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UNITED STATES GEOLOGICAL SURVEY

GEORGE OTIS SMITH, DIRECTOR

BULLETIN 493

RESULTS OF SPIRIT LEVELING
IN ILLINOIS

1909 AND 1910

R. B. MARSHALL, CHIEF GEOGRAPHER

WORK DONE IN COOPERATION WITH THE STATE OF ILLINOIS



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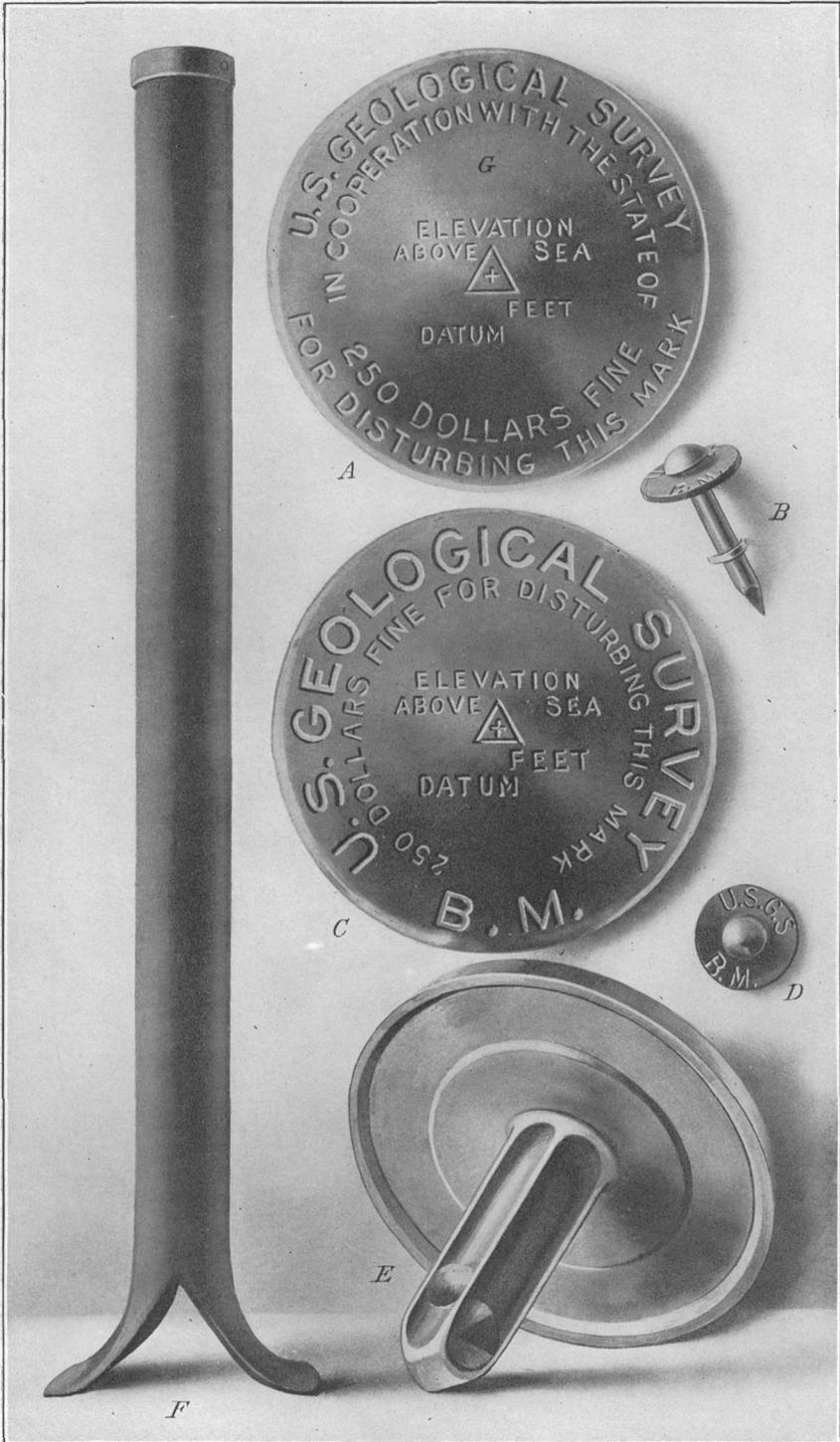
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GEOLOGICAL SURVEY BENCH MARKS.

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 ILLINOIS, 1909 AND 1910.

R. B. MARSHALL, Chief Geographer.

INTRODUCTION.

Previous publication.—The following results of spirit leveling are supplemental to and accord with the elevations contained in Bulletin 421, and are in agreement with the 1907 adjustment of precise leveling by the Coast and Geodetic Survey. Corrections to Bulletin 421 should be noted as follows:

Page 9: Bloomington, at Chicago & Alton junction (Kansas City division); top of rail. Elevation should be 775.9.

Page 10: Mahomet, 2 miles west of. Should be "east of."

Page 46: Belleville, northeast corner of courthouse yard; iron post stamped "Prim. Trav. Sta. No. 15, ADJ 531." The elevation of this should now be 529.411.

The quadrangle names Russellville and Saidora have been changed, and the new names, Birds and Chandlerville, respectively, appear in this bulletin.

The following quadrangle names have also been changed, but do not appear in this bulletin:

Apple River to Elizabeth.
Dawson to Cornland.
Farmer City to Arrowsmith.
Nashville to Hoyleton.
Oakland to Ashmore.
St. Charles to Geneva.
Shirley to McLean.
Sidell to Hume.
Windsor to Stewardson.

Personnel.—The field work of 1909 and 1910 was done under the supervision of W. H. Herron, geographer, under the general direction of R. B. Marshall, chief geographer. Credit is given to the different levelmen in the introduction to each list. The office work of computation, adjustment, and preparation of lists was done mainly by S. S. Gannett, geographer, 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 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 the 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 in feet represented by $0.05\sqrt{D}$, in which D is the length of the circuit in miles, sufficient care being given to the work to maintain this standard. For leveling 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 $\frac{1}{4}$ inch thick, having a 3-inch stem, which is cemented in a drill hole in solid rock in the wall of some public building, a bridge abutment, or other substantial masonry structure. The second form (F , Pl. I), used where masonry or rock is not available, consists of a hollow wrought-iron post $3\frac{1}{2}$ inches in outer diameter and 4 feet in length. 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 over the top of the post which is set about 3 feet in the ground. 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 $\frac{1}{8}$ inch in diameter. The tablets as well as the caps on the iron posts are appropriately lettered, and cooperation by States is indicated by the addition of the State name (G , Pl. I).

The numbers stamped on the bench marks described in the following pages represent 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 the adjusted values, and will use the markings as identification numbers only.

Datum.—All United States Geological Survey elevations are referred to mean sea level, which is the level that the sea would assume if the influence of winds and tides were eliminated. This level is not the elevation determined from the mean of the highest and the 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 accuracy is desired they must extend over several years. At ocean stations the half-tide level and the 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 United States Geological Survey or other Government organizations are extended.

Topographic maps.—Maps of the following quadrangles, wholly or partly in Illinois, have been published by the United States Geological Survey up to June 17, 1911. They may be obtained, unless otherwise noted, at 5 cents each or \$3 a hundred on application to the Director of the Survey, at Washington, D. C.

Belleville.	Metamora.
Breese.	Mineral Point (Wis.-Ill.).
Calumet (Ill.-Ind.).	Morris.
Carlyle.	Mount Carmel (Ill.-Ind.). ⁴
Chicago.	Murphysboro.
Clinton (Iowa-Ill.). ¹	New Harmony (Ind.-Ill.). ⁴
Cordova (Iowa-Ill.). ¹	New Haven (Ill.-Ind.-Ky.). ³
Danville (Ill.-Ind.).	O'Fallon (Mo.-Ill.).
Davenport (Iowa-Ill.). ³	Okawville.
Desplaines.	Ottawa.
Dunlap.	Patoka (Ind.-Ill.). ⁴
Eldorado. ³	Peoria.
Evanston.	Peosta (Iowa-Ill.).
Galatia.	Princeton (Ind.-Ill.). ⁴
Goose Lake (Iowa-Ill.). ¹	Riverside.
Hardinville.	Rock Island (Iowa-Ill.). ²
Hennepin.	St. Louis (Mo.-Ill.) double sheet (10 cents).
Herrin.	* St. Louis special (Mo.-Ill.). ⁵
Highwood.	Savanna (Iowa-Ill.).
Joliet.	Springfield.
Kahoka (Mo.-Iowa-Ill.).	Tallula.
Lacon.	Urbana. ³
Lancaster (Wis.-Iowa-Ill.).	Waukegan (Ill.-Wis.).
Lasalle.	Weingarten (Mo.-Ill.).
Leclaire (Iowa-Ill.). ¹	West Frankfort.
Louisiana (Mo.-Ill.).	Wheaton.
Mahomet.	Wilmington.
Marseilles.	

* Out of print.

¹ Clinton, Goose Lake, and Leclaire sheets, on scale of 1 : 62500, have been reduced and form parts of Cordova sheet, on scale of 1 : 125000.

² Davenport sheet, on scale of 1 : 62500, has been reduced and forms part of Rock Island sheet, on scale of 1 : 125000.

³ Shows wooded areas.

⁴ Mount Carmel, New Harmony, and Princeton sheets, on scale of 1 : 62500, have been reduced and form parts of Patoka sheet, on scale of 1 : 125000.

⁵ Printed at Louisiana Purchase Exposition.

PRIMARY LEVELING.

Birds, Hardinville, Newton, and Vincennes quadrangles.

CRAWFORD, JASPER, LAWRENCE, RICHLAND, AND WABASH COUNTIES.

The leveling in the following list was done by H. W. Peabody, jr., in 1910.

HARDINVILLE QUADRANGLE.

Sec. 3, T. 5 N., R. 14 W., along roads via Green Briar store to point $\frac{1}{2}$ mile north of southwest corner of sec. 4, T. 5 N., R. 13 W.

T. 5 N., R. 14 W., southeast corner of sec. 3, northwest corner of crossroads, west side of road, 6 feet east of fence, 4 feet north of fence corner; iron post stamped "462 ADJ"-----	Feet. 463. 263
Green Briar, 1 mile west by 1.8 miles south of, 170 feet south of second-class road east, in northwest root of 24-inch tree; copper nail-----	442. 61
Green Briar, 0.5 mile east by 0.5 mile north of, in end of culvert at southwest corner of crossroads; copper nail-----	445. 82
Hardinville, 2.5 miles west of, in center of south side of 100-foot iron bridge over North Fork of Embarrass River; painted spike-----	445. 77
T. 5 N., R. 13 W., 0.25 mile north of southwest corner of sec. 4, southeast corner of road at T on south side of main road, 0.9 foot north of fence, 39 feet east of north-south fence line; iron post stamped "463 ADJ"-----	463. 826
Northeast corner of sec. 34, T. 5 N., R. 14 W., along wagon road to point 1.5 miles east of Linder schoolhouse.	
T. 5 N., R. 14 W., northeast corner of sec. 34, southwest corner of crossroads, west side of road, 1.1 feet east of fence, 7 feet south of fence corner; iron post stamped "496 ADJ"-----	496. 574
Linder schoolhouse, 1 mile east of, in root or 24-inch oak at northeast corner of crossroads; copper nail-----	448. 50
Westport via wagon road to Chauncey.	
Westport, sec. 32, T. 5 N., R. 12 W., at southwest corner of iron truss bridge over Embarrass River, in highest part of masonry support, 1.1 feet from east edge, 0.3 foot from south edge; aluminum tablet stamped "437 ADJ"-----	437. 339
Pleasant Ridge schoolhouse, 0.25 mile east by 0.5 mile north of, 300 feet north of house on east, in west root of 40-inch oak on east side of road at foot of hill; copper nail-----	431. 01
Pleasant Ridge schoolhouse, 1 mile north of, 150 feet west of forks, in south root of 30-inch oak; copper nail-----	430. 77
Pleasant Ridge schoolhouse, 0.25 mile west by 1 mile north of, in root of 12-inch tree at southwest corner of crossroads; copper nail-----	436. 29
Chauncey, 1.8 miles north by 3.25 miles east of, in east root of 20-inch tree on south bank of Embarrass River, in sharp bend; copper nail-----	434. 57
Chauncey, 1.8 miles north by 0.25 mile east of, 150 feet west of house on north, in north root of double 15-inch tree on north side of road; copper nail-----	485. 31
Chauncey, southwest corner of sec. 28, T. 5 N., R. 13 W., at northeast corner of crossroads, 1.2 feet west of fence, 6.6 feet north of fence corner; iron post stamped "438 ADJ"-----	488. 708

NEWTON QUADRANGLE.

Point 1 mile east by 1 mile north of Linder schoolhouse northwest via Ste. Marie to Newton.

Linder schoolhouse, 1 mile east by 1 mile north of, in root of tree on bank of river at road forks; copper nail-----	Feet. 459. 73
Rafetown, center of east side of sec. 19, T. 5 N., R. 14 W., 0.25 mile west of iron bridge over Embarrass River, at southwest corner of crossroads; iron post stamped "470 ILL 1910"-----	469. 866
Ste. Marie, 3 miles south of, at southeast corner of crossroads; iron post stamped "474 ILL 1910"-----	474. 015
Ste. Marie, 1.5 miles south of, 400 feet north of forks, in east root of 20-inch elm on west side of road; copper nail-----	467. 96
Ste. Marie, 0.8 mile south of, in root of 24-inch tree at southeast corner of T road east; copper nail-----	481. 06
Ste. Marie, 300 feet south of Cincinnati, Hamilton & Dayton Ry. station, 40 feet east of track, in yard of T. L. Britton; iron post stamped "482 ILL 1910"-----	482. 344
Ste. Marie, 0.25 mile west by 2.25 miles north of, east side of road forks, in north root of 10-inch tree; copper nail marked "469"---	469. 03
Ste. Marie, 0.8 mile west by 2.25 miles north of, in east root of 10-inch tree near log barn; nail-----	469. 20
Ste. Marie, 4.5 miles northwest of, at north side of road forks, 3 feet from southeast corner of cabin, 0.5 mile north of south corner of secs. 11 and 12, R. 11 E.; iron post stamped "472 ILL 1910"---	471. 768
Creeds, 0.8 mile south of station, in south root of 24-inch tree near gate at end of north-south road; copper nail-----	477. 94
Creeds, 0.5 mile south of station, 300 feet east of woods, in east root of 30-inch tree on east-west fence line; copper nail-----	476. 68
Newton, 2.25 miles east of, in top of retaining wall at northwest corner of Indianapolis Southern R. R. bridge over Embarrass River; painted bolt-----	491. 20
Newton, 180 feet northwest of station, 70 feet west of railroad crossing, 20 feet west of water plug on south side of road; iron post stamped "512 1906"-----	512. 989

BIRDS QUADRANGLE.

Northeast corner of sec. 18, T. 4 N., R. 12 W., south along public roads to point about 1 mile southwest of Pinkstaff.

T. 4 N., R. 12 W., northeast corner of sec. 18, southwest corner of crossroads, south side of road, 1.3 feet north of fence, 22 feet west of north-south fence line, on west side of road; iron post stamped "436 ADJ"-----	436. 534
Embarrass River, 0.5 mile east of, in south base of 15-inch gatepost at northwest corner of Ziegler farm; spike-----	426. 31
Pinkstaff, 1.5 miles west of, in south root of 30-inch oak tree at north roads, in north root of 30-inch tree; spike-----	436. 96
T. 5 N., R. 12 W., center of east side of sec. 10, 2.5 miles west of Pinkstaff, at northwest corner of crossroads; iron post stamped "438 ILL 1910"-----	437. 564
Pinkstaff, 2.5 miles west of, 50 feet south of southeast corner of crossroads; spike-----	438. 31
Pinkstaff, 0.5 mile west by 0.5 mile south of, in west root of 24-inch oak in front of house at T road to west; spike-----	440. 22

VINCENNES QUADRANGLE.

Fairview schoolhouse south along public roads to Lawrenceville, thence east along Baltimore & Ohio Southwestern R. R. to Vincennes.	
T. 5 N., R. 11 W., southwest corner of sec. 18, Fairview schoolhouse, 3 feet north of northeast corner of school yard; iron post stamped "442 ILL 1910"-----	Feet. 441. 830
Lawrenceville, in iron in center of track on first bend from north end of Cleveland, Cincinnati, Chicago & St. Louis Ry. bridge over Embarrass River; small cross-----	433. 31
Lawrenceville, in northwest corner of courthouse yard; iron post stamped "Prim. Trav. Sta. No. 1, 472 ILL 1910"-----	472. 217
Lawrenceville Junction, in southwest corner of Cleveland, Cincinnati, Chicago & St. Louis Ry. and Baltimore & Ohio Southwestern R. R. crossing; top of Cleveland, Cincinnati, Chicago & St. Louis Ry. concrete milepost "DAN 102"-----	437. 74
Lawrenceville Junction, 1 mile east of, west parapet wall of Baltimore & Ohio Southwestern R. R. bridge over Embarrass River; northeast corner of top stone-----	428. 27
May Chapel, 3.5 miles southeast of Lawrenceville, southeast corner of church at northwest corner of crossroads, northeast corner of sec. 9, T. 4 N., R. 11 W.; iron post stamped "426 ILL 1910"-----	425. 947
May Chapel, 1.5 miles south of, in east root of 20-inch tree at north-west corner of road forks; spike-----	418. 76
T. 4 N., R. 11 W., southeast corner of sec. 16, 2 miles south of May Chapel, at west side of road, 25 feet west of center of road forks; iron post stamped "411 ILL 1910"-----	411. 479
T. 3 N., R. 11 W., 1,390 feet east of corner of secs. 13, 14, 23, and 24, junction of east-west section line road and road south dividing NW. $\frac{1}{4}$ sec. 24, in center of road south, and 20 feet south of center of east-west road; iron post stamped "Prim. Trav. Sta. No. 2 ILLINOIS 410"-----	410. 564
Vincennes, in water table of courthouse on Seventh Street side of building; square cut marked "B. M. \square U. S. C. & G. S., A"-----	434. 108
Lawrenceville south along Cleveland, Cincinnati, Chicago & St. Louis Ry. to St. Francisville.	
Lawrenceville Junction, 1 mile south of; top of concrete milepost "DAN 103"-----	428. 09
Lawrenceville Junction, 2 miles south of; top of concrete milepost "DAN 104"-----	427. 53
Lawrenceville Junction, 3 miles south of; top of concrete milepost "DAN 105"-----	420. 54
Billet, 0.4 mile north of; top of concrete milepost "DAN 106"-----	423. 34
Billet, 75 feet northwest of station, at northeast corner of lot of Amanda Richardson; iron post stamped "424 ILL 1910"-----	424. 203
Billet, 0.7 mile south of; top of concrete milepost "DAN 107"-----	425. 63
Billet, 1.7 miles south of, top of concrete milepost "DAN 108"; marked "420"-----	420. 17
Billet, 2.7 miles south of; top of concrete milepost "DAN 109"-----	418. 68
Billet, 3.7 miles south of; top of concrete milepost "DAN 110"-----	427. 42
St. Francisville, 0. 2 mile north of; top of concrete milepost "DAN 111"-----	443. 21

St. Francisville, top of downstream end of second pier from left bank end of Cleveland, Cincinnati, Chicago & St. Louis Ry. bridge over Wabash River; square cut marked "U. S. E. \square B. M." (Corps of Engineers bench mark)-----	Feet. 416. 767
T. 11 N., R. 11 W., sec. 20, near center of intersection of Cleveland, Cincinnati, Chicago & St. Louis Ry. with east-west road leading west from St. Francisville, in southwest corner, inside wire fence corner, 90 feet southwest of road crossing and 2,000 feet south of St. Francisville railroad station, 25 feet south of east-west road; iron post stamped "Prim. Trav. Sta. No. 3, 440 ILL 1910"-----	440. 669

Lincoln quadrangle.

LOGAN AND SANGAMON COUNTIES.

The elevations in the following list were determined by primary level lines extending east from the precise level line of the Corps of Engineers, United States Army, along Illinois River.

The leveling was done by E. M. Bandli in 1909.

LINCOLN QUADRANGLE.

Lincoln east to Skelton, thence south to Mount Pulaski, thence west to Elkhart.

T. 20 N., R. 2 W., southwest corner of sec. 27, in northeast corner of crossroads, 36 feet northeast of road intersection, 7 feet north of telephone pole, 6 feet west of hedge fence; iron post stamped "592"-----	592. 486
Skelton, east of center of sec. 36, T. 20 N., R. 2 W., in northwest corner of road at intersection of Illinois Central R. R., 2 feet south by 2 feet west of northwest corner fence post, 36 feet north of track, 50 feet northwest of road and track intersection; iron post stamped "611"-----	611. 482
T. 19 N., R. 2 W., southeast corner of sec. 13, 60 feet from southeast corner of crossroads, 2 feet east of southeast corner fence post; iron post stamped "635"-----	635. 873
T. 19 N., R. 2 W., in northwest corner of crossroads at south center of sec. 35, in concrete post; aluminum tablet stamped "613"-----	613. 326
T. 18 N., R. 2 W., southeast corner of sec. 10, 21 feet east of northeast corner fence post, 2 feet from fence, 40 feet from road intersection northeast, in northeast corner of crossroads; iron post stamped "614"-----	614. 435
T. 18 N., R. 2 W., southeast corner of sec. 12, 10 feet north of road on township line, 4 feet from fence; iron post stamped "601"-----	601. 294
T. 18 N., R. 3 W., southeast corner of sec. 9, 7 feet east of telephone pole east of private road to south, south of main road, 1 foot from fence; iron post stamped "575"-----	575. 107

Elkhart north via Burton View 16 miles, thence east to Lawndale, thence south 4 miles.

Elkhart, southeast corner of sec. 7, T. 18 N., R. 3 W., 3 feet east of railroad signpost, 15 feet northeast of road, 13 feet east of Chicago & Alton R. R. tangent; iron post stamped "592"-----	592. 492
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T. 19 N., R. 3 W., at southeast corner of sec. 25, 2 feet from telephone pole, in southwest corner of T road, 40 feet southwest of road intersection; iron post stamped "588.1"-----	Feet. 588.113
T. 19 N., R. 3 W., southeast corner of sec. 18, about 6 miles north of Elkhart, in northwest corner at T road north, 2 feet south of fence, 13 feet west of northwest corner, 40 feet northwest of road intersection; iron post stamped "570.3"-----	570.387
T. 19 N., R. 3 W., near northeast corner of sec. 12; aluminum tablet stamped "595"-----	595.600
T. 20 N., R. 3 W., southwest corner of sec. 19, in northeast corner of crossroads, 2 feet east of fence, 14 feet north of road, 20 feet east of road intersection, north of telephone pole at northeast corner of crossroad; iron post stamped "570.3"-----	570.500
T. 20 N., R. 3 W., southwest corner of sec. 6, 3 miles north of Burton View, 3 feet from fence opposite road to north, 12 feet south of road intersection; iron post stamped "551"-----	551.600
T. 20 N., R. 3 W., east center of sec. 33, 30 feet southwest of crossroads, in northeast corner of school yard, 5 feet from corner fence post; iron post stamped "577.6"-----	577.671
T. 20 N. R. 3 W., north center of sec. 2, 2 feet from west fence, 27 feet southeast of road intersection, 9 feet southeast of the southeast corner fence post; iron post stamped "577"-----	577.213
T. 20 N., R. 2 E., north center of sec. 5, 3 miles west of Lawndale, 20 feet north of T road, 4 feet east of telephone pole, 3 feet south of hedge; iron post stamped "580"-----	579.777
Lawndale, near station, 90 feet northeast of first road and track intersection south of station, 3 feet west of telephone pole, 40 feet west of Chicago & Alton R. R., near center of sec. 2, T. 20 N., R. 2 W.; iron post stamped "596"-----	596.489
T. 20 N., R. 2 W., northeast corner of sec. 23, 3 miles south of Lawndale, in northeast corner of crossroads, 4 feet south of telephone pole, 36 feet northeast of road intersection, 15 feet north of hedge corner; iron post stamped "616"-----	615.882

Lincoln north 3 miles.

T. 20 N., R. 2 W., northwest corner of sec. 30, center of road; point on section corner stone marked "588.3"-----	588.22
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Burlington, Canton, Carthage, Colchester, Havana, Keokuk, La Harpe, Lomax, Macomb, and Vermont quadrangles.

FULTON, HANCOCK, HENDERSON, McDONOUGH, AND SCHUYLER COUNTIES.

The elevations in the following list are based on Mississippi River Commission bench marks and agree with the 1907 adjustment.

The leveling was done in the Carthage, Colchester, Keokuk, Macomb, and Vermont quadrangles in 1909 by E. M. Bandli and in 1910 by S. R. Archer; in the Havana quadrangle in 1909 by E. M. Bandli and in 1910 by S. R. Archer and C. C. Gardner; and in the Burlington, La Harpe, and Lomax quadrangles in 1910 by S. R. Archer.

BURLINGTON QUADRANGLE.

Burlington, Iowa, south along Toledo, Peoria & Western Ry. to point 1.3 miles northwest of Carman station.	
Burlington, at Chicago, Burlington & Quincy R. R. bridge over Mississippi River, in top of north wing wall of east abutment; chiseled square marked "U. S. B. M. 542.6"-----	Feet. 542. 80
Burlington, 2.3 miles southeast of Chicago, Burlington & Quincy R. R., wooden trestle over Prairie Slough, 500 feet north of Carthage Lake Club's building; in top bent at southeast corner of trestle; bolt head marked "529.1"-----	529. 26
Carman, 1.3 miles northwest of station, 45 feet east of track, on south side of public road, 45 feet east of cherry tree 2 feet in diameter, at junction of south public highway fence and east railroad right of way line; iron post stamped "530"-----	529. 781

CANTON QUADRANGLE.

Cuba north to east center of sec. 1, T. 8 N., R. 2 E., thence east to Farmington.	
T. 6 N., R. 3 E., at southeast corner sec. 31, in northwest corner at T road west, 2 feet south of fence, 12 feet west of northwest corner fence post, 45 feet north of road intersection; iron post stamped "653"-----	653. 225
T. 7 N., R. 3 E., west center of sec. 31, in southwest corner at T road near northeast corner of brick building; point on rock marked "657.1"-----	657. 09
T. 7 N., R. 3 E., at west center of sec. 30, 5.5 miles from Cuba, in northeast corner of crossroads, 2 feet south of fence, 72 feet northeast of road intersection, 9 feet east of northwest corner fence post; iron post stamped "661"-----	661. 160
T. 7 N., R. 3 E., in northeast corner of sec. 18, 7 miles north of Cuba, in southeast corner at crossroads, 1 foot west of fence, 10 feet south of corner, 90 feet southeast of road intersection; iron post stamped "687.9"-----	687. 858
T. 7 N., R. 3 E., at east center of sec. 5, 8.5 miles north of Cuba, opposite T road south; point on stone marked "715.6"-----	715. 62
T. 8 N., R. 2 E., near south center of sec. 36, 10.5 miles from Cuba, in northwest corner of crossroads, 7 feet west of northwest corner fence post, 2 feet south of fence, 30 feet northwest of road intersection; iron post stamped "701"-----	700. 843
T. 8 N., R. 2 E., at northeast corner of sec. 24, 14 miles from Cuba, opposite road from east at crossroads, 2 feet from fence, 36 feet southeast of road intersection; iron post stamped "661"-----	660. 911
T. 8 N., R. 3 E., at northeast corner of sec. 6, 2 miles west of Rapatee, 2 feet from fence, 12 feet west of road, 45 feet south of Iowa Central Ry., at Fulton-Knox County line; iron post stamped "630"-----	629. 917
Rapatee, 0.5 mile north of, at east center of sec. 33, T. 9 N., R. 3 E., in Knox County, in southwest corner of crossroads; ring of paint on stone marked "682.0"-----	681. 96
T. 9 N., R. 3 E., at east center of sec. 34, 1.5 miles northeast of Rapatee, in southwest corner of T road west, 2 feet north of fence, 8 feet west of southwest corner, 50 feet southwest of road intersection; iron post stamped "693"-----	693. 146
Middle Grove, east center of sec. 1, T. 8 N., R. 3 E., 3 feet west of southwest corner of fence, at crossroads, 2 feet north of fence, 50 feet southwest of road intersection; iron post stamped "722.0"-----	721. 497

	Feet.
Middle Grove, at road crossing west of station; top of rail-----	726. 1
T. 8 N., R. 4 E., at center of sec. 4, 2.5 miles west of Farmington, 15 feet east of roadway into H. Millson's house, 2 feet south of fence, 25 feet north of road; iron post stamped "655"-----	654. 751
Farmington, in New Ward school, between double doors at main en- trance facing north, in cement steps; aluminum tablet stamped "741.7"-----	741. 533
Farmington south along Chicago, Burlington & Quincy R. R. to Canton, thence west to Flatt along highway.	
T. 8 N., R. 4 E., near center of sec. 15, about 2.25 miles southeast of Farmington, 3 feet east of southwest corner fence post at railroad crossing, 15 feet west of road, 20 feet east of railroad; iron post stamped "758"-----	757. 951
Norris, near southeast corner of sec. 34, T. 8 N., R. 4 E., 270 feet west of railroad, at first road north of station, 2 feet north of fence, 15 feet south of road; iron post stamped "732"-----	731. 888
T. 7 N., R. 4 E., at east center of sec. 15, 2.5 miles north of Canton, 30 feet east of railroad at road crossing, 15 feet south of road, 2 feet north of fence; iron post stamped "686"-----	685. 815
Canton, at high-school building, south of main entrance facing east, in top step between south door and pillar; aluminum tablet stamped "655"-----	654. 906
T. 7 N., R. 4 E., at east center of sec. 31, 3 miles west of Canton, 2 feet north of fence, 7 feet west of southwest corner fence post at crossroads, 35 feet south of road intersection; iron post stamped "678"-----	677. 921
T. 7 N., R. 3 E., near east center of sec. 34, 6.5 miles west of Canton, on Put Creek bridge; ring of paint marked "597.1"-----	596. 93
Put Creek, surface of water under bridge; Sept. 27, 1909-----	586.
T. 7 N., R. 3 E., at west center of sec. 34, 7.5 miles west of Canton, 20 feet southwest of road intersection, 2 feet east of fence, 4 feet north- west of telephone pole at T road east; iron post stamped "661"---	660. 873

Point 1 mile west of Fairview east along highway to Norris.

Fairview, near station, at east center of sec. 32, T. 8 N., R. 3 E., 3 feet south of fence at crossroads 60 feet northeast of road intersec- tion; iron post stamped "733"-----	733. 173
T. 8 N., R. 3 E., at southwest corner of sec. 35, 6 miles west of Norris, in northeast corner of T road east, 3 feet west of fence, 15 feet north of northeast corner and 45 feet northeast of road inter- section; iron post stamped "744"-----	743. 620
T. 8 N., R. 4 E., southeast corner of sec. 31, 3 miles west of Norris, at T road south, 1 foot south of fence, 30 feet northeast of road in- tersection; iron post stamped "757"-----	756. 872

CARTHAGE QUADRANGLE.

Southeast corner of sec. 32, T. 6 N., R. 5 W., east along public road to Ferris, thence southwest along Toledo, Peoria & Western Ry. to east center of sec. 25, T. 5 N., R. 7 W.	
T. 6 N., R. 5 W., at southeast corner of sec. 32, 0.5 mile south by 0.2 mile east of Webster, at T road south, on north side of main road opposite road south, in base of fence post; nail-----	633. 64

T. 6 N., R. 5 W., at southwest corner of sec. 32, in floor of north side of bridge at crossroads, 0.5 mile south of Webster; nail head marked "609.6"-----	Feet. 608.89
T. 6 N., R. 5 W., at southeast corner of sec. 31, 0.5 mile south by 0.2 mile west of Webster, T road south, southwest corner of road forks, in base of telephone pole; nail marked "633.5"-----	632.77
T. 6 N., R. 6 W., at southeast corner of sec. 36, 2 miles southwest of Webster, in southeast corner of road intersection; point on township corner stone marked "626.4"-----	625.67
T. 6 N., R. 6 W., at southwest corner of sec. 35, 4 miles southwest of Webster, in northeast corner of T road north, 30 feet northeast of road intersection, 1 foot south of fence line; iron post stamped "609"-----	608.107
T. 6 N., R. 6 W., near southwest corner of sec. 33, 5.5 miles southwest of Webster, on township line, south side of main road, opposite T road north, in base of telephone pole; nail marked "637.6"-----	636.80
T. 6 N., R. 6 W., at southeast corner of sec. 31, in northeast corner of crossroads, 9 feet north of northeast corner, 2 feet west of fence line, 100 feet northeast of road intersection, iron post stamped "629"-----	628.486
T. 6 N., R. 6 W., at south center of sec. 31, on township line at T road south, north side of road, in base of telephone pole; nail marked "653.6"-----	652.80
T. 6 N., R. 7 W., at southeast corner of sec. 36, 2 miles southeast of Ferris, northeast corner of crossroads, in base of telephone pole; nail marked "667.06"-----	666.15
T. 6 N., R. 7 W., south center of sec. 35, 0.5 mile south of Ferris, T road north, at center of road intersection; top of corner stone marked "684.6"-----	684.59
T. 6 N., R. 7 W., at southwest corner of sec. 35, 0.5 mile south by 0.5 mile west of Ferris, 15 feet north of road intersection, opposite road to south, 2 feet south of fence, 8 feet from telephone pole; iron post stamped "688"-----	686.771
T. 5 N., R. 7 W., at southeast corner of sec. 8, 1 mile southwest of McCall, 27 feet southeast of track, at road crossing, 2 feet west of fence, 5 feet east of railroad warning post; iron post stamped "704"-----	703.401
Elvaston, southeast corner of sec. 19, T. 5 N., R. 7 W., west of road crossing, in front of station; top of rail marked "675.6"-----	674.74
T. 5 N., R. 7 W., at east center of sec. 25, 0.7 mile southwest of station at Elvaston, 12 feet south of warning post, 4 feet north of fence, 30 feet south of road intersection with track; iron post stamped "670"-----	668.629

COLCHESTER QUADRANGLE.

Point near southwest corner of sec. 33, T. 6 N., R. 3 W., east along public roads to south center of sec. 33, T. 6 N., R. 5 W.

T. 6 N., R. 3 W., northwest corner of sec. 4, 45 miles west of Macomb, 160 feet west of L where road from north intersects township line, 12 feet south of road, 160 feet west of corner, 2 feet north of fence; iron post stamped "621"-----	620.054
T. 6 N., R. 3 W., at northwest corner of sec. 5, in southeast corner of fence post; nail marked "679.1"-----	678.66

T. 5 N., R. 3 W., at east center of sec. 6, in bridge at forks of road; nail marked "578.5"-----	Feet. 578. 26
T. 5 N., R. 3 W., at south center of sec. 7, at east edge of Colchester, on north side of cement bridge; point marked "679.4"-----	678. 92
Colchester, on cement walk at bank one block north of Chicago, Burlington & Quincy R. R. track; point marked "698.9"-----	698. 369
T. 5 N., R. 4 W., at center of sec. 1, 1.5 miles north of Colchester, 130 feet west of T road, 1 foot north of fence, 100 feet west of southwest corner fence post; iron post stamped "693.7"-----	693. 172
T. 6 N., R. 4 W., at west center of sec. 36, 30 feet northeast of crossroads, 2 feet south of fence, 7 feet east of northeast corner fence post; iron post stamped "709.4"-----	708. 844
T. 6 N., R. 4 W., at center of sec. 33, 30 feet northeast of crossroads, 2 feet south of fence, 12 feet east of northeast corner fence post; iron post stamped "704.9"-----	704. 324
T. 6 N., R. 5 W., at south center of sec. 36, 33 feet southeast of T road south, 2 feet north of fence, 3 feet east of southeast corner post; iron post stamped "689.0"-----	688. 365
T. 6 N., R. 5 W., at southeast corner of sec. 34, opposite T road to south; stone marked "663.4"-----	662. 77
T. 6 N., R. 5 W., at southeast corner of sec. 33, 1 mile south of Fountain Green, in southwest corner of crossroads; nail in telephone pole; marked "666.8"-----	666. 15
Southwest corner of NW. $\frac{1}{4}$ sec. 21, T. 6 N., R. 5 W., south along public roads to south center of sec. 33, T. 6 N., R. 5 W.	
T. 6 N., R. 5 W., southwest corner of NW. $\frac{1}{4}$ sec. 21, northeast corner of crossroads, in base of telephone pole; steel staple marked "628.2"-----	628. 27
T. 6 N., R. 5 W., southeast corner of NE. $\frac{1}{4}$ sec. 20, northwest corner of crossroads, at fence corner; iron post stamped "628"-----	628. 462
T. 6 N., R. 5 W., at center of sec. 21, at center of T road south; top of center of section stone marked "634.1"-----	634. 16
Fountain Green, 385 feet north of southwest corner of SE. $\frac{1}{4}$ SE. $\frac{1}{4}$ sec. 28, T. 6 N., R. 5 W., center of town, northeast corner of street crossing opposite "Woodman's Hall," in top of concrete sidewalk; chiseled square marked "682.04"-----	682. 10
T. 6 N., R. 5 W., at northwest corner of NE. $\frac{1}{4}$ sec. 33, in southeast corner at T road south, 0.25 mile west of Fountain Green, driven in base of telephone pole; spike marked "681.05"-----	681. 11
T. 6 N., R. 5 W., to center of SW. $\frac{1}{4}$ sec. 11, T. 4 N., R. 5 W., thence east to center of sec. 7, T. 4 N., R. 3 W., north to center of sec. 6, T. 4 N., R. 3 W., and north to sec. 19, T. 5 N., R. 3 W., about 1 mile east of Colchester.	
T. 5 N., R. 5 W., near north center of sec. 9, northwest corner of T road west; three nails driven in base on south side of small cottonwood tree, marked "584.3"-----	584. 34
T. 5 N., R. 5 W., at north center of NE. $\frac{1}{4}$ sec. 16, 1 mile southwest of Joetta, southeast corner of T road south, 3 feet north of fence, 15 feet east of fence corner, 42 feet southeast of center of roads; iron post stamped "653 ILLINOIS"-----	653. 465
T. 5 N., R. 5 W., near north center of NE. $\frac{1}{4}$ sec. 22, at stream crossing, in top at north end of northwest wing wall of small iron bridge over stream; bolthead marked "524.4"-----	524. 49

T. 5 N., R. 5 W., near center of SE. $\frac{1}{4}$ sec. 22, southwest corner of steel highway bridge over Crooked Creek, square steel plate set on top of circular steel pier; bolthead marked "531.2"-----	Feet. 531.25
T. 5 N., R. 5 W., at south center of sec. 22, T road west, in top of stone on east side of road forks, opposite road to west, in ditch; chiseled square marked "572.9"-----	572.94
T. 5 N., R. 5 W., near north center of SE. $\frac{1}{4}$ sec. 27, on top of west end of small concrete culvert; chiseled square marked "591.5"-----	591.52
T. 5 N., R. 5 W., about 0.2 mile northwest of southeast corner of sec. 27, on south side of forks opposite road north, 2 feet north of fence, in root on north side of small elm tree; spike marked "600.5"-----	600.55
T. 4 N., R. 5 W., at northwest corner of sec. 2, on south side of township line road, opposite road to north, 115 feet east of road to south, 3 feet north of fence, 3 feet west of telephone pole; iron post stamped "Prim. Trav. Sta. No. 60, 1910, 596 ILLINOIS"-----	596.376
T. 4 N., R. 5 W., corner of secs. 2, 3, 10, and 11, 0.5 mile west of St. Mary and 0.75 mile north of center of crossroads, in top of corner stone; chiseled square marked "585.4"-----	585.50
T. 4 N., R. 5 W., near south center of the SE. $\frac{1}{4}$ of sec. 12, 1.25 miles east of St. Mary, northwest corner of west approach to Crooked Creek highway bridge, on top of north end of concrete bridge seat; chiseled square marked "523.4"-----	523.51
T. 4 N., R. 4 W., at south center of sec. 7, 0.25 mile south by 0.5 mile west of Colmar, northwest corner of crossroads, in root on south side of 2 $\frac{1}{2}$ -foot oak tree; spike marked "562.9"-----	562.97
Colmar, 0.25 mile north of the southeast corner of sec. 7, T. 4 N., R. 4 W., north edge of town, on north side of east-west road, opposite road to south, 150 feet west of road to north, 100 feet west of town hall, 220 feet west of Chicago, Burlington & Quincy R. R. crossing, at foot of telephone pole, 2 feet south of fence; iron post stamped "556 ILLINOIS"-----	555.672
T. 4 N., R. 4 W., near southwest corner of NE. $\frac{1}{4}$ sec. 9, in northwest corner of road forks, in root on east side of 3 $\frac{1}{2}$ -foot elm tree; spike marked "518.7"-----	518.79
T. 4 N., R. 4 W., east center of sec. 10, at northwest corner of crossroads, 50 feet northwest of center of roads, 20 feet west of fence corner, 2 $\frac{1}{2}$ feet south of fence line; iron post stamped "586 ILLINOIS"-----	586.553
T. 4 N., R. 4 W., at east center of sec. 12, crossroads on township line, on top of southwest concrete wing wall to culvert under road to west; chiseled square marked "606.2"-----	606.29
T. 4 N., R. 3 W., at center of sec. 7, northeast corner of crossroads, in root on west side of 2 $\frac{1}{2}$ -foot oak tree; spike marked "631.6"-----	631.72
T. 4 N., R. 3 W., at east center of sec. 6, northwest corner of T road west, 12 feet west of northwest corner, 2 feet south of fence, 20 feet northwest of road intersection; iron post stamped "663"-----	661.978
T. 4 N., R. 3 W., at center of sec. 6, opposite T road south; cross on stone marked "655.61"-----	655.07
T. 4 N., R. 3 W., at west center of sec. 6, in southwest corner at angle in road in stump; nail marked "634.5"-----	634.01
T. 5 N., R. 3 W., at northwest corner of sec. 30, in northwest corner of crossroads; point on stone culvert marked "668.8"-----	668.28

Colchester, 1 mile south of, northwest corner of sec. 19, T. 5 N., R. 3 W., 50 feet southeast of road intersection, 7 feet east by 1 foot north of northwest corner of school yard; iron post stamped "681"	Feet. 680.032
Sec. 11, T. 4 N., R. 5 W., south along public roads to Plymouth, thence southeast to Birmingham, thence east to corner of secs. 5, 6, 7, and 8, T. 3 N., R. 3 W., thence north along public roads to center of sec. 7, T. 4 N., R. 3 W.	
T. 4 N., R. 5 W., at northwest corner of sec. 23, 0.5 mile west by 1.2 miles south of St. Mary, southeast corner of crossroads, 2 feet west of fence, 6 feet south of fence corner, 35 feet southeast of center of crossroads; iron post stamped "583 ILL."	583.327
Plymouth, northeast corner of Central Park, at corner of hitching rack, opposite Commercial Hotel; iron post stamped "656 ILL"	655.776
Plymouth, east center of sec. 36, T. 4 N., R. 5 W., east edge of town, at line between Hancock and McDonough counties, southwest corner of T road south, at northeast corner of schoolhouse yard, in root on east side of 2½ foot maple tree; spike marked "642.0"	642.09
T. 3 N., R. 4 W., at west center of sec. 6, 1.5 miles southeast of Plymouth, at bend in road to east, on county line between Hancock and Schuyler counties, private road to south, southeast corner of road intersection, 12 feet east of fence corner, 1½ feet north of fence, 25 feet southeast of center of roads; iron post stamped "644 ILL"	644.460
T. 3 N., R. 4 W., center of sec. 6, at T road west, in top of plank flooring of south end of culvert under road to west; spike head marked "632.8"	632.84
T. 3 N., R. 4 W., at south center of sec. 6, northeast corner of T road north, in root on east side of 2½-foot elm tree; spike head marked "649.9"	649.96
T. 3 N., R. 4 W., at north center of sec. 8, crossroads at Round Top schoolhouse, on south side of main road opposite road to north, east side of north end of walk to schoolhouse, just inside fence, in top of flat stone; chiseled square marked "639.8"	639.86
T. 3 N., R. 4 W., at south center of SW. ¼ sec. 4, 2.5 miles west of Birmingham, north side of main road, opposite road south, 3 feet south of fence, 10 feet west of telephone pole, 25 feet northeast of center of road intersection; iron post stamped "635 ILL"	635.167
T. 3 N., R. 4 W., northeast corner of sec. 9, southwest corner of crossroads, at foot of corner fence post; chiseled square on top of stone marked "603.1"	603.17
Birmingham, 0.2 miles south of north center of sec. 11, T. 3 N., R. 4 W., west edge of town, 50 feet northeast of center of road forks, opposite store, 2½ feet west of fence, 10 feet north of fence corner; iron post stamped "532 ILL"	532.459
T. 3 N., R. 4 W., near east center of SE. ¼ sec. 2, 0.8 mile northeast of Birmingham, in center of T road northeast, in root on north side of oak tree; spike marked "497.7"	497.75
T. 3 N., R. 3 W., just east of south center of sec. 6, 0.5 mile west of Guinea schoolhouse and church, on north side of main road, opposite road south, 20 feet north of center of roads, 15 feet west of telephone pole, 4 feet south of fence, at T road south; iron post stamped "590"	589.689
T. 3 N., R. 3 W., corner of secs. 5, 6, 7, and 8, Guinea schoolhouse and church, in center of T road west; chiseled square on top of section corner stone marked "596.1"	596.17

T. 4 N., R. 4 W., at east corner of NE. $\frac{1}{4}$ sec. 36, T road northeast, 0.5 mile south of Scott's church, on township line, southwest corner of T road west, 2 feet north of fence, 6 feet west of corner fence post, 20 feet southwest of center of roads; iron post stamped "572 ILL" -----	Feet. 572.252
T. 4 N., R. 4 W., at east center of NE. $\frac{1}{4}$ sec. 24, T road northeast, on township line, on west side of main road opposite road northeast, in front of house, in root on each side of hickory tree; spike marked "608.0" -----	608.05
T. 4 N., R. 3 W., at south center of SE. $\frac{1}{4}$ sec. 18, north side of main road, opposite road to south, 1 foot south of fence line, 60 feet northeast of center of T road south; iron post stamped "611 ILL" -----	610.893
T. 4 N., R. 3 W., at west corner of NW. $\frac{1}{4}$ sec. 17, stream crossing at private road to east, on east side of road, southeast corner of small bridge, in top of post of southeast wing wall; spike marked "601.7" -----	601.76

HAVANA QUADRANGLE.

Havana along Chicago, Burlington & Quincy R. R. to Cuba.

Havana, in top of south end of pier of iron highway bridge over Illinois River, 1.9 feet north of south end and 2.9 feet east from west side of pier; copper bolt -----	Feet. 451.360
T. 4 N., R. 4 E., at center of sec. 19, 3 miles northwest of Havana, 100 feet north of track, in front of house, 3 feet from gate post, 12 feet north of road; iron post stamped "442" -----	441.653
Sepo, at northwest corner of sec. 12, T. 4 N., R. 3 E., at switch; point on track marked "456.6" -----	456.3
T. 4 N., R. 3 E., near south center of sec. 2, 0.8 mile west of Sepo, north of railroad, 3 feet from signpost, 130 feet northwest of road and track intersection; iron post stamped "464" -----	463.577
Lewistown, between pillars in step south of main entrance of courthouse facing east; aluminum tablet stamped "596" -----	596.145
T. 5 N., R. 3 E., near center of sec. 4, 6 feet south of railroad signpost, 10 feet east of railroad, 4 miles northwest of Lewiston; iron post stamped "515" -----	515.113
T. 6 N., R. 3 E., near northwest corner of sec. 20, at first road south of Cuba station, 24 feet west of southwest corner of fence post, 3 feet southwest of telegraph pole, 0.5 foot north of fence, 36 feet southwest of road intersection; iron post stamped "636" -----	686.469

Northwest corner of sec. 25, T. 6 N., R. 2 E., east along public roads to Cuba.

T. 6 N., R. 2 E., at northwest corner of sec. 25, 2.2 miles west of Cuba, 36 feet northwest of crossroads, 2 feet from fence, 6 feet west of northwest corner fence post, 600 feet north of Toledo, Peoria & Western Ry.; iron post stamped "674.4" -----	674.416
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Havana to Elrods Bridge along public roads via Duncan Mills.

Havana, at iron highway bridge over Illinois River, in top of south end of pier, 1.9 feet north of south end, 2.9 feet east of west side; copper bolt (Illinois River Survey bench mark No. 37) -----	451.360
T. 4 N., R. 3 E., at north center of sec. 25, small steel bridge over ditch, on top of steel foundation in southeast corner of; painted square marked "442.98" -----	443.01

	Feet.
T. 4 N., R. 3 E., at southwest corner of sec. 24, northeast corner of crossroads, 1 foot from fence, 30 feet northeast of center of road intersection; iron post stamped "445"-----	444.964
T. 4 N., R. 3 E., at southwest corner of sec. 24, 250 feet east of crossroads, on south side of road east, in telephone pole; steel spike (Corps of Engineers bench mark)-----	444.76
T. 4 N., R. 3 E., at center of sec. 23, 50 feet northwest of road intersection, in root of locust tree; steel staple marked "448.98"-----	449.02
T. 4 N., R. 3 E., center of sec. 23; surface of water in Woods Lake, June 22, 1910-----	440.6
T. 4 N., R. 3 E., 0.1 mile east of center of NE. $\frac{1}{4}$ sec. 14, 0.25 mile northwest of Woods Lake, in southwest corner of road forks, at fence line; iron post stamped "446"-----	446.210
T. 4 N., R. 3 E., near northeast corner of sec. 16, in southeast corner of front yard of house on west side of road, in root on east side of large elm tree; spike marked "482.6" (U. S. Corps of Engineers bench mark)-----	482.70
T. 4 N., R. 3 E., near northwest corner of SE. $\frac{1}{4}$ sec. 9, south side of road, just west of house, in west side of elm tree; spike marked "474.4" (U. S. Corps of Engineers bench mark)-----	474.43
Duncan Mills, at center of sec. 8, T. 4 N., R. 3 E., in southeast corner of crossroads, near west end of pool room; iron post stamped "Prim. Trav. Sta. No. 14, 1910, 481"-----	481.048
T. 4 N., R. 3 E., south center of NE. $\frac{1}{4}$ sec. 7, 0.8 mile northwest of Duncan Mills, northeast corner of T road northwest, in root on south side of oak tree; nail marked "568.5"-----	568.59
T. 4 N., R. 3 E., short distance west of south center of sec. 6, on top of north abutment west wing wall of steel highway bridge over Potato Creek; painted square marked "468.75"-----	468.84
T. 4 N., R. 2 E., near southeast corner of NE. $\frac{1}{4}$ sec. 1, steam-shovel cut, 25 feet southeast of south end of wooden highway bridge over Chicago, Burlington & Quincy R. R., on east side of road, at east road fence line; iron post stamped "553"-----	553.063
T. 4 N., R. 2 E., near southeast corner of NE. $\frac{1}{4}$ sec. 1, in southwest corner of bridge on top of bridge floor; painted nailhead marked "553.1"-----	553.18
T. 5 N., R. 2 E., at north center of sec. 35, east side of road opposite road west, inside P. Clanin's yard fence, at T road west; in root of maple tree; nail marked "565.08"-----	565.19
T. 5 N., R. 2 E., near northeast corner of NE. $\frac{1}{4}$ sec. 27, T road north, 100 feet south of Elrods Bridge over Spoon River, on south side of main road, opposite road north, at south fence line; iron post stamped "466"-----	465.957
T. 5 N., R. 2 E., near northeast corner of NE. $\frac{1}{4}$ sec. 27, 100 feet north of road forks, southwest corner of Elrods Bridge over Spoon River, on bridge seat; painted bolt head marked "471.6"-----	471.77
Lewistown southwest along Chicago, Burlington & Quincy R. R. to bridge across Spoon River.	
Lewistown, in step, south side of door, at main entrance of Fulton County courthouse; aluminum tablet stamped "596"-----	596.145
Lewistown, Chicago, Burlington & Quincy R. R. crossing, Main Street; south rail-----	585.6

Lewistown, 1.5 miles southwest of, southeast corner of wooden bridge; southeast bolt of wooden guardrail, marked with lumber crayon "527.46"-----	Feet. 527.47
Lewistown, 1.8 miles southwest of, southeast corner of wooden bridge; southeast bolt of wooden guardrail, marked with lumber crayon "507.64"-----	507.65
Lewistown, 1.9 miles southwest of, 470 feet south of bridge, at public road crossing; east rail-----	504.30
Lewistown, 2 miles southwest of, southeast corner of wooden bridge; southeast bolt of wooden guardrail, marked with crayon "493.72"---	493.73
Milepost 80, 30 feet north of, on north rail-rest post; copper nail with washer-----	476.54
Lewistown, 1,500 feet north of pump station, 500 feet east of Chicago, Burlington & Quincy R. R. tracks, in southeast stone abutment of county bridge; chiseled square marked "B. M."-----	467.06
Milepost 81, 30 feet north of, on north rail-rest post Chicago, Burlington & Quincy R. R.; copper nail with washer-----	474.64
Lewistown, 4.2 miles southwest of, southeast corner of railroad bridge over Spoon River; east bolt in wooden guardrail, marked "486.81"---	486.83

KEOKUK QUADRANGLE.

Southwest corner of sec. 25, T. 5 N., R. 7 W., west along Toledo, Peoria & Western Ry. to Keokuk, Iowa.	
T. 5 N., R. 8 W., southwest corner of sec. 34, 3 miles southeast of Hamilton, 2 feet south of fence, 45 feet north of railroad and road intersection, 15 feet northeast of the northeast corner fence post; iron post stamped "638"-----	637.365
T. 5 N., R. 8 W., near west center of sec. 31, at road and track intersection, at east side of bridge over Mississippi River at Keokuk, Iowa; point on track marked "511.9"-----	509.94
Keokuk, Iowa, in coping of shore side of lower lock of Des Moines Rapids Canal, in recess between stone steps and stone pier of lower hydraulic tower on south side of pier; copper bolt-----	493.639

LA HARPE QUADRANGLE.

Center of sec. 20, T. 7 N., R. 5 W., southeast along Toledo, Peoria & Western Ry. to La Harpe, thence south along public roads to southwest corner of NW ¼ sec. 16, T. 6 N., R. 5 W.	
T. 7 N., R. 5 W., near north center of sec. 20, 2.6 miles southeast of Disco, 1.6 miles northwest of La Harpe, west end of Toledo, Peoria & Western Ry. bridge 128, in top of south end of bridge seat; painted bolthead marked "633.1"-----	633.22
La Harpe, southwest side of town, south center of sec. 21, T. 7 N., R. 5 W., at railroad crossing, 0.1 mile west of station on north side of railroad, west side of street, at intersection of street and railroad property line, at fence corner; iron post stamped "691"-----	691.414
T. 7 N., R. 5 W., at center of sec. 28, 0.5 mile southwest of station at La Harpe, south side of railroad and east side of highway at railroad crossing, in base of telegraph pole; spike marked "679.4"-----	679.51
T. 7 N., R. 5 W., west center of sec. 33, on north-south section line between secs. 32 and 33, 40 feet east of section line, on south side of railroad, in base of telegraph pole; spike marked "661.2"-----	661.28

T. 6 N., R. 5 W., northwest corner of NE. $\frac{1}{4}$ sec. 5, 2.5 miles southwest of La Harpe, 40 feet southeast of center of crossroads, 75 feet north of railroad at foot of telephone pole, near northwest corner of triangular grass plot; iron post stamped "652"-----	Feet. 652.008
T. 6 N., R. 5 W., at south center of sec. 5, 2.5 miles southwest of La Harpe, in center of crossroads, in root on east side of cottonwood tree; nail marked "657.8"-----	657.89
T. 6 N., R. 5 W., at south center of sec. 8, southwest corner of crossroads; painted square on top of stone-----	645.73
T. 6 N., R. 5 W., southwest corner of NW. $\frac{1}{4}$ SW. $\frac{1}{4}$ sec. 16, 50 feet north of T road east, southeast corner of steel bridge over creek, in top of steel pier; painted bolthead marked "579.6"-----	579.65

LOMAX QUADRANGLE.

Carman south along Toledo, Peoria & Western Ry. to point near center of NE. $\frac{1}{4}$ sec. 18, T. 7 N., R. 5 W., 1.4 miles southeast of Disco.

Carman, 1.5 miles south of, 75 feet southeast of track, on south side of public road at junction of south public highway fence and east railroad right of way line; iron post stamped "537"-----	537.372
Carman, 2.5 miles south of, 0.8 mile north of Iowa Junction, north end of summit of grade, east side of track, in base of telegraph pole; railroad spike marked "557.2"-----	557.30
Iowa Junction, 1 mile east of Lomax, south end of Atchison, Topeka & Santa Fe Ry. concrete bridge over Chicago, Burlington & Quincy R. R., east side of railroad, on base of abutment, 7 feet east of center of tracks; painted square marked "553.6"-----	553.72
Iowa Junction, 0.8 mile south of, west line of railroad right of way, on south side of public road, 40 feet west of track; iron post stamped "562"-----	562.448
Iowa Junction, 1.6 miles southeast of, north end of wooden trestle over stream, on east end of bridge seat; bolt head marked "575.3"-----	575.45
Iowa Junction, 2.5 miles southeast of, 3.4 miles northwest of Disco, about 0.5 mile northwest of Snake Hollow schoolhouse, near road crossing on Toledo, Peoria & Western Ry., at east railroad right of way line on north side of public road, 40 feet east of crossing; iron post stamped "614"-----	613.990
Disco, north end of town, in southeast corner of sec. 1, T. 7 N., R. 6 W., at road and railroad crossing, in northwest corner of intersection of railroad and public highway lines, 10 feet west of fence corner; iron post stamped "673"-----	672.669
Disco, in front of station; top of east rail-----	672.9
T. 7 N., R. 5 W., at south center of SE. $\frac{1}{4}$ sec. 7, 1.2 miles southeast of Disco, west side of track, south side of public road at road crossing; railroad spike in base of warning post marked "656.3"-----	656.37

MACOMB QUADRANGLE.

Southwest corner of sec. 26, T. 6 N., R. 1 W., west along public roads to center of sec. 34, T. 6 N., R. 3 W.

T. 6 N., R. 1 W., at northeast corner of sec. 33, 3.5 miles west of New Philadelphia, at southwest corner of crossroads, in telephone pole; nail marked "664.3"-----	664.11
T. 6 N., R. 1 W., at northeast corner of sec. 32, 4.5 miles west of New Philadelphia, at southeast corner of crossroads, 2 feet north of fence, 4 feet east of southeast corner fence post, 30 feet southeast of road intersection; iron post stamped "675"-----	675.152

T. 6 N., R. 2 W., at northeast corner of sec. 35, in northwest corner of T road north, 7 feet west of northwest corner, 3 feet south of fence, 30 feet northwest of road intersection; iron post stamped "675.9" -----	Feet. 675.625
T. 6 N., R. 2 W., at northeast corner of sec. 32, in southeast corner of crossroads, 2 feet north of fence, 10 feet east of southeast corner fence post, 50 feet southeast of road intersection; iron post stamped "695.8" -----	695.517
T. 6 N., R. 3 W., southeast corner of sec. 35, in telephone pole opposite T road south; nail -----	702.91
T. 6 N., R. 3 W., at center of sec. 35, 1 mile west of Macomb, at T road south, in southeast corner, 2 feet north of fence and 5 feet west of southwest corner fence post, 30 feet southwest of road intersection; iron post stamped "695.9" -----	695.555
T. 6 N., R. 3 W., at west center of sec. 34, in southeast corner of T road east, 3 miles west of Macomb, in telephone pole; nail marked "621.1" -----	620.71

VERMONT QUADRANGLE.

Mariette west along highway to center of sec. 26, T. 6 N., R. 1 W.

Mariette, 120 feet northeast of road crossing east of station, center of sec. 21, T. 6 N., R. 1 E., 30 feet north of track, 12 feet west of fence corner, 2 feet north of telegraph pole; iron post erroneously stamped "650.603" -----	550.470
T. 6 N., R. 1 W., 3 miles west of Mariette, at center of sec. 24, 20 feet northwest of corner, 40 feet south of railroad track, at southwest corner of crossing; iron post stamped "671.3" -----	671.154
T. 6 N., R. 1 W., at center of sec. 22, 0.2 mile southwest of New Philadelphia; paint point on track at crossing; marked "673.1" -----	672.97
T. 6 N., R. 1 W., at south center of sec. 23, 1 mile south of New Philadelphia, in northwest corner of crossroads, in telephone pole; nail marked "700.6" -----	700.43
T. 6 N., R. 1 W., at south center of sec. 26, 2 miles south of New Philadelphia, 50 feet southwest of road intersection, 7 feet west of southwest corner post, 1 foot north of fence, 17 miles from Cuba, on township line; iron post stamped "676.8" -----	676.638
Center of NE. $\frac{1}{4}$ sec. 27, T. 5 N., R. 2 E., north and east along public roads to center of sec. 28, T. 6 N., R. 2 E.	
T. 5 N., R. 2 E., near north center of NE. $\frac{1}{4}$ sec. 27, 50 feet south of T road southwest, on top at east end of south girder of small iron bridge over creek; chiseled square marked "467.3" -----	467.42
T. 5 N., R. 2 E., at west center of sec. 20, 0.5 mile east of Bernadotti, 40 feet south of center of road forks, in center of road south, on top of quarter section corner stone between secs. 19 and 20; painted square marked "626.8" -----	626.99
Bernadotti, center of sec. 19, T. 5 N., R. 2 E., center of town, in southeast corner of park, 60 feet northwest of center of crossroads, 15 feet inside hitching rack; iron post stamped "Prim. Trav. Sta. No. 15, 1910, 480" -----	479.763
Bernadotti, north edge of town, southwest corner of steel section of bridge over Spoon River; top of stone pier on west side at base of bridge seat, marked "479.0" -----	479.16

T. 5 N., R. 2 E., near west center of SW. $\frac{1}{4}$ SE. $\frac{1}{4}$ sec. 18, 0.6 mile north of Bernadotti, southeast corner of T road east, in root on north side of maple tree outside yard fence; nail marked "482.9"-----	Feet. 483.09
T. 5 N., R. 2 E., center of sec. 18, northeast corner of T road east, in root on south side of oak tree; nail marked "642.3"-----	642.50
T. 5 N., R. 2 E., at west center of sec. 7, west side of road at bend to north at township line, on line with center of road to east, at west fence line; iron post stamped "501"-----	500.763
T. 5 N., R. 2 E., at north center of sec. 6, southwest corner of T road south, about 2 $\frac{1}{2}$ feet above ground, driven in knot on south side of second fence post west; nail marked "655.5"-----	655.68
T. 6 N., R. 1 E., at west center of SE. $\frac{1}{4}$ sec. 36, on south side of main road, 35 feet southeast of center of T road north, 10 feet east of mail box post inside south fence line; iron post stamped "672"-----	672.255
T. 6 N., R. 1 E., at first road crossing west of Seville station on Toledo, Peoria & Western Ry., at ferry crossing, 2 feet from fence, .60 feet south of railroad, on east side of road to ferry; iron post stamped "495"-----	495.445
Smithfield, T. 6 N., R. 2 E., 25 feet south of Toledo, Peoria & Western Ry. track, about 50 feet west of station, 2 feet west of telegraph pole; iron post stamped "650"-----	650.304
T. 6 N., R. 2 E., at east center of sec. 28, 1 mile east of Smithfield, south side of track at center of crossing planks; top of rail joint--	659.94

Milan quadrangle.

MERCER AND ROCK ISLAND COUNTIES.

The elevations in the following list were determined by primary leveling extended from the Mississippi River Commission precise level line at Rock Island.

The leveling was done in 1909 by G. E. Heebink.

MILAN QUADRANGLE.

Rock Island along highway east and south to point near Coal Valley, thence west to Milan, thence north to Rock Island.

Rock Island, in foundation of Atlantic Brewery (property of Rock Island Brewing Co.), near Chicago, Rock Island & Pacific Ry. station; center of hole in copper bolt set horizontally in upper foundation stone on north side of northeast corner; marked "U. S. P. B. M."-----	Feet. 581.536
Rock Island, near west entrance of main building at Augustana College; iron post stamped "635 ILLINOIS 1909"-----	635.013
Rock Island, at Augustana College, in circular stone cap in front of dormitory; aluminum tablet stamped "623 ILLINOIS 1909"-----	622.920
T. 17 N., R. 1 W., 0.2 mile north of center of sec. 21, 45 feet north of road, 30 feet west of road; iron post stamped "590"-----	589.440
Milan, near southwest corner of station platform, on rock; painted square-----	561.99
South Rock Island, on west side of Ninth Street near School No. 1 (district 2), two blocks west of central station of street car line; iron post stamped "596"-----	595.130

Rock Island, corner of Third Avenue and Fifteenth Street, in stone step of east entrance of First Baptist Church; aluminum tablet stamped "566" -----	Feet. 566. 413
Point near Coal Valley along highway south to southeast corner of sec. 28, T. 16 N., R. 1 W., thence west 6 miles, thence north to Milan.	
T. 17 N., R. 1 W., 0.2 mile west of southeast corner of sec. 34, on north side of road, 2 feet south of fence line, 42 feet west of 18-inch ash tree, southeast of C. Brehmes' house; iron post stamped "728" -----	727. 885
T. 16 N., R. 1 W., corner of secs. 15, 16, 21, and 22, north side of road, 3 feet south of fence line, in line with north-south road; iron post stamped "724" -----	724. 103
T. 16 N., R. 1 W., 0.2 mile east of quarter corner between secs. 27 and 28, inside fence line, in root of willow tree; 40-penny nail-----	783. 33
T. 16 N., Rs. 1 and 2 W., near corner of secs. 25, 30, 31, and 36, 15 feet north of road, 60 feet east of road; iron post stamped "735"---	735. 135
T. 16 N., R. 2 W., corner of secs. 25, 26, 35, and 36; corner stone----	785. 32
T. 16 N., R. 2 W., corner of secs. 27, 28, 33, and 34, 15 feet south of road, 15 feet east of road; iron post stamped "776"-----	775. 868
T. 16 N., R. 2 W., quarter corner between secs. 9 and 10, in northeast corner of school grounds, in root of tree; 30-penny nail-----	759. 21
T. 17 N., R. 2 W., corner of secs. 22, 23, 26, and 27, 30 feet south by 30 feet west of section corner, 30 feet north of railroad track, south side of road; iron post stamped "573"-----	572. 489
Northeast corner of sec. 33, T. 16 N., R. 2 W., west 6 miles, thence north to Andalusia, thence east to Milan.	
T. 16 N., Rs. 2 and 3 W., corner of secs. 25, 30, 31, and 36, 1 mile north of Reynolds, on east side of road, in line with road to west; iron post stamped "794"-----	794. 020
T. 16 N., R. 3 W., center of sec. 27, on west side of road, in root of tree; 40-penny nail-----	775. 91
T. 16 N., R. 3 W., quarter corner between secs. 10 and 15, on east side of road, 78 feet north of road, 20 feet east of road; iron post stamped "792" -----	790. 448
Andalusia, sec. 27, T. 17 N., R. 3 W., in concrete step of Baptist Church in northeast part of village; aluminum tablet stamped "568" -----	567. 586
T. 17 N., R. 2 W., corner of secs. 19, 20, 29, and 30, 21 feet north of road, 3 feet south of fence, 60 feet east of road; iron post stamped "565"-----	564. 679
Southeast corner of sec. 28, T. 16 N., R. 1 W., south to Cable, thence west to sec. 26, T. 15 N., R. 3 W., thence north to sec. 27, T. 16 N., R. 3 W.	
T. 15 N., R. 1 W., 0.4 mile south of northeast corner of sec. 4, 24 feet west by 24 feet north of intersection of roads, 0.5 mile east of Sherrard; iron post stamped "791"-----	791. 247
Sherrard, at street corner near Sherrard Hotel, on large boulder; painted square-----	803. 86
T. 15 N., R. 1 W., 0.1 mile east of southwest corner of sec. 16, 42 feet north by 27 feet west of road intersection; iron post stamped "658" -----	658. 417

T. 15 N., R. 2 W., 0.2 mile south by 0.2 mile west of northeast corner of sec. 24, 24 feet south by 90 feet west of road corner; iron post stamped "796" -----	Feet. 796.425
T. 15 N., R. 2 W., center of sec. 22; corner stone-----	791.85
T. 15 N., R. 2 W., 0.2 mile north of southeast corner of sec. 21, 30 feet south by 60 feet west of corner; iron post stamped "797"-----	796.575
T. 15 N., Rs. 2 and 3 W., 0.2 mile south of northeast corner of sec. 25, 24 feet north by 39 feet west of corner, opposite home of W. Kay; iron post stamped "782"-----	782.139
T. 15 N., R. 3 W., corner of secs. 14, 15, 22, and 23, on north side of road, 15 feet north by 27 feet east of section corner; iron post stamped "780" -----	779.859
Tps. 15 and 16 N., R. 3 W., quarter corner between secs. 3 and 34, on south side, 33 feet south by 57 feet east of corner; iron post stamped "806"-----	806.131
T. 16 N., R. 3 W., center of sec. 27, on west side of road, in root of tree; 40-penny nail-----	775.91

Belleville, Kimmswick, and Waterloo quadrangles.

MONROE AND ST. CLAIR COUNTIES.

The elevations in the following list are based on bench marks of the United States Geological Survey and Mississippi River Commission bench marks near Merrimac and near Harrisonville.

The leveling in 1910 was done by S. R. Archer.

BELLEVILLE QUADRANGLE.

Belleville west along highway to sec. 29, T. 1 N., R. 8. W.

Belleville, northeast corner of courthouse yard; iron post stamped "Prim. Trav. Sta. No. 15 ADJ 531." (This bench mark has been changed. This elevation is one that W. A. Gelbach obtained from reference point set by county engineer when bench was lowered) -----	529.411
T. 1 N., R. 8 W., at east center of sec. 29, just east of Illinois Central R. R. steel highway bridge over creek, top of abutment, southeast corner of bridge; painted square marked "489.9"-----	489.96
T. 1 N., R. 8 W., at southwest corner of sec. 29, on north side of main road at T road south, in top at east side of stone door sill of schoolhouse; chiseled square marked "539.8"-----	539.85

KIMMSWICK QUADRANGLE.

NW. $\frac{1}{4}$ sec. 19, T. 3 S., R. 10 W. to northeast corner of sec. 7, T. 3 S., R. 10 W.

Madonnville, east edge of town near center of NE. $\frac{1}{4}$ sec. 19, T. 3 S., R. 10 W., northeast corner of T road north, just east of Roman Catholic Church, at east side of cemetery, in top of stone; chiseled square marked "750.04"-----	750.14
T. 3 S., R. 10 W., 0.05 mile west of south center of SE. $\frac{1}{4}$ sec. 7, 1.5 miles north of Madonnville, in southeast corner of bend in road to north, at foot of peach tree, 3 feet north of line between secs. 7 and 18; iron post stamped "ILLINOIS 755"-----	755.125
T. 3 S., R. 10 W., near northeast corner of sec. 7, in southeast corner of T road east, on section line between secs. 5, 6, 7, and 8, in root on west side of oak tree 2 feet in diameter; spike marked "715.6"-----	715.69

Northeast corner of sec. 31, T. 2 S., R. 10 W., to northeast corner of sec. 19, T. 2 S., R. 10 W.

T. 2 S., R. 10 W., near northeast corner of sec. 31, in center of south side of triangle at T road west, in root of oak tree 2 feet in diameter; spike marked "656.7"-----	Feet. 656.87
T. 2 S., R. 10 W., near northeast corner of sec. 19, 300 feet north of Fred Tebbenhoff's residence, in center of road, in west side of oak tree 2½ feet in diameter; spike marked "589.6"-----	589.80

Sec. 30, T. 1 S., R. 10 W., south along highways to NE. ¼ sec. 18, T. 2 S., R. 10 W.

T. 1 S., R. 10 W., NE. ¼ sec. 30, east side of T road northeast, in floor of bridge over stream; spike marked "414.4"-----	414.68
T. 1 S., R. 10 W., about 0.2 mile southwest of northeast corner of SW. ¼ sec. 31, at stream crossing; top stone of bridge seat at southwest corner of bridge, marked "415.3"-----	415.59
T. 1 S., R. 11 W., at southeast corner of sec. 36, beside township corner stone at southeast corner of Anton Dietz's land, about 0.3 mile west of road in field; iron post stamped "ILLINOIS 399"-----	399.368
T. 2 S., R. 10 W., near west center of SW. ¼ sec 6, 120 feet south of crossroads, top of west end of stone bridge seat of highway bridge over Fountain Creek; chiseled square marked "411.1"-----	411.36
T. 2 S., R. 11 W., near center of NE. ¼ sec. 13, about 1.2 mile east of Fountain station, 15 feet northwest of center of T road north, 10 feet south of plank culvert, in top of stone; chiseled square marked "413.5"-----	413.84
T. 2 S., R. 10 W., 0.12 mile north of south center of NW. ¼ sec. 18, about 2 miles east of Fountain station, southeast corner of T road southwest, in top of root at foot of mail-box post; spike marked "592.3"-----	592.63
T. 2 S., R. 10 W., near west center of NE. ¼ sec. 18, about 2 miles southwest of New Hanover, southeast corner of T road east, in top of south end of stone culvert; chiseled square marked "505.2"-----	505.49

NE. ¼ sec. 13, T. 2 S., R. 11 W., along highways via Harrisonville and Monroe City to Madonnville (NE. ¼ sec. 19, T. 3 S., R. 11 W.).

T. 2 S., R. 11 W., center of NE. ¼ sec. 13, 15 feet northwest of T road, north, 15 feet northwest of center of roads, 10 feet south of culvert, in top of stone; chiseled square marked "413.5"-----	413.84
T. 2 S., R. 11 W., at north center of SE. ¼ sec. 14, southwest corner of T road southeast, 0.4 mile east of Fountain station, top of south end of tile drain; painted square marked "405.5"-----	405.81
Fountain, St. Louis, Iron Mountain & Southern Ry. crossing; top of rail-----	411.2
Fountain, center of sec. 14, T. 2 S., R. 11 W., 200 feet west of St. Louis, Iron Mountain & Southern Ry. crossing, south side, at foot of levee road, 100 feet northwest of saloon, at fence corner; iron post stamped "ILLINOIS 406"-----	405.975
T. 2 S., R. 11 W., near west center of NW. ¼ sec. 14, 0.4 mile west of Fountain station, T road north, in floor in southwest corner of steel highway bridge over Fountain Creek; spike marked "411.06"-----	411.36
T. 2 S., R. 11 W., near southeast corner of sec. 9, 0.2 mile south and 1 mile east of Merrimac, center of T road south; square cut in top of stone marked "400.2"-----	400.52

T. 2 S., R. 11 W., north center of SW. $\frac{1}{4}$ sec. 16, 0.8 mile south and 0.2 mile east of Merrimac, in cultivated field, on south side of third-class road; iron post (Mississippi River Commission bench mark 47/1) -----	Feet. 400.330
T. 2 S., R. 11 W., at west center of sec. 16, 0.8 mile south of Merrimac, in center of third-class road east; stone marked "397.4"-----	397.71
T. 2 S., R. 11 W., near center of NW. $\frac{1}{4}$ sec. 28, 2.5 miles south of Merrimac, just north of road forks, southwest corner of steel highway bridge over Fountain Creek, in plank flooring; spike marked "401.6"-----	401.85
T. 2 S., R. 11 W., southeast corner of sec. 29, front of house on east side of road, southwest corner of barnyard, on top of stone; painted square marked "401.8"-----	402.02
T. 2 S., R. 11 W., near east center of sec. 32, 1 mile west by 1.5 miles north of Valmeyer, on west side of main road at private road northwest, at foot of telephone pole; iron post stamped "ILLINOIS 403"-----	402.818
T. 3 S., R. 11 W., near east center of NE. $\frac{1}{4}$ sec. 8, in southwest corner of T road west, in root on north side of butternut tree 2 $\frac{1}{2}$ feet in diameter; spike marked "395.6"-----	395.79
T. 3 S., R. 11 W., 0.15 mile west of east center of NW. $\frac{1}{4}$ sec. 8, 1 mile north of Harrisonville, just northwest of T road east, at northeast corner of steel highway bridge over Fountain Creek, top of stone abutment; painted square marked "397.9"-----	398.08
Harrisonville, 0.5 mile north of crossing of main roads, 400 feet north of crossroads, on land of Patrick Murray, 279 feet north of house in pasture, near blazed walnut tree 2 feet in diameter; iron post (Mississippi River Commission bench mark No. 45/1, elevation 398.22)-----	398.594
Flat stone at bottom of post-----	393.497
Harrisonville, west edge of sec. 17, T. 3 S., R. 11 W., east edge of town, southwest corner of crossroads, in top stone at foot of telephone pole; chiseled square marked "395.2"-----	395.26
T. 3 S., R. 11 W., 0.2 mile north of southwest corner of sec. 29, 2.5 miles south of Harrisonville, 0.2 mile north of T road east, 400 feet south of Henry Althoff's residence, on west side of road, top of levee; iron post (Mississippi River Commission bench mark, top of iron post)-----	402.370
Flat stone at bottom of post at above bench mark-----	397.270
T. 3 S., R. 11 W., northeast corner of sec. 32, opposite private road north, on south side of main road, in root of elm tree; spike marked "400.3"-----	400.34
T. 3 S., R. 11 W., near southeast corner of SW. $\frac{1}{4}$ sec. 27, in top of northwest corner of plank flooring of steel highway bridge over ditch; spike marked "393.9"-----	393.97
T. 3 S., R. 11 W., just west of east center of sec. 27, at St. Louis, Iron Mountain & Southern Ry. crossing, west track; top of east rail-----	397.76
T. 3 S., R. 11 W., 0.1 mile northeast of west center of sec. 26; east side of north-south road opposite T road southwest, 0.2 mile east of St. Louis, Iron Mountain & Southern Ry., at fence corner; iron post stamped "ILLINOIS 398"-----	397.918
T. 3 S., R. 11 W., 0.1 mile east of west center of NW. $\frac{1}{4}$ sec. 26, 2 miles southwest of Monroe City, center of T road northeast, in root on east side of tree 3 feet in diameter; spike marked "397.9"-----	397.96

T. 3 S., R. 11 W., near center of SW. $\frac{1}{4}$ sec. 24, at stream crossing, in top of wing wall at northwest corner of stone culvert; chiseled square marked "438.9"-----	Feet. 438.97
Monroe City, near center of SE. $\frac{1}{4}$ sec. 24, T. 3 S., R. 11 W., on south side of road, 2.5 feet from fence, 160 feet west of T road southeast; iron post stamped "Prim. Trav. Sta. No. 13, 1909 ILLINOIS 467"-----	466.791

WATERLOO QUADRANGLE.

Point 2 miles north of Red Bud west along highways via Burksville station and Burksville to point east of center of NW. $\frac{1}{4}$ sec. 20, T. 3 S., R. 10 W.

T. 3 S., R. 8 W., west center of sec. 29, 2 miles north by 1 mile west of Red Bud, in southeast corner of crossroads; tacks in root on north side of sycamore tree marked "458.4"-----	458.37
T. 3 S., R. 9 W., at center of sec. 25, northeast corner of T road north, in root of cedar tree; nail marked "512.6"-----	512.57
T. 3 S., R. 9 W., 0.1 mile east of south center of sec. 26, northeast corner of crossroads, in root of peach tree; nail marked "545.6"-----	545.63
T. 3 S., R. 9 W., 0.1 mile east of south center of sec. 26, 1.2 miles southeast of Poe station, in northeast corner of crossroads, near peach tree; iron post stamped "546"-----	546.513
T. 3 S., R. 9 W., 0.1 mile northwest of center of sec. 22, northwest corner of T road northeast, in top of stone; square marked "573.4"-----	573.42
Burkville station, south edge of town, south center of sec. 17, T. 3 S., R. 9 W., in southwest corner of T road west; iron post stamped "Prim. Trav. Sta. No. 12 ILLINOIS 661, 1909"-----	661.361
T. 3 S., R. 9 W., south center of SE. $\frac{1}{4}$ sec. 18, southwest corner of T road south, 0.8 mile west of Burkville station, west end of drain; top of stone marked "649.3"-----	649.35
Burkville, south edge of town, near south center of sec. 13, T. 3 S., R. 10 W., in northeast corner of crossroads, south side of saloon building, near west corner, on base of west side of stone steps to doorway; chiseled square marked "654.9"-----	655.00
T. 3 S., R. 10 W., south center of SW. $\frac{1}{4}$ sec. 13, 0.5 mile west of Burkville, 60 feet west of T road south, on north side of main road west, in root of cherry tree 2 feet in diameter; spike marked "651.9"-----	652.00
T. 3 S., R. 10 W., south center of SW. $\frac{1}{4}$ sec. 13, 0.5 mile west of Burkville, at southwest corner of T road south, near cemetery on north side of main road, at fence corner; iron post stamped "ILLINOIS 653"-----	653.067
T. 3 S., R. 10 W., near southeast corner of sec. 14, 0.8 mile west of Burkville, stream crossing top of wing wall at southeast corner of stone culvert; chiseled square marked "630.1"-----	630.20
T. 3 S., R. 10 W., at southwest corner of sec. 14, northeast corner of T road north, top of west end of north wing wall of bridge abutment; chiseled square marked "654.2"-----	654.28
T. 3 S., R. 10 W., at southeast corner of sec. 16, 20 feet southeast of southeast corner of schoolhouse, 50 feet west by 20 feet north of T road south, north side of main road, on top of stone; painted square marked "682.8"-----	682.88
T. 3 S., R. 10 W., near south center of SW. $\frac{1}{4}$ sec. 16, 1.5 miles east of Madonnaville, at southeast corner of crossroads, under small peach tree; iron post stamped "ILLINOIS 710"-----	709.946

T. 3 S., R. 10 W., 0.05 mile east of center of NW. $\frac{1}{4}$ sec. 20, in center of north side of triangular plot at T road southeast, in root on south side of small red-oak tree; spike marked "737.8"-----	Feet. 737.93
Northwest corner of sec. 5, T. 3 S., R. 10 W., west along highway to center of NW. $\frac{1}{4}$ sec. 17, T. 2 E., R. 10 W.	
T. 3 S., R. 10 W., near northwest corner of sec. 5, 0.5 mile west of Foster Pond, on township line, south side of road opposite road to north, in root of poplar tree 1 foot in diameter; spike marked "669.2"-----	669.33
T. 2 S., R. 10 W., near west center of sec. 29, at T road northeast, 5 miles west of Waterloo, northeast corner of Johannas Evangelical Church; iron post stamped "ILLINOIS 653"-----	652.826
T. 2 S., R. 10 W., near center of NW. $\frac{1}{4}$ sec. 17, 2 miles south of New Hanover, just west of steel bridge over Fountain Creek, at southeast corner of road forks of road to southwest, 20 feet north by 15 feet west to center of triangle, at foot of tree; iron post stamped "Prim. Trav. Sta. No. 15, 1909 ILLINOIS 427"-----	427.368
Point 0.1 mile north of center of SW. $\frac{1}{4}$ sec. 16, T. 2 S., R. 10 W., along highways via Floraville to point 2 miles south of Smithton.	
T. 2 S., R. 10 W., about 0.1 mile north of center of SE. $\frac{1}{4}$ sec. 16, at northeast corner of road north, in root of tree at southwest corner of yard fence; spike marked "577.8"-----	578.02
T. 2 S., R. 10 W., about 0.1 mile north of center of SW. $\frac{1}{4}$ sec. 15, east side of north-south road at road west, 90 feet south of forks, in root of hickory tree 2 feet in diameter; spike marked "582.1"-----	582.29
T. 2 S., R. 10 W., 0.3 mile north by 0.2 mile east of southwest corner of sec. 14, about 2 miles northwest of Waterloo, at junction of west railway right of way with north line of public road crossing, on north side of road, 35 feet west of Mobile & Ohio R. R. crossing; iron post stamped "ILLINOIS 611"-----	611.194
T. 2 S., R. 10 W., near center of sec. 13, about 2 miles north of Waterloo, on Waterloo-Columbia road, 180 feet south of road to west, on east side of north-south road, in root on road side of cherry tree 2 feet in diameter; spike marked "695.4"-----	695.63
T. 2 S., R. 9 W., at north center of sec. 18, bend in main road to east and second-class road to north, in southeast corner of road forks; tack in top of rail at foot of fence corner; stake marked "639.2"-----	639.43
T. 2 S., R. 9 W., 20 feet south by 5 feet west of corner of secs. 7, 8, 17, and 18, southwest corner of Schroeder schoolhouse yard; iron post stamped "Prim. Trav. Sta. No. 16 1909 ILLINOIS 629"-----	628.818
T. 2 S., R. 9 W., 50 feet west of northeast corner of sec. 17, south side of road, in root of hickory tree; tack marked "574.1"-----	574.41
T. 2 S., R. 9 W., 0.2 mile north of center of sec. 16, northwest corner of T road north, at foot of telephone pole; top of stone marked "566.3"-----	566.64
T. 2 S., R. 9 W., about 0.1 mile north of center of NE. $\frac{1}{4}$ sec. 16, southeast corner of T road southeast; tacks in root on road side of oak tree, marked "563.9"-----	564.16
T. 2 S., R. 9 W., near southwest corner of sec. 10, T road southeast, at steel highway bridge over Prairie Du Long Creek, near line between Monroe and St. Clair counties, at top of steel circular foundation of northeast corner of bridge; painted bolt marked "493.1"-----	493.38

T. 2 S., R. 9 W., east center of SW. $\frac{1}{4}$ sec. 11, wooden bridge just west of road forks at second-class road south; painted square on corner of stone abutment, northwest corner of bridge, marked "478.3"-----	Feet. 478. 56
Floraville, at east center of sec. 11, T. 2 S., R. 9 W., brick schoolhouse 250 feet west of T road south, at southeast edge of town, southeast corner of schoolhouse; iron post stamped "ILLINOIS 527"-----	527. 640
T. 2 S., R. 8 W., north center of sec. 8, steel bridge over Prairie Du Long Creek, 150 feet south of bend in road to east, on floor of west side of bridge; painted bolt marked "450"-----	450. 35
Smithton, 2 miles south of, northeast corner of T road east; iron post stamped "Prim. Trav. Sta. No. 22, 1907 ILLINOIS 467"-----	466. 383
Waterloo, east side of courthouse building, 30 feet from northeast corner, 15 feet north of rear entrance, 8 feet from cellar entrance; iron post stamped "ILLINOIS 717"-----	717. 223
Point near east center of sec. 31, T. 1 N., R. 8 W., west along highways via Millstadt and Bluffside to sec. 20, T. 1 S., R. 10 W.	
T. 1 S., R. 9 W., near northeast corner of sec. 1, about 3.5 miles northeast of Millstadt, south side of main road at T road north, 2 feet west of line between Millstadt and Smithton townships, 15 feet north of oak tree 2 feet in diameter; iron post stamped "ILLINOIS 544"-----	543. 746
T. 1 S., R. 9 W., near center of NE. $\frac{1}{4}$ sec. 1, north side of main road at T road south, in root on south side of oak tree; spike marked "555.1"-----	555. 14
T. 1 S., R. 9 W., 0.1 mile south of west center of sec. 1, south side of road 50 feet east of private road south, about 200 feet east of schoolhouse, in root on west side of oak tree; spike marked "566.8"-----	566. 87
T. 1 S., R. 9 W., near northwest corner of sec. 11, 60 feet east of T road north, 1 mile northeast of Millstadt, in bridge seat, northeast corner of wooden bridge; spike marked "546.4"-----	546. 48
Millstadt, at east edge of town, 0.2 mile east of west center of sec. 10, T. 1 S., R. 9 W., northwest corner of road forks, on top of stone; painted square marked "614.8"-----	614. 92
Millstadt, northwest part of town, public schoolhouse, southeast corner of building; iron post stamped "ILLINOIS 614"-----	614. 544
T. 1 S., R. 9 W., 0.1 mile north of southwest corner of sec. 3, 0.8 mile north of Millstadt, at stream crossing, in top of wing wall, southeast corner of stone culvert; chiseled square marked "585.2"-----	585. 33
T. 1 S., R. 9 W., northwest corner of sec. 3, 1.8 mile north of Millstadt, 80 feet south of crossroads on east side of main road, in root on road side of oak tree 2.5 feet in diameter; spike marked "581.2"-----	581. 27
T. 1 S., R. 9 W., corner of secs. 32, 33, 4, and 5, 1.5 miles north by 1 mile west of Millstadt, 20 feet north by 20 feet east of center of T road south; iron post stamped "Prim. Trav. Sta. No. 17, 1909 ILLINOIS 545"-----	545. 418
T. 1 N., R. 9 W., at center of SW. $\frac{1}{4}$ SW. $\frac{1}{4}$ sec. 32, 200 feet west of private road to north, on south side of road at west edge of woods, in root of stump; spike marked "587.4"-----	587. 57
T. 1 N., R. 9 W., 0.1 mile east of center of SW. $\frac{1}{4}$ sec. 31, northwest corner of T road north, top of north end of steel abutment; painted square marked "579.4"-----	579. 55

T. 1 S., R. 10 W., about 0.2 mile south of north center of sec. 1, 0.2 mile southeast of Bluffside, 50 feet east of road forks, on north side of road to northeast, in root on road side of oak tree 2.5 feet in diameter; spike marked "589.3"-----	Feet. 589.48
Bluffside, near north center of sec. 1, T. 1 S., R. 10 W., Bluffside Hotel and saloon, 100 feet northwest of Bluffside Exchange saloon, northwest corner of crossroads, at corner of garden fence; iron post stamped "ILLINOIS 587"-----	587.347
Lakeview, near southwest corner of sec. 33, T. 1 N., R. 10 W., in southeast corner of T road east, 10 feet east by 15 feet south of northwest corner of Chas. Baker's blacksmith shop; iron post stamped "Prim. Trav. Sta. No. 18, 1909 Illinois 429"-----	429.368
T. 1 S., R. 10 W., 0.05 mile west of center of SE. $\frac{1}{4}$ sec. 8, east side of main road at T road west, near schoolhouse, on top of stone; painted square marked "419.4"-----	419.56
T. 1 S., R. 10 W., 0.2 mile north of south center of sec. 17, about 1.5 miles southwest of Columbia, southeast corner of T road east, near east line of land claim No. 487, at corner of garden fence; iron post stamped "ILLINOIS 426"-----	425.744

APPENDIX A.

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

Alton, Beardstown, Belleville, Bonfil, Breese, Carbondale, Carlyle, Centralia, Chandlerville, Chester, Chicago, Cisne, Clinton, Desplaines, Dongola, Dubuque, Dunlap, Duquoin, Elgin, Forreston, Genoa, Glasford, Griggsville, Hardin, Havana, Hennepin, Herrin, Iuka, Joliet, Keithsburg, Kings, Kirkland, Lacon, Lasalle, Leclaire, Manilo, Marseilles, Meredosia, Metamora, Milan, Miles, Morris, Mound City, Mount Carroll, O'Fallon, Olney, Oquawka, Oregon, Ottawa, Pearl, Peoria, Richview, Riverside, St. Louis, Savanna, Wheaton, Wickliffe, and Wilmington quadrangles.

ADAMS, ALEXANDER, BROWN, BUREAU, CALHOUN, CARROLL, CHESTER, CLAY, CLINTON, COOK, DEKALB, DUPAGE, FULTON, GRUNDY, HANCOCK, HENDERSON, JACKSON, JO DAVIESS, KANE, LASALLE, LAWRENCE, MABION, MARSHALL, MERCER, MASON, OGLE, PEORIA, PERRY, PIKE, PULASKI, PUTNAM, RANDOLPH, RICHLAND, ROCK ISLAND, ST. CLAIR, SCHUYLER, UNION, WASHINGTON, WHITESIDE, AND WILL COUNTIES.

The following descriptions and elevations are taken from reports of the 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 Corps of Engineers, United States Army, from precise leveling, and were included in the 1907 adjustment by the Coast and Geodetic Survey. The elevations are likely to be changed only slightly by any future adjustment.

OLNEY QUADRANGLE.

Bench marks established at Olney.

Olney, north face of the courthouse, at base of one of the columns; chiseled square (C. & G. S. b. m. B3)-----	Feet. 486.117
Olney, near southeast corner of public school grounds, on monument marking end of the U. S. Army Engineers base line (top of the monument bears inscription "U. S.," and bench mark is center of space inclosed by the lower curve of the S; C. & G. S. B. M. II) ¹ ---	480.395

CISNE QUADRANGLE.

Clay City to Flora along Baltimore & Ohio Southwestern R. R.

Flora, near southeast corner of public school building, on a front basement window, chiseled square (C. & G. S. b. m. C3)-----	489.827
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¹ This monument rocks on its foundation. The elevation is 0.14 foot less than the C. & G. S. valve, and was determined by H. Bücher in 1907 from B3.

IUKA QUADRANGLE.

At Salem.

Salem, on southwest corner of courthouse; chiseled square (C. & G. S. b. m. D3)----- Feet.
544.327

CENTRALIA QUADRANGLE.

Bench marks established at Odin and Sandoval.

Odin, east end of long arched culvert at station of Baltimore & Ohio Southwestern R. R.; cut on coping stone, marked "B. M. V." (C. & G. S. b. m. V)----- 527.654
Sandoval, about 2.5 miles west of, cut on west abutment of Baltimore & Ohio Southwestern R. R. trestle, marked "U. S. \square B. M." (C. & G. S. b. m. VI)----- 488.647

Centralia along Illinois Central R. R. to Odin.

Centralia, south window of J. J. Pfaff & Co.'s drug store; chiseled square in stone sill (C. & G. S. b. m. N3)----- 494.600
Centralia, about 2 miles north of, Illinois Central R. R. bridge over Crooked Creek, about 3 meters (9.8 feet) from iron foot plate; bottom of chiseled square in capstone at east end of north abutment. (C. & G. S. b. m. M '03)----- 471.286
Odin, southeast corner of Craig's brick store, about 1 foot above ground, in stone in top layer of foundation; bottom of chiseled square (C. & G. S. b. m. M3)----- 528.836

CARLYLE QUADRANGLE.

Collins along Baltimore & Ohio Southwestern R. R. to Carlyle.

Collins, about 0.2 mile east of station; cut on west abutment of railroad culvert, marked "U. S. \square B. M." (C. & G. S. b. m. VII)----- 446.800
Carlyle, east face of courthouse; chiseled square on station ledge under windows (C. & G. S. b. m. F3)----- 468.562

BREESE QUADRANGLE.

Bench mark established at Aviston.

Aviston, about 1 mile west of; cut on west abutment of railroad bridge over Sugar Creek (C. & G. S. b. m. No. VIII)----- 452.661

BELLEVILLE QUADRANGLE.

Bench mark established at Lebanon.

Lebanon, east face of public school building; chiseled square on sill of basement window (C. & G. S. b. m. G3)----- 457.491

ST. LOUIS QUADRANGLE.

Point near Caseyville along Baltimore & Southwestern R. R. to point near East St. Louis.

Caseyville, 2 miles north of, stone monument marking north end of the American Bottom Base; center of head of copper bolt (C. & G. S. b. m. H3)----- 521.650
East St. Louis, in south face of eastern land pier of Great Bridge; mark on large bronze plate (C. & G. S. b. m. I 3)¹----- 413.973

¹ This bench mark is 0.005 foot higher than bench mark K₃ in St. Louis, Mo., known as "St. Louis Directrix."

CHESTER QUADRANGLE.**Bench mark established near Chester.**

Chester, northeast corner of Schuchert's Block; horizontal copper bolt in water table of drug store (U. S. Corps of Engineers b. m. 38) -----	Feet. 380. 583
Chester, 1,240 meters (4,068 feet) below, 1.3 meters (4.3 feet) east of southwest corner of Cole Bros. stone elevator; horizontal copper bolt in front face (U. S. Corps of Engineers b. m. 39) -----	381. 163
Chester, near, 40 meters (131 feet) north of farmhouse of Marcus Peto, 576 meters (1,890 feet) back from a long lane just west of large wheat field from turn of road, 2 meters (7 feet) south of elm tree 4 feet in diameter; top of copper bolt in stone monument set in southeast corner of woods (U. S. Corps of Engineers p. b. m. 40) --	367. 334

WICKLIFFE QUADRANGLE.**Bench marks established at Cairo.**

Cairo, at Fourteenth Street and Ohio River, southeast end of Illinois Central R. R. freight station, 0.49 meter (1.6 feet) southwest of east corner; hole in copper bolt (U. S. Corps of Engineers b. m. 3). When visited in 1888 some of the lead had been picked from around the bolt, but the bolt was still firm. The arches of the building were cracked as if it had settled -----	327. 218
Cairo, 4.44 meters (14.57 feet) from southeast corner of building containing offices of trustees of Cairo city public property, 4.67 feet below lower surface of water table; hole in copper bolt set horizontally in east side of building marked "U. S. B. M.," cut in stone near bolt. The building fronts on Washington Avenue and is between Eighteenth and Nineteenth streets (U. S. Corps of Engineers b. m. 2) -----	319. 310
Cairo, in square bounded by Fourteenth, Fifteenth, and Poplar streets and Washington Avenue, northwest side of customhouse 7.18 meters (23.6 feet) from northwest corner, 0.37 meter (1.2 feet) below junction of sandstone and limestone, 0.93 meter (3.1 feet) above surface of cement walk; small hole in center of copper bolt set horizontally (U. S. Corps of Engineers b. m. 1) -----	317. 987

MOUND CITY QUADRANGLE.**Mound City along Illinois Central R. R. to Ullin.**

Mound City, on one of the abutments of the Illinois Central R. R. bridge over Cash Creek, at south bank of creek, on east side of track; bottom of square cut, marked "U. S. B. M." (C. & G. S. b. m. No. II.) -----	327. 195
Mound City Junction, in yard of Illinois Central R. R. section house, near front fence, just north of gate, near lone tree; stone post marked "U. S. B. M." (C. & G. S. b. m. No. I) -----	322. 087
Villa Ridge, east end of the Stoddard House, in twenty-second course of brick above ground, fifth one from south end of chimney; center of brass bolt leaded horizontally into chimney (C. & G. S. b. m. Z3) --	385. 905
Villa Ridge, east of railroad track, in root on east side of large beech tree, nearly opposite milepost 12, top of railroad spike marked "U. S. B. M. Y" (C. & G. S. b. m. Y3) -----	380. 394

Villa Ridge, near, south of Illinois Central R. R. milepost 14, near center of south abutment of small railroad bridge No. 8; bottom of square cut (C. & G. S. B. M. XIIa)-----	Feet. 343.156
Ullin, near, about 523 meters (1,716 feet) south of milepost 17, east of Illinois Central R. R. track, in capstone of middle pier of small railroad bridge No. 12; bottom of a square cut (C. & G. S. b. m. 139)-----	335.941

DONGOLA QUADRANGLE.**Ullin along Illinois Central R. R. to Anna.**

Ullin, near station, on northeast corner of north abutment of bridge No. 15 over Cache River; bottom of square cut marked "U. S. B. M." (C. & G. S. b. m. X3)-----	337.545
Anna, southwest front of Otrich's drug store, under the Otrich House, about 0.1 meter (4 inches) from west end of iron jamb and 2½ inches from south edge of sill; bottom of a chiseled square in stone sill of window (C. & G. S. b. m. W3)-----	629.421

CARBONDALE QUADRANGLE.**Point 1 mile north of Makanda along Illinois Central R. R. to Carbondale.**

Makanda, about 1 mile north of, 50 meters (164 feet) south of Illinois Central R. R. milepost 50, in southeast capstone of south abutment of iron bridge No. 87 over Drury Creek; chiseled square (C. & G. S. b. m. V3)-----	431.393
Carbondale, east front window of Jacob Beard's brick store, west side of railroad track, at north end of public park; chiseled square in stone sill (C. & G. S. b. m. T3)-----	415.655

HERRIN QUADRANGLE.**Bench mark near De Soto.**

De Soto, about 2 miles south of, about 1 meter (3.3 feet) west of track and 0.3 meter (1 foot) from north edge of abutment, in west end of south abutment of Illinois Central R. R. bridge over Big Muddy Creek; chiseled square (C. & G. S. b. m. U3)-----	335.672
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DUQUOIN QUADRANGLE.**Bench mark established at Duquoin.**

Duquoin, at main door of Duquoin Bank building, opposite Illinois Central R. R. station; bottom of a chiseled square in corner of stone sill (C. & G. S. b. m. R3)-----	462.477
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RICHVIEW QUADRANGLE.

Point near Random along Illinois Central R. R. to point 1 mile north of Richview.	
Random, about 2 miles south of, in northeast corner of north abutment of Illinois Central R. R. stone-arch bridge over Little Muddy Creek; bottom of chiseled square (C. & G. S. b. m. S3)-----	499.811
Ashley, near, on Illinois Central R. R., about 175 meters (574 feet) south of milepost 99, 2 meters (7 feet) east of track, in capstone of southeast wing wall of small culvert No. 212; bottom of chiseled square (C. & G. S. b. m. Q3)-----	558.765

Richview, 1 mile north of station, on Illinois Central R. R., 409 meters (1,342 feet) south of the milepost 103, in southeast corner of capstone on east end of a stone culvert; bottom of chiseled square (C. & G. S. b. m. P3)-----
Feet.
544.196

BONFIL QUADRANGLE.

Grafton north along Illinois River to Rosedale.

Grafton, on north side of highway running along foot of bluffs on the left bank of Illinois River, 7.5 feet from center of wagon track and, about 3.8 feet above it, near bend in highway of about 90° around foot of rocky ledge, 166 feet southeast of William Bennett's house on hillside, north of a cleared field with stone fence along highway and from highway to river on east side of field, 1,024 feet above Deer Plain Ferry; highest point of a square cut in natural rock (U. S. Corps of Engineers t. b. m. 2)----- 436.009
T. 6 N., R. 13 W., NE. $\frac{1}{4}$ sec. 16, 117.8 feet west from northwest corner of Hartford Church, 88 feet northeast from center of highway following foot of bluffs, 21.5 feet southwest of white oak tree 1.5 feet in diameter, 67.8 feet southwest of black oak tree 2.5 feet in diameter, both trees in cemetery, southwest corner of Hartford Church cemetery, back of Carsons Landing on river; copper bolt leaded vertically in stone under ground----- 447.812
Top of cap of iron post (U. S. Corps of Engineers p. b. m. 1)----- 451.817

Grafton to Jersey Landing along Illinois River.

Grafton, near, in woods on Calhoun Point, at mouth of Illinois River, 60 meters (197 feet) from edge of woods on Illinois River and 150 meters (492 feet) from edge of woods on Mississippi River; copper bolt in top of stone in ground (U. S. Corps of Engineers b. m. 1)--- 421.278
Grafton, 2,100 meters (6,890 feet) above Catholic Church, 15 meters (49 feet) south of road, 4 meters (13 feet) east of fence, 157 meters (515 feet) back from river on left bank; top of copper bolt in top of stone in ground (U. S. Corps of Engineers b. m. 2)----- 427.369
Grafton, doorstep of Catholic Church, 0.22 meter (9 inches) from front of step, 0.13 meter (5 inches) from north jamb; copper bolt in top surface of doorstep (U. S. Corps of Engineers b. m. 3)----- 437.041
Grafton, Allen's brick building adjoining Grafton Flouring Mills, 0.1 meter (4 inches) from front surface of step; copper bolt in east end of doorstep of eastern door (U. S. Corps of Engineers b. m. 4)--- 446.097
Jersey Landing, 450 meters (1,476 feet) below flour mill, about 4 miles below Grafton; copper bolt leaded in natural rock on side of bluff above high-water mark; letters "U. S. P. B. M." cut in rock near copper bolt (U. S. Corps of Engineers b. m. 5)----- 443.992
Jersey Landing, about $3\frac{1}{2}$ miles below flour mill, top of rock flush with surface of ground, near high-water mark, about 9 meters (30 feet) west of mouth of small ravine which comes out of valley facing Eagles Nest; copper bolt leaded vertically in natural flat rock (U. S. Corps of Engineers b. m. 6)----- 423.005

ALTON QUADRANGLE.

Point near mouth of Piasa Creek along Illinois River to point 11 miles below Alton.

Piasa Creek, 2 miles below mouth of, in woods 19 meters (62 feet) above high-water mark; copper bolt in natural rock on hillside; letters "U. S. P. B. M." cut near bolt (U. S. Corps of Engineers b. m. 7)-----	Feet. 451.495
Alton, south side of Alton waterworks building, sixth window from corner; copper bolt leaded vertically in east end of water table, letters "U. S." cut near bolt (U. S. Corps of Engineers b. m. 8)---	429.279
Alton, northwest corner of German Catholic Church; copper bolt leaded vertically in south end of doorstep (U. S. Corps of Engineers b. m. 9)-----	486.740
Alton, 5 miles below, 300 meters (984 feet) east of Mr. Gringering's house, 500 meters (1,640 feet) from river bank; top of copper bolt in stone post in ground in woods (U. S. Corps of Engineers b. m. 10)-----	426.321
Alton, 11 miles south of, 450 meters (1,476 feet) back from triangulation station Gillen, 2 meters (7 feet) north of honey locust tree, about 10 meters (33 feet) north of road leading back from river in woods; top of copper bolt in stone in ground (U. S. Corps of Engineers b. m. 11)-----	413.806

HARDIN QUADRANGLE.

Hamburg south along Mississippi River to Turners Landing.

Hamburg Bay, about 50 meters (164 feet) east of east shore of, at root of two poplar trees about 1 foot apart, at intersection of cross, 6 inches from west edge and 10 inches from south edge of rock, halfway up steep hill on north bank of small stream, 10 meters (33 feet) north of middle of stone culvert; conical hole in top of rock projecting from side of wagon road (U. S. Corps of Engineers p. b. m. 32)-----	467.541
Hamburg, about 4 miles north of, 240 meters (787 feet) south of house of Mr. Blacksmith, in top surface of natural rock projecting from east side of wagon road, 18 inches from corner and 10 inches from two sides of stone, only one corner of which projects; copper bolt (U. S. Corps of Engineers p. b. m. 33)-----	514.906
Hamburg, on road, 120 meters (394 feet) east of point where road makes sharp bend from south to east at mill and two houses, 5 meters (16 feet) north of fence around orchard; copper bolt leaded horizontally in north face of natural rock forming south side of first creek south of Hamburg (U. S. Corps of Engineers p. b. m. 34)---	444.871
Westport Island, 38 meters (125 feet) east of river bank, about 250 meters (820 feet) below Island 482, 11.4 feet northwest of large elm tree marked with two triangles opposite and midway between two houses, 1½ inches from south corner and one-half inch from east side of shore line triangulation stone; stone (U. S. Corps of Engineers p. b. m. 35)-----	439.043
Reds Landing, 1,190 meters (3,904 feet) above warehouses, 8 meters (26 feet) from river bank, on Illinois shore, a short distance south of a point opposite head of Islands Nos. 487, 486, and 485, 0.5 meter (2 feet) south of lower fence of two on land of Ira Lawson,	

about 50 meters (164 feet) north of boundary line between land of Ira Lawson and land of John M. Lewis; top of copper bolt leaded in top of marking stone (U. S. Corps of Engineers p. b. m. 36)-----	Feet. 438. 206
Sterling Island, 10 meters (33 feet) from small house opposite foot of, 5 meters (16 feet) from fence, at root of large poplar tree; cross in middle of triangulation stone (U. S. Corps of Engineers p. b. m. 37)-----	437. 904
Hogville Landing, about 400 meters (1,312 feet) north from warehouses, 800 meters (2,625 feet) south of Church's landing, 50 meters (164 feet) east of river bank and 27 meters (89 feet) east of road running to Hogville, 1.5 meters (4.8 feet) west of foot of sycamore tree blazed and marked with triangle; top of marking stone (U. S. Corps of Engineers p. b. m. 38)-----	435. 074
Turners Landing, about 100 meters (328 feet) north of upper warehouse, on west side of field of J. H. Eildemann, 0.5 meter (1.6 feet) inside fence; top of copper bolt leaded vertically in top of marking stone set in ground (U. S. Corps of Engineers p. b. m. 39)-----	437. 920
Turners Landing, 1.8 miles south from lower warehouse, about 600 meters (1,968 feet) south of foot of Island 197, about 295 feet back from Illinois bank of Mississippi River; top of triangulation shore line marking stone (U. S. Corps of Engineers p. b. m. 40)-----	434. 836

Bench marks established near public land corners.

T. 7 N., R. 13 W., in sec. 21, 0.7 mile south of Rosedale, east side of highway along foot of bluffs, 3 feet beyond fence line, 404 feet north from northeast corner of William Harris's log house; top of copper bolt leaded vertically in northwest corner of large rock (U. S. Corps of Engineers p. b. m. 2)-----	454. 587
T. 7 N., R. 13 W., in sec. 17, east side of highway running along foot of bluffs, at point about opposite and midway between James Wedding's house and barn, about 0.2 mile above Rosedale, near foot of bluffs, 85.7 feet northeast from northeast corner of Mr. Wedding's house and 112.8 feet southeast from southeast corner of his barn; highest point of square cut in rock (U. S. Corps of Engineers t. b. m. 10)-----	447. 112
T. 7 N., R. 13 W., SE. $\frac{1}{4}$ SE. $\frac{1}{4}$ sec. 17, about 0.4 mile north of Rosedale, 5.3 feet south from center of rail fence on south side of road leading from north-south highway running along foot of bluffs to Jones Landing, at foot of Twelvemile Island in Illinois River; copper bolt leaded vertically in stone set underground in field-----	433. 082
Top of cap of iron post (U. S. Corps of Engineers p. b. m. 3)-----	437. 074
Nutwood, about 0.8 mile south of, about 0.2 mile north of Otter Creek schoolhouse, in top of west end of stone abutment of iron highway bridge over Otter Creek; copper bolt leaded vertically (U. S. Corps of Engineers p. b. m. 4)-----	433. 185
Nutwood, 50 feet southeast from southeast corner of post office, in southeast corner of front dooryard of A. O. Auten's farmhouse; copper bolt leaded vertically in stone set underground-----	433. 830
Top of cap of iron post (U. S. Corps of Engineers p. b. m. 5)-----	437. 829
Spankey, near, sec. 17, T. 8 N., R. 13 W., near north fence line of road leading west from north-south highway along foot of bluffs, 1,675 feet west from intersection of roads, in relatively low ground; copper bolt leaded vertically in stone set underground-----	421. 004
Top of cap of iron post (U. S. Corps of Engineers p. b. m. 6)-----	424. 984

Spankey, northwest angle of intersecting roads, in dooryard of Joseph A. Clark's house, on north bank of Macoupin Creek, 10.3 feet east of the range of front or east side of Mr. Clark's house, 14.5 feet south of range of its south end, 17.6 feet southeast from southeast corner; copper bolt leaded vertically in stone set underground -----	Feet. 440. 625
Top of cap of iron post (U. S. Corps of Engineers p. b. m. 7) -----	444. 606
T. 27 N., R. 13 W., sec. 21, about 1.5 miles north of Spankey, on top of fragment of rock lying at foot of bluffs where they make nearly a right angle, 0.2 mile west of Charles Keeley's stone house; highest point of a square cut in rock 6 by 3 by 3 feet (U. S. Corps of Engineers t. b. m. 27) -----	447. 188

O'FALLON QUADRANGLE.

West Point Landing southeast along Mississippi River to Thomas Landing, thence northeast to Point Landing.

West Point, 74 meters (243 feet) east and below top of a hill at point of bluff facing north, 1 meter (3.3 feet) above level of road, about 150 meters (492 feet) around point from warehouse; center of copper bolt leaded horizontally in solid sand rock above and back from road (U. S. Corps of Engineers p. b. m. 41) -----	445. 760
Hastings Landing, about 40 meters (132 feet) around east from northwest corner of the bluff rocks below, about 225 meters (738 feet) below warehouse on land of E. B. Brown, about 8 meters (26 feet) east of fence southwest from east side of warehouse at landing, in north face of third large boulder at foot of hill, on north side of corner west from top of bank of small branch that empties into river below warehouse; copper bolt (U. S. Corps of Engineers p. b. m. 42) -----	442. 875
Martins Landing, near, about 65 feet around north on west side of hill from southwest projecting corner of bluffs on north side of valley, second one north of Martins Landing, first one south of valley where John Zarley lives; in west face of bluff rock about 2½ meters (8 feet) underneath where upper surface of rocks begin to be exposed at foot of hill; center of copper bolt (U. S. Corps of Engineers p. b. m. 43) -----	435. 701
Millers Landing, about 1,300 meters (4,265 feet) north of, about 900 meters (2,953 feet) south of Martins Landing, about 500 meters (1,640 feet) below a dwelling house, in upper stratum of exposed rock; center of horizontal copper bolt set in solid bluff rock facing northwest (U. S. Corps of Engineers b. m. 44) -----	435. 291
Thomas Landing, between east end of coke furnace and river, about 40 meters (131 feet) above trestlework of coal mine; center of horizontal copper bolt leaded in solid bluff rock (U. S. Corps of Engineers p. b. m. 45) -----	429. 513
Dixons Landing, about 1 mile below, 335 meters (1,099 feet) west of Frank Herchmeyer's house, 20 meters (66 feet) from water's edge at high water, at southern edge of cultivated field; center of copper bolt leaded horizontally in west end of solid rock (U. S. Corps of Engineers p. b. m. 46) -----	454. 632
Point Landing, 350 meters (1,148 feet) north of, 35 meters (82 feet) north of small stone ice house, about 5 meters (16 feet) below top of bluff rock, about 250 meters (820 feet) northeast of Joseph	

Navar's house, 12 meters (39 feet) above water's edge; center of copper bolt leaded horizontally in solid bluff rock (U. S. Corps of Engineers p. b. m. 47)-----
 Feet.
 432. 203

Bench marks established near Rosedale.

Rosedale, near, in sec. 33, T. 7 N., R. 13 W., about 3,000 feet north of east and west line between Quarry and Rosedale townships, on east side of north-south highway following foot of bluffs, 375 feet from south end of an osage orange hedge fence on west side of highway, 285 feet north of stone fence in hedge row, 27 feet east from center of wagon track; highest point in a square cut on top of southwest part of a limestone boulder projecting from ground (U. S. Corps of Engineers t. b. m. 8)-----
 439. 991

Rosedale, near, in sec. 28, T. 7 N., R. 13 W., 650 feet north of house and barn of Mr. A. Ridenour, in north-south highway along foot of bluffs, 8 feet east from center of wagon track, 2 feet west from east highway fence line, 24.5 feet northwest of 16-inch elm tree; highest point of a square cut in limestone boulder 4.5 by 5 feet. (U. S. Corps of Engineers t. b. m. 9)-----
 440. 582

OQUAWKA QUADRANGLE.

Bench marks established at Oquawka.

Oquawka, Robert Moir's brick store building at northwest corner of Schuyler and Second streets, southwest corner about 2 feet above water table; center of hole in copper bolt leaded horizontally in stone pillar (U. S. Corps of Engineers p. b. m. 17)-----
 536. 287

Oquawka, on brick building on southeast corner of Third and Schuyler streets, on west side of northwest corner, 2½ feet above ground; center of hole in copper bolt marked "U. S. P. B. M." (U. S. Corps of Engineers p. b. m. 18)-----
 548. 132

KEITHSBURG QUADRANGLE.

Keithsburg north along Mississippi River to New Boston.

Keithsburg, on south side of brick building on northwest corner of Main and Second streets; top of copper bolt leaded vertically in stone step, marked "U. S. P. B. M." (U. S. Corps of Engineers p. b. m. 19)-----
 539. 899

Keithsburg, south side of Mr. Rife's brick house, on northwest corner of Main and Fifth streets; top of copper bolt leaded vertically in southwest corner of upper stone step (U. S. Corps of Engineers p. b. m. 20)-----
 549. 819

New Boston, on foundation of water tank 2 miles east of, on line of Chicago, Burlington & Quincy R. R., 150 meters (492 feet) east of covered railroad bridge over Edwards River; center of hole in copper bolt set horizontally on west side of tank under a strut, below top of foundation, marked "U. S. P. B. M." (U. S. Corps of Engineers p. b. m. 21)-----
 555. 116

New Boston, northeast corner of Keokuk Northern Line Packet Co.'s warehouse, 0.7 meter (2.3 feet) from ground; center of hole in copper bolt set horizontally in north wall of stone foundation, marked "U. S. P. B. M. 22" (U. S. Corps of Engineers p. b. m. 22)-----
 545. 281

New Boston, 0.4 meter (1.3 feet) from northeast corner of Union Hotel, 1.1 meters (3.6 feet) from ground; center of hole in copper bolt set horizontally in north wall, marked "U. S. P. B. M." (U. S. Corps of Engineers p. b. m. 23)-----	Feet. 570.700
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MILAN QUADRANGLE.**Bench marks established near Rock Island.**

Arsenal Island, at lower end of, on base of stone tower of United States arsenal stone building A, 1865; center of hole in copper bolt leaded horizontally in east side of northeast corner, about 4 feet from ground, marked "U. S. P. B. M." (U. S. Corps of Engineers p. b. m. 40)-----	577.626
Rock Island, near Chicago, Rock Island & Pacific Ry., in upper foundation stone on north side at northeast corner of Atlantic Brewery; top of copper bolt marked "U. S. P. B. M." (U. S. Corps of Engineers p. b. m. 41)-----	581.536
Rock Island, on south abutment of wagon bridge crossing from Moline to head of Rock Island; top of copper bolt set vertically on east end of abutment, marked "U. S. P. B. M." (U. S. Corps of Engineers p. b. m. 42)-----	569.285

LECLAIRE QUADRANGLE.**Watertown north along Mississippi River to Cordova.**

Watertown, 164 feet southeast of Chicago, Milwaukee & St. Paul Ry. station, on brick basement of H. Smith's residence; center of hole in copper bolt leaded horizontally in west side near northwest corner, marked "U. S. P. B. M." (U. S. Corps of Engineers p. b. m. 43)---	575.382
Hampton, on east side of brick schoolhouse near southeast corner; center of hole in copper bolt set horizontally 0.5 meter (1.6 feet) from ground, marked "U. S. P. B. M." (U. S. Corps of Engineers p. b. m. 44)-----	580.535
Hampton, on stone foundation of Baker & Hayward's brick store building, on levee, at highwater mark of 1880; center of hole in copper bolt leaded horizontally in north side of northwest corner of building, marked "U. S. P. B. M." (U. S. Corps of Engineers p. b. m. 45)-----	570.512
Rapids City, on stone foundation of H. M. Gilchrist's brick store building, on river bank; center of hole in copper bolt leaded horizontally in west side of northwest corner, 4 feet above ground, marked "U. S. P. B. M." (U. S. Corps of Engineers p. b. m. 46)----	576.741
Port Byron, 0.8 mile south of, on abutment of railroad bridge over Barbers Creek; top of copper bolt leaded vertically in west end of north abutment, marked "U. S. P. B. M." (U. S. Corps of Engineers p. b. m. 47)-----	580.382
Port Byron, on foundation of Mr. N. Dorrance's brick store building between Main Street and railroad track, about 75 feet from river bank; center of hole in copper bolt leaded horizontally in west side of southwest corner (U. S. Corps of Engineers p. b. m. 48)-----	581.859
Port Byron, brick store building of A. H. Wandt on east side of Main Street, east side, south doorstep; bolthead on iron doorstep, marked with a cross cut through its center by a cold chisel, letters "U. S. P. B. M." on bricks below (U. S. Corps of Engineers p. b. m. 49)-----	587.771

Cordova, stone warehouse of Northern Line Packet Co. at water's edge, 6.5 feet below high-water mark, near southwest corner of building; center of copper bolt set horizontally in south side (U. S. Corps of Engineers p. b. m. 50)-----	Feet. 574. 163
Cordova, near Chicago, Milwaukee & St. Paul Ry. station, in north face, near northwest corner, in third corner stone from top of foundation of William G. Marshall's brick elevator; copper bolt marked "U. S. P. B. M." (U. S. Corps of Engineers p. b. m. 51)-----	595. 357

CLINTON QUADRANGLE.

Clinton north along Mississippi River to Thomson.

Albany, brick store building of Harper & Son, 90 meters (295 feet) from river, on main business street of town, almost directly back of old brick storehouse now caving into river, west side, southwest corner; center of hole in copper bolt set horizontally on foundation (U. S. Corps of Engineers p. b. m. 52)-----	595. 968
Albany, 1.2 miles north of, about 3.5 meters (11.5 feet) above a wagon road, 15 meters (49 feet) east of wagon road, and 90 meters (295 feet) east of Chicago, Milwaukee & St. Paul Ry., on base of large shoulder of natural rock projecting from bluff; copper bolt leaded horizontally into base of cliff 1 foot above ground, marked "U. S. P. B. M." (U. S. Corps of Engineers p. b. m. 53)-----	598. 928
Albany, 2.5 miles north of; copper-bolt set vertically in west side of south abutment of Chicago, Milwaukee & St. Paul Ry. bridge, marked "U. S. P. B. M." (U. S. Corps of Engineers p. b. m. 54)----	578. 254
Fulton, about 2 miles south of; on railroad bridge over Cattail Creek; copper bolt set vertically in top of east end of abutment (U. S. Corps of Engineers p. b. m. 55)-----	581. 516
Fulton, about 2 miles south of, on railroad bridge over Cattail Creek, about 200 meters (656 feet) south of Chicago, Burlington & Quincy R. R. crossing; top of copper bolt set vertically in top of east end of north abutment (U. S. Corps of Engineers p. b. m. 56)-----	582. 777
Fulton, on northeast corner of Cherry and Bench streets, stone foundation wall of Northern Illinois College, 3½ feet above ground and 14 inches from southwest corner of foundation; center mark of copper bolt leaded horizontally in south face (U. S. Corps of Engineers p. b. m. 57)-----	597. 584
Fulton, southeast corner of engine room of elevator, under planking; point on water table (U. S. Corps of Engineers p. b. m. 35)-----	586. 400
Fulton Junction, 970 meters (3,182 feet) north of crossing of Chicago, Milwaukee & St. Paul Ry. and Chicago & Northwestern Ry., southeast abutment of railroad bridge; top of copper bolt leaded vertically in bridge-seat stone (U. S. Corps of Engineers p. b. m. 58)---	583. 026
Fulton Junction, 3 miles north of, in west end of north abutment of railroad bridge; top of copper bolt leaded vertically in second course of stone from top (U. S. Corps of Engineers p. b. m. 59)----	589. 842
Thomson, west end of Christian Church, 250 meters (820 feet) east of track of Chicago, Milwaukee & St. Paul Ry.; center mark of copper bolt leaded horizontally in foundation wall (U. S. Corps of Engineers p. b. m. 60)-----	606. 355

SAVANNA QUADRANGLE.

Marcus south along Chicago, Milwaukee & St. Paul Ry. to Savanna.

Marcus, 0.2 mile below station, 200 feet above head block at lower end of northeast siding, 18 feet above the head block of southwest siding, 35 feet southwest of center of track, on southwest side close to wire fence, on highest ridge of ground, 27 feet north of blazed white oak tree; copper bolt in tile set 3 feet underground (U. S. Corps of Engineers p. b. m. 330)-----	Feet. 584. 275
Top of cap on iron post set over p. b. m. 330 (U. S. Corps of Engineers p. b. m. 331)-----	588. 282
Marcus, 1.8 miles below, on line of Chicago, Burlington & Quincy R. R. opposite upper end of bridge 40, on river side of track, 48 feet from center, in angle formed by right of way fence and wing fence to bridge; copper bolt in tile set 3 feet below ground (U. S. Corps of Engineers p. b. m. 332)-----	589. 845
Top of cap on iron post set over p. b. m. 332, about 1 foot above ground (U. S. Corps of Engineers p. b. m. 333)-----	593. 855
Savanna, about 1.5 miles above, 1,453 feet below center of bridge 35, about 90 feet below small white house, 318 feet above milepost 284-147, 150 feet below point of tangent at lower end of long curve, opposite north end of prominent portion of bare rock bluff on east side of right of way, 3 feet west of high board fence; copper bolt in tile set 3 feet below surface of ground (U. S. Corps of Engineers p. b. m. 334)-----	592. 063
Top of cap on iron pipe set over p. b. m. 334, standing about 1 foot above ground (U. S. Corps of Engineers p. b. m. 335)-----	596. 055
Savanna, on south side of Chicago, Milwaukee & St. Paul Ry. elevator, about 12 feet from west corner and 1.5 feet above ground; top of ringbolt leaded horizontally (old U. S. Corps of Engineers b. m. 18)-----	580. 241
Savanna, on southeast corner of Main and Murray streets, first doorstep from north end of Radke House, on its north end; top of copper bolt leaded vertically (U. S. Corps of Engineers p. b. m. 336)---	598. 976
Savanna, 600 feet below crossing of Chicago, Milwaukee & St. Paul Ry. line to Sabula and Chicago, Burlington & Quincy R. R. line to Fulton, on land of A. Hershey, 12 feet back from top of bank of slough and 15 feet below Jones & Jordan's boathouse; copper bolt in tile set 3 feet underground (U. S. Corps of Engineers p. b. m. 337)-----	586. 008
Top of cap on iron post set over p. b. m. 337, standing about a foot above surface of ground (U. S. Corps of Engineers p. b. m. 338)---	590. 000

Bench marks established near Savanna.

Savanna, 1 mile south of, in middle pier directly under railroad bridge E 392; top of copper bolt leaded vertically (U. S. Corps of Engineers p. b. m. 61)-----	587. 146
Savanna, engine room of Chicago, Milwaukee & St. Paul Ry. Co.'s elevator on bank of river, south end of south door, east side; top of copper bolt leaded vertically in doorsill (U. S. Corps of Engineers p. b. m. 62)-----	592. 312
Savanna, same sill, Capt. Mackenzie's b. m. 34; cross mark-----	592. 315

Savanna, on northwest corner of Main and Jefferson streets, southeast corner of brick building, in south face; center of copper bolt leaded horizontally in facing stone (U. S. Corps of Engineers p. b. m. 63)-----	Feet. 599. 779
Savanna, 2.5 miles east of Junction House, 164 feet south of main line of Chicago, Milwaukee & St. Paul Ry., in top of west end of north abutment of wagon bridge over Plum River; top of copper bolt leaded vertically (U. S. Corps of Engineers p. b. m. 64)-----	593. 974

MOUNT CARROLL QUADRANGLE.

Mount Carroll east along Chicago, Milwaukee & St. Paul Ry. to Lanark Junction.

Hickory Grove, west of Chicago, Milwaukee & St. Paul Ry. station, 300 meters (984 feet) north of milepost 1, in east side of stone foundation wall of barn owned by J. Fish, 5 feet south of door and 3 feet above ground; center mark of copper bolt leaded horizontally (U. S. Corps of Engineers p. b. m. 65)-----	674. 084
Mount Carroll, about 100 meters (328 feet) south of station and 40 meters (131 feet) east of Chicago, Milwaukee & St. Paul Ry., in barn building attached to elevator, in west end of south face of stone foundation, 3 feet above ground; center mark of copper bolt leaded horizontally (U. S. Corps of Engineers p. b. m. 66)-----	817. 159
Lanark, about 4 miles west of, north end of east abutment of railroad bridge 454 over Carroll Creek, in second course of stone from top; top of copper bolt leaded vertically, stone marked "U. S. P. B. M., May 25, 1883" (U. S. Corps of Engineers p. b. m. 67)-----	788. 940
Lanark, 25 feet from southwest corner of Carroll and Main streets, in upper doorstep of brick building occupied by a bank, 1½ feet above ground; top of copper bolt leaded vertically (U. S. Corps of Engineers p. b. m. 68)-----	883. 334
Lanark, 2.2 miles east of, in coping of north end of east abutment of railroad bridge over Carroll Creek; top of copper bolt leaded vertically (U. S. Corps of Engineers p. b. m. 69)-----	840. 356
Lanark Junction, 3.5 miles east of, 140 meters (459 feet) south of railroad track, in barn owned by M. Crabtree, east end of north face of stone foundation wall, 2 feet above ground; center mark of copper bolt leaded horizontally (U. S. Corps of Engineers p. b. m. 70)-----	947. 489

FORESTON QUADRANGLE.

At Foreston Junction.

Foreston Junction, where Chicago, Milwaukee & St. Paul Ry. track passes under the Illinois Central R. R., in lower step of west wing of south abutment of stone archway, in fourth course of stone from bottom; top of copper bolt leaded vertically (U. S. Corps of Engineers p. b. m. 71)-----	877. 140
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OREGON QUADRANGLE.

Adeline east along Chicago, Milwaukee & St. Paul Ry. to Byron.

Adeline, near station, in Chicago, Milwaukee & St. Paul Ry. elevator building, in east face of stone foundation wall, at southeast corner, about 4 feet above ground; center mark of copper bolt leaded horizontally (U. S. Corps of Engineers p. b. m. 72)-----	750. 933
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Leaf River, 70 meters (230 feet) east of station, just opposite water tank in elevator building owned by D. Sprecker, east end of south face of stone foundation wall, about 4 feet above ground (U. S. Corps of Engineers p. b. m. 73)-----	Feet. 709. 146
Byron, 560 meters (1,837 feet) south of railroad track, in brick and stone building fronting on Walnut Street, north wall of northeast corner, 11 inches from corner and 4 feet above ground; center mark in copper bolt leaded horizontally (U.S. Corps of Engineers p. b. m. 74)-----	729. 482
Byron, 1.2 miles east of, in west abutment of railroad bridge over Rock River, in stone coping, south side; top of copper bolt leaded vertically (U. S. Corps of Engineers p. b. m. 75)-----	693. 461

KINGS QUADRANGLE.

Stillman Valley east along Chicago, Milwaukee & St. Paul Ry. to Davis Junction.

Stillman Valley, 50 meters (164 feet) east of station, 66 feet south of main track, in west front of foundation wall of elevator building owned by J. D. & J. J. White, 11 inches from northwest corner; center mark of copper bolt leaded horizontally (U. S. Corps of Engineers p. b. m. 76)-----	706. 893
Davis Junction, 1.6 miles west of, in north end of west abutment of small railroad bridge; top of copper bolt leaded vertically in coping stone (U. S. Corps of Engineers p. b. m. 77)-----	808. 617

KIRKLAND QUADRANGLE.

Monroe Center east along Chicago, Milwaukee & St. Paul Ry. to Kingston.

Monroe Center, 24 meters (79 feet) west of station, in east face of stone foundation wall of elevator building owned by D. A. Cipperly, 1½ feet north of southeast corner and 3½ feet above ground; center mark of copper bolt leaded horizontally (U. S. Corps of Engineers p. b. m. 78)-----	842. 986
Fielding, 10 meters (33 feet) north of main track of railroad, in south face of stone foundation wall of elevator, 25 feet west of southeast corner and 2½ feet above ground; center mark of copper bolt leaded horizontally (U. S. Corps of Engineers p. b. m. 79)-----	785. 980
Kirkland, 175 meters (574 feet) south of railroad track, on street running to station from south, in brick building owned by Dean & Rowen, 6 inches from northwest corner on west face of stone foundation 5 feet above ground; center of copper bolt leaded horizontally (U. S. Corps of Engineers p. b. m. 80)-----	774. 820
Kingston, 0.5 mile east of station and 10 meters (33 feet) north of main track, in Chapman's Addition, in water table on west face, northwest corner of brick store building belonging to Julius Chapman; center mark in copper bolt leaded horizontally (U. S. Corps of Engineers p. b. m. 81)-----	804. 981

GENOA QUADRANGLE.

Genoa east along Chicago, Milwaukee & St. Paul Ry. to Hampshire.

Genoa, 100 meters (328 feet) south of main track of railroad, at corner of Main and Emmet streets, in brick store building owned by Alexander Crawford, south end of stone doorsill on east side; top of copper bolt leaded vertically (U. S. Corps of Engineers p. b. m. 82)-----	838. 695
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Hampshire, on State Street, in brick building owned by Phillip Shultz, used for post office and drug store, in stone water table in west face of southwest corner; center mark of copper bolt leaded horizontally (U. S. Corps of Engineers p. b. m. 83)----- Feet. 900.349

ELGIN QUADRANGLE.

Pingree Grove east along Chicago, Milwaukee & St. Paul Ry. to point near Elgin.

Pingree Grove, about 100 meters (328 feet) northeast of station, in foundation of store building owned by J. B. Schedden, north face, 5 feet from northwest corner, 1 foot above ground; center mark of copper bolt leaded horizontally (U. S. Corps of Engineers p. b. m. 84)----- 917.833

Dumser station, 0.8 mile west of, in railroad culvert 19, 20 meters (66 feet) north of railroad track, east end of north abutment; top of copper bolt leaded vertically in coping stone (U. S. Corps of Engineers p. b. m. 85)----- 850.728

West Elgin, corner of State Street and Highland Avenue, in water table of large brick building known as the Waverly House, on north face, 6 inches from northeast corner and 4 feet above ground; center mark of a horizontal bolt (U. S. Corps of Engineers p. b. m. 86)----- 717.491

West Elgin, on southwest corner of River Street and railroad track, on north face of brick and stone building owned by Robert Beckwith, east end of stone doorstep; top of copper bolt leaded vertically (U. S. Corps of Engineers p. b. m. 87)----- 715.456

East Elgin, on Center Street, between Du Page and Chicago streets; cross cut in west face of brick foundation wall of building owned by the Elgin Scientific Association (U. S. Corps of Engineers b. m. Newcomb)----- 745.889

Elgin, 1.1 miles south of, in west end of south abutment of railroad bridge over Fox River; top of copper bolt leaded vertically in coping stone (U. S. Corps of Engineers p. b. m. 88)----- 721.863

WHEATON QUADRANGLE.

Bartlett east along Chicago, Milwaukee & St. Paul Ry. to Roselle.

Bartlett, 150 meters (492 feet) northwest of station, 100 meters (328 feet) north of railroad track, in stone foundation of Congregational Church, east face of southeast corner; copper bolt leaded horizontally (U. S. Corps of Engineers p. b. m. 89)----- 804.057

Roselle, on southeast corner of Chicago Street and road crossing it, in north face of foundation wall of brick business building owned by Matthew Secker, standing about 80 meters (262 feet) north of railroad track, 3 feet from northeast corner and 2 feet above ground; center of copper bolt leaded horizontally (U. S. Corps of Engineers p. b. m. 90)----- 772.155

RIVERSIDE QUADRANGLE.

Mount Forest northeast to point near summit.

Mount Forest, 80.5 feet below and opposite center of Chicago & Alton R. R. station, on top of uppermost course of stone in northwest abutment of bridge (now gone) over the Illinois & Michigan Canal; highest point in a square cut (U. S. Corps of Engineers t. b. m. 460)----- 593.154

Mount Forest, on same bridge abutment as t. b. m. 460; highest point in northwest quarter of a circle cut on third step from bottom in southwest wing wall (Sanitary District b. m. 49)-----	Feet. 591. 330
Mount Forest, on same bridge abutment as t. b. m. 460; highest point in a square cut on top of uppermost course (Sanitary District b. m. 48)-----	593. 110
Mount Forest, near, 420 feet northeast along canal from center of remains of old wooden abutment of railroad bridge (now gone), 18.5 feet back from front edge of towpath, 197 feet east-northeast from north corner of stone foundation Piper house, now torn down, above Mount Forest; highest point in a square cut on top of a large boulder situated on northwest side of the Illinois & Michigan Canal (U. S. Corps of Engineers t. b. m. 461)-----	594. 801
Mount Forest, near, near center of sec. 27, T. 38 N., R. 12 E., 2.1 miles along towpath above Wentworth Avenue in Willow Springs, 32.5 feet east-northeast from double cottonwood tree, 58.8 feet southwest from telephone pole 408; highest point in a square cut on top of southwest one of two boulders, 5.5 feet apart, on northwest side of Illinois & Michigan Canal (U. S. Corps of Engineers t. b. m. 462)-----	593. 605
Summit, near, 1.5 miles along canal below Chicago & Calumet Terminal R. R. bridge over canal, about 1,010 feet below point where wagon track leaves towpath to follow along top of spoil banks, opposite middle of a row of 10 willow trees, on northwest side of Illinois & Michigan Canal; highest point in a square cut on top of a limestone boulder lying 9.5 feet back from edge of towpath, between towpath proper and wagon track (U. S. Corps of Engineers t. b. m. 463)-----	593. 882
Summit, near, 3,640 feet southwest along towpath from center of railroad bridge over Illinois & Michigan Canal, near foot of southeast spoil banks, 7 feet south of telephone pole 331, 23 feet back from front angle of towpath, 6.35 feet northeast from 3-inch crab-apple tree, on northwest side of canal; highest point in a square cut on highest part of a large embedded granite boulder at cove or recess in spoil banks (U. S. Corps of Engineers t. b. m. 464)-----	593. 873
Summit, about 1 mile below, northwest abutment of railroad bridge over the Illinois & Michigan Canal; highest point in a square cut on top of third step down from top of west wing wall. (U. S. Corps of Engineers t. b. m. 465)-----	593. 209
Summit, 1 mile below, southeast abutment of Chicago & Calumet Terminal R. R. bridge over the Chicago Drainage Canal, near southwest end of abutment; copper bolt leaded vertically in top of bridge seat or coping course. (U. S. Corps of Engineers p. b. m. 122)-----	594. 823
Summit, about 1 mile below, northwest abutment of railroad bridge over Illinois & Michigan Canal, second course below the coping course; center punch mark in end of copper bolt leaded horizontally into northeast end of third course down from iron bridge seat (Sanitary district b. m. 40)-----	593. 577
Summit, near, 270.5 feet northeast from inside of outer rail of the northeast track of Chicago & Calumet Terminal R. R., 40 feet back from front edge of towpath, on southeast slope of spoil banks on northwest side of Illinois & Michigan Canal; highest point in the southwest quadrant of a circle cut on top of a flat limestone boulder. (Sanitary district b. m. 39)-----	602. 763

	Feet.
Summit, about 1 mile below, on southwest end stone of the second course down from top of earth wall of southeast abutment of the Chicago & Calumet Terminal R. R. bridge over the Chicago Drainage Canal; highest point in a square cut 6 inches back from west angle of stone. (Sanitary district b. m.)-----	600. 510
Summit, about 0.5 mile south of, between the Michigan Central R. R. right of way and the German Lutheran Church property, in northwest corner of front yard of William T. Welbourn's brick residence on east side of Archer road; copper bolt leaded vertically into limestone boulder. (U. S. Corps of Engineers p. b. m. 123)-----	611. 266
Top of cap of post-----	615. 216
Summit, about 0.5 mile below, between Michigan Central R. R. right of way and German Lutheran Church property, in front yard of William T. Welbourn's large red barn; top of agate hemisphere marking triangulation station west base of the Chicago base line lake survey of 1877. (Chicago west base b. m.)-----	616. 331
Summit, west-northwest concrete abutment of highway bridge over Illinois & Michigan Canal; highest point in a square cut on top of horizontal base of coping of lower wing wall. (U. S. Corps of Engineers t. b. m. 466)-----	592. 370
Summit, southeast abutment of highway drawbridge over the Chicago Drainage Canal; copper bolt leaded vertically in top of stone coping or bridge seat course. (U. S. Corps of Engineers p. b. m. 124)-----	599. 621
Summit, very near p. b. m. 124; highest point in a square 1.4 feet back from northwest face of coping and 0.9 foot in front of earth wall of abutment. (Sanitary district b. m.)-----	599. 635
Summit, near north-northwest side of the Illinois & Michigan Canal, 19 feet back from front edge of towpath, 2.1 feet south of the line of telephone poles; highest point in a square cut on top of a granite boulder lying on the south slope of the spoil banks. (U. S. Corps of Engineers t. b. m. 468)-----	595. 636
Summit, 1.7 miles northeast of, southeast abutment of railroad drawbridge over Chicago Drainage Canal; copper bolt leaded vertically in top of bridge seat or coping course, 1.4 feet in front of earth wall of abutment. (U. S. Corps of Engineers p. b. m. 125)-----	595. 110
Summit, 1.7 miles northeast of, 1,783.5 feet east from crossbeam at southeast end of railroad drawbridge over Chicago Drainage Canal, 2 feet northeast from the range of two telephone poles, in different lines, on the Illinois & Michigan Canal right of way, 112.8 feet northeast of pole 48; copper bolt leaded vertically into limestone block. (U. S. Corps of Engineers p. b. m. 126)-----	601. 006
Top of cap of iron post-----	604. 967

Itasca east along Chicago, Milwaukee & St. Paul Ry. to Cragin. . .

Itasca, 80 meters (262 feet) north of track, northeast of station, in east face foundation wall of frame store building owned by Dr. Elijah Smith, 2 feet from southeast corner; center of copper bolt leaded horizontally (U. S. Corps of Engineers p. b. m. 91)-----	699. 103
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Bensenville, 40 meters (131 feet) north of station, in south side of frame store building owned by C. A. Franz, in stone foundation, 1 foot west of southeast corner and 2 feet above ground; center of copper bolt leaded horizontally (U. S. Corps of Engineers p. b. m. 92) -----	Feet. 681.157
Mannheim, 250 meters (820 feet) northwest of station, in south side of base of brick chimney at C. H. Bossenberg's creamery, in middle of chimney, 3 feet above ground (U. S. Corps of Engineers p. b. m. 93) -----	651.079
Cragin, on northeast corner of Grand and Armitage avenues, about 150 meters (492 feet) north of the line of the Chicago, Milwaukee & St. Paul Ry., in east face of foundation wall of Jennings's brick saloon building, 10 inches from southeast corner and 4 feet above ground; center of copper bolt leaded horizontally (U. S. Corps of Engineers p. b. m. 94) -----	618.068

CHICAGO QUADRANGLE.

At Chicago.

Chicago, on southeast corner of Dixon Street and Bloomingdale Road, about 20 meters (66 feet) southwest of crossing of Chicago, Milwaukee & St. Paul Ry. and Chicago & Northwestern Ry., in west face of brick building known as L. Epps & Co.'s malt house, 6 inches from northwest corner and 2½ feet above ground; center of copper bolt leaded horizontally (U. S. Corps of Engineers p. b. m. 95) ----	591.811
Chicago, south side of Chicago Avenue at Nos. 242 and 244, near Clark Street, in north face of police station, brick building, 1 foot west of northeast corner and 3½ feet above ground; center of copper bolt leaded horizontally (U. S. Corps of Engineers p. b. m. 96) -----	598.342
Chicago, northeast corner of Chicago Avenue and Pine Street, in east face of southeast buttress of stone engine house of the Chicago waterworks, in stone water table, 18 inches north of southeast corner and 3 feet above ground (U. S. Corps of Engineers p. b. m. 97) -----	595.821
Chicago, northwest corner of Chicago Avenue and Pine Street, in middle of south wall of water tower, in east end of south doorsill, 3 feet above ground; top of copper bolt leaded vertically (U. S. Corps of Engineers p. b. m. 98) -----	598.479
Chicago, in Illinois Central R. R. stone freight depot, situated on Goodrich Street docks on west side of Slip A, opposite the Central Elevator, in east face of foundation wall, 1 foot south of northeast corner and 2½ feet above ground; center mark of a copper bolt leaded horizontally (U. S. Corps of Engineers p. b. m. 99) ----	591.560
Chicago, in Lake Michigan, crib of Chicago waterworks, on top of iron cylinder of shaft of 5-foot tunnel, on east side of top of shaft; cross cut with cold chisel, not lettered (U. S. Corps of Engineers p. b. m. 100) -----	587.963
Zero of "Crib" gage -----	587.948
Chicago, top of east end of stone step of private entrance, 161 North Avenue, on northwest corner of Halsted Street and North Avenue (City b. m. I) -----	595.611
Chicago, stone step, west corner of brick house at 153 Division Street, third lot west of Grace Street (City b. m. II) -----	594.012

Chicago, northeast corner of Halsted Street and West Chicago Avenue, water table of roundhouse (established before fire of 1871) (City b. m. III)-----	Feet. 589. 871
Chicago, northeast corner of Wesson Street and East Chicago Avenue; extreme corner of sidewalk (City b. m. IV)-----	593. 752
Chicago, south side of Chicago Avenue near Clark Street; east end of coping of iron fence of police station (City b. m. VI)-----	595. 288
Chicago, northwest corner of tower of St. James Church, at southeast corner of Cass and Huron streets; on corner of stone water table (City b. m. VII)-----	595. 604
Chicago, southeast corner of Chicago waterworks (machine shop), east of Pine Street on Chicago Avenue; corner of stone water table (City b. m. VIII)-----	593. 163
Chicago, Chicago Avenue shaft at waterworks into 7-foot tunnel; north corner of iron frame of manhole; said to have been disturbed by grading sidewalk (City b. m. IX)-----	593. 493
Chicago, on north side of mouth of Chicago River, upper surface of lower horizontal bar (compression member) between the south pillars of lighthouse (City b. m. XIII)-----	589. 155

Bench marks established at or near Chicago.

Chicago, near, 220.4 feet south-southeast from center of railroad track, 30.2 feet from center of wagon track on top of spoil banks, about 118 feet above upper end of part of spoil banks densely overgrown with small willows, 1,279 feet south-southwest along spoil bank from range of center line of culvert of Chicago & Alton Ry. over creek; top of a cast-iron standard bench-mark post set at north-northwest foot of spoil banks on north-northwest side of Illinois & Michigan Canal (Sanitary district b. m. 22)-----	593. 892
Chicago, near, southeast foot of spoil banks on north-northwest side of Illinois & Michigan Canal, 7.3 feet back from present front angle of towpath, at a point 1,136 feet west-southwest, along towpath from range of center of a culvert on Chicago & Alton R. R., over creek entering canal from the southeast, about 260 feet above part of spoil bank densely overgrown with small willows; highest point in a square cut on top of a granite boulder (U. S. Corps of Engineers t. b. m. 470)-----	592. 660
Chicago, near, about 5.390 feet below the Belt Ry. of Chicago bridge over the Illinois & Michigan Canal, 14 feet back from front angle of towpath, at southeast foot of spoil banks on the northwest side of the canal, 469 feet southwest of Chicago & Alton R. R. "Yard limits" sign, 59.2 feet east of pole 017; highest point in a square cut on top of a granite boulder (U. S. Corps of Engineers t. b. m. 471)-----	592. 858
Chicago, north abutment of Chicago & Western Indiana R. R. bridge over the Illinois & Michigan Canal, 3.5 feet up from towpath; highest point of a niche cut in the quarry-faced projection on the south face of the west end stone of the second course up from ground (U. S. Corps of Engineers t. b. m. 472)-----	590. 631
Chicago, on same bridge and abutment as t. b. m. 472, 8.4 feet north from range of south face of abutment; bolt in sixth course from top (Sanitary district b. m. 24)-----	592. 537

Chicago, on same bridge and abutment as t. b. m. 472; highest point in a square cut on top of east bridge seat stone, east edge, 1 foot from its northeast corner. Bridge seat stone badly fractured. (Sanitary district b. m. 18)-----	Feet. 598. 864
Chicago, south abutment of the four-track Chicago & Western Indiana R. R. drawbridge over Chicago Drainage Canal, in top of southeast end stone of second course down from top of the earth and east wing wall; copper bolt leaded vertically (U. S. Corps of Engineers p. b. m. 127)-----	601. 432
Chicago, near east line of Crawford Avenue, 12 feet east of a north-south line of telephone poles along east side of street, in line with row of telephone poles nearer to the canal, of two lines of telephone poles paralleling the northwest side of the Illinois & Michigan Canal, west of Crawford Avenue; copper bolt leaded vertically in top of limestone block (U. S. Corps of Engineers, p. b. m. 128)-----	593. 533
Top of cap of iron post-----	597. 499
Chicago, northwest abutment of railroad bridge over the Illinois & Michigan Central at Corwith; highest point on the bottom of a square niche cut in quarry-shaped projection on the southeast face of northeast end stone in fourth course below coping or bridge seat course (U. S. Corps of Engineers t. b. m. 474)-----	592. 509
Chicago, on same abutment as t. b. m. 474; highest point in the northwest quadrant of a circle cut on top of coping of the southwest wing wall (Sanitary district b. m. 16)-----	600. 332
Chicago, on same abutment as t. b. m. 474; center punch mark of a copper bolt in northeast face of coping or bridge seat course (Sanitary district b. m. 15)-----	597. 787
Chicago, opposite Corwith, west wing wall of south abutment of railroad bridge over the Chicago Drainage Canal, on second step down from top of the earth wall of abutment, 1 foot from end of step; copper bolt leaded vertically in top of southwest end stone of third course up from the bridge seat (U. S. Corps of Engineers p. b. m. 129)-----	599. 165
Chicago, on same abutment as p. b. m. 129; highest point in a square cut on top of northeast corner of the stone at junction of the earth wall and wing wall in second course down from top of earth wall (Sanitary district b. m.)-----	600. 709
Chicago, north abutment of railroad bridge over the Illinois & Michigan Canal at Corwith, at east edge of coping; highest point in a square cut on top of projecting coping course below the bridge seat stone blocks (Sanitary district b. m. 14)-----	596. 279
Chicago, north abutment of Kedzie Avenue Bridge over Illinois & Michigan Canal, near west end of abutment; highest point in a square cut on top of coping or bridge seat course (U. S. Corps of Engineers t. b. m. 475)-----	596. 781
Chicago, south abutment of Kedzie Avenue drawbridge over the Chicago Drainage Canal, 12.7 feet west from range of the west side of bridge; copper bolt leaded vertically in top of coping course of the west wing wall (U. S. Corps of Engineers p. b. m. 130)-----	600. 390
Chicago, same abutment as p. b. m. 130; highest point in a square cut on top of east corner of coping of the parapet wall surrounding the coping course of east wing wall (Sanitary District b. m.)-----	603. 372

Chicago, east abutment of railroad drawbridge over the Chicago Drainage Canal, just east of Kedzie Avenue, near south end of abutment, 1 foot from south edge of base of cast-iron bridge seat; copper bolt leaded vertically in top of coping or bridge seat course (U. S. Corps of Engineers p. b. m. 131)-----	Feet. 595.700
Chicago, same abutment as p. b. m. 131; highest point in a square cut on top of southwest corner of top course of stone in earth wall, marked "B. M." (South Sanitary district b. m.)-----	603.162
Chicago, same abutment as South Sanitary District b. m., on top of northwest corner (North Sanitary district b. m.)-----	603.133
Chicago, north abutment of California Avenue Bridge over the Illinois & Michigan Canal, 2.2 feet west of jog in abutment wall, 1.2 feet above ground; highest point in a square cut on quarry-faced projection of south face of east stone of first or lowest course above ground (U. S. Corps of Engineers t. b. m. 476)-----	590.145
Chicago, at extreme east end of north abutment of the Pittsburg, Cincinnati, Chicago & St. Louis Ry. bridge over Illinois & Michigan Canal; highest point in a square cut on top of third step up from ground of old wing wall (U. S. Corps of Engineers t. b. m. 477)-----	593.374
Chicago, north curved wing wall of east abutment of railroad bridge over Southwest Boulevard; highest point in a square cut on top of coping stone of lowest step (U. S. Corps of Engineers t. b. m. 478)-----	593.458
Chicago, south abutment of the Pittsburg, Cincinnati, Chicago & St. Louis Ry. bridge over the Chicago Drainage Canal, on east end stone of third course of stone in abutment down from top; copper bolt leaded vertically in top of second step down from top of east wing wall (U. S. Corps of Engineers p. b. m. 132)-----	597.206
Chicago, west abutment of railroad bridge over Southwest Boulevard, in fourth course of stone below the coping; center punch mark of a copper bolt in north face of the north curved wing wall (U. S. Corps of Engineers p. b. m. 133)-----	595.853
Chicago, south abutment of drawbridge on Southwest Boulevard and Western Avenue over the Chicago Drainage Canal, near western end of abutment, 1.4 feet back from north face of coping; copper bolt leaded vertically in top of the coping or bridge-seat course (U. S. Corps of Engineers p. b. m. 134)-----	595.457
Chicago, same bridge and abutment as p. b. m. 134, below the parapet wall; highest point in a square on top of northwest corner of coping course (West Sanitary district b. m.)-----	600.402
Chicago, same bridge and abutment as p. b. m. 134, below the parapet wall; highest point in a square cut on top of northeast corner of coping course of east wing wall, marked "B. M." (East Sanitary district b. m.)-----	600.362
Chicago, about 0.6 mile below, west-southwest of the canal pumping works at Bridgeport, north or back face of northwest abutment of railroad bridge over the Illinois & Michigan Canal, near Robey Street, on bridge-seat course of stone; highest point in a square cut on top of a quarry-faced projection (U. S. Corps of Engineers, t. b. m. 479)-----	596.221
Chicago, same abutment as t. b. m. 479, in east face; center punch mark of copper bolt 1.7 feet north of southeast corner of abutment, 5.4 feet above ground in third course (Sanitary District b. m. 9)-----	592.705

	Feet.
Chicago, south face of north abutment of the Ashland Avenue Bridge over the Illinois & Michigan Canal at Bridgeport, in third course above ground; center punch mark of a copper bolt (U. S. Corps of Engineers p. b. m. 135)-----	588. 774
Chicago, same bridge abutment as p. b. m. 135, 4 feet west from southeast corner of abutment, south face of second course up from ground, or sixth course below coping course; highest point in a square in bottom of a niche on a quarry-faced projection (U. S. Corps of Engineers t. b. m. 480)-----	587. 404
Chicago, west side of Ashland Avenue at Bridgeport, boiler house of the Illinois & Michigan Canal pumping works; highest point in a square cut on top of northwest corner of stone foundation of north brick chimney (Sanitary district b. m. 7)-----	591. 780
Chicago, same location as Sanitary district b. m. 7, on southwest corner of stone foundation of south brick chimney of boiler house (Sanitary district b. m. 6)-----	591. 707
Chicago, southeast wall of old lock of the Illinois & Michigan Canal, east of Ashland Avenue at Bridgeport, 265.7 feet northeast from northeast corner of canal collector's office; highest part of remaining half of a square cut near front edge (Sanitary district b. m. 2)-----	584. 987
Chicago, at Bridgeport, 85.6 feet northeast from northeast corner of south abutment of Ashland Avenue Bridge over Illinois & Michigan Canal, on southeast side of canal, on front or northwest side of canal collector's office; highest point in a square cut on southwest end of doorstep (Sanitary district b. m. 1)-----	589. 372
Chicago, east abutment of railroad bridge over Quarry Street; highest point in a square cut on top of horizontal base part of inclined coping of north concrete wing wall (U. S. Corps of Engineers t. b. m. 481)-----	590. 391
Chicago, on north side of Archer Avenue, west concrete abutment of railroad bridge over Twenty-third Place, at north end of abutment; highest point in a square cut on top of the base or foundation projecting course (U. S. Corps of Engineers t. b. m. 482)-----	591. 842
Chicago, on top of west one of eight standstone bearing blocks, on which rests the iron columns of Lake Shore & Michigan Southern Ry. bridge over Twenty-third Street, between roadway and north sidewalk of street; highest point in a square (U. S. Corps of Engineers t. b. m. 483)-----	587. 969
Chicago, north stone abutment of railroad bridge carrying the Chicago, Rock Island & Pacific Ry. and the Lake Shore & Michigan Southern Ry. over Twenty-third Street; center punch mark of a copper bolt in south face of fourth course up from sidewalk (U. S. Corps of Engineers p. b. m. 136)-----	593. 559
Chicago, southeast corner of Twenty-second Street and Michigan Boulevard, north end of iron railing at west side of outdoor cellar stairway on east side of avenue; highest point in a square cut on top of stone sidewalk (U. S. Corps of Engineers t. b. m. 484)-----	594. 211
Chicago, on Michigan Boulevard, 4 feet west of west curb line of avenue, 206.5 feet south of south line of Twenty-second Street; copper bolt set vertically in square pyramid of concrete (City b. m. 7)-----	593. 321
Chicago, 38.2 feet west from southwest corner of 1441 Michigan Boulevard, 1.6 feet east of east curb line of avenue; top of west vertical bolt securing to its masonry foundation the base of a cast-iron lamp-post (U. S. Corps of Engineers t. b. m. 485)-----	594. 190

Chicago, opposite Lake Park, 26 feet south of south line of Harmon Place, on Michigan Avenue; copper bolt set vertically in square pyramid of concrete (U. S. Corps of Engineers p. b. m. 137)-----	Feet. 593. 140
Chicago, opposite Lake Park, 15.3 feet south of south line of Congress Street, 4.3 feet east of east curb line, on Michigan Avenue; copper bolt set vertically in a square pyramid of concrete (U. S. Corps of Engineers p. b. m. 138)-----	594. 269
Chicago, southeast corner of Michigan Avenue and Randolph Street, 24.2 feet south of center of south parapet wall of approach to bridge on Randolph Street over the Illinois Central R. R. tracks; copper bolt set vertically in a square pyramid of concrete (U. S. Corps of Engineers p. b. m. 139)-----	594. 392
Chicago, on south side of Water Street, brick freight office of the Illinois Central R. R.; highest point in a square cut on top of north stone foundation wall, 2.7 feet above ground (U. S. Corps of Engineers t. b. m. 486)-----	590. 197
Chicago, between Lincoln Park Boulevard and St. Clair Street, 14 feet south of southwest corner of George Bullen & Co.'s elevators; highest point in a square cut on top of north stone curb of Michigan Street (U. S. Corps of Engineers t. b. m. 488)-----	593. 182
Chicago, northeast corner of Chicago Avenue and Tower Place, near water tower, 5.8 feet north of north curb line of Chicago Avenue; copper bolt set vertically in a square pyramid of concrete (City b. m. 9)-----	592. 848
Chicago; zero of gage, city directrix, low water of 1847 ¹ -----	579. 938
Lake Michigan; mean lake level (1860-1875) ² -----	581. 63

DUBUQUE QUADRANGLE.

At East Dubuque.

East Dubuque, south end of west abutment of Jack Knife Draw of Illinois Central R. R. over the Chicago, Burlington & Quincy R. R., on southeast corner of top stone marked "B □ M"; highest point of square within the old circle (Old U. S. Corps of Engineers b. m. a.)-----	615. 349
East Dubuque, east of Chicago, Burlington & Quincy R. R. track, under end of the Dubuque highway bridge across the Mississippi, on upstream foundation stone supporting the triangular truss of bridge marked "B □ M"; highest point of square within old circle (Old U. S. Corps of Engineers b. m. b.)-----	614. 617

MILES QUADRANGLE.

Harris Landing south along Mississippi River to Arnold Landing.

Harris Landing, on land owned by Jackson Harris, east side of highway, on top of sand bluff, 184 feet above house occupied by L. T. Green, in northwest corner of small field, above dooryard, very close to roadside fence; top of copper bolt in tile set 3 feet underground (U. S. Corps of Engineers p. b. m. 317)-----	611. 095
Top of cap on iron pipe set over p. b. m. 317 (U. S. Corps of Engineers p. b. m. 318)-----	615. 061
Harris Landing, on Jackson Harris's farm, now occupied by L. T. Green, 207 feet below his house, in roadside very close to east fence, 3 feet below the fence at south side of dooryard, at north end of lilac hedge; copper bolt in tile set about 3 feet underground (U. S. Corps of Engineers p. b. m. 319)-----	612. 224

¹ City directrix is 8.01 feet lower than zero of "Crib" gage. (See p. 50.)² Mean lake level, 1860-1875, is zero of several gages in Lake Michigan.

Top of cap on iron pipe set over p. b. m. 319 (U. S. Corps of Engineers p. b. m. 320)-----	Feet. 616. 222
Harris Landing, about 1.5 miles below, and 1.5 miles above Island 256, back from top of sand bluff, under east fence of highway, 31 feet southeast from cattle pen, under wagon road leading from pasture through cattle chute to river, northeast from two large honey locust trees standing in said chute at top of bluff; copper bolt in tile set 3 feet below surface (U. S. Corps of Engineers p. b. m. 321)-----	620. 020
Top of cap on iron pipe set over p. b. m. 321 (U. S. Corps of Engineers p. b. m. 322)-----	624. 019
Island 256, opposite foot of, about 574 feet back from high-water line beyond top of bluff, on land of Mrs. McCabe, about 0.5 mile south of Benjamin Hatfield's house, 208 feet southwest of a 3-foot oak tree standing in field, at point of brush and head of small valley running east, by wire fence on south side of field; copper bolt in tile set about 3 feet under surface of ground (U. S. Corps of Engineers p. b. m. 323)-----	624. 199
Top of cap on iron pipe set over p. b. m. 323 (U. S. Corps of Engineers p. b. m. 324)-----	628. 196
Arnold Landing, at foot of sand bluff on south side of and 951 feet from left bank of Apple River, 0.8 mile above Arnold Landing, at corner of cultivated land, just above high-water level, on Mr. Eddy's land, about 60 feet south of an oak tree; copper bolt in tile set 3 feet underground (U. S. Corps of Engineers p. b. m. 325)-----	586. 364
Top of cap on iron pipe set over p. b. m. 325 (U. S. Corps of Engineers p. b. m. 326)-----	590. 357
Arnold Landing, on Mr. Eddy's large brick house, at southeast corner of main part, on south face of top foundation stone, 3 inches from east end and 2 inches from top of stone; center mark in a copper bolt leaded horizontally (U. S. Corps of Engineers p. b. m. 327)-----	611. 545
Arnold Landing, 0.5 mile below, 98 feet above t. b. m. 345, 148 feet below lower end of long cut and 1 mile above Marcus station, 45 feet south of center of track, on north side of right of way fence; copper bolt in tile set 3 feet underground (U. S. Corps of Engineers p. b. m. 328)-----	594. 094

PEARL QUADRANGLE.

Point near Spankey north along highway to point near Hillview.

Spankey, near, NE. $\frac{1}{4}$ sec. 17, T. 9 N., R. 13 W., 3 feet east of east fence and 9 feet north of south front fence of front dooryard of Mrs. J. Sheuten's farmhouse, 156.5 feet southeast from southeast corner of house; copper bolt leaded vertically in stone set underground (U. S. Corps of Engineers p. b. m. 8)-----	420. 565
Top of cap of iron post-----	433. 543
Eldred, sec. 28, T. 10 N., R. 13 W., northeast corner of schoolhouse yard, 98.7 feet northeast from northeast corner and 32.6 feet east of range of the east side of schoolhouse, 3 feet south of north fence, 3 feet west of east fence of school yard, 13 feet west of center of a sycamore tree; copper bolt leaded vertically in stone set underground (U. S. Corps of Engineers p. b. m. 9)-----	449. 552
Top of cap of iron post-----	453. 519

T. 10 N., R. 13 W., sec. 9, near Eldred, near northwest corner of Ed. V. Robley's front dooryard, on east side of north-south highway along foot of bluffs, 7 feet east of stone retaining wall along front of dooryard; copper bolt leaded vertically in stone set underground (U. S. Corps of Engineers p. b. m. 10)-----	Feet. 467. 360
Top of cap of iron post-----	471. 314
T. 11 N., R. 13 W., NE. $\frac{1}{4}$ sec. 23, about 1 mile south of Bridgewater, outside northwest corner of Alex Boirum's front dooryard, in an angle in east fence line of highway along foot of bluffs; copper bolt leaded vertically in stone set underground (U. S. Corps of Engineers p. b. m. 11)-----	473. 995
Top of cap of iron post-----	477. 967
T. 11 N., R. 13 W., sec. 9, 1.5 miles north of Bridgewater, in front dooryard of headquarters of Hartwell ranch, 2.25 feet west from front dooryard fence; copper bolt leaded vertically in stone set underground (U. S. Corps of Engineers p. b. m. 12)-----	433. 045
Top of cap of iron post-----	437. 021
Pengram, south of Chicago & Alton R. R. track, about 150 feet north of wagon ford of Hurricane Creek, just west of village, in line with general direction of bluffs to north and south of hollow in which Pengram is situated; copper bolt leaded vertically in stone set underground (U. S. Corps of Engineers p. b. m. 13)-----	431. 549
Top of cap of iron post-----	435. 507
T. 12 N., R. 13 W., in sec. 11, about 1.7 miles south of Greene-Scott county line, in front yard of house owned by George Burg, on west side of highway along foot of bluffs; copper bolt leaded vertically in stone set underground-----	436. 388
Top of cap of iron post-----	440. 322
T. 13 N., R. 13 W., sec. 26, near Hillview, about 1.5 miles south of Big Sandy Creek, in northwest corner of front dooryard of farmhouse of E. C. Adams, on east side of highway, just south of point where it passes well up on side of hills, 119 feet south of elm tree 3.2 feet in diameter in front dooryard of old house, just northwest of farmhouse; copper bolt leaded vertically in stone set underground (U. S. Corps of Engineers p. b. m. 15)-----	471. 938
Top of cap of iron post-----	475. 911

GRIGGSVILLE QUADRANGLE.

Point near Glasgow north along public highways to point near Oxville.

T. 13 N., R. 13 W., between secs. 10 and 15, near Glasgow, 10.5 feet south of center of wagon track in front yard of house owned by Charles H. Condit, 197 feet north of northeast corner of house, 105 feet southwest from a black oak tree 2 feet in diameter, in field west of highway; copper bolt leaded vertically in stone (U. S. Corps of Engineers p. b. m. 16)-----	441. 805
Top of cap of iron post-----	445. 736
T. 14 N., R. 13 W., sec. 34, near Bloomfield, in front dooryard of J. T. Wilson's farm residence, 2.2 feet east of front fence and 17.6 feet south of northwest corner post of yard fence; copper bolt leaded vertically in stone (U. S. Corps of Engineers p. b. m. 17)---	442. 976
Top of cap of iron post-----	446. 906

T. 14 N., R. 13 W., SE. $\frac{1}{4}$ sec. 8, near Bloomfield, 137.5 feet north of range of a fence on line between secs. 8 and 17, 284 feet northwest of southwest corner of William H. Price's house, northwest corner of small orchard south of timber lot; copper bolt leaded vertically in stone (U. S. Corps of Engineers p. b. m. 18)-----	Feet. 438.523
Top of cap of iron post-----	442.489
T. 15 N., R. 13 W., in sec. 29, 0.5 mile north of Oxville, near southwest corner of front dooryard of Harvey Green's farmhouse, about 0.2 mile east of covered wooden bridge over Mauvestere Creek on highway along bluffs, 2.2 feet north of front fence of dooryard, 14.8 feet east from southwest corner post of dooryard, 9.6 feet southeast of soft maple tree in yard; copper bolt leaded vertically in stone (U. S. Corps of Engineers p. b. m. 19)-----	446.202
Top of cap of iron post-----	450.154

MEREDOSIA QUADRANGLE.

Bluff north along public highways to point near Lydda.

Bluff, on northwest corner of Methodist churchyard on northwest corner of Bluff and Charles streets, 82.1 feet north from northwest corner and 87.9 feet northwest of northeast corner, 2 feet south of north churchyard fence; copper bolt leaded vertically in stone set underground (U. S. Corps of Engineers p. b. m. 20)-----	466.872
Top of cap of iron post-----	470.815
T. 16 N., R. 13 W., sec. 25, 4 miles north of Bluff, on east side of Bluff highway, in northwest corner of cemetery adjoining New Salem Baptist Church, 27 feet southeast of white oak tree and 30 feet north of black oak tree; copper bolt leaded vertically in stone set underground (U. S. Corps of Engineers p. b. m. 21)-----	485.177
Top of cap of iron post-----	489.095
T. 16 N., R. 12 W., sec. 8, near Meredosia, in north corner of front yard of H. A. Brockhouse's farmhouse, on southeast side of highway along bluffs, about 1.2 miles southwest from McKendree Chapel; copper bolt leaded vertically in limestone block set underground (U. S. Corps of Engineers p. b. m. 22)-----	476.777
Top of cap of iron post-----	480.708
T. 17 N., R. 12 W., sec. 29, near Lydda, 0.2 mile southeast of Wagoner's bridge over Indian Creek, in northwest corner of front yard of large square house on Corcoran estate, 45.8 feet from northwest corner of house, 178.8 feet south of cottonwood tree 2.4 feet in diameter standing in field; copper bolt leaded vertically in limestone block set underground (U. S. Corps of Engineers p. b. m. 23)-----	449.960
Top of cap of iron post-----	453.385

BEARDSTOWN QUADRANGLE.

Bench marks established near Beardstown.

T. 17 N., R. 12 W., northeast corner of SW. $\frac{1}{4}$ sec. 9, in northeast corner of cemetery adjoining Union Baptist Church, 2.4 feet south of the north by 2.7 feet west of the east iron fence surrounding cemetery; copper bolt leaded vertically in limestone block set underground (U. S. Corps of Engineers p. b. m. 24)-----	453.682
Top of cap of iron post-----	457.604

T. 18 N., R. 12 W., SE. $\frac{1}{4}$ SW. $\frac{1}{4}$ sec. 22, about 2 miles below Beardstown, in front yard of S. H. Gust's farmhouse, 3.2 feet north of south fence of yard, 97 feet from southeast corner of his house; copper bolt leaded vertically in limestone block set underground (U. S. Corps of Engineers p. b. m. 25)-----	Feet. 439. 871
Top of cap of iron post-----	443. 829
Beardstown, approach at east end of wagon bridge; top of south side of parapet marked "U. S. B. M." (U. S. Corps of Engineers b. m.)--	446. 220
Beardstown, in top of stone step of main entrance to Odd Fellows' brick building on east corner of Main and Washington streets, 0.5 foot back from front face and 0.4 foot south from north end of stone step; copper bolt leaded vertically into stone (U. S. Corps of Engineers p. b. m. 26)-----	444. 351
Beardstown, on west corner of Main and State streets, in top of stone step of main entrance to First State Bank building, 0.4 foot back from front edge of stone step; copper bolt leaded vertically into stone (U. S. Corps of Engineers p. b. m. 27)-----	443. 675
Beardstown, on north side of highway east of, in sec. 12, T. 18 N., R. 12 W., near southeast corner of Lutheran cemetery, 2.2 feet north of south fence and 5.5 feet west of east fence of cemetery, 17.6 feet east of black oak tree 2 feet in diameter; copper bolt leaded vertically into sandstone block set underground (U. S. Corps of Engineers p. b. m. 28)-----	445. 743
Top of cap of iron post-----	449. 681
Beardstown, near, in sec. 12, T. 18 N., R. 11 W., in southeast corner of front yard of A. H. Krohe's farmhouse, on north side of highway following south foothills of Sangamon Valley, 2.6 feet north of front fence, 2.8 feet west of east fence of dooryard and 30 feet southeast of double cottonwood tree 5 feet in diameter; copper bolt leaded vertically into sandstone block set underground (U. S. Corps of Engineers p. b. m. 29)-----	474. 003
Top of cap of iron post-----	477. 957

CHANDLERVILLE QUADRANGLE.

Point near Beardstown east along public highways to Chandlerville, thence north to Bath.

T. 18 N., R. 10 W., sec. 10, 3.2 miles southwest from Chandlerville, in northeast corner of front yard of Robert Fielden's farmhouse, on southeast side of highway following the south foothills of the Sangamon Valley, 97 feet north of northeast corner of house, 3 feet inside of front fence, 2.7 feet from east fence of yard; copper bolt leaded vertically into limestone block set underground (U. S. Corps of Engineers p. b. m. 30)-----	484. 556
Top of cap of iron post-----	488. 496
Chandlerville, on north side of River Street, in back yard of Mrs. S. L. B. Chandler's residence, adjoining on east the Chicago, Peoria & St. Louis Ry. right of way, 26.8 feet east of center of track, 2.2 feet east of east right-of-way fence, 95 feet from northwest corner of square upright part of Mrs. Chandler's residence, 79 feet north by 52.2 feet west from corner; copper bolt leaded vertically into limestone block set underground (U. S. Corps of Engineers p. b. m. 31)-----	459. 812
Top of cap of iron post-----	463. 753

Saidora, near southwest corner of sec. 8, T. 19 N., R. 9 W., near northwest corner of front dooryard of farmhouse owned by George Bell, just northeast of the Chicago, Peoria & St. Louis Ry. station building; copper bolt leaded vertically into limestone block set underground (U. S. Corps of Engineers p. b. m. 32)-----	Feet. 471.895
Top of cap of iron post-----	475.835
Bath, in public square, 164.3 feet southward from south corner of Moses Morris's brick store, 127.3 feet northwest from north corner of town hall; copper bolt leaded vertically into limestone block (U. S. Corps of Engineers p. b. m. 33)-----	458.472
Top of cap of iron post-----	462.419
Bath, on north corner of Oak and Main streets, along front of Moses Morris's brick store; center of cross cut on cast-iron water table (U. S. Corps of Engineers p. b. m. 34)-----	465.492

HAVANA QUADRANGLE.

Bath northeast along public highways to point near Havana.

Matanzas, on east-west highway between secs. 27 and 28, T. 21 N., R. 9 W., where highway crosses the Chicago, Peoria & St. Louis R. R., 4.7 feet north of south hedge fence of highway; copper bolt leaded vertically into limestone block set underground (U. S. Corps of Engineers p. b. m. 35)-----	460.952
Top of cap of iron post-----	464.897
Havana, near, between secs. 12 and 13, T. 21 N., R. 9 W., 48.7 feet east of center of Chicago, Peoria & St. Louis Ry. track, 1,189 feet northward along track from its intersection with center of highway, on land of Henry Neteler, 112 feet southeast from black walnut tree 0.8 foot in diameter standing at extreme south end of woods; copper bolt leaded vertically into limestone block set underground (U. S. Corps of Engineers p. b. m. 36)-----	473.605
Top of cap of iron post-----	477.555
Havana, in top of south end of east pier of iron highway bridge over Illinois River; copper bolt leaded vertically (U. S. Corps of Engineers p. b. m. 37)-----	451.360
Havana, southeast corner of Plum and Main streets; center of cross cut on top of cast-iron water table of brick post-office building (U. S. Corps of Engineers p. b. m. 38)-----	470.937
Havana, entrance to county office building situated on public square and facing Main Street, on west side of doorway, top of stone doorstep of main south entrance; copper bolt leaded vertically (U. S. Corps of Engineers p. b. m. 39)-----	474.324
Havana, in front of Mason County Bank building, north side of Main Street; top of copper bolt leaded vertically into top of stone water table (U. S. Corps of Engineers p. b. m. 40)-----	470.645
Havana, near, 2.1 feet north of north fence line of east-west highway through center of sec. 21, T. 22 N., R. 8 W., in southwest corner of A. H. Jones's farm; copper bolt leaded vertically into limestone block set underground (U. S. Corps of Engineers p. b. m. 41)-----	467.128
Top of cap of iron post-----	471.093
Havana, near, in sec. 22, T. 22 N., R. 8 W., 0.2 mile north-northeast of Quiver schoolhouse, on west end of south stone abutment of iron highway bridge over Quiver Creek; highest point of square cut in stone (U. S. Corps of Engineers t. b. m. 186)-----	445.607

MANILO QUADRANGLE.

Point near Liverpool northeast along public highway to point near Marshalls Landing.

Liverpool, near, NW. $\frac{1}{4}$ sec. 11, T. 22 N., R. 8 W., on lands of O. A. Graham, set in highway running along brow of hills on southeast side of bottom lands and slough, northeast of head of Quiver Lake, 15 feet east of center of wagon track, 50 feet north of private road; copper bolt leaded vertically into limestone block underground (U. S. Corps of Engineers p. b. m. 42)-----	Feet. 481. 290
Top of cap of iron post-----	485. 232
T. 22 N., R. 7 W., northeast corner sec. 6, 4.5 miles north of Topeka, in northwest corner of front yard of Joseph Brown's log house, 46 feet northwest from, 24-inch black-oak tree in yard west of house; copper bolt in stone underground (U. S. Corps of Engineers p. b. m. 43) -----	494. 114
Top of cap of iron post-----	498. 059
Manilo, near, in front yard of J. A. Schulte's cottage, at southeast angle highway near Mason-Tazewell county line, 154 feet south of black-oak tree 1.4 feet in diameter in field at brow of bluffs; copper bolt leaded vertically into limestone block underground (U. S. Corps of Engineers p. b. m. 44)-----	512. 495
Top of cap of iron post-----	516. 462
T. 23 N., R. 7 W., NW. $\frac{1}{4}$ sec. 11, near Marshalls Landing, in southwest corner of front yard of Benjamin F. Gorman's farmhouse, on north side of east-west highway, short distance below east end of Copperas Creek dike; copper bolt leaded vertically into limestone block (U. S. Corps of Engineers p. b. m. 45)-----	510. 669
Top of cap of iron post-----	514. 622

GLASFORD QUADRANGLE.

Point near Marshalls Landing northeast along public highway to point near Gales Landing.

T. 24 N., R. 6 W., SE. $\frac{1}{4}$ sec. 30, northeast of Marshalls Landing, in southwest corner of large front yard of country residence of Edward S. Hass; copper bolt leaded vertically into limestone block underground (U. S. Corps of Engineers p. b. m. 46)-----	508. 723
Top of cap of iron post-----	512. 677
T. 24 N., R. 6 W., 12 feet west of line between secs. 21 and 22, near Gales Landing, near northeast corner of John and Miriam Brewer's land, about 700 feet north-northeast from their farmhouse, on southeast side of highway along foot of bluffs east and northeast of upper part of Spring Lake, 2.1 feet northwest of southeast fence line; copper bolt leaded vertically into limestone block underground (U. S. Corps of Engineers p. b. m. 47)-----	449. 292
Top of cap of iron post-----	453. 264

PEORIA QUADRANGLE.

Point near Stoehrs northeast along public highway to near Peoria.

T. 24 N., R. 6 W., about 0.2 mile north of center of sec. 24, near Stoehrs, about 5.5 miles southwest of Pekin, on top of coping stone at northwest end of southwest stone abutment of iron highway bridge over New Mackinaw River; highest point of square cut in stone (U. S. Corps of Engineers t. b. m. 228)-----	454. 306
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	Feet.
Stoehrs, near, about 5.5 miles southwest of Pekin, on southeast end of southwest stone abutment of iron highway bridge over New Mackinaw River; center of cross on top of bronze tablet cemented into coping stone (U. S. G. S. b. m.)-----	454. 310
T. 24 N., R. 5 W., 38.5 feet south from center line of east-west highway between secs. 9 and 16, 3 miles southwest of Pekin, in north-south fence line through center of SW. $\frac{1}{4}$ sec. 9, on right of way of Chicago, Peoria & St. Louis Ry., 45.2 feet southeast, square out, from center of track; copper bolt leaded vertically in limestone block (U. S. Corps of Engineers p. b. m. 48)-----	467. 805
Top of cap of iron post-----	471. 745
Pekin, 1.5 miles southwest of, on top of stone doorstep of main building of Illinois Sugar Refining Co.'s works, 0.6 foot back from front edge of step; highest point of a square cut into stone (U. S. Corps of Engineers t. b. m. 235)-----	462. 708
Pekin, at river, on top of stone forming northwest corner of brick foundation of Smith, Hippen & Co.'s elevator at foot of hills; highest point of a square cut into stone (U. S. Corps of Engineers t. b. m. 237)-----	451. 188
Pekin, in top of coping stone on north end of east abutment of railroad bridge over the Illinois River; copper bolt leaded vertically into stone (U. S. Corps of Engineers p. b. m. 49)-----	455. 422
Pekin, on the Peoria & Pekin Union Ry., southwest corner of cast-iron electric block-signal post, first north of railroad river bridge; top of vertical foundation bolt below hinges of the large lower cast-iron door to base part of post (U. S. Corps of Engineers t. b. m. 238)-----	463. 107
Pekin, on the Peoria & Pekin Union Ry., southwest corner of cast-iron electric block-signal post, second north of railroad river bridge; top of vertical foundation bolt below hinges of the large lower cast-iron door to base part of post (U. S. Corps of Engineers t. b. m. 239)-----	465. 981
Pekin, on Peoria & Pekin Union Ry., near southwest corner of old part of Lake Side Cemetery, cast-iron electric block-signal post, third north of railroad river bridge; top of vertical foundation bolt below hinges of larger lower cast-iron door to base part of post (U. S. Corps of Engineers t. b. m. 240)-----	462. 901
T. 25 N., R. 5 W., near center of sec. 23, 0.8 mile northward from Lake Side Cemetery where highway turns directly east from the Peoria & Pekin Union Ry., in highway between Pekin and Wesley, 126 feet east of center of east track of railroad; copper bolt leaded vertically into limestone block underground (U. S. Corps of Engineers p. b. m. 50)-----	461. 384
Top of cap of iron post-----	465. 335
Wesley, between the Peoria & Pekin Union Ry. and public highway leading through village, 140 feet east of edge of low water in Illinois River, in front yard of Mrs. Elizabeth Walmsley's residence; copper bolt leaded vertically into limestone block (U. S. Corps of Engineers p. b. m. 51)-----	447. 152
Top of cap of iron post-----	451. 116
Wesley Junction, 357.4 feet south from range of south side of interlocking tower of Peoria & Pekin Union Ry.; top of southeasterly one of four vertical bolts which secure to concrete foundation the plank to which are attached two bell-crank levers of block-signal apparatus (U. S. Corps of Engineers t. b. m. 249)-----	454. 024

Peoria, in top of coping stone at southwest end of southeast stone abutment of railroad bridge over Illinois River, 2.6 feet from land side of coping stone and 2.6 feet from river side; copper bolt leaded vertically (U. S. Corps of Engineers p. b. m. 52)-----	Feet. 456. 555
Peoria, at northeast end of northwest stone abutment of railroad bridge over Illinois River, 0.4 foot back from northeast edge; highest point in square cut on top of coping stone, marked "U. S. B. M." (U. S. Corps of Engineers t. b. m. 250)-----	456. 353
Peoria, on southeast side of room called "tower" of distillery No. 11 (Great Western distillery), 130.3 feet southwest from center of large steel smokestack; highest point of a square cut in center of top of stone post 1.2 feet above ground (U. S. Corps of Engineers t. b. m. 251)-----	455. 772
Peoria, northwest abutment of Toledo, Peoria & Western Ry. bridge over the Illinois River; highest point of square cut on top of southwest end of stone of top course of earth wall (U. S. Corps of Engineers t. b. m. 253)-----	458. 816
Peoria, northwest abutment of railway bridge over Illinois River; highest point of a square cut on top of south corner of southwest end stone in top course of earth wall (said to be railroad bench mark)-----	458. 821
Peoria, northwest stone abutment of railway bridge over Illinois River, on second stone of coping southwest from one directly supporting northwest bridge seat of drawspan; copper bolt leaded vertically in top of coping course (U. S. Corps of Engineers p. b. m. 53)-----	452. 594
Peoria, northeast end of Chicago, Rock Island & Pacific Ry. station building, directly in front of stone column at northwest side of doorway, 0.4 foot back from front edge of step; copper bolt leaded vertically in top of stone doorstep of large double door entrance (U. S. Corps of Engineers p. b. m. 54)-----	455. 720
Peoria, northwest side of Leisy Brewing Co.'s brick brewery, on northeast corner of Irving and North Water streets, nearly opposite office building; highest point of square cut in top of stone doorstep of double doors opening on alley (U. S. Corps of Engineers t. b. m. 254)-----	470. 285
Peoria, southwest corner of building No. 4 of the Kingman Plow Co.'s works in Averyville; center of cross cut on top of cast-iron doorstep of second door northeastward (U. S. Corps of Engineers t. b. m. 256)-----	471. 402
Peoria, near main entrance to Peoria waterworks pumping station on Illinois River, north of city; highest point of a square cut on top of lowest stone step (U. S. Corps of Engineers t. b. m. 257)-----	457. 743
Peoria, in front yard of Peoria waterworks' pumping station, in sec. 26, T. 9 N., R. 8 E.; copper bolt leaded vertically into limestone block underground (U. S. Corps of Engineers p. b. m. 55)-----	453. 555
Top of cap of iron post-----	457. 520
Peoria, on west stone pier of upper free wagon bridge over Illinois River near the pumping station north of city; cross cut on upstream end of pier about 8 inches from north edge and about 15 inches from east edge of coping (U. S. Corps of Engineers B. M. 1P)-----	453. 237

Peoria, 6.1 feet east of center of Chicago, Rock Island & Pacific Ry. track, 0.9 mile north from Peoria waterworks pumping station, 288.2 feet north of signboard reading "Siding at narrows $\frac{1}{2}$ M," 15.5 feet south of switch block of siding into gravel pit just south of E. J. Singer's house on bluff hillside; top of section of rail set vertically in ground, painted white (U. S. Corps of Engineers t. b. m. 258)-----

Feet.
464.655

DUNLAP QUADRANGLE.

Point near Peoria northeast to Rome.

T. 9 N., R. 8 E., near south line of sec. 10, near Peoria, 87.4 feet northwest from center of wagon bridge over creek, 89 feet west of an elm tree 1.8 feet in diameter standing on north side of creek, about 3.2 miles north of Peoria waterworks pumping station, in highway; copper bolt leaded vertically into limestone block underground (U. S. Corps of Engineers p. b. m. 56)----- 473.007
 Top of cap of iron post----- 476.978

Mossville, southwest corner of school yard, at north end of village, on southwest corner of State and Grant streets; copper bolt leaded vertically into limestone block underground (U. S. Corps of Engineers p. b. m. 57)----- 468.019
 Top of cap of iron post----- 471.960

Mossville, about 2.5 miles northeast of, on highway leading to Rome, at point where it crosses from west to east side of Chicago, Rock Island & Pacific Ry., 58.15 feet from intersection with railroad track; copper bolt leaded vertically into limestone block underground (U. S. Corps of Engineers p. b. m. 58)----- 459.065
 Top of cap of iron post----- 463.010

Rome, in highway known as Farmington road, or Knox Street, first road or street south of Chicago, Rock Island & Pacific Ry. station, about 2.5 feet north of south hedge fence of Farmington road, 253 feet southwest or southwest corner of S. Dahl's house; copper bolt leaded vertically into limestone block underground (U. S. Corps of Engineers p. b. m. 59)----- 461.475
 Top of cap of iron post----- 465.397

METAMORA QUADRANGLE.

Chillicothe northeast along Chicago, Rock Island & Pacific Ry. 4 miles.

Chillicothe, near northwest corner of public square, 4.9 feet south of northern fence of square, 104.5 feet southeast of southeast corner of station; copper bolt leaded vertically in sandstone block underground (U. S. Corps of Engineers p. b. m. 60)----- 485.899
 Top of cap of iron post----- 489.873

Chillicothe, 0.7 mile northeast of, 15.2 feet south of switch block connecting Chicago, Rock Island & Pacific Ry. with Atchison, Topeka & Santa Fe Ry., in southwest angle of intersection of these roads, 6.2 feet east of center line of Chicago, Rock Island & Pacific Ry. track; center of cross on end of rail with two holes through web part, set vertically in ground and projecting 0.7 foot (U. S. Corps of Engineers t. b. m. 283)----- 482.276

Chillicothe, 0.7 mile northeast of, east abutment of Atchison, Topeka & Santa Fe Ry. bridge over the Chicago, Rock Island & Pacific Ry.

track, in niche cut in front face of stone; copper bolt leaded vertically in top of fourth stone from south end in upper course of south retaining wall (U. S. Corps of Engineers p. b. m. 61)-----	Fect. 478. 534
T. 11 N., R. 9 E., 377 feet south from north quarter stone post of sec. 3, 4 miles northeast of Chillicothe, in northeast corner of front yard of Fred Bennett's farmhouse on west side of river road, at foot of bluffs; copper bolt leaded vertically in limestone block underground (U. S. Corps of Engineers p. b. m. 62)-----	459. 851
Top of cap of iron post-----	463. 811

LACON QUADRANGLE.

Point 1.5 miles south of Sparland northeast along Chicago, Rock Island & Pacific Ry. to point near Putnam.

T. 12 N., R. 9 E., in sec. 23, 1.5 miles south of Sparland station, 112 feet north, along track, from center of pile bridge 49, 6.2 feet east from center of Chicago, Rock Island & Pacific Ry. track; center of cross on end of rail set vertically in ground (U. S. Corps of Engineers t. b. m. 291)-----	464. 187
Sparland, northwest corner of intersection of Railroad and Walnut streets, set in southeast corner of lot 14 of Cotton's first addition to Sparland, 5.4 feet southeast of a catalpa tree in corner of yard of house occupied by Fred Vincent; copper bolt leaded vertically into limestone block underground (U. S. Corps of Engineers p. b. m. 63) _	455. 729
Top of cap of iron post-----	459. 684
Sparland, near, at point 6 feet west of center of Chicago, Rock Island & Pacific Ry. track, 31.4 feet north along track from north whistling post for highway at first crossing north of Sparland, 0.5 mile north of Sparland station; center of cross a little to west of middle of the base part of end of rail set vertically in ground, projecting 0.8 foot above ground (U. S. Corps of Engineers t. b. m. 293)-----	454. 643
T. 13 N., R. 10 E., W. $\frac{1}{4}$ SW. $\frac{1}{4}$ sec. 30, about 3 miles southwest of Henry, 1,031 feet northeast along track from milepost 131, 5.4 feet from northwest right of way fence line of railway (southeast fence line of highway), on right of way of Chicago, Rock Island & Pacific Ry., 45 feet northwest of center line of track; copper bolt leaded vertically into limestone block underground (U. S. Corps of Engineers p. b. m. 64)-----	470. 747
Top of cap of iron post-----	474. 697
T. 13 N., R. 10 E., NW. $\frac{1}{4}$ NE. $\frac{1}{4}$ sec. 30, 2.2 miles southwest of Henry at a point 6.1 feet southeast of center of Chicago, Rock Island & Pacific Ry. tracks; section of rail set vertically in ground marked with a cross. (U. S. Corps of Engineers t. b. m. 297)-----	466. 254
T. 13 N., R. 10 E., in sec. 20, about 1.2 miles southwest of Henry, at a point 6.1 feet southeast from center of railway track; section of rail set vertically in ground, marked with a cross. (U. S. Corps of Engineers t. b. m. 299)-----	487. 582
Henry, about 0.3 miles southwest of station, 1,003.8 feet southwest along track from milepost 128, 4.5 feet southeast of northwest right of way fence line between railroad and highway; copper bolt leaded vertically into limestone block underground. (U. S. Corps of Engineers p. b. m. 65)-----	487. 171
Top of cap of iron post-----	491. 110

T. 13 N., R. 10 E., 80 feet north of east-west highway along south line of sec. 4, 1.5 miles north of Henry, 6.2 feet east of center of railway track; section of rail set vertically in ground projecting 0.5 foot above ground, marked with cross. (U. S. Corps of Engineers t. b. m. 303)-----	Feet. 520. 894
T. 13 N., R. 10 E., along east line of sec. 5, 425 feet southeast along track from Marshall-Putnam county line, 178 feet northwest along track from center line of highway, 6.2 feet northeast from center of railway track; section of rail set vertically in ground, marked with cross. (U. S. Corps of Engineers t. b. m. 304)-----	522. 367
Putnam, near, 2.65 feet south of north fence line of highway, 45.6 feet southwest of center of railway track, 4.4 feet toward track from range of southwest right of way fence line south of highway, 76.4 feet west-northwest of danger-warning sign, 53.5 feet north-west of railroad post reading "Marshall Co.-Putnam Co." set in east-west highway on county line; copper bolt leaded vertically in limestone block underground. (U. S. Corps of Engineers p. b. m. 66)-----	517. 359
Top of cap of iron post-----	521. 286
Putnam, northeast corner of intersection of highways at center of sec. 19, T. 14 N., R. 10 E., in southeast corner of First Methodist Episcopal Church yard, 131 feet southeast of northeast corner of church, 5.4 feet north of front fence, 20 feet west of soft maple tree 1.9 feet in diameter standing in front yard of parsonage; copper bolt leaded vertically in limestone block underground (U. S. Corps of Engineers p. b. m. 67)-----	522. 813
Top of cap of iron post-----	526. 786
T. 14 N., R. 10 E., in sec. 6, near Putnam, in northeast corner of front yard of William Anderson's farmhouse, on west side of highway along the foot of bluffs, about 500 feet south from Putnam-Bureau county line; copper bolt leaded vertically in limestone block underground (U. S. Corps of Engineers p. b. m. 68)-----	471. 766
Top of cap of iron post-----	475. 699

HENNEPIN QUADRANGLE.

Point near Bureau northeast along Chicago, Rock Island & Pacific Ry. to De Pue, thence east to point near Marquette.

T. 15 N., R. 9 E., NE. $\frac{1}{4}$ sec. 36, near Bureau, 6.2 feet east from center of railway track, just north from north end of curve in track south of farmhouse occupied by John Mavity, at milepost 118; section of rail set vertically in ground, projecting 0.4 foot (U. S. Corps of Engineers t. b. m. 314)-----	462. 865
Bureau, near, 475.8 feet north of switch block at siding and about 155 feet south of first curve in tracks south of iron railroad bridge over Big Bureau Creek, at milepost 116, 6.1 feet east of center of railway track; section of rail marked with cross set vertically in ground (U. S. Corps of Engineers t. b. m. 317)-----	469. 310
Bureau, 1 mile southwest of, on southwest bank of Big Bureau Creek, at Bureau Valley Mill, in southwest angle of intersection of highways, in front dooryard of residence of D. B. George, 23.6 feet east of east corner of house; copper bolt set vertically in limestone block underground (U. S. Corps of Engineers p. b. m. 69)-----	458. 846
Top of cap of iron post-----	462. 792

Bureau, in southern outskirts of town, southwest end of northwest plate girder of railway bridge over the Hennepin Canal, on Peoria branch, 5.1 inches from northeast edge of casting; center of cross cut in top of base of cast-iron bridge seat (U. S. Corps of Engineers t. b. m. 319)-----	Feet. 472. 386
Bureau, northeast of, on railroad right of way, 18.6 feet northwest of center of northwest track, 348 feet south from railway post reading "Station 1 mile"; highest point of a square cut on top of a rock (U. S. Corps of Engineers t. b. m. 321)-----	469. 156
T. 15 N., R. 10 E., in sec. 4, on right of way of Chicago, Rock Island & Pacific Ry., 41.5 feet southeast of center of southeast track, 1.3 feet from southeast right-of-way fence line, 215 feet northeast along fence from center of a gate at farm crossing on lands of Frank Rawson, on knoll of ground between railroad cut and marsh; copper bolt leaded vertically in limestone block underground (U. S. Corps of Engineers p. b. m. 70)-----	471. 144
Top of cap of iron post-----	475. 082
T. 16 N., R. 10 E., SE. $\frac{1}{4}$ sec. 34, 0.5 mile west of De Pue, first course above bridge-seat course in east stone abutment of railroad bridge 237, 7.6 feet north of center of north track; highest point of square cut in top of north end stone of first course (U. S. Corps of Engineers t. b. m. 324)-----	567. 873
T. 16 N., R. 10 E., in sec. 36, about 1.2 miles east of De Pue, 234 feet north along track from north end of plate-girder bridge over railway tracks, 98.2 feet west of point in center of line of track, on right of way of Indiana, Illinois & Iowa R. R.; copper bolt leaded vertically in limestone block underground (U. S. Corps of Engineers p. b. m. 71)-----	477. 027
Top of cap of iron post-----	480. 983
Marquette, 0.5 mile west of station, on west stone of coping on south side of east abutment of railway bridge 232 over Nigger Creek, 1.1 feet from south face, 0.8 foot from west face of coping stone; highest point of square cut in stone (U. S. Corps of Engineers t. b. m. 328)-----	463. 956
Marquette, 0.5 mile west of station, on southeast corner of south coping of west abutment of railway bridge 232, over Nigger Creek (railroad b. m.)-----	463. 796
Marquette, 0.8 mile east of west stone abutment of bridge 227, 0.8 foot from east face of stone, 10.04 feet north of center of north track; highest point of square cut on top of north end stone of bridge seat course (U. S. Corps of Engineers t. b. m. 330)-----	461. 986

LASALLE QUADRANGLE.

Point near Spring Valley east to point near Utica.

T. 16 N., R. 11 E., SE. $\frac{1}{4}$ sec. 33, 1 mile west of Spring Valley, 500 feet east of point where highway turns north up bluff hillside, at south end of west stone abutment of bridge 219; highest point of a square cut in top of stone forming first course above the bridge seat (U. S. Corps of Engineers t. b. m. 332)-----	462. 569
T. 16 N., R. 11 E., SE. $\frac{1}{4}$ sec. 33, 1.1 miles west of Spring Valley, 2.3 miles east of Marquette, where highway turns north up bluff hillside, set in angle in highway which follows foot of bluffs, 42.9 feet north from center of north track of railroad, 7 feet north of fence between railway and highway; copper bolt leaded vertically	

	Feet.
in limestone block underground (U. S. Corps of Engineers p. b. m. 72) -----	467. 520
Top of cap of iron post-----	471. 471
T. 15 N., R. 11 E., in sec. 3, 0.6 mile west of Chicago, Rock Island & Pacific Ry. station at Spring Valley, south end of east stone abutment of railway bridge 217, 7.2 feet south of center of south track, 0.7 foot from west face of stone; highest point of square cut on top of stone next above bridge seat course (U. S. Corps of Engineers t. b. m. 333)-----	463. 313
Spring Valley, in top of fourth stone below top of south parapet wall of stones forming steps of the south wing wall at east end of double-arch stone bridge over Spring Creek; copper bolt leaded vertically (U. S. Corps of Engineers p. b. m. 73)-----	462. 304
Spring Valley, double-arch stone bridge over Spring Creek, west corner of west coping stone of north parapet wall, letters "S. D. B. M." cut near bench (Sanitary district b. m.)-----	464. 942
Spring Valley, about 1.2 miles east of Chicago, Rock Island & Pacific Ry. station, 0.6 mile west along track from Bureau-Lasalle county line, 11.6 feet north from center of north track, 0.6 foot from north end and 0.5 foot from west face of stone; highest point of a square cut in top of north stone of second course down from top of east abutment of small bridge (U. S. Corps of Engineers t. b. m. 335)---	462. 554
T. 15 N., R. 11 E., NW. $\frac{1}{4}$ sec. 1, near Spring Valley, 62.2 feet south from center of north track, 1.5 feet north from south right of way fence line (U. S. Corps of Engineers p. b. m. 74) copper bolt leaded vertically in top of stone block-----	458. 639
Top of cap of iron post-----	462. 586
Peru, near, on north end of east stone abutment of bridge 201, 0.1 mile east of Bureau-Lasalle county line; highest point in square cut on top of stone, first above bridge seat course (U. S. Corps of Engineers t. b. m. 336)-----	464. 480
Peru, in western part of town, 2,344 feet west along track from crossing of Chicago, Rock Island & Pacific Ry. and Chicago, Burlington & Quincy R. R., 10.6 feet north of center of north track; highest point of square cut in top of coping of parapet wall at north side of stone-arch bridge (U. S. Corps of Engineers t. b. m. 337)-----	463. 794
Peru, in western part of town, 350 feet east of interlocking tower at crossing of railroads; highest point of a square cut on top of west coping stone of north parapet wall of small stone culvert (U. S. Corps of Engineers t. b. m. 338)-----	471. 120
Peru, at foot of Marion Street; copper bolt leaded vertically in top of bridge seat course of pier at north end of draw span of highway bridge over Illinois River (U. S. Corps of Engineers p. b. m. 75)---	458. 954
Peru, at foot of Marion Street, 1.49 feet northwest from p. b. m. 75, on top of northwest stone of bridge-seat course in pier at north end of draw span of wagon bridge over Illinois River; highest point in a circle on northwest corner of pier, letters "S. D. B. M." cut near bench (Sanitary district b. m.)-----	458. 945
Lasalle, lock 15 of Illinois & Michigan Canal, on second stone west of south lower gate, 6.1 feet west of center of quoin post, 0.5 foot back from face of lock wall, 0.5 foot east from half-foot jog in wall; cross within a square cut on top of south wall. (In absence of any letters near this bench, or definite description of the Seddon bench (C. & G. S.) on this lock, there is some uncertainty about this being b. m. 70 A)-----	448. 455

	Feet.
Lasalle, at right angle to lock wall, at lower end of south tail wall of lock 15 of Illinois & Michigan Canal; highest point in a circle cut on top of wall (U. S. Corps of Engineers b. m. 38 of 1883)-----	443. 400
Lasalle, west pier of Chicago, Burlington & Quincy R. R. bridge over Illinois & Michigan Canal, between locks 14 and 15; copper bolt leaded vertically in top of north granite stone bridge seat (U. S. Corps of Engineers p. b. m. 76)-----	468. 119
Lasalle, a few hundred feet east of Illinois Central R. R. bridge, highest point of a square cut on top of coping of north end of second pier from east end of aqueduct bridge carrying Illinois & Michigan Canal over Little Vermilion Creek (U. S. Corps of Engineers t. b. m. 340)-----	461. 249
Lasalle, on top of southeast corner of coping stone at the rounded southerly end of east stone abutment of aqueduct bridge carrying the Illinois & Michigan Canal over Little Vermilion Creek; highest point of a square, letters "S. D. B. M." cut near bench (Sanitary district b. m.)-----	461. 554
Lasalle, north end of east girder of Illinois Central R. R. bridge over the Chicago, Rock Island & Pacific Ry. and the Illinois & Michigan Canal, between street and Chicago, Rock Island & Pacific Ry. tracks; copper bolt leaded vertically in top of stone forming the bridge seat at base of column (U. S. Corps of Engineers p. b. m. 77)-----	487. 761
Lasalle, near southeast corner of sec. 13, T. 33 N., R. 1 E., on top of flat-topped granite boulder about 2 feet square, dark in color, except on south side, where small portion is white; highest point of square cut in stone (U. S. Corps of Engineers t. b. m. 343)-----	448. 992
T. 33 N., R. 2 E., SE. $\frac{1}{4}$ sec. 18, between Lasalle and Utica Bridge, 1.3 miles west from Utica Bridge over Illinois River, near junction of river road and road to Utica, 16.5 feet north of a small box elder; copper bolt leaded vertically in limestone block underground (U. S. Corps of Engineers p. b. m. 78)-----	451. 421
Top of cap of iron post-----	455. 376
Utica, about 1 mile south of, east wing wall of north stone abutment of Utica Bridge over Illinois River; highest point of a square cut in top of northeast end stone of lowest stepped course below the bridge seat (U. S. Corps of Engineers t. b. m. 347)-----	454. 645
Utica, 1 mile south of, 0.85 foot from t. b. m. 347 and on same stone; letters "U. S. B. M." cut below it on vertical drafted edge of stone (U. S. Corps of Engineers b. m. 69 Seddon)-----	454. 655
Utica, 1 mile south of, north abutment of Utica Bridge over Illinois River, center of circle cut on east stone of bridge-seat course with letters "U. S." cut near it (U. S. Corps of Engineers b. m.)-----	465. 062
Utica, 1 mile south of, east end of first stone pier south of north stone abutment of Utica Bridge over Illinois River, 5.3 feet southwest of upper cut-water edge of pier; copper bolt in top of southwest one of 3 coping stones, leaded vertically (U. S. Corps of Engineers p. b. m. 79)-----	464. 967

OTTAWA QUADRANGLE.

Point near Utica east to Ottawa.

T. 33 N., R. 2 E., in sec. 16, 300 feet east of small stone bridge, 0.6 mile east of Utica Bridge over Illinois River; highest point of a square cut in top of north parapet wall of small stone arch bridge over river road (U. S. Corps of Engineers t. b. m. 348)-----	450. 900
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T. 33 N., R. 2 E., sec. 15, third bridge east of Utica Bridge over Illinois River; highest point of a square cut on top of northeast wing wall of small stone arch bridge on the river road (U. S. Corps of Engineers t. b. m. 349)-----	Feet. 449. 051
T. 33 N., R. 2 E., sec. 23, northeast corner of front yard of Henry Zimmermann's large stone house, formerly known as Sulphur Spring House, on south side of river road, about 2.5 miles east of Utica Bridge over Illinois River; copper bolt leaded vertically in limestone block underground (U. S. Corps of Engineers p. b. m. 80) - Top of cap of iron post-----	462. 656 466. 608
T. 33 N., R. 3 E., sec. 17, near Ottawa, south abutment of wagon bridge over Illinois & Michigan Canal north of D. M. Farson's orphan home, on Buffalo Rock farm, about 0.5 mile west from Lasalle County poorhouse; top of copper bolt leaded vertically into top of west beveled end stone of the sixth course, above the tow-path (U. S. Corps of Engineers p. b. m. 81)-----	477. 409
T. 33 N., R. 3 E., SE. $\frac{1}{4}$ sec. 17, near Ottawa, in northeast corner of field which adjoins on the west the private driveway along the west side of front yard of the Lasalle County poorhouse, 2.3 feet south of south fence line of river road, 1.7 feet west from west fence of private drive; copper bolt leaded vertically in limestone block underground (U. S. Corps of Engineers p. b. m. 82)----- Top of cap of iron post-----	462. 074 466. 026
T. 33 N., R. 3 E., NW. $\frac{1}{4}$ sec. 15, in river road in western outskirts of Ottawa; known as Ottawa Avenue, on level with ground surface, 0.5 mile northeast of angle in river road; highest point in a square cut into an outcropping of sandstone rock (U. S. Corps of Engineers t. b. m. 357)-----	485. 237
Ottawa, east end of first pier south of north abutment of Chicago, Burlington & Quincy R. R. bridge over Illinois River, 8 inches west of cutwater angle of coping; highest point in a circle cut on top of coping stone (U. S. Corps of Engineers b. m. 64—Seddon)-----	476. 901
Ottawa, east end of north stone abutment of railroad bridge over Illinois River; copper bolt leaded vertically in top of coping stone (U. S. Corps of Engineers p. b. m. 83)-----	473. 845
Ottawa, west side of Lasalle Street, at a point between east end of hydraulic basin and old city flour mills; highest point of a square cut in top of stone curbing (U. S. Corps of Engineers t. b. m. 361) -	483. 667
Ottawa, south end of west stone abutment of Main Street Bridge over Fox River; copper bolt leaded vertically in top of coping stone (U. S. Corps of Engineers p. b. m. 84)-----	474. 042
Ottawa, about 1.6 miles east of center of, in east wing wall of south abutment of highway bridge over the Illinois & Michigan Canal; highest point of a square cut on top of east end stone of second course up from the ground (U. S. Corps of Engineers t. b. m. 363) -	492. 524
Ottawa, near, on same bridge as t. b. m. 363, on top of east end stone of fourth course above water in east wing wall of north abutment; highest point in a circular cut; circle is near southeast corner of step with letters "U. S." cut near it (U. S. Corps of Engineers b. m. 62—Seddon)-----	492. 561
T. 33 N., R. 4 E., near west line of sec. 9, 1.6 miles east of center of town of Ottawa, 0.7 mile west of schoolhouse, district 152, south parapet wall of small stone arch culvert under Illinois & Michigan	

Canal, first east of highway bridge over canal; highest point in a square cut on top of coping of south parapet (U. S. Corps of Engineers t. b. m. 366)-----	Feet. 483. 835
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MARSEILLES QUADRANGLE.

Marseilles east along Chicago, Rock Island & Pacific Ry. to point near Morris.

T. 33 N., R. 4 E., sec. 9, about 3.8 miles east of Main Street Bridge over Fox River in Ottawa, 40.8 feet north of center line of electric railway track, 37 feet south of center of wagon track, 8.2 feet south of range of north end of schoolhouse, on south fence line of highway which parallels and adjoins on the south the Illinois & Michigan Canal between Ottawa and Marseilles; copper bolt leaded vertically in limestone block underground (U. S. Corps of Engineers p. b. m. 85)-----	484. 207
Top of cap of iron post-----	488. 129
Marseilles, 29.5 feet west of west line of Main Street, east of southeast corner of Elevator A, on top of stone wall along north side of the Illinois & Michigan Canal under and extending a short distance to the east of Elevator A; highest point of a square cut (U. S. Corps of Engineers t. b. m. 371)-----	491. 931
Marseilles, east wall of north abutment of highway bridge over Illinois River; copper bolt leaded vertically in top of northeast end stone of eighth course, below the bridge seat stone (U. S. Corps of Engineers p. b. m. 86)-----	481. 902
Marseilles, on same abutment as p. m. b. 86, highest point in a circle cut near southwest corner of west bridge seat stone (U. S. Corps of Engineers b. m. 59—Seddon)-----	490. 237
Marseilles, on first stone west of quoin post of the south lower gate; copper bolt in top of south wall of lock 10 of the Illinois & Michigan Canal (U. S. Corps of Engineers p. b. m. 87)-----	497. 225
Marseilles, on south wall of Lock 9 of Illinois & Michigan Canal; highest point in a circle just above recess for upper south gate, marked "B. M." (U. S. Corps of Engineers b. m.)-----	505. 553
Marseilles, 2.9 miles east, along canal, from Main Street, in driveway from towpath to hay barn on farm of E. H. Spicer, on south embankment of Illinois & Michigan Canal, 18 feet south of water's edge; copper bolt leaded vertically in limestone block (U. S. Corps of Engineers p. b. m. 88)-----	501. 712
Top of cap of iron post-----	505. 670
Marseilles, about 3 miles east along towpath from Main Street, near southwest corner of top of coping of south parapet wall (curved) of stone culvert over Kickapoo Creek and under Illinois & Michigan Canal; cross cut (U. S. Corps of Engineers b. m. 10)-----	500. 032
Seneca, about 0.5 mile west of, stone arch culvert under the Illinois & Michigan Canal; highest point in a square cut on top of coping of north parapet wall, 0.7 foot from its north face (U. S. Corps of Engineers t. b. m. 378)-----	500. 736
Seneca, about 0.5 mile west of west coping stone of south parapet wall of stone culvert under Illinois & Michigan Canal; highest point in a sector cut on northwest corner, marked "B. M." (U. S. Corps of Engineers b. m. 15)-----	500. 047

T. 33 N., R. 5 E., south line of sec. 24, 1 mile east of Seneca, south-east one of two low concrete posts set on northeast side of Seneca & Kankakee R. R., near milepost 1; top of southwest one of two $\frac{3}{4}$ -inch rods projecting 4 inches vertically upward (U. S. Corps of Engineers t. b. m. 380)-----	Feet. 511. 913
T. 33 N., R. 5 E., along south line of sec. 24, on right of way of Seneca & Kankakee R. R., near its intersection with river road, 2.5 feet from northeast right of way fence line; copper bolt leaded vertically in limestone block underground (U. S. Corps of Engineers p. b. m. 89)-----	506. 965
Top of cap of iron post-----	510. 928
T. 33 N., R. 6 E., SE. $\frac{1}{4}$ sec. 16, about 3.6 miles northeast of Seneca, on north side of river road between Seneca and Morris, in front yard of William Hollenbeck's farmhouse (Barry farm); copper bolt leaded vertically in limestone block (U. S. Corps of Engineers p. b. m. 90)-----	507. 323
Top of cap of iron post-----	511. 293

MORRIS QUADRANGLE.

Bench marks established near Morris.

T. 33 N., R. 6 E., in line with first north-south field fence west of east line of sec. 12, in river road which parallels and adjoins the north side of the Illinois & Michigan Canal between Fivemile Bridge and Morris, 2.4 feet from north fence line of road, at field gate; copper bolt leaded vertically in limestone block underground (U. S. Corps of Engineers p. b. m. 91)-----	507. 552
Top of cap of iron post-----	511. 677
Morris, west part of town, east abutment of aqueduct bridge carrying the Illinois & Michigan Canal over Nettle Creek; center of circle cut on south corner of south stone of top course (U. S. Corps of Engineers t. b. m. 394)-----	505. 221
Morris, south abutment of highway bridge over Illinois & Michigan Canal, on street leading to and across Illinois River bridge; highest point in a square cut in a niche on inclined face of lowest coping stone of west wing wall (U. S. Corps of Engineers t. b. m. 395)-----	508. 213
Morris, north abutment of highway bridge over Illinois River; copper bolt leaded vertically in top of northeast end stone of seventh course down from top of east wing wall (U. S. Corps of Engineers p. b. m. 92)-----	504. 059
Morris, on same wall as p. b. m. 92; highest point in a square cut on top of northeast corner of the upper course of stone, consisting of two stones (U. S. Corps of Engineers b. m. 45A)-----	508. 741
Morris, on same abutment as p. b. m. 92, on south face of second stone from east corner in lowest visible course; highest point in a circle cut in top of a projection, letters "B. M." cut above bench on next higher course (U. S. Corps of Engineers b. m. 45B)-----	487. 329
T. 33 N., R. 7 E., NW. $\frac{1}{4}$ sec. 2, 1.5 miles northeast of Morris, on river road, on top of foundation stone of north iron gatepost of west carriage entrance to Evergreen Cemetery; highest point of square cut in stone (U. S. Corps of Engineers t. b. m. 398)-----	506. 038
T. 34 N., R. 7 E., SE. $\frac{1}{4}$ sec. 36, about 3.1 miles northwest of Morris, on knoll in field on southeast side of river road, 33 feet from southeast fence line of road, 61 feet from center of wagon track,	

	Feet.
nearly opposite farmhouse of Thomas Hutchings; highest point in a square cut on top of granite boulder, triangular and bluntly wedge shaped in elevation, at surface of ground (U. S. Corps of Engineers t. b. m. 400)-----	508. 658
T. 34 N., R. 7 E., SE. $\frac{1}{4}$ sec. 36, about 3.1 miles northeast of Morris, on northeast side of private driveway from river road to farm buildings of Thomas Hutchings; in south corner of a small field on northwest side of road, 3.8 feet from northeast fence of driveway; copper bolt leaded vertically-----	498. 346
Top of cap (U. S. Corps of Engineers p. b. m. 93)-----	502. 307
Morris, near, about 0.1 mile southwest from lock 8 of Illinois & Michigan Canal at Au Sable Creek, northeast abutment of small iron highway bridge on the river road; highest point in a square cut on northwest corner of top stone of northwest wing wall (U. S. Corps of Engineers t. b. m. 402)-----	501. 889
Morris, about 6 miles northeast of, in top of coping of south wall of lock 8 of the Illinois & Michigan Canal at Au Sable Creek; copper bolt leaded vertically in second coping stone below the lower gates (U. S. Corps of Engineers p. b. m. 94)-----	512. 830
T. 34 N., R. 8 E., in sec. 29, near Morris, on coping stone first east of recess for lower south gate of lock 8 of the Illinois & Michigan Canal at Au Sable Creek; highest point in a circle cut on top of south wall (U. S. Corps of Engineers b. m. 39)-----	512. 855
Morris, near, nearly opposite the lower gates of lock, 36.8 feet south from center of quoin post of south lower gate, in yard of house of keeper of lock 8 of the Illinois & Michigan Canal, at Au Sable Creek; copper bolt leaded vertically in limestone block underground (U. S. Corps of Engineers p. b. m. 95)-----	507. 759
Top of cap of iron post-----	511. 719
T. 34 N., R. 8 E., in sec. 28, near Morris, about 0.7 mile east of lock 8, east abutment of small bridge on river road over a creek; highest point in a square cut on top of north wing wall (U. S. Corps of Engineers t. b. m. 404)-----	501. 265

WILMINGTON QUADRANGLE.

Channahon northeast to point near Rockdale.

T. 34 N., R. 8 E., 2 feet west of fence on east line of sec. 28, near Channahon, about 0.2 mile southwest of a marked angle in river road, about 0.5 mile west of Elgin, Joliet & Eastern Ry., near north side of river road; highest point in a square cut on highest point of a granite boulder about 3 feet long by 2.7 feet wide and about 1.5 feet above ground (U. S. Corps of Engineers t. b. m. 405)-----	509. 754
T. 34 N., R. 8 E., in sec. 22, near Channahon, about 2 miles northeast of lock 8 at Au Sable Creek, south abutment of railroad bridge over the Illinois & Michigan Canal; highest point in a circle cut on top of coping (U. S. Corps of Engineers b. m. 38 A)-----	522. 669
T. 34 N., R. 8 E., NE. $\frac{1}{4}$ sec. 26, on north side of river road between lock 8 and Channahon, about 3 miles southwest of Channahon, about 0.2 mile east of Jacob Hansel's farmhouse; set in southwest corner of Dresden Catholic Cemetery, 2.1 feet north of front fence of cemetery, 22.6 feet southeast of an 8-inch box elder tree; copper bolt leaded vertically in limestone block underground (U. S. Corps of Engineers p. b. m. 96)-----	525. 072
Top of cap of iron post-----	529. 030

Channahon, in top of coping of east wall of lock 7 of Illinois & Michigan Canal, near center of top of coping stone; copper bolt leaded vertically (U. S. Corps of Engineers p. b. m. 97)-----	Feet. 522. 144
Channahon, on east wall of lock 7 of the Illinois & Michigan Canal; cross cut on top of an iron bolt leaded vertically into top of quoin coping stone of east upper gate (U. S. Corps of Engineers b. m.)--	522. 157
T. 34 N., R. 9 E., NE. $\frac{1}{4}$ sec. 20, about 0.2 mile east of Channahon, on road to Smith's bridge over Des Plaines River, in front yard of Patrick Briscoe's farmhouse; copper bolt leaded vertically into limestone block underground (U. S. Corps of Engineers p. b. m. 98)-----	525. 200
Top of cap of iron post-----	529. 155
T. 34 N., R. 9 E., SW. $\frac{1}{4}$ sec. 11, near Channahon, nearly west of Millsdale, 464.8 feet east of center line of small stone culvert, first southwest of Isaac Van Alstyn's farmhouse, near foot of hill slope on springy, marshy ground; highest point of a square cut on a large boulder 3.9 feet long by 3.6 feet wide by 1.5 feet above ground (Sanitary district b. m. 143)-----	541. 566
T. 34 N., R. 9 E., SW. $\frac{1}{4}$ sec. 11, near Channahon, on northwest bank of northwest channel of river, 106 feet west of water edge, in highway which crosses Desplaines River at Millsdale; copper bolt leaded vertically into sandstone block underground (U. S. Corps of Engineers p. b. m. 99)-----	516. 557
Top of cap of iron post-----	520. 503
Millsdale, SW. $\frac{1}{4}$ sec. 11, T. 34 N., R. 9 E., on top of southwest corner of east stone abutment of highway bridge over the west channel of Desplaines River; highest point in a circular cut (U. S. Corps of Engineers b. m. 25 A)-----	509. 725
Millsdale, near, SW. $\frac{1}{4}$ sec. 2, T. 34 N., R. 9 E., 262.6 feet north along road from north side of William O'Brien's farmhouse, 13 feet west of east fence line of road, near edge of bluffs; highest point of a square cut on large boulder in road to Smith's bridge (Sanitary district b. m. 141)-----	572. 036
Millsdale, near, about 0.2 mile northeast of road forks to Channahon and Minooka, between Desplaines River and Illinois & Michigan Canal, northeast abutment of small iron bridge over Rock Run on Channahon road running southwest from Joliet to Channahon; highest point in a square cut on top of southeast bridge seat stone (U. S. Corps of Engineers t. b. m. 424)-----	511. 586
T. 35 N., R. 9 E., SW. $\frac{1}{4}$ sec. 26, northwest side of Channahon road, between Desplaines River and Illinois & Michigan Canal, about 725 feet northeast along road from bridge over Rock Run, in front yard of Michael Meegan's house; copper bolt leaded vertically into limestone block underground (U. S. Corps of Engineers p. b. m. 100)-----	520. 116
Top of cap of iron post-----	524. 066
T. 35 N., R. 9 E., near southeast corner of sec. 24, northwest side of Channahon road, between Desplaines River and Illinois & Michigan Canal, 1.8 miles northeast of Rock Run Bridge, in barnyard of Caleb A. Glasscock, 34.2 feet east of southeast corner of barn; highest point in square cut on top of a red granite boulder, bluntly wedge shaped upward, obliquely truncated at northeast corner, 0.7 foot above ground (U. S. Corps of Engineers t. b. m. 427)-----	522. 763

Rockdale, near, in Channahon road, 1 mile west of Brandon's bridge, between Desplaines River and Illinois & Michigan Canal, 134.5 feet northeast from northwest corner of red frame house on Folk's farm, 3.6 feet from north fence line of road; highest point in a square cut on top of a granite boulder (U. S. Corps of Engineers t. b. m. 429)-----Feet.
529. 045

JOLIET QUADRANGLE.

Point near Rockdale northeast to point near Romeo.

Rockdale, near, at northeast end of large red barn on Folk's farm, southeast side of Channahon road, about 2 miles below Joliet; center punch mark in end of copper bolt leaded horizontally into stone foundation wall (Sanitary district b. m. 135)-----523. 207

Rockdale, NE. $\frac{1}{4}$ sec. 20, T. 35 N., R. 10 E., north side of Channahon road, between Illinois & Michigan Canal and Desplaines River, in front yard of house owned by Henry H. Stassen & Son, about 0.2 mile southwest along highway from Brandon's bridge over canal; copper bolt leaded vertically in limestone block (U. S. Corps of Engineers p. b. m. 101)-----522. 369

Top of cap of iron post-----526. 317

Rockdale, in north face of south abutment of Brandon's bridge over the Illinois & Michigan Canal, third course of stone up from ground; center punch mark in end of copper bolt (Sanitary district b. m. 130)-----531. 701

Rockdale, near, north abutment of Brandon's bridge over Desplaines River; top of copper bolt leaded vertically into top of coping stone of east wing wall (U. S. Corps of Engineers p. b. m. 102)-----519. 444

Joliet, on Railroad Street, first street west of and parallel to Illinois & Michigan Canal, about 0.6 mile from Brandon's bridge, opposite stone quarry to west and over drain from quarry; highest point in a square cut near east corner of capstone at southeast end of rectangular stone culvert (U. S. Corps of Engineers t. b. m. 432)-----545. 718

Joliet, on McDonough Street, west abutment of wagon bridge over the Illinois & Michigan Canal and Desplaines River; highest point in west angle of cross within circle, cut on top of south stone bridge seat (U. S. Corps of Engineers t. b. m. 433)-----541. 192

Joliet, west end of Jefferson Street Bridge over Desplaines River, near south end of abutment, in top of stone coping course which forms the bridge seat course of the concrete abutment; copper bolt leaded vertically (U. S. Corps of Engineers p. b. m. 103)-----538. 136

Joliet, in south wall of courthouse; center punch mark of copper bolt leaded into center of third course of stone up from ground (Sanitary district b. m. 127)-----545. 185

Joliet, just above Bridge or Jackson Street, lock 5 of Illinois & Michigan Canal; center of cross on top of middle one of three vertical bolts securing to the west concrete wall of lock the lower curved strap of hinge at top of wooden quoin post of lower west gate (U. S. Corps of Engineers t. b. m. 434)-----544. 122

Joliet, on same course as p. b. m. 104; highest point in a circle cut on top of southeast corner of southwest end stone (U. S. Corps of Engineers t. b. m. 435)-----549. 605

Joliet, west stone abutment of Ruby or Columbia Street Bridge, over Illinois & Michigan Canal and Desplaines River; center punch mark of copper bolt leaded in southeast face of fourth course up from ground in south wing wall (U. S. Corps of Engineers p. b. m. 104) -----	Feet. 548. 989
Joliet, in north part of town, opposite steel works, at point 91 feet north of range of upper end of canal basis; highest point in a square cut on top of west stone retaining wall of Illinois & Michigan Canal (U. S. Corps of Engineers t. b. m. 436) -----	544. 943
Joliet, in north part of town, near northeast corner of northwest abutment of railroad bridge over Illinois & Michigan Canal, just below lock 4, in center of depressed square cut on top of coping below bridge seat; copper bolt leaded vertically (U. S. Corps of Engineers p. b. m. 105) -----	548. 046
Joliet, in northern outskirts of town, just below lock 3 of canal, northwest stone abutment of railroad bridge over Illinois & Michigan Canal; copper bolt leaded vertically in top of third step up from the ground (middle of third main course) in southwest wing wall (U. S. Corps of Engineers p. b. m. 106) -----	554. 002
Joliet, north of, just above Elgin, Joliet & Eastern Ry. bridge over canal, at north end of recess from west lower gate of lock 3; highest point in a square cut on top of west wall (Sanitary district b. m. 117) -----	559. 488
Joliet, near, 0.7 mile north along canal from p. b. m. 106, about 20 feet south of terminus of railway along west side of canal, on top of south stone of what remains of west abutment of a former railroad bridge over the Illinois & Michigan Canal; highest point in a square cut (U. S. Corps of Engineers t. b. m. 437) -----	560. 246
Lockport, about 1.5 miles below, lock 2 of Illinois & Michigan Canal, 0.3 foot back from east face of tail-bay to lock chamber, 0.6 foot below south side of wooden quoin post of lower west gate; highest point of a square cut on top of west wall (U. S. Corps of Engineers t. b. m. 438) -----	569. 484
Lockport, second lock below, at a joint in the wall coping stones; highest point in a square cut on west wall of lock 2 of the Illinois & Michigan Canal (Sanitary district b. m. 109) -----	569. 502
Lockport, at point of curve in head bay wall of lock 1 of Illinois & Michigan Canal, south side of a joint of the coping stones; highest point in a square cut on top of west wall (Sanitary district b. m. 106) -----	581. 562
Lockport, on Chicago & Alton R. R. side track to mills west of canal, in west wing wall of northwest stone abutment of bridge over the canal; copper bolt leaded vertically in top of west end stone of third course up from ground (U. S. Corps of Engineers p. b. m. 107) -----	573. 296
Lockport, Sixteenth Street Bridge over Illinois & Michigan Canal, 3.9 feet above the towpath; center punch mark of copper bolt in east face of west stone abutment (U. S. Corps of Engineers p. b. m. 108) -----	574. 060
Lockport, southwest corner of State and Ninth streets; copper bolt in north water table of Arnold Building (Sanitary district b. m. 116) -----	602. 711
Lockport, Ninth Street Bridge over Illinois & Michigan Canal, in east face of west stone abutment; copper bolt (Sanitary district b. m. 114) -----	585. 133

Lockport, 500 feet south of station; copper bolt leaded vertically in top of bridge seat or coping course of north abutment of railroad bridge 38 (U. S. Corps of Engineers p. b. m. 109)-----	Feet. 564. 114
Lockport, on same bridge seat course as p. b. m. 109, 0.6 foot from east end; highest point of square cut in stone (U. S. Corps of Engineers t. b. m. 440)-----	564. 093
Lockport, east of controlling works of the Chicago Drainage Canal; copper bolt leaded vertically in top of bridge seat or coping course of south abutment of railroad bridge 37A (U. S. Corps of Engineers p. b. m. 110)-----	568. 866
Lockport, south end of waste weir at controlling works of Chicago Drainage Canal; copper bolt in top of stone doorstep of the south double doors of the brick building (U. S. Corps of Engineers p. b. m. 111)-----	574. 597
Lockport, near, 0.7 mile from p. b. m. 111, at controlling works, 2.3 feet back from face of wall of Chicago Drainage Canal; highest point in square cut on top of east concrete wall (U. S. Corps of Engineers t. b. m. 441)-----	584. 996
Lockport, near, opposite t. b. m. 441, near a gage on vertical face of canal wall, 0.2 feet from east face of canal; highest point in a square (Sanitary District b. m.)-----	585. 012
Lockport, near, 1.4 miles north of p. b. m. 111 at controlling works, nearly opposite jog in west concrete wall of Chicago Drainage Canal and break in west spoil bank; highest point in a square cut on top of east concrete wall (U. S. Corps of Engineers t. b. m. 442)-----	584. 978
Romeo, 1.2 miles below wagon bridge over Chicago Drainage Canal, first bridge above the long concrete wall extending northward from controlling works; highest point in a square on top of short section of concrete wall on east side of canal (U. S. Corps of Engineers t. b. m. 443)-----	584. 941
Romeo, 0.4 mile below wagon bridge over Chicago Drainage Canal; highest point of a square cut on top of a short section of stone retaining wall on east side of canal (U. S. Corps of Engineers t. b. m. 444)-----	583. 786
Romeo, 0.4 mile below wagon bridge over Chicago Drainage Canal; copper bolt leaded vertically in top of short section of stone retaining wall on east side of canal (U. S. Corps of Engineers p. b. m. 112)-----	583. 188
Romeo, 87 feet south of south side of highway bridge over Illinois & Michigan Canal, 68.8 feet northeast of northeast corner of stone foundation of elevator building just west of towpath; highest point in a square cut at east edge of coping of west retaining wall of canal (Sanitary district b. m. 94)-----	589. 258
Romeo, east end of draw span of wagon bridge over Chicago Drainage Canal, near south end of pier; copper bolt leaded vertically in top of bridge seat or coping course of pier (U. S. Corps of Engineers p. b. m. 113)-----	595. 497
Romeo, highway bridge over Illinois & Michigan Canal, in fifth course, 4.2 feet up from ground; center punch mark of copper bolt in east face of west abutment (Sanitary district b. m. 93)-----	594. 135
Romeo, east end of highway drawbridge over Chicago Drainage Canal, on north end of pier; highest point of a circular niche cut in quarry-faced projection on north face of fourth course down from bridge seat course (Sanitary district b. m.)-----	589. 568

Romeo, 0.6 mile above center line of wagon bridge over Chicago Drainage Canal, opposite and west of point 95 paces south of beginning of long curve in railroad track; highest point in a square cut on top of a short section stone retaining wall on east side of canal (U. S. Corps of Engineers t. b. m. 445)-----	Feet. 583. 149
Romeo, 1.1 miles north, along canal, from center line of wagon bridge over Chicago Drainage Canal, about 0.2 mile south of quarry dock of the Lemont Limestone Co., on west side of canal; highest point in a square cut on top of bared rock, in place, along east side of canal (U. S. Corps of Engineers t. b. m. 446)-----	582. 812
Romeo, 1.8 miles north along canal from center line of wagon bridge over the Chicago Drainage Canal, 0.2 mile southwest along canal from lower side of engine house at dock of Western Stone Co.'s quarry 6 on southeast bank of canal; highest point of square cut on top of bared rock, in place, along east side of canal (U. S. Corps of Engineers t. b. m. 447)-----	583. 554

DESPLAINES QUADRANGLE.

Lemont northeast to Willow Springs.

Lemont, 1.4 miles west-southwest along Chicago Drainage Canal from center line of wagon bridge over canal, 0.2 mile east-northeast along the canal from Will-Cook county line, 0.3 mile east-northeast of the range of northeast side of stone crusher building on north side of canal, known as Western Stone Co.'s No. 5; on south-southeast side of canal; highest point in square cut on top of bared rock, in place (U. S. Corps of Engineers t. b. m. 449)-----	584. 920
Lemont, 0.7 mile west-southwest along canal from center line of wagon bridge over canal on Stevens Street, 290 feet west-southwest along canal from lower end of high south spoil banks, about opposite middle of second curve below Lemont station, near railroad tracks, opposite telephone pole 673 of the Sanitary District line, on south-southeast side of canal; highest point of square cut on top of bared rock, in place (U. S. Corps of Engineers t. b. m. 450)-----	584. 783
Lemont, on Stevens Street, south-southeast abutment of drawbridge over Chicago Drainage Canal; highest point in a semicircular niche cut on quarry-faced projection on northwest face of stone in first course up from ground (U. S. Corps of Engineers t. b. m. 451)-----	589. 340
Lemont, north-northwest abutment of drawbridge over Chicago Drainage Canal on Stevens Street, 1.9 feet north from angle in coping course at junction of abutment with its west wing wall; copper bolt leaded vertically in top of sandstone bridge seat or coping course (U. S. Corps of Engineers p. b. m. 114)-----	594. 136
Lemont, in west wing wall of south abutment of railroad drawbridge over Chicago Drainage Canal; copper bolt leaded vertically in top of west end stone of second course above ground (U. S. Corps of Engineers p. b. m. 115)-----	590. 110
Lemont, southeast corner of Stevens and Talcott streets; center punch mark of copper bolt in center of water table on north-northwest side of Dutton's stone building (Sanitary District b. m. 88)---	605. 425

	Feet.
Lemont, southeast corner of Stevens and Talcott streets; highest point in a square cut on top of flagging at northwest corner of Dutton's stone building (Sanitary district b. m. 80)-----	604. 251
Lemont, at Western Stone Co.'s quarry No. 2; center punch mark of copper bolt in southeast face of northwest one of four stone piers supporting trusses carrying traveling crane over Illinois & Michigan Canal (Sanitary district b. m. 79)-----	587. 679
Lemont, on Stevens Street, 0.5 mile northeast along Chicago Drainage Canal from drawbridge over it; highest point in a square cut on top of stone retaining wall on southeast side of canal, 333 feet southwest of lower side of engine house at Illinois Stone Co.'s dock (U. S. Corps of Engineers t. b. m. 452)-----	585. 208
Lemont, on Stevens Street, 1.3 miles northeast along canal from drawbridge over it, 795.5 feet northeast of upper side of engine house at dock on canal of Western Stone Co.'s quarry No. 1; copper bolt leaded vertically in top of stone retaining wall on southeast side of canal (U. S. Corps of Engineers p. b. m. 116)-----	584. 934
Lemont, on Stevens Street, 1.9 miles east-northeast along Chicago Drainage Canal from the drawbridge over it, at curve in canal between Sag and Lemont; highest point in a square cut on top of stone retaining wall on southeast side of canal (U. S. Corps of Engineers t. b. m. 453)-----	585. 090
T. 37 N., R. 11 E., sec. 15, 509 feet below the upper end of curve in retaining wall at bend in canal between Sag and Lemont; copper bolt leaded vertically in top of stone retaining wall on southeast side of canal (U. S. Corps of Engineers p. b. m. 117)-----	585. 012
Lemont, near, opposite telephone pole 564, about 1,193.5 feet northeast along wall from p. b. m. 117, about 684.5 feet northeast from upper end of curve in wall at bend in canal between Sag and Lemont; on top of southeast wall of canal, marked "B. M." (Lower Sanitary district b. m.)-----	585. 043
Lemont, near, on Chicago Drainage Canal, about 1,728.5 feet northeast along wall from p. b. m. 117, about 1,219.5 feet in same direction from upper end of curve in wall at bend in canal between Sag and Lemont; top of southeast wall, marked "B. M." (Upper Sanitary district b. m.)-----	584. 984
T. 37 N., R. 11 E., NW. $\frac{1}{4}$ sec. 14, 0.6 mile northeast along canal from upper end of curve in wall at bend in canal between Sag and Lemont, nearly west of farmhouse on northwest bank of Illinois & Michigan Canal, occupied by Joseph Polarek, 228.8 feet southwest along canal from the lower side of engine house at the Delaney Stone Co.'s dock; highest point in a square cut on top of stone retaining wall on southeast side of canal (U. S. Corps of Engineers t. b. m. 454)-----	584. 980
Sag Bridge, opposite station, 0.8 mile northeast along canal from lower side of engine house at Delaney Stone Co.'s dock, 118 feet below ditch at right angles to canal about 250 feet long and bordered with poplars; highest point in square cut on top of stone retaining wall on southeast side of canal (U. S. Corps of Engineers t. b. m. 455)-----	584. 947
Willow Springs, near, 1.2 miles northeast along canal from lower side of engine house at Delaney Stone Co.'s dock; highest point in square cut on top of stone retaining wall on southeast side of canal (U. S. Corps of Engineers t. b. m. 456)-----	584. 981

T. 37 N., R. 11 E., NE. $\frac{1}{4}$ sec. 12, at bend in canal below Willow Springs, opposite Philip Kich's farmhouse and suspension foot bridge over Illinois & Michigan Canal, 42.5 feet northeast along canal from lower end of wall next above, about 755 feet of mostly natural rock canal bank situated between two long stretches of built retaining wall, copper bolt leaded vertically in top of stone retaining wall, on southeast side of canal (U. S. Corps of Engineers p. b. m. 118)-----	Feet. 584. 812
Willow Springs, near, about 1.7 miles above Sag, 2.3 feet north along wing wall from east corner of abutment of Philip Kich's suspension footbridge over the Illinois & Michigan Canal; center punch mark of copper bolt in northeast wing wall of northwest stone abutment (Sanitary district b. m. 64)-----	591. 169
Willow Springs, near, on same wall as S. D. b. m. 64; highest point in southeast quarter of a circle cut on top of second step down from top of old bridge abutment. This bench has settled, owing to settling of the abutment (Sanitary district b. m. 63)-----	592. 577
Willow Springs, near, on same wall as S. D. b. m. 64, near toe of earth embankment forming northwest approach to bridge; highest point of a small square within a larger square cut on northeast corner of stone (Sanitary district b. m. 62)-----	589. 872
T. 37 N., R. 12 E., SW. $\frac{1}{4}$ sec. 6, at bend in Chicago Drainage Canal below Willow Springs, about 50 feet above opening in the spoil banks on southeast side of canal, 0.9 mile below the lower end of curve in wall; highest point in a square cut on top of stone retaining wall (U. S. Corps of Engineers t. b. m. 457)-----	585. 094
Willow Springs, bend in canal below, 0.2 mile below the lower end of curve in wall, 13.5 feet above opposite telephone pole 454; highest point of a square cut on top of stone retaining wall on southeast side of canal (U. S. Corps of Engineers t. b. m. 458)-----	585. 025
Willow Springs, bend in canal below, 469.2 feet below the upper end of curve, on southeast side of canal; center of cross cut on top of a 1-inch iron bolt set in top of stone retaining wall (U. S. Corps of Engineers p. b. m. 119)-----	585. 344
Willow Springs, southeast abutment of highway drawbridge over Chicago Drainage Canal, on top of fifth course of stone up from ground in wing wall; highest point in a square cut on top of lowest step of southwest wing wall (U. S. Corps of Engineers t. b. m. 459)-----	595. 018
Willow Springs, on southeast side of octagonal stone pier of highway drawbridge over Chicago Drainage Canal; highest point in a semicircular niche cut on quarry-faced projection in first course above ground (Sanitary district b. m.)-----	586. 582
Willow Springs, about 250 feet north of northeast corner of wagon bridge over Desplaines River; center punch mark of copper bolt in southwest end wall of stone foundation of Charles Piper's barn (Sanitary district b. m. 54)-----	605. 260
Willow Springs, southeast abutment of wagon bridge over Illinois & Michigan Canal; highest point in a square cut on top of southwest bridge seat stone (Sanitary district b. m. 51)-----	598. 172
Willow Springs, northwest abutment of wagon bridge over Illinois & Michigan Canal; highest point in southeast quarter of a circle cut on top of southwest bridge seat stone (Sanitary district b. m. 50)-----	598. 499

Willow Springs, in top of sandstone coping course of octagonal stone pivot pier of highway drawbridge over Chicago Drainage Canal; copper bolt leaded vertically (U. S. Corps of Engineers p. b. m. 120) _	Feet. 592. 140
Willow Springs, north corner of Wentworth and Archer avenues, in top of stone doorstep of door on southwest side of Henry B. Koller's brick block; copper bolt leaded vertically (U. S. Corps of Engineers p. b. m. 121)-----	616. 503
Willow Springs, in Archer Avenue, 68.1 feet northeast of north corner of J. M. Abbitt's store building, 141.6 feet east of east corner of John Zenk's brick saloon; top of cast-iron standard bench mark (Sanitary district b. m. 57)-----	611. 569

APPENDIX B.

ELEVATIONS OF STONE-LINE BENCH MARKS ESTABLISHED BY THE MISSISSIPPI RIVER COMMISSION ALONG MISSISSIPPI RIVER FROM MENOMINEE TO CAIRO, ILL.

PRIMARY LEVELING.

Altenburg, Alton, Alto Pass, Baldwin, Barry, Bonfil, Campbell Hill, Chester, Clinton, Crystal City, Edgington, Fort Madison, Galena, Hannibal, Hardin, Jonesboro, Keithsburg, Keokuk, Kimmswick, Leclaire, Lomax, Louisiana, Mendon, Milan, Miles, Mound City, Muscatine, Nebo, O'Fallon, Oquawka, Pearl, Peosta, Quincy, Renault, St. Louis, Ste. Genevieve, Savanna, Thebes, and Waterloo quadrangles.

ADAMS, ALEXANDER, CALHOUN, CARROL, HANCOCK, HENDERSON, JACKSON, JERSEY, JO DAVIESS, MADISON, MERCER, PIKE, PULASKI, RANDOLPH, ROCK ISLAND, ST. CLAIR, UNION, AND WHITESIDE 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., House Doc. No. 50), and the descriptions and elevations of bench marks from Menominee, Ill., 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 -6.67 feet near Menominee, have been applied to refer them to mean sea level, according to the 1907 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 topographical 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 iron 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 ground, the top ends 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.

PEOSTA QUADRANGLE.

Dubuque, 9 miles below, near center of Island 233, on left bank, on side of bluff near top, about 980 feet below large rock quarry, 3 feet east of fence running over bluff; copper bolt in tile.....	Feet. 719. 37
Top of iron post (177/2).....	723. 33
Menominee, opposite Chicago, Burlington & Quincy R. R. station; base of rail.....	607. 71
Menominee, opposite Illinois Central R. R. station; base of rail.....	609. 21
Dubuque, 6 miles below, near center of Ninemile Island, back from left bank on top of bluff, about 72 feet above railroad tracks, about 49 feet back from tracks, 164 feet below railroad bridge 102 on Chicago, Burlington & Quincy R. R. over small branch out of bluffs, 2 feet from board fence running over bluff; copper bolt in tile.....	703. 51
Top of iron post (178/2).....	707. 46

GALENA QUADRANGLE.

Aitken, opposite Chicago, Burlington & Quincy R. R. station; base of rail.....	606. 93
Aitken, opposite Chicago Great Western R. R. station; base of rail..	608. 40
Aitken, 656 feet above station, 66 feet back of Fevre River, 0.7 mile from river bank, at foot of and on west side of large rocky embankment on Chicago Great Western R. R., 328 feet above switch post; copper bolt in tile.....	591. 67
Top of iron post (175/1).....	595. 68
Island 241, in small open spot, 197 feet from river bank, 490 feet below head of island; copper bolt in tile.....	590. 90
Top of iron post (175/2).....	594. 92

Stone Slough, opposite head of, 2 feet west of right-of-way fence of Chicago, Milwaukee & St. Paul Ry., 246 feet above two large bowlders, one inside and the other outside of right of way, 656 feet above end of railroad curve, 1,312 feet above a large trestle; copper bolt in tile.....	Feet. 616. 280
Top of iron post (175/3).....	620. 30
Galena Junction, west side of Chicago, Burlington & Quincy R. R. station; base of rail.....	610. 80
Galena Junction, east side of station; base of rail.....	612. 8
Galena River, mouth of, at lock basin; highest part of west end of north wall.....	592. 86
Galena River, mouth of, at lock basin; highest part of west end of south wall.....	593. 43

MILES QUADRANGLE.

Island 256, about 0.8 mile above head of, on very high sand hill, small bunch of trees stand directly between river and bench mark; copper bolt in tile.....	663. 01
Top of iron post (170/2).....	666. 99

SAVANNA QUADRANGLE.

Savanna, Chicago, Burlington & Quincy R. R. station; base of rail..	594. 56
Savanna, upper end of town, on right of way of Chicago, Burlington & Quincy R. R., 2 feet from fence, 67 feet north of north end of bridge 32; copper bolt in tile.....	591. 84
Top of iron post (167/2).....	595. 85
Savanna, opposite M. W. & D. Dupin's ice house in upper part of town, on Kellars Island, 33 feet from bank, on small ridge between river bank and small slough; copper bolt in tile.....	580. 21
Top of iron post (167/3).....	585. 20
Savanna, 3 miles above, 0.5 mile from river bank, 430 feet east of large slough, 98 feet west of small slough, 22 feet from 14-inch oak tree; copper bolt in tile.....	580. 16
Top of iron post (168/1).....	584. 13
Arnold Landing, 3 feet south of east-west fence to river, about 820 feet north of a large brick house, 33 feet south of small lake, at bend in fence about 0.2 mile east of timber, about 328 feet west of a north-south wire fence, 0.8 mile from river; copper bolt in tile....	583. 54
Top of iron post (169/1).....	587. 62
Arnold Landing, 3 feet west of east right-of-way fence of Chicago, Burlington & Quincy R. R., 328 feet south of bridge 45, which is in front of large brick house, 82 feet south of north end of cut through sand hill; copper bolt in tile.....	606. 40
Top of iron post (168/2).....	610. 37

CLINTON QUADRANGLE.

Albany, 3 miles below, 3 feet north of wire fence on property belonging to Marshall, on high ridge 490 feet east of railroad cut on prairie; copper bolt in tile.....	624. 52
Top of iron post (158/1).....	628. 52
Albany, 3 miles below, on wagon road along river, 3 feet west of fence, 3 feet south of Olaf Nelson's south line; copper bolt in tile.....	593. 03
Top of iron post (158/2).....	597. 02

Albany, at lower end of town, 2 feet west of east right-of-way fence of Chicago, Milwaukee & St. Paul Ry., 7 feet south of south line of street, two blocks below station; copper bolt in tile-----	Feet. 588. 67
Top of iron post (159/2)-----	592. 68
Island 292, opposite point 328 feet below foot of, 410 feet from river, in clearing, 24 feet to 18-inch birch, 86 feet to 15-inch birch; copper bolt set in tile-----	575. 83
Top of iron post (159/3)-----	579. 80
Albany, Chicago, Milwaukee & St. Paul Ry. station; base of rail----	584. 71
Albany, 3 miles above, on wagon road running perpendicular to river, in line with south right of way fence of Chicago, Milwaukee & St. Paul Ry., 3 feet west of fence, and on east side of wagon road in line with mouth of Cattail Slough; copper bolt in tile-----	585. 16
Top of iron post (160/2)-----	589. 23
Fulton, high water of June, 1880, stone doorway on river side of W. C. Snyder's warehouse on river bank; chisel mark-----	587. 68
Fulton, in front of Chicago, Burlington & Quincy Ry. station; base of rail -----	587. 68
Fulton, 1 mile above, opposite and about 328 feet east of "1 mile" post on second bridge above Fulton, 82 feet south of fence corner and 3 feet west of fence, 490 feet below house; copper bolt in tile--	576. 55
Top of iron post (162/1)-----	580. 57
Fulton, 1 mile above, on Fulton Island, 623 feet from river bank, 131 feet east of east bank of dry slough, on ridge 199 feet west of chute behind Fulton Island; copper bolt in tile-----	579. 30
Top of iron post (162/2)-----	583. 29

LECLAIRE QUADRANGLE.

Moline, Chicago, Rock Island & Pacific Ry. station; base of rail----	569. 46
Moline, Chicago, Burlington & Quincy R. R. passenger station; base of rail -----	574. 44
Watertown, Chicago, Milwaukee & St. Paul Ry. station; base of rail--	568. 73
Hampton, 0.8 mile below, about 820 feet above milepost, 49 feet from southeast corner of bridge E 508, 2 feet west of east right-of-way fence of Chicago, Milwaukee & St. Paul Ry.; copper bolt in tile -----	574. 21
Top of iron post (152/2)-----	578. 25
Pigeon Creek, 656 feet south of, on property of John Falk, 2 feet from his north property line, 656 feet from river, 2 feet east of wire fence which terminates at Falk's north line, on high ground, in open meadow; copper bolt in tile-----	577. 10
Top of iron post (152/3)-----	581. 13
Hampton, Chicago, Milwaukee & St. Paul Ry. station; base of rail----	581. 31
Hampton, 2 miles above, 3 feet north of south right-of-way fence, 43 feet from south rail of Chicago, Milwaukee & St. Paul Ry., on line between properties of George Bowles and Andrew Willard, 656 feet below bridge 494 E, 0.2 mile above bridge 496 E; copper bolt in tile--	583. 46
Top of iron post (153/2)-----	587. 52
Hampton, 2 miles above, 565 feet west of Sycamore schoolhouse, in southwest corner of grove belonging to Mr. Hamilton, 3 feet north of fence along wagon road, 3 feet east of north-south fence, 164 feet west of creek, 116 feet to ash tree 24 inches in diameter; copper bolt in tile-----	571. 67
Top of iron post (153/3)-----	575. 70

Rapids City, P. K. Bowker's store building, 6 inches from top of foundation, on southwest corner of building; cut in stone foundation (high-water mark, 1881)-----	Feet. 576.91
Rapids City, Chicago, Milwaukee & St. Paul Ry. station; base of rail- Cordova, 1.5 miles below, 3 feet from northwest corner of Wood- ward property, 66 feet from river, grove on both sides of road running east-west; copper bolt in tile-----	587.01
Top of iron post (155/2)-----	573.79
Top of iron post (155/2)-----	577.82
Cordova, in front of Chicago, Milwaukee & St. Paul Ry.; base of rail- Cordova, upper edge of town, on wagon road to Cool place, 3 feet from south fence, 3 feet east of west yard fence belonging to Mr. Cool and 84 feet northwest corner Cool's residence; copper bolt in tile-----	595.88
Top of iron post (156/1)-----	596.96
Top of iron post (156/1)-----	600.96
Cordova, 820 feet from river, on property of Mr. Ashdown, 3 feet from northeast corner of lot at intersection of Jersey Street with Second Street, north of station; copper bolt in tile-----	600.64
Top of iron post (156/2)-----	604.67

MILAN QUADRANGLE.

Linwood, Iowa, 0.2 mile above, on Illinois shore, 3 feet north of south fence on Milan-Andalusia wagon road, about 1,148 feet east of A. H. Mosher's house, 111 feet west of north-south line running through center of NE. $\frac{1}{4}$ sec. 25, 20 feet from 6-inch burr oak; copper bolt in tile-----	594.87
Top of iron post (147/2)-----	598.38

EDGINGTON QUADRANGLE.

Fairport, 0.2 mile above, 0.2 mile back from river bank, 3 feet south of rail fence at foot of bluffs, 820 feet along wagon road west of small gully, about 2,300 feet west of Mr. Martin's house, 57 feet from 8-inch black walnut tree, 66 feet from 10-inch white oak tree; copper bolt in tile-----	588.79
Top of iron post (143/2)-----	592.75

MUSCATINE QUADRANGLE.

Port Louisa, 3 miles above, 0.2 mile above Island 346, 364 feet from bank of Illinois Slough, 279 feet in front of large slough, 49 feet from 36-inch elm tree, 43 feet from 24-inch maple, 26 feet from 36-inch elm; copper bolt in tile-----	536.54
Top of iron post (137/2)-----	540.57

KEITHSBURG QUADRANGLE.

Keithsburg, railroad bridge, cut in west side of east pier; elevation of U. S. Engineer gage zero-----	523.13
Keithsburg, 1.2 miles above bridge, in small cleared area, 49 feet from shore, 54 feet from hickory tree 8 inches in diameter; copper bolt in tile-----	532.43
Top of iron post (132/2)-----	536.39
New Boston, 1 mile below, on edge of cultivated field, 72 feet north of northwest corner of garden, 47 feet from 8-inch white oak, 103 feet from 15-inch hickory; copper bolt in tile-----	573.00
Top of iron post (133/1)-----	577.00

New Boston, 1 mile below, on top of sand bluff, at edge of woods, in front of cemetery, about 82 feet from river, 50 feet from 10-inch red oak, 99 feet from 12-inch red oak; copper bolt in tile.....	Feet. 593. 70
Top of iron post (133/2).....	597. 72

OQUAWKA QUADRANGLE.

Oquawka, southwest corner of brick building on Second and Schuyler streets, occupied by W. H. Phelps's hardware store; high-water marks—	
1888	533. 14
1881	533. 73
1851	534. 42
Oquawka, fish house of A. B. Garard, west of railroad; high-water marks—	
1888	533. 09
1892	533. 31
Oquawka, 0.5 mile above, between railroad and sand bluff, 66 feet from edge of bluff, 266 feet from center of Chicago, Burlington & Quincy R. R. track; copper bolt in tile.....	562. 66
Top of iron post (128/2).....	566. 67

LOMAX QUADRANGLE.

Pontoosac, on brow of hill back of town, 246 feet east of section line running south from river, 72 feet from elm tree 11 inches in diameter; copper bolt in tile.....	647. 68
Top of iron post (119/1).....	651. 68
Pontoosac, about 0.2 mile below, 230 feet from river bank, 120 feet south of northwest corner of osage orange hedge inclosing field on east side of road, 3 feet east of fence, 116 feet south of corner of fence, at point where public road turns south from the river along section line; copper bolt in tile.....	517. 99
Top of iron post (119/2).....	522. 01
Dallas City, northeast corner of warehouse, opposite mill chimney; point in stone foundation.....	522. 31
Dallas City, on corner of flour mill; high-water marks—	
1851	526. 15
1892	523. 32
Dallas City, on section line running south from river a short distance east of town, about halfway up hillside, 469 feet from center of Chicago, Burlington & Quincy R. R. track, 620 feet from center of Atchison, Topeka & Santa Fe Ry. track; copper bolt in tile.....	610. 49
Top of iron post (120/1).....	614. 48

FORT MADISON QUADRANGLE.

Nauvoo, on south side of Young Street, 381 feet from river bank, 426 feet from brick house, 2 feet north of fence; copper bolt in tile....	527. 16
Top of iron post (115/2).....	531. 16
Nauvoo, on north side near northwest corner of Diamond Joe warehouse; scratch dug in mortar 3.7 feet above bottom of foundation..	514. 47

KEOKUK QUADRANGLE.

Hackley Island, 1,640 feet above head of, 2,790 feet east of levee, about 3,080 feet from top of left bank, 3 feet west of north-south fence between cultivated field on east and timber on west, about 328 feet north of continuous east-west fence, at southeast corner of timber, 49 feet east of blazed elm tree; copper bolt in tile-----	Feet. 482. 30
Top of iron post (10S/1)-----	486. 26
Hackley Island, 1,640 feet above head of, 394 feet below a river light in 1892, 33 feet east of levee, 16 feet east of road, under wire fence, on west edge of cultivated field, 312 feet from top of left bank, about 39 feet north of 3 blazed trees; copper bolt in tile-----	486. 24
Top of iron post (10S/2)-----	490. 20
Fox Island, at head of, 426 feet below large mill below Warsaw, 1 mile below Diamond Joe warehouse in southeast corner of lot, 16 feet west of center of a north-south road, 410 feet from left bank, nearly in line with north fence of a long east-west lane, 492 feet north of north end of levee; copper bolt in tile-----	496. 10
Top of iron post (109/2)-----	500. 06
Des Moines Rapids Canal, 1 mile above the middle lock of, in timber, on left bank, about 66 feet from left bank, 38 feet east of center of road up river bank, 49 feet west of center of old road up river, farther up on hillside, 426 feet north of half section line, which is a lane on bluff, on north side of a small cemetery, 131 feet north of a wash or small ravine on hillside, on land of Martha Parsons; copper bolt in tile-----	549. 30
Top of iron post (112/2)-----	553. 32
Des Moines Rapids Canal, 1 mile below the guard lock at upper end of, on east-west half section line dividing section 29 and separating the land of Moffatt on the north from property of Luce on south, on north side of fence, 118 feet from left bank of river, 623 feet above the orchard of Mr. Luce, surrounding trees are blazed; copper bolt set in tile-----	519. 89
Top of iron post (113/2)-----	523. 91

MENDON QUADRANGLE.

Long Island, 980 feet above foot of, at mouth of Canton chute, 49 feet east of levee, on west side of fence along east side of road, at west edge of timber, 26 feet north of blazed elm tree, 1,395 feet from left bank, at point about midway north and south of a field of woods on left bank; copper bolt in tile-----	471. 55
Top of iron post (101/1)-----	475. 50
Long Island, 984 feet above foot of, at mouth of Canton chute, 180 feet from left bank, about at middle north and south of field of weeds, blazed maple tree stands midway between top of left bank and post; copper bolt in tile-----	472. 07
Top of iron post (101/2)-----	476. 04
Shandrew Island, 2,130 feet above head of, 985 feet from left bank of Canton chute, 1,970 feet below foot of Island 416, which is the mouth of Smoots chute, 79 feet west of top of bank of the most prominent slough between Canton chute and Corner Slough, 2,790 feet nearly north of Houghton Landing, about 490 feet southeast of lower end of a small pond, 16 feet east of a double maple, 2 feet in diameter; copper belt in tile-----	474. 39
Top of iron post (103/1)-----	478. 36

Island 414, opposite, 574 feet below stone dike, 230 feet from left bank, 20 feet west of levee, between levee and road, in timber, 213 feet southeast of blazed ash tree; copper bolt in tile-----	Feet. 480. 63
Top of iron post (105/2)-----	484. 60
Island 410, opposite head of, 2,560 feet east of left bank, under wire fence on east side of a north-south lane running between land of W. P. Hammond on the west and George Schaffer on the east, 590 feet south of an east-west lane; copper bolt in tile-----	479. 25
Top of iron post (106/1)-----	483. 22
Island 410, opposite head of, about 426 feet from left bank, 328 feet below west end of an east-west lane, on land of W. P. Hammond, 16 feet east of levee, in cultivated field, 286 feet below an old cabin in field on south side of lane, 377 feet south of a blazed elm tree 12 inches in diameter; copper bolt in tile-----	481. 45
Top of iron post (106/2)-----	485. 41

QUINCY QUADRANGLE.

Island 434, nearly opposite head of bar above, 0.5 mile from left bank, in timber, 0.5 mile above same island, 82 feet west of elm tree 3 feet in diameter, 33 feet southeast of a pin-oak tree, both trees blazed; copper bolt in tile-----	464. 12
Top of iron post (97/1)-----	468. 09
Quincy, at northwest corner of grounds of the Quincy house of correction, 16 feet from road along the base of hill, grounds join Woodland Cemetery on the south; copper bolt in tile-----	475. 44
Top of iron post (99/2)-----	479. 39
Quincy, lower end of town, about 246 feet above the house of correction grounds, on northwest corner of stone foundation of round-house-----	480. 62
Quincy, near southwest corner of waterworks building, a little above the foot of Main Street; zero of floating well gage (stationary, set at high water of 1851)-----	484. 14
Quincy, on the Franklin school building, on east side of Fifth Street, between Kentucky and York streets; city b. m.-----	590. 83
Quincy, 1.5 miles above railroad bridge, 0.5 mile from left bank, in timber, about 1,148 feet above light on left bank, about opposite middle of a piece of river revetment 0.5 mile long; copper bolt in tile-----	468. 13
Top of iron post (100/1)-----	472. 13
Quincy, 1.5 miles above railroad bridge, 689 feet from left bank, in timber, other points of description same as above, surrounding trees are blazed; copper bolt in tile-----	468. 44
Top of iron post (100/2)-----	472.41

HANNIBAL QUADRANGLE.

Kings Island, opposite foot of, 361 feet from left bank, 38 feet below dwelling house, 33 feet below fence corner, about 0.2 mile above levee milepost between secs. 9 and 10, 3 feet northeast of fence, in grass field of Wm. Stickhorst, 63 feet northeast of Sny levee; copper bolt in tile-----	458. 16
Top of iron post (93/2)-----	462. 17

BARRY QUADRANGLE.

Cottonwood Island (No. 452), opposite head of, in point of woods projecting south into cultivated field, 10 feet north of private road, 7 feet southwest of a dead elm tree 4 inches in diameter, on land of Ed. Costen, 2,820 feet north of Sny levee, 0.8 mile from top of left bank; copper bolt in tile.....	Feet. 445.78
Top of iron post (88/1).....	449.80
Cottonwood Island (No. 452), opposite head of, 1,625 feet from top of left bank, 180 feet north of Sny levee, in timber and brush, 3 feet south of wire fence, 3 feet from a blazed tree on fence line, opposite levee stake 1,294, 0.5 mile below milepost between sections 24 and 25; copper bolt in tile.....	451.87
Top of iron post (88/2).....	455.88
Denmark Island dike, 1.1 mile above, 0.6 mile from top of left bank, at edge of timber, 2,838 feet from Sny levee, on north bank of slough, in edge of field that narrows to a point just west of the bench mark; pin-oak tree, 15 inches in diameter, stands at west corner of field, on land owned by Munger & Bros., at levee milepost between sections 21 and 22, 0.7 mile above the stone line; copper bolt in tile.....	450.16
Top of iron post (89/1).....	454.16
Denmark Island dike, 1.1 mile above, 148 feet northeast of Sny levee, in field of grass on north bank of a slough, 0.7 mile below levee milepost 21-22, 787 feet from left bank, at edge of timber, opposite levee stake 1149, 590 feet below a frame house east of levee; copper bolt in tile.....	448.81
Top of iron post (89/2).....	452.81
Gilberts Island, opposite head of, 2,970 feet northeast of Sny levee, 490 feet below levee milepost between sections 18 and 19, in timber, on northwest bank of Swain Slough, 490 feet north of small house in young orchard on southeast bank of Swain Slough; house is 460 feet east of north end of a lane and 26 feet west of water oak 16 inches in diameter; copper bolt in tile.....	451.20
Top of iron post (90/1).....	455.22
Gilberts Island, opposite head of, 1,640 feet along levee, northwest from south end of lane where triangulation station flag 30 is situated, on land of H. B. Adkinson, in cultivated field, 490 feet below levee milepost between sections 18 and 19, 3 feet northeast of a fence, 38 feet northeast of Sny levee; copper bolt in tile.....	453.25
Top of iron post (90/2).....	457.26

LOUISIANA QUADRANGLE.

Crider Island dike, 0.7 mile back of left bank from a point 3,080 feet above the Illinois shore end, 3 feet east of north-south fence between two cultivated fields, 0.8 mile due north along fence from same end of same dike; copper bolt in tile.....	444.18
Top of iron post (85/1).....	448.21
Louisiana, Mo., 1 mile below bridge, 0.7 mile below Illinois shore end of large dike, 360 feet northeast of Sny levee, in field of weeds near two blazed pin-oak trees facing post, 575 feet from left bank, opposite a point 3,080 feet above Illinois shore end of Crider Island dike, 985 feet above milepost on Sny levee, between sections 36 and 37; copper bolt in tile.....	444.67
Top of iron post (85/2).....	448.67

Louisiana, Mo., 1.2 miles above bridge, on northeast side of county road, in edge of timber, on northeast side of dry pond, 395 feet northwest of dwelling house on side of road, 755 feet northwest along road from point where it crosses Chicago, Burlington & Quincy R. R., 1,910 feet back of Sny levee at a point 1,210 feet above where it adjoins the Chicago, Burlington & Quincy R. R. embankment, 3,215 feet back of left bank, at a point 1,017 feet above Illinois shore end of large stone dike; copper bolt in tile-----	Feet. 449. 01
Top of iron post (86/1)-----	453. 03
Louisiana, Mo., nearly opposite waterworks, 328 feet from left bank, on a ridge in timber, 1,017 feet above the Illinois shore end of large stone dike, 33 feet west of blazed sycamore tree 18 inches in diameter; copper bolt in tile-----	447. 04
Top of iron post (86/2)-----	451. 03
Louisiana, Mo., opposite, 984 feet above the upper end of a large sandbar, about 328 feet below Perry Landing warehouse, 115 feet from left bank, in timber, under elm tree 36 inches in diameter, 3 feet south of stone; stone post (triangulation station 36)-----	453. 13

NEBO QUADRANGLE.

Bay City, 1,066 feet above the principal part of town, on east side of Hamburg Bay, in west side of orchard on hillside, 3 feet east of fence on east side of road, above small cliff, 98 feet north of barn; copper bolt in tile-----	454. 67
Top of iron post (80/1)-----	458. 67
Coon Island, head of large sandbar opposite middle of, in clump of timber between clearings on northeast and south, 33 feet southwest of small slough through timber, 1,840 feet due north of house on land of Mrs. Amanda Selby, 2,300 feet from left bank of river, 33 and 23 feet, respectively, from leaning sycamore tree, 18 inches in diameter, and an elm tree 20 inches in diameter, blazed on side near pipe; copper bolt in tile-----	440. 01
Top of iron post (81/1)-----	444. 03
Coon Island, head of large bar opposite middle of, 361 feet from left bank, 164 feet northeast of Sny levee, in timber near wire fence, 82 feet below where fence crosses levee, 1,148 feet above a barnyard, on land of Mrs. Amanda Selby; copper bolt in tile-----	438. 32
Top of iron post (81/2)-----	442. 34
Clarksville Island, 2,950 feet below foot of, on northeast bank of Kings Lake, near wagon road at fence on southwest side of cultivated field, 410 feet above a small dwelling house occupied by M. V. Tilly, 1,640 feet above abrupt turn in lake to northeast, 2,620 feet back from left bank of river; copper bolt in tile-----	443. 27
Top of iron post (82/1)-----	447. 27
Clarksville Island, 2,950 feet below foot of, in timber, 118 feet northeast of center of Sny levee, 328 feet from top of left bank, nearly opposite foot of a small shoal on large bar near left bank, 0.7-mile along the levee below milepost 45-46; copper bolt in tile-----	441. 43
Top of iron post (82/2)-----	445. 44
Clarksville Island, nearly back of ferry landing, which is 2,300 feet above the Illinois shore end of stone dike from head of island, 2,520 feet from left bank, in north side of a farm yard, about 148 feet	

northwest of angle in the Clarkville-Pleasant Hill road, 328 feet southwest of southwest end of long bridge over Sny slough, about 230 feet south of a small dwelling house; copper bolt in tile.....	Feet. 443.89
Top of iron post (83/1).....	447.90
Clarksville Island, 39 feet north of Sny levee, nearly back of ferry landing, 449 feet from left bank, 1,180 feet west of a north-south fence along Clarksville-Pleasant Hill road, about 1,470 feet below levee milepost, between sections 42 and 43, on north side of road, on south bank of pond, 36 feet south of a blazed cottonwood tree 9 inches in diameter; copper bolt in tile.....	441.45
Top of iron post (83/2).....	445.47

PEARL QUADRANGLE.

Mosier Landing, 0.25 mile below, near garden fence, at foot of slope of bluffs, opposite upper end of cliff, 328 feet from left bank, 131 feet north of south end of lot inclosed by fence, a little below dwelling house; copper bolt in tile.....	459.78
Top of iron post (79/2).....	463.80

HARDIN QUADRANGLE.

Wilson Landing, 1,300 feet below warehouse, in cultivated field, 164 feet from left bank, 130 feet from road running parallel with river, 167 feet from triangulation station flag 58, which is under a large sycamore tree in same field; copper bolt in tile.....	431.45
Top of iron post (74/2).....	435.46
Hogville, 2,690 feet back of left bank, on south side of wire fence on south bank of a slough, in timber, between 2 large elm trees, blazed and marked on side facing post; copper bolt in tile.....	430.26
Top of iron post (75/1).....	434.29
Hogville, 216 feet back of left bank, in corner of garden on property of George Bellamy; copper bolt in tile.....	430.72
Top of iron post (75/2).....	434.72
Gilead, 0.5 mile above town of, on land of B. M. Kuhm, 1,148 feet west of Hamburg and Gilead road along base of bluffs, 1,970 feet back from left bank of Gilead Slough from a point 1,000 feet above clubhouse of the Ark Fishing Club; copper bolt in tile.....	438.39
Top of iron post (76/1).....	442.39
Gilead Landing, 771 feet below warehouse, in timber, between 2 large blazed trees, 764 feet back of left bank; copper bolt in tile...	427.20
Top of iron post (76/2).....	431.22
Reds Landing, 328 feet above, 0.6 mile back from left bank, on west side of a public road, a little north of point where it turns east, in clear or open spot in the timber, 29 feet north of pin oak tree, 12 inches in diameter, on roadside; copper bolt in tile.....	433.75
Top of iron post (77/1).....	437.76
Hamburg, 1.5 miles below, 328 feet above head of Kelly Island, 328 feet below mouth of a prominent ravine, on north side of fence, on hillside, 731 feet from left bank, in clearing on land of Henry Campbell; copper bolt in tile.....	442.43
Top of iron post (78/2).....	446.45
Hamburg, in front of C. E. Rose's dry-goods and grocery store, on top of southwest corner of stone wall; circular cut marked " B M "...	446.17
Hamburg, near stone steps leading up to C. E. Rose's dry-goods and grocery store; mark cut on south wall (H. W. M., Dec. 1888)....	445.10

O'FALLON QUADRANGLE.

Point Landing, 262 feet below warehouse, 197 feet above stone ice house, about 197 feet southeast of James Carpenter's dwelling house, 0.5 foot in front of vertical face of rock which has a rise of about a foot, about 33 feet back of edge of rock at river; cross cut in top of horizontal surface of natural rock; letters " B M " are cut on vertical face near cross (68/2)-----	Feet. 424. 24
Fruitland Landing, in first valley below, on north side of road along left bank, about 262 feet east of M. C. Divon's house at Dixons Landing, about 240 feet west of mouth of creek, 7 feet southeast of large burr oak tree; copper bolt in tile-----	430. 99
Top of iron post (69/2)-----	434. 99
Fruitland Landing, southwest corner of upper warehouse; cross cut in top of stone, marked " B M "-----	430. 16
Martins Landing, in first valley above, 328 feet back of left bank, about 49 feet below stone dwelling house belonging to Melhon Nolte, about 23 feet below a log building, just above orchard of six apple trees; copper bolt in tile-----	440. 66
Top of iron post (71/2)-----	444. 66
Hastings Landing, 213 feet back of left bank in Bond Hollow, 426 feet above small branch, beside rail fence, on property of Stephen Kethler, 262 feet south of his frame house, which stands on top of the point above Bond Hollow, between fence and hickory tree; copper bolt set in tile-----	447. 76
Top of iron post (72/2)-----	451. 75

BONFIL QUADRANGLE.

Lock Haven, near station, 2,300 feet back from left bank, 2,400 feet nearly due west from Chicago, Peoria & St. Louis Ry. bridge over Piasa Creek, 328 feet northeast of house, 130 feet northeast of barn, just south of fence separating barnyard from field on north, on land of Ed. Lock; copper bolt in tile-----	476. 86
Top of iron post (63/1)-----	480. 77
Lock Haven, near, 1 mile above mouth of Piasa Creek, 33 feet north of Grafton branch of Chicago, Peoria & St. Louis Ry., about 98 feet east of trestle over small ravine, 0.6 mile west of railroad bridge across Piasa Creek, 476 feet back from left bank of river measured along the railroad; copper bolt in tile-----	436. 43
Top of iron post (63/2)-----	440. 45
Jersey Landing, 1.5 miles below, 2,300 feet below Eminence Hollow, 490 feet below platform on north side of railroad, 7 feet north of north rail of Chicago, Peoria & St. Louis Ry.; copper bolt in tile. ¹	429. 66
Top of iron post (64/2)-----	¹ 432. 04
Jersey Landing, below flour mill; Government mark on warehouse, high-water mark 1853-----	433. 46
Grafton, 95 feet from powder magazine; top of copper bolt leaded in flat rock-----	437. 42
Upper Grafton, southwest corner of Main and Church streets, in northeast corner of Peter Freeman's yard, one block south by one block east of Catholic Church; copper bolt in tile-----	426. 57
Top of iron post (66/2)-----	430. 57

¹ These elevations are doubtful. The difference between tile and cap should probably be approximately 4 feet.

Squaw Island, opposite center of, in timber, 82 feet back of top of main left bank, about 2,130 feet down chute from head of Squaw Island, 7 feet from blazed sycamore tree; copper bolt in tile.....	Feet. 420. 49
Top of iron post (67/1)	424. 47
Squaw Island, 1,970 feet below its head, 387 feet back of left bank of river, in timber, 7 feet from blazed double maple; copper bolt in tile..	416. 57
Top of iron post (67/2)	420. 56
Piasa Bluffs assembly grounds, 2,395 feet west of second one of two trestles, 12 feet north of railroad track, on left bank, on side of bluff, between cliff and railroad in the brush; copper bolt in tile---	446. 73
Top of iron post (65/2)	450. 72

ALTON QUADRANGLE.

Alton, in upper end of town, on bluff, 200 feet from river bank, 650 feet above the waterworks pumping station; stone under ground...	¹ 578. 83
Top of iron post (61/1 Alton)	¹ 581. 98
Alton, southeast corner of vinegar works; high-water mark (1883) cut in stone.....	424. 9
Clifton Terrace, 1.2 miles below, on left bank, in woods, on hillside, about 25 feet above track of Chicago, Peoria & St. Louis Ry., under bluff on which is triangulation station Hull; copper bolt in tile....	449. 43
Top of iron post (62/2)	453. 44
Chouteau Island, opposite point 0.5 mile above Chain of Rocks, on land of F. Kahle, on back side of levee, in cultivated field, 460 feet back of river bank, 520 feet south of grove between bank and levee, 0.6 mile below where north-south levee ends at river; flat stone....	412. 61
Top of iron post (57/2)	417. 70
Chouteau Island, near middle of island, on east side of north-south township road, in cultivated field of J. W. Siegers, about 1,070 feet south of schoolhouse; flat stone.....	410. 25
Top of iron post (57/1)	415. 34

ST. LOUIS QUADRANGLE.

Cabaret Island, about 1 mile back of, 1,410 feet northwest from track of Chicago & Alton R. R., opposite two houses, at south end of a clump of timber, on north bank of large gully; stone post (Mississippi River Commission b. m. Soechtig).....	420. 40
Cabaret Island, back of middle of, on top of levee, 213 feet east of left bank of slough, 575 feet north of northwest corner of orchard at levee, 490 feet north of station; flat stone.....	416. 20
Top of iron post (Mississippi River Commission b. m. 56/1)	421. 29
Venice, at southwest corner of elevator, 5 nails driven above nut; top of nut on bolt through plank bolted to pile (Mississippi River Commission b. m. (Ritter) 54/5)	400. 42
East St. Louis, waterworks, 1,050 feet north of northeast corner of settling basins, west of Chicago & Alton R. R. tracks; flat stone---	414. 96
Top of iron post (Mississippi River Commission b. m. 54/2)	420. 05
East St. Louis, in paved levee south of Union elevator, in line with Mullanphy Bank flagstaff and north edge of large brick chimney north of Laclede power house, at southeast corner of flat stone 2 feet 6 inches long and 11 inches wide, 71 feet from southeast corner of river house; center of 1½-inch square head iron bolt (U. S. Engineer Office, St. Louis, Mo., 1901, b. m. "Union elevator")	404. 22

¹ These elevations are doubtful. The difference between tile and cap should probably be approximately 4 feet.

East St. Louis, near, 1 mile south of Mobile & Ohio R. R. crossing, about 7 feet east of center of track of Conlogue R. R.; flat stone--	Feet. 412. 13
Top of iron post (Mississippi River Commission b. m. 53/1)-----	417. 21
Cahokia, about 1 mile southwest of town, on land of Henry Morton, 640 feet from left bank of chute, in grove of small trees, 20 feet above road leading back from house, almost directly back of old hurdle across chute, 13 feet west of blazed elm tree 1 foot in diameter; flat stone-----	402. 73
Top of iron post (Mississippi River Commission b. m. 52/1)-----	407. 81
East St. Louis, about 5 miles below, in Illinois bottom land, opposite Stolle quarries, about 0.2 mile west from stone residence of quarry superintendent, on small levee 6.5 feet south of center of track of Illinois Central R. R. 165 feet west of road crossing, 53 feet from northwest corner of orchard; iron post set in ground and projecting about 10 inches above surface (Board on Examination and Survey of Mississippi River, 1908, b. m. 3 W.)-----	415. 04
Dupo, 0.4 mile above roundhouse, in Illinois bottom land, 1.2 miles below junction of Illinois Central R. R. and St. Louis, Iron Moun- tain & Southern Ry., 11.3 feet east of center of north-bound track, 270 feet above telegraph pole 5/15, 625 feet below pole 5/10, about 1 foot above surface of ground; 2-inch iron pipe (Board on Exami- nation and Survey of Mississippi River, 1908, 4 W.)-----	412. 66
East Carondelet, about 1.2 miles below, in timber, on little knoll, distant about 200 feet west from Prairie du Pont Creek, just south of St. Louis, Iron Mountain & Southern Ry.; flat stone-----	405. 25
Top of iron post (Mississippi River Commission b. m. 51/2)-----	410. 33
East Carondelet, about 1.2 miles below, under elm tree blazed and marked "U. S. B. M. No. 51." 640 feet east of Mobile & Ohio R. R. 330 feet west of St. Louis and Columbia Rock Road, in cultivated field; flat stone-----	401. 65
Top of iron post (Mississippi River Commission b. m. 51/1)-----	406. 74
Bixby, 0.8 mile above, in Illinois bottom land, 450 feet below tele- graph pole 7/5, 417 feet above telegraph pole 7/10, 18 feet above switch stand, in St. Louis, Iron Mountain & Southern Ry. right of way, about 8 inches east of center of track, 1 inch above surface of ground; cross in end of railroad rail (Board on Examination and Survey of Mississippi River b. m. 5 W)-----	411. 88
Dryer, 1.5 miles southeast of Dupo, 2 miles below Falling Spring, on Illinois Bluffs, near lower end of Bluff Lake, on south side of large ravine, about 0.2 mile from perpendicular face of bluff and almost on line with wagon road that crosses the lower end of Bluff Lake and enters Dupo on the south; earthenware pyramid placed 3 feet below surface of ground, marked "U. S. C. S." Marble surface marking stone has been destroyed (Mississippi River Commission and Coast and Geodetic Survey triangulation station Dryer)-----	675. 3

WATERLOO QUADRANGLE.

Bixby, 1 mile below, 0.3 mile above junction of Mobile & Ohio R. R. and St. Louis, Iron Mountain & Southern Ry., 18.1 feet east of center of track of latter road, 275 feet above whistle post and 135 feet below semaphore, about 1 foot above surface of ground, in Illinois bottom land; 2-inch iron post (Board of Examination and Survey of Mississippi River, 1908, b. m. 6 W)-----	411. 10
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Bixby, 3 miles below, in Illinois bottom land, on levee, 245 feet east of center of track of St. Louis, Iron Mountain & Southern Ry., at lower end of trestle 11 over drainage ditch, 375 feet above telegraph pole 11/10, 580 feet below pole 11/5, about 1 foot above surface of ground; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, b. m. 7 W.)----- Feet.
419.29

KIMMSWICK QUADRANGLE.

Bixby, 4 miles below, in Illinois bottom land, 256 feet west of St. Louis, Iron Mountain & Southern Ry. track, on waste bank, 26 feet below middle of ditch, below trestle 15, 407 feet from telegraph pole 13/15, about 1 foot above surface of ground; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, b. m. 8 W.)----- 406.13

Warnock station, 630 feet above, 52 feet below telegraph pole 15, 335 feet above upper end of trestle 19, 11.5 feet east of center of track of St. Louis, Iron Mountain & Southern Ry., in Illinois bottom land, about 1 foot above surface of ground; 2-inch iron post Board on Examination and Survey of Mississippi River, 1908, b. m. 9 W.)----- 407.32

Merrimac Point, about 3 miles northeast of, 0.4 mile south of prominent angle in levee, on land of Louis Schroeder, at southwest corner of his barn just west of house; stone post (Mississippi River Commission b. m. 48/1)----- 402.89

Kimmswick, opposite, on back slope of levee, 705 feet back from left bank, on land of State Savings Bank, 0.4 mile south of point where road leading west from village of Merrimac crosses levee, 0.2 mile south of angle in levee, on back slope of levee; stone post (Mississippi River Commission b. m. 47/2)----- 401.12

Fountain, 1.2 miles below, in Illinois bottom land, 10.6 feet east of center of track of St. Louis, Iron Mountain & Southern Ry., 420 feet below sign "Fountain 1 mile," 262 feet above private road crossing, 20 feet from telegraph pole 18/25, 1 foot above surface of ground; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, b. m. 11 W.)----- 405.28

Valmeyer, 0.8 mile above, in Illinois bottom land, 10 feet southwest of St. Louis, Iron Mountain & Southern Ry., 72 feet above telegraph pole 21/15 and 7 feet below road crossing, about 1 foot above surface of ground; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, b. m. 12 W.)----- 402.43

Harrisonville, 0.5 mile north of point where main roads cross, on west side of road, 410 feet north of crossroads, on pasture land of Patrick Murray, 280 feet north of his house, opposite blazed walnut tree 2 feet in diameter; flat stone----- 393.13
Top of iron post (Mississippi River Commission b. m. 45/1)----- 398.21

Foster Island, 820 feet above foot of, 1,080 feet east from east bank of chute, on land of Tom James, at foot and on east side of levee, 115 feet south of east-west road to Harrisonville Landing; flat stone----- 392.32
Top of iron post (Mississippi River Commission b. m. 45/2)----- 397.41

Valmeyer, 0.8 mile below, in Illinois bottom land, west of center of track of St. Louis, Iron Mountain & Southern Ry., 1,260 feet below telegraph pole 23/5, 7 feet above private road crossing, 340 feet

above upper end of trestle 32, 1 foot above surface of ground; 2-inch iron post (Board on Examination and Survey of Mississippi River b. m. 13 W.)-----	Feet. 400. 03
Valmeyer, 2.8 miles below, in Illinois bottom land, 10 feet east of center of track of St. Louis, Iron Mountain & Southern Ry., 335 feet above telegraph pole 25/10, 565 feet below telegraph pole 25/5, 85 feet below road crossing and 5 feet above railroad-crossing sign, about 1 foot above surface of ground; 2-inch iron post (Board on Examination and Survey of Mississippi River b. m. 14 W.)-----	396. 89

CRYSTAL CITY QUADRANGLE.

Calico Island, 2,230 feet back of head of, 524 feet south of Henry Althoff's house, 2,100 feet to schoolhouse, on Ivy and Harrisonville road; on top of levee; flat stone-----	397. 25
Top of iron post (Mississippi River Commission b. m. 44/1)-----	402. 35
Maey's, 1.2 miles above railroad station, 11 feet east of center of track of St. Louis, Iron Mountain & Southern Ry., 102 feet above upper end of trestle 35, 735 feet below telegraph pole 26/15, 21 feet west of telegraph pole 26/20, 213 feet below whistle post, in Illinois bottom land, 1 foot above ground; 2-inch iron post; Board on Examination and Survey of Mississippi River b. m. 15 W.)----	397. 49
Maey's, 0.6 mile below railroad station, 11 feet east of center of track of St. Louis, Iron Mountain & Southern Ry., 118 feet below telegraph pole 28/15, 10 feet above private road crossing, in Illinois bottom land, 1 foot above ground; 2-inch iron post (Board on Examination and Survey of Mississippi River b. m. 16 W.)-----	406. 22
James Landing, back of, 131 feet north of east-west road, in pecan grove, on land of Edward Schoening, 3.3 feet south of blazed pecan tree 18 inches in diameter; flat stone-----	386. 25
Top of iron post (Mississippi River Commission b. m. 43/1)-----	391. 35
James Landing, directly back of, 755 feet from left bank, on land of Edward Schoening, 984 feet above schoolhouse, on top of and just inside levee; stone post (Mississippi River Commission b. m. 43/2) -	398. 04
Maey's, 2.5 miles below railroad station, 16 feet north of road crossing, 157 feet east of stone-arch wagon bridge, 10 feet east of center of track of St. Louis, Iron Mountain & Southern Ry., 340 feet below telegraph pole 30/10, in Illinois bottom land, 1 foot above surface of ground; 2-inch iron post (Board on Examination and Survey of Mississippi River b. m. 17 W.)-----	393. 56
Michaels Towhead, opposite head of, 355 feet south of tree in front yard of John Ellis's house, 315 feet north of hackberry tree on west slope of levee, on levee 10 feet west of crest; iron post (Mississippi River Commission b. m. Ellis 1902)-----	396. 32
Lowry's Landing, 980 feet directly back of, on left bank, 200 feet above Frank Wine's house, 850 feet below Peter Lowry's house, 1,914 feet above schoolhouse, on Thompson's place, opposite two oak trees 6 and 12 inches in diameter, within and on east side of top of levee; stone post (Mississippi River Commission b. m. 42/2) -	395. 80
Ivy Landing, 0.8 mile west of, 590 feet back from left bank, in cultivated field, about 790 feet north of shore end of hurdle; stone post covered a foot or more with sand (Mississippi River Commission b. m. 41/2)-----	387. 17

RENAULT QUADRANGLE.

Brownsburg (Fults post office), about 1 mile above station, 10 feet east of center of track of St. Louis, Iron Mountain & Southern Ry., 180 feet above telegraph pole 32/15, 650 feet below pole 32/10, 396 feet below lower end of trestle 42A, 625 feet below sign "Brownsburg 1 mile;" about 1 foot above surface of ground in Illinois bottom land; 2-inch iron post (Board of Examination and Survey of Mississippi River b. m. 18 W.)-----	Feet. 392. 67
Brownsburg, 0.5 mile below, 13.2 feet west of center of track of St. Louis, Iron Mountain & Southern Ry., 265 feet above telegraph pole 34/5, 397 feet below switch stand, in Illinois bottom land, 1 foot above surface of ground; 2-inch iron post (Board on Examination and Survey of Mississippi River b. m. 19 W.)-----	394. 17
Ivy Landing, 0.5 mile above, 820 feet east of flood gate in levee crossing large drainage ditch, in cultivated field owned by William Winkleman, under a leaning 24-inch pecan tree, 886 feet from house beyond small east-west ditch; flat stone-----	388. 43
Top of iron post (Mississippi River Commission b. m. 41/1)-----	393. 53
Renault, 1.2 miles above, 9.9 feet east of center of track of St. Louis, Iron Mountain & Southern Ry., 425 feet above telegraph pole, 35/25, 960 feet above sign "Renault 1 mile," 490 feet above upper end of trestle 49, 9.9 feet above road crossing, in Illinois bottom land, 1 foot above surface of ground; 2-inch iron post (Board on Examination and Survey of Mississippi River b. m. 20 W.)-----	391. 51
Renault, 1.8 miles below, 11.6 feet east of center of track of St. Louis, Iron Mountain & Southern Ry., 175 feet below telegraph pole 38/25, 245 feet above post on railroad marked "County line," about 0.9 mile west of "County Line" triangulation station, 1 foot above surface of ground, in Illinois bottom land; 2-inch iron post (Board on Examination and Survey of Mississippi River b. m. 21 W.)-----	391. 04
Penitentiary Point, 230 feet below, 10 feet from top of revetted high bank, 970 feet above shore end of hurdle; iron post (Mississippi River Commission b. m. Hartig)-----	387. 55
Brickleys, Mo., opposite, 755 feet back from top of river bank, near south line of land of Edward Ahern, 1,800 feet below sharp turn in levee, on levee following old high bank; flat stone-----	388. 04
Top of iron pipe (Mississippi River Commission b. m. 39/1)-----	393. 14
Prairie du Rocher, 0.5 mile above railroad station, 35 feet east of center of track of St. Louis, Iron Mountain & Southern Ry., 350 feet below telegraph pole 41, 300 feet below switch stand, 335 feet northwest of highway bridge over drainage ditch, in Illinois bottom land, about 1 foot above surface of ground; 2-inch iron post (Board on Examination and Survey of Mississippi River b. m. 22 W.)-----	390. 37
Fort Chartres Island, back of, at edge of timber and cultivated field, 460 feet southwest of floodgate in drainage ditch, 0.6 mile from river bank, 0.6 mile north of Fort Chartres Landing, on top of old high bank; flat stone-----	385. 74
Mississippi River Commission b. m. 38/1; iron post-----	390. 84
Establishment Creek, 1,440 feet above railroad bridge across, on Missouri side, 165 feet north of farmhouse, directly opposite main shore end of hurdle No. 2 of the Fort Chartres system; copper bolt leaded horizontally into point of limestone bluff (Mississippi River Commission b. m. 38/3)-----	409. 927

Prairie du Rocher station, about 1.2 miles below, 11 feet west of center of track of St. Louis, Iron Mountain & Southern Ry., 960 feet below sign "Prairie du Rocher 1 mile," 990 feet below telegraph pole 42/20, 112 feet below telegraph pole 42/25, 413 feet above road crossing; 2-inch iron post (Board on Examination and Survey of Mississippi River b. m. 23 W.)-----	Feet. 391. 85
Modoc, 1.6 miles above, 10 feet west of center of track of St. Louis, Iron Mountain & Southern Ry., 145 feet below telegraph pole 42/5, 0.6 mile west of Brewerville, 1 foot above surface of ground, in Illinois bottom land; 2-inch iron post (Board on Examination and Survey of Mississippi River b. m. 24 W.)-----	394. 21
Modoc, about 0.8 mile below, 33.5 feet west of center of track of St. Louis, Iron Mountain & Southern Ry., 395 feet above telegraph pole 46/20, 490 feet below telegraph pole 46/15, 1 foot above surface of ground, in Illinois bottom land; 2-inch iron post (Board on Examination and Survey of Mississippi River b. m. 25 W)-----	383. 70
Turkey Island, 1.1 miles back from foot of, 425 feet southwest of old slough or lake, 660 feet southwest of Frank Schifferdecker's house, on opposite side of lake; flat stone-----	378. 04
Top of iron post (Mississippi River Commission b. m. 36/1)-----	383. 15
Roots, 1.6 miles above station, 0.2 mile above junction of Illinois Southern Ry. and St. Louis, Iron Mountain & Southern Ry., 9 feet east of center of track of latter road, 545 feet above telegraph pile 49, 542 feet above sign "Roots 1 mile," 170 feet below telegraph pole 48/25, 7 feet below private road crossing, in Illinois bottom land, 1 foot above surface of ground; 2-inch iron post (Board on Examination and Survey of Mississippi River b. m. 26 W)-----	381. 03

BALDWIN QUADRANGLE.

Roots, about 0.5 mile northwest of station, in Illinois bottom land, 8 feet west of center of track of St. Louis, Iron Mountain & Southern Ry., 600 feet below telegraph pole 50, 300 feet above telegraph pole 50/5, 600 feet below switch stand, about 1 foot above surface of ground; 2-inch iron post (Board on Examination and Survey of Mississippi River b. m. 27 W)-----	382. 98
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CHESTER QUADRANGLE.

Roots, 0.9 mile below station, on mound in borrow pit, on south side of wagon road, about 0.4 mile west of drawbridge over Kaskaskia River, 250 feet below telegraph pole 51/10, about 295 feet below point of curve of St. Louis, Iron Mountain & Southern Ry., 50 feet west of center of track and 6 feet southwest of lower end of trestle 68, about 1 foot above surface of ground in Illinois bottom land; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, b. m. 28 W)-----	380. 75
Relly Lake, about 1 mile above station, 10 feet west of center of track of St. Louis, Iron Mountain & Southern Ry., 545 feet above telegraph pole 53/5, 381 feet below telegraph pole 53, 23 feet below lower end of trestle 72, over ditch 10 feet wide, about 16 inches above surface of ground in Illinois bottom land; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, b. m. 29 W)-----	328. 56

Reily Lake, 1,130 feet below station door, 10 feet east of center of main track of St. Louis, Iron Mountain & Southern Ry., 355 feet above upper end of trestle 74, 50 feet below one switchstand and 280 feet above another, 122 feet below road crossing, 260 feet below telegraph pole 54/5, about 1 foot above surface of ground in Illinois bottom land; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, b. m. 30 W)-----	Feet. 380. 72
Fort Gage, 1.2 miles below, near foot of Illinois bluffs, between wagon road and Illinois Southern Ry., 245 feet southeast of wagon bridge, 260 feet southeast of north corner of a field, 116 feet northeast of orchard, 1.4 mile from river bank; flat stone-----	387. 73
Top of iron post (Mississippi River Commission b. m. 32/2)-----	392. 82
Fort Gage, about 1.5 miles below, on Kaskaskia Island (now on right bank of river), on land of Mr. Delassus, 425 feet back from river bank, 65 feet from blazed elm tree; stone post (Mississippi River Commission b. m. 32/3)-----	371. 78
Fort Gage, about 1.5 miles below, on Kaskaskia Island, on crest of ridge on land of Mr. Delassus, 0.4 mile from river, 394 feet east of road from old Kaskaskia to foot of island and 590 feet southeast of junction of roads, at foot of pecan tree blazed and marked "B M," 118 feet southwest of blazed pecan tree and 128 feet east of another; stone post (Mississippi River Commission b. m. 32/4)---	375. 82
Southern Illinois Penitentiary, about 1 mile above, on southern slope of Illinois bluffs, 410 feet east of road at foot of bluffs, 655 feet north from first wagon bridge above penitentiary, outside field, near south corner and 82 feet from fence; stone post (Mississippi River Commission b. m. 31/1)-----	509. 02
Marys River, mouth of, 0.8 mile upstream from, 240 feet from river bank, 100 feet back from Wabash, Chester & Western R. R., stone culvert 2 by 2½ feet under railroad directly in front of stone; stone post (Mississippi River Commission b. m. 30/2)-----	392. 54

STE. GENEVIEVE QUADRANGLE.

Ste. Genevieve Island, about 0.6 mile above slough between Ste. Genevieve and Moro islands, 10 feet from edge of bank, 10 feet above old road leading down the bank, 100 feet to northwest corner of white house, near dead twin stump, south 6 feet; iron post (U. S. Engineer Office, St. Louis, Mo., 1900, b. m., Hurst)-----	380. 48
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CAMPBELL HILL QUADRANGLE.

Rockwood, 3 miles above, on front slope of Illinois bluffs, in pasture, 400 feet below Mansker's house, about 60 feet back from wagon road, 12 inches above surface of ground; stone post (Mississippi River Commission b. m. 29/2)-----	400. 55
Rockwood, 0.2 mile below ravine near lower end of town, 0.7 mile below post office, on river side of Grand Tower and Chester road, in fence corner, inside a small, narrow field, back of Liberty Island, at foot of Illinois bluffs; flat stone-----	379. 43
Top of iron pipe (Mississippi River Commission b. m. 28/1)-----	384. 52
Cora City, 1,100 feet below first road crossing below, 60 feet above milepost 73, 9½ feet east of center of track of St. Louis, Iron Mountain & Southern Ry., directly back of Hamilton Landing, in Illinois bottom land; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, b. m. 52 H)-----	368. 53

Cora City, 2 miles below, 9½ feet east of center of track of St. Louis, Iron Mountain & Southern Ry., near point of intersection of tangents of first curve below Cora City, in Illinois bottom land; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, b. m. 51 H)-----	Feet. 367. 58
Liberty Island, 0.6 mile below foot of, 41 feet from high bank, 38 feet above upper end of bank protection marked by six clumps of piles, between river and wagon road from Hamilton Landing to Wagner Landing, on Illinois shore, on levee, 3 feet high; iron post (U. S. Engineer Office, St. Louis, Mo., 1899, b. m. Illinois)-----	365. 45
Wagner Landing, 805 feet below warehouse at, on Illinois bank, on a prominent point in pasture, immediately above large drainage ditch, about 20 feet from top of bank, 6 inches above surface of ground; iron post (U. S. Engineer Office, St. Louis, Mo., 1903, b. m. Wagner, '03)-----	366. 64
McLeans Point, 2.2 miles above, 23 feet east of fence, on east side of county road, 245 feet south of John Tudor's house, 164 feet south of 5-foot elm tree in road, 2,200 feet north from point where line between Tps. 8 and 9 crosses the Wilkinson-Wagner Landing road, on east bank of slough, near its upper end, in Illinois bottom land; flat stone-----	358. 21
Top of iron post (Mississippi River Commission b. m. 27/1)-----	363. 30
T. 9 S., R. 5 W., southwest corner of sec. 3, 1,970 feet south by 490 feet east of Pleasant Grove schoolhouse, at back edge of field owned by William Wilkinson, 3 feet from east-west fence, 66 feet from house near head of Wilkinson Island, 0.9 mile back of McLeans Point, 528 feet south of and near upper end of narrow slough, in Illinois bottom land; flat stone-----	357. 36
Top of iron post (Mississippi River Commission b. m. 26/1)-----	362. 45
Upper Wilkinson Landing, 0.8 mile above, 20 feet inside of fence at road, between houses belonging to Wilkinson and 50 feet below the one occupied by H. C. Henning, about 82 feet from edge of old river bank (655 feet from present bank), at foot of Cottonwood Bar, opposite Devils Backbone, on left bank; stone post (Mississippi River Commission b. m. Flag 34)-----	362. 50
Raddle, 0.8 mile above railroad station, 9½ feet west of center of track of St. Louis, Iron Mountain & Southern Ry., 30 feet south of road crossing, 900 feet below milepost 76, 550 feet below bridge 111, in Illinois bottom land; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, b. m. 49 H)-----	366. 70
Raddle, 0.5 mile below station, 350 feet above telegraph pole 77/20, 9½ feet east of center of track of St. Louis, Iron Mountain & Southern Ry., in Illinois bottom land; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, b. m. 48 H)-----	367. 07

ALTENBURG QUADRANGLE.

Upper Wilkinson Landing, about 330 feet above, 100 feet from high bank; iron pipe (U. S. Engineer Office, St. Louis, Mo., 1899, Wilkinson)-----	362. 32
Lower Wilkinson Landing, about 2 miles below, in cultivated field, 98 feet northeast of northwest-southeast fence, 790 feet nearly due north of northeast corner of orchard; flat stone-----	357. 12
Top of iron post (Mississippi River Commission b. m. 25/1)-----	362. 21

Jacob, 200 feet north of station, 515 feet north of wagon road crossing track, 30 feet south of bridge 118, 9.6 feet east of center of track of St. Louis, Iron Mountain & Southern Ry., in Illinois bottom land; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, 45 H)-----	Feet. 362.62
Jacob, 1 mile from, 40 feet southeast of signboard "1 mile to Jacob," 200 feet north of bridge 120, 60 feet south of road crossing, 9½ feet west of center of track of St. Louis, Iron Mountain & Southern Ry., in Illinois bottom land; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, b. m. 44 H)-----	363.19
Estell Landing, 0.6 mile above, 1 mile due north from river bank, in woods, 0.2 mile west of middle of west side of field belonging to Robert Moekel; flat stone-----	352.05
Top of iron post (Mississippi River Commission b. m. 24/1)-----	357.14
Gorham, 360 feet above pumping station, 210 feet above north end of bridge 123, 9½ feet east of center of track of St. Louis, Iron Mountain & Southern Ry., in Illinois bottom land; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, 43 H)-----	363.07
Fountain Bluff, 330 feet above Illinois Central R. R. station, 52 feet northwest of railroad, in fence corner of field, 137 feet south of ruins of burned house, 69 feet west of blazed locust tree, 0.7 mile from river bank; flat stone-----	365.91
Top of iron post (Mississippi River Commission b. m. 23/1)-----	370.93
Fountain Bluff, highest part of, a little lower than small knoll toward river, about 0.5 mile south of Illinois Central R. R. station, through Fountain Bluff Hollow, up bluff to right, in center of a wood road following top of ridge; center of hole in top of stone post broken off about 8 inches underground. The top has been fitted and placed over old part of stone in ground, and is witnessed by two U. S. Corps of Engineers iron posts, about 1 foot above surface of ground, set 10 feet due north and due south of center of stone, respectively (Mississippi River Commission triangulation station "Fountain Bluff")-----	774.62
Grand Tower, 1.2 miles above, in schoolhouse yard, 0.5 mile above Devils Bake Oven, 0.2 mile from river bank, 240 feet east of railroad track, 52 feet from northeast corner of schoolhouse, 10 feet from northeast corner of yard; stone post (Mississippi River Commission b. m. 22/2)-----	366.89
Grand Tower, 1 mile above railroad station, on left bank of river, 650 feet east of Devils Bake Oven, 230 feet from river bank, 264 feet from northeast corner of Mrs. Howard Oliphant's house, 192 feet from fence parallel to river, 135 feet northwest of fence corner, 7 feet from an east-west fence; stone post (Mississippi River Commission b. m. fig 40)-----	367.49
Grand Tower, 1 mile above railroad station, about 10 feet from left high bank, directly back of and about 150 feet upstream from Devils Bake Oven, 80 feet downstream from large walnut tree, 50 feet north of blazed sycamore and 8 feet from oak post in barbed-wire fence; iron post (U. S. Engineer Office, St. Louis, Mo., 1899, b. m. Bake Oven)-----	362.05
Grand Tower, main part of town, on highest point of hill immediately north of coal dump; iron post (U. S. Engineer Office, St. Louis, Mo., 1899, b. m. Grand '99)-----	515.96

Fountain Bluff, on land owned by F. Wells, 0.4 mile from station and 0.2 mile from river on west side of Mill Ditch, 0.1 mile south of bridge across it, 7 feet from walnut tree, next fence at corner of field; stone post (Mississippi River Commission, 1888, 23/2)-----
 Feet.
 358.73

ALTO PASS QUADRANGLE.

Cave Valley, 2.5 miles above, 0.3 mile above drainage ditch and open railroad culvert, 10 feet east of center of track of St. Louis, Iron Mountain & Southern Ry., 66 feet south of road crossing, 66 feet southwest of barn, 33 feet southeast of milepost 87, in Illinois bottom land; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, b. m. 40 H)-----
 368.67

Fountain Bluff, west side of town, 3 miles above Illinois Central R. R. station at Grand Tower, 0.3 mile above Trestle Hollow, 100 feet west of Illinois Central R. R., 20 feet south of railroad post, on east side of track, marked "G M 92-43," "U. S. 48" cut in rock 3 feet south of hole; 1½-inch hole, 4 inches deep, in ridge of largest rock (U. S. Engineer Office, St. Louis, Mo., 1878, Simpson 248)-----
 364.44

Grand Tower, on east end of ridge, southeast of graveyard, at point of timber and under large white oak tree; iron post (U. S. Engineer Office, St. Louis, Mo., 1899, b. m. Fairview)-----
 465.56

Grand Tower, 0.5 mile south from old furnace dump, in field owned by George Wolf, 160 feet from river bank, 4 feet east of fence on east side of road to Grand Tower, about 200 feet upstream from Wolf's house; iron post (U. S. Engineer Office, St. Louis, Mo., 1899, b. m. McLean)-----
 354.64

Howardton, 1.4 miles below railroad station, 11.3 feet west of center of track of St. Louis, Iron Mountain & Southern Ry., 265 feet above milepost 92, 725 feet south of bridge 127, in Illinois bottom land; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, b. m. 36 H)-----
 356.23

Grand Tower, 2 miles south from station, 0.2 mile east of Illinois Central R. R. tracks, at edge of cultivated field and small timber in low ground, 0.5 mile back from left bank of river, at head of Big Muddy Island, 449 feet south of fence, 570 feet north of road; stone post (Mississippi River Commission b. m. 21/2)-----
 356.41

Grand Tower, 2 miles below, on land of Gilbert Gay, 0.2 mile west of Illinois Central R. R. tracks, 0.1 mile above old chute behind Big Muddy Island, on northeast side of Grand Tower road, 2 feet north of fence at southwest edge of orchard, 16 feet above large elm tree on land of Wilson, on opposite side of road, in Illinois bottom land; stone post (Mississippi River Commission b. m. 21/2)-----
 357.06

Howardton, 2.5 miles below, in Illinois bottom land, 10 feet west of center of track of St. Louis, Iron Mountain & Southern Ry., 490 feet above milepost 93, 320 feet above end of first cut above Big Muddy River, northwest of house occupied by H. B. Benson, 200 feet east of track; iron post (Board on Examination and Survey of Mississippi River, 1908, b. m. 35 H)-----
 354.75

Howardton, 3.2 miles below, in Illinois bottom land, 10.1 feet west of center of track of St. Louis, Iron Mountain & Southern Ry., 340 feet south of telegraph pole 93/20, near upper point of first curve above Big Muddy River, 800 feet south of road crossing, opposite log cabin and shed in cultivated field; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, b. m. 34 H)---
 355.04

La Rue, 1.8 miles above, in Illinois bottom land, 7 feet east of center of track of St. Louis, Iron Mountain & Southern Ry., 2,400 feet below its bridge over Big Muddy River, 3 feet south of road crossing, near lower end of first curve south of Big Muddy River; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, b. m. 33 H)-----	Feet. 355.37
La Rue, 1.2 miles above, in Illinois bottom land, 7 feet east of center of track of St. Louis, Iron Mountain & Southern Ry., 245 feet north of railroad bridge; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, b. m. South Base H)-----	355.08
Hanging Dog Island, on left bank of slough behind, 656 feet back from river bank, in cultivated field, about 0.2 mile above heavy timber on island, 5 feet from fence, on west side of road, 330 feet below house on west side of road and about 660 feet from river bank; flat stone-----	348.41
Iron post (Mississippi River Commission b. m. 19/2)-----	353.50
Wolf Lake, 1.2 miles north of, about 660 feet below road crossing, in Illinois bottom land, 9.5 feet east of center of track of St. Louis, Iron Mountain & Southern Ry.; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, b. m. 29 H)-----	358.10
Wolf Lake, 22 feet above lower road crossing, in Illinois bottom land, on west side of track of St. Louis, Iron Mountain & Southern Ry., near southern end of tangent, about 1,700 feet in length, paralleling the Illinois Central R. R.; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, b. m. 27 H)-----	356.21

JONESBORO QUADRANGLE.

Devils Tea Table, nearly opposite, on land of C. Moury, 0.4 mile from main river bank and 0.9 mile above Illinois end of hurdle dam behind Vancill Towhead, 3 feet south of east-west fence at north end of cultivated field, 82 feet from northeast corner of field, immediately north of which is low ground covered with bushes and vines; stone post (Mississippi River Commission b. m. 18/1)-----	354.39
Devils Tea Table, near, on west edge of field in which b. m. 18/1 is set, 246 feet north of bend in fence, about 460 feet north of C. Moury's house, 3 feet back of rail fence at edge of timber and on east side of road, 0.9 mile above Illinois end of hurdle dam behind Vancill Towhead, 0.1 mile back from left bank of river; flat stone.-----	346.01
Top of iron post (Mississippi River Commission b. m. 18/2)-----	351.09
Vancill Towhead, 0.8 mile above Illinois end of hurdle dam behind, 39 feet back from edge of secondary bank, 340 feet southwest of corner of C. Moury's house, 335 feet from southwest corner of barn, on high bank, 1 foot from fallen sycamore tree, 49 feet downstream from blazed elm tree near bank, 69 feet south of blazed sycamore tree; iron post (U. S. Corps of Engineers' b. m. Gate 3)-----	346.81
Devils Tea Table, 0.2 mile below, 33 feet from river bank, 246 feet above point where bluff rock juts out from hillside, 16 feet above large blazed black oak tree, in ground near foot of Missouri bluffs; stone post (Mississippi River Commission b. m. 18/3)-----	356.15
Ware, 2 miles above, 15 feet east of center of track of St. Louis, Iron Mountain & Southern Ry., 500 feet above bridge in dike between Lakes Goodwin and Miller, 3,800 feet above road crossing and in Illinois bottom land; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, b. m. 24 H)-----	351.35

	Feet.
Ware, 1.2 miles above, 800 feet below road crossing, 3.3 feet east of center of track of St. Louis, Iron Mountain & Southern Ry., in Illinois bottom land; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, 22 H)-----	352. 16
Willard Landing, 0.5 mile from river bank, 5 feet in front of fence on northeast side of long field, property of Willard heirs, 550 feet above eastern corner of field; flat stone-----	343. 54
Top of iron post (Mississippi River Commission b. m. 17/1)-----	348. 64
Willard Landing, 400 feet from river bank, in cultivated field of Willard estate, 80 feet back of fence, 500 feet above log cabin, 100 feet east of farmhouse; stone post (Mississippi River Commission, b. m. 17/2, 1884)-----	346. 76
Ware, 0.4 mile above road crossing, 0.1 mile below northern end of siding, west of St. Louis, Iron Mountain & Southern Ry., in Illinois bottom land; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, 21 H.)-----	351. 78
Ware, 1.1 miles below road crossing, 0.1 mile below signpost "1 mile to Ware," 14.8 feet west of center of track of St. Louis, Iron Mountain & Southern Ry., in Illinois bottom land; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, 19 H)-----	347. 43
Ware, 2.2 miles below, in Illinois bottom land, 0.8 mile above Illinois Central R. R. station, Vineland, 13.1 feet west of center of track, about halfway down the embankment, about 0.4 mile above road crossing above Vineland, 100 feet above trestle 141; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908)-----	342. 53
Hamburg Island, 0.5 mile back of foot of, 3 feet from back fence in orchard, 220 feet south of fence corner, 512 feet north of fence corner at road and 356 feet from log house; stone post (Mississippi River Commission, 1884, 16/2)-----	342. 50
Reynoldsville, 1.3 miles above, 9.3 feet west of center of track of St. Louis, Iron Mountain & Southern Ry., 10 feet north of road crossing; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, 17 H)-----	345. 39
Reynoldsville, 0.7 mile above, east of Illinois Central R. R., near slight turn in wagon road parallel to it, 705 feet below angle in road, in a fence corner; iron post (Board on Examination and Survey of Mississippi River, 1908, b. m. 16 H)-----	345. 77
Devils Island, 1.2 miles above head of, back of Swiftsure Towhead, 0.4 mile from bank of chute back of towhead, beside road running down old river bank, in front of first barn below a schoolhouse, 2 feet south of a blazed cottonwood tree on land of J. K. Walton, 3 feet west of fence, 395 feet from schoolhouse; stone post (Mississippi River Commission, 1884, b. m. Flag 50)-----	345. 30
Devils Island, 1.8 miles above head of, 231 feet west of Illinois Central R. R., 0.9 mile below Reynoldsville, 3 feet from a rail fence on eastern side of a wide and deep slough, in edge of cultivated field, 197 feet south of corner of stable yard, 394 feet south of house on land of J. K. Walton; flat stone-----	341. 61
Top of iron post (Mississippi River Commission, 1884, 15/1)-----	346. 70
Reynoldsville, 1.5 miles below, on Illinois Central R. R. right of way, near point of intersection of curve, 15 feet east of track, between that railroad and St. Louis, Iron Mountain & Southern Ry., 80	

feet west of latter and 0.75 mile below road crossing both railroads; iron post (Board on Examination and Survey of Mississippi River, 1908)-----	Feet. 344. 64
McClure, about 0.8 mile above station, 0.6 mile above bridge at Clear Creek, near point of curve of Illinois Central R. R., where latter leaves the St. Louis, Iron Mountain & Southern Ry., 25 feet east of Illinois Central R. R. and 85 feet west of St. Louis, Iron Mountain & Southern Ry; iron post (Board on Examination and Survey of Mississippi River, 1908, b. m., 13 H)-----	345. 04
Minton Point, in cultivated field, 3 feet from fence and 427 feet above a fence corner, 660 feet from river bank and 1,410 feet below mouth of Devils Island chute; stone post (Mississippi River Commission, 1884, 14/2)-----	343. 39
McClure, 8 feet west of St. Louis, Iron Mountain & Southern Ry., 820 feet below Clear Creek, 26 feet south of wagon road crossing, about 330 feet above station, 0.6 mile east of town of McClure, along the Illinois Central R. R.; iron post (Board on Examination and Survey of Mississippi River, 1908, 11 H)-----	343. 55
Minton Point, 1 mile below, on left bank, 0.8 mile above East Cape Girardeau, on land of Jesse Minton, 420 feet from river bank, south side of road leading east from Barney Randall's warehouse, 330 feet back of farmhouse, 6 feet northwest of 2-foot blazed cottonwood tree, 2 feet southwest of a 1-foot blazed sycamore; stone post (Mississippi River Commission, b. m., flag 54)-----	343. 47
Minton point, 0.8 mile from, 1.2 mile east of triangulation station Minton, on land of Eliza McGee, 3 feet from rail fence on south side of large field, 264 feet east of corner of field; flat stone-----	334. 87
Top of iron post (Mississippi River Commission, b. m. 14/1, 1884)---	339. 97
East Cape Girardeau, 0.5 mile above, on left bank, near group of large trees on river side of road, about 200 feet above hurdle No. 1, 300 feet south of southwest corner of house, 46 feet west of 36-inch blazed cottonwood tree and 41 feet north of 30-inch blazed sycamore tree; iron post painted white (U. S. Engineer Office, St. Louis, Mo., 1897, station Minton)-----	339. 58
Cape Girardeau, on east bank of prominent slough, due east from dome of courthouse, 0.2 mile from river bank, 0.2 mile south of road running east from river, 20 feet southeast of pecan tree, a little south of east from two-story house with square, flat roof, east of old railroad incline; stone post (Mississippi River Commission, 1884, 13/2)-----	337. 40
East Cape Girardeau, 0.6 mile from old Illinois Central R. R. incline below, on land of C. Cherry, 0.2 mile south of road running east from river, directly south of log house standing near and on south side of lane, about 0.2 mile west of lane running north-south; flat stone-----	337. 03
Top of iron post (Mississippi River Commission, 1884, 13/1)-----	343. 20
Cape Girardeau, opposite Young Ladies' Academy, on land of Lawyer Houck, 650 feet from river bank, 4 feet south of a blazed 2-foot cottonwood tree; stone post (Mississippi River Commission, 1880-S1, flag 55)-----	340. 11
Giboney Island, 0.7 mile below, 0.4 mile from river bank, near edge of timber, and 7 feet from southwest bank of old slough; flat stone-----	338. 21
Top of iron post (Mississippi River Commission, 1884, 12/1)-----	341. 68

East Cape Girardeau, 2.5 miles below, 300 feet west of county road, 3,300 feet from river bank, on left bank, 175 feet southwest of A. Weather's house, 7 feet northwest of a 30-inch blazed cottonwood tree; stone post (Mississippi River Commission, 1880-81, b. m., flag 57)-----	Feet. 337.52
Gale, 0.8 mile above, 22 feet east of main track of Illinois Central R. R., directly opposite and west of wagon road and railroad bridges over Sexton Creek, just above upper end of Illinois Central R. R. yards; iron post (Board on Examination and Survey of Mississippi River, 1908, b. m., 3 H)-----	333.84
Gale, 15.8 feet north of northern end of station, 25 feet east of center of main track of Illinois Central R. R., at lower end of main side tracks; iron post (Board on Examination and Survey of Mississippi River, 1908, 1 H)-----	337.17

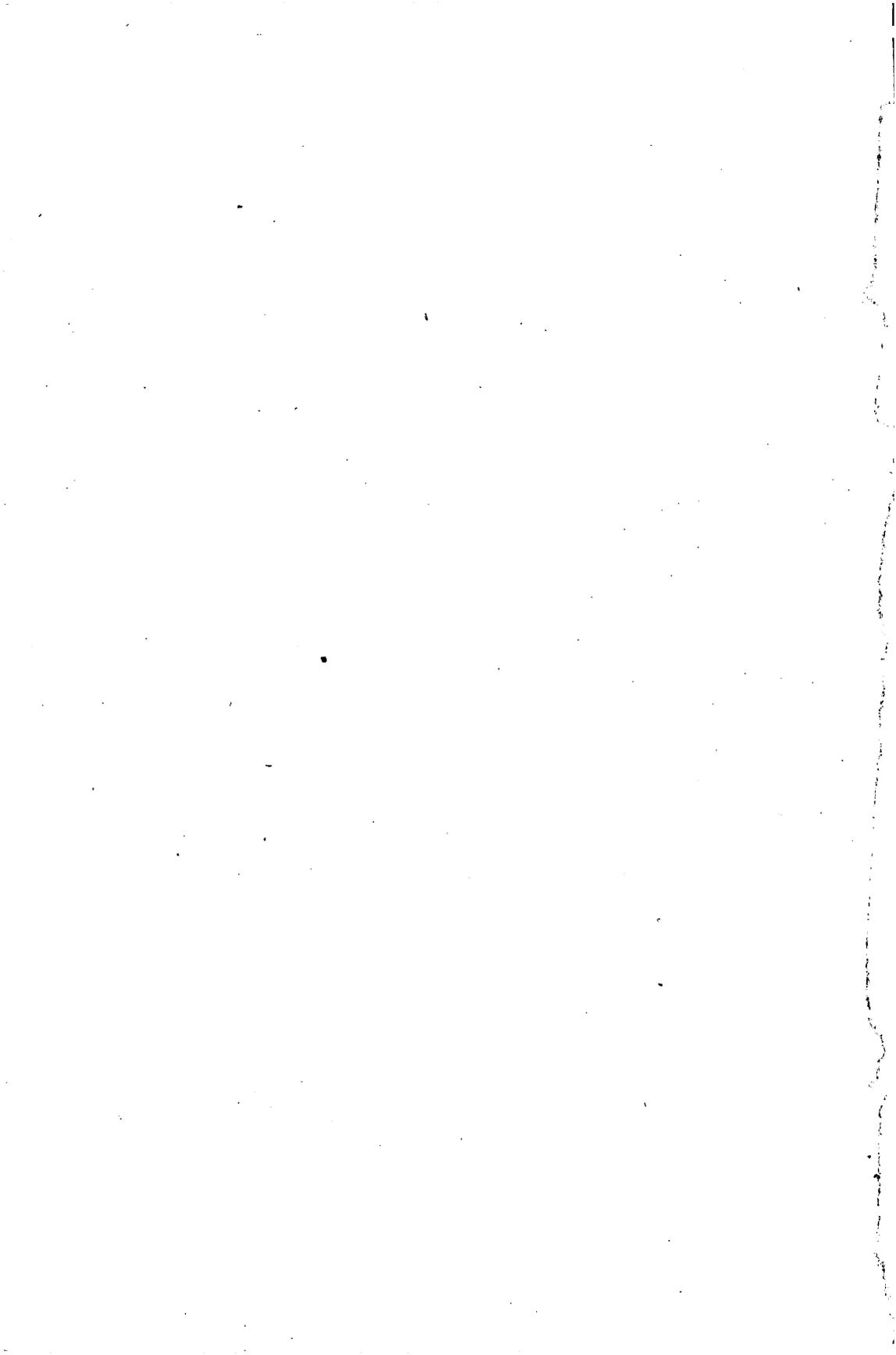
THEBES QUADRANGLE.

Thebes, about 0.8 mile above, 1,000 feet from river, in cleared spot on Illinois Bluffs, on land owned by Mr. Day, directly back from prominent point where rock exposed at low water projects out into river, small house close to river bank stands at upper end of bluff; stone post (Mississippi River Commission, 1880-81, Day)-----	466.84
Thebes, in outer group of rocks just below, nearly opposite head of Grand Chain; station is under water at about a 12-foot stage, St. Louis gauge; hole surrounded by triangle in large boulder (U. S. Engineer Office, St. Louis, Mo., 1896 and 1899, station Chain)-----	314.42
Fayville, 0.8 mile above, on left bank of river, 246 feet above a ravine, 377 feet back from river bank, 0.4 mile below trestle of Chicago & Eastern Illinois R. R., 10 feet west of road, 3 feet east of fence; stone post (Mississippi River Commission, 1884, 9/2)-----	360.47
Fayville, 0.8 mile above, 10 feet below the Hafner stone line (No. 9), under high bank, on outer edge of timber, 6 feet downstream from an 18-inch blazed cottonwood tree, 14 feet upstream from a 6-inch blazed sycamore tree, and nearly in line with them; iron post (U. S. Engineer Office, St. Louis, Mo., 1896, station Stone Line)-----	325.15
Fayville, 0.5 mile below railroad station, at point where second creek below Fayville was diverted to pass under track at bridge 0.3 mile above, in line with north rail of tangent, Chicago & Eastern Illinois R. R., below the point and 0.1 mile above a road crossing; iron post (Board on Examination and Survey of Mississippi River, 1908, 1 H2)-----	352.92
Fayville, about 2 miles below, 0.2 mile from bank of Santa Fe chute, 590 feet out from line of timber, about 0.9 mile above foot of Burnham Island, on land of William Woods, 82 feet northeast of fence; flat stone-----	326.34
Top of iron post (Mississippi River Commission, 1884, 8/1)-----	331.34
Olive Branch, about 1.5 miles below, 9.5 feet north from center of track of Illinois Central R. R., 4,100 feet below a private road crossing, near point of intersection of curve; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, b. m. 8 H3)-----	334.26
Cache, about 4 miles above, 15 feet north of center of track of Illinois Central R. R., about 225 feet above head block of spur track, 1,350 feet above milepost "Cairo 14 miles," about 1,400 feet below	

schoolhouse on eastern side of Horseshoe Lake; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, b. m. 10 H2)-----	Feet. 332.12
Cache, 2.5 miles west of, 16.6 feet north of center of track of Illinois Central R. R., 28 feet below second road crossing above Cache, 41 feet below switch stand, 670 feet above milepost "Cairo 13 miles"; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, b. m. 11 F)-----	327.28
Atherton Landing, about 0.8 mile east of, on land owned by estate of F. D. Atherton, near middle of sec. 18, Goose Island Township, Alexander County, just on edge of cypress swamp and cultivated field; stone post (Mississippi River Commission, 1880-81, b. m. Atherton)-----	329.92
Cache, about 1.5 miles west from, 17 feet north of center of track of Illinois Central R. R., 2,000 feet below railroad trestle across swamp, about 1,000 feet above milepost "Cairo 12 miles"; 0.2 mile southwest from Alexander County poor farm; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, b. m. 12 F)-----	326.55
Cache, about 0.5 mile west of, 100 feet south of center of track of Illinois Central R. R., 75 feet below milepost "Cairo 11 miles"; at road crossing to charcoal kilns; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, b. m. 13 F)---	327.53
Cache, 1,600 feet west of railroad station, 30 feet south of center of track of Illinois Central R. R., near charcoal kiln, between siding to the kilns and main tracks; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, b. m. 14 F)-----	326.57
Cache, about 0.8 mile west from, near left bank, on west side of road, at turn, a short distance below head of the Beechridge revetment, 75 feet west of southwest corner of a cabin, 20 feet back from edge of revetment, 8 feet east of rail fence, 6 inches above surface of ground; iron post (U. S. Engineer Office, St. Louis, Mo., 1898, re-determined, 1902)-----	321.77
Greenleaf Bend, near head of revetment, on land of Jeff Tillman, south of his house, on slight ridge, inside wire fence, on east side of and at angle in public road, 216.5 feet south of 13-inch maple tree near same fence, 50 feet from top of bank, 6 inches above surface of ground; iron post (U. S. Engineer Office, St. Louis, Mo., 1902, b. m. Greenleaf, '02)-----	323.59
Elkins Landing, Mo., nearly opposite, back of Price Towhead, on old high bank, in cottonwood timber, on land owned by John Milford, 0.5 mile back of main river bank, 230 feet back of east bank of chute and 460 feet out from road and clearing; stone post (Mississippi River Commission, 1888, b. m. 6/2)-----	324.75
Hacker Bend, 0.6 mile back from old high bank, at fence, edge of woods, east side of field, 150 feet south of northeast corner of field, 20 feet from small log house, just back of small orchard; flat stone-----	317.45
Top of iron post (Mississippi River Commission, 1888, b. m. 5/1)---	322.53
Brooks Point, 1 mile below, at fence on north edge of lower clearing, on Dogtooth Island, 0.2 mile back from river bank and 0.1 mile from fence corner near river; stone post (Mississippi River Commission, 1888, b. m. 4/2)-----	319.27

MOUND CITY QUADRANGLE.

Mounds, about 0.8 mile southwest of, at end of first curve, west of main line and 51.5 feet north of center of track of the Illinois Central R. R., about 250 feet below road crossing, about 30 feet below upper end of 2-acre strip of cultivated land and 3 feet from edge of borrow pit; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, b. m. 20 F)-----	Feet. 324. 0
Mounds, about 0.8 mile southeast of, 23.2 feet north of center of Illinois Central R. R. track, 20 feet south of road to Mound City, about 10 feet above a private road crossing, nearly opposite east end of house, south of tracks; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, b. m. 22 F)-----	322. 4
Mounds, about 0.8 mile south of, in the lower end of railroad yards and east of right of way fence of Illinois Central R. R., 10 feet west of old fence line, about 150 feet above edge of timber and 400 feet west of south line of orchard; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, b. m. 21 F)-----	323. 7
Mound City, 1 mile from, between Mounds and Mound City, 24 feet north of center of track of Illinois Central R. R., 1,950 feet east of levee, 1,400 feet above bridge 1/59, about midway between right of way fence and track, 4 feet east of borrow pit; 2-inch iron post (Board on Examination and Survey of Mississippi River, 1908, b. m. 23 F)-----	320. 5
Dickey Island, back of, in south edge of woods on "Sixmile Place," about 0.6 mile from left bank of river, 0.2 mile back from the Mobile & Ohio R. R., 770 feet east by 280 feet north of northwest corner of cultivated field, 0.3 mile east of first curve in railroad, below Beechridge, near large blazed tree; flat stone-----	312. 65
Top of iron post (Mississippi River Commission, 1888, 1/1)-----	317. 74
Dickey Island, back of, about 2.8 miles above Cairo Bridge, about 0.5 mile from main river bank, about 740 feet east of Mobile & Ohio R. R., about 1,080 feet south of east-west road and 980 feet west of north-south road, about 200 feet southeast of small house occupied by Thomas Brown; stone post (Mississippi River Commission, 1880-81, station Nimbus)-----	316. 2



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