

DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

GEORGE OTIS SMITH, DIRECTOR

BULLETIN 421

RESULTS
OF
SPIRIT LEVELING IN ILLINOIS

1896 TO 1908, INCLUSIVE

COMPILED BY

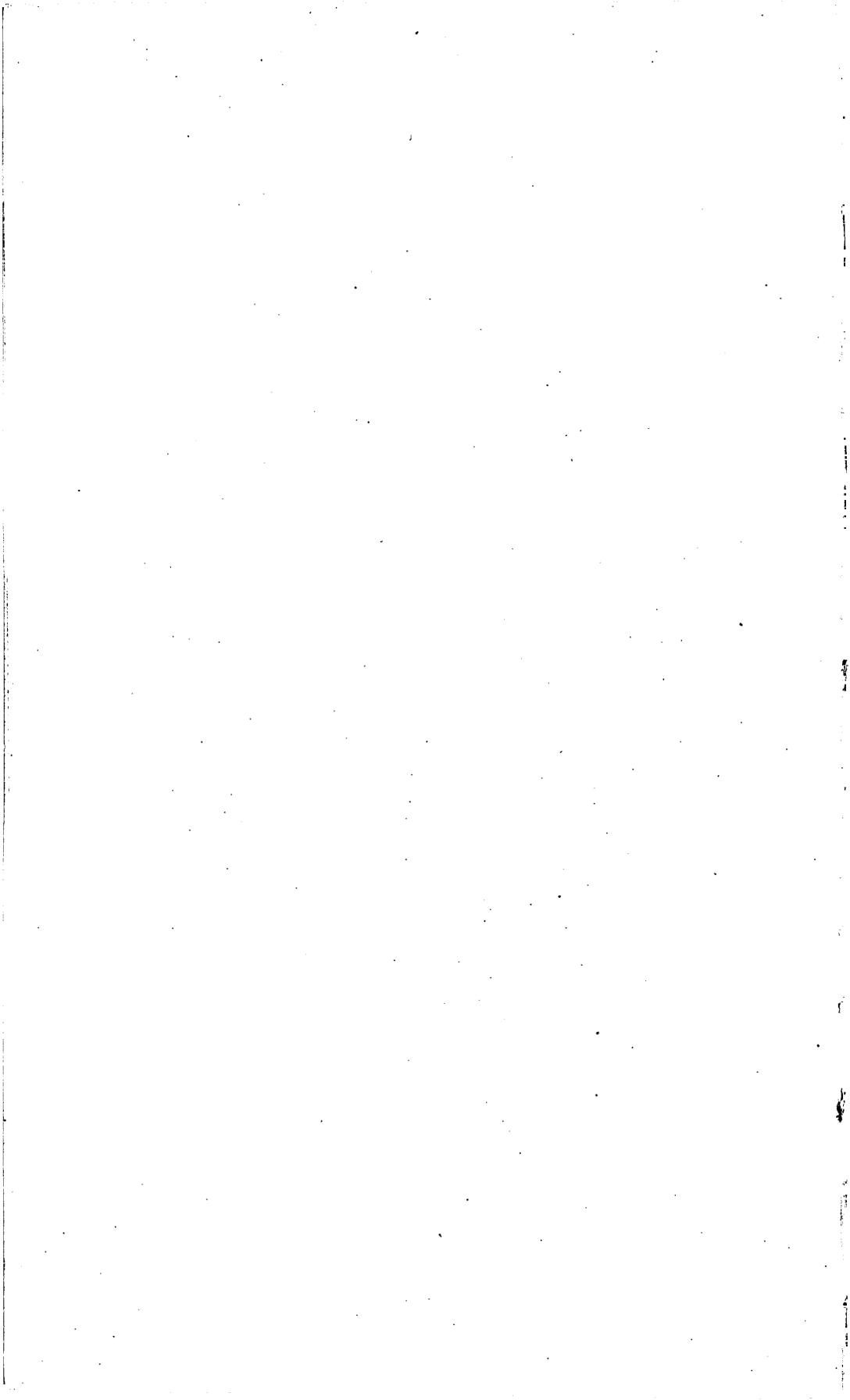
S. S. GANNETT AND D. H. BALDWIN

IN COOPERATION WITH THE ILLINOIS STATE GEOLOGICAL SURVEY
DURING 1905 TO 1908, INCLUSIVE



WASHINGTON
GOVERNMENT PRINTING OFFICE

.1910



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RESULTS OF SPIRIT LEVELING IN ILLINOIS, 1896 TO 1908, INCLUSIVE.

Compiled by S. S. GANNETT and D. H. BALDWIN.

INTRODUCTION.

Scope of the work.—All results of spirit leveling in the State of Illinois previously published by the United States Geological Survey and of later work are included in this report, rearranged by quadrangles; there are also included results of certain leveling done by the State Geological Survey.

The lists herein given are based on the precise-level net as adjusted in 1907 by the Coast and Geodetic Survey upon a common mean sea-level datum. The elevations are not, however, finally determined nor accepted for all points given, for the reason that the precise leveling of the U. S. Engineer Corps along Ohio River has not yet been published nor taken into account in fixing an elevation for Shawneetown. The net of precise-level lines which lie within or along the borders of Illinois comprises also the line along Mississippi River and the lines from Savanna to Chicago and from Grafton to Chicago by the U. S. Engineer Corps; the lines from Vincennes, Ind., to St. Louis, Mo., and from Cairo to Odin by the Coast and Geodetic Survey; and the line from Pekin via Fairmount Junction to Olney, the spur from Fairmount Junction to Catlin, and the lines from Farrington to Oakland and from Duquoin to Shawneetown by the United States Geological Survey.

Personnel.—The field work previous to 1903 was done under the general direction of J. H. Renshawe, geographer; that for 1903 to 1906, inclusive, under H. M. Wilson, geographer; and the later work under W. H. Herron, geographer, under the general direction of R. B. Marshall, chief geographer. The work in Illinois was supervised in 1905 by C. E. Cooke, topographer, chief of section, and in 1906 by W. H. Herron, then topographer and chief of section. In the introduction to each list the names of the various levelmen are given, and in appropriate lists credit is given to H. Foster Bain, state geologist,

for field work done under his direction. The office work of computation, adjustment, and preparation of lists was done by D. H. Baldwin, topographer, under the supervision of S. S. Gannett, geographer, and since 1907 under the general direction of E. M. Douglas, geographer.

Classification.—The elevations are classified, according to the accuracy of the method of leveling employed in their determination, as precise or primary. Precise leveling, as done by the United States Geological Survey in Illinois, consists in the running of spirit-level lines in both forward and backward directions, between successive bench marks placed about one mile apart, high-grade instruments being used, special precautions being taken in observations and reduction, and a small allowable limit of divergence being adopted. Primary leveling consists of the running of lines generally with the ordinary Y level, precautions being taken against principal sources of error. These lines are usually run in circuits of single lines required to close within a less severe limit of error. The allowable divergence adopted by the United States Geological Survey on precise lines is represented in feet by $0.017 \sqrt{D}$, in which D is the distance between bench marks in miles. The limit in feet for primary work is $0.05 \sqrt{D}$, in which D is the length of circuit in miles.

Bench marks.—The standard bench marks are of the two following general forms: First, a circular bronze or aluminum tablet 3.5 inches in diameter and 0.25 inch thick, appropriately lettered, having a 3-inch stem cemented into a drill hole, generally in the vertical wall of a public building, a bridge abutment, or other substantial masonry structure. The second form, employed where masonry or rock is not accessible, consists of a hollow wrought-iron post 3.5 inches in outer diameter and 4 feet in length after being split at the bottom and expanded to 10 inches at base, so as to prevent both the easy subsidence of the post and the malicious pulling of it out of the ground. The iron is heavily coated with asphalt, and over the top of the post is riveted a bronze tablet similar to that described above.

The numbers stamped upon the bench marks, as described in the following lists, represent the elevations to the nearest foot above mean sea level, as determined by unadjusted levels in the field. The notes have since been subjected to changes resulting from the adjustments necessary to close circuits and to those resulting from reduction to mean sea level through readjustment of the precise-level net of the United States, and therefore in some cases the finally accepted elevations as printed herein differ from those submitted as bench-mark numbers by 1 or 2 feet. This method of numbering bench marks has been adopted where many levelmen are working in the same area at the same time, as less liable to lead to confusion in identification of bench marks than any attempt at serial numbering,

and because the bench-mark number at the same time gives an approximate statement of the elevation. It is assumed that engineers and others finding these bench marks so stamped in the field will communicate with the Director of the United States Geological Survey in order to obtain the accepted elevation to hundredths or thousandths of a foot.

Any person finding bench marks in the following lists mutilated or destroyed will confer a favor by notifying the Director, United States Geological Survey, Washington, D. C.

PRECISE LEVELING.

Danvers, Danville, Farmer City, Fithian, Leroy, Mackinaw, Mahomet, Monticello, Peoria, Shirley, and Urbana Quadrangles.

CHAMPAIGN, DEWITT, McLEAN, PIATT, TAZEWELL, AND VERMILION COUNTIES.

The following are the results of a line of precise levels run in 1905-6; in 1905 from the U. S. Engineer Corps bench mark at Pekin over the Big Four Railway to Champaign, and continued in 1906 over the Wabash Railroad to Catlin. This line is connected at Fairmount Junction with a similar precise-level line run from Olney, and together they form a link in the precise-level net as adjusted in 1907. As a result of this adjustment the original elevations have been altered by amounts varying between +0.058 foot at Pekin and +0.051 foot at Fairmount Junction and on the spur east to Catlin.

The methods, kind of instruments, and limit of error used are those now adopted by the Coast and Geodetic Survey. On all sections upon which the forward and backward measures in millimeters differed more than $4.0\sqrt{K}$ (in which K is the distance between bench marks in kilometers), both forward and backward measures were repeated until a pair run in opposite directions came within limits, and all other requirements necessary to obtain accurate results were closely adhered to. In 1905 self-reading rods were used 3.2 meters in length, graduated to centimeters and reading to millimeters by estimation; but in the work of 1906 self-reading rods of the same length were used but graduated to hundredths of a yard and reading by estimation to thousandths, computations being made in feet, the equivalent limit of error expressed in feet being $0.017\sqrt{D}$, in which D is the distance in miles between bench marks.

The leveling of 1905 was done by Mr. E. L. McNair and that of 1906 by Mr. T. A. Green. The work was done in cooperation with the State, and the standard bench marks are stamped with the state name. Figures of elevation are not stamped on the bench marks established in 1905.

PEKIN, SOUTHEAST ALONG BIG FOUR RAILWAY, TO CHAMPAIGN.

PEORIA QUADRANGLE.

	Feet.
Pekin, in water table on east side of county clerk's office; iron bolt (Pekin city bench mark).....	479. 092
Pekin, in water table on east side of county clerk's office; bronze tablet..	479. 080
Pekin, in top of east abutment of Traction Line Bridge across Illinois River, 12 feet north of center of track; copper bolt (U. S. Engineer Corps bench mark P. B. M. 49).....	455. 422
Pekin, in front of Big Four station; top of rail.....	467. 2
Leslie, 1 mile west of, 6 miles east of Pekin, 15 rails east of milepost marked "P-15," 15 feet from center of railroad track, in coping stone of concrete culvert; aluminum tablet.....	681. 979

MACKINAW QUADRANGLE.

Tremont, in front of station; top of rail.....	643. 9
Tremont, 25 feet southeast of street crossing, at west end of concrete platform of station; iron post.....	643. 425
Menert, 0.33 mile west of, in top of north end of east abutment of plate-girder bridge over Mud Creek; aluminum tablet.....	575. 634
Menert, in front of station; top of rail.....	595. 4
Menert, 0.67 mile east of, on top of and on south end of west abutment of a through bridge over Mackinaw River, 6 feet below top of rail, 3.5 feet from center of track, midway between south shoe plate and south floor beam in first panel from west; aluminum tablet.....	583. 134
Mackinaw, 175 feet west of station, in top of first cap in east pier of first row of piers to railroad water tank; aluminum tablet.....	646. 239
Mackinaw, in front of station; top of rail.....	645. 5
Lilly, in top of southwest corner of west end of concrete platform of railroad station, 5 feet north of center of track; aluminum tablet.....	803. 268
Lilly, in front of station; top of rail.....	802. 4

DANVERS QUADRANGLE.

Woodruff, 900 feet west of coaling sheds, 30 feet south of center of track, on right-of-way line in front of house of N. C. Osman; iron post.....	840. 198
Danvers, about 120 feet south of station, in top of southwest corner of west end of concrete platform of station; aluminum tablet.....	809. 268
Danvers, in front of station; top of rail.....	809. 2
Danvers, 4.5 miles east of, 6 feet north of center of track, in coping of east wall of wagon pass under railroad; aluminum tablet.....	754. 948

SHIRLEY QUADRANGLE.

Twin Grove, in front of station; top of rail.....	817. 3
Twin Grove, at north end of station platform, due south of elevator owned by F. Supple, 10 feet south of track; iron post.....	816. 420
Bloomington, 0.75 mile west of, at junction of the Chicago and Alton Railroad and Big Four Railway, 15 feet from center of track, 6 feet below top of rail, in south side of west abutment of plate-girder bridge across a creek used as an open sewer for city; aluminum tablet.....	746. 283

LEROY QUADRANGLE.

	Feet.
Bloomington, at Chicago and Alton junction (Kansas City division); top of rail.....	775. 3
Bloomington, in front of station; top of rail.....	789. 3
Bloomington, about 350 feet east of passenger station, south of track, in north pier of water tank; aluminum tablet	793. 949
Bloomington, in face of wall, at southeast corner of court-house, about 2 feet above ground; aluminum tablet	^a 829. 800
Bloomington, 1 mile east of, at Illinois Central Railroad crossing; top of rail.....	857. 7
Gillum, 2 miles west of, 20 feet from center of track, in top of parapet wall on south side of Big Four Railway, concrete arch 300-88 across a draw; aluminum tablet	832. 836
Gillum, 75 feet west of station, on south side, 20 feet from center of track, 1.75 feet below rail; iron post	820. 416
Gillum, in front of station; top of rail.....	822. 1
Downs, 360 feet east of station, 15 feet south of center of track, 10 feet northwest of section car house; iron post	794. 255
Downs, in front of station; top of rail.....	796. 3
Ford Woods, 0.67 mile west of, 12 feet from center of track, in coping stone on north side of railway stone arch 293-94; aluminum tablet.....	791. 339
Ford Woods, in front of station; top of rail.....	803. 0
Leroy, 300 feet east of station, 20 feet south of center of track, at intersection of right-of-way line and street line; iron post.....	779. 903
Leroy, in front of station; top of rail.....	780. 9

FARMER CITY QUADRANGLE.

Empire, 130 feet west of station, 15 feet north of center of track, 15 feet east of switch stand at siding; iron post.....	755. 580
Empire, in front of station; top of rail.....	756. 7
Farmer City, 1 mile west of, 10 feet from center of track, in top on west side of abutment of a small I-beam railway bridge; aluminum tablet..	730. 718
Farmer City, at Illinois Central Railroad crossing; top of rail.....	732. 3
Farmer City; Big Four Railway bench mark (railroad elevation, 723.500)..	733. 86
Farmer City, 375 feet east of junction of the Big Four Railway and the Illinois Central Railroad, 18 feet south of center of track, 65 feet south of where first street east of Big Four station crosses track; iron post..	732. 510

MONTICELLO QUADRANGLE.

Harris, 60 feet west of station, 16 feet north of center of track; iron post..	721. 633
Harris, in front of station; top of rail.....	722. 8
Mansfield, 270 feet east of Big Four and Wabash Railroad crossing, 18 feet south of center of Big Four track; iron post.....	727. 288
Mansfield, at station (Wabash Railroad crossing); top of rail.....	729. 7

MAHOMET QUADRANGLE.

Mansfield, 3.5 miles east of, in south end of west abutment of Big Four Railway plate-girder bridge 270-40; aluminum tablet.....	721. 663
Mahomet, 230 feet west of station, 15 feet north of center of track; iron post.	712. 117
Mahomet, in front of station; top of rail.....	712. 4

^a On a spur line from the preceding bench mark.

Mahomet, 2 miles west of, 10 feet from center of track, in top of south side of Big Four stone culvert 266-11; aluminum tablet.....	Feet. 733.530
Rising, 75 feet west of station, 15 feet north of center of track; iron post.	734.092
Rising, in front of station; top of rail.....	735.7
Champaign, 2 miles west of, 15 feet south of center of track, in south side of west abutment of small I-beam bridge on Big Four Railway; aluminum tablet	748.327

URBANA QUADRANGLE.

Urbana, 53 feet southeast of southeast corner of Engineer Hall, University of Illinois; iron post stamped "Prim. Trav. Sta. No. 1".....	721.103
Urbana, on south side of east entrance to Engineer Hall, University of Illinois; aluminum tablet	722.774

CHAMPAIGN, SOUTHEAST ALONG WABASH RAILROAD, TO SIDNEY; THENCE EAST TO FAIRMOUNT JUNCTION.

URBANA QUADRANGLE.

Urbana, in front of station; top of rail.....	713.9
Urbana, 1,059 feet east of station, 220 feet north of Wabash track, 45 feet south of Big Four track, in southwest corner of stone culvert under Big Four Railway; aluminum tablet stamped	704.640
Mira, 2.03 miles northwest of, in east side of milepost "Cha 3-Tol 284;" spike.....	746.02
Mira, 1.03 miles northwest of, in east side of milepost "Cha 4-Tol 283;" spike.....	719.21
Mira, at road crossing; top of rail.....	695.8
Mira, 30 feet west of track, 30 feet south of road, 3 feet west of fence corner; iron post stamped "695 1906".....	696.085
Deers, 1.99 miles northwest of, in west side of milepost "Cha 6-Tol 281;" spike.....	686.66
Deers, 0.99 mile northwest of, in west side of milepost "Cha 7-Tol 280;" spike.....	690.66
Deers, 65 feet west of track, 25 feet south of road, 70 feet north of post-office and store of F. C. Edwards, at northeast corner of barn; iron post stamped "691 1906".....	691.954
Sidney, in front of station; top of rail (old elevation marked "669").....	665.8
Sidney, in southwest corner of high school building; aluminum tablet stamped "673 1906".....	672.575
Sidney, at front entrance to high school, on southwest corner of stone step, on level with brick pavement; cross mark.....	670.73
Homer, 5.29 miles west of, on second tier of concrete on north side of abutment of Wabash Railroad bridge over Chicago and Eastern Illinois Railroad; center of chiseled square.....	682.17
Homer, 3.56 miles west of, 45 feet north of milepost "St. L 163-T-273," 35 feet north of track, 5 feet north of telegraph pole; iron post not stamped..	668.028

FITHIAN QUADRANGLE.

Homer, 605 feet west of station, 30 feet north of track, 25 feet west of road, at east side of asphalt pavement; aluminum tablet stamped "674 1906".....	674.484
Homer, in front of station; top of rail.....	676.4
Fairmount, 5.59 miles west of, 35 feet north of track, 25 feet east of road, near fence corner; iron post stamped "664 1906".....	664.392

Fairmount, 3.69 miles west of, in north side of milepost "St. L. 171-Tol 265;" spike.....	Feet. 675. 91
Fairmount, 2.69 miles west of, 40 feet north of track, 50 feet north of milepost "St. L. 172-Tol 264;" iron post stamped "655 1906".....	655. 857
Fairmount, in front of station; top of rail.....	661. 5
Fairmount, 1.71 miles west of, 240 feet northwest of milepost "St. L. 173-T. 263," on north side of track; top of spike.....	656. 840
Fairmount Junction, 56 feet northwest of station, 50 feet west of Chicago and Eastern Illinois Railroad track, 60 feet west of signal station, 35 feet north of Wabash track, in fence corner; iron post stamped "654 1906".....	654. 522
Fairmount Junction, at crossing of the Chicago and Eastern Illinois and the Wabash railroads; top of rail.....	656. 18

FAIRMOUNT JUNCTION, EAST ALONG WABASH RAILROAD, TO CATLIN (SPUR LINE.)

FITHIAN QUADRANGLE.

Fairmount Junction, 1.01 miles east of, 120 feet west of road crossing, on south side of bridge; top of second bolt from west end.....	656. 40
Fairmount Junction, 2.32 miles east of, in north side of milepost "St. L. 177-Tol 259;" spike.....	667. 22
Fairmount Junction, 3.32 miles east of, 40 feet directly north of milepost "St. L. 178-Tol. 258," 30 feet north of track; iron post stamped "672 1906".....	672. 379
Fairmount Junction, 4.32 miles east of, in west side of milepost "St. L. 179-Tol. 257;" spike.....	674. 01
Bridge 7 over stream and wagon road, middle of; top of rail.....	664. 89
Bridge 7; surface of water under (October 29, 1906).....	648

DANVILLE QUADRANGLE.

Fairmount Junction, 5.09 miles east of, on south side of bridge 6; top of fifth bolt from west end.....	665. 69
Catlin, in front of station; top of rail.....	663. 8
Catlin, sec. 34, T. 19 N., R. 12 W., 195 feet north of track at station, 30 feet west of road, at "Champion's Corner;" iron post stamped "658 1906"....	657. 396

Fithian, Kansas, Mattoon, Newton, Oakland, Olney, Rose Hill, Sidell, and Toledo Quadrangles.**COLES, CUMBERLAND, DOUGLAS, JASPER, AND RICHLAND COUNTIES.**

The following elevations are the result of a precise-level line run from a bench mark of the transcontinental levels at Olney north to Fairmount Junction where it connects with a similar line from Pekin. The two lines form a link in the precise-level net and are classed to receive the highest weight. Small adjustments of only 0.006 foot and 0.007 foot, respectively, have been distributed in these lines; whereas the new elevation, accepted for Olney, is 0.785 foot greater than that determined by the adjustment of 1903. The usual method of direct and reverse leveling was employed, the line being broken by temporary bench marks into sections of about a mile, and the partial discrepancies in feet required to not exceed 0.017 times the

square root of the distance between bench marks in miles. All the usual precautions were taken and corrections made.

The leveling was done in 1906 by T. A. Green, under state cooperation, and the standard bench marks are stamped with the state name.

OLNEY, NORTH ALONG ILLINOIS CENTRAL RAILROAD, TO LERNA.

OLNEY QUADRANGLE.

	Feet.
Olney, north face of Richland County court-house; square cut at base of column marked "B ₃ -U. S. C. & G. S.-B □ M-1882".....	486. 117
Olney, Richland County court-house, in top of west stone balustrade of steps at south entrance; aluminum tablet stamped "483-1906".....	483. 645
Olney, in front of station; top of rail.....	472. 8
Olney, 0.86 mile north of, 30 feet west of track, 90 feet south of lock to switch at Cincinnati, Hamilton and Dayton junction; top of rail driven in ground.....	461. 661

NEWTON QUADRANGLE.

Olney, 2.87 miles north of, 45 feet west of road crossing, 40 feet north of road, in southeast corner of lot owned by J. M. Fleming; iron post stamped "465-1906".....	465. 529
Olney, 5.36 miles north of, 30 feet east of track, 40 feet southeast of private road crossing, 50 feet southeast of whistle post, 10 feet south of gate to house; iron post stamped "475-1906".....	475. 308
Dundas, in front of station; top of rail.....	478. 4
Dundas, 439 feet north of station, 50 feet northeast of road crossing, 30 feet east of track, in southwest corner of Dundas rolling mill; aluminum tablet stamped "480-1906".....	481. 292
West Liberty, in front of station; top of west rail.....	484. 0
West Liberty, 1.59 miles north of, 160 feet north of milepost "169-78," 70 feet south of bridge "B-163-93," 590 feet south of road crossing, 30 feet east of track, east of right-of-way line iron post stamped "480-1906".....	481. 253
West Liberty, 4.52 miles north of, 8 feet west of milepost "166-81," iron post stamped "506-1906".....	507. 128
Boos, in front of station; top of rail.....	517. 4
Boos, 1.84 miles north of, 40 feet northeast of milepost "163-84," 25 feet east of track, 15 feet east of warning post, 50 feet southeast of road crossing, in fence corner; iron post stamped "524-1906".....	525. 217
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

GREENUP QUADRANGLE.

Newton, 3.03 miles north of, 165 feet south of milepost "157-90," 30 feet east of track, 10 feet north of private road crossing, in fence corner; iron post stamped "538-1906".....	538. 806
Falmouth, 1.4 miles north of, 40 feet east of track, at edge of fence, 50 feet east of milepost "154-93," 175 feet west of oil derrick; iron post stamped "564-1906".....	564. 880
Rose Hill, in front of station; top of rail.....	567. 4
Rose Hill, 1.05 miles north of, 553 feet north of milepost "151-96," 35 feet southeast of road crossing, in fence corner; iron post stamped "566-1906".....	566. 634
Hidalgo, in front of station; top of rail.....	583. 1

	Feet.
Hidalgo, 0.31 mile north of, 30 feet west of track, 8 feet west of milepost "148-99;" iron post stamped "581-1906".....	582. 276
Hidalgo, 3.37 miles north of, 245 feet north of milepost "145-102," 30 feet east of track, 9 feet north of center of road through field, at edge of right of way; iron post stamped "593-1906".....	593. 640
Greenup, at junction of the Illinois Central Railroad and the Vandalia line; top of rail.....	553. 9
Greenup, in front of Illinois Central Railroad station; top of rail.....	553. 9
Greenup, 700 feet northwest of station, 40 feet north of track, 570 feet southeast of milepost "142-105;" iron post stamped "543-1906".....	543. 690

TOLEDO QUADRANGLE.

Greenup, 3.18 miles northwest of, 45 feet northwest of road crossing, 25 feet north of warning post, 15 feet west of wagon road; iron post stamped "553-1906".....	553. 387
Toledo, in front of station; top of rail.....	601. 1
Toledo, 0.75 mile north of, 210 feet north of milepost "136-111," 35 feet west of track, 10 feet north of private road to Glenn Mowel house, in fence corner; iron post stamped "602-1906".....	602. 864
Bradbury, 630 feet north of station, 25 feet west of track, 3 feet west of milepost "133-114;" iron post stamped "607 1906".....	608. 131
Janesville, 0.53 mile south of, 30 feet west of track, in fence corner, 20 feet south of road; iron post stamped "676-1906".....	676. 582
Janesville, 2.6 miles northwest of, 235 feet south of milepost "127-120," 35 feet east of track, in fence corner; iron post stamped "735-1906".....	735. 938

MATTOON QUADRANGLE.

Lerna Junction, at crossing of the Illinois Central and the Toledo, St. Louis and Western railroads; top of rail.....	754. 3
Lerna, southeast corner of station, on east side at corner of platform, 113 feet northwest of junction; iron post stamped "753-1906".....	754. 316

LERNA, NORTHEAST ALONG TOLEDO, ST. LOUIS AND WESTERN RAILROAD, TO BROCTON.

MATTOON QUADRANGLE.

Lerna, 2 miles northeast of, 60 feet east of milepost "St. L. 125-T 326," 10 feet south of rail rack, in south end of terra-cotta drainpipe; chiseled hole.....	721. 39
Lerna, 3.01 miles northeast of, 40 feet north of track, 20 feet east of road; iron post stamped "708 1906".....	708. 589
Lerna, 3.99 miles northeast of, 250 feet northeast of milepost "St. L. 127-T 324," 20 feet north of whistle post, in top of rock; chiseled hole.....	677. 89

TOLEDO QUADRANGLE.

Lerna, 5.74 miles northwest of, 50 feet north of track, 25 feet east of road, 20 feet west of silver poplar tree; iron post stamped "615-1906".....	615. 548
Charleston, on southwest corner of Clover Leaf station, 5 feet east of entrance to baggage room, in stone coping; aluminum tablet stamped "672 1906".....	672. 804
Charleston, Coles County court-house, 15 feet west of north entrance to section of building occupied by post-office, in west end of top step; aluminum tablet stamped "686 1906".....	686. 536
Charleston, in front of Clover Leaf station; top of rail.....	678. 5

OAKLAND QUADRANGLE.

	Feet.
Charleston, 3.68 miles north of, 35 feet east of track, 25 feet north of county road, in southwest corner of G. W. Wasson's lot; iron post stamped "686 1906".....	686. 866
Fairgrange, in front of station; top of rail.....	683. 1
Fairgrange, 0.95 mile northeast of, 45 feet south of rock, 25 feet south of warning post, 25 feet east of county road, 2 feet west of fence corner; iron post stamped "686 1906".....	687. 083
Bushton, in front of station; top of rail.....	672. 6
Bushton, 0.85 mile northeast of, 50 feet northeast of road crossing, 30 feet north of county road, near fence corner; iron post stamped "666 1906"....	666. 586
Rardin, in front of station; top of rail.....	664. 9
Rardin, 1.58 miles northeast of, 53 feet south of private road crossing, 10 feet south of angle in road; iron post stamped "658-1906".....	658. 348
Oakland, 820 feet south of junction, 60 feet west of track, 140 feet northwest of milepost "St. L. 147-T. 304," 25 feet south of wagon road; iron post stamped "652-1906".....	653. 022
Oakland, at junction of the Clover Leaf Railroad with the Vandalia line; top of rail.....	656. 6

KANSAS QUADRANGLE.

Oakland, 2.98 miles north of, 50 feet east of track, 30 feet east of milepost "St. L. 150-T. 301," 465 feet north of small bridge 302, in edge of field; iron post stamped "661-1906".....	661. 593
Brocton, 0.47 mile southwest of, 65 feet north of road crossing, 38 feet west of track, in fence corner; iron post stamped "661-1906".....	662. 182
Brocton, at junction of the Clover Leaf Railroad and the Cincinnati, Hamilton and Dayton Railway; top of rail.....	662. 7

**BROCTON, NORTH ALONG CINCINNATI, HAMILTON AND DAYTON RAILWAY,
TO SIDELL.**

KANSAS QUADRANGLE.

Brocton, 2.36 miles northeast of, at Payne siding, 25 feet east of track, 50 feet southeast of switch, 6 feet east of telephone pole, 15 feet north of county road; iron post stamped "678-1906".....	678. 662
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SIDELL QUADRANGLE.

Hughes, 0.48 mile northeast of, 40 feet east of track, 12 feet east of telegraph pole; iron post stamped "655-1906".....	656. 265
Hume, 1.47 miles north of, 1,000 feet north of milepost "Olney 78-Sidell 7," 40 feet east of track, 90 feet northeast of whistle post; iron post stamped "645-1906".....	646. 299
Hume, 4.34 miles north of, 330 feet north of milepost "Olney 81-Sidell 4," 25 feet west of track, 5 feet north of private road; iron post stamped "693-1906".....	693. 572
Hildreth, in front of station; top of rail.....	714. 3
Hildreth, 1.99 miles north of, at road crossing, 150 feet north of Archie siding, 30 feet west of track, 10 feet south of road; iron post stamped "691-1906".....	691. 984
Sidell, in west side at northwest corner in watershed of high school, 2 feet south of corner of building; aluminum tablet stamped "684-1906".....	685. 184
Sidell, in front of station; top of rail.....	681. 9

SIDELL, NORTH ALONG CHICAGO AND EASTERN ILLINOIS RAILROAD, TO FAIRMOUNT JUNCTION.

SIDELL QUADRANGLE.

	Feet.
Sidell, 3.13 miles northeast of, 50 feet east of track, 10 feet north of private road; iron post stamped "679-1906"	679. 859
Jamaica, in front of station; top of rail	683. 3
Jamaica, 145 feet northwest of station, 100 feet west of track, 30 feet north of road, at southeast corner of Joe Collins's store (owned by Wm. Gohain); iron post stamped "677-1906"	677. 913

FITHIAN QUADRANGLE.

Jamaica, 2.22 miles north of, 60 feet west of track, 70 feet northwest of mile-post "C 134-T 260," 195 feet northwest of switch; iron post stamped "668-1906"	668. 351
Fairmount Junction, at junction of the Chicago and Eastern Illinois and the Wabash railroads; top of rail	656. 2
Fairmount Junction, 56 feet northwest of, 50 feet west of Chicago and Eastern Illinois track, 60 feet west of signal tower, 35 feet north of Wabash track, in fence corner; iron post stamped "654-1906"	654. 522

Kansas, Marshall, Oakland, and Paris Quadrangles.

CLARK, COLES, AND EDGAR COUNTIES.

The elevations in the following list are the unadjusted results of a line of precise levels run from Farrington to Oakland and based upon the 1907 adjustment value at Oakland. They are the Illinois portion of a line run from Mitchell, Ind., to Oakland, Ill. Oakland is on the precise line of the United States Geological Survey adjusted between Olney and Pekin, junction points of the precise level net, and the values if computed from Mitchell, Ind., would be 0.6 foot greater than those here given; but since the line Mitchell to Oakland was not involved in the 1907 adjustment, and since it has much greater weight than the Coast and Geodetic Survey line through Mitchell, it was thought best not to make any adjustment of the Illinois portion of the line but to determine later a new elevation for Mitchell, Ind. A prism level, yard rods; and the standard method were used. The divergence between the forward and backward lines for the entire distance from Mitchell was 0.215 foot in 132.8 miles and for the Illinois portion alone 0.013 foot in 31.5 miles.

The leveling was done in 1907 by C. H. Semper under state cooperation and the standard bench marks are stamped with the state name.

STATE LINE NEAR FARRINGTON, NORTHWEST ALONG VANDALIA RAILROAD, TO OAKLAND.

MARSHALL QUADRANGLE.

	Feet.
Farrington, in front of station; top of rail.....	570. 7
Farrington, 1.83 miles west of, 0.24 mile southwest of milepost "T H 10," east of track, in top of railroad culvert; aluminum tablet stamped "580" ..	579. 453
Ferrell, in front of station; top of rail.....	604. 7
Marley, in northeast corner of front wall of M. E. Church; aluminum tablet stamped "644".....	644. 155
Marley, in front of station; top of rail.....	645. 8
Marley, 2.1 miles northwest of, 750 feet southeast of milepost "T H 15," west of track, in top of railroad culvert; aluminum tablet stamped "673" ..	673. 149

PARIS QUADRANGLE.

Marley, 4.31 miles northwest of, 100 feet east of road, in southwest corner of front wall of McCall Schoolhouse, 300 feet east of track; aluminum tablet stamped "728".....	728. 065
Paris, in front of station; top of rail.....	735. 7
Paris, at east end of Vandalia freight station, in wall; aluminum tablet stamped "739".....	739. 225

KANSAS QUADRANGLE.

May, 150 feet southeast of milepost "T H 26," north of track, in top of railroad culvert; aluminum tablet stamped "691".....	690. 424
May, in front of station; top of rail.....	689. 6
May, 1.29 miles west of, 1,050 feet west of road crossing, in top of south end of railroad culvert; aluminum tablet stamped "681".....	680. 538
Redmon, in front of station; top of rail.....	683. 0
Redmon, in front wall of Redmon Bank; aluminum tablet stamped "691" ..	690. 300
Borton, 0.51 mile east of, in top of railroad culvert north of track at road crossing; aluminum tablet stamped "664".....	669. 209
Borton, in front of station at crossing of Cincinnati, Hamilton and Dayton Railway; top of rail.....	664. 9
Isabel, in front of station; top of rail.....	669. 2
Isabel, 2.02 miles west of, 276 feet west of road crossing, 100 feet north of track, in house of Ed. Gobert; aluminum tablet stamped "645".....	644. 680

OAKLAND QUADRANGLE.

Oakland, 250 feet west of crossing of Toledo, St. Louis and Western Railroad, in front wall of J. T. Simms grain elevator; aluminum tablet stamped "659".....	658. 718
Oakland, at crossing of the Vandalia and the Toledo, St. Louis and Western railroads; top of rail.....	656. 6
Oakland, 820 feet south of junction, 60 feet west of track, 140 feet northwest of milepost "St. L. 147," 25 feet south of highway; iron post stamped "652".....	653. 022

**Duquoin, Eldorado, Equality, Galatia, Herrin, Shawneetown, and West Frankfort
Quadrangles.**

FRANKLIN, GALLATIN, PERRY, AND SALINE COUNTIES.

The following are the unadjusted results of a line of precise levels run from Duquoin southeastward along the Illinois Central Railroad to Shawneetown. The elevations are based on the bench mark "R₃" at Duquoin of the Coast and Geodetic Survey precise-level line from Cairo to Odin. This bench mark is described as "the bottom of a square cut in corner of stone sill at main door opposite Illinois Central Railroad station," and its accepted elevation is 462.477, as obtained by the adjustment of 1907 made by the Coast and Geodetic Survey.

The method, type of instrument, and limit of error are the same as those now used by the Coast and Geodetic Survey. The self-reading rods used were 3.5 yards in length, graduated to yards and hundredths, and reading by estimation to thousandths, thereby enabling computation to be made directly in feet instead of in meters as is done by the Coast and Geodetic Survey. On all sections upon which the forward and backward measures in feet differed more than $0.017\sqrt{D}$ (in which D is the distance between bench marks in miles), both forward and backward measures were repeated until a pair run in opposite directions came within limits, and all other requirements necessary to obtain accurate results were closely adhered to.

The leveling was done in 1906 by T. A. Green.

DUQUOIN, SOUTHEAST ALONG ILLINOIS CENTRAL RAILROAD, TO SHAWNEETOWN.

DUQUOIN QUADRANGLE.

	Feet.
Duquoin, in corner of stone sill at main door opposite Illinois Central Railroad station; bottom of square cut (Coast and Geodetic Survey bench mark "R ₃ ").....	462. 477
Duquoin, 600 feet east of station, in east brick wall of Exchange Bank; aluminum tablet stamped "468 1906".....	468. 427
Duquoin, in front of station; top of rail.....	463. 7
Duquoin, 3.2 miles east of, 60 feet west of creek, 40 feet north of railroad just south of fence corner; iron post stamped "396 1906".....	396. 407

HERRIN QUADRANGLE.

McDonald, in front of station; top of north rail.....	395. 9
McDonald, 1 mile southeast of, 60 feet directly north of milepost "East St. Louis 77-Eldorado 44;" iron post stamped "402 1906".....	401. 898
Mulkeytown, in front of station; top of rail.....	424. 4
Mulkeytown, 324 feet south of station, in east side of corner stone at hall of Modern Woodmen of America; aluminum tablet stamped "449 1906".....	449. 025
Christopher, in front of station; top of rail.....	438. 9
Christopher, in southwest corner of Christopher National Bank; aluminum tablet stamped "443 1906".....	443. 866

	Feet.
Buckner, in front of station; top of rail.....	408. 5
Christopher, 2.8 miles east of, 348 feet west of small railroad bridge over stream, 150 feet southeast of house occupied by Isaac Denton; iron post stamped "392 1906".....	392. 968

WEST FRANKFORT QUADRANGLE.

Christopher, 5.7 miles east of, 150 feet southeast of road crossing, at northwest corner of house occupied by W. M. Wolf; iron post stamped "438 1906".....	439. 161
Benton, 1,507 feet north of station, in stone step just south of west entrance to Franklin County court-house; aluminum tablet stamped "474 1906".....	475. 832
Benton, in front of station; top of rail.....	470. 7
Benton, 0.3 mile east of, at junction of the Chicago and Eastern Illinois and the Illinois Central railroads; top of rail.....	471. 1
Benton, 2.3 miles southeast of, 90 feet directly north of milepost "E. St. Louis 92-Eldorado 29;" iron post stamped "405 1906".....	406. 605
Smothers, in front of station; top of rail.....	481. 5
Smothers, 260 feet southeast of road crossing, at northwest corner of store kept by M. M. Moore; iron post stamped "479 1906".....	479. 994
Parrish, 200 feet northeast of road crossing, at southwest corner of store kept by Brown & Moore; iron post stamped "438 1906".....	439. 500
Parrish, in front of station; top of rail.....	438. 1
Thompsonville, 600 feet south of road crossing, 100 feet east of brick school-house; iron post stamped "Prim. Trav. Sta. No. 4-494-1906".....	495. 401
Thompsonville, in front of station; top of rail.....	499. 9

GALATIA QUADRANGLE.

West End, 75 feet north of station, in south wall of West End rolling mill; aluminum tablet stamped "429 1906".....	430. 507
West End, 60 feet east of station; top of rail.....	425. 9
Rileyville, in front of station; top of rail.....	398. 9
Rileyville, 0.71 mile southeast of, 20 feet northwest of cattle guard, in corner of fence at point where county road jogs north from railroad; iron post stamped "392 1906".....	393. 222
Galatia, 0.3 mile west of station, at Galatia rolling mill, in southwest foundation of old elevator; aluminum tablet stamped "397 1906" ^a	398. 186
Galatia, in front of station; top of rail.....	401. 5
Galatia, 3.18 miles southeast of, 20 feet directly south of milepost "E. St. Louis 114-Eldorado 7," inside of fence; iron post.....	394. 403
Raleigh, in front of station; top of rail.....	407. 2
Raleigh, 1.59 miles east of, 70 feet west of milepost "E. St. Louis 117-Eldorado 4," 62 feet south of center of track; iron post stamped "390 1906".....	391. 099

ELDORADO QUADRANGLE.

Eldorado, 30 feet south of southwest corner of Grand Hotel, at edge of pavement; iron post stamped "388 1906".....	387. 904
Eldorado, just east of station, at junction of the Big Four Railway and the Louisville and Nashville Railroad; top of rail.....	391. 9
Grayson, 30 feet west of station; top of rail.....	407. 1
Grayson, 0.49 mile southeast of, 40 feet north of center of track; inside of wire fence; iron post stamped "1906".....	392. 649

^a This bench mark is to be destroyed.

EQUALITY QUADRANGLE.

	Feet.
Grayson, 3.1 miles southeast of, 40 feet northwest of road crossing, on west side of road; iron post stamped "1906".....	363. 044
Equality, at northwest corner of Louisville and Nashville Railroad station; iron post stamped "1906".....	362. 272
Equality, in front of station; top of north rail.....	362. 9
Equality, 2.7 miles southeast of, 100 feet southeast of E. P. Fowler's residence, 40 feet north of track, in fence corner; iron post stamped "1906".....	376. 921
Equality, 5.7 miles southeast of, 60 feet north of milepost "St. Louis 138-Shawneetown 6"; iron post stamped "1906".....	353. 142

SHAWNEETOWN QUADRANGLE.

Cypress Junction (Junction post-office), at crossing of the Louisville and Nashville and the Baltimore and Ohio Southwestern Railroads; top of rail.....	355. 9
Cypress Junction, 30 feet east of station; top of rail.....	358. 0
Cypress Junction, 2.5 miles east of, 330 feet west of road crossing, 50 feet north of milepost "St. Louis 141-Shawneetown 5," iron post stamped "1906".....	396. 512
Shawneetown, in front of station; top of rail.....	350. 2
Shawneetown, at southwest corner of Louisville and Nashville Railroad station; iron post stamped "1906".....	349. 598
Shawneetown, 100 feet east of southeast corner of "Riverside Hotel" in northeast corner of concrete gun rack; aluminum tablet stamped "1906".....	365. 968

PRIMARY LEVELING.

Apple River and Galena Quadrangles.

JO DAVIESS COUNTY.

The following elevations were determined by primary leveling connected with the Mississippi River precise-level line. The work was done in 1908 by Henry Bücher, under state cooperation, and the standard bench marks are stamped with the state name.

GALENA QUADRANGLE.

PLEASANT HILL SCHOOL, WEST TO BLANDING; THENCE NORTH VIA GALENA JUNCTION AND GALENA, TO SEC. 24, T. 29 N., R. 1 W.; THENCE EAST TO SCALES MOUND.

	Feet.
Pleasant Hill schoolhouse, west of road, NE. $\frac{1}{4}$ sec. 11, T. 26 N., R. 2 E., at T road, 120 feet north of fence corner, 4 feet east of fence; iron post stamped "Prim. Trav. Sta. No. 19 965".....	964. 637
Hanover, 2 miles east of, near center of sec. 11, T. 26 N., R. 2 E., at angle in road, south of road, in root on west side of 30-inch oak tree; nail marked "945".....	946. 05
Hanover, at southwest corner of Hanover Hotel; iron post stamped "Prim. Trav. Sta. No. 28 632".....	632. 215
Hanover, south side of, in SW. $\frac{1}{4}$ sec. 9, T. 26 N., R. 2 E., at southwest corner of Y road, south of road, in root on northeast side of 12-inch hard maple tree; nail.....	635. 93
Hanover, 1 mile southwest of, north of center of sec. 17, T. 26 N., R. 2 E., at Y road, on northeast side of road, in root on south side of 48-inch oak tree; nail.....	900. 64

Scales Mound, 22 paces north of Illinois Central Railroad, 25 paces south-west of James Allen's general store, in center of small triangle; iron post stamped "948"..... 948. 006

MOUNT MORLEY SCHOOL, WEST TO GALENA.

Mount Morley School, in SE. $\frac{1}{4}$ sec. 26, T. 28 N., R. 2 E., at southwest corner of T road, opposite schoolhouse, 25 feet east of fence corner; iron post stamped "Prim. Trav. Sta. No. 18 1043"..... 1, 042. 721

Mount Morley School, 3 miles west of, near center of sec. 29, T. 28 N., R. 2 E., 570 feet east of Y road, in field, north of road, 2 feet north of fence; iron post stamped "1067"..... 1, 066. 176

Mount Hope School, near corner of secs. 22, 23, 26, and 27, T. 28 N., R. 1 E., at northeast corner of Y road, in southwest corner of schoolhouse grounds, 4 feet from edge of bank, 8.5 feet southwest of 36-inch hard-maple tree; iron post stamped "834"..... 833. 732

Galena, at northeast corner of intersection of Bogges and Bouthillier streets, in root on west side of 36-inch soft-maple tree; nail..... 785. 20

SCALES MOUND, SOUTH TWO MILES.

Scales Mound, at southwest corner of schoolhouse grounds, 2.8 feet north of wooden east-west sidewalk on north side of schoolhouse; iron post stamped "Prim. Trav. Sta. No. 17 956"..... 955. 640

Scales Mound, 2 miles south of, near center of sec. 2, T. 28 N., R. 2 E., at cheese factory, 400 feet east of Y road, in top of south side of west abutment wall of iron bridge; aluminum tablet stamped "833"..... 832. 926

APPLE RIVER QUADRANGLE.

SCALES MOUND, EAST VIA APPLE RIVER, TO NEAR WARREN; THENCE SOUTH VIA STOCKTON, TO TOWNSHIP LINE; THENCE WEST TO PLEASANT HILL SCHOOL.

Saws siding, 0.6 mile west of, southeast corner of southwest quarter of sec. 20, T. 29 N., R. 3 E., in corner of field, 20 paces south of south rail of Illinois Central Railroad, 3 paces east of wagon road which crosses track; iron post stamped "987"..... 986. 293

Apple River, 2.5 miles west of, near northeast corner of sec. 22, T. 29 N., R. 3 E., in field at southwest corner of north-south road crossing Illinois Central Railroad, 5.7 feet west of fence, 14 feet south of fence; iron post stamped "1007"..... 1, 006. 885

Apple River, in southwest corner of yard of W. H. Smith; iron post stamped "Prim. Trav. Sta. No. 16 994"..... 994. 043

Apple River, at northeast corner of Railroad and Main streets, in face of concrete walk in front of Anschutz Bros'. general store, 2.4 feet east of north-south cross walk, 0.9 foot below pavement level; aluminum tablet stamped "996"..... 995. 536

Warren, about 1.25 miles northwest of, near south quarter corner of sec. 14, T. 29 N., R. 4 E., at southwest corner of road crossing, west of road; iron post stamped "994"..... 993. 187

Warren, about 1 mile west of, at north quarter corner of sec. 26, T. 29 N., R. 4 E., 0.25 mile south of T road, at southwest corner of schoolhouse grounds, west of road, south of corner, in root on east side of 15-inch hard-maple tree (first in row); nail marked. "G. S. B. M. 993.2"..... 992. 86

Warren, about 1.5 miles southwest of, about 0.13 mile west of east quarter corner of sec. 35, T. 29 N., R. 4 E., at southwest corner of T road, in field, 1.5 feet south of north fence, 2 feet west of east fence; iron post stamped "993"..... 992. 997

	Feet.
Robinson School, in SE. $\frac{1}{4}$ sec. 14, T. 28 N., R. 4 E., in field at northwest corner of Y road, 11 feet north of south fence, 8 feet west of east fence; iron post stamped "868".....	867. 421
T. 28 N., R. 4 E., near quarter corner between secs. 35 and 36, at northeast corner of crossroads in field, 5 feet east of north-south fence, 3 feet north of east-west fence; iron post stamped "973".....	972. 921
T. 27 N., R. 4 E., corner of secs. 11, 12, 13, and 14, at southeast corner of T road, in field, 2.7 feet south of east-west fence, 3.4 feet east of north-south fence; iron post stamped "1018".....	1, 017. 724
T. 27 N., R. 4 E., quarter corner between secs. 23 and 26, south of road at crossroads, about 40 feet east of corner and 5 feet south of fence, in root on north side of 18-inch oak tree; nail.....	808. 49
T. 27 N., R. 4 E., in SW. $\frac{1}{4}$ sec. 35, at southwest corner of Y road, in field, 4 feet west of north-south fence, 5.3 feet south of east-west fence; iron post stamped "862".....	862. 290
T. 27 N., R. 4 E., in SE. $\frac{1}{4}$ sec. 32, 150 feet east of iron bridge over creek, south of road, in field, 4 feet south of east-west fence, 4 feet east of north-south fence; iron post stamped "781".....	780. 987
T. 26 N., R. 3 E., in NW. $\frac{1}{4}$ sec. 2, on west side of road at Y, in field, 4 feet northwest of corner fence post; iron post stamped "990".....	989. 992
Derinda Center School, corner of secs. 8, 9, 16, and 17, T. 26 N., R. 3 E., at northwest corner of crossroads, in foundation of east wall, 0.6 foot north of southeast corner of schoolhouse; aluminum tablet stamped "809"....	809. 204

RUSH, WEST TO SCHAPVILLE; THENCE NORTH 1.5 MILES.

Rush, SW. $\frac{1}{4}$ sec. 28, T. 28 N., R. 4 E., at northeast corner of crossroads, in field, 3.5 feet east of north-south fence, 4.5 feet north of east-west fence, 1.5 feet west of small narrow ditch drain; iron post stamped "996".....	995. 731
T. 28 N., R. 4 E., in NW. $\frac{1}{4}$ sec. 29, north of road opposite T. Uren's house, in root on south side of lone oak tree; nail.....	969. 59
T. 28 N., Rs. 3 and 4 E., about 0.25 mile south of corner of secs. 19, 24, 25, and 30, at T road, north of road, in southwest corner of field, 4.5 feet east of north-south fence, 4.5 feet north of east-west fence; iron post stamped "932".....	931. 396
T. 28 N., R. 3 E., in SE. $\frac{1}{4}$ sec. 23, at southwest corner of T road, in root on north side of 48-inch elm tree; nail.....	708. 78
T. 28 N., R. 3 E., in SE. $\frac{1}{4}$ sec. 22, north of road in field, 60 feet west of stone-arch culvert, just east of gate to lane running north to house of L. Schultz, 2.5 feet north of fence; iron post stamped "766".....	765. 386
Schapville, in NE. $\frac{1}{4}$ sec. 30, T. 28 N., R. 3 E., at northwest corner of Y road, in east wall, 14.4 feet north of southeast corner of Zion Presbyterian Church (German); aluminum tablet stamped "859".....	859. 030
T. 28 N., R. 3 E., in NE. $\frac{1}{4}$ sec. 19, 0.22 mile northwest of Y road, 3.7 feet below top in west face of north arch abutment wall of iron bridge; aluminum tablet stamped "731".....	730. 568

Cordova (30') Quadrangle.

HENRY, ROCK ISLAND, AND WHITESIDE COUNTIES.

The following elevations were determined by primary leveling connected with the Mississippi River Commission bench mark "P. B. M. 52," at Albany, described as "a copper bolt in the west side, near southwest corner, of brick store occupied by Harper & Son," the ele-

vation of which is now accepted as 595.968 feet above mean sea level. The work was done in 1896 by G. W. Newell.

	Feet.
Albany Township, on south line of sec. 1, T. 20 N., R. 2 E., at half-section line; iron post stamped "678"	679. 573
Newton Township, near northeast corner of SE. $\frac{1}{4}$ NE. $\frac{1}{4}$ sec. 2, T. 20 N., R. 3 E., at junction of roads on east line of section; iron post stamped "702"	703. 586
Fenton, Fenton Township, south side of sidewalk, about 100 feet west of Chicago, Burlington and Quincy Railroad; iron post stamped "621" (marked wrong, should be "602")	602. 458
Erie, Erie Township, small triangular park in public square; iron post stamped "587"	588. 435
Sharon, 1.5 miles west of, at northwest corner of NE. $\frac{1}{4}$ NW. $\frac{1}{4}$ sec. 12, T. 18 N., R. 3 E., Phenix Township, at junction of roads; iron post stamped "597"	598. 324
Sharon, Loraine Township, near southeast corner of sec. 6, T. 18 N., R. 4 E., at junction of roads at William Ornett's Sharon stock farm; iron post stamped "627"	628. 228
Hillsdale, Coe Township, 90 feet east of north end of Chicago, Burlington and Quincy Railroad station; iron post stamped "598" (should be "578")	578. 246
Joslyn, Zuma Township, northeast corner W. H. Whiteside's yard, by Chicago, Burlington and Quincy Railroad; iron post stamped "581"	582. 343
Hillsdale, 2.8 miles west of, southeast corner of sec. 23, T. 19 N., R. 2 E.; iron post stamped "679"	680. 426

Evanston, Highwood, and Waukegan Quadrangles.

COOK AND LAKE COUNTIES.

The following elevations were determined by primary leveling connected with a Chicago city bench mark described as "a square cut on the corner of two-story brick building at southwest corner of Lincoln and Foster avenues," the elevation of which is now accepted as 610.696 feet above mean sea level. The leveling is also connected with Chicago sanitary district bench marks at Niles Center and Desplaines. A correction of 579.938 feet is added to those elevations which are referred to the Chicago city datum, the zero of which is the zero of the lake gage and low water of 1847.

The work in Evanston quadrangle and part of that in Highwood quadrangle was done in 1897 by E. S. Smith. The remainder of work in Highwood quadrangle and that in Waukegan quadrangle was done in 1906 by Henry Bücher. The later work was done under state cooperation, and the standard bench marks then established are stamped with the state name.

EVANSTON QUADRANGLE.

CHICAGO, NORTH VIA EVANSTON, TO WINNETKA.

	Feet.
Chicago, southwest corner of Clark street and Pratt avenue, northeast corner of two-story brick building; base of iron column.....	604. 126
Evanston, about T. 44 N., R. 14 E., north side of east entrance to city hall, in face of stone work 18 inches above sill; bronze tablet stamped "CHGO 601".....	602. 153
Winnetka, 30 feet north of northeast corner of old town hall; iron post stamped "CHGO 651".....	651. 300

HIGHWOOD QUADRANGLE.

EVANSTON, WEST TO EAST LINE OF MAINE TOWNSHIP; THENCE NORTH TO SHERMERVILLE; THENCE EAST TO WINNETKA.

Niles Center, in projecting buttress near southeast corner of St. Peters Church, front face of stone water table; bronze tablet stamped "CHGO 663".....	623. 397
Shermerville, 0.75 mile south of, road crossing on half section line between sections 15 and 16, T. 42 N., R. 12 E.; iron post stamped "CHGO 650".....	650. 920
MORTON GROVE, WEST VIA DESPLAINES, TO SEC. 16, ELK GROVE TOWNSHIP; THENCE NORTH VIA ARLINGTON HEIGHTS, APTAKISIC, AND HALF DAY, TO SEC. 33, LIBERTY TOWNSHIP.	
Desplaines, southwest wing of north abutment of Chicago and Northwestern Railway bridge over Desplaines River, on southwest corner of lower step; chiseled cross.....	630. 908
Desplaines, stone foundation east side of town hall; bronze tablet stamped "CHGO 642".....	642. 881
Desplaines, 2.5 miles southwest of, at center of sec. 24, T. 41 N., R. 11 E., south of road at angle, 0.5 mile east of crossroads and 130 feet east of road to house of H. Beer, 0.6 foot north of fence and 2.5 feet east of north-south line fence; iron post stamped "666 ADJ 1905".....	665. 617
Desplaines, 5 miles west of NE. $\frac{1}{4}$ sec. 16, T. 41 N., R. 11 E., at southeast corner of cheese factory, south face of brickwork near foundation; bronze tablet stamped "716 ADJ 1905".....	715. 922
Arlington Heights, sec. 29, T. 42 N., R. 11 E., front face of stone water table of old high school building at southwest corner of front projection; bronze tablet stamped "704 ADJ 1905".....	703. 820
Arlington Heights, 3.5 miles north of, 0.25 mile east of northwest corner of sec. 8, T. 42 N., R. 11 E., at T road to south, at southwest corner of T on west side of road, 8.4 feet south of fence corner and 1 foot east of fence; iron post stamped "705 ADJ 1905".....	705. 137
Aptakisic, 0.5 mile south of, SE. $\frac{1}{4}$ sec. 28, T. 43 N., R. 11 E., 9 feet south of forks of road, west side of road, 15 feet east of wire fence; iron post stamped "682 ADJ 1905".....	681. 566
Aptakisic, crossing of Wisconsin Central Railway, top of southwest rail....	685. 4
Half Day, sec. 15, T. 43 N., R. 11 E., front face of northwest corner of foundation of school building; bronze tablet stamped "669 CHGO".....	667. 628
Half Day, sec. 15, T. 43 N., R. 11 E., at southwest corner of bridge over Indian Creek, top of stone abutment, 6 feet southwest of end of iron truss; aluminum tablet stamped "654 ADJ 1905".....	653. 640
Half Day, 2.5 miles north of, near southwest corner of sec. 34, T. 44 N., R. 11 E., 1,400 feet east of crossroads, south side of road, 9.7 feet west of southwest corner of iron truss of wagon bridge over Desplaines River; primary traverse post No. 13 stamped "651 ADJ 1905".....	650. 883

HALF DAY, EAST ALONG HIGHWAY, TO CROSSING OF CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY IN SEC. 17, WEST DEERFIELD TOWNSHIP; THENCE NORTH TO LAKE FOREST.

	Feet.
Highwood, 2 miles west of, SW. $\frac{1}{4}$; sec. 17, T. 43 N., R. 12 E., at road crossing, subway under Chicago, Milwaukee and St. Paul Railway, east face of stonework at northeast corner; bronze tablet ^a stamped "667 ADJ 1905".....	667. 017
Everett, sec. 7, T. 43 N., R. 12 E. in front of station; top of rail.....	680. 7
Everett, 1.5 miles north of, 0.2 mile west of southeast corner sec. 31, T. 44 N., R. 12 E., at southeast corner and on south side of road to east, 50 feet east of fence corner, 1 foot north of fence; iron post stamped "675 ADJ 1905".....	675. 139
Durpath, sec. 32, T. 44 N., R. 12 E., at crossing of Chicago and Northwestern Railway; top of rail.....	674. 1

WAUKEGAN QUADRANGLE.

SEC. 33, LIBERTY TOWNSHIP, NORTH VIA LIBERTYVILLE, TO ROSECRANS; THENCE EAST TO ZION CITY AND SOUTH TO LAKE FOREST.

Libertyville, 2 miles south of, NE. $\frac{1}{4}$, sec. 33, T. 44 N., R. 11 E, at crossing of Elgin, Joliet and Eastern Railway.....	673. 5
Libertyville, sec. 21, T. 44 N., R. 11 E., crossing of Chicago and Milwaukee Electric Railroad at station; top of rail.....	699. 0
Libertyville, sec. 16, T. 44 N., R. 11 E., at southeast corner of town hall, in stone foundation at east front 1.3 feet above ground; aluminum tablet stamped "698 ADJ 1905".....	698. 173
Libertyville, sec. 16, T. 44 N., R. 11 E., in front of Chicago, Milwaukee and St. Paul Railway station; top of rail.....	692. 4
Libertyville, 2 miles north of, 0.2 mile east of west quarter corner of sec. 4, T. 44 N., R. 11 E., opposite T road west, on east side of road, on line with east-west line fence, 1.2 feet west of north-south fence, 45 feet south of telegraph pole; iron post stamped "660 ADJ 1905".....	659. 431
Harris Corners, NW. $\frac{1}{4}$ sec. 32, T. 45 N., R. 11 E., southeast corner of T road south, on east side of road, 2.1 feet west of old fence line and 21 feet south of new east-west fence line; iron post stamped "766 ADJ 1905".....	765. 949
Grange Hall, east quarter corner of sec. 20, T. 45 N., R. 11 E., at northwest corner of crossroads, on north side of road inside of fence line, 1 foot north of fence and 4.2 feet west of fence corner, at southeast corner of school yard; iron post stamped "760 ADJ 1905".....	759. 773
Stearns School, 1 mile north of, east quarter corner of sec. 5, T. 45 N., R. 11 E., at northeast corner of crossroads, on north side of road, 40 feet east of fence corner, 1 foot south of fence; iron post stamped "720 ADJ 1905".....	719. 437
Rolls Corners, 1 mile west of, north quarter corner of sec. 29, T. 46 N., R. 11 E., at southeast corner of crossroads, east side of road, 20 feet south of fence corner, 1.2 feet west of fence; iron post stamped "713 ADJ 1905".....	762. 518
Rosecrans, center of sec. 16, T. 46 N., R. 11 E., at northwest corner of crossroads, on north side of road, 1 foot south of fence, 11 feet west of fence corner; iron post stamped "722 ADJ 1905".....	722. 230
Rosecrans, 1 mile east of, near center of sec. 15, T. 46 N., R. 11 E., at crossing of Chicago, Milwaukee and St. Paul Railway; top of rail.....	697. 8

^a The elevation of this bench mark is checked also by old line from Shermerville.

	Feet.
Eddy, 0.3 mile west of, east quarter corner of sec. 14, T. 46 N., R. 11 E., at southeast corner of crossroads, on east side of road, 8 feet south of fence corner; iron post stamped "701 ADJ 1905".....	700. 974
Eddy, 0.3 mile east of west quarter corner of sec. 13, T. 46 N., R. 11 E., at crossing of Chicago and Northwestern Railway; top of rail.....	695. 8
Zion City, 2 miles northwest of, 0.3 mile west of southeast corner of sec. 18, T. 46 N., R. 12 E., at northwest corner of crossroads, on north side of road (on bank), 2.3 feet south of old board fence, and 14.5 feet west of east line of fence; iron post stamped "714 ADJ 1905".....	713. 751
Zion City, sec. 21, T. 46 N., R. 12 E., at crossing of Chicago and Northwestern Railway; top of rail.....	630. 3
Zion City, southeast corner of sec. 21, T. 46 N., R. 12 E., southeast corner of crossroads at Lake Mound Cemetery, east side of road, 1 foot west of cemetery fence; iron post stamped "633 ADJ 1905".....	632. 519
Blanchard School, 0.2 mile west of southeast corner of sec. 4, T. 45 N., R. 12 E., at southwest corner of T road to west, south side of road, 1.2 feet north of fence, 9 feet west of fence corner; iron post stamped "647 ADJ 1905".....	646. 570
Waukegan, 0.3 mile west of east quarter corner of sec. 16, T. 45 N., R. 12 E., northwest corner of T road to west (Sheridan road and Glen Flora avenue); top of fire plug.....	642. 970
Waukegan, northeast corner of stone window sill, in east front of Lake County court-house; city bench mark (no marks).....	664. 115
Waukegan, sec. 21, T. 45 N., R. 12 E., Lake County court-house, in stone base of two columns, on north side of east entrance; aluminum tablet stamped "669 ADJ 1905".....	668. 387
North Chicago, northwest quarter of sec. 4, T. 44 N., R. 12 E., Eighteenth Street Station Chicago and Milwaukee Electric Railroad, in west abutment wall of Elgin, Joliet and Eastern Railway bridge over the Chicago and Northwestern Railway, the electric railroad, and the wagon road, in top of projection of bottom course of masonry, 4.2 feet north of south end of wall and 1.5 feet above pavement; aluminum tablet stamped "659 ADJ 1905".....	658. 935
Lake Bluff, sec. 20, T. 44 N., R. 12 E., Chicago and Northwestern Railway bridge over the wagon road and the Chicago and Milwaukee Electric Railroad, south of station, in top of stone foundation wall supporting iron column, between electric road (Libertyville branch) and wagon road, in top of wall, 3 feet northwest of southeast end; aluminum tablet stamped "671 ADJ 1905".....	670. 778
Lake Forest, sec. 33, T. 44 N., R. 12 E., at southeast corner of city hall grounds; iron post stamped "Prim. Trav. Post No. 12-713-ADJ-1905"	712. 913

Wheaton Quadrangle.

DUPAGE COUNTY.

The following elevations were determined by primary leveling connected with U. S. Engineer Corps bench marks at Bartlett and Roselle. The work was done in 1905 by R. C. Howard, under state cooperation, and the standard bench marks are stamped with the state name.

BARTLETT, SOUTH ALONG HIGHWAYS, TO WEST CHICAGO; THENCE EAST ALONG CHICAGO AND NORTHWESTERN RAILWAY, TO GLENELLYN; THENCE NORTH ALONG HIGHWAY AND CHICAGO GREAT WESTERN RAILWAY, TO ROSELLE.

Feet.

Bartlett, 150 meters northwest of station, 100 meters north of Chicago, Milwaukee and St. Paul Railway track, in stone foundation on east face at southeast corner of Congregational Church, copper bolt leaded horizontally; center of bolt (U. S. Engineer Corps B. M. 89).....	804. 055
T. 40 N., R. 9 E., near northeast corner of sec. 9, stone bridge over small stream, in southeast corner of east wall; aluminum tablet stamped "787 ILLINOIS 1905".....	787. 419
Ingaltan, 0.25 mile west of corner of secs. 27, 28, 33, and 34, T. 40 N., R. 9 E., Ingaltan schoolhouse, south wall at southwest corner; aluminum tablet stamped "795 ILLINOIS 1905".....	794. 837
West Chicago, in east wall of city hall, 2 feet from southeast corner; aluminum tablet stamped "784 ILLINOIS 1905".....	784. 078
Winfield, 150 feet east of station, 75 feet south of Chicago and Northwestern Railway, stone culvert at east side of road; aluminum tablet stamped "727 ILLINOIS 1905".....	726. 667
Wheaton, north side of west entrance to court-house; aluminum tablet stamped "753 ILLINOIS 1905".....	752. 878
Glenellyn, in north wall of high school, 6 feet west of entrance; aluminum tablet stamped "766 ILLINOIS 1905".....	766. 058
Bloomingtondale, in west wall of Kolbusch & Hauseminn store building, 35 feet south of north wall; aluminum tablet stamped "771 ILLINOIS 1905".....	771. 127
Roselle, on southeast corner of Chicago street and road crossing it, in north face of foundation wall of brick business building of Mathew Secker, standing about 80 meters north of track, 3 feet from northeast corner, copper bolt leaded horizontally 2 feet above ground; center of bolt (U. S. Engineer Corps P. B. M. 90).....	772. 156
GLENELLYN, SOUTH ALONG HIGHWAYS, TO LISLE; THENCE WEST AND NORTH VIA NAPERVILLE AND WARRENHURST, TO WEST CHICAGO.	
T. 39 N., R. 10 E., near southwest corner of NW. $\frac{1}{4}$ sec. 35, in west side of south abutment of small bridge; aluminum tablet stamped "697 ILLINOIS 1905".....	697. 502
Lisle, 0.2 mile west of, C., B. & Q. Railroad bridge over East Branch DuPage River, in east abutment at north side; aluminum tablet stamped "674 ILLINOIS 1905".....	674. 469
Naperville, in front of station, top of rail.....	715. 5
Naperville, Nicholas Library building at southeast corner Van Buren avenue and Washington street, in west wall at northwest corner; aluminum tablet stamped "693 ILLINOIS 1905".....	693. 310
T. 38 N., R. 9 E., near southeast corner of NE. $\frac{1}{4}$ sec. 16, in east abutment at north side of rock culvert; aluminum tablet stamped "697 ILLINOIS 1905".....	697. 311
Warrenhurst, 275 feet east of railway track, 50 feet north of road, in south wall of rock foundation of Daw Bros. house, 10 feet west of southeast corner; aluminum tablet stamped "732 ILLINOIS 1905".....	732. 328

AT ITASKA.

Itaska, 80 meters north of track of C., M. & St. P. Railway, northeast of station, in east foundation wall of frame store building of Dr. E. Smith; copper bolt leaded horizontally 2 feet from southeast corner; center of bolt (Army Engineers P. B. M. 91).....	699. 107
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St. Charles Quadrangle.

KANE COUNTY.

The following elevations were determined by primary leveling connected with the Engineer Corps precise-level line at Elgin and with primary leveling on Wheaton quadrangle. The work was done in 1907 by W. A. Gelbach, under the direction of H. Foster Bain, state geologist.

ELGIN, SOUTH ALONG ELECTRIC RAILWAY, TO ST. CHARLES; THENCE WEST TO STATE BOYS' HOME; THENCE EAST ALONG CHICAGO GREAT WESTERN RAILWAY, TO INGALTON.^a

	Feet.
Elgin, southwest corner of State street and Highland avenue, northeast corner of large brick building (Borden's condensed milk factory), 6 inches from corner in north wall; horizontal bolt in water table; bench mark 86 of precise-level line of U. S. Engineer Corps.....	717. 485
Kerber station, top of rail at crossing.....	734. 0
South Elgin, front of hotel; corner of curb.....	710. 292
South Elgin, southeast corner of crossing of electric railway and street crossing Fox River Bridge, 40 feet east of track, 15 feet north of road, in concrete post; aluminum tablet stamped "707 1907".....	707. 468
Coleman, 1.2 miles south of station, at Smith Young & Son's Riverview farm, 50 feet west of track, north side of road, in concrete post; aluminum tablet stamped "788 1907".....	788. 411
St. Charles, northeast corner of cemetery, on point of land between electric railway and wagon road, at junction, in concrete post; aluminum tablet stamped "787 1907".....	786. 976
St. Charles Home for Boys, in east part of farm, by fence at northeast corner of crossing, in concrete post; aluminum tablet stamped "742 1907"....	742. 024
St. Charles Home for Boys, in water table of east wall of schoolhouse, 3 feet from northeast corner; aluminum tablet stamped "802 1907".....	801. 819
St. Charles Home for Boys, opposite office, level with ground, 6 feet south of sidewalk, in concrete post; aluminum tablet stamped "794 1907"....	794. 223
St. Charles Home for Boys, northeast corner of farm, 4 feet west of corner fence post, in concrete post; aluminum tablet stamped "737 1907".....	737. 412
St. Charles, corner West Main and Weeks streets, northwest corner of crossing, in concrete post; aluminum tablet stamped "749 1907".....	749. 518
St. Charles, railway crossing just east of Chicago Great Western Railway station; top of north rail.....	730. 6
St. Charles, 2 miles east of, Chicago Great Western Railway crossing at east boundary line of Kane County, 80 feet north of track, on east side of road, in concrete post; aluminum tablet stamped "755 1907".....	755. 356

Hennepin, LaSalle, and Toluca Quadrangles.

BUREAU, LASALLE, AND PUTNAM COUNTIES.

Elevations determined by primary leveling connected with the Engineer Corps precise-level line along Illinois River. The work was done in 1908 by Henry Bücher, under state cooperation, and the standard bench marks are stamped with the state name.

^a The concrete posts mentioned in this list are 48 inches long, 6 inches square at top, and 8 inches square at bottom.

HENNEPIN QUADRANGLE.

NEAR GRANVILLE, VIA HENNEPIN, TO NEAR BUREAU.

	Feet.
Granville, about 2 miles west of, 0.12 mile west of quarter corner between secs. 7 and 8, T. 32 N., R. 1 W., at southeast corner of T road, on line of east-west fence, 13.7 feet east of north-south fence line; iron post stamped "Prim. Trav. Sta. No. 5 690".....	690. 677
Granville, about 4 miles west of, 0.25 mile west of quarter corner between secs. 11 and 12, T. 32 N., R. 2 W., southwest corner of crossroads, west of road, 14.6 feet south of fence corner, 1.1 feet east of fence; iron post stamped "556".....	555. 946
Hennepin, southeast corner of court-house grounds, 2.5 feet north of hitching rack; iron post stamped "Prim. Trav. Sta. No. 13 505".....	505. 407
Hennepin, on west bank of Illinois River, 90 feet north of road, near edge of water, in root of large cottonwood tree; railroad spike.....	443. 42
BUREAU, SOUTHWEST TO SOUTHWEST CORNER SEC. 29, T. 15 N., R. 9 E.; THENCE NORTH TO PRINCETON; THENCE NORTHEAST ALONG DOVER ROAD ABOUT 4 MILES; THENCE EAST TO SECOND CROSSING CHICAGO, BURLINGTON AND QUINCY RAILROAD.	
Hennepin, about 4 miles west of, SW $\frac{1}{4}$ sec. 25, T. 15 N., R. 9 E., in north-west angle of road, in fence line, in root of lone oak tree; nail.....	648. 93
Hennepin, about 4.5 miles west of, at quarter corner between secs. 26 and 35, T. 15 N., R. 9 E., northwest corner of school yard (district 174), opposite T road, 14 feet east of fence corner; iron post stamped "656".....	655. 744
Hennepin, about 5.5 miles west of, quarter corner between secs. 27 and 34, T. 15 N., R. 9 E., southwest corner of T road, at fence corner, in root on north side of hard-maple tree; nail.....	654. 86
Hennepin, about 7 miles west of, northeast corner of sec. 32, T. 15 N., R. 9 E., 350 feet east of T road, in top 1.8 feet from east end of north wall of concrete culvert; chiseled square.....	633. 34
Hennepin, about 8 miles west of, northeast corner of sec. 31, T. 15 N., R. 9 E., southeast corner of crossroads, south of road, on line of east-west fence; iron post stamped "Prim. Trav. Sta. No. 12 687".....	687. 351
Tiskilwa, SE. $\frac{1}{4}$ sec. 7, T. 15 N., R. 9 E., northeast corner of T road, 4.9 feet east of fence corner; iron post stamped "512".....	511. 536
Tiskilwa, 1.5 miles northeast of, near northwest corner of sec. 8, T. 15 N., R. 9 E., west of road, in yard of W. H. Bryant, 100 feet south of northeast fence corner in spread root 2.5 feet east of trunk of oak tree; nail...	639. 17
Princeton, 3 miles south of, center of sec. 32, T. 16 N., R. 9 E., at southeast corner of T road, on east side of road, 10 feet south of fence corner; iron post stamped "686".....	685. 645
Princeton, 2.5 miles south of, SE. $\frac{1}{4}$ sec. 29, T. 16 N., R. 9 E., near southwest corner of school yard on east side of T road, in root of maple tree; nail.....	696. 91
Princeton, in southeast corner of court-house grounds, 35.7 feet north of curb line around south edge of grounds (South street), 3.6 feet west of west edge of concrete walk along east side of grounds (Second street); iron post stamped "719".....	718. 767
Princeton, 1.5 miles northwest of, 0.1 mile west of quarter corner between secs. 3 and 10, T. 16 N., R. 9 E., northeast corner of crossroads, in Meyers (?) school yard; iron post stamped "735".....	735. 452
Princeton, about 2.5 miles northwest of, 0.25 mile east of northwest corner of sec. 2, T. 16 N., R. 9 E., at northeast corner of crossroads, in field, in root at southwest side of lone soft-maple tree; nail.....	730. 77

Dover, 2 miles south of, at township corner, T. 16 and 17 N., Rs. 9 and 10 E., southeast corner of crossroads, east of road, 25 feet south of fence corner, 1 foot west of fence; iron post stamped "715"	Feet. 714. 827
Malden, 1 mile south of, corner of secs. 5 and 6, T. 16 N., and secs. 31 and 32, T. 17 N., R. 10 E., southwest corner of T road, in field, in north side in root of large soft-maple tree nearest to fence corner; nail	698. 84
Malden, about 2.25 miles east of, at quarter corner, on northern boundary of sec. 3, T. 16 N., R. 10 E., southeast of junction of two T roads, 25 feet east of fence corner, 1 foot north of fence; iron post stamped "728"	727. 546
Seatonville, about 3 miles north of, at township corner, Ts. 16 and 17 N., Rs. 10 and 11 E., north side of T road, 26 feet west of fence corner opposite T, 1.2 feet south of fence; iron post stamped "687"	686. 699
Ladd, 2.5 miles northwest of, northeast corner of sec. 6, T. 16 N., R. 11 E., southwest corner of crossroads, in school yard, near fence corner, in root on northwest side of large soft-maple tree; nail	678. 75
PRINCETON, NORTHWEST AND NORTH ABOUT 8 MILES; THENCE EAST VIA LIMERICK, TO PRINCE SCHOOL.	
Princeton, about 1.5 miles north of, near quarter corner between secs. 4 and 5, T. 16 N., R. 9 E., 50 feet north of Y road, in field on east side of road, in top of concrete wall; chiseled square; marked "671.8"	671. 78
Princeton, about 3 miles northwest of, at quarter corner between secs. 29 and 32, T. 17 N., R. 9 E., southwest corner of Y road, south of road, 39 feet west of fence corner, 1.3 feet north of fence; iron post stamped "669"	669. 224
Princeton, about 4.5 miles northwest of, west of quarter corner between secs. 18 and 19, T. 17 N., R. 9 E., northwest corner of Y road, north of road, 12.5 feet west of fence corner, 1 foot south of fence; iron post stamped "693"	692. 539
Limerick, about 2 miles southwest of, quarter corner between secs. 6 and 7, T. 17 N., R. 9 E., southwest corner of crossroads, in root on northwest side of soft-maple tree 18 inches in diameter; nail marked "G. S. B. M. 717.8"	717. 80
Limerick, 2 miles west of, at north quarter corner of sec. 6, T. 17 N., R. 9 E., southeast corner of T road, 1.9 feet northwest of corner fence post; iron post stamped "Prim. Trav. Sta. No. 10 740"	739. 661
Limerick, 0.25 mile east of northwest corner of sec. 4, T. 17 N., R. 9 E., at crossroads, 20 feet east of fence corner, south of road, in yard, in root on northwest side of 30-inch soft-maple tree; nail marked "733.3"	733. 41
Limerick, about 2 miles east of, at northwest corner of sec. 2, T. 17 N., R. 9 E., at northwest corner of crossroads, north of road, 26 feet west of large soft-maple tree at fence corner, 0.7 foot south of fence; iron post stamped "736"	735. 987
Dover, 4 miles north of, at township corner, Ts. 17 and 18 N., Rs. 9 and 10 E., at T road, west of road, in field, in root on east side of oak tree 26 inches in diameter; nail marked "G. S. B. M. 738.2"	738. 33
Malden, 5 miles north of, at northwest corner of sec. 5, T. 17 N., R. 10 E., at southeast corner of crossroads, 1.3 feet northwest of fence corner; iron post stamped "Prim. Trav. Sta. No. 9 749"	748. 858
Arlington, about 2.5 miles northwest of, just east of northwest corner of sec. 1, T. 17 N., R. 10 E., at southwest corner of crossroads, south of road, 11.6 feet west of fence corner, 2.3 feet north of fence; iron post stamped (by mistake) "726"	767. 218
Arlington, about 2 miles northwest of, near northwest corner of sec. 6, T. 17 N., R. 11 E., 5 feet from west end of north wall of concrete culvert; chiseled square	764. 02

INTERSECTION OF TOWNSHIP LINE WITH PRINCETON-DOVER ROAD, NORTH TO CHICAGO, BURLINGTON AND QUINCY RAILROAD.

	Feet.
Princeton, about 3 miles northeast of, at quarter corner between secs. 26 and 27, T. 17 N., R. 9 E., northwest corner of crossroads, in house yard, in root on southeast side of 16-inch hard maple (tree nearest fence corner); nail marked "698.5".....	698.39
T. 17 N., R. 9 E., sec. 23, center of triangle at Y road, in root on southwest side of 18-inch ash tree; nail marked "708.9".....	708.83
Limerick, 2 miles southeast of, corner of secs. 2, 3, 10, and 11, T. 17 N., R. 9 E., northeast corner of crossroads, west side of school yard, in root on west side of 24-inch elm (tree nearest to southwest corner of yard); nail marked "721.9".....	721.75

LASALLE QUADRANGLE.

NORTHWEST CORNER SEC. 5, T. 16 N., R. 11 E., EAST ALONG HIGHWAY 12 MILES; THENCE SOUTH VIA UTICA, TO LOWELL; THENCE WEST VIA TICONA,^a TO NEAR GRANVILLE.

Ladd, 2 miles northwest of, corner of secs. 4 and 5, T. 16 N., and secs. 32 and 33, T. 17 N., R. 11 E., at crossroads, at northeast corner of iron bridge over Negro Creek, on top of concrete abutment; chiseled square marked "653.7".....	653.64
Ladd, 1.8 miles north of, corner of secs. 3 and 4, T. 16 N., and secs. 33 and 34, T. 17 N., R. 11 E., north of road, 54 feet west of fence corner at northwest corner of junction of two T roads, 1.3 feet south of fence; iron post stamped "675".....	674.808
Ladd, about 2.5 miles northeast of, at northeast corner of sec. 1, T. 16 N., R. 11 E., northwest corner of T road, 12.5 feet west of fence corner, 1.1 feet south of fence; iron post stamped "663".....	663.265
T. 34 N., R. 1 E., 0.6 mile west of corner of secs. 17, 18, 19, and 20, at northeast corner of small iron bridge over Spring Creek, on top of stone abutment, 2.5 feet southwest of northeast corner and 0.4 foot from west edge; chiseled square.....	640.68
Dimmick, about 2 miles south of, at corner of secs. 15, 16, 21, and 22, T. 34 N., R. 1 E., at northwest corner of crossroads, in southeast corner of Center school yard (district 175), 17 feet west of fence corner, 1.2 feet north of fence; iron post stamped "659".....	658.869
Dimmick, 2.5 miles southeast of, east of corner of secs. 14, 15, 22, and 23, T. 34 N., R. 1 E., northeast corner of iron bridge over Vermilion River, on top of east end of wing wall; chiseled square marked "G.S.B.M.".....	599.90
Dimmick, 3.5 miles southeast of, 0.16 mile east of corner of secs. 13, 14, 23, and 24, T. 34 N., R. 1 E., south end of east concrete abutment to bridge over Tomahawk Creek, on top of bridge seat, 0.7 foot south of south edge of truss, 0.7 foot east of west edge of abutment; chiseled square marked "613".....	612.78
T. 34 N., R. 2 E., near corner of secs. 17, 18, 19, and 20, 100 feet east of crossroads, in yard on south side of road, in root on northeast side of 24-inch poplar tree; nail.....	683.58
Utica, about 5 miles north of, at corner of secs. 16, 17, 20, and 21, T. 34 N., R. 2 E., southeast corner of crossroads, south of road, 3.5 feet east of fence corner, 0.9 foot north of fence; iron post stamped "640".....	640.095
Utica, 3.5 miles north of, 0.25 mile south of corner of secs. 20, 21, 28, and 29, T. 34 N., R. 2 E., on top of concrete abutment at southwest corner of bridge over Pecumsaugum Creek; chiseled square.....	595.91

^a For Ticona, see Toluca quadrangle, p. 34.

	Feet.
Utica, 1.25 miles north of, at quarter corner between secs. 4 and 5, T. 33 N., R. 2 E., at northwest corner of crossroads, on line of east-west fence, 3.7 feet east of fence corner; iron post stamped "Prim. Trav. Sta. No. 8 Elev. 619".....	619. 081
Utica, 0.3 mile north of, west of east quarter corner of sec. 8, T. 33 N., R. 2 E., west of Y road, on top of masonry abutment near northeast corner of small bridge; chiseled square marked "496.8".....	496. 63
Utica, about 1 mile south of, on top of northeast end stone of lowest stepped course below bridge seat of east wing wall of north stone abutment of Utica Bridge over Illinois River; chiseled square marked "U. S.".....	454. 645
Utica Bridge over Illinois River, 1.3 miles west of, SE. $\frac{1}{4}$ sec. 18, T. 33 N., R. 2 E., near junction of river road and road to Utica, 2.33 feet west of east fence of north-south road, 66.7 feet north of center of wagon track of river road, 61.5 feet north of junction of above-mentioned fence with north fence of river road, 16.5 feet north of small box-elder tree; stone and pipe cap { bolt in stone { cap { cap	451. 421 455. 376
Utica, 1 mile south of, in top of concrete cap of first pier south of north end of wagon bridge over Illinois River; aluminum tablet stamped "468"....	467. 707
Clayton School, quarter corner between secs. 32 and 33, T. 33 N., R. 2 E., in southwest corner of school yard (district 169), opposite center of T road, 7.8 feet east of old fence corner, 1.1 feet north of old fence; iron post stamped "651".....	650. 559
Utica, 5 miles south of, quarter corner between secs. 4 and 5, T. 32 N., R. 2 E., at lane to east and road angle to southwest, in center of triangle, in root on northwest side of 18-inch hickory tree; nail (mark "647.3").....	647. 33
Lowell, 0.5 mile north of, SE. $\frac{1}{4}$ sec. 8, T. 32 N., R. 2 E., in top of southeast corner of concrete wing wall of iron bridge over Vermilion River, 0.8 foot southeast of north edge and 0.1 foot west of east edge; chiseled square.....	533. 84
Lowell, 0.25 mile south of, 0.25 mile south of corner of secs. 8, 9, 16, and 17, T. 32 N., R. 2 E., at northwest corner of crossroads, 1.5 feet east of fence line, 1.8 feet south of fence line, 1.8 feet southeast of fence corner; iron post stamped "Prim. Trav. Sta. No. 7 Elev. 632".....	631. 623
Lowell, 0.8 mile southwest of, near center of sec. 17, T. 32 N., R. 2 E., 100 feet northeast of T road, in top of stone abutment at southeast corner of iron bridge; chiseled square marked "636.5".....	636. 65
Oglesby, 3 miles south of, 0.13 miles west of corner of secs. 11, 12, 13, and 14, T. 32 N., R. 1 E., 100 feet west of Illinois Central Railroad track, south of highway, 10 feet east of small wild-cherry tree, 0.8 foot north of fence; iron post stamped "665".....	665. 334
Lowell, 4.5 miles west of, quarter corner between secs. 10 and 15, T. 32 N., R. 1 E., at northeast corner of T road, in yard, in root on west side of 19-inch box-elder tree near fence corner; nail (mark on fence "669.0").....	669. 22
Peru, 5 miles south of, northwest corner of sec. 16, T. 32 N., R. 1 E., southeast corner of crossroads, east of road, 1.8 feet south of fence corner, 1.4 feet west of fence; iron post stamped "Prim. Trav. Sta. No. 6 668".....	668. 487
Oglesby, 5 miles southwest of, corner of secs. 7, 8, 17, and 18, T. 32 N., R. 1 E., 150 feet west of crossroads, south of road, in root on north side of large branching elm tree; nail (marked "G.S.B.M.").....	679. 14
Granville, 3.5 miles west of, at quarter corner east side of sec. 12, T. 32 N., R. 1 W., at T road, south of road, 20 feet west of fence corner, 1 foot north of fence; iron post stamped "679".....	679. 431

	Feet.
Standard, at southeast corner of crossroads, at quarter corner between secs. 11 and 12, T. 32 N., R. 1 W., in front of E. W. Berta's saloon, 0.1 foot east of curb edge and on line with north line of saloon building, on concrete pavement; chiseled square marked "684.1".....	684.12
Granville, southeast corner of, quarter corner between secs. 9 and 10, T. 32 N., R. 1 W., at crossroads and Chicago, Milwaukee and St. Paul Railway crossing, just north of grain elevator and foundry and machine shops, north of road, 22 feet west of fence corner, 1 foot south of fence; iron post stamped "688".....	688.060
Granville, east of main north-south street, east of center of sec. 9, T. 32 N., R. 1 W., south of road, in field, in root on west side of 24-inch maple tree; nail (mark "689.8").....	689.80
Granville, 1 mile west of, 0.25 mile west of quarter corner between secs. 8 and 9, T. 32 N., R. 1 W., southwest corner of T road, in house yard near fence corner, in root on northwest side of 13-inch ash tree; nail (mark on fence "717.0").....	717.12

PRICE SCHOOL, EAST TO TRIUMPH; THENCE SOUTH TO 5 MILES NORTH OF UTICA.

Price School, northwest corner of sec. 4, T. 17 N., R. 11 E., southeast corner of crossroads, road by schoolhouse; iron post stamped "776" Prim. Trav. Sta. No. 3	775.354
Arlington, about 4.5 miles northeast of, northwest corner of sec. 1, T. 17 N., R. 11 E., southwest corner of T road, south of road, 22.4 feet west of fence corner, 1.4 feet north of fence; iron post stamped "722".....	721.402
T. 35 N., R. 1 E., northeast corner of sec. 20, northwest corner of crossroads, 7 feet west of hedge corner, 2 feet south of hedge, 2.6 feet west of telephone pole; iron post stamped "Prim. Trav. Sta. No. 2 Elev. 703".....	707.709
T. 35 N., R. 1 E., 0.25 mile west of center of sec. 23, southwest corner of crossroads, 1 foot south of north end of concrete step at entrance on east side of Christian Church, 1 foot east of building; aluminum tablet stamped "684".....	684.340
T. 35 N., R. 1 E., center of sec. 24, 180 feet east of T road, in top of concrete wing wall near west edge of abutment at southwest corner of small iron bridge; chiseled square marked "650.2".....	650.15
Triumph, in concrete walk at northwest corner of First National Bank, 0.5 foot west of building and 0.8 foot south of north edge of building; aluminum tablet stamped "Prim. Trav. Sta. No. 1, Elev. 670".....	670.601
T. 35 N., R. 2 E., northwest corner of sec. 28, southeast corner of crossroads, in root on south side of 31-inch cottonwood tree; nail (marked "657.0")..	656.99
T. 34 N., R. 2 E., northeast corner of sec. 5, southwest corner of junction of two T roads, south of road, 9.5 feet west of fence corner, 1.1 feet north of fence; iron post stamped "673".....	672.676
Dimmick, 4½ miles east of, quarter corner between sec. 4 and 5, T. 34 N., R. 2 E., southwest corner of crossroads, in root on north side of 47-inch cottonwood tree; nail (mark "706.5").....	706.50
Utica, about 5 miles north of, at northeast corner of sec. 20, T. 34 N., R. 2 E., southwest corner of crossroads, on top of concrete culvert; chiseled square.....	640.10

FOUR CORNERS AT NEGRO CREEK, NORTH VIA ARLINGTON, TO PRICE SCHOOL.

Ladd, 2 miles northwest of, corner of secs. 4 and 5, T. 16 N., and secs. 32 and 33, T. 17 N., R. 11 E., on abutment of bridge over Negro Creek; chiseled square.....	653.64
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	Feet.
Arlington, 2 miles southeast of, quarter corner between secs. 20 and 21, T. 17 N., R. 11 E., at north side of crossroads, at southeast corner of small iron bridge, on I beam embedded in edge of small concrete abutment; chiseled cross marked "685.7".....	685. 53
Arlington, 1 mile southeast of, quarter corner between secs. 16 and 17, T. 17 N., R. 11 E., southwest corner of crossroads, south of road, 22 feet west of fence corner, 1.2 feet north of fence; iron post stamped "724".....	723. 522

PERU, SOUTH TO CEDAR POINT.

Peru, at foot of Marion street, in top of bridge seat course of pier at north end of draw span of highway bridge over Illinois River, 1.3 feet from north face and 1.25 feet from west end of pier; top of copper bolt marked "U. S. Ⓞ P. B. M." (U. S. Engineer Corps bench mark).....	458. 954
Peru, 1 mile south of, near southeast corner of sec. 20, T. 33 N., R. 1 E., on top near northeast corner of first course of masonry below bridge seat of abutment at southeast corner of iron bridge over slough; chiseled square.....	458. 33
Peru, about 3 miles south of, at center of sec. 32, T. 33 N., R. 1 E., northwest corner of T road, west of road, 1.2 feet east of fence, 32 feet north of east-west fence line on north side of road; iron post stamped "645"....	645. 433
Peru, 4 miles south of, near east quarter corner of sec. 5, T. 32 N., R. 1 E., on top of masonry abutment near northwest corner of small iron bridge; chiseled square.....	625. 29

TOLUCA QUADRANGLE.

LOWELL TO TICONA, THENCE NORTHWEST.

Ticona station, SW. $\frac{1}{4}$ sec. 24, T. 32 N., R. 1 E., at road crossing on Chicago, Burlington and Quincy Railroad, southeast side of road, 95 feet northeast of center of track, 11 feet northeast of old fence corner, 1 foot northwest of old fence, 22.5 feet northeast of telephone pole; iron post stamped "645".....	645. 040
T. 32 N., R. 1 E., quarter corner between secs. 13 and 24, east of T road, inside fence, at north edge of woods, in root on west side of 25-inch oak (the nearest to gate and farthest north); nail (mark on fence "660.5")....	660. 64

Peoria Quadrangle.

PEORIA AND TAZEWELL COUNTIES.

The following elevations were determined by primary leveling connected with the Engineer Corps precise-level line along Illinois River. Bench marks of this list were recovered at Pekin and Mackinaw Bridge. The field work was extended from a gage bench mark at Peoria, for which an approximate elevation was then used. The work was done in 1902 by Carleton McRae.

PEORIA, WEST ALONG FARMINGTON ROAD 7 MILES; THENCE SOUTH 5 MILES.

	Feet.
Peoria, at foot of Bridge street; water gage (gage mark reading 130 feet below Lake Michigan).....	451. 42
Peoria, Bradley Polytechnic Institute, in west side of building; aluminum tablet stamped "607 PEORIA".....	607. 599

Peoria, 7 miles west of, North Limestone M. E. Church at crossroads, in middle of west foundation; bronze tablet stamped "708 PEORIA".....	Feet. 708. 733
Hollis Township, on line between sections 4 and 5, 200 yards west of north-south road, 300 yards north of T road to east, in northwest corner of foundation of C. F. Goetze house; aluminum tablet stamped "622 PEORIA".	622. 712

PEORIA, TO POINT 2.5 MILES EAST OF UPPER FREE BRIDGE; THENCE SOUTH TO FARMDALE.

Peoria, 6.25 miles northeast of, 2.5 miles east of Free Bridge, at house of J. Grosenbach, east side of foundation of water tank; bronze tablet stamped "693 PEORIA".....	693. 804
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FARMDALE, SOUTH TO GROVELAND.

Groveland, southwest corner of Baptist Church; aluminum (?) tablet stamped "778 PEORIA".....	778. 768
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HOLLIS SCHOOL NO. 4, SOUTH TO MAPLETON; THENCE EAST TO PEKIN.

Mapleton, 2 miles east of, in east wing of south abutment of steel wagon bridge over Lamarsh Creek; cross.....	455. 39
Pekin, in court-house grounds, catch basin at northeast corner of county clerk's office; aluminum (?) tablet stamped "478 PEORIA" (elevation by U. S. Engineer Corps 485.973, Memphis datum).....	479. 081

PEKIN, SOUTHWEST ALONG RIVER ROAD, TO MACKINAW RIVER BRIDGE; THENCE EAST TO NEAR HAWLEY.

Mackinaw River Bridge (iron), on south wing of west abutment; aluminum tablet (?) stamped "453 PEORIA" (elevation by U. S. Engineer Corps 461.205, Memphis datum).....	454. 313
Hawley, 0.65 mile east of station, on southeast wing of abutment of wagon bridge over north-south road; aluminum tablet stamped "513 PEORIA".	513. 202

HAWLEY, NORTHEAST TO GROVELAND.

Hawley, 1 mile south and 0.5 mile east of, iron bridge over small branch, in south wing of east abutment; aluminum tablet stamped "511 PEORIA".	511. 579
Groveland, 6 miles south of, 1.5 miles west of Tremont, wagon bridge on east-west road, on north wing of east abutment; aluminum tablet stamped "611 PEORIA".....	612. 185

Mahomet and Urbana Quadrangles.

CHAMPAIGN AND PIATT COUNTIES.

The following elevations were determined by primary leveling connected with the precise-level line which crosses these quadrangles. The work was done in 1905 by R. C. Howard, under state cooperation, and the standard bench marks are stamped with the state name.

URBANA QUADRANGLE.

URBANA, ALONG HIGHWAY, SOUTH AND EAST TO PHILO.

Urbana, University of Illinois, near southeast corner of Engineer Hall; iron post stamped "Prim. Trav. Sta. No. 1".....	Feet. 721. 103
Champaign, 4 miles south of, northwest corner sec. 6, T. 18 N., R. 9 E., southeast angle of crossroads; iron post stamped "717 ILLINOIS 1905".....	717. 926

	Feet.
Philo, 3 miles west of, southwest corner sec. 17, T. 18 N., R. 9 E., north side of east abutment of bridge; aluminum tablet stamped "680 ILLINOIS 1905".....	680. 345
Philo, Philo Exchange Bank, east side water table, 12 feet south of wall; aluminum tablet stamped "737 ILLINOIS 1905".....	736. 833

PHILO, EAST AND NORTH ALONG HIGHWAY, TO ST. JOSEPH; THENCE WEST TO URBANA.

Sidney, at southwest corner of high school, on south side; aluminum tablet stamped "673 ILLINOIS 1905".....	672. 576
St. Joseph, 3 miles southwest of, 0.25 mile east of corner secs. 27, 28, 33, and 34, T. 19 N., R. 10 E., west side of south abutment of iron bridge over Salt River; aluminum tablet stamped "655 ILLINOIS 1905".....	655. 104
St. Joseph, 0.6 mile west of, northeast corner sec. 15, T. 19 N., R. 10 E., north side of west abutment of bridge over Salt River; aluminum tablet stamped "663 ILLINOIS 1905".....	662. 702
Mayview, 0.1 mile east of station, southwest corner of sec. 8, T. 19 N., R. 10 E., southwest corner intersection road, west side of concrete right-of-way post marked "P. & E. property line;" aluminum tablet stamped "681 ILLINOIS 1905".....	680. 715
Mayview, in front of station; top of north rail.....	686. 0

ST. JOSEPH, NORTH ALONG HIGHWAY, TO SEC. 2, T. 20 N., R. 10 E.; THENCE WEST ALONG TOWNSHIP LINE, TO SEC. 6, T. 20 N., R. 9 E.; THENCE SOUTH TO CHAMPAIGN.

St. Joseph, 4.5 miles north of, near center of line between secs. 22 and 23, T. 20 N.; R. 10 E., west of road, in south wall of brick foundation of B. F. Youman's house; aluminum tablet stamped "676 ILLINOIS 1905".....	676. 013
St. Joseph, 6.7 miles north of, 0.25 mile south of corner of secs. 2, 3, 10, and 11, T. 20 N., R. 10 E., east of road, Henry Dintzman's house, at south side of brick foundation; aluminum tablet stamped "677 ILLINOIS 1905".....	677. 446
Flatville, 1.3 miles southwest of, southwest corner of sec. 32, T. 21 N., R. 10 E., at west side of north abutment of bridge; aluminum tablet stamped "688 ILLINOIS 1905".....	687. 569
Thomasboro, 3 miles southwest of, northwest corner sec. 6, T. 20 N., R. 9 E., north of road, at south side of J. W. James's house, in brick foundation; aluminum tablet stamped "748 ILLINOIS 1905".....	748. 187
Leverett, 1.5 miles west of, 0.5 mile south of northwest corner of sec. 18, T. 20 N., R. 9 E., on west side of north abutment of bridge; aluminum tablet stamped "728 ILLINOIS 1905".....	727. 746

MAHOMET QUADRANGLE.

NEAR CHAMPAIGN, WEST ALONG ILLINOIS CENTRAL RAILROAD, TO NEAR SEYMOUR; THENCE SOUTH ALONG HIGHWAYS, TO SEC. 7, T. 18 N., R. 7 E.; THENCE EAST TO SEC. 12, T. 18 N., R. 8 E.

Staley, in front of station; top of north rail.....	740. 6
Staley, southwest corner sec. 9, T. 19 N., R. 8 E., northeast corner of cross-roads; iron post stamped "734 ILLINOIS 1905".....	734. 425
Bondville, in front of station; top of north rail.....	716. 2
Bondville, 300 feet east of station, 50 feet north of track; iron post stamped "717 ILLINOIS 1905".....	716. 738
Seymour, in front of station; top of north rail.....	699. 0
Seymour, 100 feet west of station, north side of right of way; iron post stamped "698 ILLINOIS 1905".....	697. 650
Seymour, 2 miles southwest of, at southwest corner sec. 18, T. 19 N., R. 7 E., north of road; iron post stamped "707 ILLINOIS 1905".....	707. 015

	Feet.
Blue Mound, 1.5 miles north of, southwest corner sec. 31, T. 19 N., R. 7 E., in southwest corner at T road to south; iron post stamped "708 ILLINOIS 1905".....	708. 339
Blue Mound, 0.5 mile south of, at southwest corner sec. 7, T. 18 N., R. 7 E., northwest corner of crossroads; iron post stamped "702 ILLINOIS 1905".....	702. 240
Blue Mound, 3 miles east of, at southwest corner sec. 10, T. 18 N., R. 7 E., at northeast angle of crossroads; iron post stamped "692 ILLINOIS 1905".....	691. 892
Fisher School, 3 miles west of, at southwest corner sec. 7, T. 18 N., Rs. 7 and 8 E., southwest corner of crossroads; iron post stamped "690 ILLINOIS 1905".....	690. 339
Fisher School, southwest corner sec. 10, T. 18 N., R. 8 E., northeast corner of crossroads, southwest corner school yard; iron post stamped "728 ILLINOIS 1905".....	728. 474

MAHOMET, EAST ALONG HIGHWAY, TO SEC. 7, T. 20 N., R. 9 E.

Mahomet, 230 feet west of station, 15 feet north of track; iron post.....	712. 170
Mahomet, 2.5 miles east of, 0.25 mile south of northeast corner of sec. 13, T. 20 N., R. 7 E., north of road; iron post stamped "747 ILLINOIS 1905".....	747. 206
Mahomet, 5.5 miles east of, at southwest corner of sec. 10, T. 20 N., R. 8 E., northeast corner of crossroads; iron post stamped "772 ILLINOIS 1905".....	772. 516

Danville Quadrangle.

VERMILION COUNTY.

The following elevations were determined by primary leveling connected at Catlin by a spur line of the precise-level net. The leveling extended originally from Danville, and the values formerly published were found to be 1.027 feet too great. The work was done in 1897 by John L. McCalman.

	Feet.
Danville Junction, in front of station, railroad crossing; top of rail.....	612. 4
Danville, in front of Chicago and Eastern Illinois Railroad station; top of rail.....	597. 1
Danville, in front of Wabash Railroad station; top of rail.....	597. 7
Danville, in front of Big Four Railway station; top of rail.....	604. 2
Danville, post-office building, east face of north balustrade, 1.5 feet above sidewalk; bronze tablet stamped "DNVL 603".....	601. 499
Danville, just south of step to west entrance of court-house, second course above sidewalk; bronze tablet stamped "DNVL 604".....	602. 769
Westville, southwest corner of sec. 5, T. 18 N., R. 11 W.; iron post stamped "DNVL 672".....	671. 063
Grape Creek, 1 mile north of, in north half of sec. 27, T. 19 N., R. 11 W.; floor of bridge over Vermilion River on Grape Creek road.....	532. 4
Catlin, near center of sec. 34, T. 19 N., R. 12 W.; iron post stamped "DNVL 658".....	657. 396
State Line, quarter corner at east side of sec. 18, T. 20 N., R. 10 W.; iron post stamped "DNVL 720".....	718. 917

State Line, 2 miles northwest of, northeast corner of sec. 11, T. 20 N., R. 11 W.; rock at section corner.....	Feet. 698. 2
Newell, 1 mile west of, quarter corner at north side of sec. 17, T. 20 N., R. 11 W.; iron post stamped "DNVL 655".....	654. 084
Hillery, 1.2 miles north of, at southwest corner of sec. 35, T. 20 N., R. 12 W.; iron post stamped "DNVL 649".....	648. 033

Beardstown, Havana, Petersburg, Saidora, Springfield, and Tallula Quadrangles.

CASS, MASON, MENARD, AND SANGAMON COUNTIES.

The following elevations were determined by primary leveling connected with the Engineer Corps precise-level line along Illinois River.

The work was done as follows: In 1905 in Havana, Saidora, Petersburg, and Springfield quadrangles by R. C. Howard, and in 1906 in Springfield and Tallula quadrangles by Henry Bücher, under the United States Geological Survey; and in 1908 in Beardstown, Saidora, Petersburg, and Springfield quadrangles by P. E. Fletcher, resident engineer of the state Geological Survey. The leveling by Mr. Fletcher was done under the direction of H. Foster Bain, state geologist of Illinois. The leveling done by Messrs. Howard and Bücher was under state cooperation, and the standard bench marks established by them are stamped with the state name.

BEARDSTOWN QUADRANGLE.

BEARDSTOWN, EAST ALONG HIGHWAYS ABOUT 12.7 MILES.

	Feet.
Beardstown, east corner of Main and Washington streets, in top of stone step at main entrance to Odd Fellows Building, 0.5 foot from front edge and 1.4 feet north of south edge; copper bolt No. 26 marked "451.27".....	444. 351
Beardstown, 2 miles northeast of, at southeast corner of Louis Cemetery lot; on stone post.....	454. 80
Beardstown, 5.1 miles northeast of, on land of Ed. Davis, on south side of road, in root on north side of 30-inch cottonwood tree; boat spike (bench mark 130).....	450. 73
T. 18 N., R. 11 W., NW. $\frac{1}{4}$ NE. $\frac{1}{4}$ sec. 16, at east entrance to brick school-house; on northeast corner of stone step.....	477. 42
T. 18 N., R. 11 W., at northeast corner of sec. 9; concrete post.....	443. 17
Beardstown, 10.1 miles northeast of, sec. 12, T. 18 N., R. 11 W., north of highway, in southeast corner of front yard of A. H. Krohe's farmhouse, 57.8 feet southeast of southeast corner of house; stone, pipe, and cap No. 29.....	477. 957

HAVANA QUADRANGLE.

AT HAVANA.

Havana, iron highway bridge over Illinois River, on top of south end 3 feet from west side of east pier; top of copper bolt (U. S. Engineer Corps bench mark).....	451. 360
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SAIDORA QUADRANGLE.

HAVANA, SOUTH ALONG CHICAGO, PEORIA AND ST. LOUIS RAILWAY, TO KILBOURNE (DOUBLE-RODDED LINE).

Long Branch, 255 feet south of engine room of grain elevator, in west wall, 5.4 feet north of south wall, 4.6 feet south of north wall, 5.5 feet above ground; aluminum tablet stamped "498 ADJ 1905".....	Feet. 491. 281
Kilbourne, in front of station, main line; top of east rail.....	494. 0
Kilbourne, McFadden's elevator, in north side of northwest foundation pillar; aluminum tablet stamped "502 ADJ 1905".....	495. 565

POINT 12.7 MILES EAST OF BEARDSTOWN, EAST ALONG HIGHWAYS, TO POINT 10.98 MILES EAST OF CHANDLERVILLE.

T. 18 N., R. 10 W., near southwest corner of NE. $\frac{1}{4}$ sec. 9, at intersection of east line of sec. 9 with Beardstown-Chandlerville road, 2 feet west of Angus Taylor, jr., mail box, in 6-inch concrete post; aluminum tablet.....	504. 245
T. 18 N., R. 10 W., sec. 10, on southeast side of road at Robert Fielding's farmhouse, in northeast corner of front yard, 97 feet north of northeast corner of house, stone, pipe, and cap No. 30; top of cap (U. S. Engineer Corps bench mark).....	488. 496
Chandlerville, on north side of River street, in back yard of Mrs. S. L. B. Chandler's residence, 26.75 feet east of center of track, 2.2 feet east of east right-of-way fence, 149 feet north of north fence of River street, 95 feet from northwest corner of the square upright part of Mrs. Chandler's resi- dence, 79 feet north and 52.2 feet west of corner, stone, pipe, and cap; top of cap (U. S. Engineer Corps bench mark 31).....	463. 753
T. 19 N., R. 9 W., near northeast corner of SE. $\frac{1}{4}$ SE. $\frac{1}{4}$ sec. 33, in front of J. A. Harbinson's residence; on north root of 30-inch black-oak tree....	502. 12
T. 19 N., R. 9 W., near southwest corner of SW. $\frac{1}{4}$ NW. $\frac{1}{4}$ sec. 36, in top of concrete post; aluminum tablet.....	496. 807
T. 19 N., R. 8 W., northeast corner of NW. $\frac{1}{4}$ sec. 29, at southwest corner of intersection of crossroads, in top of 6-inch concrete post; aluminum tablet.....	483. 616
T. 19 N., R. 8 W., 300 feet west of and 300 feet south of northeast corner of SE. $\frac{1}{4}$ SW. $\frac{1}{4}$ sec. 15, at west base of 12-inch black-oak tree; bench mark..	498. 353

PETERSBURG QUADRANGLE.

KILBOURNE, SOUTHEAST ALONG CHICAGO, PEORIA AND ST. LOUIS RAILWAY, TO PETERSBURG (DOUBLE-RODDED LINE).

Atterberry, W. C. Koppelen's grain elevator, northwest corner of rock foundation; aluminum tablet stamped "609 ADJ 1905".....	601. 764
Hilltop, in front of station, main line; top of east rail.....	603. 0
Petersburg, in front of station; top of east rail.....	505. 5
Petersburg, 2 feet east of entrance to Menard County court-house in north wall, 4 feet above ground; aluminum tablet stamped "524 ADJ 1905"..	523. 706

PETERSBURG QUADRANGLE.

POINT 10.98 MILES EAST OF CHANDLERVILLE, EAST TO OAKFORD; THENCE SOUTHEAST ALONG HIGHWAYS VIA ATTERBERRY, TO PETERSBURG.

Oakford, at H. Luke & Son's brick store building on north side of Center street, in foundation; aluminum tablet.....	495. 159
T. 19 N., R. 8 W., southeast corner of SW. $\frac{1}{4}$ SW. $\frac{1}{4}$ sec. 7, at intersection of roads, in 6-inch concrete post; aluminum tablet.....	522. 490

T. 19 N., R. 7 W., southeast corner of SW. $\frac{1}{4}$ SE. $\frac{1}{4}$ sec. 11, on south side of north road fence to Kirby's barnyard, in southeast corner of yard, in top of 6-inch concrete post; aluminum tablet.....	Feet. 550. 818
Petersburg, about 4.75 miles north of, near southeast corner of sec. 26, T. 19 N., R. 7 W., at fork of bottom and bluff roads, on south side of public road, in top of 6-inch concrete post; aluminum tablet.....	513. 843
T. 19 N., R. 7 W., southwest corner of sec. 36, 20 feet north of east-west section line, 90 feet east of north-south section line; on base of hard-maple tree 24 inches in diameter.....	574. 638
T. 18 N., R. 7 W., 30 feet southwest of northeast corner of sec. 11, in northeast corner of James Mile's barnyard; on north base of 8-inch locust tree.....	603. 87
Petersburg, in north wall of court-house, 2 feet east of entrance, 4 feet above walk; aluminum tablet stamped "524".....	523. 706

NEAR GREENVIEW, TO A POINT ABOUT 6.7 MILES NORTH OF PETERSBURG.

T. 19 N., R. 6 W., northwest corner of NE. $\frac{1}{4}$ sec. 15; on corner stone.....	505. 54
T. 19 N., R. 6 W., 700 feet west of northeast corner of sec. 20, iron bridge over Little Grove Creek, on southwest corner of south abutment; temporary bench mark.....	509. 31

TALLULA QUADRANGLE.

PETERSBURG, SOUTHEAST ALONG CHICAGO, PEORIA AND ST. LOUIS RAILWAY, TO ATHENS (DOUBLE-RODDED LINE).

Tice, north side of brick foundation of schoolhouse, 12 feet east of northwest corner; aluminum tablet stamped "610 ADJ 1905".....	610. 511
Tice, in front of station; top of rail.....	616. 0

PETERSBURG, SOUTHWEST ALONG CHICAGO AND ALTON RAILROAD, TO POINT 0.8 MILE SOUTHWEST OF TALLULA; THENCE SOUTH ALONG HIGHWAYS, TO ROAD CROSSING 1.5 MILES WEST OF PLEASANT PLAINS; THENCE EAST ALONG BALTIMORE AND OHIO SOUTHWESTERN RAILROAD, TO SPRINGFIELD.

Tallula, 3.5 miles northeast of, near center of sec. 28, T. 18 N., R. 7 W., 0.7 mile southwest of north-south road crossing, southwest corner of stone culvert; square cut (railroad bench mark).....	605. 416
Tallula, 2.8 miles northeast of, near northwest corner of sec. 33, T. 18 N., R. 7 W., 350 feet southwest of east-west road crossing, in northwest wall of stone culvert, in coping stone 10 feet northeast of southwest corner; aluminum tablet stamped "587 ADJ 1905".....	586. 759
Tallula, 0.9 mile northeast of, 320 feet northeast of milepost "Chicago 194," northwest wall of stone culvert, in first course of masonry below coping; aluminum tablet stamped "596 ADJ 1905".....	595. 554
Tallula, 0.8 mile southwest of, 0.25 mile south of center of sec. 12, T. 17 N., R. 8 W., 350 feet northeast of point where wagon road turns south from railroad, in top of southeast wall of stone culvert, 6.5 feet southwest of northeast corner; aluminum tablet stamped "622 ADJ 1905"...	621. 890
Bethel Church, at north quarter corner of sec. 36, T. 17 N., R. 8 W., northwest corner of crossroads, on west side of road, 1 foot east of fence and 23 feet north of fence corner at southwest corner of cemetery; iron post stamped "615 ADJ 1905".....	615. 358
Pleasant Plains, in north front of State Bank, 0.3 foot east of west end at top of water table; aluminum tablet stamped "615 ADJ 1905".....	615. 350

	Feet.
Pleasant Plains, 1.9 miles east of, SE. $\frac{1}{4}$ sec. 4, T. 16 N., R. 7 W., 520 feet east of north-south road crossing, at bottom of fill in top of south wall at southwest corner of stone culvert; aluminum tablet stamped "591 ADJ 1905".....	591. 067
Richland, SE. $\frac{1}{4}$ sec. 11, T. 16 N., R. 7 W., in south wall of brick gasoline storage house of the Richland Farmers' Elevator Company, 1.5 feet east of southwest corner and 2.2 feet above ground; aluminum tablet stamped "612 ADJ 1905".....	611. 752
Farmingdale, 1.2 miles west of, sec. 24, T. 16 N., R. 7 W., at north-south road just south of northeast corner of section, west of bridge over wagon road, east abutment of iron bridge 226, in top of north wall, 15 feet west of east end; aluminum tablet stamped "573 ADJ 1905".....	573. 089
Bradfordton, 1.1 miles west of, at northwest corner of north-south road crossing, 1.7 feet east of fence and 40 feet north of track; iron post stamped "601 ADJ 1905".....	601. 470

1.5 MILES WEST OF PLEASANT PLAINS, SOUTH ALONG HIGHWAYS, TO BERLIN; THENCE EAST AND NORTH TO FARMINGDALE.

Pleasant Plains, 1.5 miles southwest of, at south quarter corner of sec. 1, T. 16 N., R. 8 W., at T road to west, at southwest corner of junction on south side of road, 1.3 feet north of fence and 18 feet west of east line of fence; iron post stamped "618 ADJ 1905".....	618. 249
Berlin, 4.6 miles northwest of, 0.25 mile west of northeast corner of sec. 25, T. 16 N., R. 8 W., on north side of road at T road to south, and east of line of fence running north opposite center of junction of roads 1 foot south of east-west fence; iron post stamped "630 ADJ 1905".....	629. 882
Berlin, 2.8 miles northwest of, 0.35 mile west of northeast corner of sec. 1, T. 15 N., R. 8 W., on west side of road at northwest corner of jog in road, 1 foot east of fence, 60 feet north of south fence line; iron post stamped "609 ADJ 1905".....	609. 327
Berlin, near center of sec. 8, T. 15 N., R. 7 W., in west wall of brick foundation of schoolhouse, 1.1 foot north of southwest corner and 0.5 foot below frame structure; aluminum tablet stamped "640 ADJ 1905".....	640. 158
Berlin, 2 miles northeast of, 0.25 mile west of southeast corner of sec. 33, T. 16 N., R. 7 W., at T road to east, on west side of road, 410 feet north of iron bridge just south of junction of roads, 20 feet north of fence along north side of house lawn and 1.4 feet east of north-south fence; iron post stamped "587 ADJ 1905".....	586. 981
Riddle Hill, 3.5 miles west of, 0.25 mile east of northwest corner of sec. 1, T. 15 N., R. 7 W., at junction of north-south road and private road to west, on west side of road, 2 feet east of old fence, 2.6 feet south of telegraph pole and 45 feet north of stone in road marking town line; iron post stamped "609 ADJ 1905".....	609. 134
Riddle Hill, 1.5 miles west of, 0.25 mile south of northeast corner of sec. 6, T. 15 N., R. 6 W., at northeast corner of crossroads, on north side of road, 1.4 feet south of fence and 11 feet east of fence corner; iron post stamped "610 ADJ 1905".....	610. 455
Farmingdale, 0.5 mile south of, at southeast corner of sec. 19, T. 16 N., R. 6 W., at T road west, at northwest corner of junction of roads, on west side of road, 1.4 feet east of fence and 26 feet north of south line of fence; iron post stamped "598 ADJ 1905".....	597. 747

FARMINGDALE, ALONG HIGHWAY NORTH 10 MILES; THENCE NORTHEAST TO ATHENS.

	Feet.
Farmingdale, 1.8 miles north of, in NW. $\frac{1}{4}$ sec. 17, T. 16 N., R. 6 W., at T road north, on south side of east-west road opposite junction, 1.5 feet north of fence and 2.5 feet east of fence corner; iron post stamped "589 ADJ 1905".....	589.275
Salisbury, SW. $\frac{1}{4}$ sec. 29, T. 17 N., R. 6 W., in east wall of schoolhouse, 29 feet north of southeast corner, in space between stone foundation and brick upper wall; aluminum tablet stamped "592 ADJ 1905".....	591.575
Salisbury, 2.5 miles north of, near center of sec. 17, T. 17 N., R. 6 W., at northeast corner of T road east, north side of road and 30 feet east of junction of roads, 0.5 foot south of fence; iron post stamped "597 ADJ 1905".....	597.094
Salisbury, 4 miles north of, near northwest corner of sec. 9, T. 17 N., R. 6 W., at T road south, at southeast corner of junction, on south side of road, on bank 30 feet east of center of junction; iron post stamped "573 ADJ 1905".....	573.391

SPRINGFIELD QUADRANGLE.

ATHENS, SOUTHEAST AND SOUTH ALONG CHICAGO, PEORIA AND ST. LOUIS RAILWAY, TO SPRINGFIELD.

Athens, west wall of city hall, on water table; aluminum tablet stamped "606 ADJ 1905".....	605.783
Cantrall, in front of station; top of north rail.....	589.0
Cantrall, Cantrall Cooperative Coal Company's store, in water table at east side of building, 3 feet north of south side; aluminum tablet stamped "596 ADJ 1905".....	596.181
Andrew, 1 mile northwest of, in north wall of brick foundation of Dunlap schoolhouse, 2 feet from east wall; aluminum tablet stamped "584 ADJ 1905".....	583.770
Andrew, in front of station; top of west rail.....	583.9
Springfield, in water table, 12 feet from southeast corner at east side of post-office; aluminum tablet stamped "599 ADJ 1905".....	598.997
Springfield, southwest entrance of court-house grounds, in stone post marked "City B. M. 58.44;" top of copper bolt (city bench mark).....	598.319

SPRINGFIELD, EAST AND NORTH ALONG HIGHWAY VIA RIVERTON, TO WILLIAMSVILLE; THENCE WEST TO CANTRALL.

Riverton, 1.5 miles south of, near center of sec. 21, T. 16 N., R. 4 W., in west wall of brick foundation of church; aluminum tablet stamped "576 ADJ 1905".....	576.450
Riverton, near southeast corner of sec. 9, T. 16 N., R. 5 W., in southeast corner of stone threshold at south side of opera house; aluminum tablet stamped "553 ADJ 1905".....	552.796
Spaulding, 1 mile northwest of, 0.25 mile east of center of line between secs. 32 and 33, T. 17 N., R. 4 W., iron highway bridge over fork of Wolf Creek, in east abutment at southwest corner; aluminum tablet stamped "535 ADJ 1905".....	528.424
Shelbytown, 1.3 miles southeast of, near center of E. $\frac{1}{2}$ sec. 20, T. 17 N., R. 4 W., in brick foundation of west wall of Locust Lane schoolhouse; aluminum tablet stamped "578 ADJ 1905".....	578.432
Williamsville, near center of sec. 4, T. 17 N., R. 4 W., east wall of Prater's Bank; aluminum tablet stamped "606 ADJ 1905".....	605.649
Cantrall, 3 miles northwest of, on south line of sec. 35, T. 18 N., R. 5 W., north side of road, Fred Van Menner's house, in west wall of foundation; aluminum tablet stamped "591 ADJ 1905".....	591.347

SPRINGFIELD, NORTHEAST ALONG RAILROAD AND HIGHWAYS, TO NEAR RIVERTON.

	Feet.
Springfield, in water table on east side of post-office, 12 feet from southeast corner; aluminum tablet stamped "599 ADJ".....	598.997
Riverton, 2 miles southwest of, near southwest corner of Camp Butler National Cemetery, on north bannister of iron bridge; button of name plate marked "B-571-W-566 by previous survey".....	567.36
Riverton, 0.25 mile west of, Wabash Railroad bridge; floor of bridge (equals "36.95" by assumed datum of river gauge).....	540.31

Dawson, Decatur, Kenney, Lincoln, Maroa, Mason City, and Niantic Quadrangles.

DEWITT, LOGAN, MACON, MASON, MENARD, AND SANGAMON COUNTIES.

The following elevations were determined by primary leveling extended from the Engineer Corps precise-level line along Illinois River.

The work was done in 1908 by P. E. Fletcher, resident engineer of the state Geological Survey, under the direction of H. Foster Bain, state geologist of Illinois.

DAWSON QUADRANGLE.

NEAR RIVERTON, SOUTHEAST ALONG HIGHWAYS, TO NEAR MECHANICSBURG; THENCE NORTHEAST ALONG HIGHWAYS, TO NEAR ILLIOPOLIS.

	Feet.
T. 16 N., R. 4 W., near southeast corner of NW. $\frac{1}{4}$ sec. 23, at intersection of public road on north-south quarter section line and northwest-southeast public road, in top of 6-inch concrete post; aluminum tablet.....	578.475
T. 16 N., R. 4 W., at southeast corner of sec. 25, in top of 6-inch concrete post; aluminum tablet.....	580.536
Mount Zion, 4.8 miles east of, on northeast corner of concrete step at entrance to Jordan M. E. Church; bench mark.....	579.06
T. 16 N., R. 3 W., at southwest corner of sec. 33, in top of 6-inch concrete post; aluminum tablet.....	593.206
T. 15 N., R. 3 W., southeast corner of NW. $\frac{1}{4}$ sec. 2, in top of 6-inch concrete post; aluminum tablet.....	593.116
T. 15 N., R. 3 W., at northeast corner of SE. $\frac{1}{4}$ NE. $\frac{1}{4}$ sec. 1, on 12-inch hickory tree; bench mark.....	596.93
T. 15 N., R. 2 W., northwest corner of SW. $\frac{1}{4}$ NW. $\frac{1}{4}$ sec. 5, in top of concrete post; aluminum tablet.....	599.186
T. 16 N., R. 2 W., southeast corner of sec. 33, at southwest corner of crossroads, in corner of fence, in top of 6-inch concrete post; aluminum tablet..	605.461
T. 16 N., R. 2 W., at southwest corner of sec. 24, at northeast corner of intersection of roads, in top of 6-inch concrete post; aluminum tablet.....	597.642
T. 16 N., R. 1 W., near northwest corner of SW. $\frac{1}{4}$ sec. 19, 50 feet southwest of main entrance to Riverside Cemetery; on west base of 30-inch black-oak tree.....	601.68

NIANTIC QUADRANGLE.

NEAR ILLIOPOLIS, EAST ALONG HIGHWAYS, TO NEAR DECATUR.

T. 16 N., R. 1 W., at northwest corner of SW. $\frac{1}{4}$ sec. 17, at southeast corner of crossroads, in top of 6-inch concrete post; aluminum tablet.....	572.216
T. 16 N., R. 1 W., near southwest corner of SE. $\frac{1}{4}$ SW. $\frac{1}{4}$ sec. 14, 150 feet north of northwest corner of Walnut Cemetery, in top of 6-inch concrete post; aluminum tablet.....	606.805

Decatur, 14.1 miles west of, on east end of north concrete abutment of iron bridge; bench mark.....	Feet. 584. 52
T. 16 N., R. 1 E., at northwest corner of sec. 30, at southeast corner of roads, in top of 6-inch concrete post; aluminum tablet.....	584. 471
T. 16 N., R. 1 E., 30 feet west and 20 feet north of southeast corner of NE. $\frac{1}{4}$ NE. $\frac{1}{4}$ sec. 15, in top of concrete post 6 inches square; aluminum tablet..	678. 645
T. 16 N., R. 2 E., near southeast corner of NW. $\frac{1}{4}$ NW. $\frac{1}{4}$ sec. 17, in concrete post; aluminum tablet.....	666. 390

DECATUR QUADRANGLE.

POINT ABOUT 3 MILES WEST OF DECATUR, TO DECATUR; THENCE NORTH ALONG ILLINOIS CENTRAL RAILROAD, TO NEAR EMERY.

Decatur, at northwest corner of intersection of North Main street and Wabash Railroad right of way; permanent bench mark (probably an aluminum tablet in the top of a concrete post).....	682. 429
T. 16 N., R. 2 E., 20 feet north of north line of sec. 2, 30 feet west of Illinois Central Railroad, in top of concrete post; aluminum tablet.....	680. 833
Forsyth, 25 feet east and 1 foot south of station, in top of 6-inch concrete post; aluminum tablet.....	678. 736
Forsyth, 1.9 miles north of, on east retaining wall of tile culvert marked "A-759-83;" bronze name plate.....	680. 75
Emery, 100 feet north of station, 30 feet east of main track, in top of 6-inch concrete post; aluminum tablet.....	688. 832

MAROA QUADRANGLE.

NEAR EMERY, NORTH ALONG ILLINOIS CENTRAL RAILROAD, TO CLINTON; THENCE SOUTHWEST ALONG ILLINOIS CENTRAL RAILROAD ABOUT 2.7 MILES.

T. 18 N., R. 2 E., 20 feet north of south line of sec. 11, 25 feet west of railroad, in top of 6-inch concrete post; aluminum tablet.....	701. 528
Emery, 4.1 miles north of, at Maroa-Shellabarger elevator, at northeast corner of main building, on second course of stone foundation; bench mark.	722. 66
T. 19 N., R. 2 E., on south line of sec. 35, 20 feet north of Macon-Dewitt county line, 25 feet west of track; permanent bench mark (probably an aluminum tablet in top of concrete post).....	706. 138
Clinton, in east end of first stone step at south entrance to court-house; aluminum tablet.....	745. 923

KENNEY QUADRANGLE.

NEAR CLINTON, SOUTHWEST ALONG ILLINOIS CENTRAL RAILROAD, TO NEAR CHESTNUT; THENCE WEST ALONG HIGHWAYS, TO NEAR MOUNT PULASKI.

T. 19 N., R. 2 E., 600 feet south of southwest corner of NE. $\frac{1}{4}$ NE. $\frac{1}{4}$ sec. 6, 175 feet east of milepost marked "St. L.-141," at west end of gate on south side of right of way, in top of 6-inch concrete post; aluminum tablet.....	743. 950
T. 19 N., R. 1 E., on west line of sec. 12, 75 feet east of milepost marked "St. L-139," in top of retaining wall at northwest corner of concrete bridge "D-153-98;" bench mark.....	686. 67
Kenney, 1 mile northeast of, T. 19 N., R. 1 E., on south line of sec. 10, on west wall of concrete arch over public road; letter "O" in date on construction company's name plate.....	653. 69
Kenney, 175 feet east of road crossing, 50 feet south of track, in top of concrete post; aluminum tablet.....	649. 752

	Feet.
Kenney, 0.8 mile southwest of, northwest corner of west signal block; concrete base.....	644. 34
Kenney, about 2.25 miles northwest of, on northeast iron post of Salt Creek Bridge; bench mark ^a	621. 13
T. 19 N., R. 1 W., sec. 25, north side of railroad and on west side of wagon road, in top of concrete post; aluminum tablet.....	632. 145
T. 18 N., R. 1 W., 1,400 feet south of northeast corner of SE. $\frac{1}{4}$ sec. 5, 30 feet south of track, in concrete post; aluminum tablet.....	631. 739
T. 18 N., R. 1 W., 30 feet north and 20 feet east of center of sec. 6, on farm of David Shellhamer, on southwest base of 18-inch elm tree; bench mark.....	628. 21

LINCOLN QUADRANGLE.

NEAR MOUNT PULASKI, NORTHWEST ALONG HIGHWAYS, TO LINCOLN; THENCE WEST AND SOUTHWEST ALONG HIGHWAYS, TO NEAR GLENWOOD SCHOOLHOUSE.

Mount Pulaski, about 3 miles north of, at southeast corner of SW. $\frac{1}{4}$ sec. 35, T. 18 N., R. 2 W., in top of concrete post; aluminum tablet.....	613. 326
Chestnut, 8.1 miles southwest of, 600 feet north of Pleasant Grove Church, at southwest corner of turn in road, on north base of 36-inch black-oak tree; bench mark.....	611. 45
T. 19 N., R. 2 W., at southwest corner of SE. $\frac{1}{4}$ SE. $\frac{1}{4}$ sec. 30, in top of concrete post; aluminum tablet.....	584. 96
T. 19 N., R. 2 W., 21 feet southeast of center of sec. 18, in top of concrete post; aluminum tablet.....	591. 335
Lincoln, 2 feet north of post at southwest entrance to court-house, in top of concrete post; aluminum tablet.....	590. 856
T. 20 N., R. 3 W., 300 feet east of west line of sec. 36, 300 feet east of railroad; on east end of north concrete abutment.....	593. 14
T. 20 N., R. 3 W., at northeast corner of SE. $\frac{1}{4}$ NE. $\frac{1}{4}$ sec. 33, at southwest corner of crossroads; in top of concrete post; aluminum tablet.....	615. 411
T. 19 N., R. 4 W., 30 feet west of northeast corner of NW. $\frac{1}{4}$ NE. $\frac{1}{4}$ sec. 12, about 30 feet southwest of intersection of private T road south with east-west road; in top of concrete post; aluminum tablet.....	595. 600

MASON CITY QUADRANGLE.

NEAR GLENWOOD SCHOOLHOUSE, NORTHWEST ALONG HIGHWAYS, TO NEAR MASON CITY; THENCE SOUTH TO NEAR GREENVIEW.

Millgrove School, 500 feet north of southwest corner of SE. $\frac{1}{4}$ SW. $\frac{1}{4}$ sec. 2, T. 19 N., R. 4 W., 50 feet west of schoolhouse, on west base of 30-inch walnut tree; bench mark.....	593. 790
T. 19 N., R. 4 W., about 30 feet northwest of southeast corner of sec. 5, in top of concrete post; aluminum tablet.....	554. 89
T. 20 N., R. 4 W., 500 feet west of northeast corner of SW. $\frac{1}{4}$ sec. 31, at southwest corner of intersection of T road south with east-west road, in top of concrete post; aluminum tablet.....	524. 261
T. 20 N., R. 5 W., at northeast corner of sec. 26, at southwest corner of intersection of roads, in top of concrete post; aluminum tablet.....	513. 511
T. 20 N., R. 5 W., at northeast corner of sec. 29, in top of concrete post; aluminum tablet.....	546. 471
T. 19 N., R. 6 W., 10 feet west of intersection of north line of sec. 13 by Chicago and Alton Railroad, in top of concrete post; aluminum tablet.....	511. 338

^a On spur line from a point 2.4 miles southwest of Kenney to Salt Creek Bridge.

St. Louis Quadrangle.

MADISON AND ST. CLAIR COUNTIES.

The following elevations were determined by primary leveling connected with Coast and Geodetic Survey bench mark I_3 , which is described as a mark on a large bronze plate bearing the inscription "U. S. Coast and Geodetic Survey 1882" in the south face of the eastern land pier of the great bridge at East St. Louis, the elevation of which is accepted as 413.966 feet above mean sea level. The work was done in 1903 by L. Scott Smith.

EAST ST. LOUIS, EAST ALONG HIGHWAY, TO CASEYVILLE; THENCE NORTH TO MOLIEBROCK; THENCE WEST TO GRANITE CITY.

	Feet.
East St. Louis, on eastern (land) pier of "Great Bridge;" mark on large bronze plate inscribed "U. S. Coast and Geodetic Survey B. M.-1882- I_3 ".	413. 966
Caseyville, 0.25 mile east of, north end of west abutment of railroad bridge; aluminum tablet stamped "449 ST. LOUIS".....	449. 160
Moliebrock, northeast end of Horseshoe Lake, southeast abutment of iron bridge over bayou; aluminum tablet stamped "415 ST. LOUIS".....	414. 795
Granite City, in northwest face of northeast wing of public schoolhouse, at top of stone foundation; aluminum tablet stamped "431 ST. LOUIS".....	430. 978
Granite City, signal tower opposite Union Station, southwest corner of foundation; standard city bench mark.....	425. 888

EDGEMONT, SOUTH ALONG HIGHWAY, TO OGLES; THENCE WEST TO NEAR IMBS (SINGLE-SPUR LINE).

Ogles, 100 yards north of west-bound track of Illinois Central Railroad, on east side of road, south foundation of large brick house; aluminum tablet stamped "576 ST. LOUIS".....	576. 129
Imbs, 1.2 miles northeast of, 0.25 mile west of center of sec. 17, T. 1 N., R. 9 W., in northwest corner of foundation of John Schnaff's house; aluminum tablet stamped "517 ST. LOUIS".....	517. 085

Belleville and Breese Quadrangles.

BOND, MADISON, AND ST. CLAIR COUNTIES.

The following elevations were determined by primary leveling extended from East St. Louis. The work was done in 1905; that in Belleville quadrangle by C. S. Blair and that in Breese quadrangle by C. F. Wood, all under state cooperation, and the standard bench marks are stamped with the state name.

BELLEVILLE QUADRANGLE.

NEAR CASEYVILLE, ALONG BALTIMORE AND OHIO SOUTHWESTERN RAILROAD, TO RIDGE PRAIRIE; THENCE SOUTH ALONG HIGHWAYS, TO BELLEVILLE; THENCE EAST TO 4 MILES EAST OF GRASSLAND; THENCE NORTH TO SUMMERFIELD; THENCE WEST ALONG BALTIMORE AND OHIO SOUTHWESTERN RAILROAD, TO RIDGE PRAIRIE.

	Feet.
Ridge Prairie, 0.25 mile east of Furman, at southwest corner of road crossing, 20 feet south of track; iron post stamped "564 ADJ".....	563. 164
Belleville, northeast corner of court-house yard; iron post stamped "Prim. Trav. Sta. No. 15, ADJ 531".....	530. 682

	Feet.
Grassland, 110 feet east of post-office, 200 feet south of station; iron post stamped "Prim. Trav. Sta. No. 16, 435 ADJ".....	434. 306
Grassland, 4 miles east of, northeast corner of road crossing, southwest corner of field of J. B. Breeze; iron post stamped "Prim. Trav. Sta. No. 17, 469 ADJ".....	468. 778
Summerfield, southeast corner of schoolhouse; aluminum tablet stamped "Prim. Trav. Sta. No. 18, 478 ADJ".....	478. 074
Lebanon, stone step just west of main entrance to St. Joseph's Church; aluminum tablet stamped "467 ADJ".....	466. 296
O'Fallon, southwest corner of brick platform, at B. & O. station; iron post stamped "551 ADJ".....	550. 520

NEAR CASEYVILLE, ALONG VANDALIA RAILROAD, TO ST. JACOB; THENCE SOUTH ALONG HIGHWAYS, TO SUMMERFIELD.

Collinsville, at northwest corner of road crossing, just west of station, opposite saloon of Schmacker Bros.; iron post stamped "474 ADJ".....	472. 974
Formosa, northeast corner of stone platform; iron post stamped "571 ADJ".....	570. 155
Troy, 100 feet north of northwest corner of station; iron post stamped "549 ADJ".....	548. 626
St Jacob, 0.25 mile west of, south side of stone bridge; aluminum tablet stamped "506 ADJ".....	504. 883
Summerfield, 3.5 miles north of, at southwest corner of crossroads, 30 feet west of cottonwood; iron post stamped "507 ADJ".....	506. 257

BREESE QUADRANGLE.

NEAR GRASSLAND, EAST ALONG HIGHWAYS, TO GERMANTOWN; THENCE NORTH TO BREESE; THENCE WEST ALONG BALTIMORE AND OHIO SOUTHWESTERN RAILROAD, TO SUMMERFIELD.

New Baden, in bank building; aluminum tablet stamped "463 ADJ"....	462. 069
Albers, in Louis Foytman's house (second house north of railroad), on west side of street; aluminum tablet stamped "445 ADJ".....	444. 477
Germantown, in northeast corner of Boniface School; aluminum tablet stamped "433 ADJ".....	432. 236
Breeze, in northwest corner of St. Dominic School building; tablet stamped "458 ADJ".....	458. 120
Aviston, east side of entrance at south side of brick Catholic Church; tablet stamped "475 ADJ".....	474. 385
Trenton, in southeast corner of city hall; tablet stamped "498 ADJ".....	497. 606

ST. JACOB, ALONG VANDALIA RAILROAD, TO HIGHLAND; THENCE EAST AND SOUTH ALONG HIGHWAYS VIA SEBASTOPOL, TO BREESE.

Highland, in First National Bank of Highland; aluminum tablet stamped "545 ADJ".....	544. 680
Sebastopol, in south side of old brick building; aluminum tablet stamped "545 ADJ".....	545. 325
St. Rose, at north side of Catholic Church, in doorsill; aluminum tablet stamped "504 ADJ".....	503. 977
Breeze, 3.5 miles north of, in east side of house of August Lager; aluminum tablet stamped "473 ADJ".....	472. 934

Carlyle, Centralia, New Athens, and Okawville Quadrangles.

CLINTON, MONROE, ST. CLAIR, AND WASHINGTON COUNTIES.

The following elevations were determined by primary leveling extended from East St. Louis. The work was done in 1907 by W. A. Gelbach, under state cooperation, and the standard bench marks are stamped with the state name.

OKAWVILLE QUADRANGLE.

BARTELSON, SOUTH TO COVINGTON; THENCE SOUTHWEST ALONG HIGHWAYS, TO OKAWVILLE; THENCE WEST ALONG LOUISVILLE AND NASHVILLE RAILROAD, TO MASCOUTAH.

	Feet.
Okawville, 3 miles east of, 0.5 mile west of Frogtown, southwest corner of crossroads; iron post stamped "448 1907"	448. 427
Okawville, southwest corner of school yard; iron post stamped "445"	444. 681
Venedy, 50 feet south of station, by picket fence; iron post stamped "410 1907"	410. 508
New Memphis, railroad crossing west of station, south of track and west of wagon road; iron post stamped "409"	409. 492
New Memphis, 3 miles west of station, 250 feet north of railroad at crossroads, southwest corner of crossroads; iron post stamped "424"	425. 395

VENEDY, SOUTHWEST ALONG HIGHWAYS, TO POINT 2 MILES EAST OF MARISSA.

Venedy, north end of town, on road leading to Venedy station, southwest corner of T road west; iron post stamped "428 1907"	426. 945
T. 2 S., R. 5 W., 0.25 mile north of quarter corner between secs. 6 and 7, southwest corner of crossroads; iron post stamped "424 1907"	423. 063
St. Libory, 1 mile east of, junction of four roads, south side of road leading east; iron post stamped "430 1907"	428. 889
St. Libory, 1 mile south and 0.5 mile east of, southwest corner of crossroads; iron post stamped "432 1907"	431. 671
Darmstadt, 1 mile south by 0.5 mile east of, southwest corner of T road south; iron post stamped "432 1907"	431. 240
Oak Grove, 150 feet south of saloon, on west side of road; iron post stamped "448 1907"	447. 715

ST. LIBORY, WEST TO FAYETTEVILLE.

Fayetteville, 2.5 miles east of, southeast corner of school house, in brick foundation; aluminum tablet stamped "Prim. Trav. Sta. No. 19 1907 ILLINOIS 410"	409. 995
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NEW ATHENS QUADRANGLE.

MASCOUTAH, WEST ALONG LOUISVILLE AND NASHVILLE RAILROAD, TO BELLEVILLE.

Mascoutah, 0.25 mile east of station, at railway crossing, on west side of street, 4 feet north of railroad right of way; iron post stamped "424 1907"	424. 619
Rentchler, 0.25 mile east of station, 40 feet north of track, east of wagon road; iron post stamped "458 1907"	458. 052
Rentchler, 2 miles west of, railway crossing by brick school house, north part of school yard, 30 feet from corner of yard, 2 feet from right of way fence; iron post stamped "464 1907"	464. 427

MASCOUTAH, SOUTH ALONG HIGHWAY, TO FAYETTEVILLE.

	Feet.
Mascoutah, 3 miles south of, southeast corner of school yard of Crossroads School; iron post stamped "442 1907"	442. 129
Fayetteville, 1 mile north of, northwest corner of road at road fork; iron post stamped "417 1907"	417. 271

FAYETTEVILLE, WEST VIA FIVE FORKS, TO NEAR SMITHTON; THENCE NORTH TO BELLEVILLE.

Fayetteville, 1.25 miles west of, south and east sides of road at road fork south; iron post stamped "412 1907"	412. 339
T. 2 S., R. 7 W., corner secs. 10, 11, 14, and 15, southwest corner of T road west; iron post stamped "405 1907"	404. 887
New Athens, 3.5 miles northwest of, at Five Forks, southeast corner of school yard; iron post stamped "446 1907"	446. 165
T. 2 S., R. 8 W., corner secs. 11, 12, 13, and 14, northwest corner of crossroads; iron post stamped "440 1907"	440. 000
Smithton, 2 miles south of, northeast corner of T road east; iron post stamped "Prim. Trav. Sta. No. 22 1907 ILLINOIS 467 1907"	466. 383
Smithton, 1.5 miles east of, east side of road at T road west, at junction of four roads; iron post stamped "431 1907"	431. 213
Freeburg, 1.5 miles west of, middle of sec. 24, T. 1 S., R. 7 W., northeast corner of T road north; iron post stamped "513 1907"	512. 515
Freeburg, 1.5 miles west by 3 miles north of, northwest corner of school yard of brick school on Freeburg-Belleville plank road; iron post stamped "483 1907"	482. 209

FIVE FORKS, SOUTH VIA NEW ATHENS, TO FOUR CORNERS; THENCE SOUTHEAST TO MIDDLE OF SEC. 22, T. 3 S., R. 7 W.

New Athens, northwest corner of school yard; iron post stamped "430 1907"	429. 865
T. 3 S., R. 7 W., 0.25 mile east of quarter corner between secs. 4 and 5, north side of road at T road south; iron post stamped "415 1907"	414. 678
T. 3 S., R. 7 W., 0.25 mile east of quarter corner between secs. 16 and 17, southwest corner of crossroads; iron post stamped "414 1907"	414. 040
T. 3 S., R. 7 W., middle sec. 22, southeast corner of crossroads; iron post stamped "Prim. Trav. Sta. No. 20, 1907 ILLINOIS 1907"	406. 160

POINT 4 MILES SOUTH OF NEW ATHENS, TO POINT 2 MILES NORTH OF RED BUD.

T. 3 S., R. 8 W., 0.25 mile north of quarter corner between secs. 23 and 26, northeast corner of crossroads; iron post stamped "391 1907"	390. 762
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POINT 2 MILES NORTH OF RED BUD, NORTH ALONG HIGHWAYS, TO BELLEVILLE.

T. 3 S., R. 8 W., 0.25 mile east of quarter corner between secs. 9 and 10, northwest corner of T road north; iron post stamped "438 1907"	438. 162
New Athens, 4.0 miles due west of, near center of Spanish Survey No. 607, southwest corner of school yard, Klein School; iron post stamped "429 1907"	428. 839

CARLYLE QUADRANGLE.

BREESE, EAST ALONG BALTIMORE AND OHIO SOUTHWESTERN RAILROAD, TO HUEY; THENCE SOUTH ALONG HIGHWAYS, TO HOFFMAN; THENCE WEST ALONG SOUTHERN RAILWAY, TO BARTELSO; THENCE NORTH ALONG HIGHWAY, TO BECKEMEYER.

Beckemeyer, crossing at west end of town, 50 feet north of track, by road-side; iron post stamped "451".....	Feet. 451. 287
Carlyle, southeast corner of court-house yard; iron post stamped "461"....	460. 787
Huey, crossing at east end of station, south of track, on east side of wagon road, 4 feet south of corner fence post; iron post stamped "454".....	453. 861
Hoffman, 1.8 miles north of, north side of road at fork, 8 feet east of corner fence post; iron post stamped "Prim. Trav. Sta. No. 4 1907 454".....	453. 582
Hoffman, 200 feet east of railway station, 50 feet north of tracks; iron post stamped "Prim. Trav. Sta. No. 3 1907 456".....	456. 185
Posey, 0.5 mile east of station, 40 feet north of track and east of wagon road; iron post stamped "451".....	450. 544
Zachary Siding, 0.25 mile east of, 60 feet north of tracks, 20 feet west of wagon road; iron post stamped "418".....	417. 504
Bartelso, 60 feet south of tracks and 150 feet east of station, corner of lot by H. F. Johnson's saloon, 2 feet inside of sidewalk; iron post stamped "450"....	449. 572
Beckemeyer, 2.8 miles south of, at northeast corner of crossroads, 3 feet east of corner fence post; iron post stamped "459".....	459. 300

HUEY, NORTHEAST ALONG HIGHWAYS 7.5 MILES.

Huey, 2 miles north by 1 mile east of White School, southeast corner of school yard; iron post stamped "463".....	462. 043
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BECKEMEYER, NORTHWEST VIA FROGTOWN, TO ST. ROSE.

Frogtown, at northwest corner of road fork; iron post stamped "455".....	454. 872
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KEYESPORT, WEST AND SOUTHWEST ALONG HIGHWAYS, TO FROGTOWN.

Keyesport, east railway crossing just south of station, at south side of high bank; iron post stamped "453".....	453. 147
Keyesport, 1 mile west of, southwest corner of road fork; iron post stamped "473".....	473. 081
Keyesport, 5 miles west of, intersection of Clinton-Bond county line, and Carlyle-Greenville road, northwest corner of road fork; iron post stamped "Prim. Trav. Sta. No. 7 1907 512".....	512. 456
Keyesport, 8 miles west of, crossroads, Bond-Clinton county line, southeast corner of road fork; iron post stamped "Prim. Trav. Sta. No. 8 1907 473".....	473. 008
Jamestown, 2.5 miles east of, Bond-Clinton county line, at road fork, north side of county road; iron post stamped "Prim. Trav. Sta. No. 9 1907 480".....	480. 023
Frogtown, 3.5 miles north and 1 mile east of, at road fork, 0.5 mile west of Catholic Church, south side of road; iron post stamped "467".....	467. 610
Frogtown, 2 miles north of, at road forks, west side of road; iron post stamped "463".....	463. 238

CENTRALIA QUADRANGLE.

POINT 7.5 MILES NORTHEAST OF HUEY, NORTHEAST TO BOULDER; THENCE NORTHWEST TO KEYESPORT.

Boulder, 2.25 miles south by 0.5 mile west of, northwest corner of school yard; iron post stamped "470".....	470. 398
Boulder, 1.5 miles northwest of, east side of railroad at crossing, north side of wagon road; iron post stamped "442".....	442. 459

Baldwin, Chester, Nashville, Renault, and Sparta Quadrangles.

MONROE, RANDOLPH, ST. CLAIR, AND WASHINGTON COUNTIES.

The following elevations were determined by primary leveling extended from bench marks of the precise-level net at Kaskaskia and East St. Louis.

The work was done partly in 1907-8 in Baldwin, Nashville, and Sparta quadrangles and in 1908 in Renault quadrangle, by W. A. Gelbach of the United States Geological Survey, and partly in 1907 in Baldwin and Chester quadrangles by P. E. Fletcher, resident engineer, of the state Geological Survey. The leveling by Mr. Fletcher was done under the direction of H. Foster Bain, state geologist of Illinois. The standard bench marks are stamped to show state cooperation.

CHESTER QUADRANGLE.

CHESTER, NORTH ALONG ILLINOIS SOUTHERN RAILWAY, TO MISSOURI JUNCTION.

	Feet.
Kaskaskia, 1.8 miles below town of, on west side of Kaskaskia-Chester road, at foot of bluffs, just inside of field of J. Watier, top of iron post; ^a Mississippi River Commission bench mark $\frac{3}{2}$	392. 83
Reily Lake, northwest corner of station platform, near south end of Edgar's mill creek trestle, in top of concrete post; aluminum tablet not stamped.	385. 113

BALDWIN QUADRANGLE.

MISSOURI JUNCTION, ALONG ILLINOIS SOUTHERN RAILWAY, TO POINT 2 MILES EAST OF EVANSVILLE; THENCE NORTH ALONG HIGHWAYS, TO SEC. 22, T. 3 S., R. 7 W.

Missouri Junction, at turn of Missouri Junction-Ellis Creek road, 900 feet northeast of station, in top of concrete post; aluminum tablet stamped "407"	407. 467
Ninemile Creek, bridge of Illinois Southern Railway, on west end of north abutment; plate	383. 809
Evansville, 50 feet south of west of station platform, at east side of road, in top of concrete post; aluminum tablet stamped "414"	414. 375
T. 5 S., R. 7 W., quarter corner at south side of sec. 8, northeast corner of crossroads, in top of concrete post; aluminum tablet stamped "450"	450. 069
T. 4 S., R. 7 W., southwest quarter of sec. 28, at junction of Evansville-Baldwin and Baldwin-Preston roads, in top of concrete post; aluminum tablet stamped "455"	454. 822
T. 4 S., R. 7 W., center of sec. 23, southwest corner of crossroads, in top of concrete post; aluminum tablet stamped "484"	483. 997
T. 4 S., R. 7 W., quarter corner at east side of sec. 3, in top of concrete post; aluminum tablet	429. 264
T. 3 S., R. 7 W., at center of sec. 27, in top of concrete post; aluminum tablet	409. 150

AT POINT 2 MILES NORTH OF REDBUD.

Redbud, 2 miles north of, quarter corner between secs. 28 and 29, T. 3 S., R. 8 W., northwest corner of crossroads; iron post stamped "Prim. Trav. Sta. No. 21-1907 ILLINOIS 447"	446. 473
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^a The correction applied here to reduce from Memphis datum was -6.85 feet.

	Feet.
MARISSA, WEST TO SEC. 22, T. 3 S., R. 7 W.	
Marissa, 3.5 miles west of, 0.25 mile west of northeast corner sec. 25, T. 3 S., R. 7 W., southeast corner of crossroads; iron post stamped "411 1907"	410. 940
Marissa, southwest corner of school yard; iron post stamped "449 1907"...	448. 378
MARISSA, SOUTH AND WEST TO MISSOURI JUNCTION.	
Marissa, south of station, at crossing; top of rail.....	463. 9
T. 3 S., R. 6 W., quarter corner north side of sec. 31; top of corner stone..	459. 93
T. 4 S., R. 6 W., 500 feet north of quarter corner between secs. 5 and 8, at T road west, southeast corner of school yard; iron post stamped "489 1908".....	488. 475
Houston, north edge of, southeast corner of T road south; iron post stamped "441 1908".....	440. 628
Houston, railroad crossing; top of rail.....	439. 0
Houston, 2.5 miles south of, about 0.25 mile east of middle of sec. 5, T. 5 S., R. 6 W., southeast corner of crossroads; iron post stamped "570 1908"...	570. 069
Schuline, northwest corner sec. 21, T. 5 S., R. 6 W., southeast corner of crossroads, by picket fence; iron post stamped "548 1908".....	548. 064
Schuline, 3 miles south of, 0.25 mile west of southeast corner of sec. 32, T. 5 S., R. 6 W., front of T road north; iron post stamped "512 1908"...	511. 131
T. 6 S., R. 6 W., quarter corner between secs. 6 and 7, T road west; top of corner stone.....	525. 74
T. 6 S., R. 6 W., quarter corner between secs. 7 and 18, front of T road west; iron post stamped "546 1908".....	544. 405
T. 6 S., R. 7 W., 0.25 mile north of southwest corner sec. 11, northeast corner of crossroads; iron post stamped "550 1908".....	548. 800
T. 6 S., R. 7 W., northeast quarter of sec. 8, fork of Ellis Grove-Walsh and Ellis Grove-Palestine roads, center of triangular mound at fork of roads; iron post stamped "464 1908".....	462. 353
MISSOURI JUNCTION, NORTHWEST TO POINT 2.8 MILES SOUTH OF MARIGOLD.	
Marigold, 2.8 miles south of, at fork of Kaskaskia road; iron post stamped "607 1908".....	607. 378
POINT 2 MILES NORTH OF REDBUD, SOUTH TO POINT 2.7 MILES SOUTH OF MARIGOLD.	
Redbud, 2 miles north of, quarter corner between secs. 28 and 29, T. 3 S., R. 8 W., northwest corner of crossroads; iron post stamped "Prim. Trav. Sta. No. 21 1907 ILLINOIS 447".....	446. 473
Redbud, railroad crossing at station, north of track, west of wagon road, near corner of picket fence; iron post stamped "Prim. Trav. Sta. No. 10 1907 444".....	444. 241
Redbud, 1.5 miles south of, southeast corner of crossroads; iron post stamped "Prim. Trav. Sta. No. 9 1908 460".....	459. 505
Ruma, southeast corner of crossroads, on township line, between hitching rail and sidewalk; iron post stamped "Prim. Trav. Sta. No. 7 442-1908".	442. 899
Ruma, 1.25 miles south of, front of T road east; iron post stamped "Prim. Trav. Sta. No. 6 1908 522".....	521. 974
RENAULT QUADRANGLE.	
NEAR RUMA AND MARIGOLD, ON LINE FROM NEAR REDBUD, SOUTH TO POINT 2.7 MILES SOUTH OF MARIGOLD.	
Ruma, 1.8 miles north of, southwest corner of T road west; iron post stamped "Prim. Trav. Sta. No. 8 1908 419".....	420. 054
Marigold, southeast corner of school yard; iron post stamped "Prim. Trav. Sta. No. 5 1908 565".....	564. 680

NASHVILLE QUADRANGLE.

BARTELSON, SOUTH TO COVINGTON; THENCE SOUTHWEST ALONG HIGHWAY, TO FROGTOWN.

	Feet.
Frogtown, 0.5 mile west of, southwest corner of crossroads; iron post stamped "448 1907".....	448. 427

FROGTOWN, SOUTH ALONG HIGHWAYS, TO OAKDALE.

Addieville, 0.8 mile north of, southwest corner of T road west; iron post stamped "Prim. Trav. Sta. No. 15 1907 461 1908".....	461. 124
Addieville, 200 feet east of station, at railroad crossing; top of rail.....	468. 3
Addieville, 2 miles south by 0.5 mile west of, front of T road south, 2 feet south of garden fence of J. H. Sachteleben; iron post stamped "499 1908".....	499. 002
T. 2 S., R. 4 W., southwest corner sec. 25, top of corner stone.....	491. 46
T. 2 S., R. 4 W., near quarter corner between secs. 35 and 36, at northeast corner of T road north; iron post stamped "504 1908".....	503. 862
T. 2 S., crossing of Elkton-Nashville road with line between Rs. 3 and 4 W., two corner stones 15 feet apart; top of north corner stone.....	520. 80
T. 3 S., R. 4 W., quarter corner between secs. 1 and 12, northeast corner of crossroads; iron post stamped "511 1908".....	510. 597
T. 3 S., R. 4 W., middle sec. 12; top of corner stone.....	498. 76
Oakdale, 300 feet north of station, west of railroad crossing, 10 feet southwest of warning post; iron post stamped "Prim. Trav. Sta. No. 16 1907 523 1908".....	523. 268
Oakdale, in front of station; top of rail.....	523. 2

SPARTA QUADRANGLE.

OAKDALE, SOUTHWEST ALONG RAILROAD, TO M'KINLEY SIDING; THENCE WEST ALONG HIGHWAY, TO POINT 2 MILES EAST OF MARISSA.

McKinley Siding, 50 feet north of railroad crossing, 30 feet north of warning post, 3.5 miles southwest of Oakdale; iron post stamped "555 1908"....	554. 640
T. 3 S., R. 4 W., southwest corner sec. 19, east of road at T road west, 0.8 foot south of corner fence post; iron post stamped "494 1908".....	493. 675
T. 3 S., R. 5 W., southeast corner sec. 23, corner of crossroads; iron post stamped "Prim. Trav. Sta. No. 17 1907 480 1908".....	479. 597
T. 3 S., R. 5 W., southeast corner sec. 20, northeast corner of crossroads, 2 feet southwest of telephone pole; iron post stamped "441 1908".....	441. 138
T. 3 S., R. 5 W., northwest corner of sec. 30, Washington-St. Clair county line, southeast corner of T road east; iron post stamped "469 1908"....	463. 379
T. 3 S., R. 6 W., southwest corner sec. 24, 2 miles east of Marissa, at northeast corner of crossroads; iron post stamped "Prim. Trav. Sta. No. 18-1907 433".....	432. 942

Hardinville, Merom, Olney, and Russellville Quadrangles.

CRAWFORD, JASPER, LAWRENCE, AND RICHLAND COUNTIES.

The following elevations were determined by primary leveling connected with bench mark B₃ of the Coast and Geodetic Survey at Olney, described as "a square cut at the base of one of the columns of the north face of the court-house," the elevation of which is now accepted as 486.117 feet above mean sea level. The work was done in 1907 by Henry Bücher, under state cooperation, and the standard bench marks are stamped with the state name.

OLNEY QUADRANGLE.

OLNEY, EAST ALONG BALTIMORE AND OHIO SOUTHWESTERN RAILROAD 4 MILES.^a

	Feet.
Olney, at base of one of the columns of north face of court-house; cut lettered "B ₃ B □ M USC&GS 1882'"	486. 117
Olney, near southeast corner of public school grounds, on monument ^b marking U. S. Engineer Corps base line; inscription "U. S." at top; center of space inclosed by the lower curve of the "S., C. & G. S." bench mark "No. II" (1907 adjustment Coast and Geodetic Survey elevation 480.409)	480. 395
Olney, in front of station; top of rail	478. 48
Olney, 2.70 miles east of, 1,200 feet east of road crossing, in coping stone at southeast corner of south wall of stone culvert, 1.1 feet west of east end and 0.8 foot north of south end; aluminum tablet stamped "495 ADJ"...	496. 114

HARDINVILLE QUADRANGLE.

HICKORY POINT SCHOOL, NORTH ALONG HIGHWAYS, TO SEC. 10, T. 6 N., R. 14 W.; THENCE EAST TO SEC. 7, T. 6 N., R. 12 W.; THENCE NORTH TO INDIANAPOLIS SOUTHERN RAILROAD AND EAST ALONG SAME 2 MILES, TO ROBINSON.

T. 4 N., R. 14 W., 0.25 mile south of northwest corner of sec. 27, southeast corner of T road, on east side of road, 1.3 feet west of fence, 15 feet south of fence corner; iron post stamped "510 ADJ"	510. 502
T. 4 N., R. 14 W., southwest corner of sec. 3, northeast corner of crossroads, east side of road, 1.1 feet west of fence, 11 feet north of fence corner; iron post stamped "508 ADJ"	509. 121
T. 5 N., R. 14 W., northeast corner of sec. 34, at southwest corner of crossroads, on west side of road, 1.1 feet east of fence, 7 feet south of fence corner; iron post stamped "496 ADJ"	496. 574
New Light Christian Church, southwest corner of sec. 15, T. 5 N., R. 14 W., northeast corner of crossroads, on north side of road near old rail fence, about 14 feet east of north-south fence line, on east side of north-south road crossroads; iron post stamped "457 ADJ"	457. 555
T. 5 N., R. 14 W., southeast corner of sec. 3, northwest corner of crossroads, west side of road, 6 feet east of fence and 4 feet north of fence corner; iron post stamped "462 ADJ"	463. 263
T. 6 N., R. 14 W., northeast corner of sec. 27, southwest corner of crossroads, west side of road, 1.2 feet east of fence, 5.6 feet south of fence corner; iron post stamped "483 ADJ"	483. 969
T. 6 N., R. 14 W., 0.25 mile east of southwest corner of sec. 2, outside of dim T road to west 1.3 feet south of fence, 15 feet east of north-south fence at fence corner (north of center of T); iron post stamped "478 ADJ"...	478. 367
T. 6 N., R. 13 W., northeast corner of sec. 7, at southwest corner of T road, on west side of road, 1.2 feet east of fence, 7.5 feet south of fence corner; iron post stamped "483 ADJ"	483. 298
Stoy, 0.75 mile south of; southwest corner of sec. 2, T. 6 N., R. 13 W., at crossroads, on small bank by pipe line, 1 foot east of fence, 76 feet north of east-west fence line and on north side of east-west road; iron post stamped "475 ADJ"	476. 261
Wilson School, northeast corner of sec. 7, T. 6 N., R. 12 W., at T road, on south side of road opposite schoolhouse, 0.7 foot north of fence, 12 feet east of fence corner, on edge of lane to south; iron post stamped "581 ADJ"	531. 481

^a Mean of direct and reverse leveling.^b This monument rocks on its foundation.

POINT 0.75 MILE SOUTH OF STOY, SOUTH ALONG HIGHWAYS, TO NEAR SOUTHEAST CORNER OF SEC. 29, T. 4 N., R. 13 W.

	Feet.
T. 6 N., R. 13 W., northwest corner of sec. 23, on bank on south side of road at T, 1.5 feet north of fence, 34.5 feet east of north-south section-line fence; iron post stamped "484 ADJ".....	485. 269
Hardinville, sec. 34, T. 6 N., R. 13 W., on east side of main north-south road just north of Christian Church, 500 feet south of crossroads, 4.2 feet north of fence line between McCarty (south side) and Newman (north side) properties, 6.8 feet west of an old fence line north in correct position; iron post stamped "510 ADJ".....	510. 903
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 feet north of fence, 39 feet east of north-south fence line; iron post stamped "463-ADJ"....	463. 826
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 "488 ADJ".....	488. 708
T. 4 N., R. 13 W., 0.25 mile north of southeast corner of sec. 8, northwest corner of T road, between two walnut trees, 1.2 feet south of fence, 28 feet west of north-south fence line on west side of north-south road; iron post stamped "492 ADJ".....	492. 990

SEC. 29, T. 6 N., R. 12 W., SOUTH ALONG HIGHWAYS, TO FAIRVIEW CHURCH.

T. 6 N., R. 12 W., quarter corner at east side of sec. 29, at T road, southwest corner, on south side of road, 1.1 feet north of fence, 7 feet west of 2-foot oak tree at fence corner; iron post stamped "512 ADJ".....	512. 750
T. 5 N., R. 12 W., northwest corner of sec. 9, at southeast corner of crossroads, on east side of road, 0.8 foot west of fence, 6 feet south of fence corner; iron post stamped "523 ADJ".....	523. 318
T. 5 N., R. 12 W., 0.25 mile east of northwest corner of sec. 28, at southeast corner of crossroads, 0.8 foot west of fence, 6 feet south of fence corner; iron post stamped "442 ADJ".....	442. 767
Westport, sec. 32, T. 5 N., R. 12 W., iron truss bridge over Embarrass River, at southwest corner, 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
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 north-south road; iron post stamped "436 ADJ"....	436. 534
T. 4 N., R. 12 W., northwest corner of sec. 29, at crossroads, on south side of road at T, 2.1 feet north of fence line, 23 feet east of north-south fence line at fence corner; iron post stamped "455 ADJ".....	455. 678

MEROM QUADRANGLE.

AT ROBINSON.

Robinson, at east side of station; top of rail.....	536. 7
Robinson, on south side of court-house, on west side of concrete walk, in top of concrete post at edge of wall; aluminum tablet stamped "Prim. Trav. Sta. No. 13 534 ADJ".....	534. 529

RUSSELLVILLE QUADRANGLE.

ROBINSON, SOUTH ALONG HIGHWAY, TO SEC. 29, T. 6 N., R. 12 W.

T. 6 N., R. 12 W., center of northeast quarter of sec. 16, at southeast corner of crossroads, on east side of road, 0.8 foot west of fence, 3.9 feet south of fence corner; iron post stamped "533 ADJ".....	533. 542
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Bridgeport, Carmi, Mount Carmel, and New Harmony Quadrangles.

EDWARDS, LAWRENCE, RICHLAND, WABASH, AND WHITE COUNTIES.

The following elevations were determined by primary leveling extended from Olney and from the precise-level line from Duquoin to Shawneetown.

The work was done as follows: In Mount Carmel quadrangle mostly in 1902 by H. G. Lowe, but partly in 1908 by W. A. Gelbach; in Bridgeport quadrangle mostly in 1908 by W. A. Gelbach, but partly in 1907 by Henry Bücher; in Carmi quadrangle mostly in 1908 by W. A. Gelbach, but partly in 1905 by C. S. Blair. The standard bench marks established during and since 1905 are stamped to show state cooperation.

MOUNT CARMEL QUADRANGLE.

GRAYVILLE, NORTHEAST ALONG BIG FOUR RAILWAY, VIA COWLING, KEENSBURG, AND SCHRODTS STATION, TO MOUNT CARMEL.

	Feet.
Grayville, at milepost E 32, at northwest corner of bridge 289; head of bolt.	386. 36
Grayville, 100 feet south of station, 6 feet east of track; iron post stamped "392 VIN".....	392. 113
Cowling, SE. $\frac{1}{4}$ sec. 25, T. 2 S., R. 14 W., 8 inches north from northeast corner of Big Four station, 6 inches above ground; iron post stamped "397 VIN".....	396. 812
Keensburg, SW. $\frac{1}{4}$ sec. 9, T. 2 S., R. 14 W., northwest corner of M. E. Church (frame), in face of foundation wall on north side; aluminum tablet stamped "430 VIN".....	429. 672
Sugar Creek (Schrodts station), SE. $\frac{1}{4}$ sec. 35, T. 1 S., R. 13 W., 1 foot N. of northeast corner of Peter Schrodts's store; iron post stamped "458 VIN".....	458. 066
Mount Carmel, at southwest side of court-house, in southeast wing on west sill in wall; bronze tablet stamped "465 VIN".....	464. 841

MOUNT CARMEL, WEST ALONG SOUTHERN RAILWAY TO BELLMONT.

Maud, sec. 28, T. 1 S., R. 13 W., northeast corner of Christian Church, at east side, in face of foundation wall; bronze tablet stamped "442 VIN".	441. 384
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KEENSBURG, NORTHWEST TO BELLMONT; THENCE WEST ALONG SOUTHERN RAILWAY, TO BROWNS.

Bellmont, SW. $\frac{1}{4}$ sec. 31, T. 1 S., R. 14 W., at southwest corner of town-hall, on south side in face of wall, 3 feet above ground; aluminum tablet stamped "431 VIN".....	430. 846
Browns, sec. 4, T. 2 S., R. 14 W., in southeast corner of red brick M. E. Church, in face of south wall, 3 feet above ground; aluminum tablet stamped "402 VIN".....	401. 728

GRAYVILLE, NORTH ALONG ILLINOIS CENTRAL RAILROAD AND PUBLIC ROADS VIA BROWNS, TO BONE GAP.

Bone Gap, sec. 8, T. 1 S., R. 14 W., northwest corner of Miss M. D. Rice's millinery store, at north side, in brick foundation; bronze tablet stamped "459 VIN".....	458. 746
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BONE GAP, ALONG PUBLIC ROADS, VIA GARDS POINT AND FRIENDSVILLE, TO PATTON; THENCE SOUTH ALONG BIG FOUR RAILWAY, TO MOUNT CARMEL.

	Feet.
Gards Point, sec. 31, T. 1 N., R. 13 W., at east side of northeast corner of Lick Prairie Church; iron post stamped "434 VIN".....	433. 428
Patton, sec. 34, T. 1 N., R. 12 W., 1 foot southwest of southeast corner of frame building of J. W. Elliott, 8 inches above ground; iron post stamped "416 VIN".....	416. 146

MOUNT CARMEL, NORTH TO PATTON.^a

Mount Carmel, on pier of Southern Railway bridge; zero of gage.....	372. 05
Grand Rapids, land side of government locks; top of coping of pier (Wabash River Survey ^b bench mark).....	396. 463
Patton, northwest of, at corner of secs. 20, 21, 23, and 29, T. 1 N., R. 12 W, in front of T road west; iron post stamped "416-1908".....	416. 593

CARMI QUADRANGLE.

GRAYVILLE, SOUTHWEST ALONG BIG FOUR RAILWAY, TO NORRIS CITY.

Carmi, 2 blocks east of station, at southwest corner opposite electric plant, in root of large tree; spike.....	398. 28
Carmi, in stone step at west side of main entrance to First Presbyterian Church; aluminum tablet stamped "399".....	399. 057
Brownsville, at southwest corner of stone platform; iron post stamped "417".....	416. 768

BROWNSVILLE, EAST TO MAUNIE.

Brownsville, 1.5 miles south of, at southeast corner of crossroads; iron post stamped "442-1908".....	442. 458
T. 6 S., R. 9 E., quarter corner between secs. 9 and 10, at T road west, in center of triangular grass plot in road fork; iron post stamped "360-1908".....	360. 278
T. 5 S., R. 9 E., southwest corner of sec. 36, in front of T road north; iron post stamped "424-1908".....	424. 004
Epworth, 2 miles south of, at northeast corner of crossroads, 15 feet east of corner fence post; iron post stamped "398-1908".....	398. 514
Maunie, Louisville and Nashville Railroad bridge over Wabash River, on coping at south end of east pier, 1 foot from edge; chiseled circle (Wabash River Survey ^c bench mark 32).....	373. 600
Maunie, in middle of northwest face of foundation wall of Methodist Church, 2 feet above ground; aluminum tablet stamped "375-ILLINOIS-1903".....	375. 417

MAUNIE, NORTH TO NEAR GRAYVILLE.

T. 5 S., R. 10 E., northeast corner of sec. 24, in front of T road east; iron post stamped "369-1908".....	369. 468
T. 5 S., R. 14 W., near corner of secs. 5, 6, 7, and 8, in southwest corner of school yard, in front of T road west; iron post stamped "378-1908".....	378. 655
Phillipstown, 1 mile north of, at northeast corner of crossroads on bank; iron post stamped "498-1908".....	498. 359

^a Circuit run in 1907 by W. A. Gelbach.

^b Engineer's elevation, 395.913, is based on the 1903 adjustment elevation at Vincennes, but the 1907 adjustment would raise it 0.663 foot, giving a value 0.113 foot greater than the adjusted elevation here given.

^c Engineer's elevation, 370.471, is based on the 1903 adjustment value at Vincennes. The elevation by that line, corrected to 1907 adjustment, is 0.663 foot greater.

	Feet.
Calvin, Union (Methodist and Baptist) Church, in middle of north foundation wall about 1.5 feet above ground; aluminum tablet stamped "448-ILLINOIS-1908"	448.738
T. 3 S., R. 14 W., at corner of secs. 29, 30, 31, and 32; on top of corner stone.	402.79
T. 3 S., R. 14 W., at corner of secs. 19, 20, 29, and 30, in front of and 20 feet east of center line of T road south; iron post stamped "398-1908" ..	398.186

NEAR GRAYVILLE, WEST TO LITTLE WABASH RIVER; THENCE SOUTH TO CARMI.

T. 3 S., R. 10 E., corner of secs. 22, 23, 26, and 27, in front of T road south; iron post stamped "392-1908"	392.544
High Shoals, 0.75 mile west of bridge over Little Wabash River, in front of T road south; iron post stamped "383-1908"	383.823
Ts. 3 and 4 S., R. 10 E., 0.25 mile east of quarter corner between secs. 32 and 5, at southeast corner of T road south, 4 feet south of corner fence post; iron post stamped "383-1908"	383.012
T. 4 S., R. 10 E., middle of sec. 21, at northeast corner of T road north; iron post stamped "390-1908"	390.313
T. 4 S., R. 10 E., quarter corner between secs. 28 and 29, in southeast corner of school yard, at northwest corner of crossroads, in tree root; nail..	387.04
Simpson switch on Big Four Railway, 3.25 miles northeast of Carmi, 80 feet north of track, on west side of wagon road, by wire fence; iron post stamped "388-1908"	388.749
Carmi, 0.25 mile northeast of, 400 feet east of junction of the Louisville and Nashville and the Big Four tracks, east of railway bridge over Little Wabash River, 6 feet north of Big Four track, near railroad crossing, in southeast corner of bridge on railing; top of bolt head	382.27

LITTLE WABASH RIVER, WEST TO BURNT PRAIRIE; THENCE SOUTH TO BROWNSVILLE.

T. 3 S., R. 9 E., quarter corner between secs. 23 and 24, in front of T road south, at corner of house yard; iron post stamped "386-1908"	385.991
T. 3 S., R. 9 E., quarter corner between secs. 20 and 21, in front of T road south; iron post stamped "425-1908"	425.415
T. 4 S., R. 9 E., quarter corner between secs. 8 and 9, at northeast corner of crossroads; iron post stamped "388-1908"	387.893
T. 4 S., R. 9 E., quarter corner between secs. 29 and 32, at southwest corner of school yard, at northeast corner of T road east; iron post stamped "388-1908"	388.809
Trumbull, 0.1 mile west of, at southeast corner of crossroads, at foot of bank; iron post stamped "419-1908"	419.637

NEW HARMONY QUADRANGLE.

NEAR GRAYVILLE, A BENCH MARK OF THE WABASH RIVER SURVEY.

Grayville, Illinois Central Railway bridge over Wabash River, south end of east bank pier; U. S. E. \square B. M. (Wabash River Survey bench mark) ^a	389.420
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^a Engineer's elevation, 388.590, is based on the 1903 adjustment from Vincennes, but corrected to 1907 adjustment datum its elevation would be 0.663 foot greater.

BRIDGEPORT QUADRANGLE.

POINT 4 MILES EAST OF OLNEY, EAST ALONG BALTIMORE AND OHIO SOUTHWESTERN RAILROAD, TO CLAREMONT; THENCE NORTH ALONG HIGHWAYS, TO HICKORY POINT SCHOOL.^a

Feet.

Claremont, 0.36 mile west of station, south end of small artificial lake, in top of east wing of masonry dam, 0.9 foot from west edge and 1.8 feet from north edge, in northwest corner; aluminum tablet stamped "498 ADJ"	498. 826
Claremont, at station crossing; top of south rail	509. 8

NEAR CLAREMONT, EAST ALONG HIGHWAY, TO SEC. 5, T. 3 N., R. 13 W.; THENCE NORTH 1 MILE.

T. 4 N., R. 14 W., southwest corner of sec. 36, at northeast corner of crossroads, on east side of road, 0.7 foot west of fence, 22 feet north of fence corner; iron post stamped "509 ADJ"	510. 263
T. 3 N., R. 13 W., 0.25 mile east of northwest corner of sec. 4, at T road, 0.7 foot north of fence, 24.5 feet east of telegraph pole, about 11 feet east of center line of north-south road; iron post stamped "483 ADJ"	484. 085
T. 4 N., R. 13 W., 0.25 mile east of northwest corner of sec. 33, at T road, on west side of road, 2.2 feet east of fence, in concrete post flush with ground; aluminum tablet stamped "Prim. Trav. Sta. No. 10 489-ADJ"	490. 408

SEC. 5, T. 3 N., R. 13 W., EAST TO SEC. 32, T. 4 N., R. 12 W.; THENCE NORTH TO FAIRVIEW CHURCH.

Union Chapel (U. B.), southwest corner sec. 36, T. 4 N., R. 13 W., at northeast corner of crossroads, on east side of road, 1.1 feet west of fence, 62 feet north of fence; iron post stamped "570 ADJ"	571. 168
T. 3 N., R. 12 W., northwest corner of sec. 4, at crossroads, east-west on south side of state road, on bank a little east of center of road to north, 0.9 foot north of fence, 18.5 feet east of telegraph pole; iron post stamped "457 ADJ"	457. 461

POINT 2 MILES NORTH OF BRIDGEPORT, SOUTH TO GRANT SCHOOL; THENCE WEST 5.6 MILES; THENCE NORTH TO SUMNER.

Bridgeport, 100 feet north of railroad, on front face at southeast corner of yellow brick building owned by F. W. Cox, about 3 feet above sidewalk; aluminum tablet stamped "449-1908"	448. 591
T. 3 N., R. 12 W., corner of secs. 20, 21, 28, and 29, at northwest corner of crossroads; iron post stamped "489-1908"	489. 774
Grant School, corner of secs. 4, 5, 8, and 9, T. 2 N., R. 12 W., at northwest corner of crossroads, in southeast corner of school yard; iron post stamped "446-1908"	446. 892
T. 2 N., R. 13 W., quarter corner between secs. 4 and 9, at southwest corner of crossroads, 3 feet west of corner of John White's yard; iron post stamped "476-1908"	477. 274
Sumner, on Main street, 250 feet south of railroad, at northeast corner of street crossing, in brick building owned by Mart Wagner, in south face on foot from southwest corner and 3 feet above ground; aluminum tablet stamped "461-ILLINOIS-1908"	462. 148
Sumner, railroad crossing on Main street; top of rail	460. 5

^a Mean of direct and reverse leveling.

POINT 5.6 MILES WEST OF GRANT SCHOOL, WEST TO BROWNSVILLE; THENCE NORTH TO CLAREMONT.

	Feet.
T. 2 N., Rs. 13 and 14 W., corner of secs. 1, 6, 7, and 12, at Lawrence-Richland county line, at northwest corner of crossroads, in root of tree; spike..	537. 90
Preston School, corner of secs. 3, 4, 9, and 10, T. 2 N., R. 14 W., in front of T road east, 600 feet south of T road west, in southeast corner of school yard; iron post stamped "456-1908".....	456. 244
Black Oak School, corner of secs. 27, 28, 33, and 34, T. 3 N., R. 14 W., at northwest corner of crossroads, in southeast corner of school yard, in tree root; spike.....	497. 20
T. 3 N., R. 13 W., at corner of secs. 21, 22, 27, and 28, at southwest corner of crossroads, by picket fence; iron post stamped "506-1908".....	505. 920
Claremont, in front of station; top of rail.....	509. 7

GRANT SCHOOL, SOUTH TO NEAR PATTON.

T. 2 N., R. 12 W., quarter corner between secs. 20 and 21, at northeast corner of crossroads, in southwest corner of school yard; iron post stamped "445-1908".....	445. 641
T. 1 N., R. 12 W., corner of secs. 8, 9, 16, and 17, at northwest corner of crossroads, by picket fence; iron post stamped "462-1908".....	462. 325

POINT 5.6 MILES WEST OF GRANT SCHOOL, SOUTH AND EAST VIA FRIENDSVILLE, TO NEAR PATTON.

T. 2 N., R. 13 W., quarter corner between secs. 21 and 28, in front of T road west at schoolhouse, 4 feet south of corner fence post; iron post stamped "460-1908".....	460. 636
Lancaster, 400 feet east by 400 feet south of middle of sec. 4, T. 1 N., R. 13 W., in west face of Lutheran Church directly under window south of entrance, about 2.5 feet above ground; aluminum tablet stamped "494-ILLINOIS-1908".....	494. 584
Stoeltz School, quarter corner between secs. 20 and 21, T. 1 N., R. 13 W., at southwest corner of crossroads, in northeast corner of school yard; iron post stamped "459-1908".....	459. 431
Friendsville, quarter corner between secs. 23 and 24, T. 1 N., R. 13 W., in east side of brick house of Dr. C. S. Couch, near southeast corner, about 3 feet above ground; bronze tablet stamped "482 VIN".....	481. 722

STOELTZ SCHOOL, WEST TO PINHOOK; THENCE NORTH TO BROWNSVILLE.

T. 1 N., Rs. 13 and 14 W., 0.25 mile north of quarter corner between secs. 19 and 24, in front of and about 20 feet south of center line of T road east; iron post stamped "409-1908".....	409. 460
Pinhook, quarter corner between secs. 21 and 22, T. 1 N., R. 14 W., at northeast corner of T road north; iron post stamped "435-1908".....	435. 611
Tps. 1 and 2 N., R. 14 W., about 0.1 mile east of quarter corner between secs. 4 and 33, at northwest corner of crossroads, opposite small white house; iron post stamped "458-1908".....	458. 416
Redhead School, quarter corner between secs. 16 and 21, T. 2 N., R. 14 W., at southwest corner of crossroads, in northeast corner of school yard; iron post stamped "462-1908".....	462. 584
Preston School, corner of secs. 3, 4, 9, and 10, T. 2 N., R. 14 W., in front of T road east, 600 feet south of T road west, in southeast corner of school yard; iron post stamped "456-1908".....	456. 244

Eldorado, Enfield, and New Haven Quadrangles.**GALLATIN, HAMILTON, SALINE, AND WHITE COUNTIES.**

The following elevations were determined by primary leveling connected with the precise-level line from Duquoin to Shawneetown, which crosses the Eldorado quadrangle. The work was done in 1905 by C. B. Blair, under state cooperation, and the standard bench marks are stamped with the state name.

ENFIELD QUADRANGLE.**STOKES, ALONG BIG FOUR RAILWAY, TO NORRIS CITY.**

	Feet.
Stokes, southeast corner of yard of J. Pyles's store; iron post stamped "415 ADJ".....	414. 623

ELDORADO QUADRANGLE.

NORRIS CITY, ALONG HIGHWAYS WEST AND SOUTH, TO BROUGHTON; THENCE ALONG LOUISVILLE AND NASHVILLE RAILROAD, TO ELDORADO; THENCE EAST ALONG HIGHWAY, TO RIDGWAY; THENCE NORTH TO OMAHA; THENCE ALONG BALTIMORE AND OHIO SOUTHWESTERN RAILROAD, TO NORRIS CITY.

Norris City, stone sill, at main entrance to north side of Cumberland Presbyterian Church; aluminum tablet stamped "444 ADJ".....	443. 856
Norris City, 3.5 miles west of, at northeast corner of Jennings schoolhouse; iron post stamped "410 ADJ".....	410. 032
Broughton, 3 miles north of, southeast corner of forks of road; iron post stamped "371 ADJ".....	371. 193
Broughton, northeast corner of cinder platform of L. & N. station; iron post stamped "379 ADJ".....	378. 676
Francis Mills, northeast corner of cinder platform; iron post stamped "371 ADJ".....	371. 116
Eldorado, 10 feet south of southwest corner of Grand Hotel; iron post stamped "388 ADJ".....	387. 904
Eldorado, 3.5 miles east of, at jog in road, 3 feet northeast of oak tree, in middle of road; iron post stamped "373. ADJ".....	373. 185
Eldorado, 6.5 miles east of, in front wall, at northeast corner of Zion Church; aluminum tablet stamped "390 ADJ".....	389. 882
Ridgway, stone foundation of Catholic Church, at southeast corner, east of front entrance; aluminum tablet stamped "377 ADJ".....	377. 120
Omaha, 90 feet south of station, 12 feet east of track; iron post stamped "367 ADJ".....	367. 101
Middlepoint, at northeast corner of cinder platform; iron post stamped "433 ADJ".....	432. 906

NEAR OMAHA, EAST ALONG HIGHWAY 2.7 MILES.

Omaha, 2.7 miles east of, southwest angle of forks with road running south; iron post stamped "405 ADJ".....	405. 304
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NEW HAVEN QUADRANGLE.**NEAR NORRIS CITY, EAST ALONG HIGHWAY, TO LITTLE CHAIN.**

Iron, northeast corner of junction, 5 feet west of southwest corner of warehouse; iron post stamped "463 ADJ".....	463. 043
Herald, 3 feet east of northeast corner of schoolhouse; iron post stamped "430 ADJ".....	430. 063

Emma, 0.5 mile south of, southeast corner of junction of T road north with east-west road; iron post stamped "366 ADJ".....	Feet. 366. 057
Little Chain, 1 mile west of, southwest corner of road forks; iron post stamped "367 ADJ".....	366. 816

NEAR EMMA, SOUTH ALONG HIGHWAY, TO INMAN; THENCE WEST TO NEAR RIDGWAY.

New Haven, at northwest corner of Scudmore & Mathia Bank; aluminum tablet stamped "370 ADJ".....	370. 221
Inman, 0.5 mile east of, southeast corner of forks of roads; iron post stamped "379 ADJ".....	378. 348

NEW HAVEN, WEST ALONG HIGHWAY, TO NEAR OMAHA.

Omaha, 6.5 miles east of, northeast corner of junction of east-west road with T road to south, 12 feet west of hickory 2 feet in diameter; iron post stamped "387 ADJ".....	387. 094
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NEW HAVEN, EAST ALONG HIGHWAY, TO WABASH RIVER.

Ragland Island, 1.5 miles south of, just above Loop Slough, 75 feet south of large high-water barn; iron pipe marked "U. S. Eng'r" (U. S. Engineer Corps bench mark No. 38, elevation 343.802).....	346. 166
Ragland Island, 1.5 miles south of, 75 feet south of barn, 3 feet east of U. S. Engineer Corps bench mark; iron post stamped "346 ADJ".....	346. 052

ST. PATRICK CHURCH, SOUTH AND EAST TO ROUND POND SCHOOL; THENCE NORTH TO WABASH RIVER.

St. Patrick Church, 0.75 mile south of, east line of sec. 25, T. 8 S., R. 9 E., northeast corner of road fork; iron post stamped "366 ADJ".....	366. 002
Round Pond, at northeast corner of schoolhouse; iron post stamped "362 ADJ".....	362. 259

Galatia and West Frankfort Quadrangles.

FRANKLIN, HAMILTON, SALINE, AND WILLIAMSON COUNTIES.

The following elevations were determined by primary leveling connected with the precise-level line from Duquoin to Shawneetown, which crosses Galatia and West Frankfort quadrangles. The work was done mostly in 1906 by F. C. Higley, but part of that in West Frankfort quadrangle was done in 1907 by Henry Bücher, all under state cooperation, and the standard bench marks are stamped with the state name.

GALATIA QUADRANGLE.

RALEIGH, NORTH TO NEAR WALPOLE; THENCE WEST TO POINT 2 MILES NORTH OF THOMPSONVILLE.

Raleigh, 2.5 miles north of, at township line road, north line of sec. 3, T. 8 S., R. 6 E., at southeast corner of road crossing; iron post stamped "400-1906".....	Feet. 401. 576
Raleigh, 5.5 miles north of, north line of sec. 22, T. 7 S., R. 6 E., on county line, southwest of road corners; iron post stamped "381-1906".....	381. 803
Raleigh, 7.7 miles north of, 1 mile southeast of Walpole, 0.25 mile south of section line, southeast of road corner; iron post stamped "409-1906"....	409. 881
Walpole, 0.75 mile due north of, southwest of road fork, at intersection of township line road; iron post stamped "443-1906".....	443. 945
Walpole, 4.1 miles west of, at southwest corner of sec. 36, T. 6 S., R. 5 E., just northeast of road corner; iron post stamped "478-1906".....	479. 035

	Feet.
Walpole, 5 miles west of, 575 feet west of half-section line of sec. 3, T. 7 S., R. 5 E., north side of New Haven road, 6 feet west of 6-inch walnut tree, at south road in J. Webber's field; iron post.	441. 612
Walpole, 8.5 miles west of, southeast corner of intersection of county line road and New Haven road, 40 feet east of county line; iron post stamped "593-1906".....	593. 904

RALEIGH, SOUTH TO TOWNSHIP LINE; THENCE WEST TO ATTILA.

Raleigh, 1.6 miles south of, corner of sec. 21, 22, 27, and 28, T. 8 S., R. 6 E., at southeast corner where road turns south; iron post stamped "373"	373. 202
Raleigh, 4.28 miles south of, north of center of sec. 4, T. 9 S., R. 6 E., 0.33 mile south of township line, southeast of second right angle in road south; iron post stamped "363".....	362. 959
Raleigh, 5 miles southwest of, southeast of crossroads at Mount Moriah Church, 0.25 mile west of corner of Raleigh and Harrisburg townships; iron post stamped "459-1906".....	459. 397
Mount Moriah, 2.94 miles west of, southwest of crossroads at center of Brushy Township, at town hall; iron post stamped "402-1906".....	402. 199
Rock Creek Township, near northeast corner of, 0.5 mile west of Saline County line, on east-west road to Attila; iron post stamped "487-1906" ..	487. 440

WEST FRANKFORT QUADRANGLE.

ATTILLA, WEST TO WHITE ASH; THENCE NORTH TO BENTON.

Attila, in front of two-story brick church; iron post stamped "558-1906".	557. 950
Attila, 2.8 miles west of, near corner Ts. 8 and 9 S., Rs. 3 and 4 E., 58 feet north of center of railroad track and east of north-south township-line road; iron post stamped "467-1906".....	467. 138
Pittsburg, northwest corner of lot 1, block 21, in front of drug store; iron post stamped "464-1906".....	464. 415
White Ash, about 2 miles east of, northeast of road corner at witness tree, between railroad right of way and township-line road; iron post stamped "477-1906".....	477. 547
White Ash, southwest of intersection of Chicago and Eastern Illinois Railroad switch and the Johnston City-Marion road, 60 feet south of center of track; iron post stamped "449-1906".....	449. 027
Johnston City, 1.6 miles south of, in corner northwest of first road crossing north of city limits; iron post stamped "459-1906".....	459. 749
West Frankfort, 2 miles south of, on first half-section line north of county line at road crossing, 55 feet east of center of Chicago and Eastern Illinois Railroad track, southeast of road corner; iron post stamped "439-1906"	439. 557
West Frankfort, across road directly north of railroad station, 25 feet north of north side of walk, between railroad right of way and store wall; iron post stamped "408-1906".....	407. 969
West Frankfort, 0.81 mile south of, 1,200 feet south of Chicago and Eastern Illinois Railroad coal shutes, at west road, southwest of road corner; iron post stamped "396-1906".....	396. 036
Benton, 4.76 miles south of, at township-line road crossing, southeast of corner; iron post stamped "411-1906".....	411. 042

THOMPSONVILLE, NORTH 2 MILES.

Ts. 5 and 6 S., R. 4 E., corner of secs. 33, 34, 4, and 3, 3 miles west of county line, 30 feet southwest of road, 2 feet north of township line, in field of Akin Plaster; iron post stamped "459-1906".....	460. 476
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WEST FRANKFORT, WEST TO CHICAGO, BURLINGTON AND QUINCY RAILROAD.

T. 7 S., R. 2 E., near southwest corner of sec. 22, dim crossroads, on south side of road, 8 feet north of fence, 40 feet west of fence corner, 30 feet east of 3-foot white oak; iron post stamped "396-ADJ".....	Feet. 396.036
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WHITE ASH, SOUTHWEST ALONG MISSOURI PACIFIC RAILROAD, TO SEC. 32, T. 9 S., R. 2 E.

T. 8 S., R. 2 E., southwest corner of sec. 35, on north side of Coal Belt Electric Railway at its junction with the Missouri Pacific Railway extension to the Cartersville District mine, 0.9 feet south of fence, 8.2 feet west of trolley pole, and 270 feet west of line of the Coal Belt Electric Railway before it makes the curve to join the Missouri Pacific Railway; iron post stamped "471 ADJ".....	471.757
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Alto Pass, Herrin, and Murphysboro Quadrangles.**FRANKLIN, JACKSON, PERRY, AND WILLIAMSON COUNTIES.**

The following elevations were determined by primary leveling connected with the precise-level line from Duquoin to Shawneetown, which crosses Herrin quadrangle. No Coast and Geodetic Survey bench marks were recovered south of Duquoin. The work was done in 1907 by Henry Bücher, under state cooperation, and the standard bench marks are stamped with the state name.

HERRIN QUADRANGLE.

DUQUOIN, SOUTH ALONG ILLINOIS CENTRAL RAILROAD, TO CARBONDALE.

	Feet.
Duquoin, 1.8 miles south of, in top of west wall concrete culvert No. 290-H; "o" of date (1902) in brass plate marked "Myers Construction Co., 1902, St. Louis".....	434.280
Duquoin, 2.4 miles south of, west wall concrete culvert 290-81; brass plate marked as above.....	420.514
Duquoin, 2.5 miles south of, at southwest corner of concrete culvert 291-01, in top of west wall, 1.3 feet east of west edge and 1.8 feet north of south edge; aluminum tablet stamped "420 ADJ".....	420.182
Duquoin, 2.5 miles south of, in west wall of same culvert; brass plate marked "Myers," etc.....	420.175
Duquoin, 3.8 miles south of, concrete culvert 292-23, in top of west wall, brass plate marked "Myers," etc.....	414.146
Duquoin, 4.4 miles south of, concrete culvert 292-88, top of west wall; brass plate marked "Myers," etc.....	401.816
Elkville, 1.9 miles north of, culvert 293-58, top of west wall; brass plate marked "Myers," etc.....	397.636
Elkville, 1.3 miles north of, culvert 294-05, on top of west wall; brass plate marked "Myers," etc.....	398.696
Elkville, at north end of station platform; iron post stamped "Prim. Trav. Sta. 34-1906 400 ADJ".....	400.509
Hallidayboro, 0.3 mile north of, culvert 296-60, top of west wall; brass plate marked "Myers," etc.....	404.853
Hallidayboro, just south of station; top of rail at crossing.....	407.4
Hallidayboro, 0.8 mile south of, culvert 297-71, top of east wall; middle "c" of Chicago in brass plate marked "Gilbert Spencer, jr., Chicago, 1902".....	396.014

	Feet.
Hallidayboro, 1.1 miles south of, east wall of culvert 298-01, marked "Gilbert Spencer," etc.....	395.086
Hallidayboro, 1.5 miles south of, east wall of culvert 298-42, brass plate marked "Gilbert Spencer," etc.....	390.364
Hallidayboro, 1.7 miles south of, near south quarter corner of sec. 32, T. 7 S., R. 1 W., at southwest corner of road crossing, on south side of wagon road, 1.5 feet north of fence and 32 feet west of west rail of south-bound track; iron post stamped "394 ADJ"	393.926
Ward station, north end of road crossing; top of west rail.....	409.1
De Soto, 0.6 mile north of station; culvert 301-28; top of east wall, marked "Gilbert Spencer," etc.....	386.701
De Soto, 0.1 mile north of, east wall of culvert 301-78, just south of overhead crossing Missouri Pacific Railway; brass plate marked "Gilbert Spencer," etc.....	390.830
De Soto, about 120 feet south of station, in right of way at northwest corner of section house lot, 0.8 foot west of fence and 2.2 feet south of fence corner, 19 feet east of east rail; iron post stamped "401 ADJ"	401.732
De Soto, 2.2 miles south of, Illinois Central Railroad bridge 304-00 over Big Muddy River, at extreme southwest corner, in top of west wall, 2.3 feet from south end and 2.6 feet from west end; aluminum tablet stamped "392-ADJ".....	392.004

NEAR CARBONDALE, NORTHWEST TO NEAR GLENAHL.

T. 9 S., R. 1 W., corner of secs. 5, 6, 7, and 8, southwest corner of T road, west side of road, 0.8 foot east of fence, 24 feet south of fence corner; iron post stamped "397 ADJ".....	397.474
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NEAR WEST FRANKFORT, WEST ALONG HIGHWAY, TO ELKVILLE.

T. 7 S., R. 2 E., northwest corner of sec. 19, at northeast corner of crossroads, on north side of road, 0.8 foot south of fence, 20 feet east of north-south fence line, on east side of north-south road; iron post stamped "398 ADJ".....	398.210
T. 7 S., R. 1 E., southwest corner of sec. 24, at northeast corner of crossroads, east side of road, 0.7 foot west of fence, 2.6 feet north of fence corner; iron post stamped "393 ADJ".....	393.030
T. 7 S., R. 1 E., northwest corner of sec. 28, southeast corner of crossroads, on south side of road, 1 foot north of fence, 6.8 feet east of fence corner; iron post stamped "440 ADJ".....	440.360
T. 7 S., R. 1 W., center of NE. $\frac{1}{4}$ sec. 25, southeast corner of T road east, north of straight rail fence and east of fence corner; iron post stamped "395-ADJ".....	395.293
T. 7 S., R. 1 W., 0.25 mile east of west quarter corner of sec. 22, at T road to south, north side of road, opposite center of road to south; iron post stamped "391 ADJ".....	391.645

SEC. 32, T. 9 S., R. 2 E., WEST ALONG ELECTRIC RAILWAY, TO NEAR CARBONDALE.

T. 9 S., R. 2 E., corner of secs. 31, 32, 5, and 6, opposite center of road to north, south side of road; iron post stamped "Prim. Trav. Sta. No. 10-464 ADJ".....	464.756
Fordville, at southwest end of Carterville-Herrin switch and Y; top of rail of Chicago-Burlington Electric Railway	460.7

T. 9 S., R. 1 E., northeast corner of sec. 3, southwest corner of crossroads, west side of road, 0.7 foot east of fence, 6.7 feet south of fence corner; iron post stamped "431 ADJ".....	Feet. 431.057
T. 8 S., R. 1 E., southwest corner of sec. 32, T road north, northeast corner of T on north side of road, 0.7 foot south of fence, 12.5 feet east of fence corner; iron post stamped "427 ADJ".....	427.790
T. 9 S., R. 1 W., 0.3 mile southwest of northwest corner of sec. 1, T road west, east side of road opposite T, west of fence, north of fence corner (fence corner at north end of house lot); iron post stamped "488 ADJ".	488.601
T. 9 S., R. 1 W., northwest corner of sec. 10, southeast corner of crossroads; 0.7 foot west of fence, 11 feet south of east-west fence; iron post stamped "391 ADJ".....	391.216

MURPHYSBORO QUADRANGLE.

POINT 2.7 MILES SOUTH OF DUQUOIN, WEST ALONG HIGHWAY, TO SEC. 5, T. 7 S., R. 3 W.; THENCE SOUTH TO MOBILE AND OHIO RAILROAD.

T. 6 S., R. 2 W., quarter corner between secs. 26 and 27, T road north, on south side of road, 1 foot north of fence and 38.5 feet west of field fence to south; iron post stamped "451 ADJ".....	451.108
T. 6 S., R. 2 W., center of SW. $\frac{1}{4}$ sec. 29, T road west, on south of road, 2 feet north of fence and 2.2 feet west of fence corner; iron post stamped "405 ADJ".....	405.16
T. 6 S., R. 3 W., corner of secs. 35, 36, 25, and 26, opposite T road south, north side of road, 1.1 feet south of fence, 8 feet west of telephone pole, 21 feet east of small gate in fence; iron post stamped "409 ADJ".....	409.238
T. 7 S., R. 3 W., 0.25 mile south of northeast corner of sec. 5, southwest corner of T road west, south side of road, 0.7 foot north of fence and 11 feet west of fence corner; iron post stamped "396 ADJ".....	396.593
T. 7 S., R. 3 W., center of sec. 17, second-class road east, southeast corner of T, east side of road, west of fence and south of fence corner; iron post stamped "522 ADJ".....	522.656

AVA, EAST ALONG MOBILE AND OHIO RAILROAD, TO ORAVILLE; THENCE ALONG HIGHWAY, TO HALLIDAYBORO.

Ava, southwest corner of station lot, 1 foot west of sidewalk; iron post stamped "Prim. Trav. Sta. No. 37 1906-604-ADJ".....	604.835
Ava, 2 miles east of, 0.25 mile south of north quarter corner of sec. 29, T. 7 S., R. 3 W., at road crossing, east side of wagon road, 70 feet north of track, 25 feet north of north right-of-way fence, 1 foot west of fence; iron post stamped "521 ADJ".....	521.714
Bryden, road crossing east of trestle 564 A, east side of wagon road, 35 feet north of track and 1 foot west of fence; iron post stamped "415 ADJ".	416.196
Oraville, at southeast corner of road crossing at station, east side of road, 10 feet west of fence and 4.4 feet south of fence corner; iron post stamped "396 ADJ 1905".....	395.944
T. 6 S., R. 2 W., east quarter corner of sec. 6, at northwest corner of crossroads, west side of road, 0.8 foot east of fence and 3.3 feet north of fence corner; iron post stamped "396 ADJ".....	396.828
Finney, Illinois Central Railroad station; top of rail.....	397.8
Finney, 0.5 mile north of, northeast corner of sec. 33, T. 7 S., R. 2 W., southwest corner of crossroads, west side of road, 1 foot east of fence, 3.7 feet south of fence corner; iron post stamped "396 ADJ".....	396.299
Ts. 7 and 8 S., R. 2 W., corner of secs. 1, 2, 35, and 36, west side of road, opposite center of T road east, by old rail fence, 4.8 feet north of telegraph pole; iron post stamped "404 ADJ".....	404.824

NEAR GLENAHL, WEST ALONG ILLINOIS CENTRAL RAILROAD AND MISSOURI PACIFIC RAILWAY, TO GRIMSBY.

	Feet.
T. 9 S., R. 2 W., NW. $\frac{1}{4}$ sec. 12, at southwest corner of road crossing, west side of road, 1.1 feet east of fence and on line with south right-of-way fence, 43 feet south of railroad; iron post stamped "397 ADJ".....	397. 004
Concrete culvert "G-86-09," top of north wall; middle "c" of Chicago in brass plate marked "J. L. Fulton Co., Chicago, 1898".....	378. 948
Murphysboro, in northwest corner of county court-house lot; iron post stamped "Prim. Trav. Sta. No. ? 419-ADJ".....	419. 542
Murphysboro, road crossing at Missouri Pacific Railway station; top of rail.	409. 5
Murphysboro, 2.2 miles southwest of, in west face of north pier of concrete foundation of water tank; aluminum tablet stamped "367 ADJ".....	367. 603

GRIMSBY, NORTH ALONG ILLINOIS CENTRAL RAILROAD AND PUBLIC HIGHWAYS, TO AVA.

T. 8 S., R. 3 W., NE. $\frac{1}{4}$ sec. 33, road crossing of Illinois Central Railroad on east side of wagon road, 50 feet south of center of track, 30 feet north of southeast corner of right-of-way fence; iron post stamped "374 ADJ".	374. 553
T. 8 S., R. 3 W., SE. $\frac{1}{4}$ sec. 17, road makes jog to east then turns north, east side of road at point where private road turns south, 1 foot west of fence and 4 feet north of telegraph pole; iron post stamped "707 ADJ".	707. 703
T. 8 S., R. 3 W., southwest corner of sec. 5, T road north, just south of Jones's farm house, at west side of road, 40 feet north of center of T and standing by old rail fence; iron post stamped "641 ADJ".....	641. 609

ALTO PASS QUADRANGLE.

AT GRIMSBY (SANDRIDGE POST-OFFICE).

Grimsby, northwest corner of T road at north side of station, 1.5 feet south of fence, 6.5 feet west of fence corner; iron post stamped "361 ADJ"....	361. 545
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Mattoon, Ramsey, St. Elmo, Shelbyville, Vandalia, and Windsor Quadrangles.

COLES, FAYETTE, AND SHELBY COUNTIES.

The following elevations were determined by primary leveling along Kaskaskia River from Keyesport to Shelbyville and across country, connected at Keyesport with primary leveling from East St. Louis and at Lerna with the precise-level line from Olney to Fairmount Junction.

The work was done in 1907 by P. E. Fletcher, resident engineer, of the state Geological Survey, under the direction of H. Foster Bain, state geologist of Illinois.

KEYSPORT, ALONG HIGHWAY NORTH AND EAST VIA VANDALIA AND HOLLIDAY, TO SHELBYVILLE; THENCE EAST ALONG BIG FOUR RAILWAY AND SOUTHEAST ALONG ILLINOIS CENTRAL RAILROAD TO LERNA.

VANDALIA QUADRANGLE.

T. 4 N., R. 1 W., northwest corner of NE. $\frac{1}{4}$ NE. $\frac{1}{4}$ sec. 31; iron post stamped "440".....	440. 030
T. 4 N., R. 1 W., southwest corner of sec. 22; iron post stamped "467".....	467. 494
T. 4 N., R. 1 W., northeast corner of sec. 15; iron post stamped "476".....	475. 755
T. 4 N., R. 1 E., southwest corner of NW. $\frac{1}{4}$ SW. $\frac{1}{4}$ sec. 6; iron post stamped "492".....	492. 228

T. 5 N., R. 1 E., southwest corner of sec. 29, 0.25 mile west of James Kling's residence; iron post stamped "505".....	Feet. 504. 876
T. 5 N., R. 1 E., 300 feet west of northeast corner of sec. 21; iron post stamped "516".....	516. 305
T. 6 N., R. 1 E., 30 feet north of southeast corner of sec. 33; iron post stamped "466".....	465. 921
T. 6 N., R. 1 E., near southeast corner of sec. 16, at intersection of National and Shobonier roads; iron post stamped "474".....	474. 031
Bluff City, 0.25 mile east of intersection of National road and section line between secs. 12 and 13, T. 5 N., R. 1 E., in front of Clarksville school-house, on south abutment of National-road culvert, top of east wing....	509. 7

RAMSEY QUADRANGLE.

Bluff City, northeast corner of NW. $\frac{1}{4}$ SW. $\frac{1}{4}$ sec. 12, T. 6 N., R. 1 E., 0.75 mile north of Clarksville schoolhouse; iron post stamped "507".....	507. 483
T. 7 N., R. 1 E., southwest corner of NW. $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 25, in front of B. F. Forbes's residence; iron post stamped "535".....	535. 421
T. 7 N., R. 2 E., southwest corner of NE $\frac{1}{4}$ sec. 18, 0.25 mile north of Thomas Grandfield's residence; iron post stamped "501".....	500. 877
T. 7 N., R. 2 E., southwest corner of sec. 4; iron post stamped "506".....	506. 013

ST. ELMO QUADRANGLE.

T. 8 N., R. 2 E., southeast corner of NW. $\frac{1}{4}$ sec. 34; iron post stamped "509".....	508. 885
Hogge School, near southeast corner of NE. $\frac{1}{4}$ NE. $\frac{1}{4}$ sec. 23, T. 8 N., R. 2 E., northeast corner of school yard; iron post stamped "580".....	580. 188
T. 8 N., R. 3 E., southeast corner of SW. $\frac{1}{4}$ SE. $\frac{1}{4}$ sec. 7; iron post stamped "594".....	593. 940
T. 8 N., R. 3 E., northeast corner of sec. 5; iron post stamped "589".....	588. 922
T. 9 N., R. 3 E., northwest corner of NE. $\frac{1}{4}$ NW. $\frac{1}{4}$ sec. 35; iron post stamped "610".....	609. 633
T. 9 N., R. 3 E., southeast corner of SW. $\frac{1}{4}$ sec. 10; iron post stamped "558".....	557. 562

SHELBYVILLE QUADRANGLE.

Cowden, 0.5 mile north by 1 mile east of, 600 feet west of southeast corner of sec. 34, T. 10 N., R. 3 E.; iron post stamped "607".....	606. 410
T. 10 N., R. 3 E., northeast corner of sec. 22; iron post (not stamped).....	600. 732
T. 10 N., R. 3 E., southwest corner of sec. 1; iron post (not stamped).....	589. 203
Morris Bridge, near northwest corner of SW. $\frac{1}{4}$ sec. 1, T. 10 N., R. 3 E., 0.5 mile north of above iron post; cap of southeast leg of bridge over Kaskaskia River.....	540. 94
Morris Bridge, October 7, 1907; surface of water.....	518. 0
T. 11 N., R. 3 E., northwest corner of sec. 31; iron post (not stamped)....	606. 221
Shelbyville, in south front of court-house, on east end of second step; aluminum tablet (not stamped).....	650. 23

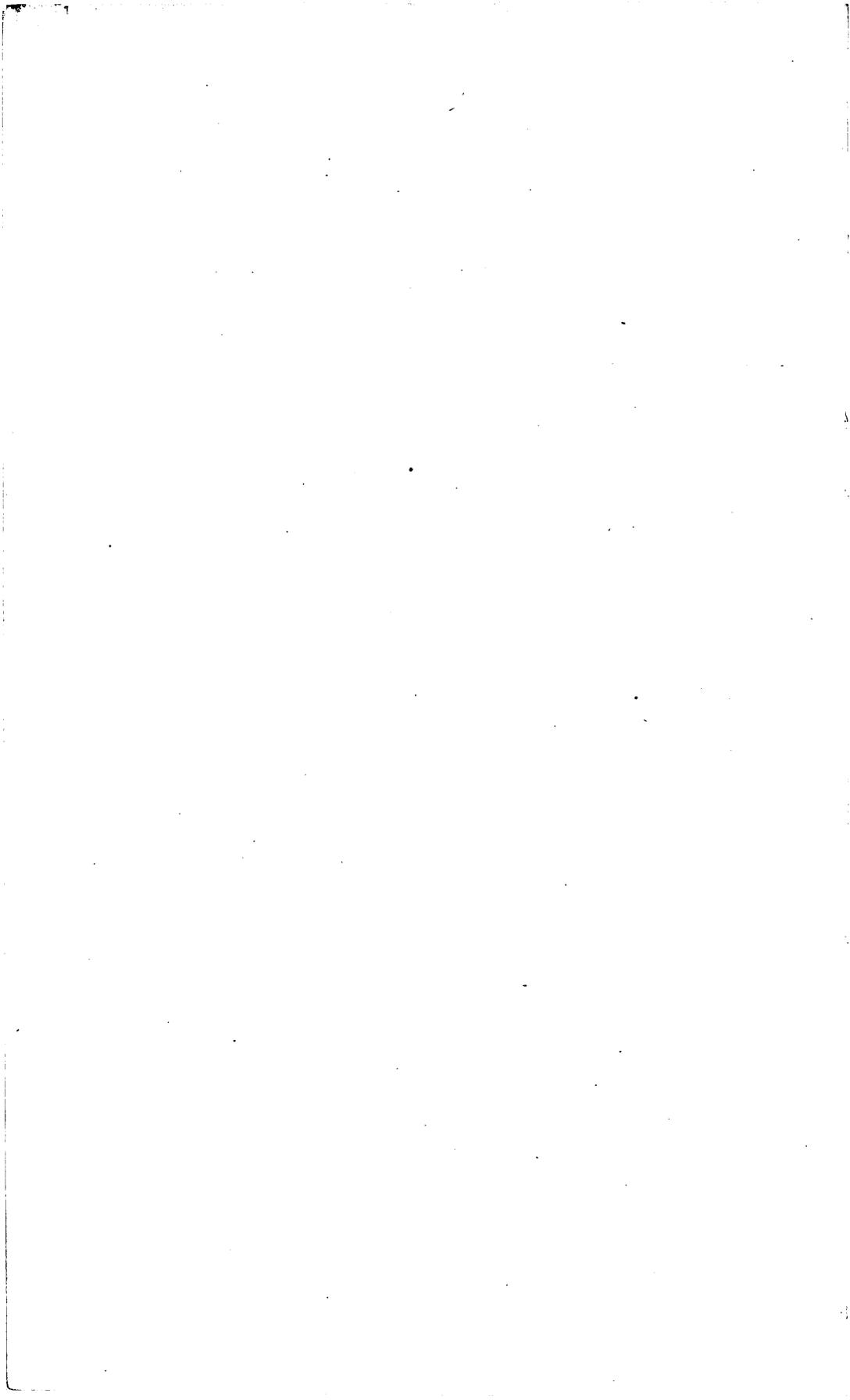
WINDSOR QUADRANGLE.

Middlesworth, 1 mile west of, at intersection of north property line of Big Four Railway and east section line, sec. 10, T. 11 N., R. 4 E.; iron post (not stamped).....	690. 751
Windsor, 3.5 miles southwest of, at intersection of north property line of railroad and north-south quarter section line, sec. 5, T. 11 N., R. 5 E.; iron post stamped "694".....	693. 705

Windsor, at intersection of north line of Big Four Railway and Virginia avenue; iron post stamped "712".....	Feet. 711. 383
T. 12 N., R. 6 E., near northwest corner of sec. 33, in top of concrete post; aluminum tablet stamped "731".....	730. 386

MATTOON QUADRANGLE.

Gays, southwest corner of block 14; in top of concrete post; aluminum tablet stamped "756".....	755. 623
T. 12 N., R. 7 E., at intersection of south property line of Big Four Railway and east line, sec. 20, in top of concrete post; aluminum tablet stamped "715".....	714. 178
Mattoon, at intersection of Illinois Central Railroad and Twenty-first street, in top of concrete post; aluminum tablet stamped "725".....	725. 03
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