inch sycamore tree, painted "663.4" ..	663. 19
T. 50 N., R. 14 W., near quarter corner between secs. 7 and 18, north edge of road; copper nail in root of 18-inch oak tree, painted "763.9" ..	763. 71
T. 50 N., R. 14 W., 140 feet north of corner of secs. 11, 12, 13, and 14, east edge of road; copper nail in root of 12-inch oak tree, painted "823.5" ..	823. 30

Elsely, Forsyth, Monett, and Springfield quadrangles.

BARRY, CHRISTIAN, STONE, AND TANEY COUNTIES.

The elevations in the following list are based upon the Coast and Geodetic Survey bench mark "CIX" at Monett, the elevation of which is accepted as 1,302.166 feet above mean sea level. The elevations also agree with Arkansas levels based upon a double line to Denver from a Coast and Geodetic Survey bench mark at Seligman.

The leveling was done in 1904 and 1905 by D. V. Vandiver. Additional work was done in the Forsyth quadrangle in 1906 by F. W. Hughes.

MONETT QUADRANGLE.

[Latitude 36° 45'-37°; longitude 93° 45'-94°.]

Monett east along St. Louis & San Francisco R. R. to Verona.

Monett, bottom of a square cut in stone foundation of brick building at northeast corner of Broadway and Third Street, under first window north of corner on Third Street, Commercial Bank; marked "U. S. □ B. M." ..	Feet. 1, 302. 166
Verona, opposite Farmers Bank, in southwest corner of William Spalding's one-story brick building, occupied by McShaw (druggist), in stone foundation; aluminum tablet stamped "1273 Adj 1903" ..	1, 273. 057

ELSEY QUADRANGLE.

From Aurora along St. Louis & San Francisco R. R. to Marionville, thence along highways to point 3 miles east.

Aurora, in foundation stone of Bank saloon, corner of Olive and Madison streets, under first window north of entrance on Madison Street; aluminum tablet stamped "1371 Adj 1903" ..	1, 370. 309
Marionville, 3 miles west of, 600 feet east of milepost 266, 70 feet east of county road crossing, on abutment stone in southwest corner of trestle; aluminum tablet stamped "1395 Adj 1903" ..	1, 394. 992

Marionville, 300 feet east of station, in northeast corner of abutment of trestle 2636; aluminum tablet stamped "1351 Adj 1903".....	Feet. 1, 351. 160
Marionville, 3 miles east by 0.5 mile south of, in northeast corner of stone foundation of W. P. Oldham's house; aluminum tablet stamped "1373 Adj 1903".....	1, 372. 546

FORSYTH QUADRANGLE.

[Latitude 36° 30'-37°; longitude 93°-93° 30'.]

From point 3 miles east of Marionville southeast to Hurley, thence south to Oak Grove post office.

School, 1 mile north by 1 mile west of, in stone foundation of porch of T. S. Wood's house; aluminum tablet stamped "1305 Adj 1903".....	1, 304. 870
School, 200 feet east of center of road crossing, in stone foundation, 8 feet east of southwest corner; aluminum tablet stamped "1344 Adj. 1903".....	1, 344. 479
Hurley, 2 miles southeast of, in northeast corner stone of foundation of J. B. Blissett's house; aluminum tablet stamped "1276 Adj 1903".....	1, 276. 147
Otto, 2 miles north of, 0.5 mile north of Cram Creek, 100 feet east of road, in limestone bluff; aluminum tablet stamped "1115 Adj 1903".....	1, 114, 724
Otto, 2.25 miles southwest of, 200 feet west of house, 120 feet north of Wilson Branch, 100 feet north of road by spring box, in large limestone boulder; aluminum tablet stamped "987 Adj 1903".....	987. 079
Galena, in northwest corner of jail, 1.5 feet above ground; aluminum tablet stamped "1019 Adj 1903".....	1, 018. 816
Galena, 4 miles east of, 4 miles north of Reeds Spring, in southwest corner of stone foundation of fourth district schoolhouse; aluminum tablet stamped "1024 Adj 1903".....	1, 023. 996
Reeds Spring, 200 feet southwest of mill, 160 feet south of railroad, 100 feet south of road, in rear of a one-story house, in limestone boulder; aluminum tablet stamped "1179 Adj 1903".....	1, 178. 894
Oakland schoolhouse, in southwest corner of, 3.5 miles southwest of Reeds Spring; aluminum tablet stamped "1380 Adj 1903".....	1, 379. 990
Radical post office, 1 mile southeast of, 0.25 mile north of Mayberry Ferry, in southeast corner of stone chimney of Thomas's house; aluminum tablet stamped "783 Adj 1903".....	783. 271

From Blue Eye along highway east to Pinetop, thence south to Omaha.

Blue Eye, 1 mile north of, at T in roads, in southeast corner of stone foundation of Rube Butler's house; aluminum tablet stamped "1291 Adj 1903".....	1, 291. 616
Blue Eye, 5.6 miles north of, forks of roads to Galena and Cedar Valley, opposite blacksmith shop, in sandstone chimney of J. D. Bowman; aluminum tablet stamped "1302 Adj 1903".....	1, 301. 980
Cedar Valley, to right of entrance to cellar of Wells's house, in sandstone foundation; aluminum tablet stamped "821 Adj 1903".....	821. 666

From Pinetop east along highways to Mincy, thence north to Forsyth, thence northwest via Walnut Shade to Spokane, thence southwest to Reeds Spring.

Pinetop, 1 mile southeast of, 400 feet east of Turkey Creek, 200 feet from road crossing, in limestone ledge; aluminum tablet stamped "1124 Adj 1903".....	1, 124. 420
Mincy, 2.8 miles west of, in saddle in ridge, 50 feet north of forks, in 10-ton sandstone boulder; aluminum tablet stamped "1243 Adj 1903".....	1, 243. 001
Mincy, 300 feet east of post office, in foundation of W. T. Moore's house; aluminum tablet stamped "914 Adj 1903".....	914. 112

Mincy, 2.5 miles north of, 10 feet west of road, in limestone rock; aluminum tablet stamped "790 Adj 1903".....	Feet. 789. 776
Forsyth, 3.5 miles south of, 4 feet west of road, in limestone boulder; aluminum tablet stamped "923 Adj 1903".....	922. 836
Forsyth, northeast corner of courthouse; aluminum tablet stamped "695 Adj 1903".....	695. 891
Walnut Shade, 250 feet north of Bull Creek, opposite post office; iron post stamped "758 Adj 1903".....	758. 260
Reno, 6 feet south of road, opposite post office; iron post stamped "965 Adj 1903".....	965. 514
Spokane, 5 feet east of public road, northwest corner of Joe Choat's store, sec. 13, T. 25 N., R. 22 W.; iron post stamped "1342 Adj 1903".....	1, 342. 602
Tauria, 12 feet west of pond, opposite blacksmith shop; iron post stamped "1378 Adj 1903".....	1, 378. 617

From Forsyth north along public roads to Chadwick and along St. Louis & San Francisco R. R. to Sparta.

Forsyth, 3 miles north of, 2 miles south of Dickens post office, in little flat 4 feet west of road, in limestone; aluminum tablet stamped "949 Adj 1903".....	949. 041
Taneyville, northeast corner of foundation of J. N. Ray's store; aluminum tablet stamped "1079 Adj".....	1, 078. 531
Taneyville, 3.25 miles north of, 200 feet east of Swan Creek, 40 feet south of small creek crossing, in boulder; aluminum tablet stamped "841 Adj 1903".....	841. 010
Garrison, 0.25 mile south of, 100 feet south of fifth ford of Swan Creek, in ledge; aluminum tablet stamped "876 Adj 1903".....	876. 218
Garrison, 2.5 miles north of, bottom of Chadwick Hill, 2 feet east of road, in limestone; aluminum tablet stamped "961 Adj 1903".....	960. 810
Chadwick, in northwest corner of foundation of oil warehouse, 100 feet south of and across railroad track from station, opposite Simpson's store; aluminum tablet stamped "1378 Adj 1903".....	1, 377. 036
Lees station (Oldfield post office), 0.25 mile south of, 7 feet north of track, in ledge; aluminum tablet stamped "1384 Adj 1903".....	1, 383. 073
Sparta, 300 feet north of station, 50 feet east of track, in southwest corner of foundation of flour mill; aluminum tablet stamped "1399 Adj 1903"....	1, 398. 001

From Spokane north along public roads to Ozark.

Highlandville, in southwest corner of foundation of building containing post office and Major's store; aluminum tablet stamped "1383 Adj 1903".....	1, 382. 518
Highlandville, 3.5 miles north of, 1.5 miles south of Sellmore, in northwest corner of chimney of W. M. Kings's house; aluminum tablet stamped "1337 Adj 1903".....	1, 336. 094
Ozark, 3 miles south of, on west bank of Elk Creek, forks of road, at spring, in limestone; aluminum tablet stamped "1168 Adj 1903".....	1, 167. 461

From school northeast via Jamesville to Riverdale.

School, 3 miles northeast of, Union Ridge Church, in foundation, 13 feet north of southeast corner; aluminum tablet.....	1, 297. 124
Jamesville, 0.6 mile east of, 0.14 mile east of road fork, 300 feet west of 3-foot oak post in field, 15 feet south of road, overhanging limestone bluff, 30 feet north of road; aluminum tablet.....	1, 042. 762
Riverdale, flour mill on Finley Creek, limestone ledge, opposite mill, 10 feet south of west end of dam across Finley Creek; aluminum tablet....	1, 071. 121

SPRINGFIELD QUADRANGLE.

[Latitude 37°-37° 30'; longitude 93°-93° 30'.]

From Sparta along St. Louis & San Francisco R. R. to Ozark.

McCracken, 60 feet south of track, in north foundation of A. M. Candle's store; aluminum tablet stamped "1380 Adj 1903".....	Feet. 1, 378. 905
Ozark, in northwest corner of foundation of courthouse; aluminum tablet stamped "1178 Adj 1903".....	1, 176. 700

From Riverdale northeast to Ozark.

Riverdale, 2.8 miles east of, 300 feet north of turn in road, 20 feet east of A. L. Porter's spring house; in top of ledge of limestone; aluminum tablet.....	1, 151. 466
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Joplin district.

JASPER COUNTY.

The elevations in the following list are based on bench mark "CIII" of the Coast and Geodetic Survey at Carthage, at the southwest corner of Main and Limestone streets. The bench mark is a cross cut on the rounded top of a 6 by 6 inch limestone post buried in the ground 2.3 feet west of intersection of inside lines of sidewalk. The elevation of this bench mark, as corrected by the 1912 adjustment of that survey, is accepted as 941.645 feet above mean sea level.

The leveling was done in 1904 by D. C. Wray.

All bench marks dependent upon this datum are stamped with the letters "Crthg" in addition to the figures of elevation.

This list includes only the Missouri portion of the levels; for additional work in the same area see results of spirit leveling in Kansas (Bull. 571).

JOPLIN DISTRICT.

[Latitude 37°-37° 15'; longitude 94° 15'-94° 45'.]

Carthage, at southwest corner of Main and Limestone streets; limestone post (C. & G. S. b. m. "CIII").....	Feet. 941. 645
Carthage, at west side of City Park, east side of Harrison Avenue, 45 feet north of north line of Chestnut Street, in south meridian post; aluminum tablet stamped "1009 Crthg".....	1, 008. 556
Oronogo, SE. $\frac{1}{4}$ sec. 36, T. 29 N., R. 33 W., on Central Avenue, in capstone at north wing wall at west abutment of steel viaduct over Missouri Pacific Ry.; aluminum tablet stamped "975 Crthg".....	974. 931
T. 28 N., R. 33 W., northwest corner of sec. 6, 1 mile northwest of Carl Junction, 100 feet east of crossroads; iron post stamped "884 Crthg".....	883. 923
Duenweg, T. 27 N., R. 32 W., southeast corner of sec. 4, 0.5 mile west of hotel, at corner of fence northwest of crossroads; iron post stamped "1075 Crthg".....	1, 074. 881
T. 26 N., R. 33 W., northwest corner of sec. 9, 10 feet south of corner of fence southeast of Seneca and Box Springs crossroads; iron post stamped "1142 Crthg".....	1, 141. 446
T. 29 N., R. 34 W., 1 mile east of Waco, northeast corner of sec. 13, 60 feet west and 30 feet south of corner stone; iron post stamped "868 Crthg"...	868. 100

	Feet.
Alba, T. 29 N., R. 32 W., NW. $\frac{1}{4}$ sec. 15, in southwest corner of schoolhouse grounds; iron post stamped "984 Crthg".....	983. 978
Pleasant View Church, T. 29 N., R. 31 W., southeast corner of sec. 12, at east end of gate into yard; iron post stamped "1006 Crthg".....	1, 005. 905
Webb City, on west side of Allen Street, between Main and Daugherty streets, in northeast corner of Exchange Bank Building; aluminum tablet stamped "1003 Crthg".....	1, 002. 960
T. 27 N., R. 31 W., northeast corner of sec. 1, on south line of east-west road, 210 feet west of west line of north-south road; iron post stamped "1074 Crthg".....	1, 073. 635
T. 26 N., R. 31 W., northeast corner of sec. 1, on west line of north-south road, 25 feet south of south line of east-west road; iron post stamped "1160 Crthg".....	1, 159. 729
T. 26 N., R. 32 W., northeast corner of sec. 1, on south line of east-west road, 15 feet west of west line of north-south road; iron post stamped "1137 Crthg".....	1, 136. 383
Joplin, at southeast corner of Virginia Avenue and Seventh Street, in northwest corner of courthouse foundation; aluminum tablet stamped "1009 Crthg".....	1, 008. 126

Aurora quadrangle (Carthage and Greenfield 30' quadrangles, and Elsey, Monett, and Ritchey 15' quadrangles).

JASPER AND LAWRENCE COUNTIES.

The elevations in the following list are based on bench marks of the Coast and Geodetic Survey at Sarcoxie and on those of the United States Geological Survey at Aurora and Marionville.

The leveling was done by G. P. Featherstun in 1909.

AURORA QUADRANGLE.

[Latitude 36° 55'-37° 07' 30"; longitude 93° 35' 30"-94° 15'.]

From Aurora east along St. Louis & San Francisco R. R. to Logan, thence north and west along highways to Sarcoxie.

	Feet.
Aurora city hall, on north side of building, east of entrance, top of lower stone step; aluminum tablet stamped "1395 Mo".....	1, 394. 313
Aurora, in foundation stone of Bank saloon, corner of Olive and Madison streets, under first window north of entrance on Madison Street; aluminum tablet stamped "1371 Adj 1903".....	1, 370. 289
Aurora, 1.5 miles east of, 150 feet east of road crossing at Bonanza mine, 40 feet north of railroad track, in corner of right of way fence; iron post stamped "1402".....	1,401. 708
Marionville, 3 miles west of, 600 feet east of milepost 266, 70 feet east of county-road crossing, on abutment stone southeast corner of trestle 2656; aluminum tablet stamped "1395 Mo".....	1, 394. 872
Marionville, 3 miles west of, 600 feet east of milepost 266, 70 feet east of county-road crossing, on abutment stone southwest corner of trestle 2656; tablet (all that remains of this tablet is the shank, the plate having been destroyed; this bench mark should not be used in adjusting line).....	1, 394. 972
Marionville, 300 feet east of station, in northeast corner of abutment stone of trestle; aluminum tablet stamped "1351 Adj 1903".....	1, 351. 140
T. 27 N., R. 25 W., on corner stone of secs. 14, 15, 22, and 23, at T road north.	1, 341. 74
Honey Creek schoolhouse, 200 feet west of corner to secs 15, 16, 21, and 22, T. 27 N., R. 25 W., on south side of road; iron post stamped "1295 Mo".....	1, 294. 329

Aurora, 3.5 miles north of, at northwest corner of T road west, 20 feet east and 20 feet south to corner of secs. 24 and 25 (east corner), T. 27 N., R. 26 W.; iron post stamped "Prim. Trav. Sta. No. 13, 1909, Mo., 1280".....	Feet. 1, 279. 291
T. 27 N., R. 26 W., cross on corner stone of secs. 22, 23, 26, and 27, at crossroads.....	1, 296. 482
Aurora, 3 miles west by 5 miles north of, 10 feet east of corner to secs. 15, 16, 21, and 22, T. 27 N., R. 26 W.; iron post stamped "1200 Mo".....	1, 199. 630
Aurora, 6 miles west by 5 miles north of, 20 feet north of road; iron post stamped "1258 Mo".....	1, 257. 920
Mount Vernon, 5.5 miles south of, at the Thomas Hillhouse farm, set at west end of T road east; iron post stamped "Prim. Trav. Sta. No. 14, 1909, Mo., 1191".....	1, 190. 760
T. 27 N., R. 27 W., on stone at corner of secs. 23, 24, 25, and 26.....	1, 268. 11
Mount Vernon, point 5 miles south by 3 miles west of, 30 feet northeast of corner of secs. 21, 22, 27, and 28, T. 27 N., R. 27 W.; iron post stamped "1295 Mo".....	1, 294. 778
Freistatt, 1 mile north by 2 miles west of, at northeast corner of crossroads, 15 feet south and 35 feet west to west corner of secs. 19 and 30, T. 27 N., R. 27 W., 45 feet south and 35 feet west to east corner of secs. 24 and 25, T. 27 N., R. 28 W.; iron post stamped "Prim. Trav. Sta. No. 15, 1909, Mo., 1296".....	1, 295. 312
T. 27 N., R. 28 W., 100 feet west of quarter corner of secs. 15 and 22, in root of hickory tree; nail.....	1, 291. 69
Clarkson, 1 mile east of, 25 feet southeast of corner of secs. 15, 16, 21, and 22, T. 27 N., R. 28 W.; iron post stamped "1256 Mo".....	1, 255. 357
Clarkson, 1 mile north by 1 mile west of, 20 feet east of corner of secs. 7, 8, 17, and 18, T. 27 N., R. 28 W., T road west; iron post stamped "1211 Mo".....	1, 210. 430
T. 27 N., Rs. 28 and 29 W., 15 feet west of corner of secs. 7, 12, 13, and 18, in root of hickory tree; nail.....	1, 216. 51
Sarcoxie, 2.5 miles east of, 25 feet north of corner of secs. 10, 11, 14, and 15, T. 27 N., R. 29 W.; iron post stamped "1162 Mo".....	1, 161. 935
T. 27 N., R. 29 W., 30 feet southeast of corner of secs. 9, 10, 15, and 16, in root of black-oak tree; nail.....	1, 167. 16
Sarcoxie, in upper surface of lower stone step of brick building owned and occupied by the Bank of Sarcoxie, on southeast corner of block opposite northeast corner of public square; bottom of a cut surrounded by letters "U. S. B. M." and "U. S. C. & G. S." The inscription "Altitude above Gulf of Mexico 1088 Ft." is also cut in the stone step.....	1, 089. 253

From Logan north and west along highways via Mount Vernon and Stotts to Sarcoxie.

Marionville, 2 miles east by 3 miles north of, 20 feet northeast of west corner of secs. 18 and 19, T. 27 N., R. 24 W., on Lawrence-Christian county line; iron post stamped "1431 Mo".....	1, 430. 317
Marionville, 2 miles east by 5.7 miles north of, on Lawrence-Christian county line, 30 feet southwest of T road east; iron post stamped "1278 Mo".....	1, 277. 787
Ts. 27 and 28 N., R. 25 W., quarter corner of secs. 1 and 36, 10 feet southwest of, point painted on sandstone boulder.....	1, 307. 38
Marionville, 2 miles east by 6 miles north of, 1,000 feet southwest of east corner of secs. 24 and 25, T. 28 N., R. 25 W., 10 feet north of road, in limestone rock; aluminum tablet stamped "1180 Mo".....	1, 179. 855
Chesapeake, 1 mile east of, 25 feet southeast of corner of secs. 21, 22, 27, and 28, T. 28 N., R. 25 W.; iron post stamped "1291 Mo".....	1, 290. 766

Chesapeake, 2 miles west of, at southwest corner of T road west on range line, 20 feet north by 20 feet east of east corner of secs. 24 and 25, T. 28 N., R. 26 W.; iron post stamped "Prim. Trav. Sta. No. 2, 1909, Mo"....	Feet. 1, 371. 308
Summit Church, 600 feet west of, 20 feet northwest of center of T road north; iron post stamped "1330 Mo"	1, 332. 454
Mount Vernon, 1.8 miles north of, on west side of north and south road at T road west, 15 feet west by 5 feet north of center of T road; iron post stamped "Prim. Trav. Sta. No. 3, 1909, Mo., 1265"	1, 265. 204
Mount Vernon, 1 mile north by 0.9 mile west of, on north side of road; iron post stamped "1223 Mo"	1, 222. 324
Big Spring Church, 50 feet northeast of road forks, in tree root; nail	1, 115. 37
Big Spring Church, 0.5 mile northwest of, 0.2 mile north of junction of Williams Creek and Spring River, on south side of road; iron post stamped "1103 Mo"	1, 103. 101
Stotts City, 1 mile north of, at northwest corner of crossroads, 15 feet south and 40 feet east of corner of secs. 23, 24, 25, and 26, T. 28 N., R. 28 W.; iron post stamped "Prim. Trav. Sta. No. 4, 1909, Mo"	1, 169. 201
Stotts City, 2 miles north of, 50 feet southwest of corner of secs. 13, 14, 23, and 24, T. 28 N., R. 28 W., in tree root at T road west at corner; nail ...	1, 112. 14
Stotts City, 2 miles north by 2 miles west of, 20 feet southeast of corner of secs. 15, 16, 21, 22, T. 28 N., R. 29 W.; iron post stamped "1078 Mo" ..	1, 078. 299
Russell station, 1.5 miles east by 0.5 mile south of, in northwest corner of pasture at southeast corner of T road east, 30 feet west and 20 feet north of west corner of secs. 18 and 19, T. 27 N., R. 28 W., 35 feet west and 20 feet north of east corner of secs. 13 and 24, T. 28 N., R. 29 W.; iron post stamped "Prim. Trav. Sta. No. 51, 1909, Mo., 1145"	1, 144. 746
T. 28 N., R. 29 W., 30 feet southeast of corner of secs. 15, 16, 21, and 22; iron post stamped "1030 Mo"	1, 029. 794
Ts. 27 and 28 N., R. 29 W., 75 feet northeast of corner of secs. 3, 4, 33, and 34; iron post stamped "1154 Mo"	1, 154. 305

Dearborn, Kansas City, Leavenworth, and Smithville quadrangles.

CLAY, CLINTON, JACKSON, AND PLATTE COUNTIES.

The elevations in the following list are based on bench marks of the Missouri River Commission in accord with the 1912 adjustment.

The leveling was done in Dearborn and Leavenworth quadrangles in 1906 by S. K. Atkinson; in Leavenworth and Smithville quadrangles in 1912 by P. W. McMillen and J. B. Leavitt; and in Kansas City quadrangle in 1912 by McMillen.

LEAVENWORTH SPECIAL (KANSAS CITY 30') QUADRANGLE.

[Latitude 39° 13'-39° 30'; longitude 94° 45'-95° 08'.]

At Waldron.

Waldron, on west side of county road, 350 feet east of tracks of Chicago, Burlington & Quincy R. R., 300 feet north of Methodist Episcopal Church, in 7-ton sandstone boulder; aluminum tablet stamped "781"	Feet. 780. 612
From Leavenworth via Beverly Junction to Platte City, thence southeast via Hampton to point 2.5 miles northeast of Waldron.	
Beverly, 2,000 feet east of station, 75 feet north of tracks, at point where wagon road crosses tracks; iron post stamped "773"	771. 729
Beverly, 3 miles east of, on Chicago, Rock Island & Pacific Ry., at crossing 100 feet west of bridge 646, on south side of tracks and west side of wagon road; iron post stamped "804"	802. 905

Platte City, 1,000 feet east of Tracy station, on Chicago, Rock Island & Pacific Ry., 50 feet north of tracks, in front of Adam Glebb's store; iron post stamped "778".....	Feet. 776. 719
Platte City, 3 miles southeast of, on Liberty wagon road at crossroads, corner opposite park schoolhouse; iron post stamped "970".....	969. 150
Hampton, 1 mile west of, at crossroads, near Elm Grove, red brick church on southwest corner of James Wallace's land; iron post stamped "1002".....	1, 001. 447
Waldron, 2.5 miles northeast of, where road running south from H. Searer's place turns off to Waldron, at junction of three roads near E. F. Neiman's farm; iron post stamped "924".....	923. 221

From Platte City north to New Market.

Platte City, 4 miles from station, on main north-south pike, at crossroads, on corner of C. P. Ballard's farm, southeast corner of sec. 36, T. 54 S., R. 35 E.; iron post stamped "916".....	915. 640
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From New Market west to Iatan.¹

Dye, 600 feet south of post office, northeast corner of J. McCalley's place on north-south road; iron post stamped "901".....	900. 735
Dye, 2 miles east of, 1 mile north of, at junction of east-west and north-south roads, at southwest corner of W. H. McCalley's place; iron post stamped "1056".....	1, 055. 692

DEARBORN QUADRANGLE.

[Latitude 39° 30'-39° 45'; longitude 94° 45'-95°.]

At New Market.

New Market, 75 feet south of station, 30 feet west of tracks; iron post stamped "869".....	869. 873
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KANSAS CITY QUADRANGLE.

[Latitude 39°-39° 30'; longitude 94° 30'-95°.]

From point 1.5 miles east of Gashland west to Prairie Point Church.

Gashland, 0.8 mile east of, north edge of road; copper nail in root of 6-inch ash tree, marked "878.0".....	878. 79
Gashland, 150 feet east of railroad crossing, south edge of east-west road opposite T road north; copper nail in root of 15-inch elm tree, marked "999.5".....	1, 000. 29
Gashland, 40 feet southeast of crossing, south end of station; iron post stamped "1016 Mo".....	1, 015. 881
Gashland, opposite operator's window in station; top of east rail, marked "1013".....	1, 013. 7
Gashland, 0.5 mile west of, southwest corner of crossroads; copper nail in root of 12-inch locust tree, marked "986.4".....	987. 17
Barry, southeast corner of school grounds; copper nail in root of 12-inch maple tree, marked "1017.0".....	1, 017. 79
T. 51 N., R. 33 W., center of sec. 8, southwest corner of crossroads; iron post stamped "Prim. Trav. Sta. No. 1, 1911, Mo., 995".....	994. 582
Barry, 1.8 miles west of; floor of bridge, marked "950".....	950. 6
Prairie Point Church grounds, northeast corner of, 10 feet from corner of fence; iron post stamped "1076 Mo".....	1, 075. 502

¹ An excessive error of 2 feet in this line.

From Gashland southeast along Quincy, Omaha & Kansas City, Chicago, Milwaukee & St. Paul, and Missouri Pacific railroads to Big Blue River bridge.

	Feet.
Gashland, 150 feet east of railroad crossing, south edge of east-west road opposite T road north; copper nail in root of 15-inch elm tree, marked "999.5".....	1,000.29
Linden, 1.2 miles north of, 150 feet northeast of signboard "Gashland," 100 feet east of railroad; spike in root of 24-inch oak tree, marked "997.0".....	997.81
Linden, northeast corner of brick school building; aluminum tablet stamped "1013 Mo.".....	1,012.713
Linden, south end of station; center of track at crossing, marked "1011".....	1,011.6
Linden, 0.6 mile south of, 150 feet east of crossing, at milepost "K. C. 9," copper nail in root of 10-inch hackberry tree, marked "979.4".....	980.17
Linden, 1.6 miles south of, crossing at milepost "K. C. 8," 100 feet northwest of, southeast corner of Oak Crest Cemetery; copper nail in root of 24-inch linn tree, marked "931.4".....	932.20
Campbellton, 60 feet south of station, 25 feet west of track, south edge of road; iron post stamped "883 Mo.".....	883.314
Avondale, 0.9 mile north of, Tps. 50 and 51 N., R. 33 W., crossing of east-west road on line between secs. 1 and 12, 75 feet east of; copper nail in root of 12-inch elm tree, marked "822.5".....	823.30
Avondale, opposite waiting-room door of station; top of east rail, marked "784".....	784.3
Northern Junction, 300 feet south of, north abutment of Chicago, Milwaukee & St. Paul Ry. bridge over Missouri River; aluminum tablet stamped "789 Mo.".....	788.917
Northern Junction, 21 miles south of, junction of Chicago, Milwaukee & St. Paul and Missouri Pacific railroads, 50 feet northeast of; copper nail in root of 12-inch elm tree, marked "738.6".....	739.42
Big Blue River, 98 feet south of east abutment of Missouri Pacific R. R. bridge; iron post (Mo. R. Comm. b. m. 227, top of cap).....	738.62

LEAVENWORTH QUADRANGLE.

[Latitude 39° 15'-39° 30'; longitude 94° 45'-95°.]

From point 4 miles north of Platte City northeast 1.5 miles, thence north and west to New Market.

Platte City, 4 miles north of, on main north-south road, 40 feet northeast of center of crossroads, at center of sec. 1, T. 53 N., R. 35 W.; iron post stamped "916".....	915.04
Camden Point, 1.5 miles south of, on road through center of sec. 6, T. 53 N., R. 34 W., 50 feet west of crossing over interurban railway grade; copper nail in root of 12-inch buckeye tree, marked "833.2".....	832.58
Camden Point, 1 mile west of, 100 feet southwest of crossing over interurban railway grade, NE. $\frac{1}{4}$ sec. 31, T. 54 N., R. 34 W., wire spike with washer in root of 18-inch elm tree, marked "886.2".....	885.55
T. 54 N., R. 34 W., sec. 30, 90 feet southwest of intersection of highway through center of sec. 30 with interurban railway grade; wire spike with washer in root of 20-inch thorn-locust tree, marked "893.2".....	892.54
T. 54 N., R. 34 W., corner of secs. 17, 18, 19, and 20, 650 feet south of, between interurban railway grade and public highway; wire spike with washer in root of 15-inch elm tree, marked "921.7".....	921.09
Dearborn, 1.5 miles southeast of, 50 feet south of intersection of interurban railway grade with road on line between secs. 7 and 18, T. 54 N., R. 34 W.; wire spike with washer in root of 12-inch hackberry tree, marked "973.2".....	972.64

Dearborn, 1.5 miles south of, 100 feet west of crossroads, corner of secs. 7 and 18, T. 54 N., R. 34 W., and secs. 12 and 13, T. 54 N., R. 35 W.; copper nail in root of 30-inch hackberry tree, marked "1023.0"	Feet. 1,024.22
New Market, 0.8 mile east of, north edge of road; copper nail in root of 30-inch oak tree, marked "961.1"	962.25
New Market, 75 feet south of station, 30 feet west of tracks; iron post stamped "869"	869.873

SMITHVILLE QUADRANGLE.

[Latitude 39° 15'-39° 30'; longitude 94° 30'-94° 45'.]

From point near New Market east along roads to Trimble, thence east 1 mile and south to Smithville.

T. 54 N., R. 34 W., northeast corner of crossroads at quarter corner between secs. 8 and 17; iron post stamped "Prim. Trav. Sta. No. 2, 1906, 1028, Mo"	1,026.811
T. 54 N., R. 34 W., corner of secs. 9, 10, 15, and 16, 900 feet west of, northwest corner of stone culvert; copper nail in root of 10-inch willow tree, marked "890"	891.23
Edgerton Junction, 2.1 miles northwest of, 50 feet north of railroad; copper nail in root of 12-inch elm tree, marked "908.4"	909.64
T. 54 N., R. 34 W., 1,200 feet north of corner of secs. 14, 15, 22, and 23, 15 feet southeast of crossing over Chicago, Rock Island & Pacific Ry.; iron post stamped "870"	868.888
Edgerton Junction, 100 feet west of store, 200 feet northwest of station; copper nail in root of 15-inch maple tree, marked "803.6"	804.85
Edgerton Junction, 0.5 mile east of; center of track at north-south crossing, marked "796"	797.6
Edgerton Junction, 1.1 miles southeast of, 60 feet east of bridge over Platte River, center of triangle in road forks; iron post stamped "797 Mo"	795.857
Mount Zion School, 0.5 mile west of, top of hill north edge of road opposite V. Combe's residence; copper nail in root of 12-inch hickory tree, marked "926.5"	927.69
Edgerton, 0.8 mile south of, W. $\frac{1}{2}$ sec. 17, T. 54 N., R. 33 W., 50 feet southwest of crossroads; iron post stamped "Prim. Trav. Sta. No. 6, 1911, Mo., 854"	853.165
T. 54 N., R. 33 W., center of sec. 16, 700 feet west of, east bank of stream; copper nail in oak stump 18 inches in diameter, marked "894.8"	896.02
T. 54 N., R. 33 W., NW. $\frac{1}{4}$ sec. 15, 250 feet east of T road east, 25 feet south of road; copper nail in root of oak tree, painted "929.8"	931.1
Trimble, 1.5 miles south by 0.8 mile west of, on road through secs. 14 and 15, T. 54 N., R. 33 W., 50 feet east of small drain, north edge of road, in line with fence north; iron post stamped "962 Mo"	961.276
Trimble, 1.5 miles north of, 0.2 mile east of crossing over St. Joseph & Grand Island Ry., northeast corner of T road north; copper nail in root of 12-inch elm tree, marked "998.2"	999.53
T. 54 N., R. 33 W., center of NE. $\frac{1}{4}$ sec. 13, 20 feet east of elbow corner of road; iron post stamped "882 Mo"	881.590
Trimble, 2.5 miles northeast of; floor of iron bridge over Linn Branch, marked "861"	862.1
Trimble, 1 mile east of, near center of NE. $\frac{1}{4}$ sec. 24, T. 54 N., R. 33 W., 100 feet south of T road west, west edge of road; copper nail in root of 30-inch elm tree, marked "949.8"	951.12
T. 54 N., Rs. 32 and 33 W., corner of secs. 24, 25, 19, and 30; elbow corner of road; copper nail in base of telephone pole, marked "878.6"	879.92

	Feet.
T. 54 N., Rs. 32 and 33 W., 20 feet north of elbow corner at corner of secs. 30, 31, 25, and 36, west edge of road; iron post stamped "855 Mo".....	854. 792
T. 54 N., R. 32 W., center of sec. 31, 30 feet south of white house; copper nail in root of 30-inch elm stump, marked "837.8".....	839. 20
Paradise, 1 mile west of, 500 feet south of iron bridge over Smiths Fork of Platte River, east edge of road; copper nail in root of 15-inch elm tree, marked "815.1".....	816. 49
T. 53 N., Rs. 32 and 33 W., quarter corner between secs. 7 and 12, 20 feet southwest of elbow corner at; iron post stamped "876 Mo".....	875. 436
T. 53 N., R. 33 W., quarter corner between secs. 11 and 12, 100 feet south of, east edge of T road south; copper nail in root of 12-inch elm tree, marked "936.5".....	937. 93
Smithville, 1 mile north of, 100 feet south of elbow corner of road, near center of sec. 14, T. 53 N., R. 33 W.; copper nail in root of 12-inch oak tree, marked "908.8".....	910. 33
Smithville, 450 feet north of wagon bridge over Smiths Fork of Platte River, 60 feet east of T road south, south edge of road; copper nail in root of 20-inch maple tree, marked "803.7".....	804. 201
From point 4 miles north by 2 miles east of Platte City east along road to Smithville.	
T. 53 N., R. 34 W., intersection of road on line between secs. 5 and 8 with Chicago, Rock Island & Pacific Ry., 20 feet northwest of; iron post stamped "855 Mo".....	854. 093
T. 53 N., R. 34 W., corner of secs. 4, 5, 8, and 9, southeast corner of culvert at T road south, 20 feet southeast of corner; copper nail marked "876.73".....	877. 14
T. 53 N., R. 34 W., 200 feet south of quarter corner between secs. 9 and 16, southeast corner of T road east; painted cross on stone, marked "860.16".....	860. 59
T. 53 N., R. 34 W., 700 feet west of corner of secs. 9, 10, 15, and 16, southwest corner of T road south; iron post stamped "785 Mo".....	785. 144
Mellins Bridge over Platte River; painted nail head in floor, marked "789.3".....	789. 75
Platte River, under Mellins Bridge; surface of water May 23, 1912.....	756. 4
T. 53 N., R. 34 W., S. $\frac{1}{2}$ sec. 11; copper nail in top of fence post east of elbow corner of road, marked "889.54".....	890. 00
T. 53 N., R. 34 W., 700 feet west of corner of secs. 11, 12, 13, and 14, 3 feet south of road at T road north; copper nail in root of tree.....	910. 80
T. 53 N., R. 34 W., 600 feet west of corner of secs. 11, 12, 13, and 14, 100 feet east of T road north, south edge of east-west road; iron post stamped "916 Mo".....	915. 138
Collins School, 1.7 miles west of, covered bridge over Smiths Fork of Platte River; floor painted "792".....	792. 3
Surface of water in Smiths Fork of Platte River under covered bridge, May 23, 1912.....	758. 4
Collins School, 1.7 miles west of, 200 feet east of bridge over Smiths Fork of Platte River, south edge of east-west road opposite T road north; copper nail in 10-inch sycamore stump, marked "779.4".....	779. 91
Collins School, 60 feet southeast of, 50 feet north of road near wire fence; iron post stamped "844 Mo".....	843. 339
Collins School, 1.1 miles east of, top of hill, south edge of road; copper nail in root of 30-inch oak tree, marked "844.7".....	845. 24
Smithville, 1.2 miles northwest of, south edge of east-west road, 50 feet west of forks, near center of sec. 15, T. 53 N., R. 33 W.; copper nail in root of 15-inch walnut tree, marked "884.3".....	884. 79

Smithville, 450 feet north of wagon bridge over Smiths Fork of Platte River, 60 feet east of T road south, south edge of east-west road; copper nail in root of 20-inch maple tree, marked "803.7".....	Feet. 804. 20
Smithville, 450 feet north of wagon bridge over Smiths Fork of Platte River, south edge of east-west road, in line with main street; iron post stamped "805 Mo".....	805. 054
Smithville, opposite operator's window at station; top of north rail, marked "826".....	826. 5
Smithville, surface of water in Smiths Fork of Platte River at wagon bridge at north end of Bridge Street, Aug. 3, 1912.....	792: 2
From point 1.2 miles northwest of Smithville north along road and Quincy, Omaha & Kansas City R. R. to Trimble.	
T. 53 N., R. 33 W., 125 feet north of elbow corner of road on line between secs. 10 and 15, on bank of small stream; copper nail in root of 12-inch elm tree, marked "860.5".....	860. 04
Smithville, 2 miles north of, 30 feet east of crossing over Quincy, Omaha & Kansas City R. R. near milepost 223; copper nail in 24-inch oak stump, marked "877.1".....	876. 57
Trimble, 2.6 miles south of, 100 feet southwest of crossing at milepost 222; copper nail in root of 15-inch elm tree, marked "923.3".....	922. 82
Trimble, 1 mile south of, at east-west crossing; spike in post on Clay-Clinton county line, marked "968.1".....	967. 61
Trimble, 100 feet east of station, east edge of road; copper nail in root of 24-inch elm tree, marked "930.6".....	930. 15
Junction of Grand Island and Quincy, Omaha & Kansas City railroads; bolt-head well marked.....	939. 92
Trimble, 1.5 miles north of, 0.2 mile east of crossing over Grand Island R. R., northeast corner of T road north; copper nail in root of 12-inch elm tree, marked "998.2".....	999. 53
From Smithville south along Quincy, Omaha & Kansas City R. R. and highways to point 1.5 miles east of Gashland.	
Smithville, 1.6 miles south of, west end of south bent of trestle at milepost "K. C. 21, Quincy 227"; copper nail marked "961.5".....	862. 02
Smithville, 2.2 miles south of, intersection of road on line between sec. 35, T. 53 N., R. 33 W., and sec. 2, T. 52 N., R. 33 W., with Quincy, Omaha & Kansas City R. R., 30 feet northeast of; iron post stamped "873 Mo".....	872. 903
Amory flag station, opposite semaphore; top of west rail, marked "871.5".....	872. 0
Amory flag station, 0.2 mile south of, west end of south bent of wooden trestle; copper nail marked "873.9".....	874. 42
Amory flag station, 1.2 miles south of, 75 feet southeast of east-west crossing; spike in root of 12-inch oak tree, marked "900.8".....	901. 42
Nashua, 1.2 miles north of, 75 feet west of Quincy, Omaha & Kansas City R. R., 150 feet northwest of signboard "Nashua"; spike in root of 12-inch cottonwood tree, marked "957.9".....	958. 56
Nashua, 0.3 mile north of station, 15 feet southwest of east-west crossing over Quincy, Omaha & Kansas City R. R.; iron post stamped "998 Mo".....	997. 437
Nashua, opposite waiting-room door of station; top of east rail.....	1, 012. 0
Nashua, 0.9 mile south of, 100 feet west of east-west crossing, south edge of road; copper nail in root of 24-inch elm tree, marked "1031.2".....	1, 031. 87
Nashua, 1 mile east by 1.5 miles south of, T road west in S. $\frac{1}{4}$ sec. 25, T. 52 N., R. 33 W., 20 feet northwest of; iron post stamped "1049 Mo".....	1, 048. 665
T. 52 N., R. 33 W., center of sec. 36, 35 feet east of T road east; copper nail in root of 15-inch elm tree, marked "995.6".....	996. 32

	Feet.
T. 52 N., R. 32 W., W. $\frac{1}{2}$ sec. 31, north edge of east-west road, 25 feet north of center of T road south; copper nail in 10-inch elm stump, marked "1008.9".....	1,009.59
T. 52 N., R. 32 W., S. $\frac{1}{2}$ sec. 31, 40 feet east of elbow corner of road, at private road northeast; iron post stamped "940 Mo".....	939.715
Faubion School, 1 mile north of, center of sec. 5, T. 52 N., R. 32 W., southwest corner of crossroads; copper nail in root of 10-inch elm tree, marked "983.1".....	983.81
Faubion School, 100 feet southeast of; iron post stamped "Prim. Trav. Sta. No. 4, 1911, Mo., 967".....	966.985
Bethel Church, 0.5 mile west of, 200 feet west of T road north, 30 feet south of east-west road; copper nail in root of 24-inch elm tree, marked "935.0".....	935.73
From Prairie Point Church north along road to Linkville, thence west to Park School.	
Prairie Point, 1 mile north of, northeast corner of T road east; copper nail in base of telephone pole, marked "1043.8".....	1,044.56
T. 52 N., R. 33 W., NW. $\frac{1}{4}$ sec. 31, west edge of north-south road, 120 feet north of road east; copper nail in root of 12-inch wild-cherry tree, marked "1014.6".....	1,014.44
T. 52 N., R. 33 W., W. $\frac{1}{2}$ sec. 30, 35 feet southeast of crossroads; iron post stamped "1002 Mo".....	1,001.657
Linkville, 1.6 miles south of, ground at elbow corner of private road west marked "1017".....	1,017.4
Linkville, 0.3 mile south of, 60 feet south of bridge over Second Creek, east edge of road; copper nail in root of 24-inch elm tree, marked "935.2".....	936.05
Linkville, 0.8 mile west of, 360 feet east of east-west road crossing over interurban railway grade, 30 feet west of private road south, south edge of road; iron post stamped "950 Mo".....	950.197
T. 53 N., R. 34 W., quarter corner between secs. 14 and 23, southeast corner of T road south; copper nail in root of 15-inch elm tree, marked "1011.6".....	1,012.43
T. 53 N., R. 34 W., quarter corner between secs. 14 and 15, 800 feet north of, 80 feet west of junction of road on half-section road with road northwest, north edge of road; iron post stamped "935 Mo".....	935.020
Park School, 2.6 miles east of, floor of east end of iron bridge over Todd Creek, marked "907".....	909.0
Park School, 1.8 miles east of, south edge of east-west road; copper nail in root of 24-inch catalpa tree, marked "962.3".....	963.149
Park School, 0.7 mile east of, top of hill opposite Strother Hay's residence, north edge of road; copper nail in root of 10-inch locust tree, marked "991.5".....	992.38
Platte City, 3 miles southeast of, on Liberty wagon road at crossroads, corner opposite Park schoolhouse; iron post stamped "970".....	969.150
From locality near Camden Point south along road and interurban railway to Park School.	
Settles station, 1.2 miles northeast of, 200 feet northeast of crossing of Chicago, Rock Island & Pacific and interurban railway grade; copper nail in root of 30-inch oak tree, marked "801.2".....	800.62
Settles station, 1 mile east of, near quarter corner between secs. 16 and 17, T. 53 N., R. 34 W., 50 feet west of crossing over interurban railway grade; copper nail in root of 36-inch elm tree on south edge of road, marked "786".....	785.40
Platte River, center of interurban bridge over; bolthead marked "790".....	789.4
Platte River, surface of water, July 15, 1912.....	754.3

Platte River bridge, 0.8 mile south of, north end of rock cut, 30 feet east of grade; copper nail in root of 18-inch hackberry tree, marked "805.9"...	Feet. 805.38
T. 53 N., R. 34 W., 50 feet southwest of intersection of interurban railway grade with road on line between secs. 22 and 27; copper nail in root of 12-inch walnut tree, marked "804.8".....	804.24
T. 53 N., R. 34 W., intersection of interurban railway grade with road on line between secs. 22 and 27, 100 feet west of; copper nail in root of 18-inch walnut tree, marked "846.4".....	845.89
Hoover, 1.5 miles west of, 75 feet west of intersection of road on line between secs. 26 and 35, T. 53 N., R. 34 W., with interurban railway grade, north edge of road; copper nail in root of 10-inch maple tree, marked "878.1"...	877.61
T. 52 N., R. 34 W., NW. $\frac{1}{4}$ sec. 2, 700 feet south of road along north line of, 40 feet east of interurban railway grade; copper nail in root of 24-inch oak tree, marked "890.9".....	890.45
T. 52 N., R. 34 W., intersection of road on line between secs. 2 and 11 with interurban railway grade, 260 feet west of, north edge of road; copper nail in root of 24-inch walnut tree, marked "868.9".....	868.46
T. 52 N., R. 34 W., 60 feet northeast of crossroads at corner of secs. 2, 3, 10, and 11; copper nail in root of 10-inch hackberry tree, marked "953.4"...	952.99
T. 52 N., R. 34 W., 150 feet northwest of crossroads at corner of secs. 10, 11, 14, and 15; copper nail in root of 30-inch elm tree, marked "926.4".....	926.05
Park School, 1.8 miles east of, south edge of east-west road; copper nail in root of 24-inch catalpa tree, marked "962.3".....	963.129

Rulo quadrangle.

HOLT COUNTY.

The elevations in the following list were determined by primary-level lines run from Missouri River Commission bench marks and accord with the 1912 adjustment.

The leveling was done by C. P. McKinley in 1911.

RULO QUADRANGLE.

[Latitude 40°-40° 15'; longitude 95° 15'-95° 30'.]

From point 1 mile east of Rulo east along Burlington & Missouri River R. R. to Napier.

Rulo, 1-mile east of railway bridge across Missouri River, railroad spike in whistle post marked "Rulo," 20 feet north of railway, painted "U. S. T. B. M. 894.8".....	Feet. 893.89
Railroad crossing of Burlington & Missouri River R. R., 75 feet north of, 200 feet north of house, 500 feet northwest of forks of road at corner of fence, 20 feet west of road; iron post stamped "857".....	856.266
Fortescue, 500 feet west of station, 60 feet southeast of road crossing, 400 feet west of elevator at west end of switch; iron post stamped "861".....	860.253
Fortescue, 1 mile east of, 6-inch bolt in base of telegraph pole, 60 feet east of north-south fence, 30 feet north of railway; painted "U. S. T. B. M. 854.9".....	853.99
Fortescue, 2 miles east of, 100 feet north of road crossing railway, 300 feet west of house, 75 feet north of railroad bridge $2\frac{1}{2}$, in root of large maple tree; copper nail painted "851".....	850.13
Napier, about 300 feet south of station, 280 feet south of headblock of Burlington & Missouri River and Kansas City, St. Joseph & Council Bluffs Ry. junction, 43 feet east of track of latter railway; iron post (Mo. Riv. Comm. b. m. 304) top of cap.....	850.438

Advance, Bandyville, Cape Girardeau, Condray, Eminence, Grandin, Greenbrier, Hendrickson, Low Wossie, Morley, Puxico, Salem, Sinkin, Steelville, Stone Hill, Sullivan, and Upalika quadrangles.

BOLLINGER, CAPE GIRARDEAU, CARTER, CRAWFORD, DENT, SHANNON, STODDARD, AND WAYNE COUNTIES.

The elevations in the following list were determined by primary leveling and accord with the 1912 adjustment.

The leveling was done in 1914 by E. C. Bibbee.

ADVANCE QUADRANGLE.

[Latitude 37°-37° 15'; longitude 89° 45'-90°.]

From Sturdivant northeast along St. Louis & San Francisco R. R. to Delta.

	Feet.
Sturdivant, 1.86 miles east of, in the south end of first tie on east end of trestle A 162.7; highest point of spike.....	352. 49
Brownwood, 0.71 mile west of, in southeast corner of foundation to water tank; copper nail.....	357. 64
Brownwood, 250 feet east of junction of Bloomfield and Hoxie branches of Frisco Lines, 30 feet south of railroad, 10 feet north of public road, in east end of flower garden; iron post stamped "353 Mo.".....	352. 990
Brownwood, 1.07 miles east of, 90 feet north of railroad, 3 feet south of north fence line of public road, in root of elm tree 18 inches in diameter; copper nail.....	352. 13
Brownwood, 2.07 miles east of, opposite signboard marked "Sta. 1 mi." in base of telegraph pole; rail spike.....	351. 20
Advance, in the southwest corner of schoolhouse yard; iron post stamped "361 Mo.".....	361. 187
Advance, 1.01 miles east of, 55 feet north of railroad, 5 feet north of railroad right of way, in county road, in root of maple tree 3½ feet in diameter; copper nail.....	357. 86
Advance, 2.07 miles east of, 54 feet south of railroad, 4 feet south of railroad right of way, in root of white-oak tree; copper nail.....	346. 38
Advance, 2.81 miles east of, 51 feet north of railroad, 1 foot north of railroad right of way, on Cape Girardeau-Stoddard County line; iron post stamped "347 Mo.".....	347. 543
Green Cox, 0.78 mile west of, in south end of first tie on west end of trestle A 154.1; highest point of drift spike head.....	337. 57
Green Cox, 90 feet south of railroad, at the northwest corner of Green Cox garden; iron post stamped "336 Mo.".....	335. 787
Green Cox, 0.91 mile east of, on west end of trestle A 152.3, in south end of first tie; highest point of drift spike head.....	331. 20
Arbor, 0.77 mile west of, 45 feet north of railroad, on railroad right of way line, in root of sweet-gum tree 3½ feet in diameter; copper nail.....	332. 71
Arbor station, 80 feet east of post office, 52 feet north of railroad, in the southeast corner of L. Penny's yard; iron post stamped "340 Mo.".....	340. 546
Cliff station, 40 feet south of railroad, 25 feet east of public road, opposite trestle A 149.7, in root of walnut tree; copper nail.....	338. 45
Delta, 2.60 miles west of, 52 feet south of railroad, 65 feet west of public road, opposite station sign "1 mile," in root of elm tree; copper nail....	338. 67
Delta, 1.68 miles west of, on west end of trestle A 147.8, in the south end of first tie; highest point on drift spike.....	343. 18
Delta, 0.94 mile west of, in northwest corner of retaining wall, at east end of railroad bridge over White Water River; chiseled square.....	347. 29

BANDYVILLE QUADRANGLE.

[Latitude 36° 45'-37°; longitude 91° 15'-91° 30'.]

From Birch Tree east along St. Louis & San Francisco R. R. to Bartlett.

Birch Tree, 75 feet south of railroad, at the northeast corner of small park; iron post stamped "989 Mo."	Feet. 990.284
Birch Tree, in front of station; top of rail.....	989
Birch Tree, 0.74 mile east of, on St. Louis & San Francisco R. R., in the southeast corner of trestle 3220, on first driftbolt head; highest point....	1,027.70
Birch Tree, 1.86 miles east of, 500 feet east of milepost marked "323," on the northeast corner of north end of stone box culvert; chiseled square...	1,055.63
Birch Tree, 2.63 miles east of, 100 feet east of milepost marked "324.25," in cultivated field, 35 feet south of railroad, 14 feet west of public road; iron post stamped "1015 Mo."	1,016.439
Birch Tree, 3.22 miles east of, 60 feet south of railroad at railroad crossing, in root of black-oak tree; copper nail.....	1,032.54
Bartlett, 0.43 mile west of, in base of second telegraph pole east of pole marked "326.15"; rail spike.....	1,042.75

From Winona southeast along St. Louis & San Francisco R. R. to Low Wossie.

Winona, 0.97 mile east of, 60 feet south of railroad, 7 feet south of north line of public road, opposite residence of E. K. Palmer, in root of black-oak tree 2 feet in diameter; copper nail.....	903.76
Winona, 1.94 miles east of, on north side of railroad, 100 feet west of second-class crossing, in base of telegraph pole; rail spike.....	874.15
Winona, 3.06 miles east of, 210 feet east of milepost 335, on south end of stone box culvert; chiseled square.....	854.94
Low Wossie, 0.79 mile west of, in top of brace at south end of bent 4, trestle 336.2, at railroad crossing under trestle; copper nail.....	829.88

CAPE GIRARDEAU QUADRANGLE.

[Latitude 37° 15'-37° 30'; longitude 89° 30'-89° 45'.]

From Ranney east along St. Louis & San Francisco R. R. to Cape Girardeau.

Ranney, 0.95 mile east of, 50 feet south of railroad, on railroad right of way, in root of elm tree; copper nail.....	341.09
Ranney, 1.79 miles east of, at Rock Levee switch, 25 feet south of railroad, 15 feet west of pike, at railroad crossing, in root of oak tree; copper nail....	345.98
Gulf Junction, 0.60 mile west of, 15 feet north of railroad, on west line of public road, on north end of tile drain under railroad; highest point	341.08
Gulf Junction station, 450 feet east of, 80 feet south of railroad, 20 feet east of private road, 1 foot west of fence; iron post stamped "346 Mo."	346.671
Cape Girardeau, 1.17 miles south of St. Louis & San Francisco R. R. station, at the southeast corner of South Fountain and Elm streets, at north entrance of R. B. Andrews's general store, east end of first step from bottom; chiseled square.....	351.71
Cape Girardeau, on Water Street, second entrance from the north to Marble City Hotel (now River View Hotel), in the outer vertical face of stone step which extends under buttress at the northeast corner; horizontal copper bolt (U. S. C. E. p. b. m. 54).....	346.676

CONDRAV QUADRANGLE.

[Latitude 37° 45'-38°; longitude 91° 30'-91° 45'.]

At Bangert.

Bangert station, at Winkler Branch, 120 feet east of railroad, 25 feet north-east of A. J. Brown's residence, 1 foot north of yard fence, in top of sandstone rock 7 by 7 by 26 inches, set 3 inches underground; bronze tablet stamped "1229 Mo."	Feet. 1, 229. 286
Bangert, in front of station; top of rail.....	1, 225. 2
Bangert station, 1 mile south of, 300 feet south of milepost 118, 20 feet west of railroad, on large flint rock; highest point.....	1, 233. 32

EMINENCE QUADRANGLE.

[Latitude 37°-37° 15'; longitude 91° 15'-91° 30'.]

From point 4.5 miles north of Angeline south along highway and Salem, Winona & Southern R. R. to Winona.

Angeline, 4.50 miles north of, 10 feet southeast of public road, 100 feet east of old railroad, in root of black-oak tree 22 inches in diameter; iron spike.	879. 30
Angeline, 3.47 miles north of, 500 feet north of junction of Ink-Eminence and Salem-Eminence roads, 50 feet west of railroad, in open field, on bluff, in limestone ledge, on edge; bronze tablet stamped "1028 Mo." ..	1, 028. 180
Angeline, 2.34 miles north of, 40 feet west of railroad, 25 feet south of second-class road to trail leading to Daniel Young's residence, on ledge of limestone rock; chiseled square.....	886. 72
Angeline, 1.70 miles north of, in west end of north header to small trestle 20 feet west of public road, where road leaves railroad; rail spike.....	839. 16
Angeline, 0.88 mile north of, 20 feet west of railroad, 2 feet west of wagon road, in top of white-oak stump; rail spike.....	786. 32
Angeline, 800 feet north of post office, 275 feet north of Horse Hollow station, 105 feet east of railroad, 1 foot west of fence, on south side of public road; iron post stamped "736 Mo.".....	735. 691
Angeline, 0.40 mile south of, 100 feet north of east branch of railroad, in the northwest corner of foundation of old water tank; copper nail.....	713. 30
Angeline, 1.40 miles south of, 70 feet north of railroad crossing, 4 feet east of east rail, on sandstone ledge; chiseled square.....	674. 85
Angeline, 2.27 miles south of, 25 feet south of railroad, 4 feet south of public road, at ford across Jacks Fork, in root of walnut tree; copper nail.....	651. 00
West Eminence, 2.03 miles north of, 25 feet west of railroad, 20 feet east of public road, 100 feet southeast of ford on Jacks Fork, about 400 feet north of switch; iron post stamped "645 Mo.".....	644. 896
West Eminence, 0.88 mile north of, about 100 feet northwest of railroad bridge over Jacks Fork, 10 feet north of public road, in root of white-oak tree 2 feet in diameter; copper nail.....	637. 35
West Eminence, 85 feet, east of railroad, 200 feet north of station, on north property line of road, opposite Missouri Lumber & Mining Co.'s drug store; iron post stamped "643 Mo."	643. 444
West Eminence, in front of station; top of rail.....	646. 3
West Eminence, 0.85 mile south of, in the east end of north header at small trestle; highest point of $\frac{3}{4}$ -inch iron bar.....	658. 77
West Eminence, 1.77 miles south of, 7 feet south of south rail, 100 feet north of old railroad crossing, 15 feet east of private crossing, in top of mulberry stump; rail spike.....	675. 81

West Eminence, 2.23 miles south of, 25 feet east of railroad, 25 feet south of public road, 40 feet east of forks of road, 2 feet east of railroad right of way, 2 feet north of fence; iron post stamped "694 Mo.".....	Feet. 694. 357
Delaware, 0.54 mile north of, 65 feet west of railroad, at railroad crossing, 25 feet south of public road, on property line, in root of black-oak tree; copper nail.....	707. 32
Delaware, in front of station platform; top of rail.....	717. 5
Delaware station, directly opposite platform, in south end of stringer to cattle guard, 30 feet south of public road; copper nail.....	716. 60
Delaware, 1.05 miles south of, 20 feet east of railroad, on large boulder, 900 feet north of milepost marked "8;" chiseled square.....	747. 53
Delaware, 1.70 miles south of, 40 feet south of railroad, 2 feet north of south fence line, in public road at crossing; iron post stamped "763 Mo."....	763. 425
Burkhart, 1.24 miles north of, at railroad crossing, in north end of west stringer of south cattle guard; copper nail.....	799. 47
Burkhart, 0.50 mile north of, in south end of west stringer to trestle 14; copper nail.....	825. 28
Burkhart, in front of station; top of rail.....	842. 1
Burkhart station, 0.38 mile south of, 25 feet east of railroad, on south side of private lane leading to Silas Bradley's residence, about 100 feet west of second-class road; iron post stamped "856 Mo.".....	855. 832
Burkhart station, 1.42 miles south of, 35 feet west of railroad, on inside of large curve, in root of lone pine tree; copper nail.....	905. 10
Burkhart station, 2.36 miles south of, 40 feet east of railroad, 100 feet south of second-class road crossing, in root of white-oak tree; copper nail.....	962. 03
Winona Junction, 1.02 miles north of, 40 feet west of railroad, 100 feet north of switch, in root of black-oak tree; copper nail.....	1,057. 46
Winona Junction, 260 feet north of, 2 feet north of south line of county road, 25 feet west of railroad; iron post stamped "983 Mo.".....	982. 933
Winona Junction, opposite telephone station on Salem, Winona & Southern R. R.....	983. 7
Winona, 1.38 miles west of, at southeast corner of trestle 3305, in south end of first bent; highest point of driftbolt head.....	953. 24
Winona, 0.68 mile west of, 3 feet south of south rail, on sandstone ledge, in small cut; chiseled square.....	933. 62
Winona, 200 feet north of station, at the northeast corner of street corner; iron post stamped "911 Mo.".....	911. 428
From point 3.47 miles north of Angeline along highways east and south via Shawnee to Winona.	
Angeline, about 3 miles north of, 100 feet east of W. R. Crisco's residence, in root of old stump at Y road; nail head.....	1,152. 06
Angeline, about 3.5 miles north of, 20 feet north of public road, at old trail, in root of hickory tree 14 inches in diameter; nail head.....	1,136. 84
Angeline, 4 miles east of, in forks of road, on ridge, in root of pin-oak tree; nail head.....	1,035. 92
Angeline, 4.5 miles east of, directly opposite residence of L. C. Culpepper, 180 feet north of road, in cliff; bronze tablet stamped "762 Mo.".....	762. 487
Angeline, 5.5 miles east of, about 0.45 mile west of Powell's sawmill, on the north side of road, at spring, in root of pine tree 2 feet in diameter; nail head.....	694. 80
Angeline, 5.9 miles east of, about 100 feet west of Powell's sawmill, in county road, on west side of road, in root of white-oak tree; nail head...	668. 32

Shawnee, 10.20 miles north of, on Suttons Creek, 170 feet north of lane leading to Ed. Griggs's residence, 25 feet north of county road, in cliff; bronze tablet stamped "617 Mo.".....	Feet. 616. 834.
Shawnee, 9.06 miles north of, at W. R. Powell's ford, on Current River, 7 feet west of road, in root of black-oak tree; nail head.....	598. 90
Shawnee, 7.84 miles north of, on west bank of Current River, at West's ford, in root of elm tree; copper nail.....	584. 69
Shawnee, 7.28 miles north of, at Thompsons Creek ford, on Current River, on north side of ford, in root of maple tree; copper nail.....	579. 93
Shawnee, 6.84 miles north of, 545 feet east of junction of Jacks Fork and Current River, in center of county road, in root of maple tree; copper nail.....	585. 61
Shawnee, 5.80 miles north of, on Jacks Fork, 150 feet above and on north side of creek, at first ford from mouth, in limestone cliff; bronze tablet stamped "587 Mo.".....	586. 819
Shawnee, 4.74 miles north of, at ford across Jacks Fork, 300 feet south of mouth of Shawnee Creek, in root of birch tree, on east side of road; copper nail.....	591. 86
Shawnee, 2.90 miles north of, at the north side of C. E. Love's residence, in southwest corner of foundation of porch; bronze tablet stamped "666 Mo.".....	665. 824
Shawnee, 1.93 miles north of, at T road north, 600 feet south of Ephriam Dillard's residence, in root of hickory tree; copper nail.....	686. 31
Shawnee, 0.78 mile south of, on north side of road, directly opposite barn, 1 foot south of fence, 160 feet south of J. C. McCall's residence, at Y road, on limestone ledge; chiseled square.....	754. 31
Shawnee, directly opposite, in cultivated field, 2 feet south of fence; iron post stamped "Prim. Trav. Sta. No. 51" and marked "830 Mo.".....	830. 091
Shawnee, 0.98 mile south of, 100 feet south of Reed's schoolhouse, in schoolhouse yard, in root of black-oak tree; copper nail.....	814. 68
Flip post office, 0.79 mile north of, 200 feet south of divide on hill, 20 feet west of road, in root of black-oak tree; copper nail.....	924. 25
Flip post office, in foundation at the southwest corner of building; bronze tablet stamped "860 Mo.".....	859. 629
Flip post office, 0.9 mile south of, 300 feet west of Sam Shoemaker's residence, in center of public road, at right-angle turn, on sandstone ledge; chiseled square.....	877. 69
Winona, 6.04 miles north of, 25 feet east of public road, in barn lot property of E. M. Thomason, in large limestone rock; bronze tablet stamped "932 Mo.".....	932. 483
Winona, 4.82 miles north of, on top of divide, 10 feet east of public road, in root of black-oak tree; copper nail.....	1, 072. 13
Winona, 4.14 miles north of, 14 feet east of forks of road, in root of black-oak tree holding signboard marked "Low Wassie 1 mile, Winona 4 miles"; copper nail.....	982. 13
Winona, 2.93 miles northeast of, about 500 feet northeast of R. L. Norton's residence, in forks of road, in large limestone rock; bronze tablet stamped "922 Mo.".....	922. 056
Winona, 2 miles north of, on top of hill, 5 feet east of public road, in root of pine tree 18 inches in diameter; copper nail.....	1, 108. 44
Winona, 0.93 mile north of, 25 feet east of public road, in root of black-oak tree; copper nail.....	961. 13
Winona, 200 feet north of railroad, at station, at the northeast corner of street corner; iron post stamped "911".....	911. 428

From Angeline along highway northwest to point near Ink, thence south to Alley, thence east to point 2.27 miles south of Angeline.

Angeline, 1.11 miles north of, on west branch of Log R. R., 1,000 feet north of milepost 20, 7 feet east of railroad, in root of hickory tree 20 inches in diameter; rail spike.....	Feet. 773.12
Angeline, 1.83 miles northwest of, on Angeline-Ink road, 20 feet north of railroad, 15 feet northeast of public road, 1 foot south of telephone pole, on sandstone rock; chiseled square.....	821.45
Angeline, 2.92 miles northwest of, on west branch of Log R. R., 275 feet west of milepost 22, 25 feet north of railroad, in root of white-oak tree 18 inches in diameter; rail spike.....	894.59
Angeline, 5.83 miles northwest of, on west branch of Log R. R., 100 feet north of milepost 23, 9 feet east of railroad, on top of large sandstone rock; chiseled square.....	995.74
Ink, about 2 miles east of, on west branch of Log R. R., where county road crosses railroad, 70 feet north of railroad, 50 feet east of public road, at the southwest corner of garden; iron post stamped "1145 Mo.".....	1,145.055
Alley, 6.37 miles north of, on east side of public road, in root of black-oak tree; copper nail.....	1,105.87
Alley, 5.46 miles north of, 600 feet south of Green Conon's residence, on east side of public road, in top of pine stump; rail spike.....	1,083.28
Alley, 4.46 miles north of, at foot of large hill on south side of public road, where road crosses old Tram R. R., on east side of Tram on sandstone rock; chiseled square.....	887.75
Alley, 3.64 miles north of, 25 feet east of public road, 1,500 feet north of trail or second-class road, opposite old cabin, in sandstone ledge; bronze tablet stamped "828 Mo.".....	828.187
Alley, 2.53 miles north of, 6 feet west of public road, in root of black-oak tree; copper nail.....	772.26
Alley, 1.75 miles north of, 90 feet south of junction of Summerville-Alley and Ink-Alley roads, in root of white-oak tree; copper nail.....	737.14
Alley, 0.62 mile north of, 150 feet north of Link Barton's residence, 20 feet west of public road, in root of black-oak tree; copper nail.....	705.18
Alley, 300 feet east of post office, 100 feet north of flour mill, 25 feet east of public road, in ledge of rocks; bronze tablet, stamped "675 Mo.".....	675.303
Alley, 1.18 miles east of, 60 feet south of junction of old and new roads, on fence line, in root of white-oak tree 2-feet in diameter; copper nail.....	656.95

From Alley southwest along highways to Birch Tree.

Alley, 1.13 miles west of, on birch tree road, 25 feet southwest of blacksmith shop, 300 feet west of A. G. Drewell's residence, in root of walnut tree; copper nail.....	688.42
Alley, 2.25 miles south of, on Birch Tree road, 20 feet west of road, in root of white-oak tree 1 foot in diameter; copper nail.....	782.20
Alley, 3.43 miles south of, at K. Honeycutt's residence, in large stone chimney foundation; bronze tablet stamped "1020 Mo.".....	1,020.241
Birch Tree, 9.94 miles north of, on ridge road, 0.96 mile south of K. Honeycutt's residence, 8 feet west of road, 25 feet south of yard, in top of pine stump; copper nail.....	1,050.67
Birch Tree, 9.2 miles north of, 1.7 miles south of K. Honeycutt's residence, on ridge road, 7 feet west of road, in root of white-oak tree; nail head....	1,033.26
Birch Tree, 8 miles north of, 2.9 miles south of K. Honeycutt's residence, on ridge road, 15 feet west of public road, in root of black-oak tree; copper nail.....	1,052.47

	Feet.
Birch Tree, 7.16 miles north of, 3.74 miles south of, K. Honeycutt's residence, in forks of road, on ridge road; iron post stamped "1077 Mo." . . .	1, 076. 618
Birch Tree, 6.22 miles north of, 1.67 miles north of William Larew's residence, on ridge road, 3 feet east of road, in root of black-oak tree; copper nail. .	1, 095. 92
Birch Tree, 5.26 miles north of, 0.72 mile north of William Larew's residence, on ridge road, on west side of road, in root of black-oak tree; copper nail. .	1, 129. 53
Birch Tree, 4.54 miles north of, in the southwest corner of William Larew's front yard, 14 inches from corner fence post, in flint rock 10 by 8 by 22 inches set in ground flush with surface; bronze tablet stamped "1120 Mo."	1, 120. 208
Birch Tree, 3.50 miles north of, on New Cut road, 1.04 miles south of William Larew's residence, near the west fence line, in root of black-oak tree 14 inches in diameter; copper nail.	1, 074. 63
Birch Tree, 2.50 miles north of, on north side of old ridge road, 1 foot north of road, in top of white-oak stump; copper nail.	1, 073. 09
Birch Tree, 1.81 miles north of, at the southwest corner of T road west, in root of white-oak tree; copper nail.	1, 166. 50
Birch Tree, 0.82 mile north of, at southwest corner of crossroads, in corner fence post; highest point of rail spike	1, 041. 64
Bartlett, about 300 feet east of post office, 2 feet south of fence; iron post stamped "Prim. Trav. Sta. No. 51, 1045 U. S."	1, 046. 275
Bartlett, 1,060 feet east of post office, about 1,000 feet south of schoolhouse, at the southwest corner of T road north; iron post stamped "1039 Mo." . .	1, 040. 458
Bartlett, 0.81 mile east of, 80 feet north of railroad, on north side of public road, at railroad crossing, in root of oak tree; rail spike.	1, 070. 56
Winona Junction, 0.93 mile west of, on west abutment north side of bridge 3285; chiseled square.	1, 024. 34

GRANDIN QUADRANGLE.

[Latitude 36° 45'-37°; longitude 90° 45'-91°.]

From Van Buren southeast along St. Louis & San Francisco R. R. to Hunter, thence northeast along same railroad to point 2.34 miles east of Grandin Junction.

Van Buren, in the southwest corner of courthouse yard; iron post stamped "475 Mo."	474. 867
Chicopee station, 100 feet east of, 5 feet south of south rail, on west abutment south side of small bridge; chiseled square.	470. 57
Chicopee, 0.61 mile east of, on west end of trestle 3554, in south end of first railroad tie; track spike.	460. 95
Chicopee, 1.91 miles east of, 70 feet west of milepost marked "356.25," 8 feet south of railroad, 80 feet south of public road, on sandstone ledge; chiseled square.	459. 75
Chicopee, 3.09 miles east of, 5 feet north of railroad, directly opposite milepost 358, in ledge of rock; chiseled square.	456. 784
Short, 0.18 mile west of, about 0.25 mile northwest of big spring, 50 feet south of railroad, 1 foot west of fence, in public road at railroad crossing; iron post stamped "459 Mo."	459. 180
Short, 0.15 mile east of, at bridge 3587, on west abutment south side; chiseled square.	451. 07
Short, 1.12 miles east of, two telegraph poles west of pole 369.25, at east end of cut through cliff, 8 feet south of railroad, on large flint rock; chiseled square.	448. 42
Chilton, 1.71 miles west of, 400 feet east of trestle 360.7, 10 feet south of railroad, on large sand rock; chiseled square.	443. 38

	Feet.
Chilton, 0.9 mile west of, first driftbolt in the southeast corner of trestle 3616; highest point.....	439. 80
Chilton, 250 feet south of post office, 195 feet north of railroad, 12 feet west of W. H. Todd's residence, in cliff of rock; bronze tablet stamped "444 Mo.".....	444. 642
Chilton, 1.14 miles east of, 8 feet north of railroad, opposite the second telegraph pole east of pole marked "363.15," on sandstone ledge; chiseled square.....	434. 69
Chilton, 2.25 miles east of, 175 feet west of Ray's spur, 55 feet north of railroad, in root of black-oak tree; copper nail.....	438. 78
Chilton, 2.91 miles east of, 350 feet east of railroad crossing, 11 feet north of railroad, 100 feet north of public road, at east end of railroad cut, in ledge of rock; bronze tablet stamped "471 Mo.".....	471. 034
Hunter, 2.75 miles west of, directly opposite telegraph pole marked "366.10," 8 feet south of railroad, in cut on ledge of rock; chiseled square.....	543. 09
Hunter, 1.81 miles west of, 12 feet north of railroad, opposite third telegraph pole west of pole marked "367.10," on sandstone ledge; chiseled square..	641. 78
Hunter, 0.5 mile north of, 100 feet west of railroad, 2 feet south of north line of public road; iron post stamped "735 Mo.".....	735. 159
Hunter, 0.96 mile east of, at the east end of trestle 223.6, in the north end of first tie; highest point of spike.....	771. 22
Hunter, 1.84 miles east of, in southeast corner of foundation to water tank, 8 feet north of railroad; copper nail.....	802. 80
Grandin Junction, 0.43 mile west of, opposite point where Old Grandin tram road crosses railroad, in base of telegraph brace; rail spike.....	868. 69
Grandin Junction, 80 feet south of railroad, 20 feet south of public road; iron post stamped "876 Mo.".....	875. 849
Grandin Junction, 0.9 mile east of, 12 feet north of railroad, at east end of large pond, on large granite rock; chiseled square.....	873. 09
Grandin Junction, 2.34 miles east of, 80 feet north of railroad, 25 feet north of public road, in root of black-oak tree; copper nail.....	831. 47

GREENBRIER QUADRANGLE.

[Latitude 37°-37° 15'; longitude 90°-90° 15'.]

From Idlewild northeast along St. Louis & San Francisco R. R. to Sturdivant.

Idlewild, in front of station; top of rail.....	346. 6
Idlewild, 60 feet south of railroad, 20 feet west of northwest corner of George Elder's general store, in root of hickory tree; copper nail.....	350. 61
Idlewild, 0.74 mile east of, in the north end of first tie on west end of trestle A 169.7; drift spike head.....	346. 88
Kinder, in the northwest corner of schoolhouse yard, 53 feet south of railroad, 3 feet south of railroad right of way, about 150 feet east of post office; iron post stamped "342 Mo.".....	342. 536
Kinder, 0.89 mile east of, 57 feet south of railroad, 50 feet east of public road, 7 feet south of railroad right of way, in root of ash tree 2 feet in diameter; copper nail.....	342. 89
Eagelette, 0.78 mile west of, at railroad crossing, 52 feet south of railroad, 2 feet south of right of way line, in public road, in root of black-oak tree; copper nail.....	342. 43
Eagelette, 52 feet south of railroad, 2 feet south of railroad right of way, 15 feet west of public road; iron post stamped "346 Mo.".....	345. 732
Sturdivant, 0.93 mile west of, 50 feet south of railroad, opposite signpost marked "Station 1 mile," in root of black-oak tree; copper nail.....	345. 29

Sturdivant, 500 feet west of station, 52 feet north of railroad, 2 feet west of east line of public road, at the southwest corner of James M. Phelps's yard; iron post stamped "349 Mo.".....	Feet. 349. 238
Sturdivant, in front of station; top of rail.....	350. 6
Sturdivant, 0.95 mile east of, in cow yard at Homer McCledden's residence, 55 feet north of railroad, 5 feet north of railroad right of way, in root of black-oak tree; copper nail.....	351. 41

HENDRICKSON QUADRANGLE.

[Latitude 36° 45'-37°; longitude 90° 15'-90° 30'.]

From point 2.2 miles northeast of Williamsville east along St. Louis & San Francisco R. R. to Wappapello.

Williamsville, 3.39 miles east of, 50 feet south of railroad, opposite milepost B 198, in root of black-oak tree; copper nail.....	483. 68
Williamsville, 3.59 miles east of, 5½ telegraph-pole spaces east of milepost B198, 60 feet east of Stevenson's flag stop, 53 feet north of railroad, 3 feet north by 3 feet east of east gatepost, at lane leading to old sawmill, in sandstone rock 6 by 10 by 18 inches set with top 14 inches underground; bronze tablet stamped "465 Mo.".....	464. 781
Williamsville, 4.24 miles east of, 20 feet east of public road at crossing, at trestle B 198.2, in south end of east tie 1 inch above tie; highest point on driftbolt head.....	429. 08
Taskee, 1.53 miles west of, in base of fourth telegraph pole west of milepost B 197; rail spike.....	410. 17
Taskee, 1.16 miles west of, 15 feet north of the northeast corner of Clear Springs schoolhouse, 2 feet south of fence; iron post stamped "404 Mo."..	403. 797
Taskee, 100 feet north of railroad, in southeast corner of Charles Morgan's yard, about 100 feet south of post office; iron post stamped "394 Mo."..	394. 005
Taskee, 1.04 miles east of, at the west end of trestle B 194.7, in north end of first bent; highest point of driftpin.....	378. 48
Taskee, 1.95 miles east of, directly opposite fifth telegraph pole east of milepost B 194, 5 feet south of railroad, on ledge of rocks; chiseled square....	374. 35
Ojibway, 0.54 mile west of, on west end of trestle B 193.0, in south end of first tie; highest point of driftbolt.....	366. 42
Ojibway, 52 feet south of railroad, 2 feet south of fence, 25 feet east of post office, in northwest corner of cultivated field; iron post stamped "365 Mo.".....	364. 891
Ojibway, 1.05 miles east of, 260 feet west of bridge B 191.4, 50 feet south of railroad, in root of sugar-maple tree 2 feet in diameter; copper nail.....	359. 19
Ojibway, 2.02 miles east of, in base of second telegraph pole east of trestle B 190.4; rail spike.....	364. 58
Chaonia, 0.78 mile west of, 6 feet east of railroad, 200 feet north of bridge 189.2, on ledge of rocks in cut; chiseled square.....	366. 06
Chaonia, 65 feet north of railroad, 50 feet east of Chaonia State Bank, at the southwest corner of Dr. O. W. Holt's yard; iron post stamped "363 Mo.".....	363. 011
Chaonia, 0.83 mile east of, 40 feet south of railroad, opposite west end of trestle B 187.5, in root of black-gum tree; copper nail.....	358. 12
Chaonia, 2 miles east of, in west end of trestle B 186.4, in north end of first tie; highest point on driftbolt.....	359. 57
Chaonia, 2.86 miles east of, north side of bridge over St. Francis River, on concrete footer on east abutment; chiseled square.....	354. 36

Chaonia, 3.64 miles east of, 0.77 mile east of railroad bridge over St. Francis River, 60 feet south of railroad, 25 feet east of public road; iron post stamped "352 Mo."	352. 574
Wappapello, 1.56 miles west of, 400 feet west of bridge 183.5, 10 feet south of railroad, in post; rail spike	355. 73
Wappapello, 0.73 mile west of, 80 feet west of railroad crossing, 50 feet south of railroad, on railroad right-of-way line, in root of maple tree; copper nail	348. 94
Wappapello, 200 feet west of station, 75 feet south of railroad, 25 feet west of public road, 3 feet south of telephone pole; iron post stamped "350 Mo."	350. 057

LOW WOSSIE QUADRANGLE.

[Latitude 36° 45'-37"; longitude 91°-91° 15'.]

From Low Wossie east along St. Louis & San Francisco R. R. to Van Buren.

Low Wossie, about 600 feet west of post office, opposite T road west, 2 feet west of fence; iron post stamped "Prim. Trav. Sta. No. 52, El. 809 Mo." ..	809. 050
Low Wossie, 1.05 miles east of, 90 feet north of railroad, directly opposite railroad crossing under trestle, on north property line of county road, in root of black-oak tree; copper nail	782. 08
Low Wossie, 1.90 miles east of, in south end of west header at trestle 338.8; copper nail	760. 05
Low Wossie, 2.60 miles east of, on inside of track along north rail at railroad crossing, in west end of crossing plank; spike	749. 40
Low Wossie, 4 miles east of, 2.94 miles west of Fremont, 300 feet west of T road north, 40 feet north of railroad, in public road, at railroad crossing, 60 feet west of milepost 341; iron post stamped "735 Mo."	735. 641
Fremont, 1.71 miles west of, 25 feet south of railroad, opposite second telegraph pole west of pole marked "342.10"; highest point on large flint rock	748. 34
Fremont, 0.83 mile west of, 200 feet east of milepost marked "343," on northeast corner of north end of stone box culvert; chiseled square	669. 47
Fremont, in east end of doorsill at entrance to Fremont State Bank; bronze tablet stamped "621 Mo."	621. 378
Fremont, 0.94 mile east of, 25 feet west of railroad crossing, 100 feet south of T-road fork south, in west abutment north side of small bridge; chiseled square	593. 96
Fremont, 2.02 miles east of, 60 feet north of railroad, at railroad crossing, in top of large gatepost; rail spike	575. 79
Fremont, 3.01 miles east of, 200 feet west of private crossing, four telegraph poles west of milepost 347, in base of telegraph pole; rail spike ..	563. 40
Cummings, 2.50 miles west of, 25 feet north of public road, 70 feet southwest of George Whittiger's residence, 300 feet southwest of iron bridge; iron post stamped "562 Mo."	562. 306
Cummings, 1.41 miles west of, 8 feet north of railroad, 75 feet north of public road, at west end of large cut in limestone ledge; chiseled square ..	572. 17
Cummings, 0.84 mile west of, 60 feet west of railroad, 5 feet south of railroad right of way, 100 feet southeast of crossing, in root of hickory tree; copper nail	537. 72
Cummings, 100 feet east of S. D. McSpaden's general store, 7 feet east of southeast corner of ice house, 25 feet north of public road, in cliff; bronze tablet stamped "520 Mo."	520. 405
Cummings, 0.94 mile east of, opposite railroad crossing, in base of telegraph pole; rail spike	499. 314

Cummings, 2.09 miles east of, 55 feet north of railroad, 10 feet north of public road, 100 feet west of milepost 352, in root of elm tree; copper nail.....	Feet. 481. 60
Cummings, 3.03 miles east of, 1.87 miles west of Van Buren, 250 feet west of railroad, 80 feet east of forks of road, 2 feet south of north line of fence; iron post stamped "470 Mo.".....	470. 515
Van Buren, 0.98 mile west of, 70 feet west of crossing under trestle, on west abutment north side of iron bridge; chiseled square.....	467. 68

MORLEY QUADRANGLE.

[Latitude 37°-37° 15'; longitude 89° 30'-89° 45'.]

From Delta northeast along St. Louis & San Francisco R. R. to Ranney.

Delta, 200 feet east of St. Louis & San Francisco and Iron Mountain railroad crossing, 35 feet north of railroad, in the east end of hotel yard; iron post stamped "337 Mo.".....	336. 779
Delta, 0.7 mile east of, on east end of trestle A 145.3, in west end of first tie; driftspike head.....	337. 37
Sharpsboro, 600 feet east of, 51 feet south of railroad, 25 feet west of public road; iron post stamped "333 Mo.".....	333. 109
Blomeyer, 1.97 miles west of, in base of signpost marked "Sta. 1 mile"; rail spike.....	334. 59
Blomeyer, 0.82 mile west of, in base of fifth telegraph pole east of signpost marked "Sta. 1 mile"; highest point of rail spike.....	337. 39
Blomeyer, 300 feet east of, 55 feet north of railroad, 20 feet west of public road, in corner of cultivated field, near old house; iron post stamped "336 Mo.".....	336. 745
Blomeyer, 1.12 miles east of, in base of third telegraph pole east of signpost marked "Sta. 1 mile"; highest point of rail spike.....	333. 12
Nash, 0.84 mile west of, 60 feet north of railroad, 10 feet north of railroad right of way, 50 feet west of second-class crossing, in root of sweet-gum tree; copper nail.....	334. 80
Nash, 70 feet south of railroad, 2 feet south of railroad right of way, in pasture field; iron post stamped "334 Mo.".....	334. 159
Nash, 1.18 miles east of, 300 feet west of milepost 138, 4 feet south of railroad right of way, in root of large elm tree; copper nail.....	334. 10
Ranne, 100 feet north of railroad, 25 feet north of private road, 2 feet south of fence; iron post stamped "337 Mo.".....	337. 352

PUXICO QUADRANGLE.

[Latitude 36° 45'-37°; longitude 90°-90° 15'.]

From Wappapello northeast along St. Louis & San Francisco R. R. to Idlewild.

Wappapello, 1.12 miles east of, directly opposite trestle B 180.9, at the northwest corner of T road north, in root of white-oak tree; copper nail..	341. 91
Wappapello, 2.18 miles east of, in east end of inside girder at the southeast corner of trestle 179.9; driftbolt head.....	345. 26
Mingo, 0.63 mile west of, in west end of foundation to water tank; copper nail.....	345. 51
Mingo station, 53 feet south of railroad, 3 feet south of railroad right of way, 25 feet west of public road; iron post stamped "345 Mo.".....	344. 725
Mingo, 0.96 mile east of, at first railroad crossing, 52 feet south of railroad, 2 feet south of railroad property line, in root of dogwood tree; copper nail..	351. 08

Puxico, 0.69 mile west of, at first railroad crossing, 60 feet south of railroad, on east line of public road, on bank of small creek, in root of hickory tree 10 inches in diameter; copper nail	Feet. 358. 85
Puxico, in the southwest corner of city park, 100 feet south of railroad, 2 feet east of street line; iron post stamped "370 Mo."	370. 403
Puxico, 1.18 miles east of, 80 feet south of railroad, 20 feet south of public road, 700 feet east of signpost marked "Sta. 1 mile," in root of sugar-maple tree; copper nail	357. 66
Puxico, 2.14 miles east of, large flat rock, 10 feet north of railroad, 4 feet east of second-class railroad crossing; highest point	346. 28
Puxico, 2.8 miles east of, 7 feet south of railroad, directly opposite George Kitchen's residence, on ledge of rocks; chiseled square	346. 15
Puxico, 3.78 miles east of, at Hickman switch, 100 feet east of railroad crossing, 51 feet south of railroad, 1 foot south of fence, on railroad right of way; iron post stamped "351 Mo."	350. 733

SALEM QUADRANGLE.

[Latitude 37° 30'-37° 45'; longitude 91° 30'-91° 45'.]

From Bangert south along St. Louis & San Francisco R. R. to Salem, thence southeast along highway 3 miles.

Earls station, 50 feet west of, 10 feet west of public road, on railroad right of way, in root of black-oak tree; copper nail	1, 237. 05
Earls station, 1.16 miles south of, in base of milepost marked "St. Louis 120 miles"; track spike	1, 203. 09
Earls, 1.52 miles south of, 0.36 mile south of milepost marked "St. Louis 120 miles," on west side of railroad, in stone box culvert; bronze tablet stamped "1190 Mo."	1, 190. 139
Howes station, 0.19 mile north of, 310 feet north of railroad crossing, 6 feet east of east rail, on sandstone ledge; chiseled square, marked "U. S. G. S. B. M."	1, 244. 23
Howes, in front of station; top of rail	1, 257. 7
Howes, 0.55 mile south of, 75 feet east of railroad, 150 feet north of crossing, in root of black-oak tree; copper nail	1, 273. 26
Howes, 1.3 miles south of, 60 feet north of milepost marked "St. Louis 123 miles," 6 feet west of west rail, on sandstone ledge; chiseled square . . .	1, 248. 77
Howes, 2.01 miles south of, 300 feet south of milepost marked "St. Louis 124 miles," in base of telegraph pole; rail spike	1, 202. 49
Salem, 2 miles north of, 540 feet north of milepost marked "St. Louis 125 miles," 35 feet north of railroad, 25 feet east of public road, 2 feet west of fence; iron post stamped "1170 Mo."	1, 169. 626
Salem, 1.31 miles north of, at railroad crossing, 50 feet east of railroad, 25 feet west of public road, on large sandstone rock; chiseled square . . .	1, 132. 38
Salem, 8 feet north of west entrance to county courthouse, in limestone step; copper tablet stamped "1182 Mo."	1, 182. 238
Salem, 0.82 mile south of, at northwest corner of crossroads, 60 feet north of northeast corner of Salem Cemetery, on north end of tile culvert; highest point	1, 199. 05
Salem, 1.5 miles south of, at northwest corner of junction of Salem-Eminence road with Spring Valley road, in root of pin-oak tree; copper nail .	1, 155. 65
Salem, 2.55 miles south of, 7 feet west of fence of public road, on the north edge of old railroad grade, on ledge of sandstone rock; chiseled square . .	1, 249. 24

SINKIN QUADRANGLE.

[Latitude 37° 15'-37° 30'; longitude 91° 15'-91° 30'.]

From Gladden south along highway to point 4.5 miles north of Angeline.

	Feet.
Gladden post office, 100 feet south of, 120 feet south of southwest corner of crossroads, in ledge of sandstone rock; bronze tablet stamped "1305"....	1, 304. 481
Gladden, 1 mile south of, 6 feet south from southeast corner of shop building, 25 feet north from northeast corner of porch to C. R. Smith's residence, 2 feet east of fence; highest point on flint rock.....	1, 282. 74
Gladden, 1.84 miles south of, 40 feet south of William Vance's residence, 12 feet west of fence, in root of black-oak tree 20 inches in diameter; copper nail.....	1, 291. 63
Gladden, 2.1 miles south of, 20 feet north of public road, 205 feet east of Hugh Vance's residence, in sand rock; bronze tablet.....	1, 291. 306
Gladden, 2.53 miles south of, in valley 200 feet wide, about 250 feet north of pine tree 2 feet in diameter, 100 feet west of pine tree 2 feet in diameter, in root of white-oak tree; copper nail.....	1, 174. 94
Gladden, 3.73 miles south of, on west side of public road directly opposite residence of Nell Asbridge, 2 feet west of black-oak tree used for telephone pole, on sandstone rock; chiseled square.....	1, 047. 61
Gladden, 4.13 miles south of, 20 feet east of old road, 100 feet west of short-cut road, on large flint rock; chiseled square.....	996. 17
Gladden, 5.85 miles south of, at south end of cut-off, about 600 feet southeast of Brice Smith's residence, on west side of public road, 2 feet east of fence, 10 feet north of creek bank, in top of limestone rock 7 by 7 by 24 inches, top 4 inches underground; bronze tablet stamped "953 Mo."....	953. 161
Crawford-Dent county line, 100 feet west of road, in creek in cultivated field.....	930. 6
Gladden, 6.65 miles south of, in open cultivated field, 100 feet west of road, about 1,000 feet east of Sam Boyd's residence, in root of forked walnut tree 2 inches in diameter; copper nail.....	924. 91
Gladden, 7.17 miles south of, on east side of public road, 1,000 feet south of Charles Taylor's residence, in creek, on limestone rock; chiseled square.....	906. 17
Timber post office, 8.09 miles north of, 12 feet east of public road, at forks, at milepost marked "Salem 22 Mi., Ink, 12 Mi.," directly opposite Harvey Stick's residence, in root of black-oak tree; copper nail.....	877. 12
Timber post office, 7.21 miles north of, on west side of public road, 0.49 mile north of Lewis Carney's residence, in root of walnut tree; copper nail..	858. 21
Timber post office, 6.72 miles north of, 12 feet east of the southeast corner of Carven's store, in foundation stone; bronze tablet stamped "873 Mo."..	871. 873
Timber post office, 5.72 miles north of, 100 feet east of creek, at ford near John Ellerman's residence, on limestone rock, 1 foot south of 8-inch walnut tree, 10 feet north of public road; chiseled square.....	831. 21
Timber post office, 4.62 miles north of, 100 feet north of Bob Thompson's residence, on ledge of rocks directly opposite spring; chiseled square....	808. 66
Timber post office, 3.72 miles north of, on south side of road, in root of white-oak tree; spike.....	782. 96
Timber post office, 2.84 miles north of, in the southwest corner of James Crisco's yard, in limestone rock 6 by 5 by 23 inches set flush with ground; bronze tablet stamped "772 Mo.".....	770. 859
Timber post office, 2.06 miles north of, on north side of road, 500 feet south of Bill Count's residence, in root of white-oak tree on corner; copper nail.....	748. 70

Timber post office, 1.19 miles north of, about 500 feet south of Jim Wood's residence, 5 feet southeast of corner fence post, on limestone rock; chiseled square.....	Feet. 734. 99
Timber post office, 150 feet north of, 20 feet north of the northwest corner of residence of C. F. Williams & Sons, in flint rock; bronze tablet stamped "730 Mo.".....	729. 975
Timber post office, 1 mile south of, on north side of public road, on fence line directly opposite Tom Conoway's residence, in root of elm tree; spike..	708. 79
Timber post office, 2.08 miles south of, on Salem-Eminence road, 25 feet southwest of the southwest corner of Union Hill schoolhouse, district 16, in root of walnut tree; half mule shoe.....	712. 21
Timber post office, 3.15 miles south of, opposite G. W. Morrow's residence, in walnut tree used for mail-box post; 2-inch piece of steel.....	684. 45
Timber post office, 4.28 miles south of, county ford across Current River on Eminence-Salem road, 0.41 mile north of, on south side of road, in root of white-oak tree 2 feet in diameter; 20-penny spike.....	679. 39
Timber post office, 4.69 miles south of, on south side of ford, on Eminence-Salem road, on Current River, 20 feet south of road, in cliff about 25 feet high, 2 feet above ground; bronze tablet stamped "673 Mo.".....	672. 573
Current River; water surface, June 10, 1914.....	667
Timber post office, 5.86 miles south of, 0.4 mile north of Jack Cox's residence, on west side of road, in root of hollow sycamore tree about 6 feet in diameter; half mule shoe.....	687. 63
Timber post office, 6.78 miles south of, 0.52 mile south of Jack Cox's residence, 5 feet west of public road, 70 feet west of old abandoned railroad, in root of white-oak tree; nail head.....	706. 72
Angeline, 6.41 miles north of, 1.46 miles south of Jack Cox's residence, 25 feet west of public road, 25 feet west of old abandoned railroad, in limestone ledge; bronze tablet stamped "755 Mo.".....	754. 692
Angeline, 5.32 miles north of, 25 feet east of public road, 100 feet east of old railroad, about 1,000 feet north of house, in root of elm tree; copper nail.	815. 22

STEELVILLE QUADRANGLE.

[Latitude 37° 45'-38°; longitude 91° 15'-91° 30'.]

From point 3.4 miles south of Cuba south along St. Louis & San Francisco R. R. to Boscobel.

Boyd, 0.39 mile north of, 30 feet west of railroad, 100 feet south of milepost marked "St. Louis 91 mi.," on limestone rock; chiseled square.....	776. 74
Boyd, 32 feet south of railroad, 1 foot south of railroad right of way, 20 feet east of public road; iron post stamped "748 Mo.".....	748. 115
Halberts, 0.16 mile north of, most southwest bolthead of bridge plate at the southwest corner of St. Louis & San Francisco R. R. bridge over Meramec River; highest point.....	708. 12
Meramec River, water elevation, May 19, 1914.....	685
Halberts station, in front of; top of rail.....	710. 5
Halberts, 0.65 mile south of, at west end of south header at trestle 930, opposite milepost marked "St. Louis 93;" copper nail.....	708. 17
Sankey, 300 feet north of, 25 feet south of public road, in base of telegraph pole; rail spike.....	727. 13
Sankey station, in front of; top of rail.....	730. 1
Steelville, 2 feet west by 6 feet south from northwest corner of circuit clerk's office, 30 feet east of the northeast corner of county courthouse; iron post stamped "755 Mo.".....	755. 467

	Feet.
Steelville station, in front of; top of rail.....	749
Steelville, 0.7 mile west of, 40 feet south of railroad crossing, in southwest corner of small trestle; first driftbolt head.....	779. 56
Vivian station, 100 feet north of, in southeast corner of header at southeast corner of trestle, 30 feet south of overhead railroad crossing; copper nail.....	809. 00
Rosewell, 150 feet south of station, 10 feet west of railroad right of way, 2 feet south of fence, 12 feet north of second-class road; iron post stamped "845 Mo.".....	845. 154
Rosewell station, in front of; top of rail.....	845
Rosewell, 0.8 mile south of, 25 feet north of overhead crossing, in center of north header at trestle 989; copper nail.....	884. 62
Highway, 1.11 miles north of, in base of telegraph pole marked "St. Louis 100 miles;" rail spike.....	938. 26
Highway, 60 feet west of, 20 feet north of railroad, 2 feet west of telegraph pole, 125 feet east of railroad crossing; iron post stamped "1023 Mo."....	1, 022. 441
Highway, 1.28 miles south of, on south abutment west side of concrete bridge abutment 1025; chiseled square.....	937. 35
Keysville, opposite south end of station; top of rail.....	893. 2
Keysville, 200 feet west of, 50 feet south of railroad, 5 feet west of northeast corner of Key's lot; iron post stamped "892 Mo.".....	892. 209
Keysville, 1.03 miles south of, on railroad, 100 feet north of milepost marked "St. Louis 104 miles," 2 feet north of railroad right of way, in root of elm tree 18 inches in diameter; highest point of spike.....	872. 81
Keysville, 1.76 miles south of, 30 feet north of railroad, 25 feet east of public road, on railroad right of way, in top of corner fence post; copper nail.....	868. 72
Crooked Creek station, 480 feet north of, on south abutment east side of iron bridge over Meramec River; chiseled square.....	851. 63
Meramec River; water surface, May 23, 1914.....	837. 6
Crooked Creek, in front of station; top of rail.....	854. 8
Wesco, 0.5 mile north of, 595 feet north of milepost marked "St. Louis 107 miles," on east side of railroad track, on pointed limestone rock 2 feet above roadbed at base of cliff; chiseled square.....	856. 56
Wesco, 100 feet south of station, 25 feet east of railroad, 5 feet east of railroad property line, on west side of county road; iron post stamped "865 Mo.".....	864. 525
Wesco, 1.19 miles south of, 15 feet east of railroad crossing, on limestone ledge; chiseled square.....	882. 03
Elma, in front of station; top of rail.....	881. 5
Slago spur, at point of switch; rail.....	885
Goltra, 495 feet south of, on north abutment west side of bridge over Meramec River, 4 feet west of west rail; chiseled square.....	884. 17
Meramec River; water surface May 26, 1914.....	869
Cooks station, 90 feet west of, 2 feet north of railroad right of way, in southeast corner of lot owned by Cooks Mercantile Co.; iron post stamped "893 Mo.".....	892. 604
Cooks, at north end of station; top of rail.....	888. 9
Cooks station, 0.75 mile south of, 12 feet east of railroad, at railroad crossing, under approach to railroad; north end of tile drain.....	919. 38
Cooks, 1.13 miles south of, in northeast corner of trestle 1012; highest point of first driftbolt head.....	943. 02
Cooks, 2.07 miles south of, 140 feet south of milepost marked "St. Louis 113 miles," 10 feet east of east rail, on limestone ledge; chiseled square....	1, 025. 48

McKenzie, 150 feet north of, 60 feet west of railroad, 5 feet west of telegraph pole, in sandstone ledge; bronze tablet stamped "1154 Mo.".....	1, 154. 194
McKenzie, 0.94 mile south of, at second-class crossing, 450 feet south of milepost 115, north end of tile under railroad; highest point.....	1, 168. 84
Boscobel, in front of station; top of rail.....	1, 169. 2
Boscobel, 400 feet south of, opposite end of switch, 5 feet east of east rail, on vertical T rail; highest point.....	1, 171. 75

STONE HILL QUADRANGLE.

[Latitude 37° 30'–37° 45'; longitude 91° 15'–91° 33'.]

From point near Salem southeast along highway to Gladden.

Salem, 3.59 miles south of, 300 feet northwest of section line, on south side of old railroad grade, on sandstone ledge; chiseled square.....	1, 284. 22
Salem, 4.35 miles south of, on Salem-Eminence road, in sec. 33, T. 34 N., R. 5 W., on east side of public road, at T road east; iron post stamped "1259 Mo.".....	1, 259. 275
Doss, 0.83 mile northwest of, on west side of public road, opposite lane in creek bed, in top of fence post; copper nail.....	1, 208. 16
Doss, 0.36 mile north of, on west side of public road, on ledge of rock, 12 feet west of center, 25 feet west of white-oak tree; chiseled square.....	1, 211. 37
Doss, in foundation at northeast corner of office building formerly used as barber shop, 55 feet east of post office; bronze tablet stamped "1225 Mo.".....	1, 224. 902
Doss, 1.34 miles south of, at the northeast corner of second-class and Salem-Eminence road crossing, about 0.5 mile southeast of Miner Cemetery, in sandstone ledge; chiseled square.....	1, 278. 33
Doss, 2.25 miles south of, on west side of road, on Ozark Divide, opposite residence of R. M. Jackson, in root of white-oak tree; copper nail.....	1, 310. 77
Doss, 2.68 miles south of, at southwest corner of T road west, on large rock; chiseled square.....	1, 297. 76
Doss, 3.1 miles south of, 25 feet east of the southwest corner of Alonzo Edwards's residence, in front yard, in sandstone ledge; bronze tablet stamped "1272 Mo.".....	1, 271. 693
Gladden, 1.59 miles north of, on north bank of Gladden Creek, 100 feet west of standing rock, in root of deadened white-oak tree 2 feet in diameter; copper nail.....	1, 165. 37
Gladden post office, 0.6 mile north of, on west side of public road, in root of white-oak tree 26 inches in diameter; copper nail.....	1, 310. 12

SULLIVAN QUADRANGLE.

[Latitude 38°–38° 30'; longitude 91°–91° 30'.]

From Cuba south along St. Louis & San Francisco R. R. 3.4 miles.

Cuba, near the St. Louis & San Francisco R. R. track, in foundation of Grand Hotel building; aluminum tablet stamped "St. L. 1045".....	1, 035. 124
Cuba, 0.79 mile south of, at first railroad crossing on St. Louis & San Francisco R. R., 25 feet east of crossing, in base of telegraph pole; rail spike.....	1, 040. 08
Cuba, 1.4 miles south of, 25 feet west of railroad, 50 feet east of Y forks of road, highest point on limestone rock at top of ledge; chiseled square.....	1, 019. 66
Cuba, 2.09 miles south of, 25 feet east of railroad, 2 feet west of east railroad property line, on north side of abandoned wagon road; iron post stamped "966".....	968. 775
Cuba, 2.31 miles south of, 0.25 mile east of Oak Ridge schoolhouse, 40 feet west of railroad, 10 feet west of right of way, 2 feet south of north property line; iron post stamped "953 Mo.".....	952. 701

Cuba, 3.39 miles south of, 300 feet south of milepost marked "St. Louis 90 miles," in the southwest corner of trestle 901; highest point of drift-bolt head.....	Feet. 859.53
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UPALIKA QUADRANGLE.

[Latitude 36° 45'-37°; longitude 90° 30'-90° 45'.]

From point near Elsinore east along St. Louis & San Francisco R. R. to point 2.2 miles northeast of Williamsville.

Elsinore, 1.67 miles west of, 140 feet south of railroad, 2 feet east of fence line of old Military road; iron post stamped "779 Mo.".....	779.640
Elsinore, 0.57 mile south of, in northeast corner of small trestle; highest point of first driftbolt head.....	734.51
Elsinore, 85 feet south of station, at the southwest corner of ice house belonging to T. J. Bowyer, on east side of public road, 2 feet west of fence; iron post stamped "710 Mo.".....	710.683
Elsinore, 1.1 miles east of, in base of milepost marked "B 215"; rail spike.....	783.52
Elsinore, 2.18 miles east of, 5 feet south of railroad, 4½ telegraph poles east of milepost B 214, on ledge of rocks; chiseled square.....	807.59
Orchard switch, 0.37 miles west of, at switch, 70 feet north of railroad, in top of oak stump; copper nail.....	777.26
Orchard switch, 200 feet east of, at the northeast corner of W. N. Potter's yard, 100 feet south of railroad, 25 feet south of public road; iron post stamped "768 Mo.".....	768.062
Carter-Wayne county line.....	761
Orchard switch, 0.51 mile east of, 50 feet west of milepost marked "B 212," 20 feet north of railroad, 25 feet south of public road, on large granite rock; chiseled square.....	755.42
Upalika, 2.25 miles west of, in base of milepost marked "B 211"; rail spike.....	751.07
Upalika, 1.32 miles west of, 70 feet west of milepost B 210, 20 feet south of railroad, on sandstone rock; highest point.....	742.35
Upalika, 0.43 mile west of, opposite second telegraph pole west of pole marked "B 209," 5 feet south of railroad, in cut, on ledge of rocks; chiseled square.....	734.43
Upalika, directly opposite post office, 80 feet south of railroad, 25 feet west of public road, 2 feet east of fence; iron post stamped "740 Mo.".....	740.077
Upalika, 1 mile east of, opposite tenth telegraph pole east of milepost marked "B 208," 5 feet north of railroad, on ledge; chiseled square....	668.76
Upalika, 1.91 miles east of, seven telegraph poles east of milepost marked "B 207," 60 feet north of railroad, 5 feet west of public road, in root of black-oak tree; copper nail.....	605.54
Doyle switch, east end of frog, 30 feet west of milepost B 206; highest point.....	541.41
Williamsville, 2.9 miles west of, 60 feet south of railroad, 2 feet south of property lines, 20 feet west of public road; iron post stamped "467 Mo.".....	467.600
Williamsville, 1.67 miles west of, in west header south end of trestle B 204; copper nail.....	407.14
Williamsville, 0.72 mile west of, in base of first telegraph pole west of milepost marked "B 203"; rail spike.....	385.83
Williamsville, 50 feet southwest of junction of Iron Mountain and St. Louis & San Francisco railroads, in northeast corner of hotel yard; iron post stamped "392 Mo.".....	391.966
Williamsville, intersection of St. Louis & San Francisco and Iron Mountain railroads; top of rail.....	394.7

Williamsville, in front of station of St. Louis & San Francisco R. R.; top of rail.....	Feet. 394. 6
Williamsville, 1.07 miles east of, in south end of third bent from west end of trestle B 201.3, under second-class crossing; highest point of iron pin..	415. 24
Williamsville, 2.25 miles east of, 340 feet east of trestle B 200.2, 55 feet south of railroad, on north side of public road at railroad crossing, on large granite rock; chiseled square.....	527. 12

Neosho and Noel quadrangles.

McDONALD AND NEWTON COUNTIES.

The elevations in the following list were determined by primary leveling and accord with the 1912 adjustment of precise leveling.

The leveling was done in 1914 by George W. Lucas.

NEOSHO QUADRANGLE.

[Latitude 36° 45'-37°; longitude 94° 15'-94° 30'.]

From sec. 1, T. 26 N., R. 32 W., south along highway to Neosho, thence east to sec. 18, T. 25 N., R. 30 W., thence north to sec. 1, T. 26 N., R. 31 W.

T. 26 N., R. 32 W., southeast corner of sec. 1, northwest corner of crossroads; iron post stamped "Primary Traverse Station No. 4" and "Mo. 1078".....	Feet. 1, 077. 951
T. 26 N., R. 31 W., northwest corner of sec. 18, 50 feet southwest of crossroads, 20 feet north of creek, in base of 20-inch oak tree; copper nail, marked "T. B. M. 1016".....	1, 015. 93
T. 26 N., R. 32 W., southeast corner of sec. 13, 70 feet northwest of T road west, 170 feet northeast of house, in root of 10-inch oak tree; copper nail, marked "T. B. M. 1088".....	1, 087. 91
T. 26 N., R. 32 W., NE. $\frac{1}{4}$ sec. 25, in the lower step at the entrance of schoolhouse; bronze tablet stamped "Mo. 1007 1914".....	1, 007. 255
T. 26 N., R. 32 W., 0.33 mile west of the southeast corner of sec. 25, 0.33 mile east of Kansas City Southern Ry. track, northwest corner of crossroads, in 30-inch walnut tree; copper nail, marked "T. B. M. 978".....	978. 35
T. 26 N., R. 32 W., near southwest corner of sec. 36, southwest corner of T road east, in prominent limestone outcrop; bronze tablet stamped "Mo. 986".....	985. 773
T. 25 N., R. 32 W., NE. $\frac{1}{4}$ sec. 12, 2.9 miles north of Neosho, 70 feet west of house owned by Mrs. Kate Davis, in root of 20-inch walnut tree; copper nail, marked "T. B. M. 982".....	982. 23
T. 25 N., R. 31 W., SW. $\frac{1}{4}$ sec. 7, 1.9 miles north of Neosho, 300 feet south of Shoal Creek, 50 feet northeast of road forks, in base of 2-foot sycamore tree; copper nail, marked "T. B. M. 985".....	984. 82
Neosho, 1.39 miles north of, T. 25 N., R. 31 W., about 600 feet east of quarter corner on west line of sec. 18, 100 feet northwest of house, northeast corner of T road west, in root of 30-inch oak tree; copper nail, marked "T. B. M. 995".....	994. 51
Neosho, T. 25 N., R. 31 W., sec. 18, 46 feet south of south wall of Newton County courthouse, 31 feet southeast of public well; iron post stamped "Mo. 1039".....	1, 038. 747
Neosho, 0.9 mile southeast of, T. 25 N., R. 31 W., NE. $\frac{1}{4}$ sec. 30, 100 feet east of T road south, 30 feet west of Missouri & North Arkansas R. R. track, on south side of road, in top of stump of telephone pole; copper nail with washer, marked "T. B. M. 1024".....	1, 023. 74
T. 25 N., R. 31 W., near center of sec. 21, 300 feet southwest of house, southeast corner of crossroads, in top of corner fence post; copper nail with washer, marked "T. B. M. 1182".....	1, 182. 36

	Feet.
T. 25 N., R. 31 W., 0.25 mile south of northwest corner of sec. 22, northeast corner of T road east; iron post stamped "Mo. 1230".....	1, 229. 976
T. 25 N., R. 31 W., 0.25 mile south of northeast corner of sec. 22, northwest corner of T road south, in base of telephone pole; copper nail with washer, marked "T. B. M. 1223".....	1, 225. 04
T. 25 N., R. 31 W., southeast corner of sec. 14, northeast corner of cross-roads, on top of 2 by 2 by 1 foot boulder; chiseled cross, marked "T. B. M. 1219".....	1, 218. 95
T. 25 N., R. 30 W., southwest corner of sec. 18, northeast corner of cross-roads; iron post stamped "Primary traverse station No. 2, 1914," and "Mo. 1207".....	1, 206. 894
T. 25 N., R. 30 W., northwest corner of sec. 18, southeast corner of T road east, in base of telephone pole; copper nail with washer, marked "T. B. M. 1188".....	1, 188. 34
T. 25 N., R. 30 W., 0.25 mile north of southwest corner of sec. 6, 50 feet northwest of house, 30 feet east of road forks, 3 feet inside of fence, in root of 10-inch oak tree; copper nail with washer, marked "T. B. M. 1195".....	1, 194. 77
Granby, T. 25 N., R. 30 W., sec. 6, 150 feet southeast of post office, in Kingston Park, owned by Granby Miners' Bank, 20 feet southwest of drinking fountain, on east side of Main Street; iron post stamped "Mo. 1142".....	1, 141. 824
Granby, 1.07 miles north of, T. 26 N., R. 31 W., near southeast corner of sec. 25, at St. Louis & San Francisco R. R. crossing, 20 feet east of track, 10 feet south of road, in base of warning post; copper nail with washer, marked "U. S. B. M. 1050".....	1, 049. 64
T. 26 N., R. 31 W., northwest corner of sec. 25, 300 feet south of house, 60 feet southwest of crossroads, in base of telephone pole; copper nail with washer, marked "U. S. B. M. 1074".....	1, 073. 71
T. 26 N., R. 31 W., southeast corner of sec. 13, northwest corner of cross-roads; iron post stamped "Mo. 1184".....	1, 183. 345
T. 26 N., R. 31 W., northeast corner of sec. 13, southwest corner of cross-roads, in base of telephone pole; copper nail with washer, marked "U. S. B. M. 1212".....	1, 211. 91
T. 26 N., R. 30 W., southwest corner of sec. 7, northeast corner of cross-roads, in base of telephone pole; copper nail with washer, marked "U. S. B. M. 1193".....	1, 192. 59

From Neosho along highway west to Racine.

Neosho, T. 25 N., R. 31 W., sec. 18, 46 feet south of south wall of Newton County courthouse, 31 feet southeast of public well; iron post stamped "Mo. 1039".....	1, 038. 747
Neosho, T. 25 N., R. 32 W., 0.25 mile west of northeast corner of sec. 24, second railroad crossing south of St. Louis & San Francisco R. R. station, 30 feet west of track, south side of road, in base of telephone pole; copper nail with washer, marked "U. S. T. B. M. 1030".....	1, 030. 03
T. 25 N., R. 32 W., southwest corner of sec. 13, northeast corner of cross-roads, in root of 20-inch oak tree; copper nail with washer, marked "U. S. B. M. 1186".....	1, 186. 20
T. 25 N., R. 32 W., southwest corner of sec. 14, northeast corner of cross-roads; iron post stamped "Mo. 1226 1914".....	1, 225. 570
T. 25 N., R. 32 W., southeast corner of sec. 16, northeast corner of cross-roads, in base of telephone pole; copper nail with washer, marked "T. B. M. 1223.5".....	1, 223. 38

T. 25 N., R. 32 W., southwest corner of sec. 16, northeast corner of crossroads, in base of telephone pole; copper nail with washer, marked "T. B. M. 1164".....	Feet. 1, 164. 11
T. 25 N., R. 32 W., quarter corner on south line of sec. 17, northeast of T road fork south; iron post stamped "Mo. 1161 1914".....	1, 161. 357
T. 25 N., R. 32 W., quarter corner on west line of sec. 17, 70 feet southwest of crossroads, in root of 30-inch oak tree; copper nail with washer, marked "T. B. M. 1143".....	1, 142. 52
T. 25 N., R. 33 W., sec. 13, 300 feet south of wagon road, on northeast guard rail of bridge 3175 on the St. Louis & San Francisco R. R.; copper nail with washer, marked "U. S. B. M. 1015".....	1, 014. 69
From sec. 16, T. 25 N., R. 32 W., along highway northwest to point near Spring City.	
T. 25 N., R. 32 W., southwest corner of sec. 16, northeast corner of crossroads, in base of telephone pole; copper nail with washer, marked "T. B. M. 1164".....	1, 164. 11
T. 25 N., R. 32 W., northeast corner of sec. 17, southwest corner of crossroads, 150 feet northwest of house, in base of 12-inch corner fence post; copper nail with washer, marked "U. S. B. M. 1175".....	1, 175. 01
T. 25 N., R. 32 W., northeast corner of sec. 8, 40 feet southwest of crossroads, in base of telephone pole; copper nail with washer, marked "U. S. B. M. 1171".....	1, 171. 02
T. 25 N., R. 32 W., on north line of sec. 5, 150 feet southeast of F. L. Stein's farmhouse, northwest corner of concrete water tank; bronze tablet stamped "Mo. 1104".....	1, 104. 326
T. 25 N., R. 32 W., quarter corner on north line of sec. 6, southeast corner of crossroads, on top of corner stone; chiseled square, marked "U. S. B. M. 1113".....	1, 113. 14
Spurgeon, T. 26 N., R. 32 W., quarter corner on north line of sec. 31, on east side of road; 80 feet south of crossroads, 15 feet west of Methodist Episcopal Church, in root of 24-inch oak tree; copper nail with washer, marked "U. S. B. M. 1063".....	1, 063. 11
T. 26 N., R. 32 W., quarter corner on south line of sec. 19, northeast corner of crossroads; iron post stamped "Mo. 1118".....	1, 117. 860
T. 26 N., R. 33 W., northeast corner of sec. 25, southwest corner of crossroads, in base of telephone pole; copper nail with washer, marked "U. S. B. M. 1158".....	1, 157. 97
T. 26 N., R. 33 W., northeast corner of sec. 24, 200 feet southeast of Black Jack schoolhouse, southeast corner of T road east, in root of 10-inch oak tree; copper nail with washer, marked "U. S. B. M. 1138.5".....	1, 138. 38
T. 26 N., R. 32 W., sec. 12, 1.54 miles northwest of Black Jack schoolhouse, 60 feet southeast of road forks; iron post stamped "Mo. 998".....	998. 296
From Neosho along highway indirectly south to McElhany, thence west and north to sec. 16, T. 25 N., R. 32 W.	
Neosho, 0.09 mile southeast of, T. 25 N., R. 31 W., NE. $\frac{1}{4}$ sec. 30, 100 feet east of T road south, 30 feet west of Missouri & North Arkansas R. R. track, on south side of road, in top of stump of telephone pole; copper nail with washer, marked "T. B. M. 1024".....	1, 023. 74
T. 25 N., R. 31 W., sec. 28, 15 feet south of Missouri & North Arkansas R. R. track, 15 feet south of east road, in top of 15-inch oak stump; copper nail with washer, marked "U. S. B. M. 1051".....	1, 050. 73
T. 25 N., R. 31 W., sec. 33, 90 feet southeast of house, southeast corner of T road west, 13 feet north of 10-inch hickory tree; iron post stamped "Mo. 1174".....	1, 173. 964

	Feet.
T. 24 N., R. 32 W., northwest corner of sec. 13, 50 feet southeast of crossroads, in root of 12-inch oak tree; copper nail with washer, marked "U. S. B. M. 1258".....	1, 258. 35
T. 24 N., R. 32 W., southeast corner of sec. 14, northwest corner of T road north, in root of 30-inch oak tree; copper nail with washer, marked "U. S. B. M. 1270".....	1, 270. 14
June, T. 24 N., R. 32 W., southwest corner of sec. 14, 60 feet east of store, northeast corner of crossroads; iron post stamped "Mo. 1286".....	1, 285. 846
T. 24 N., R. 32 W., northeast corner of sec. 21, 100 feet northeast of Liberty Church, southwest corner of crossroads; in root of 14-inch oak tree; copper nail with washer, marked "U. S. B. M. 1252".....	1, 251. 69
McElhany, T. 24 N., R. 32 W., southwest corner of sec. 21, 70 feet northeast of store, northeast corner of crossroads; iron post stamped "Mo. 1251".....	1, 251. 084
T. 24 N., R. 32 W., southwest corner of sec. 20, northeast corner of crossroads, in base of telephone pole; copper nail with washer, marked "U. S. B. M. 1215".....	1, 214. 56
Harmon, T. 24 N., R. 32 W., northwest corner of sec. 30, 60 feet southeast of store, southeast corner of crossroads, in base of 1-foot corner fence post; copper nail with washer, marked "U. S. B. M. 1191".....	1, 190. 71
T. 24 N., R. 33 W., 0.25 mile west of northeast corner of sec. 26, 300 feet southeast of house, southeast corner of T road north; iron post stamped "Mo. 1208".....	1, 207. 388
T. 24 N., R. 33 W., near quarter corner on east line of sec. 22, 200 feet southwest of house, 80 feet northeast of road forks, on west side of road, in root of 20-inch oak tree; copper nail with washer, marked "U. S. B. M. 1155".....	1, 154. 41
T. 24 N., R. 33 W., northeast corner of the SE. $\frac{1}{4}$ SE. $\frac{1}{4}$ sec. 16, 800 feet east of T road north, north side of road, in root of 36-inch oak tree; copper nail with washer, marked "U. S. B. M. 1072".....	1, 071. 81
T. 24 N., R. 33 W., NW. $\frac{1}{4}$ sec. 15, 20 feet northwest of ford on Buffalo Creek, 2 feet above big spring, in prominent limestone outcrop; bronze tablet stamped "Mo. 1015".....	1, 014. 449
T. 24 N., R. 33 W., in SE. $\frac{1}{4}$ sec. 10, 150 feet north of Ragan schoolhouse, 50 feet south of road, in root of 20-inch oak tree; copper nail with washer, marked "U. S. B. M. 1060".....	1, 059. 33
T. 24 N., R. 33 W., southeast corner of NE. $\frac{1}{4}$ NW. $\frac{1}{4}$ sec. 11, northwest corner of T road east, in root of 12-inch oak tree; copper nail with washer, marked "T. B. M. 1140".....	1, 139. 64
T. 25 N., R. 32 W., quarter corner on south line of sec. 32, south side of road, turn to the west; iron post stamped "Mo. 1136".....	1, 136. 31
T. 25 N., R. 32 W., quarter corner on north line of sec. 32, southeast corner of crossroads, in base of telephone pole; copper nail with washer, marked "U. S. B. M. 1171".....	1, 171. 35
T. 25 N., R. 32 W., quarter corner on south line of sec. 20, 150 feet north of crossroads, 50 feet northeast of Belfast Baptist Church, in root of 24-inch oak tree; copper nail, marked "U. S. B. M. 1137".....	1, 136. 48
T. 25 N., R. 32 W., quarter corner on south line of sec. 17, northeast of T road fork south; iron post stamped "Mo. 1161".....	1, 161. 357

From McElhany south along highway to Goodman.

McElhany, T. 24 N., R. 31 W., southwest corner of sec. 21, 70 feet northeast of store, northeast corner of crossroads; iron post stamped "Mo. 1251".....	1, 251. 084
T. 24 N., R. 32 W., northeast corner of sec. 32, 50 feet northeast of house, 50 feet southwest of crossroads, in root of 10-inch walnut tree; copper nail with washer, marked "U. S. B. M. 1227".....	1, 227. 04

T. 24 N., R. 32 W., southwest corner of sec. 33, Newton-McDonald county line, northeast corner of crossroads, in root of 10-inch hickory tree; copper nail with washer, marked "U. S. B. M. 1214".....	Feet. 1,213.77
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From McNatt north along highway to sec. 18, T. 25 N., R. 30 W.

McNatt, 2.57 miles northeast of, 200 feet south of Oak Grove schoolhouse, 10 feet north of road forks, in root of 20-inch oak tree; copper nail with washer, marked "U. S. B. M. 1044".....	1,044.01
T. 24 N., R. 31 W., quarter corner on east line of sec. 33, 200 feet east of ford on Indian Creek, opposite T road north; iron post stamped "Primary Station No. 5, 1914" and "Mo. 1038".....	1,037.616
T. 24 N., R. 31 W., west side of sec. 27, 40 feet south of T road west, on west side of road, in top of 24-inch oak stump; copper nail with washer, marked "U. S. B. M. 1093".....	1,092.96
T. 24 N., R. 31 W., near north line of sec. 27, 200 feet south of large farmhouse, on east side at turn in road, in root of 24-inch oak tree; copper nail and washer, marked "U. S. B. M. 1064".....	1,063.82
T. 24 N., R. 31 W., northeast corner of sec. 21, 100 feet south of southeast corner of T road north; iron post stamped "Mo. 1193".....	1,192.087
T. 24 N., R. 31 W., northeast corner of sec. 16, on west side of road, 50 feet south of crossroads, 60 feet northeast of house, in root of 16-inch oak tree; copper nail with washer, marked "U. S. B. M. 1241".....	1,240.91
Sweetwater, T. 24 N., R. 31 W., southwest corner of sec. 3, northeast corner of T road north, 70 feet north of blacksmith shop, 60 feet east of store; iron post stamped "Mo. 1270".....	1,270.029
T. 25 N., R. 30 W., southwest corner of sec. 31, northeast corner of crossroads, in base of 8-inch corner fence post; copper nail with washer, marked "U. S. B. M. 1272".....	1,271.26
T. 25 N., R. 31 W., northeast corner of sec. 36, southwest corner of crossroads, in root of 18-inch oak tree; copper nail with washer, marked "U. S. B. M. 1256".....	1,255.43
Aroma, T. 25 N., R. 31 W., southeast corner of sec. 24, 150 feet southwest of church, 40 feet northwest of crossroads, in root of 16-inch oak tree; copper nail with washer, marked "U. S. B. M. 1228.5".....	1,228.11

NOEL QUADRANGLE.

[Latitude 36° 30'–36° 45'; longitude 94° 15'–94° 30']

From Goodman east along highway to McNatt.

Goodman, 0.5 mile northeast of, T. 23 N., R. 32 W., southeast corner of sec. 5, 100 feet northwest of Kansas City Southern Ry. track, northwest corner of crossroads; iron post, stamped "Mo. 1246".....	1,245.281
T. 23 N., R. 32 W., 100 feet north of quarter corner on the west line of sec. 10, 50 feet west of house, on north side of road, in root of 20-inch oak; copper nail with washer, marked "U. S. B. M. 1196".....	1,195.64
T. 23 N., R. 32 W., sec. 10, 0.77 mile northwest of Erie, opposite T road north, in base of 10-inch corner fence post; copper nail with washer, marked "U. S. B. M. 1067".....	1,067.04
Erie, T. 23 N., R. 32 W., southeast corner of sec. 10, opposite T road east, 10 feet northeast of blacksmith shop; iron post stamped "Primary station No. 6, 1914" and "Mo. 1029".....	1,029.183
Erie, 1.02 miles east of, north of Indian Creek, southwest corner of T road south, in root of black-oak tree; copper nail with washer, marked "U. S. B. M. 981".....	981.00
Erie, 1.83 miles east of, northeast corner of T road north, in top of 1-foot oak stump; copper nail with washer, marked "U. S. B. M. 1001".....	1,001.14

McNatt, T. 23 N., R. 31 W., sec. 7, base of southeast abutment of wagon bridge over Indian Creek; bronze tablet stamped "Mo. 994".....	Feet. 994. 118
McNatt, 1.13 miles northeast of, at ford on Indian Creek, 50 feet northeast of water's edge, south side of road, in root of 24-inch sycamore tree; copper nail with washer, marked "U. S. B. M. 1001".....	1, 000. 90

Wyandotte quadrangle.

McDONALD AND NEWTON COUNTIES.

The elevations in the following list were determined by primary leveling and accord with the 1912 adjustment, also with Bulletins 564, for Oklahoma, and 571, for Kansas. For elevations in Oklahoma in this quadrangle, refer to Bulletin 564 and a list on file.

The leveling was done in 1906 by F. W. Hughes and in 1914 by G. W. Lucas.

WYANDOTTE QUADRANGLE.

[Latitude 36° 30'-37°; longitude 94° 30'-95°.]

From northwest corner of sec. 9, T. 26 N., R. 33 W., along highway south to Little Lost Creek, thence west to Seneca, thence south to Southwest City.

T. 26 N., R. 33 W., northwest corner of sec. 9, at crossroads; iron post stamped "1142 Crthg," "Prim. trav. sta. No. 9, 1906".....	Feet. 1, 141. 446
T. 26 N., R. 33 W., southeast corner of sec. 10, in top of fence post; nail, marked "U. S. B. M. 1143.6".....	1, 143. 21
T. 26 N., R. 33 W., corner of secs. 16, 17, 20, and 21; circle painted on stone, marked "1077".....	1, 076. 08
T. 26 N., R. 33 W., corner of secs. 15, 16, 21, and 22; circle painted on stone, marked "1103".....	1, 102. 79
T. 26 N., R. 33 W., corner of secs. 21, 22, 27, and 28; circle painted on stone, marked "1130".....	1, 129. 23
T. 26 N., R. 33 W., 15 feet southwest of corner stone, in northeast corner of sec. 28; iron post marked "1131".....	1, 130. 288
T. 26 N., R. 33 W., southwest corner of sec. 27, 20 feet northeast of center of crossroads, in top of 3-inch hickory stump; nail, marked "1166".....	1, 166. 00
Tps. 25 and 26 N., R. 33 W., corner stone of secs. 33, 34, 3, and 4; stone marked "1161".....	1, 160. 73
Racine, T. 25 N., R. 33 W., SE. $\frac{1}{4}$ SW. $\frac{1}{4}$ sec. 10, 600 feet north of crossroads; iron post stamped "Prim. trav. sta. No. 8, 978".....	977. 188
Racine; water level of Lost Creek.....	947
Racine, 0.7 mile south of, at road fork, at root of 8-inch post-oak tree; stone marked "989".....	988. 25
Racine, 1.6 miles south of, 8-inch black jack, at root of, in top of 3-inch post-oak stump; nail marked "1117".....	1, 116. 73
T. 25 N., R. 33 W., SE. $\frac{1}{4}$ NE. $\frac{1}{4}$ sec. 27, 100 feet southwest of crossroads; point on stone.....	1, 034. 53
T. 25 N., R. 33 W., near center of sec. 28, 400 feet west of stream crossing road, in ledge of limestone; aluminum bench-mark tablet stamped "992".....	991. 585
Seneca, bridge over Lost Creek, 300 feet south of St. Louis & San Francisco R. R. crossing, in northeast corner of deck; bolt-head marked "857".....	855. 95
Missouri-Oklahoma line, 700 feet southwest of railroad crossing, 10 feet north of track at State-line post; Indian Territory survey iron post stamped "846".....	851. 321
Seneca, 1 mile south of, on Southwest City and Seneca road, on top of hill, on rock; cross.....	904. 71

	Feet.
Seneca, 2 miles south of, one-fourth mile south of Boiling Spring, on South-west City and Seneca road, on top of hill; painted rock.....	987. 73
Hart, 10 feet west of post office and 30 feet north of road crossing, in root of hickory tree; nail.....	1, 100. 75
Hart, 1 mile south of, at road forks; cross on stone.....	1, 143. 83
Hart, at southwest corner of SE. $\frac{1}{4}$ sec. 9, T. 23 N., R. 34 W., at southwest corner of post office; iron post stamped "1103".....	1, 102. 513
Hart, 3 miles south of, on west side of State-line road, in root of large oak tree; nail.....	1, 096. 80
Hart, at summit of Shockley Hill, on west side of State-line road, 18 feet south of temporary bench mark; iron post stamped "1098".....	1, 097. 878
Tiff City, 2 miles north of, at road forks, on east side of road, on stone; cross.	973. 22
Tiff City, 1 mile north of, at road forks, at west side of road; painted stone.	939. 38
Tiff City, on east side of road; painted root.....	865. 73
Tiff City, at northwest corner of saloon, in walk; cross on nail.....	812. 11
Tiff City, at east end of Main Street and 100 feet southeast of Roller mill, on banks of Buffalo Creek, in ledge; tablet stamped "790".....	790. 263
Tiff City, 1 mile south of, on north side of road at road forks, on rock; paint.	769. 92
Tiff City, 2 miles south of, on corner stone; cross.....	768. 86
Tiff City, 3 miles south of, 200 feet south of rock ledge on east side of road..	824. 30
Cow Skin post office, on porch of post office; paint on nail.....	891. 42
Cow Skin post office, 600 feet north of, 100 feet west of State line road, in ledge of limestone; tablet stamped "855".....	855. 773
Cow Skin post office, one-fourth mile south of, at road forks; cross on rock.	892. 87
South West City, on section corner stone; cross.....	963. 70
South West City, 3 miles north of, on west side of road; cross on stone....	960. 53
South West City, north of; cross on stone.....	965. 19
South West City, 3 miles north of, at the northwest corner of SW. $\frac{1}{4}$ sec. 16, 100 feet south of road forks and 50 feet west of house; iron post stamped "977".....	977. 011
South West City, 2 miles north of; at mail-box post.....	959. 42
South West City, in culvert north of railroad track; nail.....	934. 36
South West City, on west side of Main Street, in front of bank, on curbstone; cross.....	920. 22
South West City, one-fourth mile west and south of, corners Tps. 23 and 24 N., Rs. 24 and 25 E.; iron post stamped "1034".....	1, 034. 393

Near Spring City.

T. 26 N., R. 32 W., sec. 11, 0.75 mile southeast of New Spring City, 150 feet south of Mr. Baker's store, west of Joplin-Seneca road, in root of tree of paradise (18 inches); copper nail with washer, marked "U. S. B. M. 1141".....	1, 141. 27
New Spring City, T. 26 N., R. 33 W., sec. 10, 50 feet northeast of mail rack, 50 feet northeast of S. D. Ford's store, at road forks, in root of 18-inch hickory tree; copper nail with washer, marked "U. S. B. M. 1025".....	1, 024. 64
Old Spring City, T. 26 N., R. 33 W., southeast corner sec. 9, 130 feet north of J. S. Cumming's store, 100 feet northwest of crossroads, in root of 14-inch oak tree; copper nail with washer, marked "U. S. B. M. 1115".....	1, 114. 95
T. 26 N., R. 33 W., southeast corner of sec. 8, in front of John Green's farmhouse, opposite T road east, in base of 8-inch corner fence post; copper nail with washer, marked "U. S. B. M. 1151".....	1, 150. 48
T. 26 N., R. 33 W., northwest corner of sec. 9, at crossroads; iron post stamped "Crthg 1142 Prim. Trav. Sta. No. 9, 1906," "Crthg 1142".....	1, 141. 446

APPENDIX A.

ELEVATIONS ADJUSTED BY THE COAST AND GEODETIC SURVEY FROM PRECISE LEVELING.

Alexandria, Altenberg, Alton, Atchison, Barry, Butler, Bonfils, Boonville, Cape Girardeau, Carthage, Chester, Crystal City, Dearborn, Exeter, Fulton, Glasgow, Gravois Mills, Hannibal, Harrisonville, Hermann, Independence, Jefferson City, Jonesboro, Kahoka, Kansas City, Kimmswick, Louisiana, Lexington, Marshall, Monett, Nebo, Nemaha, Nevada, O'Fallon, Quincy, Renault, Rulo, St. Joseph, St. Louis, Sedalia, Thebes, Warrensburg, and Weingarten quadrangles.

ANDREW, ATCHISON, BARRY, BARTON, BATES, BUCHANAN, CAPE GIRARDEAU, CASS, CLARK, CLAY, COLE, COOPER, GASCONADE, HOLT, HOWARD, JACKSON, JASPER, JEFFERSON, JOHNSON, LAFAYETTE, LEWIS, MARION, MONITEAU, OSAGE, PERRY, PETTIS, PIKE, ST. CHARLES, ST. LOUIS, STE. GENEVIEVE, SALINE, VERNON, AND WARREN COUNTIES.

The following descriptions and elevations are taken from reports of the United States Coast and Geodetic Survey, and are republished by permission of the superintendent of that bureau. The bench marks were established by the Coast and Geodetic Survey, by the Mississippi River Commission, and by the Missouri River Commission, from precise leveling, and were included in the 1912 adjustment by the Coast and Geodetic Survey. The elevations are likely to be changed only slightly by any future adjustment.

ALEXANDRIA QUADRANGLE.

[Latitude 40° 15'–40° 30'; longitude 91° 15'–91° 30'.]

Along Mississippi River.

Alexandria, upper end, 60 feet from bank, brick building in which post office is located, owned by Charles Bocker, facing river, north wall facing slough emptying into river and 50 meters from it, in north wall 1½ feet from northeast corner, 3 feet from ground; copper bolt leaded horizontally (U. S. C. E. p. b. m. 5).....	Feet. 498.464
Gregorys Landing, 150 meters north from junction of railroad and wagon road, Baptist Church, northeast corner, upper corner of stone masonry on front side; copper bolt leaded horizontally (U. S. C. E. p. b. m. 6)..	487.834
Gregorys Landing, near, 650 meters below bridge 14, 24 meters west of railroad, 10 meters south of small ravine, in northeast corner of field, 1.7 meters west of oak tree, in marking stone set at root of tree, which is 12 inches in diameter; copper bolt leaded vertically (U. S. C. E. p. b. m. 7).	495.918

KAHOKA QUADRANGLE.

[Latitude 40°-40° 30'; longitude 91° 30'-92°.]

Along Mississippi River.

Canton, southwest corner of Lewis and Fifth streets, Down's Hotel, in north wall, in fifth stone from ground, fourth stone from corner of wall made by office-door entrance, and in second stone from first window west of office entrance; copper bolt leaded horizontally (U. S. C. E. p. b. m. 8).	Feet. 494. 441
Canton, corner Sixth and Washington streets, German Methodist Episcopal Church, east side of back foundation, directly under window facing east, in third stone from ground and second from north corner; copper bolt leaded horizontally (U. S. C. E. p. b. m. 9).....	493. 785
La Grange, about 1 mile above, south abutment of railroad bridge 35 over Wyandconda Creek, southeast corner of abutment, 2 feet from south face and 4 feet from east face, in top surface; copper bolt leaded vertically (U. S. C. E. p. b. m. 10).....	484. 028
La Grange, southwest corner of Washington Street and St. Louis, Keokuk & Northwestern Ry., Queensberry & Schneider's tobacco works, in north-east corner stone, east face, 15 inches from corner of stone, 2 feet from ground; copper bolt leaded horizontally (U. S. C. E. p. b. m. 11).....	483. 920

QUINCY QUADRANGLE.

[Latitude 39° 45'-40°; longitude 91° 15'-91° 30'.]

Along Mississippi River.

West Quincy, west abutment of Quincy railroad bridge, in third course of masonry from bottom and ninth from top, north face, 2 inches from east corner; copper bolt leaded horizontally, center (U. S. C. E. p. b. m. 12)..	477. 811
Fabius River, covered railroad bridge over, north abutment, northeast corner of north pier forming south face of abutment, 5 feet below and 8 feet east of rail, in top surface of top stone, near center; copper bolt leaded vertically (U. S. C. E. p. b. m. 13).....	478. 450
North River, railroad bridge over, in top surface of stone forming west end of north pier, 14 inches from base of strut, 8 inches from north edge of stone, 2 feet from west edge; top of copper bolt leaded vertically (U. S. C. E. p. b. m. 14).....	474. 815

HANNIBAL QUADRANGLE.

[Latitude 39° 30'-39° 45'; longitude 91° 15'-91° 30'.]

Along Mississippi River.

Hilton, 466 meters north, 20 meters from northern one of two trees standing alone in wagon road, fence forming line between woods and cultivated ground, 15 meters west of railroad, 5 meters from wagon road, in stone post set in northeast corner of cultivated field; copper bolt leaded vertically (U. S. C. E. p. b. m. 15).....	471. 347
Hannibal, Missouri end of railroad bridge, 7 feet south of east entrance of tunnel, about 4 feet above road level, in natural rock facing east; copper bolt leaded horizontally (U. S. C. E. p. b. m. 16).....	489. 435
Hannibal, 1 mile below, 50 meters northeast of house of Mr. Johnson, small railroad bridge, north abutment, top surface of east stone; copper bolt leaded vertically (U. S. C. E. p. b. m. 17).....	464. 947
Saverton, 800 meters below depot, railroad bridge across Lick Creek, river side of north end of principal abutment, in top of top course of masonry; copper bolt leaded vertically (U. S. C. E. p. b. m. 18).....	463. 562

BARRY QUADRANGLE.

[Latitude 39° 30'-39° 45'; longitude 91°-91° 15'.]

Near Ashburn.

Ashburn, 1½ miles above, 6 miles south of Saverton, 25 meters from river bank, a little below dam at Gilberts Island, house of Catharine Hayes, 8 meters southwest of southwest corner of house, in corner of yard; marking stone (U. S. C. E. p. b. m. 19).....	Feet. 477. 896
Ashburn, a quarter of a mile north of, 23 meters south of south corner of house of Mr. Warner, 17 meters west of railroad, 7 meters south of wagon road, 3 meters north of bridge over creek, 8 meters east of large maple tree on east bank of small creek bed, on line of rail fence, in top of marking stone; copper bolt set vertically (U. S. C. E. p. b. m. 20)	474. 041

LOUISIANA QUADRANGLE.

[Latitude 39°-39° 30'; longitude 91°-91° 30'.]

Near Louisiana.

Salt River, about 77 meters from south bank at place where St. Louis, Keokuk & Northwestern Ry. (Burlington Route) crosses river, about 15 meters to west of track, nearly opposite south end of trestle on south end of bridge, in east edge of cultivated field; marking stone (U. S. C. E. p. b. m. 21).....	456. 420
Salt River, 50 meters above mouth, 20 meters west of railroad, in marking stone in southwest fence corner of fence running east and west and one south (south fence stops at corner and begins again 10 meters farther east on east and west fence); copper bolt leaded vertically (U. S. C. E. p. b. m. 22).....	468. 802
Louisiana, northwest corner of Water and Main streets, brick saloon, northeast fence, first layer of stone below brick, in second stone north of door in wall of building; copper bolt leaded horizontally (U. S. C. E. p. b. m. 23).....	468. 772
Louisiana, railroad bridge over Mississippi River, west abutment, top surface of top stone forming northeast corner; copper bolt set vertically, even with surface of stone (U. S. C. E. p. b. m. 24).....	467. 850
Louisiana, 6,000 meters below railroad bridge across Mississippi River, 500 meters below railroad bridge across gully, 9 meters north of oak tree 14 inches in diameter, on bank above (five notches cut in tree), 7 meters south of railroad, in side of natural rock; copper bolt, center of hole (U. S. C. E. p. b. m. 25).....	463. 227

NEBO QUADRANGLE.

[Latitude 39° 15'-39° 30'; longitude 90° 45'-91°.]

Near Clarksville.

Clarksville, about 3 miles above, about 60 meters east of old log house of Peter Yaeger, 15 meters west of river, 5½ meters west of railroad, at intersection of two fences on south side of land, which is 5 meters wide (small creek is 3 meters north of north fence, row of apple trees just inside north fence), in top of marking stone; copper bolt leaded vertically (U. S. C. E. p. b. m. 26).....	461. 144
Clarksville, 440 meters above vinegar works, 120 meters below mouth of Calumet Creek, 12 meters from river bank, 3½ meters east of railroad track, below wagon road, between railroad and house of Philip Bedair, in natural rock in side of small bluff bank; center of horizontal copper bolt (U. S. C. E. p. b. m. 27).....	465. 639

Clarksville, Carroll House, southeast corner of stone at head of stairs leading to basement, in south fence of stone 10 inches above sidewalk; copper bolt leaded horizontally (U. S. C. E. p. b. m. 28)..... Feet. 460. 859

ALTON QUADRANGLE.

[Latitude 38° 45'-39°; longitude 90°-90° 15'.]

From Columbia Bottom along Missouri River to Jamestown Landing.

Columbia Bottom, 1½ miles below upper end, at point where Columbia Bottom road, running along foot of bluff, turns east across the bottom opposite rock quarry, at east road fence 55 feet south of corner, in bench-mark stone:
 Top of copper bolt (U. S. C. E. p. b. m. 2=1/1) 426. 430
 Top of cap..... 430. 495

Columbia Bottom, upper extremity, 40 feet from river bank, 60 feet above rail fence over bluff, at foot of bluff, east end of Henry Weisley's orchard, 5 feet south of wire fence, 4 feet above elevation of bottom land, in exposed ledge of rock; copper bolt (U. S. C. E. p. b. m. 3)..... 430. 360

Columbia Bottom, 240 feet below west end of Henry Weisley's orchard, about 95 feet west of p. b. m. 3, on projection of natural ledge, 2 feet from end, 4 feet northwest of blazed ash 24 inches in diameter (U. S. C. E. t. b. m. 2)..... 429. 671

Fort Bellefontaine, at foot of bluff near site of, in bench-mark stone:
 Top of copper bolt (U. S. C. E. p. b. m. 4=2/1)..... 430. 370
 Top of cap 434. 432

Cold Water Creek, 2,295 feet above mouth, about three-quarters of a mile below St. Louis, Keokuk & Northwestern Ry. bridge, in large recess in rock bluff in which there is a small spring flowing out of a circular hole in rock 1 foot in diameter at an elevation of mean stage of river, in vertical cliff, about 20 feet below top of exposed face, 10 feet above high water; copper bolt (U. S. C. E. p. b. m. 5) 430. 957

Jamestown Landing, 1,605 feet above St. Louis, Keokuk & Northwestern Ry. bridge, 118 feet above mouth of small creek which runs along west side of widow Zehe's place, in small recess in bluff bank, 75 feet below point where rail intersects river bank, 10 feet below top of bank, under a 10-inch hackberry tree, 15 feet above low water and 3 feet west of large detached rock, in natural ledge; copper bolt (U. S. C. E. p. b. m. 6). 421. 485

Jamestown Landing, 2,210 feet above, 900 feet above William Whittaker's house standing on bluff, 20 feet from top of high-water bank, upper edge of oak grove, 1 foot east of wire fence, in bench-mark stone:
 Top of copper bolt (U. S. C. E. p. b. m. 7) 433. 549
 Top of cap:..... 437. 598

Jamestown Landing, 2,785 feet above, 500 feet below foot of island towhead, 575 feet above fence at upper side of woods at which is located p. b. m. 7, in north exposure of hard limestone ledge, in copper bolt; horizontal furrow (same as p. b. m. 8 of 1887) (U. S. C. E. p. b. m. 8)..... 418. 175

BONFILS QUADRANGLE.

[Latitude 38° 45'-39°; longitude 90° 15'-90° 30'.]

From Jamestown Landing along Missouri River to St. Charles.

Jamestown Landing, about 2 miles above, 500 feet from river, 75 feet west of small stream, at foot of bluff, on land owned by William Berger, in bench-mark stone:
 Top of copper bolt (U. S. C. E. p. b. m. 9=3/1)..... 441. 479
 Top of cap..... 445. 544

Musics Ferry, 10 feet to right of path leading up the bluff, 1 foot below shelf of same, in vertical face of ledge (directly up slope from p. b. m. 11); copper bolt (U. S. C. E. p. b. m. 10).....	Feet. 455. 849
Musics Ferry, about 2¼ miles below, at foot of bluff 100 feet above Dripping Spring, coming down over side of bluff, of a peculiar porous limestone formation, 90 feet west of point where wire fence joins bluff, on property of S. C. Carrico, in bench-mark stone:	
Top of copper bolt (U. S. C. E. p. b. m. 11)	433. 706
Top of cap.....	437. 775
Musics Ferry, 1,200 feet below, 220 feet below lower end of stone quarry, on east side of road under overhanging rock, 4.5 feet above ground; cross cut on vertical face of rock of same elevation as old copper bolt which was destroyed before 1887 (U. S. C. E. p. b. m. 12=old p. b. m. of 1887)..	439. 035
Musics Ferry, in same yard as p. b. m. 14, on east side of wagon road, southwest corner of three-story stone house, 1 foot east of corner and 5 feet above ground, into wall of house; copper bolt leaded horizontally (U. S. C. E. p. b. m. 13).....	449. 638
Musics Ferry, 500 feet below old stone house, in dooryard of large three-story stone house, 19 feet south and 10 feet west of southwest corner of house, at east fence of road, in bench-mark stone:	
Top of copper bolt (U. S. C. E. p. b. m. 14=4/1)	440. 767
Top of cap	444. 829
Musics Ferry, on right bank, opposite center of Charbonnier Island, 2,460 feet above lower edge of first timber along river above ferry, 400 feet above upper end of present timber line running to river, 300 feet from river, 200 feet below road up side of bluff, on north end of rounding point of bluff, at rear of field, in bench-mark stone:	
Top of copper bolt (U. S. C. E. p. b. m. 15).....	445. 327
Top of cap	449. 386
Charbonnier Point, 104 feet from road, 33 feet south of house of L. C. Knapp, in dooryard north of angle in highway, at east yard fence, in bench-mark stone:	
Copper bolt (U. S. C. E. p. b. m. 16=5/1).....	435. 065
Top of cap	439. 123
St. Charles Bridge, 2¼ miles below, 98 feet north of George Cleberg's house, 98 feet south of public road, on east side of driveway, 5 feet south of 10-inch maple, in bench-mark stone:	
Copper bolt (U. S. C. E. p. b. m. 17).....	437. 588
Top of cap	441. 643
St. Charles, opposite, at east foot of embankment of Wabash Ry. trestle and south side of St. Charles rock road, 210 feet east of trestle, 45 feet from road, 8 feet south from 3½-foot elm, in bench-mark stone:	
Top of copper bolt (U. S. C. E. p. b. m. 18)	435. 442
Top of cap	439. 481
St. Charles Bridge, at road crossing under track of east approach of, on upriver side of trestle, fourth iron column from north side of wagon road, in southeast quarter of stone at base; top of copper bolt leaded vertically (U. S. C. E. p. b. m. 19).....	456. 384
St. Charles Bridge, in second pier from east end, on west face, on curved surface at south end of pier, in sixteenth course of masonry from starting coping of pier, 2.8 feet south of line between rough and dressed stone, in copper bolt; horizontal furrow (U. S. C. E. p. b. m. 20=old b. m. 17)..	444. 130

St. Charles, on south side of trestlework of St. Charles Bridge, first column west of west pier, northeast corner, on eighth course of stone from top and fourth above ground, at offset in masonry; highest point in square (U. S. C. E. t. b. m. 23).....	Feet. 449. 907
St. Charles, on same stone column supporting trestle as t. b. m. 23, on upstream corner, nearest river, of second projecting course of masonry from top; highest point in square (U. S. C. E. t. b. m. 24=gage b. m.)...	447. 525
St. Charles, 1,310 feet above St. Charles Bridge, 25 feet west of center of Missouri, Kansas & Texas Ry. track, north side of Lawrence Street, in southeast corner of David Lane's lot, 1 foot west from fence, in benchmark stone; top of copper bolt (U. S. C. E. p. b. m. 21=6/2).....	445. 396
St. Charles, northeast corner of Lawrence and Second streets, three-story brick building, southwest corner, on top of foundation (U. S. C. E. t. b. m. 25=city b. m., St. Charles).....	456. 213
St. Charles, about 557 feet from p. b. m. 22 toward St. Charles, where branch road from St. Charles rock road runs northeast, on north end of rock culvert under branch road, on northwest corner of stone; highest point in square (U. S. C. E. t. b. m. 32).....	455. 491

ST. LOUIS QUADRANGLE.

[Latitude 38° 30'-39°; longitude 90°-90° 30'.]

At St. Louis.

St. Louis, inserted in the western land pier of the Great Bridge, a large bronze plate bearing the inscription "U. S. Coast and Geodetic Survey bench mark 1882." Bench marks I ₃ and J ₃ were placed as nearly as possible on the same level as the so-called St. Louis "City Directrix" described below (C. & G. S. b. m. J ₃).....	413. 979
Known at St. Louis as the "City Directrix." It has been in use for many years, and was originally the top surface of the pedestal of a monument which stood on Front Street near Market. The monument shaft was destroyed at the time of the great fire in that locality, but the pedestal remained. It is now level with the curbstone and forms a part thereof. A T mark has since been cut to indicate the point used for a bench mark (C. & G. S. b. m. K ₃).....	413. 969

At St. Paul.

St. Paul, on the upper surface of the middle top stone of the south side of the east abutment of Missouri Pacific Ry. bridge; cut marked "B. M." (C. & G. S. b. m. X).....	433. 303
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Along Mississippi River near St. Louis.

St. Louis, 12.8 miles above steel railroad bridge, about opposite lower end of Wilsons Island No. 5, in corner of grove 20 meters west of Columbia road, stone in ground; top of copper bolt (on land of Mr. Chambers) (U. S. C. E. p. b. m. 12).....	457. 867
St. Louis, 6.4 miles above railroad bridge, small grove on east side of Baden and St. Louis street-car track, 110 meters south of northern terminus of Baden street-car track and 37 meters east of same, top of stone in ground; top of copper bolt (U. S. C. E. p. b. m. 13).....	431. 551
St. Louis, St. Louis waterworks, in third course of stones on north side of western engine room, 147 centimeters west of west coping to main entrance to building; small hole in center of copper bolt with letters "U. S. P. B. M." cut near bolt (U. S. C. E. p. b. m. 14).....	426. 564

St. Louis, St. Louis steel bridge, west pier of arch 4, east side of pier, 6.14 meters south of north end of pier and 14 centimeters above top course of granite; small hole in copper bolt with letters "U. S." cut in granite below mark (U. S. C. E. p. b. m. 15).....	Feet. 416. 649
St. Louis, junction of Jefferson Avenue and Carondelet Road, brick saloon adjoining St. Louis Park, second door from northeast corner, in east end of doorstep, 29.5 centimeters from front face and 10 centimeters west of buttress adjoining doorstep; top of copper bolt leaded vertically (U. S. C. E. p. b. m. 16).....	502. 788
Carondelet, north of northeast corner of Main and Franklin streets, E. Mueller's store, in north end of north doorstep; top of copper bolt leaded vertically (U. S. C. E. p. b. m. 17).....	434. 993
Jefferson Barracks, northeast corner of guardhouse; center of copper bolt leaded horizontally (U. S. C. E. p. b. m. 18).....	494. 763

KIMMSWICK QUADRANGLE.

[Latitude 38° 15'-38° 30'; longitude 90° 15'-90° 30'.]

Along Mississippi River.

Cliff Cave, on St. Louis, Iron Mountain & Southern Ry., in east end of culvert, fourth course from top; center of copper bolt leaded horizontally (U. S. C. E. p. b. m. 19).....	394. 028
White House Creek, on St. Louis, Iron Mountain & Southern Ry., arched culvert over creek, southwest retaining wall, in upper surface of third stone from top; top of copper bolt leaded vertically (U. S. C. E. p. b. m. 20).....	410. 111
Jefferson station, 650 meters below, on St. Louis, Iron Mountain & Southern Ry., arched culvert, in top stone directly over keystone of arch on north side; top of copper bolt leaded vertically, letters "U. S. P. B. M." are cut near bolt (U. S. C. E. p. b. m. 21).....	406. 666
Kimmswick, on St. Louis, Iron Mountain & Southern Ry., railroad bridge, in southern abutment to southern approach; top of copper bolt leaded vertically (U. S. C. E. p. b. m. 22).....	408. 779
Sulphur Springs, 400 meters below station house, railroad bridge, southern pier, in east face of stone in northeast corner; center of copper bolt leaded horizontally (U. S. C. E. p. b. m. 23).....	404. 251
Illinois station, 1,000 meters below station house, in natural rock in overhanging bluff (first bluff seen from water's edge, standing opposite point where St. Louis, Iron Mountain & Southern Ry. leaves Mississippi River); center of copper bolt leaded horizontally (U. S. C. E. p. b. m. 24).....	412. 266

CRYSTAL CITY QUADRANGLE.

[Latitude 38°-38° 15'; longitude 90° 15'-90° 30'.]

Along Mississippi River.

Platin Rock Creek, 1,000 meters south of mouth of creek, about 160 meters south of foot of Cornice Island, about 2 meters from river edge of rock, in Cornice Rock; top of copper bolt leaded vertically (U. S. C. E. p. b. m. 25).....	385. 649
Rush Tower, 1,736 meters above, in top of Robbers Rock on north side; top of copper bolt leaded vertically (U. S. C. E. p. b. m. 26).....	388. 992
Robbers Rock is large sandstone on beach and is plainly visible for three-quarters of a mile up or down the river.	
Rush Tower, 11 meters from post-office building, in limestone wall (natural rock); center of copper bolt leaded horizontally (U. S. C. E. p. b. m. 27).....	395. 623

RENAULT QUADRANGLE.

[Latitude 38°-38° 15'; longitude 90°-90° 15'.]

Along Mississippi River.

Brickey's mill, Cliff post office, 1,000 meters above, on beach, in large limestone boulder; top of copper bolt (U. S. C. E. p. b. m. 28).....	Feet. 378. 795
This beach is little lower than extreme high-water mark.	
Cliff post office, 3 miles below, about 30 meters north of Mr. Maple's farmhouse, 4 meters north of a red-oak tree, in limestone wall (natural rock) at end of bluff, about 1 foot above surface of ground at base of bluff and about 8 meters above high-water mark; center of copper bolt leaded horizontally (U. S. C. E. p. b. m. 29).....	409. 927
White Sand depot landing, 1,580 meters above, about 250 meters north of southern end of bluff, in natural rock; center of copper bolt with letters "U. S. P. B. M." cut near bolt (U. S. C. E. p. b. m. 30).....	389. 094
Limestone Point, 2½ miles above Ste. Genevieve, 14 meters north of a spring, in natural-rock wall; center of copper bolt with letters "U. S. P. B. M." cut around bolt (U. S. C. E. p. b. m. 31).....	402. 932

WEINGARTEN QUADRANGLE.

[Latitude 37° 45'-38°; longitude 90°-90° 15'.]

Near Ste. Genevieve.

Ste. Genevieve, southwest corner of Main and Washington streets, Rozier's warehouse, south side, in west end of doorstep; top of copper bolt (U. S. C. E. p. b. m. 32).....	390. 629
Ste. Genevieve, public-school building, southeast corner, in south side; 4 inches from corner in fifth course of stones below bricks; center of copper bolt leaded horizontally with letters "U. S. P. B. M." cut near bolt (U. S. C. E. p. b. m. 33).....	401. 000
Quarrytown, 3 miles below Ste. Genevieve, Quarrytown Grindstone Works, engine house, in east face of large corner stone; center of copper bolt with letters "U. S. P. B. M." cut near bolt (U. S. C. E. p. b. m. 34).....	384. 396

CHESTER QUADRANGLE.

[Latitude 37° 45'-38°; longitude 89° 45'-90°.]

Along Mississippi River.

St. Marys, northeast corner of Second and Walnut streets, storehouse belonging to E. S. Lanbaugh, in southwest corner, in west end of water table; center of copper bolt, leaded horizontally, with letters "U. S. P. B. M." cut near bolt, bolt is countersunk about 5 millimeters in stone (U. S. C. E. p. b. m. 35).....	389. 015
St. Marys, east of Walnut Street, Martin Roundstone's ice house, southwest corner, in fifth course of stone from bottom; center of copper bolt leaded horizontally with letters "U. S. P. B. M." cut near bolt (U. S. C. E. p. b. m. 36).....	395. 960
St. Marys, about 4 miles below, 990 meters back from river and 24 meters west of lane running south from river road; lane turns off from river road in vicinity of John Lawrence's house. Bench mark is S. 40° W. from farmhouse, 7 meters N. 75° W. from ash tree, and 4½ meters N. 52° E. from box-elder tree, in woods, stone post set in ground; top of copper bolt leaded vertically (U. S. C. E. p. b. m. 37).....	367. 529
Bois Brule post office, 1,420 meters back from river, 50 meters south of end of lane, 1 meter from fence, in stone in ground; top of copper bolt (U. S. C. E. p. b. m. 41).....	362. 493

Grand Eddy post office, 643 meters below, 14 meters below extreme upper point of bluff rocks, about 3½ meters below upper end of United States water gage, in vertical face of natural rock; center of copper bolt set horizontally, with letters "U. S. P. B. M." cut in rock near bolt (U. S. C. E. p. b. m. 42).....	Feet. 371. 846
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ALTENBERG QUADRANGLE.

[Latitude 37° 30'-37° 45'; longitude 89° 30'-89° 45'.]

Along Mississippi River.

Grand Eddy, about 4 miles below, 740 meters below a house, 175 meters back from river, 30 meters back from edge of timber, at upper end of a stretch of prairie land which extends down to 76 landing, in woods, in a large rock; center of copper bolt leaded horizontally (U. S. C. E. p. b. m. 43).....	369. 701
Wittenberg, 3½ miles above, 100 meters above barn on Cape Cinque Hommes, Perry County, 17 meters above second gate above farmhouse of Napoleon Gill, 6 meters from edge of bank, in large bowlder 10 by 10 by 6 feet; top of copper bolt leaded vertically (U. S. C. E. p. b. m. 44).....	368. 979
Wittenberg, Wittenberg flouring mill, side facing river between ground-floor door and downriver corner of mill, in stone foundation wall; center of copper bolt leaded horizontally (U. S. C. E. p. b. m. 45).....	362. 568
Wittenberg, 400 meters below, between houses of Denny and Tucker, 23 meters from former and 31 meters above latter, 11 meters below Denny's shop and 29 meters above Tucker's barn, 2 meters east of road, in east face of rock; center of copper bolt leaded horizontally (U. S. C. E. p. b. m. 46).....	362. 158
"Tower Rock" (Perry County), 95 meters below, opposite upper end of Grand Tower, Ill., 15 meters east of an iron bolt leaded vertically in point of rocks and marked "U. S. 53"; top of copper bolt leaded vertically, with letters "U. S. P. B. M." cut near bolt (U. S. C. E. p. b. m. 47)	344. 218
Birmingham Point, 813 meters above mouth of Apple Creek (rocks are conglomerate in horizontal strata and from river present appearance of stairway); 30 meters above living spring which comes out of gravel just below strata of rock, 28½ meters above scrubby, gnarled sycamore tree growing in rocks, in face of rock; center of copper bolt leaded horizontally, with letters "U. S. P. B. M." cut near bolt (U. S. C. E. p. b. m. 48)...	341. 033
Apple Creek, 3,655 meters below, in the bluff rock; top of copper bolt leaded vertically. In front of this bench mark are three very large rocks standing out from the bluff and partly detached therefrom (U. S. C. E. p. b. m. 49).....	341. 587

JONESBORO QUADRANGLE.

[Latitude 37° 15'-37° 30'; longitude 89° 15'-89° 30'.]

Along Mississippi River.

"The Devil's Tea Table" (name of rock), 712 meters below, in natural rock in river bluff; center of copper bolt leaded horizontally (U. S. C. E. p. b. m. 50).....	341. 673
Moccasin Springs, 2,500 meters above Bainbridge Creek, last reliable ledge of rocks of the chain extending south, at point where bluffs begin to recede from river, in steeply inclined face; center of copper bolt, letters "U. S." cut in rock (U. S. C. E. p. b. m. 51).....	338. 090

Cape Rock, 4 miles above north end, three-quarters of a mile from river, on land of Elisha Sheppard's heirs, 775 meters below Henry Shineman's house, 565 meters above foot of bluffs, in vertical face of ledge of rocks 35 centimeters thick, 1.2 meters above the ground; a horizontal copper bolt (U. S. C. E. p. b. m. 52).....	Feet. 342. 818
Cape Rock, just below ravine at lower end, elevation about high water, in vertical face of ledge; center of horizontal copper bolt (U. S. C. E. p. b. m. 53).....	336. 879

CAPE GIRARDEAU QUADRANGLE.

[Latitude 37° 15'-37° 30'; longitude 89° 30'-89° 45']

At Cape Girardeau.

Cape Girardeau, Water Street, Marble City Hotel, second entrance from north, in stone step which extends under buttress at northeast corner, outer vertical face; horizontal copper bolt (U. S. C. E. p. b. m. 54).....	346. 676
Cape Girardeau, in south part of cape, about 45 meters west of river, just below and near southeast corner of St. Vincent's College, in vertical face of good homogeneous hard rock; horizontal copper bolt (U. S. C. E. p. b. m. 55).....	356. 594
Cape Girardeau, lower end, in front of St. Vincent's College, 35 meters east of railroad track, in vertical face of solid rock of fairly hard homogeneous sandstone, or granite, very white when cut (ledge forms bank of river); horizontal brass key (U. S. C. E. p. b. m. 56).....	331. 502

THEBES QUADRANGLE.

[Latitude 37°-37° 15'; longitude 89° 15'-89° 30']

Along Mississippi River.

Grays Point, 1,574 meters above lower United States water gage, just in view of lower part of Cape Girardeau, S. 70° E., 75 meters from mouth of Le Croix Creek, 10 meters below where ledge disappears underground, 1 meter below top of vertical part, 0.8 meter above ground, on land of Taylor estate, in smooth vertical face in ledge of blue or gray limestone; center of horizontal copper bolt, letters "U. S. P. B. M." cut in face of rock (U. S. C. E. p. b. m. 57).....	343. 910
Commerce, about 3 miles above, 600 meters above Wrays Landing, on land of Matthew Roe, 80 meters above line between property of Matthew Roe and H. S. Wray, 10 meters from top of river bank, 0.8 meter above ground, center one of three large rocks, lowest and largest of which forms bank of river and known as Counterfeit Rock or Standing Rock of the Grand Chain, in vertical face looking toward river; horizontal copper bolt, center mark, letters "U. S. P. B. M." cut in rock (U. S. C. E. p. b. m. 58).....	343. 162
Commerce, 1,190 meters above U. S. p. b. m. 60, about 60 meters back from river, ground rising in this distance 15 meters, in shallow, rocky ravine at upper side of first strip of cultivated land near river, south of bluffs, on land of Mrs. C. Halfner, large siliceous rock mostly covered with earth, being one of group of many in ravine, in steeply inclined face, looking toward river, 0.6 meter above ground; horizontal copper bolt, center, letters "U. S. P. B. M." cut in rock (U. S. C. E. p. b. m. 59).....	369. 661

Commerce, north or upper end, about 30 meters above William Anderson's large brick house on elevated site, 3.37 meters above high water of 1858, 0.55 meter above ground, in vertical face of ledge, looking toward river (top surface of this rock or ledge extends across street and forms road-bed); horizontal copper bolt, point in center (U. S. C. E. p. b. m. 60)..	Feet. 342. 591
There are a number of large pieces of rock lying on the bank here that have from time to time rolled down from the same general ledge, but the one selected is so large and extends back in bank so far that it is reliable.	
Commerce, upper end, William Anderson's large brick dwelling house, in front or east face of foundation, 2 meters north of center of front entrance, 36 centimeters above ground; horizontal copper bolt, center (U. S. C. E. p. b. m. 61).....	362. 696

O'FALLON QUADRANGLE.

[Latitude 38° 30'-39°; longitude 90° 30'-91°.]

Along Missouri Pacific Ry.

Allenton, west abutment of the railroad bridge, on top of south side; cut marked "B. W M." No. XI).....	480. 192
South Point station, about three-eighths of a mile west of, inserted in the face of a perpendicular rocky bluff; cross on the head of a copper bolt (the bolt was inserted by the United States Engineers at work on improvement of Missouri River, and is the same as p. b. m. 49) (No. XII)..	490. 564

From St. Charles along Missouri River to Boles.

St. Charles, on foot of bluff opposite, 540 feet south of road branching to northeast, opposite large brick house, 125 feet east of east side of St. Charles rock road where it enters hills, 30 feet from soft maple on side of bluff, at northwest corner of Mr. Jones's yard, in bench-mark stone:	
Top of copper bolt (U. S. C. E. p. b. m. 22=6/1).....	480. 239
Top of cap.....	484. 300
St. Charles, 1 $\frac{3}{4}$ miles above where St. Charles rock road enters hills, 1,965 feet below where wagon road running north from Vigus leaves the bottom and enters hills, 95 feet above ditch running east and west across the bottom, about 65 feet north of point where rail fence joins bluff, 15 feet north of 18-inch sycamore, 3 feet west of rail fence, at foot of bluff, in bench-mark stone:	
Top of copper bolt (U. S. C. E. p. b. m. 23).....	447. 181
Top of cap.....	451. 256
Creve Cœur Lake, about 1,965 feet north from north end, about 607 feet from St. Louis, Kansas City & Colorado Ry., 394 feet west of intersection of east-west wagon road with road running south across track, 15 feet south of said east-west road, about one-quarter mile S. 83° W. (mag.) from water tank, in bench-mark stone:	
Copper bolt (U. S. C. E. p. b. m. 24=7/2).....	449. 825
Top of cap.....	453. 893
Creve Cœur Lake station, 425 feet south of St. Louis, Kansas City & Colorado Ry., 112 feet north of Boyd's cottage, 65 feet east of center of track, in southwest corner of field, in bench-mark stone:	
Copper bolt (U. S. C. E. p. b. m. 25).....	446. 895
Top of cap.....	450. 960

	Feet.
Creve Cœur Lake station, 2,950 feet above, on St. Louis, Kansas City & Colorado Ry., 1,000 feet above milepost 22, 744 feet above bridge 48; 1,245 feet below road crossing, on bluff side of track, 35 feet from center and $4\frac{1}{2}$ feet above top of rail, in vertical face of rock; copper bolt leaded horizontally (U. S. C. E. p. b. m. 26).....	456. 226
Mona station, 1 mile below, 52 feet east of road crossing, in north end of west cap of bridge 49, over pile marked \square ; top of driftbolt (U. S. C. E. t. b. m. 45).....	453. 293
Mona station, 150 feet above road running from bottom over bluff to Lake post office, opposite a point 60 feet above bridge 52, on line of St. Louis, Kansas City & Colorado Ry., at foot of bluff, in bench-mark stone:	
Copper bolt (U. S. C. E. p. b. m. 27=8/1).....	450. 957
Top of cap.....	455. 022
Drew station, 2,100 feet below point where Olive Street road crosses St. Louis, Kansas City & Colorado Ry., 1,680 feet above milepost 26, 800 feet below headblock at east end of siding, on bluff side of track 85 feet from center, opposite bridge 61, in bench-mark stone:	
Copper bolt (U. S. C. E. p. b. m. 28).....	462. 988
Top of cap.....	467. 043
Drew station, 98 feet east of depot, 30 feet north of center of track, iron wagon bridge on Olive Street road over Bon Homme Creek, southeast corner of south abutment, at angle between face of abutment and wing wall, on masonry; highest point in square cut, marked "U. S." (U. S. C. E. t. b. m. 51).....	461. 019
Gumbo station, in northeast corner of cemetery, which is 230 feet south of railroad track (a road runs from Gumbo post office over bluff along east edge of cemetery), in bench-mark stone:	
Top of copper bolt (U. S. C. E. p. b. m. 29=9/1).....	464. 012
Top of cap.....	468. 063
Stevens, 130 feet above road crossing, 110 feet below rail fence, 50 feet from track center, 45 feet below bridge 79, $1\frac{1}{2}$ feet south of right of way fence, at foot of bluff, in bench-mark stone:	
Copper bolt (U. S. C. E. p. b. m. 30).....	460. 350
Top of cap.....	464. 415
Bon Homme, 35 feet west of line of road running north across bottom, 18 feet east of a 20-inch sugar maple, 15 feet south from center line of road running west along foot of bluff, opposite lower end of railroad platform at foot of bluff, in bench-mark stone:	
Copper bolt (U. S. C. E. p. b. m. 31=10/1).....	460. 357
Top of cap.....	464. 415
Bon Homme, 15 feet south of p. b. m. 31, 10 feet west of same, and $9\frac{1}{2}$ feet higher than top of cap, in vertical face of ledge; copper bolt leaded horizontally (U. S. C. E. p. b. m. 32).....	473. 628
Bon Homme, 15 feet west of p. b. m. 31, 5 feet north of a 20-inch sugar maple, about level with surface of ground, on embedded stone; highest point in square (U. S. C. E. t. b. m. 56).....	462. 122
Centaur, 62 feet east of Centaur Lime Co.'s store, 30 feet south of St. Louis, Kansas City & Colorado Ry., opposite east end of railroad platform, in bench-mark stone:	
Copper bolt (U. S. C. E. p. b. m. 33).....	460. 232
Top of cap.....	464. 284
Centaur, three-quarters of a mile above, on bluff side of track 45 feet from center and about 5 feet above grade, 10 feet above upper end of bridge 99, opposite center of wooded lot on river side of track, in north face of vertical ledge; copper bolt leaded horizontally (U. S. C. E. p. b. m. 34).....	470. 183

Port Royal, five-eighths of a mile below, 75 feet below point of very low bluff ledge, opposite center of small cave, bluff side of track 12.1 feet from center and about level with grade, on natural ledge; highest point in square (U. S. C. E. t. b. m. 61).....	Feet. 472. 374
Port Royal, 35 feet above bridge 106, bluff side of track 35 feet from center, in front of section house, 2 feet back from front line and 5 feet from corner of yard fence to property owned by Charles W. Goetz, in bench-mark stone:	
Copper bolt (U. S. C. E. p. b. m. 35=11/1).....	474. 573
Top of cap.....	478. 647
Port Royal, near p. b. m. 35, 40 feet above bridge 106, 12 feet from section house, and on line with east face of same, river side of track, 15 feet from center, on embedded stone projecting about 2 inches above ground; highest point in square (U. S. C. E. t. b. m. 62).....	473. 103
Port Royal, 3,035 feet above, 75 feet below limekiln, 15 feet above lower headblock of limekiln siding, river side of track 9.2 feet from center, 1.3 feet above grade of track, on rock; highest point in square (U. S. C. E. t. b. m. 63).....	477. 949
Port Royal, 1¼ miles above, 557 feet above milepost 37, bluff side of track, 45 feet from center, 10 feet above west end of bridge 109, in bench-mark stone:	
Copper bolt (U. S. C. E. p. b. m. 36).....	479. 153
Top of cap.....	483. 214
Port Royal, 1½ miles above, three-quarters of a mile above milepost 37, about 20 feet west of square corner of bluff, 16 feet from center of track, 1 foot above rail, in natural face of bare sandstone bluff; copper bolt leaded horizontally (U. S. C. E. p. b. m. 37).....	505. 468
St. Albans station, 835 feet S. 85° 30' W. (mag.) from northeast corner of sec. 10, T. 44 N., R. 2 E., 197 feet above bridge 113, about 60 feet south of railway track, in northeast corner of Charles Boker's dooryard, in bench-mark stone:	
Copper bolt (U. S. C. E. p. b. m. 38=12/1).....	479. 225
Top of cap.....	483. 280
Becker station, 1 mile below, 315 feet below bridge 114, 100 feet below upper end of sidehill cut, bluff side of track, 10.8 feet from center, 1 foot above ground, on natural ledge; highest point in square, marked "U. S." (U. S. C. E. t. b. m. 69).....	491. 630
Becker station, 800 feet above, 1,230 feet below water tank, 75 feet above intersection of track and west road fence produced, bluff side of track 25 feet from center, 1½ feet from west wing fence, opposite cattle guard, in bench-mark stone:	
Copper bolt (U. S. C. E. p. b. m. 39).....	482. 230
Top of cap.....	486. 295
Becker, three-eighths of a mile above, 250 feet above milepost 42, 200 feet below water tank, on east abutment of bridge 116, on north end of first course of stone below bridge-seat course; top of copper bolt leaded vertically (U. S. C. E. p. b. m. 40).....	478. 296
Becker station, 1½ miles above bridge over Fiddle Creek, which is just above station, 2,865 feet above milepost 43, 33 feet above bridge 122. about 50 feet from center of track, 1 foot inside of south right of way fence, in bench-mark stone:	
Copper bolt (U. S. C. E. p. b. m. 41).....	465. 964
Top of cap.....	470. 022

Labadie station, at crossing of Missouri Pacific Ry. above station, on north end of pier east of Missouri Pacific track, seventeenth course of masonry from top, in east side of center stone; copper bolt leaded horizontally (U. S. C. E. p. b. m. 42).....	Feet. 490.501
Boles, 2 miles below, 2,100 feet below milepost 46, 500 feet below post "One mile to station," 50 feet from center of track, 1 foot inside of north right of way fence, opposite west end of deep through rock cut, in bench-mark stone:	
Copper bolt (U. S. C. E. p. b. m. 43=13/1).....	468.516
Top of cap.....	472.571
Boles, 2 miles below, 2,095 feet below milepost 46, 495 feet below post marked "One mile to station," about 20 feet west of west end of deep through rock cut, on bluff side of track 12 feet from center and level with rail, on natural ledge; highest point in square, marked "U. S." (U. S. C. E. t. b. m. 78).....	488.824
Boles, 3,005 feet below, 95 feet above milepost 47, 36 feet below small bridge D ₂ , opposite road crossing, bluff side of track 15 feet from center and 2 feet above rail, in natural ledge; copper bolt leaded horizontally (U. S. C. E. p. b. m. 44).....	485.698
Boles, 3,018 feet below, 82 feet above milepost 47, 49 feet below small bridge D ₂ , 10 feet east of road crossing bluff side of track 8 feet from center, on natural ledge; highest point in square, marked "U. S." (U. S. C. E. t. b. m. 80).....	484.077
Boles, 375 feet above, 50 feet above west headblock for warehouse track, 27 feet above cattle guard, bluff side of track, 10 feet from center and about 1 foot above rail, on natural ledge; highest point in square, marked "U. S." (U. S. C. E. t. b. m. 81).....	485.865
Boles, three-quarters of a mile above, 616 feet above west headblock of siding, near right of way fence corner at right-angle turn of farm road, 2 feet outside of right of way in Mr. Hinkle's field, in bench-mark stone:	
Copper bolt (U. S. C. E. p. b. m. 45).....	474.110
Top of cap.....	478.149
Boles, 1½ miles above, 872 feet below post marked "One mile to station," 295 feet below milepost 49, on bluff side of track 10 feet from center, on large embedded bowlder; highest point in square (U. S. C. E. t. b. m. 83).....	488.234

HERMANN QUADRANGLE.

[Latitude 38° 30'-39°; longitude 91°-91° 30'.]

From Washington west along Missouri Pacific Ry. to Hermann.

Washington, on the horizontal surface of the stone ledge under the windows of the east face of the German Catholic Church; cut marked "U. S. C. & G. S. L ₃ 1882".....	546.020
New Haven, on the northeast corner of the building occupied by the New Haven Merchandise Co. (the building stands a short distance south of the Missouri Pacific Ry. track and west of the railroad station); cut marked "U. S. C. & G. S. B+B. M ₃ 1882".....	509.802
New Haven, about one-eighth of a mile west of, on the north side of the east abutment of railroad culvert; cut marked "B □M." (C. & G. S. b. m. XIII).....	506.889
Eilah station, about a quarter of a mile east of, the north end of the east abutment of a small railroad bridge or culvert, on the top surface; cut marked "U. S. B. □M. XIV" (C. & G. S. b. m.).....	509.585

Berger, on the west side of Mrs. M. M. Schaub's house, close to the wall of the foundation and 3.3 feet from the southwest corner of the house, house is quite close to the track of the Missouri Pacific Ry. (50 feet), just north of the point where the main street of the village crosses it; a limestone post 1.7 feet long, rough at the bottom and dressed to 6 by 6 inches at the top to a depth of 6 inches, and buried 1.5 feet in the ground, both corners of the stone on the south side are chipped off, and the stone appears to be rather soft (C. & G. S. b. m. XV).....	Feet. 512. 033
Hermann, on the northeast corner (east side) of the stone foundation of the White House Hotel, 1.24 feet south of the corner and 1.26 feet above the surface of the ground; center of a cross cut marked "U. S.+B. M. N ₃ 1888" (C. & G. S. b. m.).....	519. 832

From Boles along Missouri River to Coles Creek.

South Point, 2 $\frac{1}{4}$ miles below, 623 feet below milepost 50, 115 feet below whistle post, on bluff side of track 7.2 feet from center and about 1 foot below grade, on embedded rock; highest point in square (U. S. C. E. t. b. m. 84).....	487. 601
South Point siding, 1 $\frac{1}{4}$ miles below lower headblock and opposite center of coulee, 14.5 feet from center of track on east side of opening, 5.9 feet below grade, on south end of stone-box culvert, on large corner stone; highest point in square, marked "U. S." (U. S. C. E. t. b. m. 85)	482. 312
South Point siding, 1 $\frac{1}{2}$ miles below lower headblock, 100 feet above stone culvert, 30 feet below point of bluff, bluff side of track 30 feet from center, 1.5 feet north of right of way fence, near upper side of coulee, in bench-mark stone: Copper bolt (U. S. C. E. p. b. m. 46=14/1).....	484. 599
Top of cap.....	488. 651
South Point siding, 1 $\frac{1}{2}$ miles below lower headblock, opposite center of small coulee, on west abutment of culvert, in center of south end; highest point in square, marked "U. S.".....	485. 855
South Point siding, 1 $\frac{1}{2}$ miles below lower headblock, 490 feet above small culvert, bluff side of track 14 feet from center and 4.6 feet above grade, opposite center of coulee, in natural ledge; copper bolt leaded horizontally (U. S. C. E. p. b. m. 47).....	492. 870
South Point, half a mile below, 1,310 feet above signpost marked "Station 1 mile," 4.9 feet below wooden box drain under track, bluff side of track 12 feet from center and about 1 $\frac{1}{2}$ feet below grade, on natural ledge; highest point in square (U. S. C. E. t. b. m. 87).....	486. 574
South Point siding, 853 feet below lower headblock, on north end of west abutment of bridge 14, Missouri Pacific Ry., top course of stone, on northeast corner, highest point in square, marked "U. □ S." (U. S. C. E. t. b. m. 88).....	483. 011
South Point, 35 feet below road crossing, bluff side of track 30 feet from center, 6 inches from right of way fence, about opposite center of siding, in bench-mark stone: Copper bolt (U. S. C. E. p. b. m. 48).....	484. 238
Top of cap.....	488. 303
South Point siding, 250 feet above upper headblock, on bluff side of track 10 feet from center and 1 foot below grade (4 feet west of p. b. m. 49), about 20 inches above bench mark, on natural ledge; highest point in square, marked with letters "U. S." (U. S. C. E. t. b. m. 89).....	488. 752
Washington, 7,020 feet below, 300 feet above milepost 53, on natural ledge; highest point in square (U. S. C. E. t. b. m. 90).....	489. 212

Washington, 900 feet below depot, on south side of waterworks pump house, 9 feet from southwest corner of building, in window sill; copper bolt leaded horizontally (U. S. C. E. p. b. m. 50).....	Feet. 493. 733
Washington, 900 feet below depot, pumping station, south entrance, on east end of doorsill; highest point in square (U. S. C. E. t. b. m. 92)....	491. 092
Washington, at southwest corner of Front and Elm streets, north end of north doorstep on Elm Street; highest point in square (U. S. C. E. t. b. m. 94=old b. m. 75 of 1879).....	497. 775
Washington, about 400 feet west of depot, on south side of Front Street, on north side of William Miller's lot, 30 feet east of main entrance to house, 3 feet east of entrance to barnyard east of house, under fence, on top of stone retaining wall; highest point in square marked "U. S." (U. S. C. E. t. b. m. 95).....	498. 454
Washington, on south side of Front Street, 545 feet N. 71° 40' W. (mag.) from west end of railroad station, at northwest corner of William Miller's dooryard, 5 feet southeast from corner post of fence, in bench-mark stone: Copper bolt (U. S. C. E. p. b. m. 51=15/1).....	495. 865
Top of cap.....	499. 920
Washington depot, 3,855 feet above, east abutment of bridge, on north end, at angle in masonry formed by wing wall, near corner; highest point in square (U. S. C. E. t. b. m. 96=old b. m. 42 _a).....	490. 517
Washington, 1 mile above, 200 feet above sign marked "Water station 1 mile," on south side of track, east of culvert, on third course of masonry from top, on southwest corner of stone; highest point in square (U. S. C. E. t. b. m. 97).....	492. 109
Washington, 2 miles above, 2,214 feet below bridge over St. Johns Creek, 125 feet below point of bluff, 35 feet below point where vertical ledge begins to run parallel to track on bluff side of track, 11.5 feet from center and 4.5 feet above grade, at lower side of coulee, in natural ledge; copper bolt leaded horizontally (U. S. C. E. p. b. m. 52).....	501. 406
Washington, 2 miles above, 2,230 feet below bridge over St. Johns Creek, on bluff side of track 9 feet from center, at upper end of rock cut, on natural ledge; highest point in square (U. S. C. E. t. b. m. 98).....	497. 053
Washington, 2½ miles above, 1,445 feet below east end of bridge over St. Johns Creek, 40 feet from center of track, 1 foot inside of south right of way fence at intersection of north and south rail fence, 4 feet west of gate opening into field, opposite a farm crossing, in bench-mark stone: Copper bolt (U. S. C. E. p. b. m. 53).....	488. 093
Top of cap.....	492. 145
Washington, 2½ miles above, west end of railroad bridge across St. Johns Creek, on abutment at west end of plate girder span, bridge-seat course, southwest corner; highest point in square (U. S. C. E. t. b. m. 99=old b. m. 43 _a).....	492. 305
Washington, 2¼ miles above, 150 feet above upper headblock of Hootan siding, bluff side of track, on natural ledge; highest point in square (U. S. C. E. t. b. m. 100).....	498. 752
Dundee, 3¼ miles below, 2,264 feet below milepost 59, 1,345 feet below signpost marked "½ mile to Dewey," 295 feet above upper headblock of Dewey siding, at farm crossing, 34 feet from center of track, 12 feet west of gate, 1 foot inside of south right of way fence, in bench-mark stone: Copper bolt (U. S. C. E. p. b. m. 54=16/1).....	496. 505
Top of cap.....	500. 567

Dundee station, $1\frac{1}{2}$ miles below, 1,280 feet below signpost marked "1 mile to station," 1,552 feet below milepost 61, on southeast corner of south wall of stone culvert, highest point in square (U. S. C. E. t. b. m. 105)...	Feet. 497. 109
Dundee station, $1\frac{1}{2}$ miles below, 1,467 feet below milepost 61, 1,194 feet below post marked "1 mile to station," 85 feet above stone culvert, 24 feet from center of track, 1 foot inside of south right of way fence, in bench-mark stone:	
Copper bolt (U. S. C. E. p. b. m. 55)	498. 719
Top of cap.....	502. 765
Dundee station, 2,950 feet below, 1,575 feet above milepost 61, 360 feet below headblock at east end of siding, on Missouri Pacific Ry., bluff side of track 9 feet from center and level with top of rail, at lower end of sidehill rock cut on natural ledge; highest point in square (U. S. C. E. t. b. m. 106)	501. 800
Dundee station, 2,950 feet below Dundee station, 400 feet below point of bluff and lower side of coulee, 325 feet above small coulee, 300 feet below headblock at east end of siding, bluff side of track 10 feet from center and 4 feet above grade, in vertical ledge; copper bolt leaded horizontally (U. S. C. E. p. b. m. 56).....	505. 590
Dundee, 1,640 feet below east end of tunnel, 120 feet south of railroad track, 12 feet southwest of honey locust, at north fence of small field owned by S. S. Baily, in bench-mark stone:	
Copper bolt (U. S. C. E. p. b. m. 57=17/1)	483. 273
Top of cap.....	487. 342
Dundee, 328 feet below east end of tunnel, bluff side of track, 18.4 feet from center of southwest corner, arch culvert over Little Boeuf Creek, east retaining wall, west end of coping stone; highest point in square (U. S. C. E. t. b. m. 108=old b. m. 46 _(b)).....	495. 534
Dundee, on same arch culvert over Little Boeuf Creek, north side of track, on southeast quarter of cross; highest point in square, marked "B. M." (U. S. C. E. t. b. m. 107=old R. R. b. m.).....	501. 616
Dundee, 328 feet below east end of tunnel, bluff side of track 9.2 feet from center, arch culvert over Little Boeuf Creek, east end of coping stone over culvert, southeast corner; highest point in square (U. S. C. E. t. b. m. 109=old b. m. 46 _a).....	501. 679
Kent siding, seven-eighths of a mile above Dundee, 490 feet above signpost marked "Kent," on bluff side of track 21.3 feet from center of main track, southeast corner of masonry over tile drain under track; highest point in square (U. S. C. E. t. b. m. 110).....	501. 364
Dundee, $1\frac{1}{2}$ miles above, three-eighths of a mile above Kent, Missouri Pacific Ry. over River au Boeuf, through railroad bridge 16, northeast corner of east abutment, on northeast corner of coping stone; highest point in square (U. S. C. E. t. b. m. 111=old b. m. 47)	501. 141
New Haven, $3\frac{1}{4}$ miles below, 1,640 feet below signpost marked "Kent $\frac{1}{2}$ mile," 1,257 feet below milepost 64, 262 feet above farm crossing, bluff side of track 9 feet from center and 6 inches below top of rail, in natural ledge; highest point in square (U. S. C. E. t. b. m. 112).....	503. 877
New Haven, $2\frac{7}{16}$ miles below, 2,713 feet below milepost 65, at south right of way fence, 32 feet from center of track, 3 feet west of intersection of north and south rail fence with right of way fence, west side of coulee, in bench-mark stone:	
Copper bolt (U. S. C. E. p. b. m. 58)	505. 399
Top of cap.....	509. 461

New Haven, 2 $\frac{3}{8}$ miles below, 2,156 feet below milepost 65, on bluff side of track 6 feet from center, on embedded stone; highest point in square (U. S. C. E. t. b. m. 113).....	Feet. 504. 038
New Haven, 1 $\frac{1}{2}$ miles below, 633 feet from west headblock, on bluff side of track 9 feet from center and 3 $\frac{1}{2}$ feet above the rail, near center of siding, in natural ledge; copper bolt leaded horizontally (U. S. C. E. p. b. m. 59).....	509. 343
New Haven, 1 $\frac{1}{2}$ miles below, 636 feet below west headblock of siding, on bluff side of track 9 feet from center and 1 $\frac{1}{2}$ feet above rail, in natural ledge facing track; highest point in square marked "U. S." in large letters (U. S. C. E. t. b. m. 114).....	507. 315
New Haven, at west side, corner of Olive Street and railroad, 5 feet from doorway of three-story brick building now owned by W. G. Warenken, in bench-mark stone:	
Copper bolt (U. S. C. E. p. b. m. 60=18/1).....	504. 323
Top of cap, which is about even with top of sidewalk.....	508. 395
New Haven, corner of Olive Street and railroad, on three-story brick building owned by W. G. Warenken, on north side of building, 2.5 feet from northwest corner, on top of water table; highest point in square (U. S. C. E. t. b. m. 115).....	509. 599
New Haven, 492 feet above depot, on north end of east abutment of railroad culvert, in bridge-seat course of masonry, 14 inches from north end and 25 inches from west face of stone; highest point in square (U. S. C. E. t. b. m. 116).....	505. 845
New Haven, 1 $\frac{1}{4}$ miles above, 100 feet below lower side of coulee at point where river and bluff meet, 25 feet below center of arch culvert, on bluff side of track 14 feet from center and 3 $\frac{1}{2}$ feet above grade, in vertical ledge; copper bolt leaded horizontally (U. S. C. E. p. b. m. 61).....	513. 149
Etlah, 1 $\frac{7}{8}$ miles below, 1,827 feet below milepost 69, at point where river comes back to bluff, at upper end of sidehill rock cut, on south wall of arch culvert, over center of arch; highest point in square (U. S. C. E. t. b. m. 118).....	508. 211
Etlah, 1 $\frac{1}{4}$ miles below, 948 feet below milepost 69, 879 feet above stone arch culvert on west side of coulee, 32 feet from center of track, at south right of way fence, in bench-mark stone:	
Copper bolt (U. S. C. E. p. b. m. 62).....	506. 265
Top of cap.....	510. 334
Etlah station, 6,168 feet below, 2,010 feet above milepost 69, west wall of open culvert, on south end; highest point in square (U. S. C. E. t. b. m. 119).....	508. 854
Etlah, 2,372 feet below depot, 380 feet above milepost 70, about 328 feet below headblock at east end of siding, on bluff side of track 8 feet from center, on embedded rock; highest point in square (U. S. C. E. t. b. m. 120).....	508. 713
Etlah, 672 feet above depot, 60 feet west of road crossing, 40 feet south of track, in corner of fence made by right of way fence and fence on west side of public road, in bench-mark stone:	
Copper bolt (U. S. C. E. p. b. m. 63=19/1).....	511. 505
Top of cap.....	515. 583
Etlah, 1 mile above, 1,850 feet below small iron bridge, 225 feet below post marked "Water station one mile," on bluff side of track 8 feet from center, on same elevation as rail, on large embedded piece of ledge, about 6 inches from edge; highest point in square (U. S. C. E. t. b. m. 122).....	510. 645

• Etlah, about $1\frac{3}{8}$ miles above, on iron bridge across Berger Creek, south end of east abutment, bridge-seat course, on northeast quarter of cross; highest point in square, marked "B. M." (U. S. C. E. t. b. m. 123=old R. R. b. m.).....	Feet. 506. 905
Berger, $2\frac{1}{4}$ miles below, 1,584 feet below milepost 73, on bluff side of track 23 feet from center and 2 feet above rail, at farm crossing, on natural ledge; highest point in square (U. S. C. E. t. b. m. 125).....	511. 525
Berger, $2\frac{1}{4}$ miles below, 1,535 feet below milepost 73, about 75 feet south of Missouri Pacific Ry. track, at foot of hill, 60 feet above farm crossing, 5 feet south of east end of gate on private road, in bench-mark stone: Copper bolt (U. S. C. E. p. b. m. 64)	514. 343
Top of cap.....	518. 385
Berger, $2\frac{1}{8}$ miles below, 682 feet below milepost 73, on bluff side of track, 10 feet from center and 1 foot below top of rail, at lower end of rock cut, on natural ledge; highest point in square (U. S. C. E. t. b. m. 126).....	509. 218
Berger, 604 feet below milepost 73, 165 feet above farm crossing on west side of wide coulee at lower end of sidehill on bluff side of track 13 feet from center and 4 feet above rail, 15 inches west of drill scar, in vertical ledge; copper bolt leaded horizontally (U. S. C. E. p. b. m. 65).	515. 032
Berger, in southwest corner of Mrs. Schaub's yard, 16 feet north of south fence line and 5 feet east from west fence line, 8 feet west of house, in bench-mark stone: Copper bolt (U. S. C. E. p. b. m. 66=20/1).....	508. 034
Top of cap.....	512. 092
Berger, 1 mile above, 475 feet below bridge F ₃ , on bluff side of track, 4 feet from rail and about 1 foot below grade, on embedded rock; highest point in square (U. S. C. E. t. b. m. 128).....	511. 174
Hermann depot, $4\frac{1}{8}$ miles below, 2,395 feet below post set on county line at road crossing, 1,870 feet above bridge over Little Berger Creek, on south side of track, 56 feet from center and 2 feet east of gate, on land owned by Charley Burns, on upper side of small valley, at foot of bluff, in bench-mark stone: Copper bolt (U. S. C. E. p. b. m. 67).....	507. 624
Top of cap.....	511. 692
Hermann, $4\frac{1}{8}$ miles below depot, 2,277 feet below post on county line, at lower end of bluff, 110 feet above road crossing, on south side of track, 8 feet from center on level with rail, on natural ledge; highest point in square marked "U. S.".....	511. 675
Hermann, $3\frac{3}{8}$ miles below depot, 2,526 feet above signboard on county line, on bluff side of track, $7\frac{1}{2}$ feet from center and 18 inches above rail, on embedded stone; highest point in square marked "U. S." in large letters (U. S. C. E. t. b. m. 130).....	515. 147
Hermann, $1\frac{1}{8}$ miles below depot, at lower side of wide valley, 1,115 feet above road crossing, 66 feet below wooded point of bluff, on bluff side of track, 50 feet from center, on land of Tobias Larcer, in bench-mark stone: Copper bolt (U. S. C. E. p. b. m. 68).....	511. 200
Top of cap.....	515. 255
Hermann, 8,809 feet below depot, at lower side of small coulee, on river side of Missouri Pacific Ry. track, 11.5 feet from center, in stone over center of stone culvert; highest point in square (U. S. C. E. t. b. m. 132).....	512. 056
Hermann, 2,290 feet below depot, 425 feet below road crossing, 338 feet below upper end of bluff, on bluff side of track, 17 feet from center and 4 feet above rail, 8 inches west of drill scar in rock face of cut, opposite watchmen's house on river bank, in natural ledge; copper bolt leaded horizontally (U. S. C. E. p. b. m. 69).....	518. 913

Hermann, 2,297 feet below depot, 31 feet below p. b. m. 69, 6 inches below base of rail, at foot of vertical face of bluff, on natural ledge; highest point in square (U. S. C. E. t. b. m. 133).....	Feet. 514. 779
Hermann, on north side of Front Street, in lot of August Whofts, 450 feet below railroad bridge over Frame Creek, about 140 feet south of railroad, in bench-mark stone: Copper bolt (U. S. C. E. p. b. m. 70=21/1).....	511. 046
Top of cap.....	515. 094
Hermann, bridge over Frame Creek, north end of east abutment, 5 feet from track and 10 inches from either face of corner stone, on northwest corner of bridge seat; top of copper bolt leaded vertically (U. S. C. E. p. b. m. 71).....	510. 868
Hermann, on north side of White House Hotel, 8 feet west of northeast corner of building, east entrance, on northeast corner of lower step; highest point in square (U. S. C. E. t. b. m. 135).....	518. 969
Hermann, at point of bluff at upper end, 1,148 feet above depot, on bluff side of track, 10 feet from center and 1 foot above grade, 6 feet west of cattle-guard fence, at lower end of rock cut, in natural ledge; horizontal furrow in copper bolt leaded horizontally (U. S. C. E. p. b. m. 72=old b. m. 59).....	517. 374
Hermann, 1½ miles above, 164 feet above post marked "One mile to station" about 110 feet south of railroad track, 7 feet east of northeast corner of William Streker's house, in southeast corner of garden, in bench-mark stone: Copper bolt (U. S. C. E. p. b. m. 73).....	523. 214
Top of cap.....	527. 282
Hermann, 1½ miles above, 358 feet above post marked "One mile to station," south end of east abutment of small bridge, on top course of masonry, 10 inches from each face; highest point in square, marked "U. S." (U. S. C. E. t. b. m. 136).....	517. 236
Hermann, above, on Missouri Pacific Ry., 2,215 feet below bridge F ₄ , 919 feet below small bridge at lower side of small coulee, bluff side of track, 22 feet from center, about 1 foot above grade, on rock; highest point in square, marked "U. S." (U. S. C. E. t. b. m. 137).....	522. 177
Hermann, 2 miles above, north end of east abutment of bridge F ₄ , on second course of masonry from top, 10 inches from north end of stone; top of copper bolt leaded vertically and marked "U. S. P. B. M." (U. S. C. E. p. b. m. 74).....	516. 905

FULTON QUADRANGLE.

[Latitude 38° 30'-39°; longitude 91° 30'-92°.]

From Hermann west along Missouri Pacific Ry. to Bonnotts Mill.

Gasconade, 5 kilometers east from, in the top of the stone abutment to the iron bridge on the Missouri Pacific Ry. across Coles Creek (the bridge rests on a portion of the abutment which is about 4 feet lower than the portion where the bench is cut); the bottom of a square cut (C. & G. S. b. m. XVI). It is on the east side of the creek and is north of the railroad; square cut marked "U. S. □ B. M.".....	523. 208
Gasconade, in the top of the middle stone pier of the Missouri Pacific Ry. bridge over the Gasconade River, 6 inches from south end of pier and south of the track; bottom of a square cut, marked "U. S. □ B. M." (C. & G. S. b. m. XVII).....	523. 988

Gasconade station, in the yard of Mr. J. Wolter's dwelling and storehouse, 0.7 meter from the southeast corner of the house, which is situated about 100 feet south of the railroad and about 200 feet west of the railroad station house, in the center of the top of a limestone post set in the ground, dressed to 6 by 6 inches at the top and 18 inches long, buried 15 inches in the ground; bottom of a square hole, post marked on top the same as No. XVI (C. & G. S. b. m. XVIII).....	Feet. - 527.069
Morrison station, in the top of the stone foundation to H. Binkholter & Co.'s grain elevator at (the building is about 6 inches inside the outer face of the foundation and the mark is on the ledge near the northeast corner of the building, which is situated quite near the track on the south side, the stone is soft and the letters are roughly cut, the bottom of the hole is smooth); bottom of small square cut marked the same as No. XVI (C. & G. S. b. m. XIX).....	527.509
Chamois, in the top of the stone across the bottom of the side door to the two-story brick saloon on the northwest corner of Main and Pacific streets (this door is on the Pacific Street side and faces the railroad, bench is near the west side of the door); bottom of a square cut marked "U. S. □ B. M. 0 ₃ 1888" (C. & G. S. b. m. 0 ₃)	536.364
St. Aubert, in the top of the stone abutment of the Missouri Pacific Ry. bridge 25, opposite the village of St. Aubert, bench is on the east abutment, and is south of the track, bridge is about one-quarter of a mile west of the depot, letters are very roughly cut; bottom of a square cut marked "U. S. □ B. M." (C. & G. S. b. m. XX).....	538.890
St. Aubert, near, about 1 mile west of St. Aubert station and between it and Isbell station, on the Missouri Pacific Ry., on the north side of east abutment of the first trestle west of milepost 106; a spot surrounded by a trench about an inch square with the letters rudely and slightly cut: "U. S. □ B. M." (C. & G. S. b. m. XXI).....	538.342
Bonnots Mill, on the northwest corner of a brick building used as a store and owned by Mrs. L. Bonnot, in the limestone block forming the corner stone, which is about 8 inches square at the end and projects some 4 inches and is 35 paces south of railroad; bottom of a square cavity in center of projection and has on upper surface "U. S. □ B. M." and on western face "P ₃ 1888" (C. & G. S. b. m. P ₃).....	552.322
From Boles Creek along Missouri River to Bonnots Mill.	
Gasconade Bridge, 3 miles below, 3,143 feet above bridge over Coles Creek, 413 feet below small open culvert, on bluff side of track 9 feet from center, 6 inches above grade, on embedded rock; highest point in square, marked "U. S." (U. S. C. E. t. b. m. 139).....	525.583
Gasconade Bridge, 1½ miles below, about 500 feet above prominent sandstone point in bluff, on north end west abutment of small bridge; highest point in square (U. S. C. E. t. b. m. 141).....	523.749
Gasconade Bridge, 2½ miles below, 3,458 feet below milepost 86, about 70 feet south from Missouri Pacific Ry. track, 46 feet east of arch culvert, at west fence of Frank Berke's garden (inside), in bench-mark stone, marked "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 75=22/1).....	523.805
Top of cap.....	527.866
Gasconade Bridge, 2½ miles below, 3,419 feet below milepost 86, near Frank Berke's house on southeast corner of large sandstone, on east end of south wall of stone-arch culvert; highest point in square (U. S. C. E. t. b. m. 140).....	516.892

Gasconade Bridge, 1½ miles below, on bluff side of track, 31 feet from center, 10 feet south of right of way fence, 1 foot west of rail fence running south over bluff, at lower side of coulee, in front of John Uffelman's house, in bench-mark stone:	
Copper bolt, marked "B. M." (U. S. C. E. p. b. m. 76)	Feet. 520. 941
Top of cap	524. 996
Gasconade Bridge, 7,628 feet below, on stone culvert under Missouri Pacific Ry., on north end near northwest corner, on one angle of cross; highest point in square, marked "B. M." (U. S. C. E. t. b. m. 142=old R. R. b. m.).....	518. 565
Gasconade River, 4,265 feet below bridge across, 300 feet above milepost 87, 200 feet below signpost marked "Station 1 mile," 7 feet below small box drain under track Missouri Pacific Ry., on bluff side of track 11.8 feet from center, 1 foot above grade, on projecting rock; highest point in square (U. S. C. E. t. b. m. 143).....	526. 321
Gasconade, bridge across Gasconade River, on south end of first pier from east end of bridge, in stone, 4½ feet from south corner and marked "B. M.," 6 inches away from point; highest point of spherical knob (U. S. C. E. t. b. m. 144).....	523. 847
Gasconade, on north end of first pier from the west end of bridge across Gasconade River, 6 inches south of north end of pier; top of copper bolt leaded vertically, marked "U. S. P. B. M." (U. S. C. E. p. b. m. 77)...	523. 838
Gasconade, 1½ miles above, 620 feet above post marked "1 mile to water tank," on bluff side of track 6.5 feet from center and 3 inches above rail, on natural ledge; highest point in square, marked "U. □ S." (U. S. C. E. t. b. m. 145).....	526. 338
Gasconade, 1½ miles above, 33 feet below post marked "1 mile to station," on east end of south wall of culvert; highest point in square (U. S. C. E. t. b. m. 146).....	517. 693
Gasconade, 1½ miles above, 157 feet from center of track, 78 feet above post marked "1 mile to station," inside of north fence of Nicholas Wolz's dooryard, 10 feet east of small yard gate, in bench-mark stone:	
Copper bolt marked "B. M." (U. S. C. E. p. b. m. 78=23/1)	527. 046
Top of cap	531. 108
Gasconade, 2 miles above, near upper side of coulee, on south end of west abutment, in bridge-seat course of bridge FG on Missouri Pacific Ry., 7 feet from center of track, in stone; top of copper bolt leaded vertically and marked "U. S. P. B. M." (U. S. C. E. p. b. m. 79).....	523. 736
Morrison, 1¼ miles below, on north end of east abutment of bridge G, on north end of bridge seat, about 1 foot from corner of stone; highest point in square (U. S. C. E. t. b. m. 148).....	523. 372
Morrison, 4,855 feet below depot, on north end of east abutment of culvert, on northeast quarter of cross; highest point in square, marked "B. M." (U. S. C. E. t. b. m. 149=old R. R. b. m.).....	525. 242
Morrison, 1,608 feet below depot, 869 feet above lower headblock of siding, opposite a two-story frame house standing 400 feet north of track, on point of bluff at lower side of coulee and 275 feet below whistle post, 35 feet south of siding, 2 feet north or right of way fence, in bench-mark stone:	
Copper bolt marked "B. M." (U. S. C. E. p. b. m. 80)	527. 532
Top of cap	531. 593

Morrison, 1,427 feet below, 150 feet above point of bluff and small coulee, on bluff side of Missouri Pacific Ry. track, 12 feet from center of siding and 4 feet above grade, 115 feet below whistle post, in vertical face of natural ledge; copper bolt leaded horizontally, marked "U. S. P. B. M." (U. S. C. E. p. b. m. 81).....	Feet. 532. 118
Morrison depot, 1,427 feet below, 115 feet below whistle post, 140 feet above point of bluff side of track, 12 feet from center of siding, on same elevation as base of rail, at upper side of first coulee below station, 3 feet east of p. b. m. 80, on natural ledge; highest point in square (U. S. C. E. t. b. m. 150).....	528. 500
Morrison, 4,593 feet above, south side of Missouri Pacific Ry. track, on west wall of open culvert over wagon road, on second course of masonry from top 20 inches from south corner and 9 inches from east face of stone; highest point in square (U. S. C. E. t. b. m. 151).....	525. 527
Morrison, $1\frac{1}{4}$ miles above, 1,427 feet above milepost 94, on bluff side of track, 13 feet from center and about 3 feet above grade, at west end of only bare spot of bluff in vicinity, in natural ledge; copper bolt leaded horizontally (U. S. C. E. p. b. m. 82).....	533. 683
Morrison, $2\frac{1}{4}$ miles above, 1,542 feet below milepost 95, 50 feet west of bridge HI over road, at south fence of Missouri Pacific Ry. right of way, 21 feet from center of track, at foot of bluff, on west side of coulee, in bench-mark stone: Copper bolt (U. S. C. E. p. b. m. 83=24/1)	532. 827
Top of cap	536. 885
Morrison, $2\frac{1}{4}$ miles above, 1,597 feet below milepost 95, on south end of east abutment of small bridge HI over road, on top of stone wing wall; highest point in square (U. S. C. E. t. b. m. 153).....	533. 178
Chamois, $4\frac{1}{4}$ miles below; 3,228 feet below milepost 96, Missouri Pacific Ry., stone-arch culvert, on east end of south wall; highest point in square (U. S. C. E. t. b. m. 154).....	529. 172
Chamois, 3 miles below, 105 feet below lower headblock of portage siding, Missouri Pacific Ry. at north end of abutment of bridge I, in center of stone; highest point in square, marked "U. S.".....	530. 215
Chamois, $2\frac{1}{2}$ miles below, 275 feet above upper headblock of Portage siding, on bluff side of track 45 feet from center, 15 feet below small bridge, in bench-mark stone: Copper bolt (U. S. C. E. p. b. m. 84).....	527. 906
Top of cap	531. 967
Chamois, $1\frac{1}{8}$ miles below, 360 feet above milepost 98, 246 feet below upper end of sidehill cut, 85 feet above signboard marked "Portage 1 mile," Missouri Pacific Ry., on bluff side of track, 12 feet from center and 3 feet above grade, on projecting point of natural ledge; highest point in square (U. S. C. E. t. b. m. 157).....	539. 677
Chamois depot, seven-eighths of a mile below, 410 feet above road crossing, 70 feet below sign marked "Yard limits," 60 feet above milepost 99, 20 feet from center of track, on extreme north end of west abutment of small bridge, on masonry, 2 feet from north edge of stone; highest point in square (U. S. C. E. t. b. m. 158).....	532. 341
Chamois, southwest corner of Main and Pacific streets, east door of saloon, in south end of stone doorstep; copper bolt leaded vertically and marked "U. S. P. B. M." (U. S. C. E. p. b. m. 85).....	537. 958

Chamois, 544 feet north of railroad station, on east side of Main Street, in southwest corner of lot to brick residence owned by William Cochran, in bench-mark stone:	
Copper bolt (U. S. C. E. p. b. m. 86=25/1).....	Feet. 530. 373
Top of cap.....	534. 451
Chamois, 2 miles above, 480 feet below milepost 102, at north end of east abutment of bridge K, on angle of cross; highest point in square, marked "U. S. B. M." (U. S. C. E. t. b. m. 160=old R. R. b. m.).....	535. 186
Deer Creek, 1½ miles below, 3 miles above Chamois, 35 feet from center of track, 20 feet from foot of bluff, on lower side of coulee, in angle of fence formed by right of way fence turning south over bluff, in bench-mark stone:	
Copper bolt (U. S. C. E. p. b. m. 87).....	536. 787
Top of cap.....	540. 868
Deer Creek, 30 feet west of p. b. m. 87, on large stone; highest point in square (U. S. C. E. t. b. m. 161).....	541. 587
Deer Creek, 1 mile below, about ¾ miles above Chamois depot, opposite center of large coulee 200 feet above log house, 200 feet south of railroad, on north end of west abutment of small bridge over road, on fourth course of stone below bridge seat; top of copper bolt leaded vertically, marked "U. S. P. B. M." (U. S. C. E. p. b. m. 88).....	532. 565
St. Aubert station depot, 1¼ miles below, at lower side of wide coulee, on south end of east abutment of bridge over Deer Creek, in first course of masonry below bridge-seat course; copper bolt leaded horizontally (U. S. C. E. p. b. m. 89=old b. m. 74).....	529. 861
St. Aubert station depot, 1¼ miles below, at lower side of wide coulee, on south end of east abutment of iron bridge over Deer Creek, on course next above bridge-seat course, on end projecting stone; highest point in square (U. S. C. E. t. b. m. 163).....	533. 234
St. Aubert station depot, five-eighths of a mile below, 235 feet below head-block of siding, bluff side of Missouri Pacific Ry. track, 15 feet from center, on projecting ledge; highest point in square (U. S. C. E. t. b. m. 164).....	540. 320
St. Aubert, on northwest corner of Main and Morrow streets, inside of fence, 300 feet from depot, in bench-mark stone; copper bolt marked "B. M." (U. S. C. E. p. b. m. 90=26/1).....	540. 425
Shipley Landing, 250 feet below bridge 27, at foot of west end of bluff, east side of coulee, at fence corner, 1½ feet inside of right of way, in bench-mark stone lettered "B. M." (U. S. C. E. p. b. m. 91).....	538. 283
Top of cap.....	542. 345
Shipley Landing, 1¾ miles below Isbell, on north end of east abutment of bridge 27; highest point in square, marked "U. S." (U. S. C. E. t. b. m. 167).....	543. 286
Loose Creek bridge, 1,800 feet below east end, at upper end of first cut below bridge, bluff side of track 10 feet from center and 2 feet above grade, on projecting point of ledge, with letters "U. S." cut on vertical face below the bench; highest point in square (U. S. C. E. t. b. m. 168).....	546. 846
Isbell, 300 feet above runway to stockyards, 295 feet below center of depot, on bluff side of track 35 feet from center, 1½ feet north of right of way fence, in bench-mark stone lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 92=27/1 Isbell).....	531. 114
Top of cap.....	535. 163

Isbell, 165 feet above depot, 60 feet above lower end of cut, 15 feet above headblock of siding, bluff side of Missouri Pacific Ry. track, 11.4 feet from center and 3 feet above grade, in natural ledge, marked "U. S. P. B. M."; copper bolt leaded horizontally (U. S. C. E. p. b. m. 93).....	Feet. 548. 644
Isbell, 165 feet above west end of depot, 60 feet above lower end of cut, 15 feet above headblock of siding on bluff side of Missouri Pacific Ry. track, 10.8 feet from center, on natural ledge at about the elevation of grade; highest point in square (U. S. C. E. t. b. m. 169).....	546. 023
Isbell depot, 1 mile above, 1,030 feet above sign "Station one mile," 245 feet below bare face of ledge, on bluff side of track 9.5 feet from center, on point of projecting ledge 2 feet above grade and marked "U. S." (U. S. C. E. t. b. m. 170).....	550. 878
Bonnots Mill, 2 $\frac{3}{8}$ miles below, east abutment of small bridge opposite center of coulee, on northwest corner, on southeast angle of cross and marked "B. M."; highest point in square (U. S. C. E. t. b. m. 171=old R. R. b. m.).....	541. 941
Bonnots Mill depot, 1 $\frac{1}{4}$ miles below, bluff side of Missouri Pacific Ry. track, 60 feet from center, 30 feet above bridge N ₂ , on top of projecting ridge, 20 feet south of right of way fence, at upper side of coulee, in bench-mark stone, lettered "B. M.".....	535. 389
Top of cap (U. S. C. E. p. b. m. 94).....	539. 444
Bonnots Mill depot (in same locality as p. b. m. 94), west abutment to bridge N ₂ , on south end, at upper side of coulee, on third course of stone from top; highest point in square (U. S. C. E. t. b. m. 172).....	539. 038
Bonnots Mill depot, seven-eighths of a mile below, on river side of Missouri Pacific Ry. track, 11 feet from center, in a small through cut, on embedded stone; highest point in square (U. S. C. E. t. b. m. 173).....	545. 389
Bonnots Mill, 65 feet east of door of depot, 10 feet south of center of siding, northeast corner of warehouse, on top of foundation; highest point in square (U. S. C. E. t. b. m. 174).....	546. 177
Bonnots Mill, east abutment to bridge P, on south end, on angle of cross marked "B. M."; highest point in square (U. S. C. t. b. m. 175=old R. R. b. m.).....	544. 280
Bonnots Mill, 700 feet west of station, 210 feet west of bridge P, 45 feet above mill and on opposite side of track, on line with north right of way fence, in bench-mark stone, lettered "B. M.":	
Copper bolt.....	532. 351
Top of cap (U. S. C. E. p. b. m. 95=28/1).....	536. 416

JEFFERSON CITY QUADRANGLE.

[Latitude 38° 30'-39°; longitude 92°-92° 30'.]

From Bonnots Mill west along Missouri Pacific Ry. to Centertown.

Osage, on top of the fourth pier (from east bank) of the Missouri Pacific Ry. bridge over the Osage River at, under the center of the track and about the center of the top of the pier; surface of the stone inside a square cut (C. & G. S. b. m. XXIII).....	548. 159
Osage, in the southwest corner of Mrs. Rassler's boarding-house yard at, in the top of a limestone post dressed to 6 by 6 inches at the top and projects above ground about 3 inches; bottom of a square cut, top of post is lettered as follows: "U. S. square B. M." (C. & G. S. b. m. XXIV)....	546. 863
Milepost 119, in the capstone on south end of west abutment of first trestle east of, on the Missouri Pacific Ry. between Osage River and Moreau Creek; bottom of square cut marked indistinctly and roughly "U. S. □ B. M." (C. & G. S. b. m. XXV).....	557. 305

Jefferson City, leaded into rock of riverward cut face of Capitol Hill, in head of copper bolt; horizontal furrow, established by the Mo. Riv. Comm. and called in 1892 p. b. m. 106 (old b. m. 90 (85)) Feet. 557. 394

The hill on the north side has been cut away to permit the construction of the Missouri Pacific Ry. and presents about 30 feet of rock above the bench mark. The bolt is about 3½ feet above the ground and 35 paces west of east end of rock cut. It projects 1 inch outside the face of the bluff and is bent slightly downward. It is not firmly fixed in position, as it can be moved a little up and down with the fingers. Two and a half feet above and a little to the left of the bench mark the smooth surface of the rock is marked as follows: "U. S. B. M. 185."

Jefferson City, in the coping to the stone wall around the capitol grounds at, a short distance north of the east entrance to the grounds, the wall is level on top north of the entrance as far as the bench mark and then descends the side of the hill by slopes and benches; bottom of square cut, marked "U. S. C. & □ G. S. B. M." (XXVII)..... 606. 173

Jefferson City, in the face of the east or front wall of the Capitol Building at, at its northeast corner, about 8 or 10 inches south of the corner and 2 feet above the ground (stone on which it is cut is the corner stone of the building; there is an offset in the wall a few inches below the bench mark, and on the upper surface of this offset letters were cut); intersection of two lines forming a cross marked "+ U. S. C. & G. S. B. M."... 628. 516

Cole station, near, in top of the abutment to the iron railroad bridge over Grays Creek (Missouri Pacific Ry.) on the stone on which the end of the iron truss rests, just inside the southeast corner of the truss, about 1 meter from south end of abutment and about the middle east and west; bottom of square hole marked "U. S. square b. m." (C. & G. S. b. m. XXIX)..... 556. 800

Scott station, on Missouri Pacific Ry., in the stone abutment to the iron railroad bridge over Grays Creek, on the abutment on the west bank of the creek and south of the track on the stone on which the end of the iron truss rests, 1½ meters from south end of abutment and 0.3 meter from its inner face on line with south face of highest part of the abutment; bottom of square cut roughly lettered "U. S. square b. m." (C. & G. S. b. m. XXX)..... 580. 816

Elston station, in the top of stone foundation to the brick residence of George Elston, at an angle in the wall just outside the south end of the porch on the front or west side of the house; bottom of square cut (C. & G. S. b. m. XXXI)..... 699. 132

Center Town, in the top of the stone foundation to the brick store owned by W. S. Freshoar (the store is south of the railroad and west of the railroad station, bench mark is in the opening for the north window in the front of the store and is near the north side of this opening); bottom of a square cut marked "U. S. □ B. M." (C. & G. S. b. m. XXXII)..... 856. 681

Center Town, on top of the foundation stone at the southwest corner of the water tank at, marked "B. + M." (M. P. R. R. 114)..... 849. 470

From Bonnotts Mill along Missouri River to Wolf Point.

Osage Bridge, 2¼ miles below east end, on northwest stone column to bridge 29 over Evans Creek, Missouri Pacific Ry., on northwest corner of capstone; highest point in base of U cut (U. S. C. E. t. b. m. 178=old b. m. 81)..... 544. 418

	Feet.
Osage Bridge, near t. b. m. 178, in column at northeast corner of bridge 29, on northeast corner of capstone marked "U. S."; highest point in square (U. S. C. E. t. b. m. 177=old b. m. 80).....	544. 497
Bonnots Mill, 1¼ miles above, 815 feet above bridge 29, 250 feet above point of bluff, on bluff side of track, 9.2 feet from center and 2 feet above grade; copper bolt leaded horizontally (U. S. C. E. p. b. m. 96).....	548. 585
Osage Bridge, 2½ miles below east end, 295 feet above milepost 114, on downstream abutment of small bridge, 14 feet from center of track, on end of second course of stone from top, next to river; highest point in square marked "U. S." (U. S. C. E. g. b. m. 179).....	542. 381
Osage City, 1¾ miles below, 45 feet below bridge P ₂ , on bluff side of Missouri Pacific Ry. track, 43 feet from center, 3 feet outside of right of way fence, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 97).....	539. 166
Top of cap.....	543. 240
Osage City, 1¾ miles below, on north end of east abutment of bridge P ₂ , Missouri Pacific Ry., on one angle of cross marked "B. M. U. S."; highest point in square.....	543. 877
Osage City, iron railroad bridge over Osage River, on north end of east abutment, 16 inches from north end and 9 inches from west face of abutment; top of copper bolt leaded vertically in coping (U. S. C. E. p. b. m. 98).....	546. 646
Osage River, iron bridge over river, on south end of east abutment, extreme southeast corner of coping stone marked "B. M."; highest point (U. S. C. E. t. b. m. 182=old R. R. b. m.).....	546. 662
Osage City, 60 feet below depot, 55 feet above west end of ice house, on line with north side of depot and on line of fence running east therefrom, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 99).....	547. 984
Top of cap.....	552. 049
Osage City, on west side of upper water tank, on top of wall, near middle, forming foundation for tank, 8.8 feet from south side of tank; highest point in square (U. S. C. E. t. b. m. 183).....	552. 906
Osage City, seven-eighths of a mile above, on east abutment of small bridge, 8 inches from face of abutment and 3 feet from north end, on one angle of cross marked "B. M."; highest point in square (U. S. C. E. t. b. m. 184=old R. R. b. m.).....	558. 562
Ewings Landing, at upper end of United States boat yard, 100 feet east of northeast corner of field, about 400 feet from river, at west end of pond, on line of prolongation of south road fence, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 100=29/1).....	542. 013
Top of cap.....	546. 095
Jefferson City, 3½ miles below, at east end of Missouri Pacific Ry. tunnel, on south side of Missouri Pacific Ry. track, 4 feet above rail, in natural ledge, marked "U. S. P. B. M."; copper bolt leaded horizontally (U. S. C. E. p. b. m. 101).....	581. 085
Jefferson City depot, 3¾ miles below, 656 feet above mouth of Missouri Pacific Ry. tunnel, 239 feet below small open stone culvert, on south side of Missouri Pacific Ry. track, 39 feet from center, at lower end of short cut, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 102).....	571. 013
Top of cap.....	575. 071

	Feet.
Jefferson City depot, 3½ miles below, 1,233 feet above tunnel, at lower end of sidehill cut, on bluff side of Missouri Pacific Ry. track, 15 feet from center, on natural ledge; highest point in square (U. S. C. E. t. b. m. 190).....	571. 272
Jefferson City, 2½ miles below, east abutment of bridge P ₃ , 1½ feet from both end and side of stone marked "U. S."; highest point in square (U. S. C. E. t. b. m. 191).....	556. 459
Jefferson City, 1½ miles below depot, on south end of east abutment of bridge 34, over stream, at lower side of wide center; marked "B. + M." (U. S. C. E. t. b. m. 192).....	556. 469
Jefferson City, 225 feet above bridge 34 (where t. b. m. 192 is located), 75 feet from a 10-inch oak, blazed, 35 feet from track on bluff side, 1½ feet north of south right of way fence, at large opening in bluff, on high bench of ground, in bench-mark stone, lettered "B. M.": Copper bolt (U. S. C. E. p. b. m. 103).....	547. 820
Top of cap.....	551. 882
Jefferson City, about 7,000 feet below Capitol Building, small bridge of Missouri Pacific Ry., on southwest corner of coping of east abutment (U. S. C. E. t. b. m. 193=old B. M. 88).....	556. 656
Jefferson City, depot, three-quarters of a mile below, 125 feet above bridge and heavy stonework under track, 60 feet above point of bluff, 10.2 feet from center of track, 2.6 feet above grade, on upper side of coulee, at lower edge of large rock face of bluff; copper bolt leaded horizontally and marked "U. S. P. B. M." (U. S. C. E. p. b. m. 104).....	558. 959
Jefferson City, is directly opposite p. b. m. 104, about 50 feet above extreme end of ledge, on ledge about level with grade of track; highest point in square (U. S. C. E. t. b. m. 194).....	556. 036
Jefferson City, at southwest corner of Jefferson and West Water streets, 10 feet from northeast corner of stone building, on top of rounding curbstone; highest point in square (U. S. C. E. t. b. m. 195).....	555. 206
Jefferson City, at foot of Jefferson Street, on Lohman's warehouse, on east end of east doorsill (U. S. C. E. t. b. m. 196, gage b. m. first).....	555. 658
Jefferson City, southeast corner of Jefferson and High streets, Merchants' Bank Building, doorstone at northeast entrance, on northeast corner of stone, outside of pillar and next to sidewalk, marked "—" (U. S. C. E. city b. m.).....	637. 312
Jefferson City, on circular step in front of main entrance to capitol, on second step from bottom, about 45° around from north end of step, in center of sixth stone from north end; highest point in square marked "U. S." (U. S. C. E. t. b. m. 197).....	627. 892
Jefferson City, at northeast corner of inclosure of capitol grounds, in north face of stone corner column, in center of third course of stone from bottom; copper bolt leaded horizontally marked "U. S. P. B. M." (U. S. C. E. p. b. m. 105).....	559. 897
Jefferson City, just above west side of capitol grounds, on Missouri Pacific Ry., stone culvert 320, on northeast corner of wingwall, on north side of track, in top of stone; highest point in square (U. S. C. E. t. b. m. 199)...	554. 956
Jefferson City, in same culvert as t. b. m. 199, 325 feet west of west end of capitol grounds, 20 feet east of foot of arch on north face of culvert, 0.2 foot below top of eleventh course of masonry from top; knob cut on projection of rock (U. S. C. E. t. b. m. 198=old b. m. 90, (C).....	541. 908
Jefferson City, at upper Ferry Landing, opposite W. J. Lemp's St. Louis beer depot, 52 feet west of southwest corner of warehouse of Dulle Milling Co., formerly pork house, on natural ledge; highest point of square (U. S. C. E. t. b. m. 200).....	557. 647

	Feet.
Jefferson City, near t. b. m. 200, 100 feet west of Dulle Milling Co.'s warehouse, 50 feet north of Missouri Pacific Ry. track, on vertical ledge of rock nearest river, in an old cellar, 2 feet above ground; knob cut on projection of ledge (U. S. C. E. t. b. m. 201=old b. m. 90 (b), gage b. m. p. h.)..	545. 317
Jefferson City, opposite Ferry Landing, in east corner of fourth block above Capitol Square, 280 feet from river, just below Lemp's St. Louis beer depot, in bench-mark stone, lettered "B. M.".....	553. 431
Top of cap (U. S. C. E. p. b. m. 107=30/1).....	557. 492
Jefferson City, 282 feet west of city limit, 275 feet above sign "Jefferson City, one mile," 100 feet above headblock of siding, 6 feet south from center of siding, in point of ledge 1 foot above grade; square (U. S. C. E. t. b. m. 202).....	560. 353
Jefferson City, 2 $\frac{3}{8}$ miles above depot, 197 feet below Missouri Pacific Ry. stone culvert, 35 feet south of center of track, at point of bluff on lower side of coulee, on right of way at south fence, in bench-mark stone, lettered "B. M." (U. S. C. E. p. b. m. 108).....	552. 863
Top of cap.....	556. 928
Jefferson City, on lower abutment of same culvert with "T. B. M. 204," on north end at side of top course of stone; southeast angle of cross (U. S. C. E. t. b. m. 203=old b. m.).....	554. 572
Jefferson City, 197 feet above p. b. m. 108 on south end of culvert, on point of capstone; highest point in square, marked "U. S." (U. S. C. E. t. b. m. 204).....	556. 262
Grays Creek, three-quarters of a mile below, 492 feet below large rocks at upper end of riprap bank, 150 feet above upper end of long tangent above Jefferson City, 45 feet below a triangulation point, 4 feet above ground and 1 $\frac{1}{2}$ feet above grade of track, 30 feet above telegraph pole bearing mile sign 128, 12.5 feet from track center, in vertical face of ledge, marked "U. S. P. B. M."; copper bolt (U. S. C. E. p. b. m. 109).....	563. 437
Grays Creek, directly under p. b. m. 109, on bluff side of track 12 feet from center, 1 $\frac{1}{2}$ feet below grade, on natural ledge; highest point in square (U. S. C. E. t. b. m. 205).....	560. 406
Grays Creek, 410 feet below mouth of creek, 150 feet below whistle post, 15 feet below stone drain under track, on bluff side 10 feet from center and 1 foot below grade, on point of ledge marked "U. S." on face of rock just above; square (U. S. C. E. t. b. m. 206).....	560. 757
Grays Creek, on west abutment of iron bridge across creek, on downstream side of abutment; highest point in square (U. S. C. E. t. b. m. 207, old R. R. b. m.).....	556. 961
Grays Creek, 1,166 feet N. 87° 30' W. (mag.) of west end of Missouri Pacific Ry. bridge over creek, about 2 miles above Jefferson City, about 88 feet below gate to pasture at foot of bluff, on north side of wagon road in field, 10 feet from fence, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 110=31/1).....	563. 808
Top of cap.....	567. 886
Grays Creek, 4,260 feet above mouth, on right bank of slough, at rocky point of bluff projecting into slough about on center of main point of exposed ledge on upper side, on natural ledge 18 inches back from upper quarter of break; square (U. S. C. E. t. b. m. 209).....	541. 187
Grays Creek, 65 feet below p. b. m. 112, at base of rock point, on natural ledge; highest point in square, marked "U. S." (U. S. C. E. t. b. m. 213).....	552. 988
Grays Creek, 98 feet below p. b. m. 112, 2 $\frac{1}{2}$ feet above surface of ground on north face of bluff, copper bolt leaded horizontally, marked "U. S. P. B. M." (U. S. C. E. p. b. m. 111).....	555. 350

Grays Creek, $2\frac{1}{4}$ miles above mouth, where extreme east road crossing bottom north and south opposite Claysville reaches bluff, 285 feet east of Canaan Cole's house, 144 feet west of gate, on south side of wagon road, at foot of bluff, 1 foot from vertical ledge, in bench-mark stone, lettered "B. M."; Copper bolt (U. S. C. E. p. b. m. 112).....	Feet. 550. 114
Top of cap.....	554. 172
Claysville, at foot of bluff opposite, 1,172 feet south of northeast corner of sec. 19, on land of F. Martin, 110 feet south of gate where road enters pasture, 10 feet west of wagon road, at west fence of section-line road between secs. 19 and 20, T. 45, R. 12 W., in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 113=32/1).....	563. 073
Top of cap.....	567. 138
Stanleys Landing, 655 feet above, at foot of bluff directly across road from a 3-foot elm at side of road, on rock; highest point in square (U. S. C. E. t. b. m. 218).....	554. 559
Sugar Loaf Rock, which stands on side of bluff about 50 feet from river bank, 7 feet above level of bench below rock, 2 feet above ground at face of rock, in northeast face; copper bolt leaded horizontally marked "U. S. P. B. M." (U. S. C. E. p. b. m. 114).....	569. 503
Marion, $4\frac{1}{2}$ miles below, $2\frac{1}{2}$ miles below Bull Rock, one-quarter of a mile above Sugar Loaf Rock, 82 feet back from river at mouth of small ravine, 24 feet east of bed of small stream, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 115).....	554. 907
Top of cap.....	558. 969
Marion, very near p. b. m. 115, on projecting point of natural ledge; highest point in square (U. S. C. E. t. b. m. 220).....	560. 294
Bull Rock, three-quarters of a mile below, on upper one of three large conspicuous rocks on bank (the only ones near), on northwest corner; highest point in square, marked "U. S." (U. S. C. E. t. b. m. 223).....	548. 618
Bull Rock, a very prominent pinnacle rock, about 50 feet high, 25 feet above long narrow shoulder, upon which is t. b. m. 224, 15 feet below south end of projecting ridge of rock, 10 feet north of edge of bluff, in west face of rock marked "U. S. P. B. M."; copper bolt (U. S. C. E. p. b. m. 116).....	554. 412
This rock is incorrectly called "Sugar Loaf Rock" on map, survey of 1878.	
Bull Rock, 40 feet west of west face, on top of bench 20 feet north and 30 feet west of foot of upper slope, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 117).....	571. 954
Top of cap.....	576. 013
Marion, $2\frac{1}{3}$ miles below, on west side of Bull Rock, at about elevation of high water, on shoulder of rock, marked "U. S."; highest point in square (U. S. C. E. t. b. m. 224).....	551. 741
Marion, $2\frac{1}{3}$ miles below, half a mile above Bull Rock, at point of bluff, on upper one of several large flat pieces of rock lying on bank at an angle of about 45° with the horizontal, at about center of top surface of rock; highest point in square (U. S. C. E. t. b. m. 225).....	548. 608
Marion, $1\frac{1}{3}$ miles below, $1\frac{1}{3}$ miles above Bull Rock, 459 feet below mouth of Mud Creek, at lower side of coulee, at foot of bluff, on river side of wagon road, on small projecting point of natural ledge; highest point in square (U. S. C. E. t. b. m. 226).....	557. 020

Marion, 475 feet from river, just outside of Mr. T. W. Glenn's yard, 40 feet from his house, at south fence of road running back from store at landing, where lane runs south in front of Mr. Glenn's house, in northwest corner of lot 30 belonging to Mr. Glenn, in bench-mark stone, lettered "B. M.":	Feet.
Copper bolt (U. S. C. E. p. b. m. 118=33/1)	573. 979
Top of cap	578. 050
Marion, 1,705 feet above mouth of small ravine, 39 feet above northwest corner of prominent vertical ledge and in continuation of this ledge, 4 feet above high water mark; copper bolt leaded horizontally, marked "U. S. P. B. M." (U. S. C. E. p. b. m. 119).....	560. 675
Marion, 1,705 feet above landing, 39 feet from upper end of vertical ledge of rock at water's edge, 12 feet from water's edge at stage, 10 feet below high water, on oval boulder in water; highest point in square (U. S. C. E. t. b. m. 230).....	546. 154
Marion, 1½ miles above, at mouth of Moniteau Creek, on lower one of two large projecting rocks overhanging bank; highest point in square (U. S. C. E. t. b. m. 230).....	554. 136
Moniteau Creek, 65 feet south of small ravine on right bank of creek, 98 feet above Murphy's skiff ferry, 10 feet south of gate across private road from Hickman's house to main road to Marion, on west side of road, nearly opposite t. b. m. 234, in bench-mark stone lettered "B. M.":	
Copper plate (U. S. C. E. p. b. m. 120).....	565. 790
Top of cap	569. 861
Sandy Hook Landing, 1¼ miles below, on C. F. Rosemeller's land three-eighths of a mile south of his house, 30 feet from foot of bluff, 16 feet below fence running at right angles to bluff separating pasture from field, on embedded rock, marked "U. S."; highest point in square (U. S. C. E. t. b. m. 236).....	564. 110
Sandy Hook Landing, seven-eighths of a mile below, 4 miles above Marion, on west side of Factory Creek, opposite t. b. m. 237, in east face of semi-circular ledge of rock next to creek; copper bolt leaded horizontally marked "U. S. P. B. M." (U. S. C. E. p. b. m. 121).....	560. 829
Sandy Hook Landing, 300 feet west of road running south from landing and on north side of road running west over bluff, 3 feet south of southeast corner of William Gentsch's front dooryard, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 122=34/1).....	581. 141
Top of cap	585. 212
Sandy Hook Landing, 1,800 feet above, 2,953 feet below Cooks Landing, at lower end of bottom, 25 feet north of a point at which a stratum of rock projects out 10 feet from face of bluff, directly under a small projection 10 feet below its top, 1 foot from ground, in natural ledge, marked "U. S. P. B. M."; copper bolt leaded horizontally (U. S. C. E. p. b. m. 123).....	566. 711
Sandy Hook Landing, 8 feet north of p. b. m. 123, 12 feet from vertical face of bluff; on embedded rock; highest point in square (U. S. C. E. t. b. m. 240).....	562. 397
Geigers Landing, half a mile below, 1,017 feet below small creek, 75 feet above lower end of large rock bank at foot of bluff, on projecting point of ledge marked "U. S."; highest point in square (U. S. C. E. t. b. m. 241).....	557. 325
Geigers Landing, about 500 feet from river, on south side of road running west from landing up coulee, at northeast corner of S. V. Cook's shed, at east side of corncrib, 1 foot north of shed, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 124).....	581. 252
Top of cap	585. 311

	Feet.
Geigers Landing, 60 feet north of t. b. m. 242, in projecting point of rock ledge 10 feet high by 8 feet wide, marked "U. S. P. B. M."; copper bolt leaded horizontally (U. S. C. E. p. b. m. 125).....	575.412
Geigers Landing, 380 feet above road running west up coulee, between road running parallel to river and bluff, 50 feet from river, 60 feet south of 2-foot hickory standing at foot of bluff, 10 feet from bluff, opposite point of ledge in which copper bolt is placed, on top of round embedded rock, marked "U. S."; highest point in square (U. S. C. E. t. b. m. 242).	569.828
Geigers Landing, 1,722 feet above, 16 feet below a ditch, 14 feet from foot of bluff, on river side of farm road, in large rough rock, marked "U. S."; highest point in square (U. S. C. E. t. b. m. 243).....	571.570
Wolf Point, 3 miles below, 1 mile below upper end of bottom opposite Providence, at mouth of coulee, 150 feet southeast of small frame house on land owned by Mr. Jackson, 25 feet south of fence line, at east corner of small granary, 1½ feet from building, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 126=35/1).....	578.837
Top of cap.....	582.902
Wolf Point, at northwest corner of Musick & Redford's general merchandise store, 3 feet from building, in bench-mark stone, lettered "B. M.":	
Copper bolt.....	587.046
Top of cap (U. S. C. E. p. b. m. 127=36/1).....	591.118
Wolf Point, on southeast corner of chimney on east side of Mr. Redford's house, on bottom course of stone; highest point in square (U. S. C. E. t. b. m. 250).....	580.960
Wolf Point, 75 feet above lower end of exposed ledge, 25 feet above level of bottom land, 3½ feet north of a point directly under end of fence running back over bluff, 2 feet above ground, in vertical face of ledge, copper bolt leaded horizontally marked "U. S. P. B. M." (U. S. C. E. p. b. m. 128).....	605.845

BOONVILLE QUADRANGLE.

[Latitude 38° 30'-39°; longitude 92° 30'-93°.]

From Centertown west along Missouri Pacific Ry. to Otterville with checked spur from Tipton south to Fortuna.

California, in the face of the raised stonework at the west end of the stone steps to the brick courthouse, steps lead to entrance on the south side of the building; intersection of two lines forming a cross (+) marked "U. S.+B. M." (C. & G. S. b. m. XXXIII).....	876.169
California station, water tank 200 feet east of, on top of foundation on north side, marked thus: "B+M." (M. P. R. R. 122).....	889.326
Clarksburg, in front of Moniteau R. R. station, a one-story brick building (the building which is owned by Mr. G. L. Fowler and occupied by him as a drug store is next door to the bank and nearly opposite the railroad station, north of the track; the bolt is in the fourth course above the iron door and window sill, and in the middle brick of the east side wall of the building); copper bolt (C. & G. S. XXXIV).....	904.496
Tipton, in the stone window sill to the city drug store (the drug store is in the corner room of the City Hotel, a three-story brick building, south of the track and nearly opposite the railroad station, owned by Mr. Redmond, the proprietor of the drug store; bench mark in on the sill of the window east of the east door to the drug store, about in the middle of the exposed portion of the stone window sill); bottom of a square cut roughly marked "U. S. □ B. M.".....	925.218

	Feet.
Fortuna, on the northwest corner of the one-story concrete building owned and occupied by Mr. P. D. Gunter, within a triangle rudely marked on the top of the corner stone; highest point (C. & G. S. 14).....	970.021
Syracuse, on the iron door and window sill to the brick building at (the building is owned by D. Crowe and is south of the track, nearly opposite the railroad station; it is rented and occupied as a store by A. S. Thomson; the bench mark is on the sill of the west window about 6 inches east of the west side of the window, near the northwest corner of the building); center of a square cut (C. & G. S. XXXVI).....	924.070
Otterville, in the front wall of the brick drug store at, owned by J. H. Potter (Mr. Potter's son, R. E. Potter, is the proprietor of the store; bolt is in the fourth course above the sidewalk and in the third brick from the south side of the window south of the front entrance); copper bolt (C. & G. S. XXXVII).....	733.122
Otterville, 900 feet west of station, at the northeast corner of bridge, on top of second course of masonry from the top; marked thus "B-M" (M. P. R. R. 143).....	719.195

From Wolf Point along Missouri River to a point 4.5 miles above Boonville.

Mount Vernon Landing, 1,148 feet below mouth of Petite Saline Creek, 184 feet above mouth of small stream, 24 feet south of its bank, on slope of hill, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 129)	587.669
Top of cap	591.725
Mount Vernon Landing, 984 feet below mouth of Petite Saline Creek, 92 feet above wheat shed, 20 feet toward river from vertical ledge of rock, on natural ledge marked "U. S."; highest point in square (U. S. C. E. t. b. m. 253).....	564.815
Mount Vernon Landing, 964 feet below mouth of Petite Saline Creek, 112 feet above wheat shed at landing, in northeast face of natural ledge having vertical exposure of about 10 feet; copper bolt leaded horizontally and marked "U. S. F. B. M." (U. S. C. E. p. b. m. 130).....	576.098
Terrapin Island, nearly opposite middle of, 338 feet east of road leading south through bluffs, on land owned by H. H. Woolrich, at fence separating pasture and cultivated field (1,460 feet S. 61° 45' W. (mag.) from northeast corner of southeast corner of the SE. $\frac{1}{4}$ sec. 23, T. 48 N., R. 15 W.) in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 131=37/1)	582.781
Top of cap.....	586.856
Rocheport, 3 miles below point opposite, in southwest corner of John Campbell's dooryard, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 132).....	576.882
Top of cap	580.944
Overton, 2 miles south, 880 feet S. 11° 45' E. (mag.) from center of sec. 5, T. 48 N., R. 15 W., on W. E. Clayton's land, at south fence of small meadow at foot of bluff, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 133=38/1).....	592.988
Top of cap	597.066
Boonville, about 9 miles below, 1 mile above road running across bottom toward Rocheport, 187 feet below conspicuous cave in side of high rock bluff, two-thirds of the way up, 175 feet above west side of county road running to river, 30 inches above ground, in face of rock bluff, marked "U. S. P. B. M."; copper bolt leaded horizontally (U. S. C. E. p. b. m. 134).....	589.284

Elliotts Landing, 1½ miles below, three-quarters of a mile below head of large bottom back of slough, 1¼ miles above road running north across bottom toward river, 100 feet east of high vertical rock ledge, 25 feet below small creek from spring, 20 feet from foot of bluff, on line with rail fence, 6 feet east of a 2-foot slippery elm blazed, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 135).....	Feet. 587. 433
Top of cap.....	591. 492
Elliotts Landing, 108 feet below wooded warehouse, 2¼ feet above ground, in face of solid rock bluff, marked "U. S. P. B. M."; copper bolt leaded horizontally (U. S. C. E. p. b. m. 136).....	594. 723
Elliotts Landing, at head of Diana Island, about 6.2 miles below Boonville, 1,060 feet S. 45° W. (mag.) from house owned by J. E. Elliott, 575 feet back from river, 82 feet southwest from wagon bridge over small creek, at southeast corner of yard surrounding a log house, on west side of wagon road, in northeast corner of orchard, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 137=39/F).....	597. 892
Top of cap.....	601. 951
Franklin Island, 1 mile below foot of, on point of bluff 705 feet below small creek, at lower side of coulee, about a quarter of a mile below vertical rock ledge, about 2 feet below standard high water, at top of vertical rock bank, on projecting point of ledge; highest point in square marked "U. S." (U. S. C. E. t. b. m. 271).....	577. 043
Boonville, 3.8 miles below, 100 feet below small creek, opposite foot of Franklin Island, 40 feet from low-water shore line, 3 feet above surface of ground, in natural rock ledge forming high-water bank; copper bolt leaded horizontally and marked "U. S. P. B. M." (U. S. C. E. p. b. m. 138).....	585. 150
Boonville, 3¾ miles below, three-fourths of a mile above foot of Franklin Island, 590 feet above very prominent point of vertical ledge of rock, 30 feet below very small stream, about 1 foot above mean high water, at foot of bluff, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 139).....	581. 744
Top of cap.....	585. 822
Boonville, 1,720 feet below Marietta Creek, 1½ miles below Main Street, 328 feet above head of chute, 65 feet above a spring at base of rock, at lower end of bottom where bluff comes back to river, on natural ledge, marked "U. S." 1 foot above point; highest point in square (U. S. C. E. t. b. m. 276).....	585. 242
Boonville, on upper side of coulee, near mouth of Marietta Creek, 1¼ miles below Main Street, 25 feet above wagon road running up coulee, on bottom land at foot of bench of bluff, near a group of small elms, on land owned by Mr. Storm, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 140).....	587. 538
Top of cap.....	591. 597
Boonville, on west side of Main Street, between Levee and Water streets, on southeast corner of stone monument, 20 by 5 inches, on top marked "high water 1844," on top of stone; highest point in square (U. S. C. E. t. b. m. 279).....	599. 441
Boonville, on same stone as t. b. m. 279, across east face; center of mark parallel to and 6 inches below top of stone (the stone has been disturbed and its mark is no longer horizontal; the middle of the line was taken as the high-water mark); the stone is marked on top "High-water mark," and on the east face "June 1st, A. D. 1844" (U. S. C. E. high-water mark, 1844).....	598. 857

Boonville, on river side of abutment to Missouri, Kansas & Texas Ry. bridge north of Missouri Pacific Ry. track, at about middle of north face, 2 feet below surface of ground, 5 feet below point of arrow cut in stone; copper bolt leaded horizontally and marked "U. S. P. B. M." (U. S. C. E. p. b. m. 144=old b. m. 121).....	Feet. 586. 692
Boonville, on first pier from right bank of Missouri, Kansas & Texas Ry. bridge, south side, downstream end, in rock, zero of staff gage, reading to feet and tenths (U. S. C. E. United States Signal Service gage).....	565. 813
Boonville, first pier from right bank of Missouri, Kansas & Texas Ry. bridge, on downstream end; center of horizontal line of black paint, thus —44— (line is not perfectly horizontal); east end of line at nose of pier was taken (U. S. C. E. □ high water, 1844).....	598. 650
Boonville, 200 feet east of Main Street, three-story brick building occupied by Boonville Flouring Mills, owned by C. W. and J. Sombast, facing levee, northwest corner, 6 inches east of corner and 3.5 feet above ground, on north face of top corner stone of foundation; copper bolt leaded horizontally (U. S. C. E. p. b. m. 141).....	596. 370
Boonville, on west side of Main Street between Levee and Water streets, 1 foot west of stone curbing at lower edge of stone marking high water 1844, in bench-mark stone, lettered "B. M.": Copper bolt (U. S. C. E. p. b. m. 142=40½ Boonville).....	595. 698
Top of cap.....	599. 772
Boonville, on shore pier at south end of Missouri, Kansas & Texas Ry. bridge, on downstream end of pier, on side of downstream pedestal next to track, almost in line with north edge of bedplate, on coping; highest point in square (U. S. C. E. t. b. m. 280).....	610. 763
Boonville, in shore pier at south end of Missouri, Kansas & Texas Ry. bridge, 30½ inches from west end of pier, 22 inches south of north side, 21¼ inches west of bedplate, 16½ inches northwest from northwest corner of stone wall, in coping stone, marked "U. S. P. B. M."; copper bolt leaded vertically (U. S. C. E. p. b. m. 143).....	610. 766
Boonville, in shore pier at north end of Missouri, Kansas & Texas Ry. bridge across Missouri River, 30½ inches from south and 15 inches from west bevel edge of pier, in upstream end of pier, 14¼ inches from northwest corner of bedplate and 1½ inches north of a point in line with north edge of same, in coping stone, marked "U. S. P. B. M."; copper bolt leaded vertically (U. S. C. E. p. b. m. 145).....	607. 919
Franklin station, about half a mile west, 902 feet northwest of second bend in road after crossing Missouri, Kansas & Texas Ry. on line with south fence of east-west branch road, 50 feet east of fence corner on opposite side of road, 6 inches east of east fence of north-south Boonville road, on land owned by Joseph B. Baker, in bench-mark stone, lettered "B. M.": Copper bolt (U. S. C. E. p. b. m. 146).....	593. 391
Top of cap.....	597. 466
Boonville, 3 miles above, 348 feet above a point directly in front of Mrs. Kate Chancellor's house, 49 feet below point opposite east end of barn, at point where road running south branches off from east-west road, in bench-mark stone, lettered "B. M.": Copper bolt (U. S. C. E. p. b. m. 147=41/3) (new position).....	596. 469
Top of cap.....	600. 524

GRAVOIS MILLS QUADRANGLE.

[Latitude 38° 15'-38° 30'; longitude 92° 45'-93°.]

At triangulation stations Versailles North Base and Hunter.

Versailles, about 5 miles northeast of, in surface stone marking the trigonometrical station in the yard of Mr. Moses H. Tipton, stone is 0.65 by 0.65 by 0.27 meter, set in concrete and lettered on its top surface as follows: "U. S. C. & G. S. 0 1897"; top of copper bolt (Versailles North Base triangulation station).....	Feet. 1, 057. 380
Versailles, 4 miles east of, in surface stone marking the trigonometrical station, on land belonging to the estate of D. C. Dale, stone is 0.65 by 0.65 by 0.24 meter and is lettered the same as Versailles North Base; top of copper bolt (Hunter triangulation station).....	1, 048. 108

GLASGOW QUADRANGLE.

[Latitude 39°-39° 30'; longitude 92° 30'-93°.]

From point 4.5 miles above Boonville along Missouri River to New Frankfort.

Boonville, 4½ miles above, 2,920 feet below road running southeast to river, 820 feet below two large lone cottonwoods by roadside, on small knoll on bluff side of road, on flat embedded rock; highest point in square.....	603. 201
Boonville Bridge, 5½ miles above, at lower end of Kings Lake, 2,130 feet above branch road running across bottoms to river, opposite W. E. Saddler's house on river side of road leading to Boonville, on line with road fence along John Tinsley's land, between an elm above and a honey locust below, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 148).....	600. 373
Top of cap.....	604. 438
Lisbon, 5½ miles below, 1 mile below branch road leading west, 900 feet south of house occupied by Ed Smith (owned by Clark brothers), 125 feet south of fence running east over bluff, 50 feet north of large elm, on east side of road next to Steve Cooper's land, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 149).....	604. 526
Top of cap.....	608. 585
Lisbon, about 4 miles below, 1,640 feet above branch road leading west, 252 feet north of east-west fence, 20 feet east of center of road leading to Boonville and 2½ feet above grade of same, 6 inches back from vertical face, in projecting ledge, marked "U. S. P. B. M." copper bolt leaded vertically (U. S. C. E. p. b. m. 150).....	602. 210
Lisbon, 3¼ miles below, 2,000 feet north of schoolhouse, district 4, 430 feet north of Fairbank's weighing scales, 275 feet southeast of John Step's house, 230 feet east from wagon road, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 151=43/3).....	619. 743
Top of cap.....	623. 808
Lisbon, 2¼ miles below, 590 feet below William Marshall's barn at mouth of coulee, 145 feet below large rock lying by roadside at foot of bluff, on east side of wagon road leading to Boonville, on inclined embedded rock, marked "U. S."; highest point in square (U. S. C. E. t. b. m. 295).....	602. 368
Lisbon, 2,295 feet below, 1,310 feet below creek at lower end of town, 133 feet above fence corner, on river side of wagon road, 59 feet from center, 15 feet from river bank, at east side of large embedded rock, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 152=44/3).....	614. 169
Top of cap.....	618. 237

Lisbon, 1 mile above, 2,050 feet above first bridge over creek above Lisbon, 50 feet above a point directly east of and across slough from John McCorkle's log barn or shed, on east side of wagon road, 2 feet above surface of ground, in natural ledge, marked "U. S. P. B. M."; copper bolt (U. S. C. E. p. b. m. 153).....	Feet. 606. 908
Lisbon, 1 mile above, 2,050 feet above first bridge over creek above Lisbon, 460 feet north of prominent rock point, 50 feet south of south end of small coulee, east side of wagon road, 1 foot above ground, on natural ledge; highest point in square (U. S. C. E. t. b. m. 300).....	605. 005
Lisbon, 1¼ miles above, five-eighths of a mile above the second highway bridge above Lisbon, three-quarters of a mile below John W. Goe's log house, which stands by road, 275 feet below prominent point of rock bluff by rail fence on west side of wagon road, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 154=45/3).....	600. 291
Top of cap.....	604. 307
Lisbon, 275 feet above p. b. m. 154, on east side of wagon road, at prominent point of rock bluff, on natural ledge, marked "U. S."; highest point in square (U. S. C. E. t. b. m. 301).....	604. 953
Lisbon, 2¼ miles above, 616 feet above John W. Goe's house, about 50 feet above small stream flowing from spring on the east side of point of bluff, on upper side of small coulee, on east side of wagon road, on natural ledge, marked "U. S."; highest point in square (U. S. C. E. t. b. m. 302)....	607. 430
Lisbon, 3¼ miles above, 3,000 feet below highway bridge over Richland Creek, on west side, 9 feet from fence, 8 feet from wagon road, on large rock, marked "U. S."; highest point in square (U. S. C. E. t. b. m. 303)..	615. 284
Bluffport, 1¼ miles below, half a mile below Mrs. J. Cropp's house, 40 feet east of black walnut standing on west side of road, at east roadside, at upper side of small creek, on embedded rock; square (U. S. C. E. t. b. m. 304)..	611. 318
Richland Creek, about 1 mile above, on line of wagon road above and 230 feet in direct line from house of Mrs. Blanche Cropp, 230 feet above small stream, opposite a point 8 feet below lower outcropping of ledge, at upper side of coulee, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 155).....	611. 560
Top of cap.....	615. 625
Bluffport, 1½ miles below, 95 feet above p. b. m. 155, 87 feet above end of bare bluff, 3½ feet above ground, on east side of wagon road, in face of ledge, marked "U. S. P. B. M."; copper bolt leaded horizontally (U. S. C. E. p. b. m. 156).....	619. 759
Richland Creek, in same locality as p. b. m. 155, 230 feet above Mrs. Blanche Cropp's house, 260 feet above creek, 35 feet above lower end of bare ledge, 1½ feet above surface of ground, on natural ledge; highest point in square (U. S. C. E. t. b. m. 305):.....	618. 509
Glasgow, 2 miles below, on left bank, 175 feet above mouth of first creek below Hurricane Creek, 40 feet below lower end of high rock ledge, 20 feet from river bank, on level spot of ground just back of fence at foot of bluff, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 157=46/2).....	610. 511
Top of cap.....	614. 572
Glasgow, about 50 feet above p. b. m. 157, 29½ feet above lower extremity of sandstone ledge, 3 inches back of face, under twin lime tree, on natural ledge; highest point in square (U. S. C. E. t. b. m. 309).....	610. 353

Glasgow, at west side of second pier from east abutment of Chicago & Alton R. R. bridge, opposite center of pier and 2 feet from its face, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 159=47/3)	Feet. 617. 607
Top of cap.....	621. 662
Glasgow, at east end of Chicago & Alton R. R. bridge, first lowland pier, just below wagon road, 10 inches north of southeast corner of pier, 6 feet above ground, in first course of stone under capstone, in east face, lettered "U. S. P. B. M."; copper bolt leaded horizontally (U. S. C. E, p. b. m. 160)	637. 348
Glasgow, at Chicago & Alton R. R. bridge, at base of same pier as p. b. m. 160, 3 feet east of southwest corner of pier, in center of south face, at about same elevation as surface of ground, on projecting stone; highest point in square (U. S. C. E. t. b. m. 314).....	629. 582
Glasgow, between columns of third pier from east abutment of Chicago & Alton R. R. bridge, on top of ridge joint; gage bench mark (U. S. C. E. t. b. m. 315; old b. m. 141 (a)).....	613. 821
Glasgow, opposite, on Chicago & Alton R. R. bridge, on first high double pier from right bank, at west end of high truss, on downstream end and top of pier, 17 inches from southeast corner of bedplate, just south of anchor bolt, 7½ inches from either beveled edge at southeast corner of pier; copper bolt leaded vertically and marked "U. S. P. B. M." (U. S. C. E. p. b. m. 161).....	663. 444
Glasgow Bridge, on right bank, three-quarters of a mile below west abutment, 1,960 feet from river bank, 1,960 feet south from Chicago & Alton R. R. tracks, 195 feet east of a 2-foot oak tree, in south fence of road in front of house, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 158=47/2)	618. 260
Top of cap.....	622. 322
Cambridge, 2 miles south, 5 miles west of Glasgow, about three-eighths of a mile from river bank, 47.5 feet south from center of track, on west side of wagon road where it crosses the Chicago & Alton R. R. track just as it enters bluffs going west, at corner of fence, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 162)	625. 179
Top of cap.....	629. 247
Cambridge, near river end of warehouse of W. D. Woolridge, on east side, 4.4 feet south of north corner, 3 feet above ground; copper bolt leaded horizontally and marked "U. S. P. B. M." (U. S. C. E. p. b. m. 163)..	637. 610
Cambridge, on same warehouse as p. b. m. 163, 10 feet south from its north end, at east side, on projecting course of stone; highest point in square (U. S. C. E. t. b. m. 325).....	635. 517
Cambridge, 623 feet above landing at foot of Main Street, 245 feet west of fence, 15 feet above elevation of bottom land, on low point of bluff just above spring, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 164=48/1)	627. 495
Top of cap.....	631. 551
Cambridge, 82 feet west of p. b. m. 164, on east side of small ravine, on natural ledge of rock marked "U. S."; highest point in square (U. S. C. E. t. b. m. 326).....	631. 190
Salt Creek, 2¼ miles below, about three-quarters of a mile from bank of river, on old river bank, 150 feet west of bank of large slough, on west side of wagon road to Cambridge, in line with fence, on land of Judge Gillum, across slough and 490 feet from his house, 180 feet south of the exceedingly large cottonwood tree 9 feet in diameter, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 165).....	619. 231
Top of cap.....	623. 289

SEDALIA QUADRANGLE.

[Latitude 38° 30'-39°; longitude 93°-93° 30'.]

From Otterville west along Missouri Pacific Ry. to Lamonte.

Smithton, in the top of the stone foundation to the brick store at, occupied by Hair & White (the building is south of the railroad and nearly opposite the railroad station; the foundation projects outside the brick wall and bench mark is on top of this projection on the east side of the building near the northeast corner); bottom of a square cut (C. & G. S. XXXVIII).	Feet. 883. 190
Sedalia, on top of the northwest corner basement entrance on north side of railroad office building, about 1 mile east of station, bench mark is almost flush with the surface of the ground, marked thus: "B+M" (M. P. R. R. 152).....	907. 209
Sedalia, in the top of the coping to the stone wall around the basement entrance to the courthouse at, north of the west entrance to the courthouse (the basement entrance being immediately under the entrance to first floor) and near the wall of the main building; bottom of a square cut, lettered as follows: "U. S. C. & G. S. □ B. M.".....	909. 949
Mud Creek, on the west bank of, in the top of the stone pier which supports the iron railroad bridge (Missouri Pacific Ry.), the end of the bridge north of the track rests on the stone in which the square is cut, this portion of the pier being smaller and about 3 feet higher than the main pier, bench mark is near the northwest corner of this raised portion; bottom of a square cut, roughly lettered the same as XXIX.....	742. 246
Lamonte, in the front wall of the brick block owned by White & Bramley, in the eighth course above the foundation and in the second brick from the northwest corner, in the front or west wall of the building (building is near the railroad track just east of the railroad station); copper bolt (C. & G. S. b. m. XLI).....	867. 301

MARSHALL QUADRANGLE.

[Latitude 39°-39° 30'; longitude 93°-93° 30'.]

From New Frankfort along Missouri River to Waverly.

New Frankfort, at upper end, 885 feet south of river bank, 213 feet north of point where road running west turns north, 65 feet south of and across road from house of R. M. Elliott, 300 feet south of center of bridge over small creek, 2 feet west of west fence, in bench-mark stone, lettered "B. M.": Copper bolt (U. S. C. E. p. b. m. 166=49/1).....	626. 229
Top of cap.....	630. 307
New Frankfort, 3 miles above, 328 feet above prominent ledge of rock, at old site of sawmill, where old road running west along foot of bluff turns south over bluff and from which point a lane runs north about half a mile to Mr. Campbell's house, on north side of road and east side of lane, in bench-mark stone, lettered "B. M.": Copper bolt (U. S. C. E. p. b. m. 167).....	626. 426
Top of cap.....	630. 481
Buckhorn Point, opposite, at foot of bluff, 98 feet west of line between secs. 27 and 28, T. 53 N., R. 20 W., 820 feet east of the old "mulberry corner," on land of Samuel Wood, north of barn on top of bluff, 3 feet south of east-west fence running along foot of bluff, in bench-mark stone, lettered "B. M.": Copper bolt (U. S. C. E. p. b. m. 168).....	629. 854
Top of cap.....	633. 926

Cromwell Point, at foot of Brunswick Island, three-eighths of a mile north of Mr. Downing's house, above mouth of creek, below bridge where road between Downing and Andy Campbell crosses creek, 22 feet south of high bank, 18 feet north of gate, on west side of fence, at northwest corner of Cyrus Downing's field, where road leaves creek and enters field, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 169).....	Feet. 632.856
Top of cap.....	636.925
Grand River, opposite mouth of, 20 feet west of southwest corner of NE. $\frac{1}{4}$ NE. $\frac{1}{4}$ sec. 24, T. 53 N., R. 21 W., 130 feet west of large blazed elm at edge of woods on north and field on south, 49 feet from small elm blazed, on south side of east-west lane between Mr. White's house on west and Mr. Sullivan's house on east, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 170=51/1).....	634.897
Top of cap.....	638.965
De Witt, opposite, on line running east and west through center of sec. 22, T. 53 N., R. 21 W., 60 feet west of quarter post between secs. 22 and 23, about 820 feet west of S. W. Wood's house, at south road fence, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 171=52/1).....	635.717
Top of cap.....	639.772
Miami, $2\frac{1}{2}$ miles below, 459 feet south of Mr. Davenport's two 1-story houses, 5 feet south of east-west fence between Davenport's and Wilson's fields, in southeast corner of Miami and De Witt roads, 1 foot east of east road fence, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 172).....	638.335
Top of cap.....	642.410
Miami, about 1,640 feet below flouring mill, 295 feet above upper bank of creek, $5\frac{1}{2}$ feet above surface and 6 feet from edge of water at medium stage, in face of ledge, marked "U. S. P. B. M."; copper bolt (U. S. C. E. p. b. m. 173).....	642.000
Miami, 25 feet from river bank at Smith & Boyer's warehouse, on east side of road from landing to town, on west bank of small stream; top of knob chiseled in rock ledge (it is said to be of same elevation as high water of 1881) (U. S. C. E. t. b. m. 357=b. m. c. of 1878).....	645.803
Miami, 40 feet from river, at ferry landing, on west side of street, at northeast corner of flouring mill of J. G. Guthrie, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 175).....	644.395
Top of cap.....	648.473
Miami, at same place as p. b. m. 175, on foundation of brick flouring mill owned by J. G. Guthrie, at northeast corner; highest point in square (U. S. C. E. t. b. m. 358).....	648.207
Miami, 2,885 feet above present landing at, 295 feet above creek at old Miami ferry landing, 7 feet from shore and 4 feet above surface of water at medium stage, in west face of rock, marked "U. S. P. B. M."; copper bolt leaded horizontally (U. S. C. E. p. b. m. 176).....	640.455
Miami, in same locality as p. b. m. 176, 130 feet below it, 1 foot above surface of ground and 3 feet from shore at medium stage, on natural ledge, marked "U. S."; highest point in square (U. S. C. E. t. b. m. 359).....	637.965
Miami, three-quarters of a mile above, 2,950 feet below creek which is outlet to Lake Teteseau, 34.5 feet below path running over bluff to Miami, 15 feet from river, at foot of bluff, on largest boulder in vicinity, on river side; square cut on top of shoulder at base of boulder, marked "U. S." (U. S. C. E. t. b. m. 360).....	650.389

Miami, 2 $\frac{1}{2}$ miles above, where road, running to Laynesville leaves bluff, 65 feet E. 10° N. of small bridge where road crosses discharge ditch, 230 feet above southeast corner of field, 60 feet from foot of bluff, about 20 feet east of center of road, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 177=54/1)	Feet. 643. 119
Top of cap.....	647. 197
Teteseau Bend, south of center of, about 1,700 feet from river, 125 feet north of Joseph Hilderbrand's house, at east side of yard, 80 feet east of east road fence, 40 feet south of south farm lane fence, in bench-mark stone, lettered "B. M.":	
Top of copper bolt (U. S. C. E. p. b. m. 178)	647. 010
Top of cap.....	651. 052
Laynesville, 1 mile southeast of, 4,379 feet west of southeast corner of sec. 33, T. 52 N., R. 22 W., at north fence of road between Tps. 51 and 52, 120 feet east of bridge over Davies Lake, in bench-mark stone set 3 feet below surface of ground and lettered "B. M.":	
Top of copper bolt (U. S. C. E. p. b. m. 179=55/2)	651. 186
Top of cap.....	655. 255
Malta Bend Landing, 300 feet west of house occupied by S. Hugh, in west line of road, on land owned by Charles Von Stone, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 180).....	651. 990
Top of cap.....	656. 058
Malta Bend Landing, 2 miles above, in front of Grand Pass Lake, three-quarters of a mile back from present river bank, 360 feet back from road that follows old river bank, in Fred Ayer's yard, 18 feet from its north-west corner and 6 inches south from front fence, 6 feet above small gate, 72 feet from northwest corner of house, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 181)	654. 300
Top of cap.....	658. 365
Waverly, about 5 $\frac{1}{2}$ miles below, 158 feet east of point in road in front of house owned by S. H. Moore, now occupied by John Plattern, 4 feet north of south fence of section-line road between secs. 5 and 8, T. 51 N., R. 23 W., 1,106 feet west of southeast corner of sec. 5, in bench-mark stone 3 feet underground, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 182=56/1).....	658. 631
Top of cap.....	662. 709
Waverly, 3 miles below, at foot of bluff, 230 feet from bridge 62, 219 feet from west cattle guard at road crossing Missouri Pacific Ry. track, 147 feet from center of track, 1 foot east of fence south of west end of Gilhams Lake, at west side of wagon road, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 183).....	673. 722
Top of cap.....	677. 787
Waverly, 1 $\frac{1}{2}$ miles below, 738 feet west of line between Lafayette and Saline counties, 230 feet above bridge 59, on river side of track 15 feet from center, in rock; highest point in square (U. S. C. E. t. b. m. 389).....	671. 856

WARRENSBURG QUADRANGLE.

[Latitude 38° 30'-39°; longitude 93° 30'-94°.]

From Knobnoster west along Missouri Pacific Ry. to Holden.

Knobnoster, the side entrance of the private office back of the Bank of Knobnoster, owned by C. B. Littlefield, in the top of the stone doorsill (the steps have been removed from this door and it is not used as an entrance); bottom of a square cut lettered "U. S. □ B. M." (C. & G. S. b. m. XLII).....	809. 880
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Knobnoster, 3,600 feet west of station, 8 feet north of north rail, at north-west corner of culvert; top of stone, marked "B. + M." (M. P. R. R. 169).	Feet. 744. 034
Montserrat, 500 feet east of the railroad station at, in the top of one of the stones of the west abutment to the small wooden railroad bridge, north of the track, rod was held on the intersection of the two lines forming the cross (+); cross cut lettered "B. + M." (C. & G. S. b. m. XLIII, or M. P. R. R. 171).....	798. 404
Warrensburg, in the grounds of the Missouri State Normal School, near the southeast corner of the extension of the main building, on a sandstone post 6 inches square, with two lines cut in the top forming a cross at its center; intersection of lines (two other sandstone posts are placed 5 feet from this center stone, one north and one south, center stone marked as follows, and its top is nearly even with the ground: "U. S. C. S.").....	878. 414
Warrensburg, in one of the stones of the basement story (built of sandstone) of the State Normal School at, on the south side of the main building, near the southeast corner, just to the left of a blind window; copper bolt (C. & G. S. b. m. XLV).....	884. 276
Center View, under the northwest corner of the corrugated-iron warehouse owned by Porter & Delany, which is south of the track and west of the railroad station, on top of the sandstone pillar, the top edge of which is beveled and this bevel was cut so as to form a flat bench at the northwest corner of the pillar; surface of bench (C. & G. S. b. m. XLVI).....	872. 531

LEXINGTON QUADRANGLE.

[Latitude 39°-39° 30'; longitude 93° 30'-94°.]

From Waverly along Missouri River to Wellington.

Waverly, 1¼ miles below, 984 feet north of track, on land owned by Charles Walton, 177 feet S. 59° 30' E. (mag.) from a point on section line between secs. 12 and 13, T. 51 N., R. 24 W., which point is 460 feet west of quarter post between said sections, in corner of field, in bench-mark stone, lettered "B. M.":	
Top of copper bolt (U. S. C. E. p. b. m. 184=57/1).....	659. 119
Top of cap	663. 191
Waverly, five-eighths of a mile below depot, 770 feet below highway crossing, on bluff side of Missouri Pacific Ry. track 12 feet from center, on rock; highest point in square (U. S. C. E. t. b. m. 392).....	679. 215
Waverly, about one-third of a mile below depot, 60 feet south of Missouri Pacific Ry. track, 20 feet south of north line of lot owned by W. Milnor, 10 inches east of west fence, in northwest corner, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 185=58/1).....	684. 470
Top of cap	688. 562
Waverly, 1 mile above, on east end of bridge 55, Missouri Pacific Ry., 8 inches back from face of bridge-seat stone, 6 inches west from retaining wall, on south end of bridge-seat stone, marked "U. S. P. B. M."; top of copper bolt leaded vertically (U. S. C. E. p. b. m. 186).....	672. 305
Waverly, near p. b. m. 186, on north end of east abutment of same bridge, 9 inches east of northwest corner, 8 inches back from face, on capstone of retaining wall, marked "U. S."; highest point in square (U. S. C. E. t. b. m. 396).....	676. 951
Waverly, 1¼ miles above, on south end of east abutment of east course of bridge 54, Missouri Pacific Ry., 6 inches west of retaining wall, 6 inches back from face, marked "U. S. P. B. M."; top of copper bolt leaded vertically (U. S. C. E. p. b. m. 187).....	675. 176

Waverly, near p. b. m. 187, on north end of same abutment, 14 inches east from northwest corner of stone, 3 inches back from face, marked "U. S."; highest point in square (U. S. C. E. t. b. m. 397).....	F. e. e. t. 676. 961
Waverly, about 1½ miles above, 30 feet from bank of small stream, 10.5 feet east of east end of bridge 52, on south side Missouri Pacific Ry. track, 3.3 feet east of 10-inch elm, at foot of bluff, on flat spot of ground, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 188).....	674. 572
Top of cap.....	678. 627
Waverly, 4 miles above, 2¼ miles below Edwards, 50 feet above bridge 47, Missouri Pacific Ry., bluff side of track, 100 feet from center, 40 feet northeast of cluster of six lime trees (blazed), in bench-mark stone, lettered "B. M.":	
Top of copper bolt (U. S. C. E. p. b. m. 189=59/1).....	697. 417
Top of cap.....	701. 485
Edwards, 1½ miles below, at point of bluff, 738 feet below bridge 46, Missouri Pacific Ry., on south side of track, 12.4 feet from center and 3.9 feet above grade, in natural ledge, marked "U. S. P. B. M."; copper bolt leaded horizontally (U. S. C. E. p. b. m. 190).....	686. 928
Edwards, 1½ miles below, 785 feet below bridge 46, on south side of track, 10 feet from center, on natural ledge; highest point in square (U. S. C. E. t. b. m. 402).....	685. 176
Edwards, in north face of foundation of old mill, 33 inches west of east window, 3 feet below top of foundation; copper bolt leaded horizontally and marked "U. S. P. B. M." (U. S. C. E. p. b. m. 191).....	682. 938
Edwards, 730 feet below depot, 154 feet southeast of railroad bridge 42, 95 feet south southwest of lower head dock of siding, 33 feet above road crossing, 72 feet south of center of Missouri Pacific Ry. track, 1½ feet north of south right of way fence, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 192).....	674. 300
Top of cap.....	678. 378
Edwards, 620 feet below depot, 45 feet below bank of small creek under bridge 42, Missouri Pacific Ry., on south side of track, 59 feet from center, on embedded rock; highest point in square (U. S. C. E. t. b. m. 403).....	678. 263
Dover depot, 3 miles below, in NW. ¼ SE. ¼ sec. 9, T. 51 N., R. 25 W., 164 feet south of Missouri Pacific Ry. track, in W. D. Ballard's yard, 14 feet from northwest corner of house, in line with north side, between house and well, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 193=60/1).....	680. 776
Top of cap.....	684. 844
Dover, 2¾ miles below, seven-eighths of a mile below water tank, 574 feet below bridge 35, bluff side of Missouri Pacific Ry. track, 20 feet from center, on rock; highest point in square (U. S. C. E. t. b. m. 407).....	680. 832
Dover, 1½ miles below, on stone foundation of water tank, at southeast corner; highest point in square (U. S. C. E. t. b. m. 408).....	682. 984
Dover, 48.5 feet east of east end of depot, 39 feet west from road crossing, on south side of track, 12 feet from center, at southeast corner of depot platform, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 194).....	677. 187
Top of cap.....	681. 255
Berlin, 1,030 feet above bridge 27, 530 feet north 87° west from Y. E. Gray's brick house on bluff, 425 feet below bridge 26, on bluff side of track, 145 feet from center, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 195=61/1).....	682. 354
Top of cap.....	686. 406

Berlin, in south end of east stone abutment to bridge 26, 3 feet below grade of track, marked "U. S. P. B. M."; top of copper bolt leaded vertically (U. S. C. E. p. b. m. 196).....	Feet. 684. 877
Berlin, very close to p. b. m. 196, on south end of west abutment; highest point in square, marked "U. S." (U. S. C. E. t. b. m. 411).....	686. 931
Northrup, 1 mile below, on iron bridge 25 across Big Tabo Creek, on south end of west pier, in line with west side of pedestal, 1 foot south of same; copper bolt leaded vertically and marked "U. S. P. B. M." (U. S. C. E. p. b. m. 197).....	681. 905
Northrup, near p. b. m. 197, on south end of east pier; highest point in square, marked "U. S." (U. S. C. E. t. b. m. 412).....	682. 764
Northrup, 1,460 feet above section house, 328 feet below east bank of side-hill cut, on bluff side of track, 75 feet from center, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 198).....	688. 844
Top of cap.....	692. 896
Northrup, seven-eighths of a mile above section house, 1,785 feet below Missouri Pacific Ry. bridge 22, 288 feet below sign "station one mile," on sandstone ledge; highest point in square (U. S. C. E. t. b. m. 415)....	691. 554
Lexington, 5¼ miles below, in northeast corner of NW. ¼ sec. 29, near center of wide bottom land 1¼ miles below point where bluff leaves river, 639 feet south of Missouri Pacific Ry. track, 100 feet southwest of south-west corner of small log house owned by William Mayfield, 2 feet west of north-south fence, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 199=62/1).....	676. 295
Top of cap.....	680. 379
Lexington, 4¾ miles below, 820 feet above end of bridge 21, Missouri Pacific Ry., about 325 feet above end of long sidehill cut, on bluff side of track, 12 feet from center, in natural ledge; highest point in square (U. S. C. E. t. b. m. 419).....	695. 031
Lexington, 3¾ miles below, Missouri Pacific Ry. bridge 19, on south end of west abutment, 9 inches east of retaining wall and 14 inches north from face, on bridge-seat course, marked "U. S. P. B. M."; top of copper bolt leaded vertically (U. S. C. E. p. b. m. 200).....	696. 331
Lexington, about 3 miles below, Missouri Pacific Ry. bridge 17, on north end of west abutment, in northwest corner of coping stone, on rock marked "U. S."; highest point in square (U. S. C. E. t. b. m. 420).....	704. 438
Lexington, about 2½ miles below, 150 feet below bridge 15, about in middle of 1,200-foot tangent on Missouri Pacific Ry. track, at foot of bluff, 32.8 feet from track center, 8 feet south of right of way fence, on east side of small coulee, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 201).....	698. 900
Top of cap.....	702. 968
Lexington, about 2½ miles below foot of Pine Street, on south side of west abutment of bridge 14, Missouri Pacific Ry., on bridge-seat course, 8 inches from retaining wall and 8 inches from face, marked "U. S. P. B. M."; top of copper bolt leaded vertically (U. S. C. E. p. b. m. 202).....	695. 648
Lexington, 1½ miles below foot of Pine Street, 540 feet below headblock of switch to coal mine, 15 feet north of Missouri Pacific Ry. track, near river bank, on large embedded boulder; highest point in square (U. S. C. E. t. b. m. 422).....	690. 458

Lexington, in lower part, 1,770 feet below Missouri Pacific Ry. bridge 8, at foot of Pine Street, 130 feet from northeast end of Missouri Pacific Ry. bridge 10, on bluff side of track, by wire fence, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 203=63/1).....	Feet. 687. 892
Top of cap.....	691. 961
Lexington, 1,900 feet below Missouri Pacific Ry. bridge 8, at foot of Pine Street, 262 feet below Missouri Pacific Ry. bridge 10, 180 feet above J. S. Walter's house, on bluff side of track, on rock; highest point in square (U. S. C. E. t. b. m. 423).....	692. 420
Lexington, at foot of Pine Street, in north face of retaining wall, 13 feet west of east end, 30 feet below center of stream running over top of wall, in third course of masonry from top, 3.3 feet below same, marked "U. S. P. B. M."; copper bolt leaded horizontally (U. S. C. E. p. b. m. 204) ..	687. 705
Lexington, 1 foot lower and 1 foot farther downstream than p. b. m. 204, in retaining wall, on top of fourth course of masonry from top; highest point in square (U. S. C. E. t. b. m. 424).....	686. 875
Lexington, 210 feet from river, 19.5 feet west of west fence along Pine Street, in point of bluff on west side of Pine Street, in natural ledge; horizontal furrow in copper bolt (U. S. C. E. p. b. m. 205=old b. m. 190).....	719. 779
Lexington, 1½ miles above ferry landing, 655 feet above city limits, at north end of rock-arch bridge over Grahams Creek, directly over arch, near top of parapet wall, on top at southeast corner of cut rock inscribed "Crum and Hackett, 1858"; cross cut in south face (road side) of stone, which at intersection is 1 inch below bench (U. S. C. E. t. b. m. 425=old b. m. 191).....	696. 321
Junction depot, 2,345 feet below, on same bridge as old b. m. 191, between two branches of Missouri Pacific Ry. track, 40 feet west from east end of wall, on north face, 4½ feet above ground, 3 feet below coping stone, 30.5 inches east from center of arch; copper bolt leaded horizontally, marked "U. S. P. B. M." (U. S. C. E. p. b. m. 206).....	693. 555
Lexington, 2½ miles above ferry landing, 410 feet below siding to J. C. McGrew's coal mine, 150 feet below house occupied by Edward Rosewell on land owned by Reed and Taylor families, on bluff side of track, 80 feet from center, 25 feet from wagon road, directly opposite small bridge on wagon road and culvert on railroad, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 207).....	692. 433
Top of cap.....	696. 505
Wellington, 2½ miles below, 1,605 feet below east end of Missouri Pacific Ry. bridge 145 over Little Sny Creek, a quarter of a mile above mouth of slough at foot of Wolf Island, 490 feet north of forks of road, at foot of hill, on roadside, 10 feet northeast of a lone red oak 20 inches in diameter, 4 feet from corner of field, 62 feet east of track center, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 208).....	696. 718
Top of cap.....	700. 763
Wellington, 2 miles below, 328 feet below milepost 249, at northeast corner of east abutment of wagon bridge over Little Sny Creek, on line of Missouri Pacific Ry., opposite bridge 145, in top of stone; cross (+) (U. S. C. E. t. b. m. 429, old b. m. 194).....	696. 426

Wellington mill, 1,950 feet below, 1,655 feet above west end of Missouri Pacific Ry. bridge 149, over Big Sny Creek, 250 feet above bridge 150, 55 feet above upper end of coal dump, 35 feet south of center of Missouri Pacific Ry. tracks, at point of bluff where bluff recedes, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 209=64/1).....	Feet. 703. 378
Top of cap.....	707. 459
Wellington, 400 feet below depot, at northeast corner of mill, 25 inches above ground, 5 inches south from corner; copper bolt leaded horizontally and marked "U. S. P. B. M." (U. S. C. E. p. b. m. 210).....	716. 324
Wellington, 400 feet below depot, at southeast corner of mill, 2 inches above ground; highest point in square cut on stone, marked "U. S." (U. S. C. E. t. b. m. 431).....	719. 037

HARRISONVILLE QUADRANGLE.

[Latitude 38° 30'-39°; longitude 94°-94° 30']

From Holden northwest along Missouri Pacific Ry. to Little Blue.

Holden, 1 mile west of, 1 foot west of the northwest bridge seat over Little Pine Oak Creek, on the pier on the west bank of the creek, and north of the track; the line forming the west side of the cross was found broken and a square hole was cut in the top of the stone bridge pier at this point for the bench mark; bottom of square hole, marked "B. + M." (C. & G. S. b. m. XLVIII, or M. P. R. R. 188).....	801. 626
Kingsville, in the front wall of the brick building at, known as Isley's Hall, and owned by B. F. Metzler, in the fourth course above the iron window sill and in the third brick from the northwest corner; copper bolt (C. & G. S. b. m. XLIX).....	917. 839
Strasburg, about 500 meters east of, in the top of the stone pier to the iron railroad bridge, on the pier on east bank of the creek and north of the track, near northwest corner of the pier; bottom of a square cut, roughly lettered "U. S. □ B. M." (C. & G. S. b. m. L).....	837. 892
Pleasant Hill, in the face of the south wall to the Atlantic Hotel, below and about halfway between the second and third windows from the southeast corner of the building, in the eighth course above the porch and in the fifth brick from the west side of the first recess in the wall from the southeast corner; copper bolt (C. & G. S. b. m. LI).....	856. 773
Pleasant Hill, 1,500 feet west of station; top of northeast corner of culvert, marked "B. + M." (M. P. R. R. 201).....	854. 874
Pleasant Hill, three-quarters of a mile west of, in the top of the stone pier under the east end of the iron railroad bridge, south of the track and quite near the end of the iron superstructure of the bridge; bottom of a square cut, roughly lettered "U. S. □ B. M." (C. & G. S. b. m. LII).....	852. 794
Greenwood, half a mile west of station, 2 feet from southeast corner of bridge 63; top of bridge seat, marked "B. + M." (M. P. R. R. 206).....	919. 181
Greenwood, half a mile west of, in the stone pier under the east end of the iron railroad bridge (63), north of the track and near the northeast corner of the pier, a railroad bench mark is quite near, marked "B. + M."; bottom of a square cut, roughly lettered "U. S. □ B. M." (C. & G. S. b. m. LIII).....	919. 155

Lees Summit, in the top of the stone foundation to the brick building owned by W. B. Howard (the corner store is occupied by J. R. Spencer as a drug store, building is at the northeast corner of the intersection of the street parallel to the railroad and the first street south of the railroad station, bench mark is near the southwest corner of the building, on the front, where there is an entrance to the basement); bottom of a square cut, roughly lettered "U. S. □ B. M." (C. & G. S. b. m. LIV).....	Feet. 1,035.625
Little Blue, about a quarter of a mile south of the station, in the top of the stone pier under the north end of the iron railroad bridge over Little Blue Creek, near the southeast corner of the large stone which supports the bridge, on the east side of the track; bottom of square cut, roughly lettered "U. S. □ B. M." (C. & G. S. b. m. LV).....	787.590
From Archie along Missouri Pacific Ry. to Harrisonville, thence northwest to Raymore.	
Archie, about 2 miles north of Missouri Pacific Ry. bridge over Grand River, in southwest corner of stone supporting south end of iron superstructure, south of river, east of track; bottom of square cut, roughly lettered U. S. □ B. M. (C. & G. S. b. m. LXXVII).....	799.368
Lone Tree, about a quarter of a mile north of railroad station, west of railroad track, northeast corner of yard to residence of Mr. Henry Hoye; limestone post with top of surface marked U. S. □ B. M. (C. & G. S. b. m. LXXVI).....	879.231
Harrisonville, about half a mile south of railroad station, in stone abutment to Missouri Pacific Ry. bridge over the roadway, on abutment south of road on west side of track and on fourth offset from top; bottom of square, roughly lettered U. S. □ B. M. (C. & G. S. b. m. LXXV).....	903.611
Pleasant Hill, about 3½ miles south, abutment to iron railroad bridge (No. 2, Mo. Pac. Ry.) over Big Creek, under center of track, on top of abutment on north side of creek and near its inner face; bottom of square, roughly lettered U. S. □ B. M. (C. & G. S. b. m. Big Creek).....	853.528
Harrisonville, about a quarter of a mile north of railroad station, near Missouri Pacific Ry., east of track, old creamery building (brick) belonging to Harrisonville Banking Co., in wall on north side, tenth course above stone foundation and third brick from northwest corner, end of copper bolt; center of cross. There is a hole in wall a little above the bolt where first attempt to inset it was made (C. & G. S. b. m. LXXIV).....	918.758
Kimpton, near wooden building (stone foundation), on north side, between door and northeast corner; limestone post owned by Mr. J. S. Powell, with top of surface marked U. S. □ B. M. (C. & G. S. b. m. LXXIII).....	1,013.682
Coleman, about half a mile west of railroad station, south of track, in yard of residence of Mr. J. B. Ingels, near northwest corner of house on front (north) side; limestone post with top surface marked U. S. □ B. M. (C. & G. S. b. m. LXXII).....	1,017.862
Raymore, about half a mile west of railroad station and south of railroad, southeast corner of yard of residence of Mr. R. C. Simeral, near fence on south side, about 20 feet from hedge on front (east) side; limestone post with top dressed to 6 by 6 inches and lettered U. S. □ B. M. (the center of square formed by cutting four lines in top of stone is the bench mark, the rod being held on the upper surface of stone; the square cut in top of post was not used, as it was found impracticable to make it level and smooth) (C. & G. S. b. m. LXXI).....	1,105.047

INDEPENDENCE QUADRANGLE.

[Latitude 39°-39° 30'; longitude 94°-94° 30'.]

Near Independence.

Independence, about 2 miles south of, in the stone abutment to the Missouri Pacific Ry. bridge at the Chicago & Alton R. R. crossing, east of the Missouri Pacific Ry. track and on the north side of the Chicago & Alton R. R. track, no letters cut, because stone chipped too much; bottom of a square cut (C. & G. S. b. m. LVI).....	Feet. 1, 017. 085
Independence, in the top of the stone coping to the paved entrance to the courthouse (the entrance is on the south side of the old building, and bench mark is between the last column on the left as you enter the building and the corner of the building itself, on the left of the entrance; stone forms a portion of the building); bottom of a square cut, lettered "U. S. C. & G. S. □ B. M." (C. & G. S. b. m. LVII).....	1, 051. 373
Independence, in the courthouse yard near the southwest corner of the courthouse (new building), top of the post is cut in the form of a sphere and polished; highest point of sphere, marked "Elevation 326 74/100 ft." (Independence city directrix).....	1, 049. 680

From Wellington along Missouri River to mouth of Big Blue River.

Waterloo, 3,690 feet below, 226 feet above coal mine of Mr. Hartmann, 62 feet south from Missouri Pacific Ry. track, 30 feet west of gate through which road leads from coal mine up the bluff, 10 feet north of wagon road, directly north of one-story frame house on edge of bluff, 2 feet outside of right of way, in bench-mark stone, lettered "B. M.":	
Copper bolt.....	695. 645
Top of cap (U. S. C. E. p. b. m. 211).....	699. 700
Napoleon, 220 feet south of depot, 90 feet east of small creek under trestle 161, Missouri Pacific Ry., about 75 feet south of wagon road, at foot of bluff in bench-mark stone, lettered "B. M.":	
Copper bolt.....	706. 731
Top of cap (U. S. C. E. p. b. m. 212=66/1).....	710. 802
Napoleon, about 1 mile above, 1,840 feet below house of F. P. Ellis, 10 feet east of east end of open culvert, 8 feet south of center of Missouri Pacific Ry. track, on natural ledge; highest point in square (U. S. C. E. t. b. m. 436).....	720. 169
Napoleon, 2 miles above, 1,400 feet below bridge 164, 390 feet below line between Jackson and Lafayette counties, 150 feet below farm crossing, 72 feet in direct line from bridge 163, 59 feet south of center of track, on point of land between old Lexington and Napoleon roads owned by Mr. Johnson, 8.6 feet northeast from an elm tree 30 inches in diameter, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 213).....	706. 518
Top of cap.....	710. 576
Matthews Landing, about 2 miles below Sibley Bridge, 390 feet south of river bank, 202 feet west from southwest corner of D. O'Donnell's house, at east side of north-south road, on north side of lane leading past house, in southwest corner of young orchard, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 214).....	710. 704
Top of cap.....	714. 772

Matthews Landing, 2 miles below Sibley Bridge, east side of road, on house of D. O'Donnell, on northwest corner of foundation, on northwest quarter of cross; highest point in square (U. S. C. E. t. b. m. 445, old bench 210)...	Feet. 717. 256
Sibley, 1 mile below station, at south end of Atchison, Topeka & Santa Fe Ry. bridge across river, 108 feet back from top of river bank, 75 feet east and 23 feet north of northwest corner of land pier, at foot of bluff, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 215).....	715. 015
Top of cap.....	719. 067
Sibley, on right bank in land pier of Atchison, Topeka & Santa Fe Ry. bridge, at top and southwest corner of pier, 6 inches back from each beveled edge; top of copper bolt leaded vertically, marked "U. S. P. B. M." (U. S. C. E. p. b. m. 216).....	746. 104
Sibley, on bottom land just above, 2,800 feet north of bridge over small creek at foot of bluff where t. b. m. 452 is located, 400 feet south of Keller and Angel's house, 360 feet north of small box culvert and road running east through field at east edge of brush on west side of north-south county road, 1½ feet east of fence; top of cap over old b. m. 68/1 (U. S. C. E. p. b. m. 217).....	708. 417
New Sibley, 2¾ miles above, near river on line of Atchison, Topeka & Santa Fe Ry., 125 feet below Auld's sawmill, bluff side of track, 30 feet from center, opposite upper end of bridge 603, on line with center of road running up bluff, just above wing fence, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 218).....	713. 017
Top of cap.....	717. 062
New Sibley, 3¼ miles above, at first point of bluff above Auld's sawmill, at upper end of cut, 30 feet below milepost 435, on bluff side of track 25 feet from center, 3 feet above grade, on large rock in slope, marked "U. □ S."; highest point in square (U. S. C. E. t. b. m. 457).....	731. 485
Little Blue River, 705 feet below east end of railroad bridge 605 over, 230 feet below milepost 436, 20 feet north from center of track, on rock at foot of bank, marked "U. □ S."; highest point in square (U. S. C. E. t. b. m. 458).....	733. 594
Missouri City, opposite, on right bank, five-eighths of a mile above Atchison, Topeka & Santa Fe Ry. bridge over Little Blue River, 2,295 feet above road crossing, 820 feet north of railroad track, about 200 feet above a small one-story house on south side of road, 30 feet below two small plum trees growing close together on north side of wagon road, 2 feet inside of Mr. Sullivan's field, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 219=69/1).....	716. 383
Top of cap.....	720. 461
Atherton, 1,185 feet below depot, 328 feet above road crossing, 245 feet below section house, 215 feet below lowest headblock of siding and 49 feet below tool house, 49 feet north from center of track at south side of right of way fence, directly opposite and northwest from Joseph Sample's house, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 220).....	729. 018
Top of cap.....	733. 076
Atherton, 2¼ miles above, near old b. m. 227, about 1½ miles below Blue Mills Landing, 328 feet south from Atchison, Topeka & Santa Fe Ry. track, 200 feet west of section line, 35 feet east from levee, on land owned by George Hendrick, near creek from spring and path leading down from Mr. Hendrick's house, 10 feet above level of bottom land, on small point of bluff, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 221).....	736. 734
Top of cap.....	740. 779

Blue Mills Landing, 1,330 feet below railroad bridge 609, in small railroad cut, 72 feet below old mill at ferry landing to which road leads, 115 feet above road crossing, 7 feet north from center of track, on natural ledge, marked "U. □ S."; highest point in square (U. S. C. E. t. b. m. 465)....	Feet. 747. 266
Blue Mills Landing, on river bank, at northeast corner of old mill (now gone), on top of a ledge of rock, 14 inches from north edge and 3 inches from east edge; marked with cross (+) (U. S. C. E. t. b. m. 466=old b. m. 33 of 1878).....	732. 407
Blue Mills Landing, at northeast corner of site of old mill, in river face of ledge of rock, 7.1 feet below top and 6.5 feet from east face of ledge; center of cavity from which horizontal copper bolt had been extracted (U. S. C. E. t. b. m. 467=old b. m. 228).....	724. 208
Courtney, 12 feet east of southeast corner, on line with south side of depot, in southwest corner of plate of ground at angle in platform, in bench-mark stone, lettered "B. M."; copper bolt (U. S. C. E. p. b. m. 222).....	732. 554
Courtney station, five-eighths of a mile above, 1,400 feet above highway crossing, 15 feet below sign "Station," 10 feet from center of track, on first curve above town, at foot of bluff, on white embedded rock, marked "U. □ S."; highest point in square (U. S. C. E. t. b. m. 470).....	741. 826
Independence waterworks, 1½ miles below pump house, half a mile below road crossing, on bluff side of track, 20 feet from center, at old Wayne Landing, on projecting point of natural ledge, marked "U. □ S."; highest point in square (U. S. C. E. t. b. m. 471).....	753. 676
Independence waterworks, at old Wayne Landing, five-eighths of a mile below pump house, 82 feet below group of cottonwoods, on river side of track, 80 feet from center, 39 feet below old stone-wall foundation standing at right angles to track, on south edge of wagon road, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 223=71/1)	732. 499
Top of cap	736. 573
Wayne, between railroad track and river, at southwest corner of pump house of Independence waterworks, on south face, 65 inches above ground, 5 inches east of west corner; copper bolt leaded horizontally, marked "U. S. P. B. M." (U. S. C. E. p. b. m. 224).....	746. 127
Wayne, about 2,460 feet below Atchison, Topeka & Santa Fe Ry. bridge 616 over Rock Creek, 525 feet above bridge 615, between two small ravines which are about 850 feet apart, 48 feet south from center of track, 2 feet north of right of way fence, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 225).....	748. 165
Top of cap.....	752. 220
Independence, 2½ miles above, at crossing of Atchison, Topeka & Santa Fe and Missouri Pacific tracks, at foot of iron post of Santa Fe Ry. bridge standing between Missouri Pacific and Kansas City & Independence railroad tracks; top of anchor bolt through northwest corner of shoe, letters "U. S." cut into cast pedestal, one on each side of nut to anchor bolt (U. S. C. E. p. b. m. 226).....	743. 128
Big Blue River, on right bank near its mouth, 98 feet up that stream from south end of Missouri Pacific Ry. bridge 69, upon pier of which bridge is located "NO. LVIII"; 2 feet outside of right of way fence, 18.5 feet back from top bank of Big Blue River:	
Copper bolt (U. S. C. E. p. b. m. 227).....	734. 562
Top of cap.....	738. 621

KANSAS CITY QUADRANGLE.

[Latitude 39°-39° 30'; longitude 94° 30'-95°.]

Near Kansas City.

Big Blue River, in the top of the abutment to Missouri Pacific Ry. bridge over, end of the bridge rests on a bench several feet below, bench mark is south of the track and at the southwest (upper) corner of the east abutment; bottom of a square cut, roughly lettered "U. S. □ B. M." (C. & G. S. b. m. LVIII).....	Feet. 748. 004
Kansas City Bridge, 1 mile below, in top of stone foundation at northeast corner of four-story brick gristmill, called Zenith Mills, cross is very faintly cut and there are no letters near it (a two-story extension to the Zenith Mills has been built since the bench mark was established); cross (+) cut (old M. R. C. b. m. 241).....	748. 299
Kansas City Bridge, south abutment of, near east end, leaded into north face; in head of copper bolt; horizontal furrow (old M. R. C. b. m. 243)...	755. 025
Kansas City Bridge, on south side of first pier north of south abutment of; point of arrowhead, marked (erroneously) "High water of 1844." The face of one of the stones in the pier is dressed and lettered "High water 1844" (old M. R. C. b. m. 244).....	754. 503
Kansas City, on right bank at, 50 feet east of shore pier of Hannibal Bridge and 10 feet from river bank; it was called p. b. m. 230 in 1892 and is the usual form of Mo. Riv. Comm. p. b. m.:	
Copper bolt (M. R. C. 73/1).....	745. 983
Top of cap.....	750. 067
Kansas City, in top of foundation at northwest corner of Union elevator; cross (+) cut (old M. R. C. b. m. 245).....	745. 904

Near Kansas City.

Kansas City, 3½ miles below Hannibal Bridge, five-eighths of a mile south-east of Crescent elevator, about 2,295 feet north of tile factory, 120 feet S. 65° W. of Lizzie Wright's house, at northwest corner of intersection of two country roads, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 228=72/1).....	734. 273
Top of cap.....	738. 345
Kansas City, 1¼ miles below Hannibal Bridge, at Kansas City distillery, at northwest corner of one-story brick fermenting house, 2.5 feet east of corner, on top of stone foundation, in northeast angle of cross; highest point (U. S. C. E. t. b. m. 478=old b. m. 240).....	741. 885
Kansas City, 1 mile below Hannibal Bridge, at northeast corner of Zenith Mills, on top of foundation; highest point in square (this is in same place as old b. m. 241, the masonry upon which that was located having been replaced) (U. S. C. E. t. b. m. 479).....	748. 233
Kansas City, seven-eighths of a mile below Hannibal Bridge, 60 feet north from Chicago & Alton R. R. track, on south side of retort room of gas works, in water table 50 inches west of southeast corner; marked "U. S. P. B. M."; top of copper bolt leaded vertically (U. S. C. E. p. b. m. 229).....	748. 778
Kansas City, on northwest corner of First and Main streets, at southeast corner of three-story brick occupied by Pabst Brewing Co.; in top of stone step; a cross (this bench was partly destroyed and a new point taken instead on same surface 2 inches nearer river, between two parallel lines cut in stone) (U. S. C. E. t. b. m. 480=old b. m. 242).....	766. 206
Kansas City, 50 feet east of shore pier of Hannibal Bridge, 10 feet from river bank, in bench-mark stone, lettered "U. S. P. B. M.":	
Copper bolt (U. S. C. E. p. b. m. 230=73/1).....	745. 983
Top of cap.....	750. 067

Kansas City Bridge, directly under old b. m. 243, at northeast corner of abutment, on projecting stone; highest point in square (U. S. C. E. t. b. m. 481).....	Feet. 752.466
Kansas City, at foot of Fourth Street, in stone pier of wagon bridge over tracks, north one of two small piers on river side of Missouri Pacific Ry. main track, on south face, 5 feet above ground, 9½ inches back from southwest corner of pier, marked "U. S. P. B. M."; copper bolt leaded horizontally (U. S. C. E. p. b. m. 233).....	750.412
Kansas City, in same locality as p. b. m. 233, at northwest one of three iron struts forming a rectangle with south one of two small pier on river side of track, on top of capstone supporting this strut; highest point in square (U. S. C. E. t. b. m. 482).....	747.567

ATCHISON QUADRANGLE.

[Latitude 39° 30'-40"; longitude 95°-95° 30'.]

Near East Atchison.

Atchison Bridge, east abutment, in north retaining wall, on second course of masonry from top, marked "U. S."; highest point in square (U. S. C. E. t. b. m. 551).....	797.328
East Atchison, 1½ miles east of, half a mile south of Kansas City, St. Joseph & Council Bluffs R. R. (Burlington Route) track, on section line, 325 feet south of corner of secs. 19, 20, 29, and 30, T. 55 N., R. 37 W., and 325 feet south of wagon road, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 273=84/2)	782.541
Top of cap	786.577
Rushville, about 2 miles below, three quarters of a mile above water tank, half a mile above Mud Lake, south of house occupied by S. H. Fisher, owned by Mrs. Osborne, in northwest corner of field owned by Jasper Allison, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 274).....	788.010
Top of cap.....	792.052
Rushville, at point of bluff at south side of, a quarter of a mile above junction of Chicago, Rock Island & Pacific Ry., 98 feet below road crossing in same road, 20 feet up side of bluff from large lone elm, on which t. b. m. 558 is located, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 275=85/3)	806.140
Top of cap.....	810.172

From Nodaway northwest along Burlington Route to Forest City.

Nodaway River, 2¼ miles west of railway bridge over, 361 feet east of mile-post 84, 164 feet northwest of bridge 4, sec. 17, 102 feet north of railway track, on land of Shirley heirs, on small knoll about 10 feet high, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 296=93/3).....	843.332
Top of cap.....	847.305
Forbes, about 1½ miles east of depot, 666 feet east of M. Sipes's dwelling, 33 feet north of railway track, 16 feet south of wagon road, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 297)	838.332
Top of cap.....	842.288
Forbes, 1,424 feet west from depot, 45 feet north of railway track, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 298=94/3)	853.899
Top of cap	857.853

Curzons, about 2 miles south of depot, 190 feet west from J. B. Payne's house, occupied by B. F. Martin, 55 feet from center of public road and railroad crossing, 45 feet west of railway track, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 299).....	Feet. 844.414
Top of cap.....	848.450
Curzons, 2,860 feet south of east end of siding, 435 feet southeast of Mrs. Comis's house, 125 feet north of railway track, about 6 feet above level of road, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 300=95/3).....	847.452
Top of cap.....	851.432
Forest City, about 2 miles south, at railroad bridge 4 over Mill Creek, on northwest corner of south bridge seat; a cross (U. S. C. E. t. b. m. 632)....	853.827
Forest City, 1½ miles southeast, 600 feet east of railway track at foot of bluffs, 50 feet west of W. T. Davies's house, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 301=96/2).....	861.799
Top of cap.....	865.769
Forest City, at southeast corner of Grand Avenue and B Street, 8 feet from northwest corner of store building owned by G. W. Quick, in top surface of water table, flush with doorsill, in stone; top of copper bolt leaded vertically (U. S. C. E. p. b. m. 302).....	858.243
DEARBORN QUADRANGLE.	
[Latitude 39° 30'-39° 45'; longitude 95°-95° 15'.]	
From Rushville northeast along Missouri Pacific and Chicago, Rock Island & Pacific railroads to St. George.	
Halls station, about 2 miles below, on bluff side of track, where railroad comes to bluff at corner of Bluff road and road to Halls, in line with Halls road, where it crosses tracks opposite bridge 186 on Atchison, Topeka & Santa Fe Ry., about 80 feet from t. b. m. 562, 23 feet northwest from a 30-inch elm, 17 feet north from a 20-inch elm, 16 feet S. 15° E. of a large black walnut, in bench-mark stone, at an elevation of about 15 feet above bottom land, marked "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 276=86/2).....	805.786
Top of cap.....	809.828
Halls station, 1,590 feet above station, 310 feet above upper headblock of Missouri Pacific Ry. siding, 185 feet above t. b. m. 566, 98 feet above small bridge, 82 feet above north end of wing fence, on north side of track, on right of way in line with telegraph poles, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 277).....	797.886
Top of cap.....	801.944
Kenmoor station, 2,000 feet northeast of, in northeast corner of sec. 28, T. 56 N., R. 36 W., about 250 feet northeast of house of Warren Samuels, about 240 feet above t. b. m. 569, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 278=87/2).....	817.597
Top of cap.....	821.629
St. Joseph, 6¼ miles below, 1¼ miles below Lakes Siding, near t. b. m. 573, about 100 feet east from Chicago, Rock Island & Pacific Ry. track, at east side of wagon road, in southwest corner of dooryard owned by A. Roche, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 279).....	805.136
Top of cap.....	809.211

Hannibal & St. Joseph R. R. bridge, $4\frac{1}{2}$ miles below, on left bank of Missouri River, about half a mile east of railroad, 304 feet southeast of Nelson Hawley's house, near quarter post on north side of sec. 12, T. 56 N., R. 36 W., at east fence, in highway, in bench-mark stone, lettered "B. M.":	Feet.
Copper bolt (U. S. C. E. p. b. m. 280=88/2).....	824. 946
Top of cap.....	828. 968
St. George, on Missouri Avenue, on east side of railroad track, in southwest corner of yard to hotel owned by Nick Byrnes, 18 feet west of southwest corner of hotel porch, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 281).....	824. 103
Top of cap.....	828. 151
St. George, on east side of St. Joseph Stockyards Exchange Building, on stone doorstep of south door, on south end of step, marked "U. S."; highest point in square (U. S. C. E. t. b. m. 579).....	821. 265

ST. JOSEPH QUADRANGLE.[Latitude $39^{\circ} 45' - 40^{\circ}$; longitude $94^{\circ} 45' - 95^{\circ}$.]**From St. Joseph north and west along Burlington Route to Nodaway.**

St. Joseph, in southern part, on southwest corner of Fifth and Cedar streets, on brick building of Water Gas Co., on south window sill on Fifth Street, 8 inches south of south side of window, marked "U. S."; highest point in square (U. S. C. E. t. b. m. 580).....	826. 189
St. Joseph, in east pier of Hannibal & St. Joseph R. R. bridge across Missouri River, in north end of pier at east end of draw, 15 inches north of bedplates and in line with west row of bolts through plate, 2 feet south from north edge of pier, marked "U. S. P. B. M."; copper bolt leaded vertically (U. S. C. E. p. b. m. 282).....	820. 136
St. Joseph, at southwest corner of Fourth Street and railroad (same as b. m. 34, 1879), on Henry Krugg's packing house, at northeast corner of foundation, on west side of arched entrance; outer end of cross (+) (U. S. C. E. t. b. m. 582=old b. m. 313).....	823. 322
St. Joseph, on east pier of Hannibal & St. Joseph R. R. bridge, 126 feet south of north edge of coping pier; highest point in southwest angle of cross (U. S. C. E. t. b. m. 583).....	822. 597
St. Joseph, in south end, at northeast corner of Duncan and Bartlett streets, about 1,100 feet east of east end of Hannibal & St. Joseph R. R. bridge, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 283=89/3).....	819. 821
Top of cap.....	823. 843
St. Joseph, on west side of Union Depot, second window south of south entrance to waiting room, in window sill, 7 inches north of south end, $4\frac{1}{2}$ inches back from vertical face of sill, marked "U. S. P. B. M."; copper bolt leaded vertically (U. S. C. E. p. b. m. 284).....	832. 216
St. Joseph, on west side of Union Depot, on north end of stone doorstep to barber shop, which is first door north of passageway through building; highest point in square (U. S. C. E. t. b. m. 584).....	829. 306
St. Joseph, at southeast corner of Edmond and Eighth streets, on northeast corner of post-office building, 12 feet west from corner, on window sill of window just east of entrance on Edmond Street, 8 inches west from east end of sill; copper bolt leaded vertically marked "U. S. P. B. M." (U. S. C. E. p. b. m. 285).....	874. 221

St. Joseph, at southeast corner of Felix and South Second streets, in north-west corner of city hall, 1 foot east of corner of building on Felix Street, 5 feet above sidewalk, marked "U. S. P. B. M."; copper bolt leaded horizontally (U. S. C. E. p. b. m. 286).....	Feet. 841. 061
St. Joseph, near p. b. m. 286, at northwest corner of city hall, on water table; highest point in notch (U. S. C. E. t. b. m. 585, city b. m.)	836. 983
St. Joseph, at upper end of town, just east of north end of depot, on curb-stone, marked "U. □ S."; highest point in square (U. S. C. E. t. b. m. 586)	827. 925
St. Joseph, at United States boat yard above, one-eighth of a mile above Mr. Dupree's house, just behind top of revetment, near north line of sec. 1, T. 57 N., R. 36 W., about 800 feet east of northwest corner of the section, 16 feet north from north line of ways and 85 feet west of west end, 196 feet below track of ways, in bench-mark stone, marked "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 287=89½).....	816. 672
Top of cap.....	820. 674
St. Joseph, 2¼ miles above, at foot of bluff, 48 feet from center of track, 15 feet south of small railroad bridge, at east right of way fence, on line with fence on north side of Upper French Bottom road, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 288).....	812. 285
Top of cap.....	816. 330
St. Joseph, near p. b. m. 288, 100 feet below small railroad bridge at foot of bluff, 70 feet east from track center, 27 feet from east right of way fence, on a small rock lying midway between two large rocks, marked "U. S."; highest point in square (U. S. C. E. t. b. m. 589).....	819. 788
St. Joseph, 3½ miles above, at pump house of waterworks, on west side of pump room, 18 feet north from southwest corner, 10 feet north from door, 35 feet south from tall chimney, on south end of stone window sill, 1½ inches back from west face, marked "U. S. P. B. M."; copper bolt (U. S. C. E. p. b. m. 289).....	823. 023
St. Joseph, 3¼ miles above, at foot of bluff, 720 feet above pump house of St. Joseph waterworks, 70 feet from center of track, 20 feet east of east right of way fence, in bench-mark stone, lettered "B. M."; copper bolt (U. S. C. E. p. b. m. 290=90/2).....	819. 916
Amazonia, about 4¼ miles south from depot, 2,605 feet south of milepost 73, 1,650 feet northward from bridge 7, sec. 14, 43 feet east of railway track, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 291).....	834. 893
Top of cap.....	838. 916
Amazonia, 1¼ miles south of depot, 436 feet northeast of north end of truss of railway bridge over Dillon Creek, 328 feet east, measured along public road from railway track, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 292=91/2).....	829. 710
Top of cap.....	833. 686
Amazonia, 1,270 feet west of depot, 46 feet north from railway track, 10 feet west of west fence of public road, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 293).....	826. 777
Top of cap.....	830. 796
Amazonia, about 2¼ miles west of, 492 feet north of railway track, 156 feet southeast of Lewis Payne's dwelling, 40 feet south of an 18-inch sugar-maple tree, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 294=92/3).....	833. 089
Top of cap.....	837. 059

Nodaway, about one-third of a mile west of depot, in top of coping forming bridge seat of southwest corner of railway bridge over Nodaway River, 0.85 foot east of bedplate under inclined end post of bridge; top of copper bolt, leaded vertically in stone (U. S. C. E. p. b. m. 295).....	Feet. 831. 704
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RULO QUADRANGLE.

[Latitude 40°-40° 15'; longitude 95° 15'-95° 30'.]

From Forest City northwest along Burlington Route to Corning.

Forest City, about 2½ miles north of depot, 1,076 feet north of milepost 98, 144 feet north of railway bridge 3, over Kinzie Creek, 46 feet east of railway track, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 303).....	849. 332
Top of cap.....	853. 348
Napier, 627 feet south of depot, 287 feet south of headblock of Burlington & Missouri River and Kansas City, St. Joseph & Council Bluffs railroad junction, 43 feet east of Kansas City, St. Joseph & Council Bluffs Ry. track, in bench-mark stone, lettered "B. M.:	
Copper bolt (U. S. C. E. p. b. m. 304).....	846. 399
Top of cap.....	850. 438
Bigelow, 2½ miles south of, 2,713 feet north of milepost 103, 1,998 feet north of a public-road crossing, 44 feet east of railway track, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 305).....	847. 922
Top of cap.....	851. 941
Bigelow, 249 feet northeast of northeast corner of railway water tank, in Peter Nelson's lot, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 306).....	854. 322
Top of cap.....	858. 348
Bigelow, 13,957 feet north of depot, 43 feet east of railway track, opposite a curve to right in track going south; the tangent toward Bigelow if prolonged northward would pass through bench mark in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 307).....	856. 524
Top of cap.....	860. 556
Craig, about 1¼ miles south of depot, railway bridge over county ditch, in top of west end of north pier, 1.42 feet from south face of stone, 1.08 feet east of bedplate under inclined end post; top of copper bolt, leaded vertically in stone (U. S. C. E. p. b. m. 308).....	863. 676
Craig, 1,726 feet south of depot, 153 feet south of section tool house, 46 feet east of railway track, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 309).....	863. 876
Top of cap.....	867. 892
Craig, a quarter of a mile north of depot, in pedestal block forming bridge seat under southwest inclined end post of railway bridge over Tarkio Creek, 0.62 foot from southeast corner of stone; top of copper bolt leaded vertically in stone (U. S. C. E. p. b. m. 310).....	866. 176
Corning, about 2 miles south of depot, 74 feet southeast of south cattle guard, 45 feet east of railway track, 38 feet south of public-road crossing, 16 feet south of milepost 117, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 311).....	866. 737
Top of cap.....	870. 766

Corning, 459 feet north of depot, on east side of East Street, under south window in west wall of Danker Bros.; one-story brick building, in water table; top of copper bolt leaded vertically in stone (U. S. C. E. p. b. m. 312).....	Feet. 874. 808
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NEMAHA QUADRANGLE.

[Latitude 40° 15'-40° 30'; longitude 95° 30'-95° 45'.]

From Corning northwest along Burlington Route to Iowa-Missouri State line.

Corning, 2½ miles north of depot, 525 feet north of milepost 121, 46 feet east of railway track, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 313).....	873. 916
Top of cap.....	877. 925
Nishnabotna, 810 feet south of depot, 52 feet east of railroad track, in northwest corner of R. E. Christian's orchard, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 314).....	872. 587
Top of cap.....	876. 609
Nishnabotna, 1½ miles north of depot, under northeast inclined end post of railway bridge over Nishnabotna River, 0.66 foot south of north face of pedestal, 0.56 foot from west face of stone, in top of pedestal block forming bridge seat; top of copper bolt leaded vertically in stone, projecting 0.02 foot above surface of stone (U. S. C. E. p. b. m. 315).....	883. 200
Langdon, about 2 miles south of depot, 525 feet north of milepost 127, 46 feet east of railway track, adjacent to land of Frederick Meyerkorth, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 316).....	882. 429
Top of cap.....	886. 452
Phelps, 2 miles south of depot, 3,120 feet south of a road crossing, 2,861 feet north of railway bridge 3, sec. 26, 46 feet east of railway track, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 317).....	884. 313
Top of cap.....	888. 338
Phelps, in northeast corner of Methodist Church yard, 33 feet from northeast corner of church, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 318=106/3).....	887. 295
Top of cap.....	891. 307
Watson, 2¼ miles south of depot, 233 feet southwest of a dwelling, 102 feet south of south end of a farm gate, 43 feet east of railway track, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 319).....	889. 427
Top of cap.....	893. 453
Watson, half a mile west of, 27 feet north of northeast corner of SE. ¼ sec. 4, T. 65 N., R. 42 W., in barnyard on estate of Hay's heirs, in southwest corner, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 320=107/2).....	896. 389
Top of cap.....	900. 398
Watson, 722 feet south of depot, 47 feet east of railway track, 39 feet south of a public-road crossing, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 321).....	894. 247
Top of cap.....	898. 259
Watson, 2¼ miles north of depot, 656 feet north of Joseph Kometzer's house, 92 feet south of a jog in east right of way fence, 34 feet east of railway track, in bench-mark stone, lettered "B. M.":	
Copper bolt (U. S. C. E. p. b. m. 322).....	901. 612
Top of cap.....	905. 638

EXETER QUADRANGLE.

[Latitude 36° 30'–36° 45'; longitude 93° 45'–94°.]

From Seligman to Exeter along St. Louis & San Francisco R. R.

Seligman, in west side wall of brick building owned and occupied by A. J. Dean, M. D., east of the track and at the corner of Main and Seventh streets, in the sixth course above the foundation and in second brick from northwest corner, in end of copper bolt; center of cross (C. & G. S. b. m. CXIII).....	Feet. 1, 542. 572
Washburn, in front wall of brick building, owned by D. G. Reese, west of track opposite railroad station, in seventh course above pavement, in second brick from northeast corner, in end of copper bolt; center of cross (C. & G. S. b. m. CXII).....	1, 474. 675
Exeter, in front wall of Lucky Bros.' brick building, which fronts west and is nearly opposite railroad station, in tenth course above the iron window sill, in second brick from northwest corner, in end of copper bolt; center of cross (C. & G. S. b. m. CXI).....	1, 560. 709

MONETT QUADRANGLE.

[Latitude 36° 45'–37°; longitude 93° 45'–94°.]

From Purdy to Pierce City along St. Louis & San Francisco R. R.

Purdy, northeast corner of Commercial Street and Bear Avenue, brick store building, owned by Swiger & Haddock, front surface of iron sill to west window (in front of store), at its center, four lines were cut in the iron forming a space about an inch square, surface of square lettered U. S. B. M. (C. & G. S. b. m. CX).....	1, 486. 352
Monett, northeast corner of Broadway and Third streets, in top of stone foundation to brick building, occupied by Commercial Bank, main entrance of which is on Third Street, under first window north of corner; bottom of square cut, lettered U. S. B. M. (C. & G. S. b. m. CIX).....	1, 302. 166
Pierce City, brick building in about center of block east of railroad station, used as dry goods store, rear of building facing railroad track, in stone sill of west door in rear; bottom of square cut, lettered U. S. B. M. (C. & G. S. b. m. CVII).....	1. 202. 271

CARTHAGE QUADRANGLE.

[Latitude 37°–37° 30'; longitude 94°–94° 50'.]

From Sarcoxie along St. Louis & San Francisco R. R. to Carthage, thence along Missouri Pacific Ry. to Lamar.

Sarcoxie, southeast corner of block opposite northeast corner of public square, brick building owned and occupied by Bank of Sarcoxie, upper surface of lower stone step; bottom of cut, letters U. S. B. M. surrounding mark, also "U. S. C. & G. Survey" and "Altitude above Gulf of Mexico, 1,088 feet," also cut in step (C. & G. S. b. m. CV).....	1, 089. 253
Reeds, (one story) brick building, owned by J. D. Davis, some distance south of railroad, occupied as general store, on iron sill under north window in front of building, a little north of middle point. The letters U S B M were cut in iron around bench mark, which is the surface of the iron between the letters (C. & G. S. b. m. CIV).....	1, 127. 593
Carthage, southwest corner of Main and Limestone streets, on Limestone Street on the inside line of the sidewalk, 2.3 feet west from the inside line of the west sidewalk on Main Street, limestone post 6 by 6 inches, dressed and rounded one way at top and buried in ground; highest part of rounded surface (letters B M cut on top of stone) (C. & G. S. b. m. CIII).....	941. 645

Carthage, 1 mile north of, west end of iron railroad bridge (Missouri Pacific Ry.) over North Branch of Spring River, top of north stone pier west of track and near north edge of pier; bottom of square cut, roughly lettered U. S. B. M. (C. & G. S. b. m. CII).....	Feet. 946. 629
Carthage, 3 miles north of, top of stone abutment to iron railroad bridge over Buck Branch of Spring River, east of track and inside superstructure of bridge, near inside edge of pier under south end of bridge; bottom of square cut, roughly marked U. S. B. M. (C. & G. S. b. m. CI).....	965. 461
Carytown, a quarter of a mile north of, top of stone abutment of iron railroad bridge over Dry Fork of Spring River, west of track and inside superstructure of bridge, near inside edge of pier under south end of bridge; bottom of square cut, roughly lettered U. S. B. M. (C. & G. S. b. m. C)...	921. 618
Jasper, northwest corner of public park south of principal street of town and east of railroad, adjoining right of way; limestone post, 8 by 8 inches and 36 inches long, set with 6 inches projecting above the surface, top surface lettered U. S. B. M. (C. & G. S. b. m. XCIX).....	948. 558
Boston, short distance south of railroad station, west of track, southeast corner of yard around two-story frame house, painted white and facing railroad, residence of Mr. W. D. Hastings; limestone post, 8 by 8 inches and 36 inches long, set with 6 inches projecting above the surface, top surface lettered U. S. B. M. (C. & G. S. b. m. XCVIII).....	943. 948
Boston, about 1 mile north of, in stone abutment to Missouri Pacific Ry. bridge over North Fork of Spring River, near southeast corner of stone supporting south end of superstructure of bridge on west side of track, on its upper surface; bottom of square cut (C. & G. S. b. m. XCVII).....	930. 986
Boston, about 1 mile north of, stone abutment to Missouri Pacific Ry. bridge over North Fork of Spring River, near southwest corner of stone supporting south end of superstructure of bridge on east side of track, on its upper surface; bottom of square cut, roughly lettered U. S. B. M. (C. & G. S. b. m. XCVI).....	930. 982
Lamar, about half a mile north of the Missouri Pacific Ry. station, west of railroad, in top of sandstone foundation to standpipe, north side of standpipe; bottom of square cut, roughly lettered U. S. B. M. (C. & G. S. b. m. XCV).....	979. 811

NEVADA QUADRANGLE.

[Latitude 37° 30'-38°; longitude 94°-94° 30'.]

From Lamar north along Missouri Pacific Ry. to Arthur.

Lamar, about 2 miles north of, in top of sandstone abutment to Missouri Pacific Ry. bridge over North Fork of Spring River, near northeast corner of stone supporting north end of superstructure of bridge on west side of track; bottom of square cut, roughly lettered U. S. □ B. M. (C. & G. S. b. m. XCIV).....	945. 648
Irwin, west of railway and a short distance north of railroad station, northeast corner of yard to the Irwin House (hotel), which is owned by Mr. Griffith, of Lamar, Mo.; limestone post with top surface marked U. S. □ B. M. (C. & G. S. b. m. XCIII).....	973. 846
Sheldon, north side of principal street, a brick store owned by Mr. E. Pollard and occupied as harness store by Mr. M. M. Wilson, near west end of sandstone doorsill; bottom of square cut, roughly lettered U. S. B. M. (C. & G. S. b. m. XCII).....	924. 545

Milo, north of principal street of town and east of railroad track, in yard in front of residence of Mr. J. H. Lloyd, near fence on side of yard (post office is next to Mr. Lloyd's house); limestone post with top surface marked U. S. B. M. (C. & G. S. b. m. XCI)	Feet. 879. 188
Nevada, Missouri, Kansas & Texas Ry. station, brick building with one-half story of stone and stone trimmings, entrance to gentlemen's waiting room, top of first stone step (above platform) next to track; bottom of square cut, with following letters cut near by: C & □ G S (C. & G. S. b. m. XC) ..	862. 098
U S B M	
Marmiton Creek, top of stone abutment to Missouri Pacific Ry. (Lexington & Southern Division) bridge over, south abutment near outer (north) edge, east of track and between it and superstructure of bridge; bottom of square cut, roughly lettered U. S. B. M. (C. & G. S. b. m. LXXXIX) ..	748. 155
Horton, opposite railroad station, west of track, front of brick store owned by Mr. Perry Hutchinson and occupied by Rowen & Son, front face of north wall to right in entering doorway leading to second story, in fourteenth course above ground, in corner brick at northeast corner of building, end of copper bolt; center of cross (C. & G. S. b. m. LXXXVIII) ..	776. 219
Arthur, about 1½ miles south of, in top of stone abutment to Missouri Pacific Ry. (Lexington & Southern Division) bridge over Little Osage River, on north abutment, west of track and between it and superstructure of bridge, near inner (north) edge; bottom of square cut, roughly lettered U. S. B. M. (C. & G. S. b. m. LXXXVII)	750. 392

BUTLER QUADRANGLE.

[Latitude 38°-38° 30'; longitude 94°-94° 30'.]

From Rich Hill north along Missouri Pacific Ry. to Archie.

Rich Hill, bank of Rich Hill, northwest corner of square on principal street of town, two blocks west of Missouri Pacific Ry., brick building with stone trimmings, north side, about 3 feet above sidewalk, near east end of sandstone sill to the east window; bottom of square cut (C. & G. S. b. m. LXXXVI)	805. 563
Rich Hill, bank of Rich Hill, near end of stone doorsill on left hand in entering; bottom of square cut (C. & G. S. b. m. LXXXV)	805. 543
Marias de Cygne River, top of stone abutment to Missouri Pacific Ry. (iron) bridge over, south of river and east of track on southwest corner of stone supporting south end of iron superstructure; bottom of square cut, roughly lettered U S B M (C. & G. S. b. m. LXXXIV)	760. 051
Miami Creek, in stone abutment to Missouri Pacific Ry. (iron) bridge over, north of creek and east of track on northwest corner of stone supporting north end of iron superstructure of bridge; bottom of square cut, roughly lettered U S B M (C. & G. S. b. m. LXXXIII)	759. 496
Butler, west end of Ohio Street, public-school building facing east, limestone doorsill to main entrance, near left side of door in entering; bottom of square cut, lettered U S C & G S B M (C. & G. S. b. m. LXXXII) ..	865. 710
Passaic, east of railroad, next to only store (post office) in place, northeast corner of yard to residence of Mr. T. J. Davis, yard on south side of street; limestone post with top surface marked U S B M (C. & G. S. b. m. LXXXI)	865. 281
Adrian, sandstone window sill to brick building owned and occupied by Adrian Banking Co., in front of middle window of the three on south front of building, about 18 inches from west side of sill and about 5 inches from outer edge of stone and is one-eighth of an inch deep; bottom of square cut. No letters were cut, but letter P is just above and little to right of bench mark. (C. & G. S. b. m. LXXX)	867. 814

Archie, about 2¼ miles south, stone abutment to Missouri Pacific Ry. bridge (No. 30) over Mormon Branch of Grand River, on upper surface near south edge of abutment south of stream and between superstructure and track, on west side of track; bottom of square, roughly lettered U. S. B. M. (C. & G. S. b. m. LXXIX).....	Feet. 796. 914
Archie, brick bank building opposite railroad station and owned and occu- pied by Bank of Archie, face of rear wall which is on side next to railroad and faces east, in twelfth course above ground and in second brick from southeast corner, end of copper bolt; center of cross (C. & G. S. b. m. LXXVIII).....	837. 207

APPENDIX B.

ELEVATIONS OF STONE-LINE BENCH MARKS ESTABLISHED BY THE MISSISSIPPI RIVER COMMISSION AND THE MISSOURI RIVER COMMISSION FROM PRIMARY LEVELING.

Altenburg, Alton, Atchison, Barry, Bayouville, Bonfils, Boonville, Campbell Hill, Cape Girardeau, Chester, Crystal City, Fulton, Glasgow, Hannibal, Hardin, Hermann, Hickmann, Independence, Jefferson City, Jonesboro, Kansas City, Keokuk, Kimmswick, Leavenworth, Lexington, Louisiana, Marshall, Mendon, Nebo, Nemaha, O'Fallon, Oskaloosa, Pearl, Quincy, Renault, Rulo, St. Joseph, St. Louis, Thebes, Weingarten, and Wickliffe quadrangles.

ANDREW, ATCHISON, BARRY, BARTON, BATES, BUCHANAN, CAPE GIRARDEAU, CLARK, CLAY, COOPER, COLE, GASCONADE, HOLT, HOWARD, JASPER, JACKSON, JEFFERSON, LAFAYETTE, LEWIS, LINCOLN, MARION, MISSISSIPPI, MONTEAU, OSAGE, PERRY, PIKE, ST. CHARLES, ST. LOUIS, STE. GENEVIEVE, SALINE, VERNON, AND WARREN COUNTIES.

The following descriptions and elevations of bench marks from St. Louis, Mo., to Cairo, Ill., are taken from a report by the special board of engineers on survey of the Mississippi River from St. Louis to its mouth (61st Cong., 1st sess., H. Doc. No. 50), and the descriptions and elevations of bench marks from the Iowa-Missouri State line to St. Louis, Mo., from a report of the Mississippi River Commission, published at St. Louis, Mo., in 1899. They are republished by permission of the Chief of Engineers United States Army. The elevations in the reports mentioned above are referred to the Memphis datum plane, but corrections, ranging from -6.82 feet near Cairo to -6.91 feet near St. Louis, have been applied to refer them to mean sea level, according to the 1912 adjustment of the Coast and Geodetic Survey.

The lines of bench marks called stone lines are placed normal to the river at intervals of about 3 miles and are numbered consecutively from Cairo northward. Each stone line generally consists of four bench marks, two on each side of the river, the one farthest from the river on the left (east) bank being No. 1.

The elevations of the stone-line bench marks were determined by the ordinary leveling of the topographic party, running from the adjacent precise-level bench marks. The discrepancy between the precise and ordinary leveling, between successive precise-level bench marks, has averaged about 0.06 foot.

The bench marks above Alton, Ill., consist of a flat tile 4 inches thick and 18 inches square, with a copper bolt leaded vertically into

the upper face at the center. The tile is set about 3 feet below the surface of the ground and is surmounted with a 4-inch iron post 4 feet long, upon which an iron cap is bolted. All the bench marks used since 1891 are of this form, distinguishing symbols being sunk into the tile and raised on the cap. A triangle (Δ) indicates a secondary station, a circle (\circ) a precise-level bench, and a square (\square) a stone-line bench. The words "Mississippi River Commission" and letters "U. S." are printed on both tile and cap.

The stone-line bench marks below Alton are similar except that they have flat stones in place of tiles and are surmounted by iron posts 5.1 feet long. The earlier triangulation marks were usually stone posts about 3 feet long, set 30 inches in the ground, the top being dressed to about 6 inches square, and some of the earlier stone-line bench marks were also of this type. Where standard bench marks are not used, descriptions of the marks employed are given. The numbers of Mississippi River Commission bench marks are given in parentheses and refer to the surface mark.

The descriptions and elevations of stone-line bench marks along the Missouri River are taken from Bulletin No. 3, Corps of Engineers, United States Army. The elevations in that publication are referred to the St. Louis directrix, but corrections ranging from +413.97 feet at St. Louis to +412.70 feet near the Iowa-Missouri State line have been applied to refer them to mean sea level according to the 1912 adjustment.

The elevations of the stone-line bench marks were determined by the ordinary leveling of the topographic party, running from the adjacent precise-level bench marks. The discrepancy between the precise and ordinary leveling, between successive precise-level bench marks, has averaged about 0.06 foot.

The bench marks were set on lines running across the valley, the lines being usually about 5 miles apart by the river distances, and consist of a flat tile 4 inches thick and 18 inches square, with a copper bolt leaded vertically into the upper face at the center. The tile is set about 3 feet below the surface of the ground and is surmounted with a 4-inch iron post 4 feet long, upon which an iron cap is bolted.

KEOKUK QUADRANGLE.

[Latitude $40^{\circ} 15' - 40^{\circ} 30'$; longitude $91^{\circ} 15' - 91^{\circ} 30'$.]

Along Mississippi River.

Gregory Landing, 2,000 meters below, opposite a point 450 meters above foot of Island 408, 80 meters northwest of a clump of timber on right bank 50 meters wide and 275 meters long along the bank (this clump of timber is at upper end of a large bar where the bluff bank begins), 92 meters from right bank, in upper edge of weeds and wild grass, 3 meters south of an elm tree 4 feet in diameter blazed with a triangle facing pipe; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 107/3):

Cap on pipe.	486.78
Bolt in tile.	482.82

Feet.

Gregory, in the lower end of, 1,950 meters below a long red grain warehouse, 550 meters below a prominent slough which the railroad crosses at about right angles, 450 meters above an east-west fence which joins the north ends of two right of way fences, 15 meters east of the center of track of the St. Louis, Keokuk & Northwestern Ry. (Burlington Route), at east right of way fence, in weeds and wild grass and small brush, no fence or trees near (these distances taken along the railroad); copper bolt in tile, and iron pipe (U. S. C. E. b. m. 107/4):	
Cap on pipe.....	Feet. 486. 01
Bolt in tile.....	482. 04
Spraul station, on railroad, 350 meters above, 700 meters up the slough from the foot of Fox Island, 340 meters from top of right bank of Fox Island, or river side, 35 meters from right bank of Fox Slough, 1 meter from east right of way fence of the St. Louis, Keokuk & Northwestern Ry. (Burlington Route); copper bolt in tile, and iron pipe (U. S. C. E. b. m. 108/3):	
Cap on pipe.....	490. 44
Bolt in tile.....	486. 48
Spraul station, 350 meters above, 957 meters from 108/3, 125 meters south of the southwest corner of an irregular field of weeds (best way to find it is by azimuth and distance from 108/3), 28 meters southwest of a burr-oak tree 36 inches in diameter, 33 meters south of a burr-oak tree 20 inches in diameter, 34 meters north of an elm tree 24 inches in diameter, all blazed facing pipe; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 108/4):	
Cap on pipe.....	491. 13
Bolt in tile.....	487. 15
Alexandria, 400 meters south of a wide east-west lane, which produced east would form Dusky Street, or the St. Louis, Keokuk & Northwestern Ry. (Burlington Route), on north slope of an old levee 1½ meters north of a fence along the top of the levee, which forms the south side of a triangular cultivated field, about the middle of its length east and west being 300 meters long (levee was broken 150 meters west of the pipe by a prominent slough running southwest and it has a levee on its northwest bank); copper bolt in tile, and iron pipe (U. S. C. E. b. m. 109/4):	
Cap on pipe.....	491. 26
Bolt in tile.....	487. 29

MENDON QUADRANGLE.

[Latitude 40°-40° 15'; longitude 91° 15'-91° 30'.]

Along Mississippi River.

Hogback Island (422), about 500 meters above the head of, 70 meters from right bank in timber, nearly opposite the foot of Long Island, which is the mouth of Canton chute, 5 meters south of elm tree 22 inches in diameter, 18 meters northwest of maple tree 18 inches in diameter (one of three together), all blazed facing pipe; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 101/3):	
Cap on pipe.....	476. 86
Bolt in tile.....	472. 90
Hogback Island (442), at a point about 500 meters above the head of, about 500 meters from right bank, 150 meters west of a slough which has the wagon road on its west bank, 10 meters west of the St. Louis, Keokuk & Northwestern Ry. (Burlington Route), on east side of right of way fence, on edge of a field of wild grass; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 101/4):	
Cap on pipe.....	474. 43
Bolt in tile.....	470. 45

La Grange, about 20 meters south of the prolongation of Washington Street, at northwest corner of the Diamond Joe warehouse, leaded in stone; top of ring bolt (U. S. C. E. b. m. 102/3).....	Feet. 479. 80
Island 419, opposite the head of, 1,200 meters above the Howard light on right bank in 1892, opposite the foot of the lower one of three sand bars on left bank, 30 meters north of culvert 27, over a ditch, 70 meters from right bank, 3 meters east of the right of way fence and 6 meters east of the track of the St. Louis, Keokuk & Northwestern Ry. (Burlington Route); copper bolt in tile, and iron pipe (U. S. C. E. b. m. 103/3):	
Cap on pipe.....	479. 63
Bolt in tile.....	475. 66
Island 419, 350 meters due west up to the ditch from culvert 27 of the railroad, which is 30 meters below 103/3, 3 meters east of a walnut tree with a triangle blazed on it, at foot of bluff and on right or south bank of a large gully, on land of Mr. Jennings, on west side of Canton-La Grange wagon road; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 103/4):	
Cap on pipe.....	504. 21
Bolt on tile.....	500. 24
Canton, in northwest corner of J. G. Rost's lot, 270 meters back of the railroad, 350 meters south of the depot (lot is on the northwest corner of Third and Jefferson streets, about 3 meters south of the north line of lot, about 1 meter east of the alley fence); copper bolt in tile, and iron pipe (U. S. C. E. b. m. 104/3):	
Cap on pipe.....	485. 74
Bolt in tile.....	481. 78
Tully Island (413), opposite a point about 200 meters below the middle of, 120 meters below the upper mouth of Hawkins slough (Hawkins slough proper is 100 meters west of the pipe and branches 300 meters south of the pipe, the arm leading to the upper mouth passing 20 meters west of the pipe as above mentioned), 20 meters east of slough, in timber, 50 meters from right bank, 4 meters southeast of an elm tree 20 inches in diameter, 5 meters northeast of another 30 inches in diameter, 5 meters west of another 3 feet in diameter, all blazed with a triangle facing the pipe; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 105/3):	
Cap on pipe.....	483. 59
Bolt in tile.....	479. 61
Tully Island (413), at a point about 200 meters below the middle of, 600 meters from right bank, about 430 meters back of Hawkins slough, 475 meters above culvert 15 of railroad, on east side of the west right of way fence of the St. Louis, Keokuk & Northwestern Ry. (Burlington Route); copper bolt in tile, and iron pipe (U. S. C. E. b. m. 105/4):	
Cap on pipe.....	498. 67
Bolt in tile.....	494. 71
Island 410, opposite the head of, 140 meters above the head of Island 411, 30 meters from right bank, midway between top of bank and a small field of weeds inclosed by a fence, in timber, 3½ meters north of willow tree 13 inches in diameter, 17 meters east of a willow tree 15 inches in diameter, 6½ meters southwest of a willow tree 15 inches in diameter, all blazed with a triangle facing the pipe; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 106/3):	
Cap on pipe.....	484. 35
Bolt in stone.....	480. 39

Island 410, opposite the head of, at a point 140 meters above the head of Island 411, 800 meters from top of right bank (the stone line passes 50 meters north of the north end of O'Farrell Lake), 1,000 meters above where the railroad crosses Honey Creek, 1 meter east of the west right of way fence of the St. Louis, Keokuk & Northwestern Ry. (Burlington Route), 1½ meters east of an elm tree 3 feet in diameter, 7 meters south of a jack-oak tree 16 inches in diameter, both blazed facing pipe; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 106/4):	Feet.
Cap on pipe.....	481. 97
Bolt in tile.....	478. 01

QUINCY QUADRANGLE.

[Latitude 39° 45'-40°; longitude 91° 15'-91° 30'.]

Along Mississippi River.

Walkers slough, on the west bank of, about 100 meters above its mouth, 105 meters back of right bank of the river, 2 meters west of an elm tree 3 feet in diameter, blazed with a triangle on it, facing pipe, 3 meters east of a log shed, at northeast corner of an old field belonging to Cath- erine Schultz; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 95/2):	
Cap on pipe.....	468. 03
Bolt in tile.....	464. 02
Walkers slough, at a point 50 meters above the mouth of, 430 meters back of right bank, 135 meters back of old field belonging to Catherine Schultz, 150 meters below its upper end, 30 meters east of prominent slough, about 4 meters from two elm trees each 18 inches in diameter, and one pin-oak tree 12 inches in diameter, all blazed, facing pipe, in timber; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 95/4):	
Cap on pipe.....	468. 29
Bolt in tile.....	464. 31
Whitney bar, 1,175 meters above the right bank shore end of stone dike from head of, about 30 meters from right bank, about 85 meters above a Government light, in timber, 6 meters southwest of elm tree 25 inches in diameter, 16 meters north of elm 16 inches in diameter, 9 meters east of soft maple 17 inches in diameter, all trees blazed with triangle facing pipe; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 96/3):	
Cap on pipe.....	469. 21
Bolt in tile.....	465. 22
Thompson Miller Pond, on south bank of, in timber, 920 meters back of right bank of river (find it by means of azimuth and distance from 96/3), (three blazed elms respectively 21, 15, and 14 inches in diameter, stand, respectively, northeast 4 meters, southeast 17 meters, and west 16 meters from pipe); copper bolt in tile, and iron pipe (U. S. C. E. b. m. 96/4):	
Cap on pipe.....	469. 43
Bolt in tile.....	465. 45
Island 434, 800 meters above the head of, 1,200 meters below the mouth of South River, 120 meters back of United States light on right bank, 600 meters below the lower end of a cleared field on right bank belonging to Mrs. Wilson, 5 meters west of oak tree 30 inches in diameter, in timber, at foot of an elm tree 12 inches in diameter, both trees blazed with a triangle facing the pipe; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 97/3):	
Cap on pipe.....	469. 57
Bolt in tile.....	465. 57

Island 434, 800 meters above the head of, 1,200 meters below the mouth of South River, 750 meters from right bank at United States light, described in bench mark 97/3, about 150 meters southeast of the northwest corner of the prairie grass in edge of timber at southwest edge of prairie grass, which is 180 meters wide at this point, 2 meters northwest of a water-oak tree blazed in a triangle facing the pipe; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 97/4):	Feet.
Cap on pipe.....	468. 07
Bolt in tile.....	464. 07
Fabius River, 150 meters below the mouth of, about 160 meters from right bank of river, on land of A. Brown, in a field of weeds on west bank of a small slough, grown up with timber; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 98/3):	
Cap on pipe.....	472. 22
Bolt in tile.....	460. 24
Muddy Junction, 550 meters below the station house, 303 meters west of St. Louis, Keokuk & Northwestern Ry. (Burlington Route) where the stone line crosses it, 160 meters below an east-west fence, 220 meters above another east-west fence, about 1,120 meters west of right bank of river, at a point 150 meters below the mouth of Fabius River, 8 meters east of the Hannibal & St. Joseph R. R. (Burlington Route) track, in edge of a grass field; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 98/4):	
Cap on pipe.....	469. 43
Bolt in tile.....	465. 46
Island 427, about 600 meters below its head, about 500 meters below the Peoples Ferry landing, about 30 meters below a small field of weeds on island, in timber, 75 meters from right bank; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 99/3):	
Cap on pipe.....	474. 04
Bolt in tile.....	470. 08
Island 427, back of chute behind, about 660 meters from right bank of island, about 200 meters below the east-west rock road from the Peoples Ferry, 43 meters west of main right bank, 16 meters west of wagon road through timber, along the main river bank; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 99/4):	
Cap on pipe.....	473. 37
Bolt in tile.....	469. 40
Cottonwood Island (424), 160 meters from right bank of, about its center, in width as well as in length, at the dividing line between the maple and cottonwood timber, directly west of trees covered with vines, 3 meters northwest of maple tree 18 inches in diameter, 3 meters northeast of a leaning cottonwood tree 2 feet in diameter, 8 meters south of a four-cornered maple tree, all blazed with triangle facing pipe; copper bolt in tile, and iron pipe:	
Cap on pipe.....	471. 46
Bolt in tile (U. S. C. E. b. m. 100/3).....	467. 49
Island 426, opposite the head of, 550 meters below a farmhouse, about 150 meters below a field of weeds, on land of Mrs. Pritchard, 100 meters above a wagon bridge across a slough, on west side of road along the right bank in edge of timber, on west side of fence; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 100/4):	
Cap on pipe.....	475. 19
Bolt in tile.....	471. 22

HANNIBAL QUADRANGLE.

[Latitude 39° 30'-39° 45'; longitude 91° 15'-91° 30'.]

Along Mississippi River.

Saverton, 1,975 meters above depot, 1,450 meters below a point opposite the foot of Harris Island (444), bench mark is 5 meters west of a wagon road which runs along west right of way of the railroad, in timber on side of bluff, 20 meters west of railroad track and 40 meters from right bank; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 92/3):	Fect.
Cap on pipe.....	511. 55
Bolt in tile.....	507. 54
Kings Island (443), opposite the foot of, 145 meters southwest of railroad, 230 meters south of United States light on gravel bar in 1891, 2 meters west of southeast corner of Mr. Evan Cameron's lot, and 0.5 meter south of his south fence, in edge of timber, on side of bluff, 5 meters west of wagon road; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 93/3):	
Cap on pipe.....	478. 89
Bolt in tile.....	474. 89
Hannibal Bridge, on south side of, at east end of, on top of east end of curved stone; cross cut with letters B. M. cut by the cross: B. + M....	485. 19
Hannibal, at southwest corner of Kittering Hotel; on water table (city b. m.).....	473. 94
Hannibal Bridge, gage cut in south face of draw pier, at southwest corner, set in 1871 and its zero is set at low water of 1867, marked in feet and inches; zero (the elevation of this zero in 1891 and 1893 is 0.21 foot lower than it was in 1881) (0 gage on draw pier, Hannibal Bridge).....	449. 54
Hannibal Bridge, on southwest corner of draw pier, with figures 1888 cut at the mark, which corresponds to 21 feet 8 inches on the gage; cut (high water of 1888 on draw pier, Hannibal Bridge)	471. 24
Hannibal Bridge, north side of, at west end, leaded vertically in upright guard stone; copper bolt (U. S. C. E. b. m. 94/3).....	485. 08

BARRY QUADRANGLE.

[Latitude 39° 30'-39° 45'; longitude 91° -91° 15'.]

Along Mississippi River.

South Fritz Island, at a point opposite the middle of, 160 meters from right bank, in timber, on west bank of a small slough, a hackberry tree 18 inches in diameter stands 20 meters northwest, an elm tree 30 inches in diameter stands 20 meters north, and an elm tree 24 inches in diameter stands 20 meters east, all blazed facing pipe; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 87/3):	
Cap on pipe.....	455. 00
Bolt in tile.....	450. 99
South Fritz Island, at a point opposite the center of, 865 meters from right bank, on a ridge in the timber about 60 meters west of west bank of a slough (slough has water in it about 400 meters long north and south, and the bench mark is opposite its center; a hickory tree 8 inches in diameter stands 4.5 meters southeast, a hickory tree 18 inches in diameter stands 14 meters west, and another hickory tree stands 11 meters northwest, all blazed facing the pipe); copper bolt in tile, and iron pipe (U. S. C. E. b. m. 87/4):	
Cap on pipe.....	454. 64
Bolt in tile.....	450. 63

Cottonwood Island (452), opposite the head of, 155 meters from right bank, in timber, near northeast corner of a long dry pond, on land of Unsell, Binn, Robinson, and Hollman, 230 meters below a new clearing, the first one on right bank above North Fritz Island; copper bolt in tile, and iron pipe (U. S. C. E. p. m. 88/3):		
Cap on pipe.....		453. 69
Bolt in tile.....		449. 69
Long Lake slough, about 50 meters northeast of, at a point 1,225 meters below its head where it joins right bank of river, the head being opposite the foot of Atlas Island, in timber, 985 meters from right bank, at point described in previous bench mark and on same land; an elm tree 6 inches in diameter stands 6 meters east, an elm tree 20 inches in diameter stands 5.5 meters southwest, another elm tree 18 inches in diameter stands 9 meters northeast, all blazed; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 88/4):		
Cap on pipe.....		455. 23
Bolt in tile.....		451. 23
Mundy Landing, 1,150 meters above, 1,200 meters below the foot of Slim Island (449), 140 meters above a frame house on the river bank, 68 meters from right bank in deadening, 1 meter east of an elm tree 24 inches in diameter; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 89/3):		
Cap on pipe.....		457. 07
Bolt in tile.....		453. 07
Ashburn station, 1,150 meters above the depot at, 670 meters above the point where wagon road from Ashburn leaves the railroad to go to Mundy Landing, 12 meters southwest of center of railroad track, 5 meters south from where east-west fence joins the west right of way fence, about 2 meters southwest of west right of way fence, in grass field at foot of bluff, a cabin stands northwest 60 meters; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 89/4):		
Cap on pipe.....		466. 58
Bolt in tile.....		462. 58
Gilberts Island, opposite the head of, about 45 meters from right bank, 1 meter west of west right of way fence, 26 meters west of railroad, 450 meters below the first cultivated field on right bank above the island, 1,150 meters below triangulation red house; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 90/3):		
Cap on line.....		482. 30
Bolt in tile.....		478. 29
Saverton, about 1¼ miles below, on land of Mrs. Panama Nance, opposite a point 650 meters below the head of Cottel Island (446), 1.25 meters above a pile bridge over a ravine at foot of bluff, in timber, 1 meter west of west right of way fence of St. Louis, Keokuk & Northwestern Ry. (Burlington Route), 16 meters west of center of track (the timber begins 200 meters below the bench mark and extends to Lick Creek, half a mile below Saverton); copper bolt in tile, and iron pipe (U. S. C. E. b. m. 91/3):		
Cap on pipe.....		475. 45
Bolt in tile.....		471. 44

LOUISIANA QUADRANGLE.

[Latitude 39°-39° 30'; longitude 91°-91° 30'.]

Along Mississippi River.

Louisiana Bridge, 1¼ miles below, about 800 meters below the railroad bridge over Buffalo Creek, immediately back of United States light in 1891, 75 meters from right bank, about 40 meters from railroad, at foot of bluff on south side of a rail fence at edge of timber, in a cultivated field, on land of Walter Pitzer; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 85/3):

Cap on pipe	Feet. 489. 29
Bolt in tile.....	485. 29

Louisiana Bridge, about 1 mile above, 4.42 meters northwest of rail of the Chicago, Burlington & Quincy R. R. (Burlington Route), 65 meters north-east of the point where the Sny levee joins the railroad embankment, in top of the upper marking stone, marking the southwest end of the Louisiana Base Line, projecting 0.5 foot out of the ground; mark is hole in stone (U. S. C. E. b. m. triangulation Outer Base)..... 452. 18

The lower stone is 2.5 feet underground and the point is marked by a cross in copper bolt.

Louisiana Bridge, on southeast corner of the draw pier of, marked in feet and inches; cut in stone, elevation of 0 (U. S. C. E. b. m. 0 gage on Louisiana Bridge)..... 437. 46

Louisiana Bridge, on southwest corner of second pier from, Missouri shore; cut in stone, marked with figures "88," high-water mark of 1888..... 455. 4

Louisiana, the second building from Water Street, on the north side of Georgia Street, on the northeast corner of stone doorsill of the building adjoining the saloon building on the west, on which is situated p. b. m. 23; round ring on doorsill (U. S. C. E. old b. m.)..... 468. 32

Louisiana, 180 meters below the waterworks pumping station, 1,850 meters above the Louisiana Bridge, 980 meters back of left bank, at a point 310 meters above the Illinois shore end of large stone dike, about 582 meters back of the Sny levee, at a point 370 meters above where it adjoins the Chicago, Burlington & Quincy R. R. (Burlington Route) embankment, 120 meters northwest of a dwelling house on the side of the road, and is 230 meters northwest along road from where it crosses the railroad, on northeast side of county road, in edge of timber, on northeast side of a dry pond; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 86/1):

Cap on pipe.....	453. 03
Bolt in tile.....	449. 01

Louisiana waterworks, 180 meters below, about 80 meters from right bank, about 20 meters west of railroad, at back fence on land of W. C. Freeman, 1 meter southeast of gate, in mouth of small ravine; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 86/3):

Cap on pipe.....	484. 43
Bolt in tile.....	480. 40

NEBO QUADRANGLE.

[Latitude 39° 15'-39° 30'; longitude 90° 45'-91°.]

Along Mississippi River.

Slim Island, 550 meters above foot of, 50 meters above a small towhead in chute, on right bank, 250 meters from right bank of Slim Island chute, in timber on top west bank of second swag from chute; elm tree stands southeast 12 meters and an oak northwest 5 meters, both blazed; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 80/3):

Cap on pipe.....	444. 94
Bolt in tile.....	440. 94

Slim Island, at a point 550 meters above the foot of, 1,560 meters from right bank of chute, 450 meters from lower corner of timber, on west edge of prairie, on east side of Guinn Creek, at east edge of timber, a blazed oak, 3 feet in diameter, stands 27 meters north of pipe; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 80/4):	
Cap on pipe.....	442. 99
Bolt in tile.....	438. 99
Slim Island, 110 meters from right bank of chute, in timber on land of John Wells, opposite the head of the island, copper bolt in tile, and iron pipe (U. S. C. E. b. m. 81/3):	
Cap on pipe.....	443. 86
Bolt in tile.....	439. 86
Slim Island, opposite the head of, 800 meters from right bank of chute, 700 meters from 81/3, 200 meters back of Ramsey Creek, 56 meters west of corner of fence, on land of John Wells, at fence between cultivated field on north and pasture on south; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 81/4):	
Cap on pipe.....	446. 10
Bolt in tile.....	442. 11
Slim Island, 900 meters above the head of, 20 meters from right bank in timber, about 50 meters below a cultivated field on the river bank, under an elm tree about 36 inches in diameter, tree has a triangle blazed on it; stone post (U. S. C. E. b. m. triangulation flag 47).....	444. 11
Eagle Island, opposite the center of, 110 meters from right bank of Eagle Island chute, 118 meters below a shed in northwest corner of field, on land of James Wells, at back edge of timber, east edge of cultivated field; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 82/3):	
Cap on pipe.....	448. 16
Bolt in tile.....	444. 16
Eagle Island, opposite the center of, farmhouse in scattering timber, 122° 50' distant—206 meters from pipe, 86 meters below angle in lane at a shed, and 48 meters above another angle in land, on land of James Wells, at fence at west side of Clarksville road, in pasture; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 82/4):	
Cap on pipe.....	447. 64
Bolt in tile.....	443. 64
Clarksville, 10 feet below the top of doorsill of the Imperial Mills; high water, Apr. 11, 1876.....	448. 95
Clarksville, north of, and adjoining the Clarksville Cider & Vinegar Works; cut in chimney of Pharr's sawmill, marked " '88, '58, '51"; high-water marks:	
1888.....	450. 94
1858.....	453. 50
1851.....	455. 47
Clarksville, in north end of, about 150 meters south of paper mill, about 65 meters southwest of Clarksville-Louisiana turnpike, about 130 meters from right bank, on side of bluff, about 50 meters northeast of base of perpendicular bluff, 2 meters east of a line between a 2-foot sycamore and a 2-foot locust tree, both blazed facing pipe; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 83/3):	
Cap on pipe.....	520. 40
Bolt in tile.....	516. 38

Cash Island, 850 meters below the foot of, 250 meters below the head of Pharrs Island, at mouth of Little Calumet Creek, 2 meters southwest of the west right of way fence along St. Louis, Keokuk & Northwestern Ry. (Burlington Route), 100 meters southeast of the east end of the covered bridge over Little Calumet Creek, on land of Peter Yeager, a hard-maple tree, 18 inches in diameter, stands west 13 meters; a maple tree, 20 inches in diameter, stands south 10.3 meters, and a hard-maple tree, 18 inches in diameter, stands east 8.8 meters, all blazed, facing the bench mark; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 84/3):

Cap on pipe.....	Feet. 480. 05
Bolt in tile.....	476. 03

PEARL QUADRANGLE.

[Latitude 39° 15'-39° 30'; longitude 90° 30'-90° 45'.]

Along the Mississippi River.

Howard Island (478), 850 meters below the foot of, 242 meters from right bank on the east bank of Prairie slough, at back edge of clearing, on land of J. W. Wheeler, and 349° 08' distant, 172 meters from his house, 6 meters from fence; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 79/3):

Cap on pipe.....	444. 94
Bolt in tile.....	440. 92

Howard Island (478), 850 meters below the foot of, 1,050 meters from right bank of river, 350 meters west along fence line from edge of timber, 140 meters east of the lower end of a small levee, on south side of east-west fence between the properties of Samuel Irving on the north and B. C. Gladney on the south, a scrub-oak tree 10 inches in diameter, blazed toward the pipe, stands 243° 02' distant, 56 meters from the pipe; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 79/4):

Cap on pipe.....	444. 69
Bolt in tile.....	440. 68

HARDIN QUADRANGLE.

[Latitude 39°-39° 15'; longitude 90° 30'-90° 45'.]

Along Mississippi River.

Sandy Island, 1,400 meters below the head of, 730 meters from right bank of river, about 85 meters from right bank of chute behind Sandy Island, on land of Frank Riffle, 100 meters east-west by 200 meters north-south, at northeast corner of an inclosed clump of oak timber, at the east base of levee, at east side of fence; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 74/3):

Cap on pipe.....	436. 62
Bolt in tile.....	432. 59

Sandy Island, 1,400 meters below the head of, 750 meters from right bank of chute behind Sandy Island, 550 meters due west from southwest corner of inclosed clump of timber mentioned under 74/3, on west side of lane between land of Frank Riffle and Louis Trescott, 150 meters north of Dave Kilham's line where the lane turns east for 150 meters then south again; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 74/4):

Cap on pipe.....	438. 22
Bolt in tile.....	434. 20

Island 496, 250 meters back from foot of, 28 meters back of main right bank near corner and on south side of yard fence, 10 meters southwest of small house in small clearing, the only clearing on the river bank in that vicinity; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 75/3):	
Cap on pipe.....	435. 12
Bolt in tile.....	431. 11
Island 496, opposite foot of, about 710 meters back of right bank, about 100 meters above the foot and on west side of a dry pond, on land of Mr. Haskins, trees are blazed facing pipe; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 75/4):	
Cap on pipe.....	433. 93
Bolt in tile.....	429. 92
Sterling Landing, 350 meters below, 135 meters from right bank, 140 meters west of south from the east corner of clearing of Mrs. Hoffmann, fence along lower side of this clearing runs about parallel to the stone line and is 70 meters distant from it, trees are blazed facing the pipe, in timber; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 76/3):	
Cap on pipe.....	436. 20
Bolt in tile.....	432. 20
Sterling Landing, 925 meters back of right bank from a point 350 meters below (only way to find it is by azimuth and distance from 76/3), trees are blazed facing the pipe, on a ridge in the timber; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 76/4):	
Cap on pipe.....	435. 83
Bolt in tile.....	431. 84
Westport Island, 400 meters below the foot of, 150 meters back of right bank of chute, 200 meters north of a house, on land of Hon. Richard Norton, in cultivated field, on west side of wire fence on west side of road; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 77/3):	
Cap on pipe.....	441. 69
Bolt in tile.....	437. 69
Westport, 1,250 meters due south from warehouse at, 726 meters back of 77/3, on land of Hon. Richard Norton, in cultivated field, on east side of wire fence; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 77/4):	
Cap on pipe.....	439. 22
Bolt in tile.....	435. 21
Westport, 325 meters above warehouse at, 150 meters below the foot of Kickapoo Island, 40 meters from right bank of chute, on land of J. L. and R. C. Hendrix, in cultivated field, under dead elm tree; stone post (U. S. C. E. b. m. triangulation flag 53).....	440. 19
Westport Island, 295 meters from right bank of river, 1,000 meters below the head of the island, in timber on west bank of Reeds Lake; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 78/3):	
Cap on pipe.....	441. 78
Bolt in tile.....	437. 76
Westport Island, 1,000 meters below the head of, 626 meters from right bank of chute behind island, 100 meters east of a house on west bank of Prairie slough, where clearing stops and timber begins, on land of M. T. Kimberly, on the east bank of Prairie slough, in timber; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 78/4):	
Cap on pipe.....	436. 44
Bolt in tile.....	432. 45

O'FALLON QUADRANGLE.

[Latitude 38° 30'–39°; longitude 90° 30'–91°.]

Along Missouri River.

Creve Cœur Lake, at foot of bluff near northeastern end of, about 1,200 feet below where shore of lake curves away from the bluff, on right bank:	Feet.
Bolt in stone.....	444.86
Top of cap (U. S. C. E. b. m. 7/1).....	448.92
St. Charles bridge, about 4 miles above, on left bank, at north right of way fence of Missouri, Kansas & Texas Ry., in southwest corner of W. Dukmeyer's land, 60 feet east of small creek:	
Bolt in stone.....	447.13
Top of cap (U. S. C. E. b. m. 7/3).....	451.20
Ducket Creek valley, at foot of bluff at the mouth of, on left bank, 50 feet west of Ducket branch road, about the same distance north of the Missouri, Kansas & Texas Ry. track:	
Bolt in stone.....	455.70
Top of cap (U. S. C. E. b. m. 8/2).....	459.76
Olive Street road, at south line of, on right bank, 235 feet east of point where Gumbo station road meets the Olive Street road:	
Bolt in stone.....	455.58
Top of cap (U. S. C. E. b. m. 9/2).....	459.62
Bon Homme Island, opposite, on left bank, 50 feet north of track, center of Missouri, Kansas & Texas Ry., 300 feet west of point where foot of bluff wagon road leaves the bottom and enters the hills:	
Bolt in stone.....	468.65
Top of cap (U. S. C. E. b. m. 9/3).....	472.73
Olive Street road, at south line of, 2,589 feet east of junction of Bon Homme and Olive Street roads, on right bank, 417 feet west of Bosselier's store:	
Bolt in stone.....	459.79
Top of cap (U. S. C. E. b. m. 10/2).....	463.85
Cottleville Landing, on left bank, at southwest corner of Lewis Haupt's dooryard, 200 feet from river:	
Bolt in stone.....	472.51
Top of cap (U. S. C. E. b. m. 10/3).....	476.57
Hamburg, about 3½ miles above, at foot of bluff in angle of Hamburg-Augusta road, where it leaves the bottom and enters the hills, on land of J. D. Fulkerson:	
Bolt in stone.....	471.46
Top of cap (U. S. C. E. b. m. 11/2).....	475.53
St. Albans, opposite, on right bank, in southwest corner of James A. Cork's dooryard, at foot of bluff:	
Bolt in stone.....	471.71
Top of cap (U. S. C. E. b. m. 12/2).....	475.78
Augusta, about a mile east of, 210 feet westward from wagon bridge over small creek at old steamboat landing, on the St. Charles County road, at south fence of dooryard of John Rinderer's house:	
Bolt in stone.....	479.10
Top of cap (U. S. C. E. b. m. 13/2).....	483.16
T. 44 N., R. 1 E., in SE. ¼ sec. 17, opposite house of August Strickhoff, on left bank, at south fence of county road which runs along foot of bluff:	
Bolt in stone.....	483.00
Top of cap (U. S. C. E. b. m. 14/2).....	487.05

Along Mississippi River.

Bolters Island, 1,000 meters below head of, 470 meters back of right bank, in timber, on west bank of a slough, blazed elm trees stand 30° 18' distant 16 meters; 185° 40' distant 10 meters; 123° 00' distant 34 meters, respectively, from pipe; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 68/3):		Feet.
Cap on pipe.....		427. 53
Bolt in tile.....		423. 52
Bolters Island, back of chute behind, 300 meters back of main right bank, on west side of a north-south wire fence, on land of Richard Cleary, 290 meters north of the northwest corner of an orchard and 440 meters north of west end of east-west lane; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 68/4):		
Cap on pipe.....		431. 85
Bolt in tile.....		427. 85
Dardenne, 130 meters back of main right bank of chute behind, immediately back of the foot of Apple Island, and 40 meters from top of bank of chute behind Apple Island, 5 blazed elm trees stand as follows from pine: South-east 7 meters, southeast 5 meters, northeast 3 meters, north 4 meters, and northwest 2 meters; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 69/3):		
Cap on pipe.....		424. 64
Bolt in tile.....		420. 64
Dardenne Island, 650 meters below the head of, across foot of Apple Island, in cultivated field on north side of wire fence on north side of wagon road along the north bank of Dardenne Creek, just east of where it turns from a northern course to an eastern course, 220 meters north of an east-west public road, 130 meters northeast of a small detached levee across a small slough emptying into Dardenne Creek, on land of Pieper and Walters, a blazed oak stands west 12 meters from pipe; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 69/4):		
Cap on pipe.....		431. 42
Bolt in tile.....		427. 41
McCann Landing, 550 meters above, 130 meters west of northeast corner of the field, 20 meters back of wagon road along the river bank, 35 meters back of top of right bank, at wire fence around a small cultivated field; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 70/3):		
Cap on pipe.....		423. 81
Bolt in tile.....		424. 79
Cuiver Island, 204 meters back of right bank of, 250 meters below its head, in timber, 180 meters above corner of a fence which runs along the north side of a small cultivated field, at north-south fence, stone line just passes the upper end of Turkey Island and the lower end of a large sand bar, which is at the upper end of Cuiver Island; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 72/3):		
Cap on pipe.....		433. 27
Bolt in tile.....		429. 29
Cuiver slough, 154 meters back of right bank of, 250 meters below the head of Cuiver Island, 30 meters south of east-west fence, which crosses the stone line about 85 meters east of the pipe, about 400 meters below house and a cleared field of John Lauretzen, a blazed oak 14 inches in diameter stands 5 meters north, on ridge in timber; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 72/4):		
Cap on pipe.....		436. 11
Bolt in tile.....		432. 11

Cap au Gris, at angle in lane at lower end of, 120 meters from river, 65 meters from levee, a small white house stands 30 meters west and a barn 25 meters south, immediately opposite the foot of Island 499; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 73/3):	
Cap on pipe.....	438. 26
Bolt in tile.....	434. 26
Cap au Gris, 685 meters along the road from where it crosses the levee in upper end of, southwest of schoolhouse, on the land of A. C. Wilson, small locust tree stands 20 meters northeast, in farm road running northeast and southwest, between cornfield on southeast and weeds in low ground on the northwest; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 73/4):	
Cap on pipe.....	434. 59
Bolt in tile.....	430. 59

BONFILS QUADRANGLE.

[Latitude 38° 45'-39°; longitude 90° 15'-90° 30'.]

Along Missouri River.

Smelters Lake, 600 or 700 feet east of north end of, 3,975 feet N. 7° 5' E. (mag.) from b. m. 3/2; at south fence of road running nearly east and west along bank of slough forming Dresser Island:	
Bolt in stone.....	418. 40
Top of cap (U. S. C. E. b. m. 3/3).....	422. 45
Halls Ferry, opposite, on left bank, 1,813 feet S. 47° W. (mag.) of the angle in road shown on the map, at south fence of Alton road:	
Bolt in stone.....	435. 62
Top of cap (U. S. C. E. b. m. 4/2).....	439. 69
County road, at south fence of, the general direction of which is about N. 50° E. (mag.), on left bank, in northwest corner of William Kilpatrick's farm, 9,945 feet N. 41° W. (mag.) from b. m. 5/1:	
Bolt in stone.....	432. 97
Top of cap (U. S. C. E. b. m. 5/2).....	437. 03

Along Mississippi River.

Piasa Island, across the river from, 1,550 meters below the Missouri end of rock dam, known as Piasa Dam, 70 meters back from right bank, 40 meters back from upper house on Dresser Island, about 15 meters back of southwest corner of Mr. Barwise's yard; copper bolt in tile and iron pipe (U. S. C. E. b. m. triangulation Barwise):	
Cap on pipe.....	422. 00
Bolt in tile.....	417. 98
Original stone was replaced in 1891 by tile and iron pipe.	
Piasa Dam, 800 meters above Missouri shore end of, 20 meters back of right bank in timber, 7 meters from 40-inch elm, 13 meters from 20-inch ash, and 13 meters from another 20-inch ash, all blazed; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 63/3):	
Cap on pipe.....	418. 52
Bolt in tile.....	414. 52
Piasa Dam, 1,800 meters above, on right bank, 1,600 meters above the mouth of Piasa Creek on left bank, about 700 meters back of right bank, in edge of cultivated field, back of a strip of timber which is 40 meters wide and runs east and west, on land of Fritz Paling, 600 meters due west from southwest corner of large timber, which is 650 meters straight back on line of the Piasa Dam from the Missouri shore of dam; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 63/4):	
Cap on pipe.....	425. 26
Bolt in tile.....	421. 26

Portage, on top of northeast corner of bottom stepping stone to Mr. H. J. Fehlig's house; cross cut (U. S. C. E. b. m. 7 r. b.).....	Feet. 439. 56
Portage des Sioux, in town of, about 650 meters nearly south of tavern and brick store, 300 meters east of road which leads nearly south from St. Francis's Church, on land of Alfred Payne, about 6 meters north-west of a blazed pecan tree; in cultivated field; stone post (U. S. C. E. b. m. triangulation Portage).....	435. 90
Portage des Sioux, opposite the town of, in woods 161 meters back from top of right bank, 250 meters above warehouse of Portage Landing; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 64/3):	
Cap on pipe.....	418. 08
Bolt in tile.....	414. 11
Portage des Sioux, on south side of St. Charles Street, in cultivated field, at fence, about 20 meters west of the south end of the street which runs north and south just west of St. Francis's Church, 50 meters west of north-south road which starts south from St. Charles Street, immediately south of St. Francis's Church; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 64/4):	
Cap on pipe.....	436. 86
Bolt in tile.....	432. 84
Babbs Hollow, the small hollow above, 730 meters west of the second one of two trestles at Piasa Bluffs assembly grounds, 3.6 meters north of the railroad track, on left bank, on side of bluff, between cliff and railroad in the brush; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 65/2):	
Cap on pipe.....	450. 72
Bolt in tile.....	446. 73
Slim Island, 450 meters above head of, 150 meters back from right bank in timber; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 65/3):	
Cap on pipe.....	423. 29
Bolt in tile.....	419. 28
Long Lake, 375 meters south of the foot of, about 885 meters back from right bank in timber, on a ridge about 20 meters north of a slough, 4 meters northeast of a water oak, 5 meters north of a tall pecan, and 15 meters northwest of a large water oak; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 65/4):	
Cap on pipe.....	423. 00
Bolt in tile.....	419. 03
Island 526, opposite the foot of, 112 meters back of right bank in timber, 60 meters upstream from the upper end of a long cultivated field along the right bank of the river, 3 meters west of an elm tree and a linden tree (both blazed) and 15 meters southeast of a small blazed elm tree; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 66/3):	
Cap on pipe.....	423. 83
Bolt in tile.....	419. 87
Island 526, opposite the foot of, 240 meters east of northwest corner of field and 360 meters from northeast corner of field, 644 meters back from right bank, 7 meters south of two thorn trees which stand on north side of rail fence at south edge of timber and north edge of cultivated field belonging to John King; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 66/4):	
Cap on pipe.....	426. 73
Bolt in tile.....	422. 75

Island 521, opposite the foot of, 115 meters back of right bank, in timber, on second little ridge from the river, three blazed elm trees face the pipe; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 67/3):

Cap on pipe.....	424.02
Bolt in tile.....	420.02

Island 521, opposite the foot of, 1,087 meters back of right bank, in open field or pasture (there are two blazed persimmon trees, one standing about 6 meters and one 10 meters back of pipe), on land of Julius Rouche, 580 meters due east of county road, which runs north and south, 110 meters north of east-west fence and 325 meters west of north-south fence of Mr. F. B. Tait; copper bolt in tile, and iron pipe (U. S. C. E. b. m. 67/4):

Cap on pipe.....	434.98
Bolt in tile.....	430.99

ALTON QUADRANGLE.

[Latitude 38° 45'-39°; longitude 90°-90° 15'.]

Along Missouri River.

Smelsers Lake, about 400 feet east of south end of, 170 feet south of the new Alton road, at south fence of dooryard of Joseph Fisher:

Top of cap (U. S. C. E. b. m. 3/2).....	420.05
Bolt in stone.....	416.00

Along Mississippi River.

Chain of Rocks, half a mile above, on land of Ed. Dowling, and 94 meters north of southwest corner of his land, 600 meters below bridge, over Watkins Creek, on Columbia Bottom road, in front of a vineyard on east side of hill, 7 meters from center of road, on east side of Columbia Bottom road; flat stone and iron pipe (U. S. C. E. b. m. 57/3) (lat. 38° 46' 10.51''; long. 90° 10' 54.31''):

Pipe.....	434.09
Stone.....	429.00

St. Louis, in the northern boundary line of the city, 175 meters west of Columbia Bottom road, on land of Mr. Robinson, stone is between 8 and 12 inches square; top of stone with hole in top, marked "161" (U. S. C. E. b. m. triangulation city limits 161) to triangulation Robinson, azimuth 323° 26', distance 35 meters (lat. 38° 45' 31.71''; long. 90° 15' 17.64'')..

574.08

Chain of Rocks, on top of bluff, about 527 feet downstream from northwest corner of north settling basin, measured in the direction of Columbia Bottom road, 470 feet west of center of road, 25 feet west of crest of bluff, 220 feet northeast of nail driven 3 feet above ground into southwest side of 15-inch white-oak tree 12 feet west of fence, 14 feet from nail in 15-inch elm tree 13 feet east of fence; in stone post 6 inches square; center of hole (U. S. C. E. b. m. Robinson) lat. 38° 45' 30.68''; long. 90° 11' 16.70'').

577.47

North St. Louis, on top of hill near Chain of Rocks, about 150 meters west of the Columbia Bottom road, on land of Mr. Robinson, 350 meters downstream, along shore line from shore end of Homer dyke, 525 meters back from top of bank, northwest 565 meters from orchard on river bank belonging to Allan Glasgow; stone post (U. S. C. E. b. m. triangulation Robinson).....

577.48

St. Louis, 175 meters west of Columbia Bottom road, on land of Mr. Robinson, 35 meters from triangulation Robinson, on stone between 8 and 12 inches square, with hole in top; top of stone, marked "161" (U. S. C. E. b. m. city limits 161).....

574.09

Chouteau Island, near the middle of, on east side of north-south township road, in cultivated field, on land of J. W. Seigers, and about 325 meters south of schoolhouse; flat stone and iron pipe (U. S. C. E. b. m. 57/1):	
Pipe.....	415.34
Stone.....	410.25
Chouteau Island, opposite a point half a mile above the chain of rocks, on land of F. Kahle, on back side of levee, in cultivated field, 140 meters back of river bank, 160 meters south of a timber grove between bank and levee, and a little below a one-story house that stands 300 meters back of levee, 910 meters below where north and south levee runs into the river; flat stone and iron pipe (U. S. C. E. b. m. 57/2):	
Pipe.....	417.70
Stone.....	412.61
Chain of Rocks, half a mile above, on east side of the Columbia Bottom road, 7 meters from center of road, on land of Ed. Dowling, 94 meters north of southwest corner of his land, 600 meters below bridge over Watkins Creek, on Columbia Bottom road (there is a vineyard on east side of hill back of pipe); flat stone and iron pipe (U. S. C. E. b. m. 57/3):	
Pipe.....	434.09
Stone.....	429.00
Chouteau Island, 1 mile below head of, 150 meters from right bank of Chouteau slough, in a cultivated field, on little knoll, on land of Mr. Melville, and nearly opposite the point where levee goes due east from north-south levee on left bank of slough, and where the schoolhouse is in the corner of the two levees; flat stone and iron pipe (U. S. C. E. b. m. 58/1):	
Pipe.....	420.00
Stone.....	414.90
Chouteau Island, 750 meters below head of (i. e., down the slough), 80 meters from right bank of slough, on the south side of east-west road, 50 meters northwest of a frame house, road crosses slough on a dam or levee across slough east of the pipe; flat stone and iron pipe (U. S. C. E. b. m. 58/2):	
Top of pipe.....	419.92
Stone.....	414.94
Chouteau Island, opposite head of, on land of William Vogelsang, on levee, 375 meters above a cabin on river side of levee, in edge of heavy timber and cultivated field, 300° 00' distant 425 meters from G. W. Lehnart's orchard; flat stone and iron pipe (U. S. C. E. b. m. 58/3):	
Pipe.....	426.49
Stone.....	421.40
Chouteau Island, 400 meters below the head of, on land of Philip Freese, 170 meters north of his house, 1½ miles south from the right bank of the Missouri River; flat stone and iron pipe (U. S. C. E. b. m. Mo. Riv. Comm. 1/2).....	418.58
Edwardsville, Ill., crossing, 1 mile above point of upper mouth of Missouri River and 100 meters below Wabash R. R. track, between the Missouri and Mississippi rivers, 1 mile above the point of junction of same, on right bank, 200 meters from edge of willows; flat stone and iron pipe (U. S. C. E. b. m. 59/3):	
Pipe.....	415.94
Stone.....	410.85

Edwardsville crossing, 1 mile above point of upper mouth of Missouri River and 100 meters below Wabash R. R. track, back 500 meters from the right bank of Mississippi River, 700 meters from left bank of Missouri River, 1 mile above the point of junction, in willows and bullrushes; a blazed 8-inch cottonwood stands 42° 30' distant 1¼ meters from pipe; flat stone and iron pipe (U. S. C. E. b. m. 59/4):	
Pipe.....	Fect. 417. 25
Stone.....	412. 16
Wood River, half a mile below mouth of, 2 miles above the mouth of Missouri River, close to the edge of left bank; stone post (U. S. C. E. b. m. triangulation Gessler).....	419. 87
Ellis Island, 1,250 meters below the foot of, 650 meters above the head of Maple Island, back 240 meters from river bank, on west bank of slough, on land of Charles Dout, of St. Charles, Mo., 110 meters above east end of levee, three-quarters of a mile below the mouth of Alton slough, at upper end of a stranded house-boat; flat stone and iron pipe (U. S. C. E. b. m. 60/3):	
Pipe.....	424. 63
Stone.....	419. 53
Ellis Island, 1,250 meters below the foot of, 650 meters above the head of Maple Island, on land of Dave Shewmate, about 16 meters south of his house, 4 meters east of large elm, at east edge of timber and cultivated field, 30 meters south of east-west road, and 20 meters south of house in edge of timber, pipe is 24° 10' distant, 40 meters from elm tree, at north-east corner of Shewmate and northwest corner of Brinkman's land; flat stone and iron pipe (U. S. C. E. b. m. 60/4):	
Pipe.....	424. 71
Stone.....	419. 64
Alton, Ill., opposite upper end of, 240 meters back from right bank of slough, behind towhead above Ellis Island (no cap to the pipe and elevation of top of pipe was not taken); flat stone and iron pipe (U. S. C. E. b. m. 61/3)	414. 94
Alton, Ill., opposite upper end of, 970 meters back from right bank of slough, behind towhead above Ellis Island, on the back slope of the levee and on land of George Strong; 400 meters northwest along levee from where north-south road crosses the levee; flat stone and iron pipe (U. S. C. E. b. m. 61/4):	
Pipe.....	422. 62
Stone.....	427. 72
Brick House slough, 1¼ miles above the mouth of, three-quarters of a mile below foot of Little Piasa Island, at foot of Dresser Island, on right bank about 150 meters back from river bank, in edge of timber, near southwest corner of cultivated field; copper bolt in tile and iron pipe (U. S. C. E. b. m. 62/3):	
Cap on pipe.....	420. 72
Bolt in tile.....	416. 70
Brick House slough, 1¼ miles above the mouth of, three-quarters of a mile below foot of Little Piasa Island, at foot of Dresser Island, on right bank in cornfield, 150 meters back of east-west road which runs along south bank of Brick House slough, on property of Mr. Fiddler; copper bolt in tile and iron pipe (U. S. C. E. b. m. 62/4):	
Cap on pipe.....	422. 16
Bolt in tile.....	418. 19

ST. LOUIS QUADRANGLE.

[Latitude 38° 30'-38° 45'; longitude 90°-90° 30'.]

Along Mississippi River.

East St. Louis waterworks, Ill., settling basins of, just west of the Chicago & Alton R. R. tracks, and 320 meters north of the northeast corner of the settling basins (or reservoir); flat stone and iron pipe (U. S. C. E. b. m. 54/2):	Feet.
Pipe.....	420. 04
Stone.....	414. 95
St. Louis, at the southeast corner of Mound Street and levee, cut on the stone corner of a brick building at the southeast corner; cross, letters "U. S." are cut beside the cross (U. S. C. E. b. m. 54/3).....	420. 70
St. Louis, southeast corner of Mound and Main streets, cut on the stone wall which surrounds the north gasometer of the Laclede Gas Works; cross, with the figures and letters "54/4 U. S." cut near the cross.....	435. 29
St. Louis, at foot of Branch Street, cut on the northwest corner of sewer cap; knob (U. S. C. E. b. m. 7 (Field)).....	400. 45
St. Louis, at southwest corner of the Venice elevator, on bolt through plank, bolted to pile; top of nut marked by five nails thus: $\begin{matrix} \circ & & \circ \\ & \circ & \\ \circ & & \circ \end{matrix}$ above nut (U. S. C. E. b. m. 54/4 (Ritter)).....	400. 41
Merchant's bridge, 1 mile above, on Carr Island, 450 meters back from old main bank of river, 720 meters from river at foot of Cabaret Island, in east edge of narrow strip of large cottonwood at west edge of field, cottonwood tree 2 feet in diameter stands 3 meters; elm tree 2½ feet in diameter stands 5 meters on opposite side of pipe, the three being nearly in line; flat stone and iron pipe (U. S. C. E. b. m. 55/2):	
Pipe.....	419. 02
Stone.....	413. 93
North St. Louis, at southwest corner of Withers Avenue and Powder Street, at northeast corner of magazine, 155 meters back of top of left bank of the river and half a mile above Grand Avenue; street corner stone (U. S. C. E. b. m. 55/3).....	414. 88
St. Louis waterworks, half a mile above Grand Avenue, at northwest corner of Withers Avenue and Wabash and St. Louis & Pacific railroads (or Second Street), on top of catch basin; cross (U. S. C. E. b. m. 55/4)..	425. 06
St. Louis, at junction of Columbia Bottom road and St. Cyr (Ann) Avenue, back of Cabaret Island, on top of levee about opposite the middle of the island, 65 meters east of left bank of slough, 175 meters north of northwest corner of orchard at levee, houses in vicinity on both sides of levee, a road runs along edge of bank of slough and turns east 150 meters above pipe; flat stone and iron pipe (U. S. C. E. b. m. 56/1):	
Pipe.....	421. 27
Stone.....	416. 18
Cabaret Island, 1¼ miles below head of, 690 meters back from the river bank, 150 meters above a two-story yellow house, on east side of field road, on edge of prominent ridge, 412 meters below an old unoccupied house; flat stone and iron pipe (U. S. C. E. b. m. 56/2):	
Pipe.....	419. 36
Stone.....	414. 27
North St. Louis, at north corner of intersection of St. Cyr (Ann) Avenue and Columbia Bottom road, would be northwest corner if Columbia Bottom road ran north instead of northeast; cornerstone (U. S. C. E. b. m. 56/3)..	429. 61

North St. Louis, in south side of St. Cyr (Ann) Avenue, 89 meters west of the north corner of Columbia Bottom road and St. Cyr (Ann) Avenue; flat stone and iron pipe (U. S. C. E. b. m. 56/4):	
Pipe.....	449. 51
Stone.....	444. 42
St. Louis, about 1 mile back of Cabaret Island, 430 meters northwest from the Chicago & Alton R. R. track, at a point opposite two houses and at south end of a clump of timber, on north bank of a large gully; stone post (U. S. C. E. b. m. triangulation Soechtig).....	420. 40
Along Mississippi River.	
St. Louis, in northern part of, 89 meters west of north corner of Columbia Bottom road and St. Cyr Avenue; on south side of St. Cyr Avenue; flat stone and iron pipe (U. S. C. E. b. m. 56/4) (lat. 38° 44' 03.57"; long. 90° 12' 51.37"):	
Pipe.....	439. 50
Stone.....	444. 41
St. Louis, in northern part of, at northeast corner of intersection of St. Cyr Avenue and Columbia Bottom road; corner stone (U. S. C. E. b. m. 56/3) (lat. 38° 44' 02.24"; long. 90° 12' 48.20").....	429. 60
Cabaret Island, due south of Madison and Granite City waterworks, 1¼ miles below head of island and 690 meters back from the river bank, 150 meters upstream from a two-story yellow house, on east side of field road, 412 meters downstream from an old unoccupied house; on edge of prominent ridge; flat stone and iron pipe (U. S. C. E. b. m. 56/2) (lat. 38° 43' 14.01"; long. 90° 10' 54.15"):	
Pipe.....	419. 35
Stone.....	414. 26
North St. Louis, 6.4 miles upstream from Eads Bridge, 110 meters south and 37 meters east of the north terminus of street-car line, opposite a point in Broadway 50 meters below the Seven Mile or "Wedge" House in angle of Broadway and Halls Ferry road, 8 meters north, on north line of Baden Avenue, and 30 meters east of northeast corner of Broadway (Bellefontaine road) and Baden Avenue, in ground in small grove on east side of street-car tracks, in top of stone; top of copper bolt (U. S. C. E. p. b. m. 13) (lat. 38° 42' 41.19"; long. 90° 13' 47.35").....	431. 551
North St. Louis, at southwest corner of Withers Avenue and Powder Street, at northeast corner of powder magazine, 155 meters from river bank and half a mile above East Grand Avenue; corner stone (U. S. C. E. b. m. 55/3) (lat. 38° 41' 03.15"; long. 90° 11' 56.94").....	414. 87
St. Louis waterworks, half a mile above East Grand Avenue, 850 meters from river bank, at northeast corner of Withers Avenue and Wabash R. R., on top of catch basin; cross cut (U. S. C. E. b. m. 55/4) (lat. 38° 40' 51.00"; long. 90° 12' 21.08").....	425. 07
St. Louis, at the southeast corner of Mound Street and wharf, on the corner of stone foundation of a brick building; cross cut, with letters "U. S." (U. S. C. E. b. m. 54/7) (lat. 38° 38' 35.67"; long. 90° 10' 55.73").....	420. 70
St. Louis, southeast corner of Mound and Main streets, on stone wall which surrounds the northern gasometer of the Laclède Gas Works; cross, with figures and letters "54/4 U. S." (U. S. C. E. b. m. 54/4) (lat. 38° 38' 35.35"; long. 90° 10' 58.89").....	435. 29

St. Louis, known as the "City Directrix." It has been in use for many years, and was originally the top surface of the pedestal of a monument which stood on Front Street (now wharf) near Market Street; the monument shaft was destroyed at the time of the great fire in that locality, but the pedestal remained; it is now level with the curbstone and forms a part thereof. T mark now indicates point used for bench mark (U. S. C. E. b. m. K 3) (lat. $38^{\circ} 37' 25.62''$; long. $90^{\circ} 11' 03.73''$)	Feet. 413. 969
St. Louis, south side of Lesperance Street, in railroad yards near wharf, 95 meters from shore line at foot of railroad incline; cross cut in curbstone, marked "53/3 U. S." (U. S. C. E. b. m. 53/3) (lat. $38^{\circ} 36' 14.01''$; long. $90^{\circ} 11' 37.98''$)	417. 36
St. Louis, at the foot of Meramec Street, west of the railroad on a flat shelf north of retaining wall and 23 feet northward from a sycamore tree below the wall, near nail driven into tree, just east of where letters "U. S." are cut in vertical face of ledge, 2.2 feet from the "U," 3.72 feet northeast of the north edge of an old drill hole, 2.53 feet southeast of a cross on next shelf, about 3 inches higher, 309.45 feet ($240^{\circ} 58'$) from a city stone, on the east line of Marine Avenue, 250.5 feet from the center of line of Meramec Street, 23 feet (right-angle distance) north from a point in the center line of Meramec Street and this point is 158.2 feet west from intersection of said center line and the east line of Marine Avenue, leaded in rock ledge; center of a half-inch copper bolt (U. S. C. E. b. m. Meramec 2) (lat. $38^{\circ} 34' 43.48''$; long. $90^{\circ} 13' 34.14''$)	448. 80
St. Louis, near Tucker station and about halfway between Maeder and Neosho streets, a mound of broken stone covers and marks the station, 16.4 feet east of east rail or east track, 30.3 feet east of east rail of west track, 43.85 feet from a cross on a bowlder which is about 12 feet north and west of west track, 77 feet south of a 16-inch sewer pipe projecting through the embankment, 126.75 feet north from center one of four nails and triangle blazed on yard-limit post, 99.80 feet, actual, to a cross cut on ledge (elevation about 10 feet) west of track and under tool house above road leading to quarry, 82.65 feet, actual, to a cross cut on ledge (elevation about 12 feet) west of track, and near north limit of quarry 1901, set flush with embankment; iron pipe (U. S. C. E. b. m. triangulation Tucker) (lat. $38^{\circ} 34' 08.79''$; long. $90^{\circ} 14' 03.56''$)	421. 84
St. Louis, about 300 feet north of Dover Street, 275.3 feet (right-angle distance) north from a point in the eastern prolongation of the north line of Dover Street, and this point is 301.6 feet east from the northeast corner of Dover Street and Broadway, three reference crosses are cut in the solid rock on the west side of the track, distance from south cross 67.88 feet, from middle cross 28.68 feet, and from north cross 44.07 feet, distance between south and middle crosses 61.2 feet, between middle and north crosses 34.3 feet; in cinders and stone embankment on east side of the railway, set about 6 inches below surface; iron pipe (U. S. C. E. b. m. triangulation Dover) (lat. $38^{\circ} 33' 37.41''$; long. $90^{\circ} 14' 29.06''$)	423. 02
St. Louis, near the edge of the high bank at the foot of Kraus Street, 10.82 feet east by north to a bolt in the base of lamp-post at south side of street, 60 feet from northeast corner of frame building south of street, 40 feet from southeast corner of frame building on north side of street, 11.2 feet (right-angle distance) north from a point in the south line of Kraus Street, and this point is 642.3 feet east from the southeast corner of Kraus Street and Broadway; near the edge of bank; iron pipe (U. S. C. E. b. m. triangulation Kraus) (lat. $38^{\circ} 33' 08.06''$; long. $90^{\circ} 14' 58.03''$)	409. 74

- St. Louis, in southern part, at the foot of Steins Street, 57.4 feet to the south-east corner and 59.4 feet to southwest corner of ruins, 5.38 feet northeast and 8.3 feet northwest, respectively, to bolts in masonry, 52.8 feet from east rail of railroad track, 68.1 feet (right-angle distance) north from a point in the north line of Steins Street, and this point is 1,869.7 feet east from the northeast corner of Steins Street and Broadway, and 831.4 feet from the intersection of said north line of Steins Street and the center line of Reilly Avenue, leaded into the masonry of the ruins of the elevator; copper bolt (U. S. C. E. b. m. triangulation Steins) (lat. 38° 32' 39.29"; long. 90° 15' 08.90") Feet. 415. 01
- Chain of Rocks, about 1,600 feet from the Missouri shore, fastened to the downstream side of the intake tower, reads from 107 to 78 feet, gage is vertical (miles above Eads Bridge, midbank, 9.7; low water, 10.4); zero of gage..... 314. 28
- REFERENCE BENCH MARKS.—No. 1 (p. b. m. 12), 1½ miles upstream from, 2,300 feet upstream from bridge on Columbia Bottom road over Watkins Creek, 66 feet west of Columbia Bottom road, elevation above zero of gage, 143.58, in corner of grove, in stone post; top of copper bolt.
- Bissell Point. The gage consists of four vertical wooden sections fastened to the iron inlet tower at the Bissell Point pumping station, two sections reading from 110 to 84 feet are on the west face of the tower; the other two, reading from 85 to 65 feet, are on the south face (miles above Eads Bridge, midbank, 3.3; low water, 3.3); zero of gage..... 313. 46
- REFERENCE BENCH MARKS.—No. 1 (p. b. m. 14), Bissell Point, 4.8 feet west of west coping to main entrance to building of St. Louis waterworks, leaded horizontally in third course of stone on north side of western engine room, in center of copper bolt; small hole, elevation above zero of gage, 113.10 feet.
- St. Louis, 0.4 mile below Eads Bridge. The gage consists of three sections, graduated from 41.5 to 5 feet, on the wharf, near Market Street, the highest section, 41.5 to 34 feet, is painted on west face of southwest steel pillar of the elevated railroad at the foot of Market Street, the next, a vertical section, 36 to 30 feet, is a steel bar on south stone wall of the harbor office, the main section, inclined, 31.4 to 5 feet, of concrete and steel, is flush with the surface of the wharf paving, below the 5-foot mark; readings are taken on temporary stakes; zero of gage..... 380. 20
- REFERENCE BENCH MARKS.—P. b. m. 15, Eads Bridge, in east side of west pier of fourth stone arch from river of, 20 feet south of north end of pier and 0.46 foot above top course of granite, letters "U. S." are cut in the granite below the bench mark; elevation above zero of gage; small hole in copper bolt; elevation, 36.44 feet.
- St. Louis, engineer depot, 3.2 miles below Eads Bridge. The gage consisted originally of five vertical sections fastened on or near the landing gangway with graduations extending from 37 feet to 1 foot. At intersection on Mar. 1, 1909, only two sections were in existence, one reading from 37 to 31.5 feet, on foundation pile of warehouse near upper end of gangway, the other, reading from 26 feet to 1 foot, on the first clump of mooring piles upstream from the gangway, these gage sections are of wood, 2 by 6 inches, 14 feet long, and are set and replaced whenever necessary at convenient places along the gangway; zero of gage..... 379. 85
- REFERENCE BENCH MARKS.—No. 2, elevation above zero of gage, 43.31 feet, top of northeast corner of coping to sally port of river wall at U. S. Engineer depot, with letters "B. M." cut in stone near point.

Jefferson Barracks, 10.8 miles below Eads Bridge. The gage was established in 1891 and discontinued Feb. 1, 1908. It consists of seven sections with graduations from 38.6 to 2 feet, and is located on a rock point about 3,000 feet south of the new depot of the St. Louis, Iron Mountain & Southern Ry. Gage sections: No. 1, 38.6 to 33.1 feet, is an inclined angle-iron section with the lower end bolted to the rock ledge and the upper end bolted to angle-iron post set in concrete. No. 2, 33.1 to 28 feet, is a strap-iron section on the face of the culvert under the St. Louis, Iron Mountain & Southern Ry. tracks, 330 feet upstream from section 1, Nos. 3 and 4, 28 to 15 feet, and 15 to 10 feet, respectively, are strap-iron sections on the rock ledge, in line with section 1. Nos. 5, 6, 7, 10 to 7.6 feet, 7.6 to 4.9 feet, and 4.9 to 2 feet, respectively, are strap-iron sections, on the rock ledge, 38 to 73 feet upstream from section 1, zero of gage

Feet.
377.91

REFERENCE BENCH MARKS.—No. 1, elevation above zero of gage, 26.44 feet, is the top of the $\frac{3}{4}$ -inch iron bolt in center of a triangle in the rock ledge 12 feet upstream from the 11-foot mark of gage; letters "B. M." are cut in the rock near the mark.

No. 2, elevation above zero of gage, 15.01 feet, is the top of a $\frac{3}{4}$ -inch iron bolt in center of a triangle in the rock ledge, 5 feet downstream from the 15-foot mark of the gage; letters "B. M." are cut in the rock near the mark.

No. 3, elevation above zero of gage, 11.16 feet, is a $\frac{3}{4}$ -inch iron bolt in the rock ledge 37 feet downstream from the 11-foot mark of gage.

KIMMSWICK QUADRANGLE.

[Latitude $38^{\circ} 15' - 38^{\circ} 30'$; longitude $90^{\circ} 15' - 90^{\circ} 30'$.]

Along Mississippi River.

One and a quarter miles above the mouth of the Meramec River, 65 meters back from St. Louis, Iron Mountain & Southern Ry., on Missouri Bluff; stone post (stone was reset in old position in 1903 and therefore given elevation is only approximate) (U. S. C. E. b. m. triangulation Meramec b. m. 48/4) (lat. $38^{\circ} 24' 23.78''$; long. $90^{\circ} 19' 35.4''$)	557
Whitehouse station, seven-eighths of a mile below, just east of the St. Louis, Iron Mountain & Southern Ry. track, 68 meters directly in front of triangulation Meramec; stone post (U. S. C. E. b. m. 48/3) (lat. $38^{\circ} 24' 22.31$; long. $90^{\circ} 19' 33.3''$)	415.47
Wickes station, 600 meters below, on St. Louis, Iron Mountain & Southern Ry., leaded vertically in top stone directly over keystone of arch on north side of culvert at Island View; top of copper bolt, with letters "U. S. P. B. M." cut near bolt (U. S. C. E. b. m. p. b. m. 21) (lat. $38^{\circ} 23' 17.14''$; long. $90^{\circ} 21' 25.9''$)	406.667
Latitude and longitude were scaled from chart.	
Kimmswick, on knoll, about three-eighths of a mile north of, railroad station, 50 feet west of St. Louis, Iron Mountain & Southern Ry. track, inside of fence of Montesano Springs Park and 170 meters southeast of dancing pavilion; stone post (found in 1908—disturbed) (U. S. C. E. b. m. 47/3) (lat. $38^{\circ} 22' 10.70''$; long. $90^{\circ} 21' 40.5''$)	431.25
Kimmswick, about $1\frac{1}{2}$ miles below, on prominent point at Flemings, just below the 22-mile post, in front of place formerly occupied by Capt. Fleming and sometimes known as Sunnyside, between railroad track and river, in rock ledge; hole drilled (blazed tree 24 feet back from and below and another 14 feet back from and above the station) (U. S. C. E. b. m. triangulation Simpson 27) (lat. $38^{\circ} 20' 39.64''$; long. $90^{\circ} 22' 12.0''$)	417.23

Sulphur Springs, half a mile below, 85 meters north of triangulation Sulphur Springs, just west of railroad track; flat stone and iron pipe (pipe found bent over in 1908) (U. S. C. E. b. m. 46/3) (lat. 38° 19' 43.94''; long. 90° 22' 30.0'')	Feet. 432. 78
Sulphur Springs, about half a mile below the town of, 40 meters west of railroad track, stone has been cracked on river side and through the center; upstream corner of stone post on top of bluff (U. S. C. E. b. m. triangulation Sulphur Springs) (lat. 38° 19' 41.09''; long. 90° 22' 30.4'') ..	527. 88
Sulphur Springs, 1,100 meters below, on second knob outside of railroad, 7 feet from outer edge of rock, 15 feet from upstream edge, 5 feet diagonally upstream from large fissure separating bedrock from large detached boulder on downstream corner, in rock; hole surrounded by triangle (U. S. C. E. b. m. triangulation Second Cut) (lat. 38° 19' 37.82''; long. 90° 22' 28.2'')	422. 73
Foster Island, 1,200 meters above the head of, 400 meters above house occupied by Alex. Douglas, on land owned by Morrison brothers, 900 meters from top of left bank of river, on west side of road on levee, 6 meters from elm tree, blazed facing store; flat stone and iron pipe (U. S. C. E. b. m. 46/2) (lat. 38° 19' 32.01''; long. 90° 21' 18.2'')	404. 50
Sulphur Springs, half a mile below, about 1 mile from river, on left bank, on top of the second or back levee on land owned by Morrison brothers, 360 meters north of a road; flat stone and iron pipe (U. S. C. E. b. m. 46/1) (lat. 38° 19' 27.57''; long. 90° 20' 51.1'')	404. 25
Glan Park, due east from a point 500 meters south of railroad station, opposite the head of Foster Island, 110 meters from top of left bank, on land of Henry Smith; stone post (U. S. C. E. b. m. triangulation flag 12), latitudes and longitudes are approximate values (lat. 38° 18' 57.18''; long. 90° 21' 10.6'')	399. 00
Riverside station, about 600 meters north of, on St. Louis, Iron Mountain & Southern Ry., 60 feet east of track, about 500 feet south of milepost 26, on third main shelf below the track, and about one-third of the distance between fourth and fifth telegraph poles standing north of high switchstand, in large rock; drilled hole (U. S. C. E. b. m. triangulation Illinois, '88) (lat. 38° 17' 29.70''; long. 90° 22' 36.7'')	401. 49
Riverside, on north bank of first creek below, just north of north end of Lucas Bluff, 500 meters southeast of Riverside railroad station, 50 meters from right bank of river and about 20 meters east of the Mississippi River & Bonne Terre Ry.; under sycamore tree 2½ feet in diameter; stone post (U. S. C. E. b. m. 45/3) (lat. 38° 16' 57.40''; long. 90° 22' 39.7'')	401. 52
Kimmswick, just below, on Waters Point, consists of four strap-iron sections, graduated from 39.5 to 0.0 feet, established in 1891, and readings for the period September, 1891, to July, 1908, are given in Appendix 15 of this report, midbank, 21.5 miles below Eads Bridge, low water, 22.4 miles below Eads Bridge; zero of gage	370. 66

REFERENCE BENCH MARKS.—No. 2 is an iron bolt in center of a triangle in rock 40 feet downstream from the 12.9-foot mark of gage; elevation above zero of gage, 14.58 feet.

No. 3, elevation above zero of gage, 6.40 feet, is an iron bolt in the top of the boulder on which section 3 is placed.

No. 4, elevation above zero of gage, 24.51 feet, is an iron bolt in the rock 0.5 foot downstream from the 24.5-foot gage.

No. 5, elevation above zero of gage, 10.69 feet, is an iron bolt in rock 0.5 foot downstream from the 10-7-foot mark of an old section of the gage.

CRYSTAL CITY QUADRANGLE.

[Latitude 38°-38° 15'; longitude, 90° 15'-90° 30']

Along Mississippi River.

Crystal City, about 1¼ miles above, in northern end of Platin Rock, on point farthest out in river, 205 meters from northeast corner of large ice house, 400 meters above Hugs Landing; top of large ring bolt (U. S. C. E. b. m. No. 3 (Field) (lat. 38° 14' 13.78''; long. 90° 22' 08.3'')	377. 36
Crystal City, about 1¼ miles above, back of Platin Rock, on high right bank, 2 feet from edge, 6.8 feet outside of outside rail of railroad incline of the Pittsburg Plate Glass Co., 74 feet from point of frog of incline, 33.8 feet northeast of point of frog of spur, 51 feet from top of switch-stand spur, 9 feet west of top of sycamore stump (pipe reset from the above references Dec. 9, 1904); iron pipe (U. S. C. E. b. m. triangulation Platin '02) (lat. 38° 14' 09.95''; long. 90° 22' 10. 5'')	398. 15
Selma, 300 feet above northeast corner of Kennetts Castle, 19 feet west of triangle formed with boat spike in tie and in center of railroad track, 10½ feet north of the fifth telegraph pole above Selma station, 69 feet northeast and 81 feet southeast is two blazed cottonwood trees east of track; stone post (U. S. C. E. b. m. 43/3) (lat. 38° 11' 42.32''; long. 90° 20' 30.8'')	403. 62
Selma, at stone steps ascending the bluff from railroad station to Kennetts Castle, on the upstream end of the bottom step; cross cut (azimuth to northeast corner of Kennetts Castle, 43° 15', distance 135 meters) (U. S. C. E. b. m. No. 2 (Field) (lat. 38° 11' 34.70''; long. 90° 20' 25.9'')	412. 10
Robbers Rock, about 60 meters above, just outside of railroad and 45 meters from shore, almost in line with old hurdle, in front of, under triangulation Cæsars, and 105 meters from it, on side of hill, on right bank; stone post (U. S. C. E. b. m. 42/3) (lat. 38° 09' 42.06''; long. 90° 18' 14.9'')	409. 10
Michaels Hollow, 10 feet west from face of cliff on third prominent bluff below, opposite foot of third stone dike below Michaels Hollow; stone post, with corners chipped off (U. S. C. E. b. m. triangulation Cæsars) (lat. 38° 09' 30.78''; long. 90° 18' 18.3'')	722. 93
Rush Tower, 1½ miles below, on point of Missouri Bluffs, just back of Danby Landing, 800 meters from the river bank, 80 meters below Big Hollow, 19 meters southeast of point of rocks that projects toward the river, on natural rock wall, near figures "3/41" cut on wall; cross cut (U. S. C. E. b. m. 41/3) (lat. 38° 07' 55.62''; long. 90° 16' 22.5'')	441. 38
Danby Landing, 1½ miles below, 115 meters north of house, on land of Leo Lynch, near west side of road, 150 meters above point where Isle de Bois Creek leaves the bluffs, near foot of Missouri bluffs; stone post (U. S. C. E. b. m. 40/4) (lat. 38° 07' 03.50''; long. 90° 15' 29.7'')	333. 50
St. Nicholas Rock, fastened to the boulders known as, consists of five sections, strap and angle iron, established November, 1904, replacing the Cornice Rock gage established in 1891, 1.6 miles upstream, readings began in January, 1905, and were discontinued Feb. 1, 1908, with graduations from 187.7 to 148.1 feet; midbank, 33.0 miles below Eads Bridge, low water, 34.3 miles below Eads Bridge; zero of gage.....	213. 98

REFERENCE BENCH MARKS.—No. 1, elevation above zero of gage, 188 feet, is a roundheaded iron bolt in rock near the top of section 1.

No. 2, elevation above zero of gage, 172.64 feet, is a roundheaded iron bolt in rock at the upper end of section 3.

No. 3, elevation above zero of gage, 165.04 feet, is a roundheaded iron bolt in rock at the upper end of section 4.

No. 4, elevation above zero of gage, 163.26 feet, is a roundheaded iron bolt in rock at the upper end of section 5.

RENAULT QUADRANGLE.

[Latitude 38°-38° 15'; longitude 90°-90° 15']

Along Mississippi River.

Brickeys, 100 meters above first railroad trestle above, 770 meters above (northwest of) upstream corner of Brickey mill, on Missouri shore, on rock ledge; raised triangle cut with letter "B" (U. S. C. E. b. m. 40 Holman) (lat. 38° 05' 21.50''; long. 90° 12' 57.5'')	Feet. 373.04
Precise levels of 1880.	
Brickeys, a quarter of a mile above (northwest of), 100 meters back from shore line, on top of Missouri Bluffs; center of stone post (stone has been shattered and the bench mark is dressed knob (U. S. C. E. b. m. triangulation Brickey 37/3) (lat. 38° 05' 12.82''; long. 90° 12' 47.5'')	594.28
Brickeys, 20 meters above the upstream corner of mill, cut on horizontal surface of natural rock, letters "U. S. B. M." above and the number "18" below; raised square (U. S. C. E. b. m. 18=41 Holman) (lat. 38° 05' 06.94''; long. 90° 12' 32.6'')	377.69
Precise levels of 1880.	
Cambria Hollow, 120 meters above trestle, 1,500 meters below railroad bridge across Establishment Creek, 100 meters back from railroad, on highest point of high hill; center of stone post with top broken off (U. S. C. E. b. m. triangulation Magnolia) (lat. 38° 02' 42.54''; long. 90° 08' 38.7'')	657.74
Cambria Hollow, 73 meters above (northwest of) railroad bridge, 22 meters from face of bluff and 8.5 meters from foot of railroad embankment, in center of triangle cut on large bowlder; 1-inch hole, 2 inches deep (U. S. C. E. b. m. triangulation Cambria) (lat. 38° 02' 24.21''; long. 90° 07' 57.9'')	375.05
Magnolia Hollow, 310 meters below railroad trestle, 600 meters above White Sand depot, 175 meters above triangulation Whitesand, about 5 feet from edge of rock and 62 meters below lower end of another ledge, letters and number "U. S. B. M. 20" cut on solid flat rock on Missouri shore; raised square (U. S. C. E. b. m. 20=47 Holman) (lat. 38° 01' 53.77''; long. 90° 07' 11.3'')	365.14
White Sand depot, 550 meters above, just above the first rock bluff (Bald Rock) upstream from the landing, 40 meters from shore, cut on the horizontal surface of natural rock, "U. S. B. M. 37/3" cut on the vertical face of the rock near the knob; round knob (U. S. C. E. b. m. 37/3) (lat. 38° 01' 51.89''; long. 90° 07' 10.3'')	424.44
White Sand depot, in front of middle of first bluff above, about 50 feet from center of railroad track and 3 feet lower in elevation, opposite crevice in face of bluff, cut in large bowlder; hole in center of triangle (U. S. C. E. b. m. triangulation Whitesand) (lat. 38° 01' 50.17''; long. 90° 07' 05.9'')	385.79
Frenchman Creek, 250 feet below upper edge of first bluff below, 100 feet from foot of railroad embankment, 130 feet from center of track, 200 feet from 14-inch blazed oak near top of bluff, cut in lower edge of rock ledge; 2-inch hole in center of triangle (U. S. C. E. b. m. triangulation Simpson 83) (lat. 38° 01' 26.83''; long. 90° 06' 29.3'')	369.43
Frenchman Creek, abreast of middle of first bluff below, 20 feet from foot of railroad embankment and 77 feet from center of track, opposite second telegraph pole above pole 60/20, 27 feet above (northwest of) three prominent bowlders, number "85" is cut in bowlder near hole, cut on triangular bowlder 8 by 5 by 5 feet, in center of triangle; 2-inch hole, 4 inches deep (U. S. C. E. b. m. triangulation Simpson 85) (lat. 38° 01' 15.34''; long. 90° 06' 06.5'')	371.34

Lower Frenchman Hollow, opposite highest point of bluff below, 500 feet below railroad bridge at same hollow, 61 feet out from center of track and 19 feet from foot of railroad embankment, 37.3 feet from lower northeast corner of bowlder 4 by 3 by 3.5 feet, cut on bench ledge of rock, letters "B. M." are cut in the perpendicular face of rock, slightly inshore from and below the triangle; raised knob in triangle (U. S. C. E. b. m. 49 Holman) (lat. 38° 00' 58.18"; long. 90° 05' 34.9")	Feet. 373.55
Ste. Genevieve, 3 miles above, on Missouri shore, 25 meters from shore line the letters and numbers "U. S. B. M. 36/3" are cut beside the knob on the bowlder; knob cut on bowlder (U. S. C. E. b. m. 36/3) (not found in 1908) (lat. 38° 00' 40.21"; long. 90° 04' 48.2")	389.49
Brickeys mill, midbank, 43.8 miles below Eads Bridge, low water, 45.6 miles below Eads Bridge, located on and near the old mill, consists of seven sections; zero of gage.....	357.98

REFERENCE BENCH MARKS.—No. 1, b. m. 18=41 Holman. Raised square with letters "U. S. B. M." above, the number "18" below, cut on horizontal surface of natural rock, 60 feet above the upstream corner of the mill; elevation above zero of gage, 19.71 feet.

WEINGARTEN QUADRANGLE.

[Latitude 37° 45'-38"; longitude 90°-90° 15'.]

Along Mississippi River.

Little Rock Landing, on top of first hill below, about 550 meters from the river, and nearly in line with water tank and southeast corner of old mill at the landing; iron pipe (U. S. C. E. b. m. triangulation Wilder) (lat. 37° 59' 57.31"; long. 90° 03' 42.6")	
Ste. Genevieve, a quarter of a mile east of and below, 25 meters back from old high bank, about 270 meters east of bridge over South Gabouri Creek, 370 meters north of St. Louis & San Francisco R. R. bridge over Valley Spring Branch, in cultivated field; stone post (U. S. C. E. b. m. triangulation Warehouse=35/3) (lat. 37° 58' 45.43"; long. 90° 02' 05.46").....	384.06
Ste. Genevieve, inside of fence on west side of main road leading south from, 20 meters north of lane leading west from main road and about 350 meters south of South Gabouri Creek; flat stone and iron pipe (U. S. C. E. b. m. 35/4) (lat. 37° 53' 24.16"; long. 90° 02' 25.10"):	
Pipe.....	395.51
Stone.....	390.41
Little Rock Landing, at the lower end of the quarries, 2 miles above Ste. Genevieve; consists of four sections, with graduations from 166.9 to 138 feet; zero of gage.....	214.00

REFERENCE MARKS.—No. 1, elevation above zero of gage, 176.37 feet, is the center mark on brass bolt on south side of foundation, just east of door in landing warehouse.

No. 2, elevation above zero of gage, 178.66 feet, is a knob of rock with the letters "B. M." cut above it, 5 feet north and 10 feet west of north corner of boiler house of mill at landing.

CHESTER QUADRANGLE.

[Latitude 37° 45'-38"; longitude 89° 45'-90'.]

Along Mississippi River.

Ste. Genevieve, 3½ miles below, 185 meters north and in front of McClary's house and opposite flat section of revetted bank, about 60 meters from water's edge at mean stage and 9 meters from high bank, 149 meters southeast of sycamore tree, 123 meters southwest of cottonwood tree, both blazed, pipe set a few inches below surface of ground with mound of stone for surface mark; iron pipe (U. S. C. E. b. m. triangulation Fairy) (lat. 37° 57' 36.83"; long. 89° 58' 20.65")	375.25
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Ste. Genevieve, about 3 miles below, on slight ridge in cultivated field 100 meters back from river, 17 meters from high bank, 275 meters upstream from shore end of hurdle 18, Ste. Genevieve works, nearly on line with mouth of Kaskaskia (Okaw) River and shore end of this hurdle, a mound of stone piled around the pipe serves as a surface mark; iron pipe (U. S. C. E. b. m. triangulation Vieux Village) (lat. 37° 57' 22.25''; long. 89° 59' 37.25'')	Feet. 379.51
St. Marys, 3 miles above, 300 meters back from old river, half a mile below River aux Vases, about 1 mile above Saline Creek, on high bluff in Missouri, with top broken off; center of stone post (U. S. C. E. b. m. triangulation Vases) (lat. 37° 54' 48.43''; long. 89° 53' 19.33'')	
Top of stone.....	561.72
About 0.3 foot below ground, on downstream side of stone, shoulder cut.....	560.98
St. Marys, 500 feet upstream from first railroad trestle above, 375 feet north from north corner of Mr. Rozier's barn, 21 feet above low water, 52.75 feet out from blazed 1-foot sycamore tree, "U. S. 125" is cut in outer edge of rock 4 feet from station; cemented in flat detached rock on Missouri shore; iron pin (U. S. C. E. b. m. triangulation Simpson 125) (lat. 37° 53' 16.75''; long. 89° 57' 36.10'')	364.09
Claryville, three-quarters of a mile below, about 200 meters below a house, 120 meters north of building on west side of road, about 240 meters from river and 75 meters west of a fence on west side of lane running toward the river, on land of Charles Cole; immediately back of a fence and under a large sycamore tree, on right bank; stone post (U. S. C. E. b. m. triangulation flag 29) (lat. 37° 52' 53.29''; long. 89° 49' 05.72'')	370.00
Crain Island, in Missouri and about 1,700 meters upstream from head of, about 650 meters from right bank of river, on the west side of public road, east of rail fence and 25 meters north of wire fence; stone post (U. S. C. E. b. m. 30/3) (lat. 37° 52' 15.28''; long. 89° 48' 41.31'')	370.78
Claryville, 1 1/4 miles below, 970 meters from the river, 30 meters west of a hedge, 350 meters west of a public road, 160 meters from a fence corner at edge of timber, on right bank; flat stone and iron pipe (U. S. C. E. b. m. 30/4) (lat. 37° 52' 06.14''; long. 89° 48' 50.66'')	
Pipe.....	370.57
Stone.....	365.49

CAMPBELL HILL QUADRANGLE.

[Latitude 37° 45'-38"; longitude 89° 30'-89° 45'.]

Along Mississippi River.

Waters Landing, 3 inches above surface of the ground at, nearly opposite the head of Liberty Island (on left bank), 81 feet below warehouse, on west side of road, outside of rail fence, 40 feet from top of bank (1903); 362 feet below end of hurdle and 326 feet below prominent cottonwood tree; iron pipe (U. S. C. E. b. m. triangulation Waters '03) (lat. 37° 50' 29.84''; long. 89° 44' 28.89'')	370.82
Anchor Landing, formerly Bois Brule post office, on land of Mr. Meredith, on fence row back of upper warehouse, 47.4 feet back of line of west end of store building, 212 feet from top of bank, 295° 40' distant 188.8 feet from northwest corner of store, 21° 20' distant 177 feet from 24-inch pecan tree, 147° 20' distant 402 feet from 23-inch pecan tree, 120° 15' distant 23 feet from 6-inch peach tree, all blazed except peach tree; 3 inches above surface of ground; iron pipe (U. S. C. E. b. m. triangulation Bois Brule '03) (lat. 37° 49' 58.23''; long. 89° 44' 2.68'')	367.39

Bishop Landing, three-quarters of a mile above, 385 feet from high bank, at top of slope, on land of Barney Huber, between fourth and fifth hurdles above Bishop Landing, 900 feet and 456 feet from their respective shore ends; stone and pipe (U. S. C. E. b. m. triangulation Lower Base) (lat. $37^{\circ} 49' 28.52''$; long. $89^{\circ} 43' 33.13''$):		
Pipe.....		Feet. 369.90
Copper rivet in stone.....		366.88
REFERENCES.—Stone chimney, Mansker house, $161^{\circ} 10'$; north gable of Vessells's house, $295^{\circ} 37'$, north gable of schoolhouse, $352^{\circ} 07'$, south gable Huber's house, $107^{\circ} 10'$; $3\frac{1}{2}$ -foot sycamore tree, northwest corner of field, $148^{\circ} 12'$; walnut stump on same ridge, back of station, $78^{\circ} 42'$ distant 227 feet. Blazed trees: 32-inch pecan, $274^{\circ} 48'$ distant 356 feet; 38-inch elm, $282^{\circ} 11'$ distant 585 feet; $6\frac{1}{4}$ -foot sycamore, $3^{\circ} 58'$ distant 965 feet. Geodetic point is cross on copper rivet leaded in stone marking post set 2 feet underground; surface mark is center of cap on iron pipe 14 inches above surface.		
Bishop Landing, on upstream side of revetted point at, set flush with surface of ground; iron pipe (U. S. C. E. b. m. triangulation Bishop '03) (lat. $37^{\circ} 49' 8.96''$; long. $89^{\circ} 42' 48.80''$).....		368.27
REFERENCES.—U. S. light 260° distant 11.5 feet; lone sycamore tree, 20° distant 12.2 feet.		
Bishop Landing, 850 meters back and southwest from, about 150 meters west of church and about 125 meters south of wagon road, in cultivated field; stone post (U. S. C. E. b. m. 28/3) (lat. $37^{\circ} 48' 42.92''$; long. $89^{\circ} 43' 00.60''$).....		368.87
Bishop Landing, 1,800 meters back of, $118^{\circ} 30'$ distant, 385 meters from upper one of two buildings, $50^{\circ} 30'$ distant 275 meters from lower one of two buildings, the four buildings stand on western side of road running back from landing past the station and down the river, in cultivated field; flat stone and pipe (U. S. C. E. b. m. 28/4) (lat. $37^{\circ} 48' 18.86''$; long. $89^{\circ} 43' 30.39''$):		
Pipe.....		369.18
Stone.....		364.08
Jones Point, near, back of Liberty Bar, 180 meters below lane between property of Barney Hoover and William P. Faherty, on east side of fence at road, 225 meters back of high bank and 190 meters south of right angle in road at Jones Point; stone post (U. S. C. E. b. m. 27/3) (lat. $37^{\circ} 47' 13.09''$; long. $89^{\circ} 41' 01.90''$).....		364.24
Menfro, $1\frac{1}{4}$ miles northeast of, in Missouri bottom land, in cultivated field of William P. Faherty, 850 meters back of Jones Point, 270 meters southeast of angle in road, 350 meters westward from three buildings, 40 meters east of old slough in timber; flat stone and iron pipe (U. S. C. E. b. m. 27/4) (lat. $37^{\circ} 47' 13.06''$; long. $89^{\circ} 41' 37.21''$):		
Pipe.....		370.27
Stone.....		365.18
Grand Eddy, about 640 meters below, set horizontally in vertical face of natural rock at upper extremity of Missouri Bluff, about 14 meters below extreme upper point of the bluff rocks, and the letters "U. S. P. B. M." are cut in the rock near the bolt; center of copper bolt (U. S. C. E. p. b. m. 42) (lat. $37^{\circ} 45' 09.74''$; long. $89^{\circ} 40' 45.30''$).....		371.846

ALTENBURG QUADRANGLE.

[Latitude 37° 30'–37° 45'; longitude 89° 30'–89° 45'.]

Along Mississippi River.

	Feet.
Seventy-six, 900 meters above, 1,100 meters below Linnhoff Landing near first creek above Seventy-six, in timber about 15 meters west of its eastern edge and 15 meters back of railroad fence, on east side of Missouri Bluffs, 4 meters southeast of 8-inch blazed hickory tree; 1 foot above surface of ground; stone post (U. S. C. E. b. m. 25/3) (lat. 37° 43' 30.51''; long. 89° 37' 16.80'').....	386. 40
Star Landing, opposite a point 1 mile below, midway between foot of Lacour Island and Estell Landing, 400 meters below foot of small tow-head, 120 meters back of dry chute, 800 meters from river and opposite a point about half a mile above Saw Mill Hollow in Missouri, in woods on left bank; stone post (U. S. C. E. b. m. 24/2) (lat. 37° 43' 02.96''; long. 89° 33' 51.66'').....	356. 08
Saw Mill Hollow, 830 meters above, 6 meters from water surface at low water, back of second large boulder below triangulation Simpson 233, "B. M. 33" is cut near the square, established by Smith in 1872, cut on top corner of shelf of a large boulder (Cumberland Rocks); raised square (U. S. C. E. b. m. 33) (lat. 37° 42' 12.34''; long. 89° 33' 38.52'')...	343. 93
Cape Cinque Hommes, 2 miles above, 800 meters above Saw Mill Hollow, 200 meters below bridge 98-4, on the St. Louis & San Francisco R. R., in large boulder (one of three known as Cumberland Rocks), "U. S. 33" is cut on boulder near hole; center of hole (elevation given for lowest point of rock surrounding hole); (U. S. C. E. b. m. triangulation Simpson 233) (lat. 37° 42' 12.92''; long. 89° 33' 40.21'').....	347. 44
Cape Cinque Hommes, about 1½ miles above, in Saw Mill Hollow, 30 meters below creek, about 200 meters below point of very large detached rocks, 35 meters northeast of point where creek jumps ledge, 2 meters northeast of river bank, about 300 meters above grassy valley, orchard, and old log cabin, on right bank; stone post (U. S. C. E. b. m. triangulation flag 37) (lat. 37° 42' 05.51''; long. 89° 33' 19.09'').....	379. 30
Cape Cinque Hommes, on side of Missouri Bluffs, 2½ miles above Wittenberg, on land of Estell and Weinhold, 1 meter west of a north-south fence, 250 meters from river bank, 500 meters above mouth of Owl Creek; stone post (U. S. C. E. b. m. 23/3) (lat. 37° 41' 19.23''; long. 89° 31' 26.58'').....	379. 27
Wittenberg, 500 meters below, on eastern slope of Missouri Bluffs, about 5 meters back from sliding bank, due to railroad cut, 60 meters southwest of Government light and 60 meters from right bank of river, 5 meters east of a 10-inch walnut tree, 5 meters north of an 8-inch oak, each blazed with a triangle facing stone, 15 inches above surface of ground; top of stone post (U. S. C. E. b. m. 22/3) (lat. 37° 38' 52.96''; long. 89° 31' 12.56'').....	423. 55
Wittenberg, 500 meters below, in smooth ledge of rock sloping toward the river on first prominent point below, 1 meter east of high edge of ledge and about 20 meters from water's edge at low water, 2½ feet from "U. S. 49" cut in rock; 1½-inch hole, 3 inches deep (U. S. C. E. b. m. triangulation Simpson 249) (lat. 37° 38' 52.89''; long. 89° 31' 10.42'').....	343. 59
Wittenberg, in stone foundation wall of flour mill, on side of mill facing the river, between the ground-floor door and down-river corner; center of copper bolt leaded horizontally (U. S. C. E. p. b. m. 45).....	362. 568

Grand Tower Island, opposite timber line on lower end of, 125 feet south of John Cleary's house, 3 feet east of wire fence near the river, on high river bank; iron pipe (U. S. C. E. b. m. line 2) (lat. 37° 35' 23.14"; long. 89° 31' 24.59").....	Feet. 365.14
Apple Creek, 1½ miles above railroad trestle over, opposite mouth of chute in Tower Island bend, above flat shelving rock on shore and about 30 feet below small ravine, on high bank; iron pipe (U. S. C. E. b. m. triangulation Mouth Mo.) (lat. 37° 35' 05.76"; long. 89° 31' 27.73").....	362.64
Hines Landing, 100 feet below house, 900 meters below mouth of Apple Creek, 100 feet below house, about 20 feet out and a little upstream from a 30-inch elm tree with roots exposed, on highest shelf, and exposed at a 25-foot stage, St. Louis gage, in rock; hole surrounded by triangle (U. S. C. E. b. m. triangulation Simpson 271) (lat. 37° 33' 26.43"; long. 89° 31' 32.15").....	341.33
Apple Creek, 2½ miles below mouth of, about 260 meters below Crawford Creek, in back of three large, partly detached rocks, in bluff rock; top of copper bolt, leaded vertically (U. S. C. E. p. m. b. 49) (lat. 37° 31' 52.87"; long. 89° 31' 01.82").....	341.587
Neely Landing, 1½ miles above, half a mile below Hanging Dog Creek, 60 meters west of St. Louis & San Francisco R. R., on right bank, on top of prominent bluff; stone post (U. S. C. E. b. m. triangulation Indian Creek) (lat. 37° 30' 59.60"; long. 89° 30' 22.66").....	475.09

JONESBORO QUADRANGLE.

[Latitude 37° 15'-37° 30'; longitude 89° 15'-89° 30']

Along Mississippi River.

Neely Landing, about 4,000 feet below, 3 feet north of east-west rail fence, on land of Mr. Wagner, between the St. Louis & San Francisco R. R. and the river, about in line with outer point of Neely Landing and highest trees on top of bluff below Hanging Dog Rock, 45 feet east of lower headblock of Neely siding, 115 feet north of cattle guard; iron pipe (U. S. C. E. b. m. triangulation Dutch) (lat. 37° 29' 22.58"; long. 89° 29' 46.57").....	350.87
Devils Tea Table, 260 meters below, 10 meters from river bank, 75 meters above where bluff rock juts out from hillside; 5 meters above a large blazed black-oak tree, set in ground near foot of Missouri Bluffs; stone post (U. S. C. E. b. m. 18/3) (lat. 37° 28' 48.11"; long. 89° 29' 11.85")...	356.16
Taylor Landing, 350 meters above, on Kinney Point, 1,100 meters below Poe Landing, 270 meters back from river, 87 meters north of fence, in cultivated field of W. A. Minton, on top of ridge; stone post (U. S. C. E. b. m. 15/3) (lat. 37° 21' 51.19"; long. 89° 25' 58.95").....	343.55
Cape Girardeau, about 4 miles above, on right bank of river, on top of highest bluff and directly back from mouth of Flora Creek, on land owned by Doyle brothers, in heavy timber, close to river face of bluff and 4 inches above surface of ground, 4 meters from timber road passing along ridge, 125° distant 4 meters from 30-inch white-oak tree blazed with triangle facing stone; stone post (U. S. C. E. b. m. triangulation Floral) (lat. 37° 20' 50.38"; long. 89° 28' 28.13").....	446.2
Cape Rock, 1 mile above, 500 meters below Little Flora Creek, 400 meters from river bank, on land of Edmond Hubbs, on top of second ridge east of a well-traveled road and 1 meter from fence; flat stone and iron pipe (pipe was missing in 1908) (U. S. C. E. b. m. 14/3) (lat. 37° 20' 29.11"; long. 89° 29' 11.77").....	383.53

Moccasin Springs, near, consists of 10 sections, with graduations from 38 to 4.2 feet, established in 1896 and discontinued on Feb. 1, 1908, mid-bank, 112.7, and low water, 116.8 miles below Eads Bridge; zero of gage.....

Feet.
314.01

CAPE GIRARDEAU QUADRANGLE.

[Latitude 37° 15'-37° 30'; longitude 89° 30'-89° 45'.]

Along Mississippi River.

Cape Girardeau, 3 miles below, on right bank, on land of St. Vincent College, 150 meters from river bank, 10 meters east of Cape La Croix Creek, 3 meters west of fence running to a large two-story white house, 75 meters from bend in fence; stone post (U. S. C. E. b. m. 12/3) (lat. 37° 15' 36.48''; long. 89° 31' 39.38'')..... 337.80

Cape Girardeau, 3 miles below, on right bank of river, 900 meters from river bank and 700 meters back from Cape La Croix Creek, on land of St. Vincent College, about 250 meters out from timber, 150 meters from northwest corner of field, 1 meter north of fence, on north side of field, 2 meters north of a 6-foot cottonwood tree; flat stone and iron pipe (U. S. C. E. b. m. 12/4) (lat. 37° 15' 23.62''; long. 89° 32' 05.57''):

Pipe..... 340.30

Stone..... 335.20

Cape Girardeau, an inclined section near the lower end of Themis Street, and two vertical sections at the lower end of the city wharf, at the foot of Independence Street, vertical sections are marked "A," 26 to 36 feet, and "F," 5 to 9 feet, inclined gage was built in December, 1904. It runs from top of paved levee to 10 feet beyond foot of pavement, on a line with and a little south of the south side of Themis Street extended, the total length being 115 feet..... 305.01

THEBES QUADRANGLE.

[Latitude 37°-37° 15'; longitude 89° 15'-89° 30'.]

Along Mississippi River.

Grays Point, on top of Missouri Bluffs, just above, on land of Capt. Edw. Gray, 1,000 feet from river bank, on point of ridge and a small cemetery is on low ridge, toward river from stone; stone post (to reach station land at first little ravine above Grays Point and climb bluff to the left) (U. S. C. E. b. m. triangulation Cape La Croix=11/3) (lat. 37° 14' 53.51''; long. 89° 28' 04.36'')..... 473.84

Thebes Bridge, about 100 meters north of, almost on line with tangent of St. Louis & San Francisco R. R. that passes under the bridge, in woods and 110 meters back from river, 20 meters east of road, on edge of railroad right of way; tile and iron pipe (U. S. C. E. b. m. 10/3) (lat. 37° 13' 02.44''; long. 89° 28' 21.05''):

Pipe..... 346.2

Stone..... 342.22

Commerce, about 1,200 meters above, on right bank, on slope of bluffs at edge of timber, in front of triangulation Hafner on top of bluffs, 100 meters from river bank, 20 meters above a ravine, and 50 meters above fence at upper edge of field; flat stone and iron pipe (U. S. C. E. b. m. 9/3) (lat. 37° 10' 09.79''; long. 89° 26' 54.47''):

Pipe..... 348.44

Stone..... 343.36

Commerce, three-quarters of a mile above, on right bank of river, at eastern edge of field on top of hill, directly back from chain of large bowlders jutting into the river, 35 feet west of small oak tree with branches trimmed off near the top, 27 feet north of small oak tree; stone post (U. S. C. E. b. m. triangulation Hafner=b. m. 9/4) (lat. 37° 10' 05.44''; long. 89° 27' 04.85'').....	Feet. 509. 57
To reach station: Go up the hill (from the chain of bowlders) alongside the fence to a road, follow road up to the field, then turn to the left and follow a fence about 200 feet.	
Commerce, 1 mile below, on right bank of river, near middle of Commerce Island, in field, 60 feet west of top of ridge, 6 inches above surface of ground; stone post with corners chipped off (U. S. C. E. b. m. triangulation Commerce) (lat. 37° 08' 27.52''; long. 89° 26' 11.79'').....	330. 01
REFERENCES.—To large burned pecan tree stump, 353° 53' distant 225 feet; to blazed trees: 24-inch pecan tree, 11° 45' distant 274 feet; 18-inch pecan tree, east side of field near top of bank, 193° 13' distant 490 feet.	
Commerce, 2 miles below, on left side of main river, in lower field on Burnham Island, on slope of ridge, 6 meters east of its coast, 375 meters from main river bank, 200 meters from bank of chute, 4 inches above surface of ground; stone post (U. S. C. E. b. m. 8/2) (lat. 37° 08' 26.73''; long. 89° 24' 39.33'').....	333. 65
REFERENCES TO BLAZED TREES.—30-inch pecan, 74° 28' distant 145 meters; 30-inch pecan, 16° 22' distant 164 meters; 36-inch pecan, 162° 47' distant 184 meters; other references, 36-inch cottonwood tree, 91° 17'; small coffee tree on top of ridge, 134° 32' distant 16 meters; gable of house, on same ridge, 156° 27' distant 574 meters.	
Commerce, about 1 mile below, on left side of main river, on western side of Burnham Island, 300 meters above barn or outbuilding of house owned by C. I. Anderson, of Commerce, about 140 meters from western high bank of island, east from Government light, on shoulder of island, on high ridge; iron pipe (U. S. C. E. b. m. triangulation Burnham '07) (lat. 37° 08' 59.33''; long. 89° 25' 42.17'').....	333. 94
Commerce, 2½ miles below, 600 meters back from Doolan slough, on land of William Price, 235 meters above fence corner, 200 meters below Price's house, 0.5 meter east of fence on west side of road; stone post (U. S. C. E. b. m. 8/3) (lat. 37° 07' 17.28''; long. 89° 26' 41.53'').....	332. 37
Powers Island, about 1,300 meters above foot of island, on right bank of river, on ridge in field of William Anderson, about 800 meters from the slough back of Anita towhead; about 75 meters in front of fence at rear edge of field; flat stone and iron pipe (U. S. C. E. b. m. 7/4) (lat. 37° 05' 33.84''; long. 89° 24' 21.49''):	
Pipe.....	333. 0
Stone.....	327. 9
Price Landing, about 900 meters southward from, 1,200 meters back (westward) from Elkins Landing, in northwest corner of field of Joseph Moore, 125 meters toward the river from a church, 20 meters south of fence corner, 3 meters east of fence on east side of road; flat stone and iron pipe (U. S. C. E. b. m. 6/4) (lat. 37° 01' 55.30''; long. 89° 22' 54.38''):	
Pipe.....	327. 24
Stone.....	322. 13

Brewer Point, about 1,500 meters eastward from, on Missouri Sister Island, on right bank of river, in timber, 150 meters back from two small fields, 3 or 4 meters east of southern prolongation of fence at west end of east field; flat stone and iron pipe (U. S. C. E. b. m. 2/4) (lat. 37° 04' 16.81''; long. 89° 16' 50.49'')	
Pipe.....	326. 50
Stone.....	321. 41
Hurricane Field, 1,400 meters above, about 900 feet below the mouth of old chute behind Missouri Sister Island, about 500 feet from river bank, on right bank of river, in heavy timber on land owned by Mrs. Rouse, 400 feet below small clearing that comes up to road along chute; stone post (U. S. C. E. b. m. triangulation Rouse) (lat. 37° 03' 34.67''; long. 89° 15' 26.47'')	319. 94
REFERENCES TO BLAZED TREES.—3-foot small ash, 27° 40' distant 12.5 feet; 3-foot elm, 41° 35' distant 39 feet; 15-inch sycamore, 308° 50' distant 29 feet.	
Hurricane Field, in upper end of, on right bank, 425 feet above upper end of old revetment, 1,600 feet below upper end of new section of bank protection, 250 feet below point of timber and 110 feet from top of bank; stone post (stone was set back from caving bank and above coordinates determined by plane-table survey of United States Engineer office, St. Louis, Mo., 1904) (U. S. C. E. b. m. 1/3) (lat. 37° 03' 06.97''; long. 89° 15' 03.15'')	321. 92
Hurricane Field, about 300 meters west of, on right bank, in woods, 430 meters from river, 270 meters west of fence, at west end of cultivated field, 360 meters south and 270 meters west from northwest corner of said field and 230 meters northeast from a prominent slough; flat stone and iron pipe (U. S. C. E. b. m. 1/4) (lat. 37° 02' 58.55''; long. 89° 15' 17.15'')	
Pipe.....	325. 47
Stone.....	320. 38
Thompson Landing, 1 mile below, on top of levee, below Newcums, about a quarter of a mile back of Thompson Cemetery, 290 meters from river bank; iron pipe (U. S. C. E. b. m. triangulation Dusky) (lat. 37° 02' 56.45''; long. 89° 15' 28.25'')	325. 7
Thompson Landing, about three-quarters of a mile below, 870 meters from river bank, about 500 meters north from road leading to river, on top of ridge at edge of willows around Ash Pond, near foot of inner slope of levee, at east edge of cultivated field; flat stone and iron pipe (U. S. C. E. b. m. 3/4) (lat. 37° 02' 44.65''; long. 89° 15' 52.32'')	
Pipe.....	322. 05
Stone.....	316. 96
Thompson Landing, about half a mile below, 600 meters from river bank, on left side of road leading back from river at Newcums, about 1,250 feet back from house in northeast angle of roads, 60 feet from a pecan tree back of house, 23 feet from a walnut tree, 18 feet from northwest corner of old house; iron pipe (U. S. C. E. b. m. triangulation Pickaninny) (lat. 37° 02' 27.27''; long. 89° 15' 57.31'')	320. 03
Buffalo Island, back of, 4,000 meters below head of, 1,100 meters from main river bank, 50 meters southeast of lane running back to woods and 50 meters northwest of orchard, on land owned by F. M. Brown, at road fence on western bank of chute; flat stone and iron pipe (U. S. C. E. b. m. 5/4) (lat. 37° 00' 10.65''; long. 89° 20' 23.28'')	
Pipe.....	327. 62
Stone.....	322. 51

Dogtooth bend, 600 meters from river bank in, on southern bank of Big Bayou, 105 meters west of intersection of fences between fields on an old island, at fence; flat stone and iron pipe (U. S. C. E. b. m. 4/4) (lat. 36° 59' 11.92"; long. 89° 15' 54.89''):

Pipe.....	320.76
Stone.....	315.65

Commerce, on the old mill and the bowlders, immediately upstream from the landing, established in September, 1896, consists of five sections, with graduations from 30 to 2 feet; zero of gage..... 302.01

GAGE SECTIONS.—No. 1, 30 to 21.3 feet, is a vertical wooden section on the upstream side of the mill and 30 feet from the river front of the building.

No. 2, 24 to 10.6 feet, is a vertical wooden section on a large pile at the northeast corner of the mill.

WICKLIFFE QUADRANGLE.

[Latitude 36° 45'-37°; longitude 89°-89° 15']

Along Mississippi River.

Bird Point, about half a mile below, in timber, about 300 meters back of high right bank and about one-third of a mile above a point opposite Wickliffe, Ky.; stone is covered with about 3 feet of earth and has an iron pipe (marked 1891) over it; stone post (U. S. C. E. b. m. triangulation Price) (lat. 36° 58' 12.06"; long. 89° 07' 01.90''):

REFERENCE TO BLAZED TREES.—8-inch sycamore, 321° distant 4.2 meters; 7-inch sycamore 23° distant 5.1 meters; 6-inch sycamore, 242° distant 3 meters; 10-inch sycamore, 131° distant 6.4 meters.

Pipe.....	315.14
Top of stone.....	311.10

Bird Point, about half a mile below, half a mile west of triangulation Price, 100 meters south of north end of pond, about 20 meters west of edge of pond, half a meter east of east side of cultivated field, on west bank of old slough containing pond; tile and pipe (U. S. C. E. b. m. Filmore C) (lat. 36° 58' 07.80"; long. 89° 07' 34.04''):

Pipe.....	315.16
Tile (bolt).....	311.16

Stevens Bayou, 2½ miles above mouth of, in heavy timber about 400 meters west of a narrow pond which lies back of a small clearing on bank of river, some 800 meters from river bank, in 1876; copper bolt (Cairo b. m. 5)..... 320.8

Island 1, 1½ miles above, near east bank of a long narrow pond and about 600 meters from north end of same, on right bank in cottonwood timber; copper bolt (U. S. C. E. b. m. Filmore 3)..... 312.7

Norfolk, 2 miles below, on right bank about 210 meters from river bank and near upper edge of small clearing, in upper surface of stone post; copper bolt (U. S. C. E. b. m. Beckwith 3)..... 309.9

Brewers Lake, just back of a small field which lies 250 meters west of slough running from, on right bank seven-eighths of a mile from nearest point of river bank; copper bolt (U. S. C. E. b. m. Beckwith 4)..... 319.0

Col. V. O'Bryan's landing, 1½ miles above, on right bank, 460 meters from river bank proper and on line of a fence running along in front of a clearing, 150 meters below a prominent slough that runs through a clearing; stone (U. S. C. E. b. m. 1/3)..... 312.8

Island 2, 280 meters above lower angle in clearing, in woods near back edge of above-described clearing; stone (U. S. C. E. b. m. 1/4)..... 308.7

Islands 3 and 4, 1½ miles below foot of, on right bank, 260 meters from bank near plantation road leading west from river on Frank Lucas's place, 500 meters east of junction of north-south road with above; stone (U. S. C. E. b. m. 2/3).....	Feet. 309.7
Columbus, Ky., 1 mile above, on right bank, 450 meters from river in line of north lane fence in field of Griffith heirs, three thorn trees stand on opposite side of lane and a sycamore tree, 1½ feet in diameter, bears northwest 30 feet from stone; stone (U. S. C. E. b. m. 3/3).....	310.3

HICKMAN QUADRANGLE.

[Latitude 36° 30'–36° 45'; longitude 89°–89° 15'.]

Along Mississippi River.

Wolf Island, at foot of, 65 meters south of fence that intersects levee 1,300 meters below Q. Beckwith's house, 800 meters above the next prominent residence south, in field, 150 meters southwest of levee, on right bank; stone (levee bends twice in 40 meters, near intersection) (U. S. C. E. b. m. 5/3).....	306.2
Island 6, 1½ miles above, 370 meters from right bank of river in woods 30 meters from Joe McLain's clearing and on south side of road running from McLain's house to river; stone (16-inch sycamore blazed, 350° distant 6 meters; 19-inch sycamore blazed, 110° distant 6.4 meters; cottonwood blazed, 100° distant 13.3 meters) (U. S. C. E. b. m. 6/3).....	301.6
Hickman, Ky., opposite the lower part of the town of, in woods, 20 meters from right bank of river (high water); stone (U. S. C. E. b. m. 7/3 triangulation Wasp).....	309.1
Island 6, 250 meters northwest from road along chute of, near north line of fence of Charleston road on land of Shelby Sheeks; stone (U. S. C. E. b. m. 7/4).....	299.4

BAYOUVILLE QUADRANGLE.

[Latitude 36° 30'–36° 45'; longitude 89° 15'–89° 30'.]

Along Mississippi River.

James Bayou, 425 meters from river bank at mouth of, in south edge of small clearing and 100 meters west from small house; stone (cottonwood tree with large board 15 feet above ground and marked "U. S. B. M." bears southwest 16 meters) (U. S. C. E. b. m. 9/3).....	297.5
Island 8, near foot of, 150 meters from right bank, in woods 3 meters west of road, 100 meters below small clearing, on land of W. S. Lake; stone (4 blazed cottonwoods, 127° 40' distant 14 meters; 79° 20' distant 8 meters; 349° distant 5 meters; 251° distant 7 meters; the last has board nailed to it with "U. S. B. M.") (U. S. C. E. b. m. 10/3).....	296.6
Island 8, near foot of, 1,250 meters from right bank of river, in woods on land of W. S. Lake; stone (blazed trees: large cottonwood, 167° distant 5 meters; sycamore, 264° distant 18 meters; 10-inch box elder, 115° distant 2 meters, with a board 15 feet from ground, marked "U. S. B. M."), (U. S. C. E. b. m. 10/4).....	291.3
Phillips Landing, half a mile below, 300 meters from right bank of river, in woods 110 meters below the large clearing at Phillips Landing; latter bears northeast 800 meters; southeast corner of Phillips's field, 275° 53' distant 258 meters; cottonwood trees: First, 278° distant 2 meters; second, 133° 30' distant 10 meters; third, 92° 30' distant 3 meters, with marked board nailed to tree; stone (U. S. C. E. b. m. 11/3).....	295.2

Phillips Landing, in woods 1,100 meters from right bank, 290 meters west from bend in Phillips's field (prolongation of lower edge of field 400 meters from bend would give a point 62 meters northeast of stone), cotton-wood tree, east 1 meter with marked board; stone (U. S. C. E. b. m. 11/4).	Feet. 293. 2
Island 9, 300 meters from right bank, 200 meters from road, in heavy timber, 800 meters above Henry Riley's clearing, near line of canebrake, trees on all sides of it blazed; stone (U. S. C. E. b. m. 12/3).....	291. 9
Island 9, 920 meters from right bank, in heavy timber and canebrake, set at base of a very large tree and surrounding trees all blazed; stone (U. S. C. E. b. m. 12/4).....	293. 1
New Madrid, 1,056 meters west from corner of Main and Water streets, on south side of latter, inside of fence, 180 meters south of sink hole in W. Waters's field, 13 meters west of house on land of F. Nelson; stone (U. S. C. E. b. m. 17/3).....	293. 8
New Madrid, half a mile below, 1,280 meters west of Church Street, 690 meters north of Water Street, 1,380 meters from river, on land of F. Nelson, 480 meters north of orchard on south side of east-west fence, and 100 meters west of north-south fence running along east side of orchard; stone (U. S. C. E. b. m. 17/4).....	298. 1

HERMANN QUADRANGLE.

[Latitude 38° 30'-39°; longitude 91°-91° 30'.]

Along Missouri River.

Tuque Creek, on north bank of, 2,700 feet from b. m. 15/1, at south fence in field (U. S. C. E. b. m. 15/2):	
Bolt in stone.....	480. 48
Top of cap.....	484. 55
Marthasville (as shown on map), 735 feet west of center of village of, on left bank, at north fence of road running west, at point where it turns south (U. S. C. E. b. m. 16/2):	
Bolt in stone.....	492. 46
Top of cap.....	496. 50
Dundee, opposite, on left bank, in southwest corner of Ferdinand Hilbrusch's dooryard at foot of bluff (U. S. C. E. b. m. 17/2):	
Bolt in stone.....	495. 94
Top of cap.....	500. 02
New Haven, opposite, 5,391 feet N. 9° 5' W. (mag.) from b. m. 18/1, on left bank, at south fence of east-west county road, near residence of H. Hussmeyer (U. S. C. E. b. m. 18/2):	
Bolt in stone.....	496. 42
Top of cap.....	500. 48
New Haven, on north side of lake, about 75 feet from the water, at west fence of road from Pinckney Point to bluff (bearing of road N. 26° E. mag.), on left bank, at foot of bluff (U. S. C. E. b. m. 18/3):	
Bolt in stone.....	505. 80
Top of cap.....	509. 86
Etlah, opposite, 500 feet from river, 100 feet east of small creek, at south fence of John Clansmeeker's orchard (U. S. C. E. b. m. 19/2):	
Bolt in stone.....	504. 52
Top of cap.....	508. 58
Bridgeport, about 5,700 feet below, on left bank, at foot of bluff, in southwest corner of dooryard of Fritz Etting (U. S. C. E. b. m. 20/2):	
Bolt in stone.....	510. 26
Top of cap.....	514. 30

Hermann, opposite, on left bank, in northwest corner of property of Henry Clarke, 45 feet south of L'Outre slough, at fence on east side of Hermann road (U. S. C. E. b. m. 21/2):	
Bolt in stone.....	Feet. 507.48
Top of cap.....	511.53

FULTON QUADRANGLE.

[Latitude 38° 30'-39°; longitude 91° 30'-92°.]

Along Missouri River.

Sugartown, in village of, 6 miles above Hermann, at east fence of lot belonging to E. & W. Heying, 380 feet N. 6° 45' E. (mag.) from southeast corner sec. 25, T. 46 N., R. 6 W., 18 feet east of the front door of store (U. S. C. E. b. m. 22/2):	
Bolt in stone.....	522.44
Top of cap.....	526.51
T. 46 N., R. 6 W., in SW. $\frac{1}{4}$ SW. $\frac{1}{4}$ sec. 34, at west fence of lane between Boatwright and Hoerthis's land, in northeast corner of field belonging to William Boatwright, at foot of bluff (U. S. C. E. b. m. 23/2):	
Bolt in stone.....	514.24
Top of cap.....	518.32
T. 45 N., R. 7 W., at northwest corner of sec. 2, in northwest corner of Mrs. Starke's field, on right bank (U. S. C. E. b. m. 24/2):	
Bolt in stone.....	515.22
Top of cap.....	519.29
Chamois, opposite, on left bank, at north fence of field belonging to Marshall Gibson, 100 feet south of bridge of Stoddard Ferry and Portland road, over Mud Creek, 230 feet N. 84° W. (mag.) from Gibson's mill (U. S. C. E. b. m. 25/2):	
Bolt in stone.....	519.57
Top of cap.....	523.65
St. Aubert, opposite, at foot of bluff on left bank, in southeast corner of dooryard belonging to R. T. Smith (U. S. C. E. b. m. 26/2):	
Bolt in stone.....	553.71
Top of cap.....	557.76
Isbell station, opposite, at foot of bluff on left bank, in northwest corner of meadow belonging to Jack Farmer (colored), on east side of Cote Sans Dessein road (U. S. C. E. b. m. 27/2):	
Bolt in stone.....	550.82
Top of cap.....	554.89
Bonnots Mill, opposite, on left bank, at north fence of Victor Pinet's garden at east end of Cote Sans Dessein (U. S. C. E. b. m. 28/2):	
Bolt in stone.....	544.42
Top of cap.....	548.49
Bonnots Mill, on left bank, on line b. m. 28/1 to b. m. 28/2, 723 feet northeast of house belonging to Mrs. Ann McCave, at north fence of road which runs along foot of bluff:	
Bolt in stone.....	553.09
Top of cap.....	557.16

JEFFERSON CITY QUADRANGLE.

[Latitude 38° 30'-39°; longitude 92°-92° 30'.]

Along Missouri River.

Ewings Landing, opposite, on left bank, at foot of bluff, about 800 feet west of road entering hills from bottom; at south fence of pasture belonging to Thomas L. Link (U. S. C. E. b. m. 29/2):	Feet.
Bolt in stone.....	549. 15
Top of cap.....	553. 24
T. 44 N., R. 11 W., 235 feet N. 3° 15' E. (mag.) from southeast corner of sec. 9, on left bank, at south fence of Mrs. M. Wagner's dooryard, 30 feet south of her house (U. S. C. E. b. m. 30/2):	
Bolt in stone.....	543. 58
Top of cap.....	547. 66
T. 44 N., R. 11 W., sec. 9, on left bank, at north fence of right of way of Fulton Branch of Chicago & Alton R. R., near west end of tangent, which enters hills from the bottom (U. S. C. E. b. m. 30/3):	
Bolt in stone.....	561. 07
Top of cap.....	565. 15
Cedar City, about 2½ miles north of, N. 55° 50' E. (mag.) from b. m. 31/1, in southeast corner of garden of John Yount, at foot of bluff (U. S. C. E. b. m. 31/2):	
Bolt in stone.....	546. 06
Top of cap.....	550. 14
Claysville, at upper end of the town of, 270 feet below present bridge across creek near its junction with the river, in small lot owned by D. L. Sitton, 12 feet north of his house used as a drug store and post office (U. S. C. E. b. m. 32/2)	
Bolt in stone.....	557. 31
Top of cap.....	561. 37
Marion, opposite, 1,901 feet south of northeast corner of sec. 2, on left bank, at west fence of section-line road between secs. 1 and 2, T. 45 N., R. 13 W. (U. S. C. E. b. m. 33/2):	
Bolt in stone.....	554. 49
Top of cap.....	558. 55
Sandy Hook Landing, opposite, on left bank, at fence on west side of road running along foot of bluff about 100 feet below where it meets the Ashland road leading up the bluff (U. S. C. E. b. m. 34/2):	
Bolt in stone.....	568. 03
Top of cap.....	572. 09
Providence, about 1¼ miles below, on left bank, about 600 feet from river, on land of St. Clair, 70 feet west of south end of bridge over Little Bonne Femme Creek, near foot of bluff (U. S. C. E. b. m. 35/2):	
Bolt in stone.....	567. 59
Top of cap.....	571. 65
Providence, in the town of, about 50 feet from Dr. T. S. Rigg's dwelling, just inside the wall running in front of the house (U. S. C. E. b. m. 35½):	
Bolt in stone.....	595. 20
Top of cap.....	599. 30
Wolf Point, on left bank, at a point N. 33° E. (mag.) from b. m. 36/1, on land of J. S. McBain, at foot of bluff (U. S. C. E. b. m. 36/2):	
Bolt in stone.....	570. 66
Top of cap.....	574. 76

Searcys Landing, 800 feet S. 31° E. (mag.) from wagon bridge over creek which enters the Missouri River, about 20 feet above end of vertical rock bluff, where it turns back up the valley of the creek; at north fence of road at foot of bluff (U. S. C. E. b. m. 37/2):

Bolt in stone.....	Feet. 587. 39
Top of cap.....	591. 46

BOONVILLE QUADRANGLE.

[Latitude 38° 30'-39°; longitude 92° 30'-93°.]

Along Missouri River.

Rocheport, 1 mile south of, on right bank, at east fence of section-line road between secs. 4 and 5, T. 48 N., R. 15 W., 328 feet south of northwest corner of sec. 4 (U. S. C. E. b. m. 38/2):

Bolt in stone.....	577. 39
Top of cap.....	581. 45

Rocheport, in town of, on left bank, on corner of Main and Water streets (the Colored Baptist Church is on the opposite side of Main Street), in southwest corner of lot belonging to the estate of Ran Robinson (U. S. C. E. b. m. 38/3):

Bolt in stone.....	594. 07
Top of cap.....	598. 16

T. 48 N., R. 15 W., 500 feet east of northwest corner of sec. 5, at south fence of Booneville-Rocheport road on township line between Tps. 48 and 49, on left bank, on land of Ward Dodson (U. S. C. E. b. m. 39/2):

Bolt in stone.....	580. 89
Top of cap.....	584. 96

T. 48 N., R. 15 W., sec. 5, on line b. m. 39/1 to b. m. 39/2, about 1,200 feet south of house of Mrs. Jackson Ferris, at foot of bluff (U. S. C. E. b. m. 39/2):

Bolt in stone.....	590. 06
Top of cap.....	594. 12

New Franklin, east of, 2,362 feet S. 65° E. (mag.) from the iron bridge over Bonne Femme Creek, on land of Mrs. William Edwards, 560 feet west of the east line and 1,600 feet north of the south line of sec. 28, T. 49 N., R. 16 W., at foot of bluff (U. S. C. E. b. m. 40/2):

Bolt in stone.....	596. 43
Top of cap.....	600. 50

T. 48 N., R. 18 W., on east side of sec. 2, one-eighth of a mile west of quarter-section corner, 6,661 feet north of 41/1 in bottom, half a mile from river, on left bank, in north fence of east-west road, in front of T. L. Tensley's house (U. S. C. E. b. m. 41/2):

Bolt in stone.....	592. 19
Top of cap.....	596. 24

GLASGOW QUADRANGLE.

[Latitude 39°-39° 30'; longitude 92° 30'-93°.]

Along Missouri River.

District 7, on left bank, half a mile from 42/2, about half a mile from swamp, near turn in road on land running northeast from F. Blankenbaker's house, just in front of a log house on Blankenbaker's land, on high bench running east and west (U. S. C. E. b. m. 42/3):

Bolt in stone.....	595. 34
Top of cap.....	599. 40

District 7, half a mile from river, on left bank, about 1,200 feet east of Frank Blankenbaker's two-story frame house, 1,400 feet northeast from schoolhouse, about 300 feet south of bench 3 or 4 feet high and sloping to the north (U. S. C. E. b. m. 42/2):	
Bolt in stone.....	593. 40
Top of cap (no reading).....	
T. 49 N., R. 18 W., 730 feet east of northwest corner of sec. 14, in Howard County, half a mile from river, on left bank, in middle of bottom, at north fence of east-west road, in front of and on opposite side of road from J. A. Fisher's two-story frame house (U. S. C. E. b. m. 43/2):	
Bolt in stone.....	599. 49
Top of cap.....	603. 57
Lisbon, nearly opposite the town of, about 2 miles above Arrow Rock, on right bank, at foot of bluff, between two creeks which come out of the bluff, 500 feet below the upper and 1,100 feet above the lower one, 300 feet southeast from J. W. Leeper's log house, 500 feet northeast from J. A. Leeper's log house, both on the bluff, 6 feet in front of highest point (16 feet high) of rock ledge which crops out about 200 feet (U. S. C. E. b. m. 44/1):	
Bolt in stone.....	598. 57
Top of cap.....	602. 62
Saline City, about half a mile above, on right bank, near mouth of second creek above town, about 300 feet from river bank and same distance from bridge over creek, on north side of creek at foot of bluff (U. S. C. E. b. m. 45/1):	
Bolt in stone.....	614. 68
Top of cap.....	618. 74
Saline City, about half a mile above, on left bank, 6,579 feet southeast of b. m. 45/1, in north-south fence, on land owned by J. Liggett, and about half a mile south of his house, which is in corner of road, 500 feet from river (U. S. C. E. b. m. 45/2):	
Bolt in stone.....	599. 90
Top of cap.....	603. 76
This bench is very likely destroyed, as it could not be found.	
Glasgow, opposite, on right bank; 1,620 feet west of center of sec. 9, T. 51 N., R. 18 W., a quarter of a mile southwest of H. Mastermann's house on bench, 1,150 feet west of high bench and B. Meyer's house on bench, 20 feet north of center of lane running west from center of sec. 9, in edge of wood (U. S. C. E. b. m. 46/1=47/1):	
Bolt in stone.....	611. 25
Top of cap.....	615. 36
Cambridge, opposite, on left bank, about 2,000 feet from the river, near quarter post between sec. 3, T. 51 N., and sec. 34, T. 52 N., R. 18 W., a quarter of a mile east of Wm. Conery's house, 560 feet west of Wm. Weber's house (U. S. C. E. b. m. 48/2):	
Bolt in stone.....	615. 98
Top of cap.....	620. 05
Cambridge, opposite, on left bank, near quarter post between sec. 2, T. 51 N., and sec. 35, T. 52 N., R. 18 W., 84 feet northwest from F. Flasp-holder's log house, a quarter of a mile south from B. Hemmelberg's house, 3 feet west of fence, which is 1 rod east of quarter-section line (U. S. C. E. b. m. 48/3):	
Bolt in stone.....	619. 88
Top of cap.....	623. 94

MARSHALL QUADRANGLE.

[Latitude 39°-39° 30'; longitude 93°-93° 30'.]

Along Missouri River.

New Frankfort, opposite, on left bank, at east fence of road on range line between secs. 12 and 7, T. 52 N., Rs. 18 and 19 W., 75 feet south of northwest corner of sec. 7 (U. S. C. E. b. m. 49/2):		Feet.
Bolt in stone.....		624. 88
Top of cap.....		628. 95
T. 52 N., R. 18 W., on section line between secs. 5 and 6, on left bank, 1,144 feet north of southeast corner of sec. 6, an angle having been made at 49/2 to avoid unfavorable ground (U. S. C. E. b. m. 49/2):		
Bolt in stone.....		622. 30
Top of cap.....		626. 37
T. 53 N., R. 19 W., on left bank, at north fence of section-line road between secs. 29 and 32, 480 feet west of southeast corner of sec. 29 (U. S. C. E. b. m. 50/2):		
Bolt in stone.....		623. 98
Top of cap.....		628. 05
Grand River, opposite mouth of, on left bank, at east fence of section-line road between secs. 23 and 24, T. 53 N., R. 20 W., 382 feet north of quarter post between sections (U. S. C. E. b. m. 51/2):		
Bolt in stone.....		633. 53
Top of cap.....		637. 62
T. 53 N., R. 20 W., on left bank, at south fence of section-line road between secs. 13 and 24, 3,107 feet east of northwest corner of sec. 24 (U. S. C. E. b. m. 51/3):		
Bolt in stone.....		628. 12
Top of cap.....		632. 20
Miami station, on left bank, on a spur of bluff 750 feet N. 33° W. (mag.) from the Wabash Western R. R. depot (U. S. C. E. b. m. 53/3):		
Bolt in stone.....		692. 43
Top of cap.....		696. 50
T. 52 N., R. 22 W., at east fence of section-line road between secs. 13 and 14, on left bank, 1,106 feet north of quarter post between said sections, 200 feet south of Wabash Western R. R. crossing, on land of Wm. Smith (U. S. C. E. b. m. 54/2):		
Bolt in stone.....		645. 60
Top of cap.....		649. 67
Tps. 51 and 52, R. 22 W., at south fence of township-line road between townships, on left bank, 1,681 feet east of northwest corner of sec. 4 (U. S. C. E. b. m. 55/3):		
Bolt in stone.....		650. 12
Top of cap.....		654. 19
Gilhams Landing, 2,735 feet from river, on right bank, 330 feet N. 38° 30' E. (mag.) from Calvin Pfleger's house, at fence on south bank of slough (U. S. C. E. b. m. 56/2):		
Bolt in stone.....		660. 02
Top of cap.....		664. 10
T. 52 N., R. 22 W., at east fence of road on half-section line which runs north and south through center of sec. 6, 113 feet south of southwest corner of NW. $\frac{1}{4}$ SE. $\frac{1}{4}$ sec. 6, or about 1,433 feet south of center of section (U. S. C. E. b. m. 56/3):		
Bolt in stone.....		651. 78
Top of cap.....		655. 86

LEXINGTON QUADRANGLE.

[Latitude 39°-39° 30'; longitude 93° 30'-94°.]

Along Missouri River.

T. 51 N., R. 23 W., 3 feet north of south fence of section-line road between secs. 7 and 18, 2,203 feet east of northwest corner of sec. 18 (U. S. C. E. b. m. 57/2):	
Bolt in stone.....	Feet. 664. 82
Top of cap.....	668. 89
T. 51 N., R. 24 W., on left bank in apparent center of road running between secs. 10 and 3, at a point 139 feet north of quarter post between said sections (U. S. C. E. b. m. 59/2):	
Bolt in stone.....	665. 52
Top of cap.....	669. 60
T. 51 N., R. 25 W., in east-west road between secs. 1 and 12, 7,251 feet nearly due north from b. m. 60/1, about 1,840 feet east of northwest corner of sec. 12, 400 feet east of Thomas Spurwell's house, 3 feet north of south fence of road (U. S. C. E. b. m. 60/2):	
Bolt in stone.....	671. 14
Top of cap.....	675. 21
T. 52 N., R. 25 W., 792 feet west of center of sec. 36, 7,730 feet nearly due north of b. m. 60/2, 683 feet west of J. S. Wilson's house, 280 feet east of Henry Tate's house, on left bank, in county road, 3 feet north of south fence (U. S. C. E. b. m. 60/2):	
Bolt in stone.....	673. 42
Top of cap.....	677. 51
Berlin, opposite, 9,000 feet from left bank of river, on left bank, 1,100 feet west of section corner, on land of Dr. Sadderfield, 320 feet south 35° 30' east from house of N. Edwards, on east-west county road, on south side of road and fence (U. S. C. E. b. m. 61/2):	
Bolt in stone.....	680. 25
Top of cap.....	684. 31
T. 51 N., R. 25 W., on north side of east-west road, 1,348 feet S. 4° W. (mag.) from northeast corner of sec. 8, 520 feet S. 62° W. (mag.) from house of S. Diment, 324 feet eastward from where the road turns north, on left bank, on south side of land belonging to James Long (U. S. C. E. b. m. 61/3):	
Bolt in stone.....	678. 05
Top of cap.....	682. 09
Hardin, on north-south road leading from river to, 4,632 feet from river and N. 2° 30' E. (mag.) from 62/1, on left bank, 780 feet N. 9° 30' W. (mag.) from corner of secs. 14, 15, 22, and 23, 500 feet N. 18° W. (mag.) from D. W. Noble's house, on west side of road, close to fence (U. S. C. E. b. m. 62/2):	
Bolt in stone.....	687. 33
Top of cap.....	691. 40
Lexington, on west side of north-south road leading to, on left bank, 5,840 feet from river, and N. 35° W. (mag.) from b. m. 63/1, on east side of land belonging to Capt. Rankin, 1,480 feet south of point where lane leaves road for Capt. Rankin's house, 2,780 feet S. 71° 30' E. (mag.) from said house, close to fence (U. S. C. E. b. m. 63/2):	
Bolt in stone.....	685. 72
Top of cap.....	689. 80

Lexington, on continuation of line b. m. 63/1 and b. m. 63/2, on left bank, 18,400 feet from river, on north side of and close to fence, on land belonging to J. F. Barkley, 240 feet N. 89° 30' W. (mag.) from a supposed quarter post on west side of sec. 11, and 240 feet S. 51° 30' W. (mag.) from J. F. Barkley's house (house is a large two-story frame), 700 feet north of Wabash Western R. R. track (U. S. C. E. b. m. 63/3):	
Bolt in stone.....	690. 66
Top of cap.....	694. 74
Wellington mill, 2 miles N. 22° E. (mag.) from b. m. 64/1, about a quarter of a mile east of graveyard and half a mile east of church, 340 feet east of lane running north from road, on land owned by William Burnett, in an orchard, south side of east-west road, on south side of fence (U. S. C. E. b. m. 64/2):	
Bolt in stone.....	688. 05
Top of cap.....	692. 12

INDEPENDENCE QUADRANGLE.

[Latitude 39°-39° 30'; longitude 94°-94° 30'.]

Along Missouri River.

Napoleon, opposite, on left bank, N. 7° E. (mag.) from b. m. 66/1, 4,186 feet from river, on north side of sec. 17 (reported to be within 10 feet of quarter post), in northwest corner of field belonging to Mr. Gordon and on south side of east-west road (U. S. C. E. b. m. 66/2):	
Bolt in stone.....	697. 06
Top of cap.....	701. 13
Napoleon, opposite, on left bank, on continuation of line b. m. 66/1, to b. m. 66/2, 2 miles from river, on north side of sec. 8, 300 feet east of quarter-mile post, 15 feet east of a three-pronged sycamore tree 6½ feet in diameter (U. S. C. E. b. m. 66/3):	
Bolt in stone.....	697. 96
Top of cap.....	702. 03
Maxwells Landing, opposite, on left bank, 3,116 feet from river, magnetic bearing of line b. m. 67/1 to b. m. 67/2, N. 38° E., 198 feet S. 57° 30' W. (mag.) from H. B. McMullen's house, close to fence on east side of road (U. S. C. E. b. m. 67/2):	
Bolt in stone.....	716. 75
Top of cap.....	720. 82
Hulls Point, half a mile below, on left bank, 2,410 feet from river, bearing of line b. m. 68/2 to b. m. 68/1, S. 19° W. (mag.), about a quarter of a mile south of county road (east and west), in southeast corner of yard at Wm. T. Gryder's house (U. S. C. E. b. m. 68/2):	
Bolt in stone.....	709. 53
Top of cap.....	713. 60
Missouri City, opposite, on right bank, 8,320 feet from river, 660 feet N. 78° 45' E. from "Wapsey" schoolhouse, on the farm of John Hiffner, on south side of fence on north side of east-west road (U. S. C. E. b. m. 69/2):	
Bolt in stone.....	711. 04
Top of cap.....	715. 11
Missouri City, on Main Street, on left bank, 250 feet east of the Methodist Church South, in southwest corner of H. B. Gillam's front yard (U. S. C. E. b. m. 69/3):	
Bolt in stone.....	719. 78
Top of cap.....	723. 86

Blue Mills Landing, opposite, on left bank, 2,350 feet from river, N. 14° W. (mag.) from b. m. 70/1, at junction of north-south road with east-west lane, on east side of road and south side of lane (U. S. C. E. b. m. 70/2):	Feet.
Bolt in stone.....	721. 03
Top of cap.....	725. 11
Wayne City, opposite, on left bank, 7,070 feet from river, N. 56° 15' W. (mag.) from b. m. 71/1, close to and on west side of north-south line of fence between farms of Clinton and Fenie, on east side of Clinton's farm, 5 feet south of a lone elm tree, 2½ feet in diameter (U. S. C. E. b. m. 71/2):	
Bolt in stone.....	724. 47
Top of cap.....	728. 54
KANSAS CITY QUADRANGLE.	
[Latitude 39°-39° 30'; longitude 94° 30'-95°.]	
Along Missouri River.	
Kansas City and Wyandotte waterworks, opposite, on left bank, 2,340 feet from river, about 100 feet north of corner of field, magnetic bearing of line b. m. 74/1 to b. m. 74/2 about N. 16° E., on west side of north-south road, close to fence (U. S. C. E. b. m. 74/2):	
Bolt in stone.....	739. 35
Top of cap.....	743. 44
Kansas City and Wyandotte waterworks, opposite pump house, on left bank, about 5,300 feet north from river, 3,100 feet north from b. m. 74/2, about 1,300 feet south of the Kansas City, St. Joseph & Council Bluffs R. R., at road crossing, 220 feet northwest from small frame house occupied by Lew Kirk (U. S. C. E. b. m. 74/3):	
Bolt in stone.....	749. 48
Top of cap.....	753. 55
Parkville, 200 feet from river, on left bank, on side of bluff, in yard of house occupied by Stowe, 300 or 400 feet below steam flouring mill (U. S. C. E. b. m. 75/3):	
Bolt in stone.....	742 75
Top of cap.....	746. 84
Platte River, 680 feet beyond, about half a mile from river, on left bank, on north side of fence (U. S. C. E. b. m. 77/3):	
Bolt in stone.....	753. 91
Top of cap.....	757. 99
East Leavenworth, just east of old railroad right of way at old, on left bank, opposite b. m. 78/1, 700 feet from river, in edge of field (U. S. C. E. b. m. 78/2):	
Bolt in stone.....	759. 31
Top of cap.....	763. 37
East Leavenworth, on line b. m. 78/1 to b. m. 78/2 produced, on left bank, 6,685 feet from river, close to fence in field of John Kisker, and 480 feet east of his house (U. S. C. E. b. m. 78/3):	
Bolt in stone.....	762. 13
Top of cap.....	766. 21
Fort Leavenworth, opposite, about 10 feet west of a wire fence the east boundary line of the United States timber reservation, magnetic bearing of line b. m. 79/1 to b. m. 79/2, N. 75° E., on left bank, on line nearly parallel with railroad, 6,195 feet from b. m. 79/1.(U. S. C. E. b. m. 79/2):	
Bolt in stone.....	756. 17
Top of cap.....	760. 25

Fort Leavenworth, opposite, about 500 feet east of the east boundary line of the United States timber reservation, on left bank, about 600 feet southeast of the Chicago, Rock Island & Pacific Ry., just east of rail and hedge fence in edge of field (U. S. C. E. b. m. 79/3):

Bolt in stone.....	Feet.	760.64
Top of cap.....		764.73

LEAVENWORTH QUADRANGLE.

[Latitude 39° 15'-39° 30'; longitude 94° 45'-95°.]

From point near Fort Leavenworth north along Missouri River to Oak Mills.

Weston, on Kansas City, St. Joseph & Council Bluffs R. R. station ground, 14 feet east of northeast corner of station building; copper bolt in tile surmounted by iron pipe (U. S. C. E. b. m. 80/3):

Copper bolt.....	769.64
Cap on pipe.....	773.70

T. 53 N., R. 36 W., 760 feet east of northwest corner of NW. ¼ SW. ¼ sec. 9, on south side of east-west road, on left bank, 1.25 miles from Kickapoo; copper bolt in tile surmounted by iron pipe (U. S. C. E. b. m. 81/2):

Copper bolt.....	768.13
Cap on pipe.....	772.18

T. 53 N., R. 36 W., 760 feet west along railroad track from east-west lane, which lane is on line through center of sec. 4, at south right of way fence of railway; copper bolt in tile surmounted by iron pipe (U. S. C. E. b. m. 81/3):

Copper bolt.....	777.33
Cap on pipe.....	781.42

OSKALOOSA QUADRANGLE.

[Latitude 39°-39° 30'; longitude 95°-95° 30'.]

From Oak Mills northward along Missouri River to point 1 mile south of Sugar Lake station.

Iatan, on small knoll, 55 feet north of railroad track, on south side of wagon road along bluff, 338 feet distant from station; copper bolt in tile surmounted by iron pipe (U. S. C. E. b. m. 82/2):

Copper bolt.....	801.08
Cap on pipe.....	805.14

ATCHISON QUADRANGLE.

[Latitude 39° 30'-40°; longitude 95°-95° 30'.]

From point 1 mile south of Sugar Lake station northward along Missouri River to Palermo.

Sugar Lake station, 1 mile south of, at foot of bluff, 236 feet N. 63¼° W. (mag.) from J. P. Coleman's house, 1,445 feet N. 20° 20' (mag.) from center of sec. 2, T. 54 N., R. 37 W.; copper bolt in tile surmounted by iron pipe (U. S. C. E. b. m. 83/2):

Copper bolt.....	796.59
Cap on pipe.....	800.63

Winthrop, 3.8 miles east of, at foot of bluff near north line of sec. 27, T. 55 N., R. 37 W., 284 feet N. 37½° E. (mag.) from house of Ben Moore; copper bolt in tile surmounted by iron pipe (U. S. C. E. b. m. 84/3):

Copper bolt.....	795.87
Cap on pipe.....	799.89

T. 55 N., R. 37 W., 739 feet west of east quarter post of sec. 9, on south side of wagon road, opposite house of Melvin Pendergrass; copper bolt in tile surmounted by iron pipe (U. S. C. E. b. m. 85/2):	Feet.
Copper bolt.....	789. 25
Cap on pipe.....	793. 30
From point 2.5 miles west of Nodaway northerly along Missouri River to near Kansas-Nebraska State line.	
T. 58 N., R. 37 W., 700 feet east of house of James L. Wilson, near north and south half-section line running through sec. 6, on north side of road running along old river bank; copper bolt in tile surmounted by iron pipe (U. S. C. E. b. m. 94/2):	
Copper bolt.....	835. 32
Cap on pipe.....	839. 35
T. 59 N., R. 38 W., 1,468 feet N. 15' E. (mag.) from southwest corner of sec. 22, 300 feet southeast of house of George Quick, 200 feet east of section-line road; copper bolt in tile surmounted by iron pipe (U. S. C. E. b. m. 95/2):	
Copper bolt.....	835. 58
Cap on pipe.....	839. 59
T. 60 N., R. 39 W., 325 feet east of center of sec. 28, at side of road; copper bolt in tile surmounted by iron pipe (U. S. C. E. b. m. 97/2):	
Copper bolt.....	844. 00
Cap on pipe.....	848. 06

ST. JOSEPH QUADRANGLE.

[Latitude 39° 45'-40°; longitude 94° 45'-95°.]

From point near Wathena northward along Missouri River to point near Nodaway.

St. Joseph, at northeast corner of Bartlett and Duncan streets, 1,100 feet east of east end of Hannibal & St. Joseph R. R. bridge; copper bolt in tile surmounted by iron pipe (U. S. C. E. b. m. 89/3):	
Copper bolt.....	819. 82
Cap on pipe.....	823. 84
St. Joseph, 3 miles above, 65 feet below lower end of United States ways, a few feet from top of revetment, near north line of sec. 1, T. 57 N., R. 37 W., 800 feet east of northwest corner of section; copper bolt in tile surmounted by iron pipe (U. S. C. E. b. m. 89½):	
Copper bolt.....	816. 67
Cap on pipe.....	820. 67
Amazonia, 2.25 miles west of, 1,380 feet N. 9° 30' W. (mag.) from house of Reneer, 145 feet east of northwest corner of SW. ¼ SW. ¼ sec. 34, T. 59 N., R. 36 W.; copper bolt in tile surmounted by iron pipe (U. S. C. E. b. m. 92/2):	
Copper bolt.....	828. 31
Cap on pipe.....	832. 33

RULO QUADRANGLE.

[Latitude 40°-40° 15'; longitude 95° 15'-95° 30'.]

From point near Kansas-Nebraska State line northward along Missouri River to near Arago.

T. 60 N., R. 39 W., in SW. ¼ sec. 22, 5,782 feet distant from b. m. 97/2, at east-west fence line, 2,200 feet N. 23° E. (mag.) from southwest corner of section on land owned by A. W. Van Kamp; copper bolt in tile surmounted by iron pipe (U. S. C. E. b. m. 97/3):	
Copper bolt.....	842. 93
Cap on pipe.....	846. 97

T. 60 N., R. 39 W., 990 feet south of northwest corner of sec. 17, on east side of north-south road, on land owned by Phillip Davis; copper bolt in tile surmounted by iron pipe (U. S. C. E. b. m. 98/2):	Feet.
Copper bolt.....	848. 27
Cap on pipe.....	852. 34
T. 60 N., R. 39 W., 1,320 feet east of northwest corner of sec. 9, in fence corner on south side of east-west road, 240 feet east of house of William Allkrie; copper bolt in tile surmounted by iron pipe (U. S. C. E. b. m. 98/3):	
Copper bolt.....	847. 38
Cap on pipe.....	851. 43
Rulo Bridge, 7,600 feet from east pier of, 400 feet north of railroad, 1.8 miles from Rulo, on west side of north-south road; copper bolt in tile surmounted by iron pipe (U. S. C. E. b. m. 99/2):	
Copper bolt.....	855. 52
Cap on pipe.....	859. 58
T. 61 N., R. 40 W., in NE. $\frac{1}{2}$ sec. 26, on west side of north-south road, 150 feet north of southeast corner of SW. $\frac{1}{4}$ NE. $\frac{1}{4}$ of section, 33 feet north of schoolhouse, district No. 59; copper bolt in tile surmounted by iron pipe (U. S. C. E. b. m. 99/3):	
Copper bolt.....	857. 34
Cap on pipe.....	861. 40
T. 61 N., R. 40 W., 1,500 feet south of northeast corner of sec. 3, on land owned by David Perkins, 1.1 miles from river bank, on west side of north-south road; copper bolt in tile surmounted by iron pipe (U. S. C. E. b. m. 100/2):	
Copper bolt.....	860. 68
Cap on pipe.....	864. 71
T. 62 N., R. 40 W., 374 feet south of west quarter post of sec. 21, in southwest corner of dooryard of Henry Voltmers, on east side of north-south road; copper bolt in tile surmounted by iron pipe (U. S. C. E. b. m. 101/2):	
Copper bolt.....	869. 59
Cap on pipe.....	873. 66
NEMAHA QUADRANGLE.	
[Latitude 40° 15'–40° 30'; longitude 95° 30'–95° 45'.]	
From point near Arago northward along Missouri River to Missouri-Iowa State line.	
T. 63 N., R. 40 W., 1,036 feet north of southwest corner of sec. 31, on land owned by William Fork, on section line; copper bolt in tile surmounted by iron pipe (U. S. C. E. b. m. 102/2):	
Copper bolt.....	869. 54
Cap on pipe.....	873. 58
T. 63 N., R. 40 W., 562 feet north of southeast corner of SW. $\frac{1}{4}$ NE. $\frac{1}{4}$ sec. 31, on west side of north-south road, on land owned by Dr. Anderson; copper bolt in tile surmounted by iron pipe (U. S. C. E. b. m. 102/3):	
Copper bolt.....	871. 90
Cap on pipe.....	875. 96
T. 63 N., R. 41 W., 246 feet west of southeast corner of SW. $\frac{1}{4}$ sec. 5, 180 feet north 64 $\frac{1}{2}$ ° W. (mag.) from Lincoln schoolhouse, on north side of east-west road; copper bolt in tile surmounted by iron pipe (U. S. C. E. b. m. 103/2):	
Copper bolt.....	875. 90
Cap on pipe.....	879. 97

T. 64 N., R. 41 W., 0.25 mile west of southeast corner of sec. 32, at fence corner, at southwest angle formed by intersection of east-west road and north-south road, on land owned by F. W. Walters; copper bolt in tile surmounted by iron pipe (U. S. C. E. b. m. 103/3):		Feet.
Copper bolt.....		875. 07
Cap on pipe.....		879. 13
T. 64 N., R. 42 W., 685 feet east of southwest corner of SE. $\frac{1}{4}$ sec. 24, on north side of east-west road, in dooryard of E. Rosenbaugh; copper bolt in tile surmounted by iron pipe (U. S. C. E. b. m. 104/2):		
Copper bolt.....		880. 85
Cap on pipe.....		884. 91
T. 64 N., R. 42 W., 740 feet north of southwest corner of NE. $\frac{1}{4}$ sec. 27, on east side of north-south road; copper bolt in tile surmounted by iron pipe (U. S. C. E. b. m. 105/2):		
Copper bolt.....		882. 54
Cap on pipe.....		886. 61
T. 64 N., R. 42 W., 1,344 feet east of west quarter post of sec. 26, in dooryard of premises owned by T. W. Wilker; copper bolt in tile surmounted by iron pipe (U. S. C. E. b. m. 105/3):		
Copper bolt.....		882. 01
Cap on pipe.....		886. 08
T. 47 N., R. 42 W., 780 feet west of northeast corner of SE. $\frac{1}{4}$ sec. 34, at south side of east-west road, in dooryard of B. A. De Buhr; copper bolt in tile surmounted by iron pipe (U. S. C. E. b. m. 106/2):		
Copper bolt.....		885. 78
Cap on pipe.....		889. 86
Phelps, in northeast corner of Methodist churchyard, at north end of Main Street; copper bolt in tile surmounted by iron pipe (U. S. C. E. b. m. 106/3):		
Copper bolt.....		887. 295
Cap on pipe.....		891. 307

APPENDIX C.

SECONDARY ELEVATIONS.

Secondary elevations from records and topographic maps of the United States Geological Survey, including altitudes determined by vertical angles and other methods, are given below. These elevations are approximate only and should not be used for accurate work.

Locality.	Quadrangle.	County.	Elevation.
			<i>Fect.</i>
Boston Ridge.....	Forsyth.....	Taney.....	1,376
Creve Coeur Lake, water surface.....	St. Louis.....	St. Louis.....	442
Dewey Bald, triangulation station.....	Forsyth.....	Taney.....	1,341
Indian Ridge.....	do.....	Stone.....	1,383
Middle Mountain.....	Bonneterre.....	St. Francois.....	1,530
Spring City.....	Wyandotte.....	Newton.....	1,114
Sulphur Mountain.....	Bonneterre.....	St. Francois.....	1,400
Taum Sauk Mountain (the highest point in the State yet determined).	do.....	Iron.....	1,750



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