DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY
george otis smith, Director

BUulhbtin 441

RESULTS OF SPIRIT LEVELING
IN

# alabama, georgia, N0RTH Car0LINa; S0UTH CAROLINA, AND TENNESSEE 

1896 T0 1909, INCLUSIVE

R. B. MARSHALL, Chief Geographer

$\qquad$

Work done in cooperation with the State of Alabama during 1899 to 1905, inclusive; with the
State of North Carolina during 1896 and from 1902 to 1909, inclusive


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# RESULTS OF SPIRIT LEVELING IN ALABAMA, GEORGIA, NORTH CAROLINA, SOUTH CAROLINA, AND TENNESSEE, 1896 T0 1909, INCLUSIVE. 

R. B. Marshall, Chief Geographer.

## INTRODUCTION.

Scope of the work.-All results of spirit leveling in these States previously published by the United States Geological Survey and of later work are included in this report, rearranged by quadrangles.

The lists herein given are based on the precise-level net as adjusted in 1903 by the Coast and Geodetic Survey upon a common mean sealevel datum. The net of precise levels which cross this group of States comprises the following lines run by the United States Geological Survey: (1) From Morehead, N. C., via Durham, Greensboro, and Newton, N. C.; Knoxville and Cleveland, Tenn., and Macon, Ga., to Brunswick, Ga.; (2) from Durham, N. C., to Clarksville, Va.; (3) from Greensboro, N. C., to Charleston, W. Va.; (4) from Newton, N. C., to Columbia, S. C.; (5) from Cleveland to Chattanooga, Tenn.; (6) from Stevenson, Ala., to Nashville, Tenn.; (7) from Nashville to Prater, Tenn.; (8) from Macon to Milledgeville, Ga.; (9) from Memphis, Tenn., to Tutwiler, Miss. ; and (10) from Memphis to Buntyn, Tenn. This precise-level net also comprises the following lines by the Coast and Geodetic Survey: (1) From Cincinnati, Ohio, via Harriman Junction and Chattanooga, Tenn., to Decatur, Ala:; (2) from Harriman Junction to Knoxville, Tenn.; (3) from Birmingham to Decatur, Ala.; (4) from Decatur, Ala., to Corinth, Miss.; (5) from Corinth, Miss., to Memphis, Tenn.; and (6) from Corinth, Miss., to Cairo, Ill. The following lines by the United States Engineer Corps are also included: (1) From Meridian, Miss., to Birmingham, Ala.; (2) from York to Demopolis, Ala.; (3) from Decatur to Tuscumbia, Ala.; (4) from Riverton Junction, Ala:, to Pittsburg Landing, Tenn.; and (5) the Mississippi River Commission line along the Mississippi.

Cooperation and personnel.-The leveling in Alabama was done in cooperation with the State during the years 1899 to 1905, inclusive; that in North Carolina was done in cooperation with that State during 1896 and from 1902 to 1909, inclusive. The leveling in Georgia, South Carolina, and Tennessee was not done in cooperation with the States.

The field work during 1896 to 1906 , inclusive, was done under the direction of H. M. Wilson, geographer, and during 1907 to 1909, inclusive, under Frank Sutton, geographer. The work since January, 1908, was done under the general direction of R. B. Marshall, chief geographer. Credit is given in the heading of each list to the different levelmen.

The office work of computation and compilation of results was done by D. H. Baldwin, topographer, under the immediate supervision of S. S. Gannett, geographer, and since 1907 under the general direction of E. M. Douglas, geographer.

Classification.-The lists are separated into two classes, precise and primary, distinguishing the degree of refinement in the method of leveling employed. Under precise leveling are included either lines run in both forward and backward directions or simultaneous doublerodded lines, a high-grade level and rated rods being used and special precautions being taken in observation and reduction to correct errors and make the results continuously good. Under primary leveling are included lines run mostly single with the $Y$ level, precautions being taken against only the principal sources of error, and depending upon the closure of circuits for a check. The allowable limit of error observed on the double-simultaneous precise lines run by the Geological Survey is represented in feet by the formula $0.04 \sqrt{D}$, and on the other precise lines run by the forward and backward method by the formula $0.017 \sqrt{\bar{D}}$, in which D is the distance between bench marks in miles. The limit in feet on primary work is represented in feet by the formula $0.05 \sqrt{\bar{D}}$, in which D is the length of circuit in miles.

Bench marks.-The bench marks, the locations of which are given in the following lists, are mainly of three general forms: First, a circular bronze or aluminum tablet $3 \frac{1}{2}$ inches in diameter and one-fourth inch thick, appropriately lettered, having a 3 -inch stem cemented in 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 $3 \frac{1}{2}$ inches in outer diameter and 4 feet in length, 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. These posts are generally sunk 3 feet in 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 third form consists of a copper bolt 1 inch in diameter and 4 inches long, which is split at one end and expanded by driving on a brass wedge in a drill hole in masonry. But few bench marks of the third class have been used in these States, and their use has now been discontinued.

The numbers stamped on the bench marks 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 reduce to mean sea level through connection with or readjustment of the precise-level net of the United States. Some of the elevations as finally accepted and printed herein therefore differ from those submitted as bench-mark numbers by 1 or 2 feet. This method of numbering bench marks, rather than any attempt at serial numbering, has been adopted where many levelmen are working in a given area at the same time as less liable to lead to confusion in identification of bench marks, and because by this method the bench-mark number also affords 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. Bench marks established under cooperation with a State are stamped with the state name.

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.

## ALABAMA. <br> PRECISE LEVELING.

## Stevenson quadrangle.

## JACKSON COUNTY.

The elevations in the following list are a portion of the results of precise levels extended from Chattanooga to Nashville, Tenn. The section from Chattanooga, Tenn., to Stevenson, Ala., of this line was recovered by the Coast and Geodetic Survey precise levels, the adjustment of which has caused the original elevations by this line at Stevenson to be raised 0.157 foot with respect to Chattanooga. The remainder of the line to Nashville is a spur. The simultaneous double-rodding method was used. The elevations accord with the 1903 adjustment. The leveling was done in 1899 by W. W. Gilbert.

| stevenson. |  |
| :---: | :---: |
| Bridgeport, at west end of east bridge over Tennessee River; top of rail. . | 626.8 |
| Bridgeport, in front of post-office building at southwest corner, 4 feet above sidewalk; bronze tablet stamped " 679 NASHVILLE, 1899". | 675.416 |
| Bridgeport, at point of switch of Sequatchie Valley branch of Nashville, Chattanooga and St. Louis Railway, west of station; top of rail. | 664.2 |
| Boliver, 0.8 mile west of, north end of stone culvert, west face of capstone; bronze tablet stamped " 624 NASHVILLE, 1899" | 621.443 |
| Stevenson, 840 feet north of station, east end of stone culvert, top of southeast corner of capstone; bronze tablet stamped " 627 NASHVILLE, 1899". | 624.095 |stevenson, northwest along nashville, chattanooga and st. louis railway, toANDERSON FARM.Feet.

Stevenson, opposite north end of station; top of east rail. ..... 622.7
Base, opposite north end of station; top of rail ..... 615.9
Base, 0.5 mile north of, east side of track, face of rock in cut, 3 feet aboverail, 40 feet north of signal; bronze tablet stamped " 631 NASHVILLE".627.731
PRIMARY LEVELING.
Anniston, Gadsden, Fort Payne, Rome, and Wedowee quadrangles.
CALHOUN, CHAMBERS, CHEROKEE, CLEBURNE, DEKALB, ETOWAH, RANDOLPH, AND talladega counties.

The elevations in the following list were determined by extensions from Rome, Ga. The leveling was done as follows: In Rome and Fort Payne quadrangles in 1896 by J. A. McDonough; in Fort Payne and Anniston quadrangles in 1897 by T. S. Mauldin, W. R. Harper, and Hargraves Wood; in Anniston quadrangle in 1898, and in Wedowee quadrangle in 1899 by W. S. D. Moore. The standard bench marks set in 1896 and 1897 are marked approximately 15 feet too high.

## FORT PAYNE QUADRANGLE.

broomtown, southwest along highway, to cedar bluff.
Broomtown, at crossroads; iron post stamped " 693 ". . . . . . . . . . . . . . . . . . . $\quad 678.296$
Gaylesville, 0.8 mile south of, in rock on west side of Rome road; copper
bolt stamped "U.S. G. S. 592 "................................................................ 577.389
Cedar Bluff, 3 feet west of large oak tree in public square; iron post stamped
" 608 "...................................................................................... cedar bluff, southeast via howells crossroads and key, to forney.
Howells Crossroads, near tree in front of post-office; iron post stamped " 594 ". 579.076
Wharton, 50 feet southwest of corner of Abernathy's mill, 25 feet from creek,
300 feet east of bridge in rock; copper bolt stamped "U. S. G. S. 583 ".. 568.134
rockrun, northwest via exie and coloma, to moshat; thence east to key.
Old Coloma, 2 miles north of, 5 miles west of Exie, at fork of Center-Piedmont road to Spring Garden, 15 feet northwest of cedar tree, 50 feet from J. J. Scruggin's house (occupied by J. M. Standifor), near church, in limestone ledge; copper bolt stamped "U. S. G. S. 597 "
Moshat, crossing of Cave Spring, Center, and Cedar Bluff roads, in north-
east corner of front yard; iron post stamped " 677 "............................. 662.407
key, west via bomar and moshat, to center.
Moshat, in yard of dwelling house at road of forks; iron post stamped " $R$ 677 ".662. 303
Center, in front of court-house; in sill of hall window east of doorway; cop- per bolt stamped "R 680". ..... 665. 165
center, west to leesburg; thence southwest along railroad to gadsden.
Leesburg, 1,000 feet east of post-office, in northeast corner of crossroads,
1,000 feet south of railrcad; iron post stamped "R 596 "................. 581.440
Oak Hill, 165 feet west of Penticost's house, at foot of large oak tree at south
side of road; iron post stamped " R 601 "............................................... 585.632

lookout mountain, northeast along alabama great southern railroad, to collinsville.
Milepost 78, 180 feet west of, south of track, at tangent point; top of iron Feet. rail set endwise in ground ..... 633.12
Keener, 15 feet east of J. P. Keener's store; iron post stamped "A 675". ..... 674.235
COLLINSVILLE, SOUTHEAST ALONG HIGHWAY, TO LEESBURG.
Collinsville, 4 feet south of the southeast corner of Methodist Church; iron post stamped " 708 A" ..... 707.473
CEDAR BLUFF, NORTHWEST VIA FIRESTONE, TUCKER, LACKEY GAP, AND ALONG ALABAMA GREAT SOUTHERN RAILROAD, TO PORTERSVILLE.
Hurley, 60 feet south of ford of Spring Creek, 7 feet east of spring, in ledge on east side of road; copper bolt stamped "U. S. G. S. 581 R" ..... 565.858
Firestone, south end of bridge over Little River, in northeast corner of roads: iron post stamped " 603 R " ..... 588.004
Tucker, 500 feet north of former post-office, at fork of Portersville-Fort Payne road; iron post stamped "1161 R" ..... $1,145.272$
Portersville, 500 feet northeast of station, Alabama Great Southern Railroad bridge No. 28 over small stream flowing northwest, west side of south abutment; copper bolt stamped " 759 A" ..... 758.021
collinsville, via coker gap down big wills creek, to settlement rond.
Collinsville, 6 miles southwest of, at fork made by Settlement road and the Big Wills Valley road to Fort Payne; iron post stamped " 651 A". ..... 649. 548
COLLINSVILLE, NORTH VIA DAWSON AND FLOY, TO GUEST.
Dawson, opposite blacksmith shop, on south side of road, at top of Coker Gap; iron post stamped " 1160 A" ..... $1,159.314$
Floy, north side of road in front of W. H. Elrod's house; iron post stamped "1209 A" ..... $1,208.438$
guest, northwest to luttrell (Single spur line).
Luttrell, south side of road, 30 feet east and 48 feet north of J. O. White's new house, at signboard "Lebanon 10 miles;" iron post stamped "1294 A" ..... $1,292.750$
guest, east via lydia and chavies, to fort payne.
Chavies, in ledge on west side of road at ford in Town Creek, 50 feet north of James Durham's gin, 40 feet west of highway; copper bolt stamped "1161 A" ..... $1,159.562$
fort payne, southeast via rallroad gap, lookout mountain, and blanche, to BROOMTOWN.
Fort Payne, north side of east entrance of court-house, countersunk in stone coping; aluminum tablet stamped " 934 A " ..... 922.947
Fort Payne, 1.5 miles northeast of, 210 feet southwest of road, in field south- east of Alabama Great Southern Railroad, in limestone ledge; aluminum bolt stamped "949 A" ..... 937.916
Fort Payne, 7 miles east of, 40 feet east of Yellow Creek, 12 feet north of bridge over same, in sandstone ledge; aluminum bolt stamped " 1240 A". 1, 228.596
Blanche, 0.25 mile southeast of, 10 feet north of center of road to Broom- town, in slate ledge; aluminum bolt stamped " 760 A " ..... 748. 286

Center, south to ball flat.

Ricks, 7.6 miles south of Center, in northeast corner of crossroads; iron post

Feet.
607. 501
575. 760
RONAR, SOUTH VIA SANFORD SPRING, TO SPRING GARIDEN.
Sanford Spring, hill above, east of road, between two large oak trees, about
100 yards south of cabin west of road; iron post stamped " $R 697$ "...... 681.897

## ROME QUADRANGLE.

HAYNIE, SOUTHWEST TO ROCKRUN.
Bauxite, A. T. Terry's front yard; iron post stamped " 1072 ". $1,056.877$
Rockrun Iron and Mining Company, in yard of store, by fence just north
of entrance to office; iron post stamped " 754 "......................................... 739.375
GADSDEN QUADRANGLE.
gadsden, northwest to lookout mountain.

Moon Spring Branch, 70 feet west of; 370 feet west of milepost 7 from Gads-.
den, in ledge on north side of road; copper bolt stamped " 893 A"...... 892.151

ANNISTON QUADRANGLE.
spring garden, south via wilson ridge to near grantley; thence west via jenkins TO JaCKSONVILLE.

Spring Garden, 120 feet north of station, 130 feet east of railroad; iron post
stamped " 716 R "

701. 224

Wilson Ridge station (Southern Railway), 15 feet north of water tank, 20
feet west of railroad; iron post stamped " 729 R "....................................... 413.46
Parkers Creek, 200 feet south of, in small outcropping rock, west of road to
Edwardsville; copper bolt stamped ' 822 A"'............................. 820.902
Jenkins, 200 feet west of former post-office, 6.8 miles east of Jacksonville,
in ledge of rock on north side of Jenkins-Jacksonville road, 100 feet west
of White Plains road; aluminum bolt stamped " 805 R "..................... 789.570
Jacksonville, in east pilaster front of court-house; tablet stamped " 734 R ". $\quad 719.012$
jacksonville, north to allesup; thence east to spring garden.
Jacksonville, in front of station sign; top of east rail.
627.4

Allsup, west of center of road, 75 feet north of mail box; iron post stamped " 684 R".
669. 176

Shady Grove Church, 0.5 mile west of, north of Spring Garden-Goshen road, 300 feet northeast of Harrison Rutheriord's house, in ledge of slate; bolt stamped " 675 R "
660. 216
jenkins, northeast to spring gardén.
Jacksonville, 9.5 miles from, at southwest corner of Nances Creek-Jacksonville road, near sign "Piedmont $6 \frac{1}{2}$ miles;" iron post stamped " 780 R ". 763.786

Piedmont (station on Southern Railway); top of north rail.................. 700.0
Piedmont, in front of brickwork Eubanks \& Cheney's general store; bronze tablet stamped " 721 R ".

| Caves Ferry road, 20 feet west of, in field north side of old settlement road, 300 feet north of deserted house (formerly Adelia post-office); iron post stamped " 766 R ". | Feet. $\text { 751. } 181$ |
| :---: | :---: |
| Mack, south of Jacksonville-Gadsden road, 100 feet east of Hokes Bluff road, opposite former post-office; iron post stamped " 623 R " $\qquad$ READS, NORTI TO HOKES BLUFF. | 608.068 |
| Reads, Louisville and Nashville Railroad crossing; top | 539.4 |
| Colvin, crossing east of station; top of r | 641.2 |
| Rock Springs, 20 feet south of post-office, 100 feet south of spring, about 200 feet east of Louisville and Nashville Railroad, west of quarry road in rock; copper bolt stamped <br> " 594 R". | 578.915 |
| Hokes Bluff, 1 mile south of, 200 feet south of Glencoe-Gadsden road fork, 800 feet north of crossing of Big Cove Creek, west of Glencoe-Hokes Bluff road; iron post stamped " 562 R ". | 546.688 |

GLENCOE, NORTHWEST TO GADSDEN.

## East Gadsden, 0.1 mile southeast of station, southeast corner of forks of Gadsden-Jacksonville and Hokes Bluff roads; iron post stamped " 566 R".

Bridge; southwest corner fork of Hebron and Grayton roads; iron poststamped " 582 R ".
Anniston, in stone base of south face of southeast column of porch at east
side of Union Station; bronze tablet stamped " 710 A "................ 709.028

| Anniston, between Twenty-fifth and Twenty-sixth streets; in wall of J. L. |  |
| :--- | :--- | :--- |
| Murphy's yard on east side of Noble street; copper bolt stamped " 810 A ". | 808.970 |


anniston, south to oxford; thence east to choccolocco; thence north to jenkins.
Oxford-Choccolocco road, south of, 100 feet east of Boiling Spring road; iron post stamped " 633 A "
Choccolocco, opposite east end of station, 20 feet north of Southern Railway; iron post stamped " 671 A"
670. 022

White Plains, west of Main street, opposite road to Jenkins; iron post stamped " 722 A".
little terrapin creek, south to edwardsvilee.
Edwardsville, 11 miles north of, west of road to Edwardsville, 300 feet south of Saunders Branch, in rock; copper bolt stamped " 1266 A"......
Edwardsville, near southeast corner court-house, on east side; bronze tablet stamped "987 A".

## edwardsville, west via heflin and old davisville, to choccolocco.

Heflin, 100 feet west of station, east of street, 40 feet north of Southern Feet. Railway; iron post stamped " 975 A ". ..... 974. 343
Old Davisville, southeast corner of Chulafinnee-Iron City and Anniston roads; iron post stamped " 724 A " ..... 723. 339
heflin, south via ross mountain to beasons mill; thence west to oxford.
Beasons Mill, at fork of Chulafinnee and Pinetucky gold mine roads; iron post stamped " 888 A". ..... 886. 843
Chulafinnee, 100 feet north of crossroads, in front of J. T. Rusk's store; iron post stamped "871 A" ..... 870. 609
hicks, west to jenifer; thence north and east to anniston.
Hicks, opposite fork of road to Boiling Spring; iron post stamped " 647 A". ..... 645.997
Hicks, 4.7 miles west of, 0.2 mile north of Munford road, 10 feet east of center of road to north, 100 feet south of branch flowing west, in stone; aluminum tablet stamped " 630 A ". ..... 629. 873
Jenifer, on north point near northeast corner of engine house at blast fur- nace, in wall; aluminum tablet stamped " 577 A". ..... 576. 875
Coldwater, on west wall near northwest corner of pumping station, 18 inches above surface of ground; aluminum tablet stamped " 597 A ". ..... 596. 254
Eulaton, Southern Railway crossing; top of rail. ..... 649.3
WEDOWEE QUADRANGLE.beasons mill, via wedowee, Roanoke. and doublehead to finley.
Rockdale, 3 miles north of, 0.2 mile north of Union Church in fork of Heflin and Arbacoochee roads; iron post stamped "1101 ANNISTON". ..... $1,100.563$
Rockdale, iron bridge over Little Tallapoosa River, in top of east end of south pier; copper bolt stamped " 789 A " ..... 788. 113
Wedowee, in west face of southwest corner of court-house; aluminum tablet stamped " 854 ANNISTON" ..... 853. 139
Cornhouse Creek, 50 feet south of ford, 30 feet east of road, in rock; copper bolt stamped " 830 ANNISTON" ..... 829. 189
Roanoke, at corner of Main and Wedowee streets, in west wall near north- west corner of Shueller's store; bronze tablet stamped " 846 ANNISTON" ..... 845. 272
Doublehead, in forks of road, 500 feet south of former post-office; iron post stamped "811 ANNISTON". ..... 810. 268
Doublehead, 2.6 miles south of, creek 50 feet north of bridge and 30 feet west of road, in stone; copper bolt stamped " 684 ANNISTON". ..... 683. 346
Stroud, 18 feet south of southwest corner of railroad station; iron post stamped " 851 ANNISTON". ..... 850.847
Finley, at road forks, 400 feet south of former post-office; iron post stamped "775 ANNISTON ". ..... 774. 585
finley, north via rock mills, wehadree, omaha, and grabam, to beasons mill.
Rock Mills, 10 feet south of, east end of bridge over Wehadkee Creek, in stone; copper bolt stamped " 744 ANNISTON". ..... 744. 130
Pittman, 1 mile south of, in northeast angle of road forks; iron post stamped "927 ANNISTON". ..... 926. 897
Wehadkee, in southwest angle of crossruads; iron post stamped " 972 AN- NISTON " ..... 971. 270
Omaha, at crossroads, 0.5 mile south of former post-office; iron post stamped "'1310 ANNISTON".. ..... 1, 309.641
Redoak Church, south of road, opposite church; iron post stamped "1201ANNISTON"1, 200.695

# Sewell, west of road, at southeast corner of store; iron post stamped "1254 Feet. ANNISTON".............................................................. 1, 253.616 <br> Graham, 2 feet south of southeast corner of Masonic Building; iron post stamped "1098 ANNISTON" <br> 1,097. 938 

Dadeville, Opelika, Talladega, and Wetumpka quadrangles.
aUtauga, chambers, clay, chilton, coosa, hlmore, lee, macon, tallapoosa, and talladega counties.

The elevations in the following list, except one at Wilsonville, were determined by extensions from Rome, a point on the precise-level net, through leveling on adjoining quadrangles. Closures were obtained on bench marks at Lagrange and West Point, Ga., and near Smiths Station, Ala., of approximately $+2,+0$, and +3 feet, respectively, by a level net extended from Macon and McDonough, Ga., which discrepancies can not be rectified until further field work is done. The elevation at Wilsonville was determined from Birmingham.

The leveling was done as follows: In Talladega.quadrangle in 1900 by N. P. Curtis and at Wilsonville in 1907 by A. D. Cameron; in Wetumpka quadrangle in 1900 by R. E. Wipfler and in 1901 by J. F. Webb; in Dadèville quadrangle in 1901 by R. E. Wipfler and in 1902 by H. V. Rees; in Opelika quadrangle in 1902 by H. V. Rees and in 1903 by W. G. Goodwin, jr.

## TALLADEGA QUADRANGLE.

| at wilsonville. |  |
| :---: | :---: |
| Wilsonville, 350 yards north of station, 3 feet north of entrance to Baptist Church; iron post stamped "Prim. Trav. Sta. No. 794, 433 ADJ., 1903 ".. jenifer, southwest and southeast along southern railroad, to kellyton (DOUBLE-RODDED LINE). | Feet. 433.362 |
| Curry, 0.25 mile north of, 3 feet below top of retaining wall of culvert, 20 feet east of center of line of Southern Railway; bronze tablet stamped " 532 A" $\qquad$ | 531. 622 |
| Talladega, at southeast corner of J. W. Cowen's store, 2 feet above ground; bronze tablet stamped " 558 A". | 557.026 |
| Berney, north side of William W. Matson's house, in brick chimney; bronze tablet stamped " 609 A". | 608. 034 |
| Rendalia, north side of Walker Reynolds's house, in brick chimney; bronze tablet stamped " 545 A " | 543. 977 |
| Sycamore, near northeast corner of D. L. \& J. A. Lewis's store; bronze tablet stamped " 548 A" | 546. 956 |
| Sylacauga, north corner of Farmers' Alliance warehouse; bronze tablet stamped " 548 A". | 547.615 |
| Trammells, in brick pier on southwest corner of section house; aluminum tablet stamped " 823 A" | 822. 150 |
| Hollins, in southwest corner of Sample Lumber Company's electric-light plant; aluminum tablet stamped " 818 A". | 817. 220 |
| Parkdale, in pier at northwest corner of section house; bronze tablet stamped " 852 A" | 851.062 |
| Goodwater, in brick pier on foundation of railroad water tank; bronze tablet stamped " 835 A " | 834. 320 |

WETUMPKA QUADRANGLE.
kellyton, southwest along highway via nixburg, equality, and central, to WETUMPKA (DOUBLE-RODDED LINE).
Kellyton, Webb Brothers' store, in north wall near northeast corner; Bronze Feet. ..... 775. 398
T. 22 N., R. 20 E., near northwest corner of sec. 8 , at road forks; iron post stamped "802 A" ..... 800. 678
Nixburg, northwest corner of sec. 7, T. 21 N., R. 20 E., at post-office; iron post stamped " 732 A " ..... 731. 276
T. 21 N., R. 19 E., SW. $\frac{1}{4} \mathrm{sec} .1$, on summit north of road; iron post stamped "735 A" (on single spur line) ..... 734. 271
Equality, 2.5 miles south of, sec. 12, T. 20 N., R. 19 E., at road fork, oppo- site blacksmith shop; iron post stamped " 746 A" ..... 745. 058
Central, southeast corner sec. 30, T. 20 N., R. 20 E., opposiţe post-office; iron post stamped " 637 A" ..... 636. 056
Sandtuck, northeast corner sec. 14, T. 19 N., R. 19 E., opposite store; iron post stamped " 489 A" ..... 487. 427
Wetumpka, at northeast corner of court-house; bronze tablet stamped "178 A". ..... 177. 157
Wetumpka, northwest corner of church, T. 18 N., R. 18 E.; bronze tablet stamped "183 A" (unchecked bench mark) ..... 181. 614
sec. 8, t. 22 N., R. 23 E., NORTHWESt to sec. 16, t. 23 N., R. 19 E. (Single Spur hine).
T. 23 N., R. 19 E., east side of sec. 36, near quarter corner, east of road to Mount Olive; iron post stamped " 765 A" ..... 764. 276
SEC. 8, t. 22 N., R. 20 e., west along highway via rockford, to sec. 2, t. 22 N., R. 17 E.; thence south via travelers rest to wetumpka.
Hissop, sec. 11, T. 22 N., R. 19 E.; iron post stamped " 792 A". ..... 791. 397
Rockford, sec. 13, T. 22 N., R. 18 E., in front wall of McEwen's store; aluminum tablet stamped " 736 A ". ..... 734. 896
T. 22 N., R. 18 E., NW. $\frac{1}{4}$ sec. 4, in front of King's residence, in large oak tree; aluminum tablet stamped " 590 A". ..... 588. 974
T. 22 N., R. 17 E., near quarter corner north side sec. 2, at road fork; iron post stamped " 682 A". ..... 681. 710
Buyck, near center of sec. 22, T. 20 N., R. 18 E.; iron post stamped " 459 A" ..... 457. 922
Wetumpka, 3.7 miles north of, at road forks; iron post stamped " 242 A ". ..... 241. 553
ROCKFORD NORTH TO NEAR SEC. 31, T. 23 N., R. 19 E. (SINGLE SPUR LINE).
T. 23 N., R. 19 E., near southwest corner of sec. 31, in front of house; iron post stamped "762 A" ..... 761. 166
ROCKFORD, SOUTH AlONG highway 5 miles; thence wèst to travelers rest.
Rockford, at road forks, 4 miles south of, near center sec. 1, T. 21 N., R. 18E., at north end of bridge over Swamp Creek; iron post stamped " 506 A ".505. 388
kings residence, north to church in sec. 33, t. 23 n., R. 18 e. (Single spur line).
T. 23 N., R. 18 E., NW. $\frac{1}{4} \mathrm{sec} .33$, at church, at road intersection; iron post stamped " 654 A " ..... 653.574
Sec. 2, t. 22 n., r. 17 e., west along highway, to sec. 2, t. 22 n., r. 16 (Single spur LINE).
T. 22 N., R. 17 E., near quarter corner north side of sec. 2, at road forks; iron post stamped " 682 A " ..... 681. 710
T. 23 N., R. 17 E., 0.3 mile south of northwest corner of sec. 32 at road forks; iron post stamped " 527 A" ..... 526. 354
T. 23 N., R. 16 E., near center sec. 36, north of road at creek; iron post

Feet.

562. 876
T. 22 N., R. 16 E., near center of NW. $\frac{1}{4}$ sec.. 2 , at road forks; iron post stamped " 655 A". ..... 653. 909
sec. 19, r. 21 N., r. 18 e., southwest to séc. 1, t. 20 स., r. 17 e. (single spur Line).
T. 21 N., R. 17 E., NE. $\frac{1}{4}$ sec. 25 , at road forks; iron post stamped " 555 A". ..... 555.073
T. 20 N., R. 17 E.; quarter corner north side of sec. 1, in front of house west of road; iron post stamped " 486 . A ". ..... 485.060
sandtuck, southeast along highway, to bublington.
Sandtuck, 1.5 miles southeast of, west of center sec. 19, T. 19 N., R. 20 E., at road forks; iron post stamped " 441 A " ..... 439. 682
Goodhope, near center sec. 1, T. 18 N., R. 20 E., at church; irọ post stamped "414 A" ..... 413. 323
Wetumpka, west along highway via elmore, to robinson springs; thence north- west to sec. 18 , t. 19 n., r. 16 e.; thence north via wadsworth to burwell and knghts ferry (single spur line).
Wetumpka, station platform182.0
Elmore, 0.7 mile south of, in brick pillar of Louisville and Nashville Rail- road bridge; bronze tablet not stamped. ..... 172. 036
Robinson Springs, 0.3 mile north of, T. 18 N., R. 17.E., at road fork, oppo- site church; iron post stamped " 362 A ". ..... 369. 304
T. 18 N., R. 16 E., at northeast corner of crossroads; iron post stamped " 629 A" ..... 625. 775
Bozeman, 1 mile south of, T. 20 N., R. 16 E., in front of schoolhouse; iron post stamped " 477 A". ..... 484. 126
Burwell, 0.5 mile northwest of, T. 21 N., R. 16 E., at road forks; iron post stamped " 516 A" ..... 523. 836
rays hile, northeast vin alpia springs, to deatsviles.
Alpha Springs, T. 19 N., R. 16 E., at railroad crossing; iron post stamped "313 A" ..... 321. 070
Deatsville, T. 19 N., R. 17 E., opposite water tank, in front of house; iron post stamped " 299 A ". ..... 306. 908
DADEVILLE QUADRANGLE.
kelliyton, southeast along central of georgia railway. to alexander city; thencealong highway south to dike; thence east to dadevicle.
Alexander City, sec. 27, T. 23 N., R. 21 E.; in front of court-housé; iron post stamped " 711 A" ..... 709.850
I. 22 N., R. 21 E., quarter corner north line of sec.. 3, at southeast çorner of road forks; iron post stamped " 693 A" ..... 692.641
T. 21 N., R. 21 E., near southeast corner sec. 12 ; iron post stamped "409 A" ..... 407.122
T. 21 N., R. 22 E., SE. $\frac{1}{4}$ sec. 1 , at road forks; iron post stamped " 629 A ".". ..... 626.625
Dadeville, in sec. 4, T. 21 N., R. 23 E., in northeast corner of court-house; bronze tablet stamped " 737 A " ..... 735.132

T. 22 N., R. 23 E., near southwest corner sec. 27 , at road forks; iron post stamped " 725 A"722.766
Easton, sec. 12, T. 22 N., R. 23 E., at ioad forks; iron post stamped ${ }^{3 / 787}$ A" ..... 784.814
Dudleyville, 0.25 mile northwest of, sec. 1, T. 22 N., R. 24 E., at road forks; iron post stamped " 730 ' ${ }^{\prime}$ ". ..... 727. 565
$53493^{\circ}$-Bull. $441-11-2$

EASTON, NORTH (SINGLE SPUR LINE).

Easton, 2.6 miles north of, southeast corner sec. 35, T. 23 N., R. 23 E., 10 Feet.feet west of road; iron post stamped " 753 A ".750.437
DADEVILLE, SOUTHEAST ALONG CAMP HILL ROAD (SINGLE SPUR LINE).
T. 21 N., R. 24 E., 0.25 mile north of southwest corner sec. 18; iron post stamped " 699 A". ..... 696.338
alexander, soútheast along highway via stow ferry, to dadeville.
T. 22 N., R. 22 E., SE. $\frac{1}{4}$ sec. 6 , in northeast corner of crossroads; iron post stamped " 601 A" ..... 598.644
T. 23 N., R. 22 E., SW. $\frac{1}{4} \mathrm{sec} .32$, at road forks; iron post stamped " 543 A". ..... 540.994
Jacksons Gap, at road crossing; top of rail ..... 644.0
dadeville, south along highway, to thornton; thence west via barnesville to Channahatchee.
Thornton, 0.25 mile north of southwest corner of sec. 22, T. 20 N., R. 23 E., at road forks, in front of school; iron post stamped " $677 \cdot \mathrm{~A}$ ". ..... 674.394
Barnesville (Walnut Hill), NW. $\frac{1}{4}$ sec. 24, T. 20 N., R. 22 E.; iron post stamped " 635 A" ..... 633.047
dudleyville, north along highway, to fordyce (single spur line).
T. 23 N., R. 24 E., center of sec. 25 , at road forks; iron post stamped " 688 A". ..... 685.826
Fordyce, 2.9 miles north of Dudleyville, sec. 30, T. 23 N., R. 25 E.; iron post stamped " 717 A " ..... 714.689
DUDLEYVILLE, SOUTH ALONG HIGHWAY, TO WAVERLY; THENCE WEST TO THORNTON.
Sikes, south side of sec. 16, T. 22 N., R. 25 E., at road forks; iron post stamped " 777 A" ..... 774.519
Blackman, 5.2 miles southwest of, center of sec. 7, T. 21 N., R. 25 E., at road forks; iron post stamped " 809 A" ..... 806. 559
Waverly, southwest corner of sec. 8, T. 20 N., R. 25 E., in west wall of store of Paul Húffman, 3 feet from ground; tablet stamped " 768 A " ..... 765. 977
Thornton, 5.4 miles east of south center of sec. 21, T., 20 N., R. 24 E., in foundation of chimney; tablet stamped " 782 A " ..... 780.207
waverly, south to loachapora.
Loachapoka, 0.2 mile from station; permanent bench mark (probably an iron post stamped " 681 A") ..... 679.043
loachapoka, east along railroad 2 miles; thence south (single spur line).
Loachapoka, in front of station; top of rail ..... 676.1
Loachapoka, 1.5 miles east of, southeast corner of sec. 29, T. 19 N., R. 25 E.; iron post stamped " 669 A" ..... 666.749
Beehive, 1 mile north of, north of southeast corner of sec. 6, T. 18 N., R. 25 E.; iron post stamped " 562 A " ..... 560. 193
loachapoka, southwest along western railway of alabama, to notasulga; thenceWEST ALONG HIGHWAY tO NEAR GOLDDUST; THENCE NORTH TO bARNESVILLE.
T. 18 N., R. 23 E., southeast corner of SE. $\frac{1}{3} \mathrm{sec} .5,150$ feet south of road, in small branch, in stone ledge; bronze tablet stamped " 393 A" ..... 390. 677
T. 19 N., R. 23 E., southwest corner of SW. $\frac{1}{4}$ sec. 32, in foundation of chimney; bronze tablet stamped " 574 A" ..... 571. 567
Thaddeus, T. 19 N., R. 22 E., sec. 24, in foundation of chimney of house owned by S. E. Segrest; bronze tablet stamped " 633 A" ..... 630.260

> golddust, west along highway, to tallassee; thence north to channahatchee.

| Tallassee, sec. 19, T. 18 N., R. 22 E., south face of bridge, in second pier from west side of Tallapoosa River; bronze tablet stamped " 205 A".... | Feet. $202.39$ |
| :---: | :---: |
| Burlington, sec. 3, T. 18 N., R. 21 E., in front of former post-office, at road forks; iron post stamped " 545 A". | 542.80 |

Kent, sec. 22, I. 19 N., R. 21 E., at Weldon's crossroads, in foundation of chimney; bronze tablet stamped " 596 A" ..... 594.092
Channahatchee, T. 20 N., R. 21 E., 100 yards north of former post-office, in road forks to Dadeville and Alexander City; iron post stamped " 641 A". ..... 638.823
opelika quadrangle.
loachapoka, east along western railway of alabama via auburn, to opelika; thence north along central of georgia rallway to mount jefferson.
T. 19 N., R. 26, Auburn. Polytechnic Institute, in northeast corner of laboratory; aluminum tablet stamped " 713 A" ..... 710: 760
Opelika, T. 19 N., R. 27 E., in corner stone of court-house; aluminum tablet stamped " 823 A" ..... 820.412
Opelika, in front of station; top of inside rail ..... 778.4
Mount Jefferson, northwest end of station platform; nail ..... 817.82
aUburn, south 2 miles (spur line).
Auburn, 2.2 miles south of, northwest corner sec. 5, T. 18 N., R. 26 E., at road forks; iron post stamped " 670 A" ..... 668.006
stroud, south along central of georgia railway, to lafayette; thence along high- way south to oakbowery: thence east to near cusseta.
Buffalo, in right of way of Central of Georgia Railway, east of track, north of county road, 4 feet north of mail crane; iron post stamped " 842 ANNISTON" ..... 842.313
Lafayette, in bottom step at south side of court-house; aluminum tablet stamped " 843 ANNISTON" ..... 843.056
Sturkie, between railroad and county road, 5 feet east of county road, 1 foot south of south warehouse; iron post stamped " 855 ANNISTON"... ..... 854.50
Tuckersburg, road crossing; top of rail. ..... 723.0
near cusseta, northeast along western railway of alabama, to lanett; thencenorthwest along highway to finley.
Cusseta; 2.5 miles southwest of, at road forks, west of railroad; iron post stamped "774 ANNISTON" ..... 773. 420
Cusseta, road crossing; top of rail ..... 723.1
Cusseta, 5.2 miles northeast of, at county road crossing Western Railway of Alabama, 9 feet east of road, 4 feet east of crossing signpost; iron post stamped " 635 ANNISTON" ..... 635.251
Lanett, 3.6 miles northwest of, north of road, between two oak trees; iron post stamped " 695 ANNISTON" ..... 694.73
Fredonia, 1.5 miles southeast of, 85 feet southeast of Hardley Creek, in stone ledge; bronze tablet stamped " 686 ANNISTON" ..... 685.694
WEST POINT, SOUTH ALONG HIGHWAYS, to mOTTS.

West Point, 2.5 miles south of station, 0.5 mile north of park, 0.5 mile southeast of where Chattahoochee Valley Railway crosses Western Railway of Alabama, 800 feet east of Chattahoochee Valley Railway, 150 feet east of large 2 -story house on south side of road, at road fork; iron post stamped "634 ADJ. 1903"634. 347

Langdale, 500 feet northwest of cotton mills, 30 feet southeast of south end of highway bridge, 25 feet southwest of creek, 5 feet north of road, in sandstone; aluminum tablet stamped "549 ADJ. 1903"
Glass, 100 feet south of station, 100 feet south of railroad crossing, 10 feet west of railroad, 75 feet southeast of Hardshell. Church, 75 feet east of

Feet.schoolhouse; iron post stamped " 700 ADJ. 1903"
700.230

Blanton, 0.5 mile north of, 1.5 miles south of Osanappa, just north of Cham-ber-Lee county line, at road forks; iron post stamped " 631 ADJ. 1903 ".
Jester, 500 feet west of station, 10 feet north of oak tree, 40 feet south of railroad crossing; iron post stamped " 619 ADJ. 1903".
Beulah, northeast corner of rock store; aluminum tablet stamped " 715 ADJ. -1903"
Beulah, 2 miles southwest of, 50 feet east of Jones schoolhouse, 75 feet south of road forks, in center between roads; iron post stamped " 678 ADJ. 1903"
Mechanicsville, 1 mile west of, 1.5 miles south of Halawakee Creek, 8 miles north of Motts, in northwest corner of crossroads; iron post stamped " 674 ADJ. 1903"
631. 110
619.204
714.550
677.679
673.937

Motts, 4 miles north of, 1 mile west of Wacoochee, 500 feet south of Mr. Prowledge's residence, in southwest corner of crossroads; iron post stamped " 584 ADJ. 1903"
583.865
near smiths station, northwest along central of georgia railway, to opelika.
Smiths Station, 1.5 miles southeast of, on Central of Georgia Railway, 500 feet west of track, near milepost 7 from Columbus, in road fork; iron post stamped " 450 ADJ. 1903" (elevation by levels from Macon, Ga., is 2.949 greater)
Smiths Station, 250 feet north of station, 40 feet east of railroad crossing, in road forks; iron post stamped "ADJ. 1903, 519".
450.277
519. 121

Motts, west of station, 10 feet south of south track, 4.5 feet south of north rail; aluminum tablet stamped " 658 ADJ. 1903"
657.944

Shotwell, 50 feet west of former post-office, 50 feet south of railroad crossing, on west side and 4 feet from highway; iron post stamped "ADJ. 1903, 708 "
708. 451

Salem, 600 feet west of station, 30 feet north of track, 10 feet west of road, 300 feet south of church; iron post stamped " 586 ADJ. 1903 "
685.953

Chewacla, 3.5 miles southeast of, 120 feet north of milepost 22 from Columbus, 10 feet south of west end of highway bridge over Central of Georgia Railway, 4 feet west of cut; iron post stamped " 751 ADJ. 1903".
750.685

Chewacla (Youngs), 240 feet east of station, 30 feet south of track, 20 feet east of highway, 20 feet southeast of crossing; iron post stamped " 770 ADJ. 1903"
769. 830
salem, south along highway, to 1 mile north of meadows crossroads; thence northwest along highway to auburn.

Salem, 5 miles south of, 1 mile north of Meadows Crossroads, 0.5 mile north of McKinnen's mill, near residence of Mr. Butler, at road fork; iron post stamped " 526 ADJ. 1903"
526.575

Auburn, 11 miles southeast of, 0.8 mile north of Providence Church, 60 feet south of Doctor Peters's residence, in road fork; iron post stamped " 616 ADJ. 1903"
616.084

Auburn, 6 miles southeast of, near signboard " 29 miles to Columbus," in road fork; iron post stamped " 637 ADJ. 1903"
637.091

Auburn, 3 miles southeast of, 0.25 mile north of A. E. Heard's residence, at southwest corner of crossroads; iron post stamped " 663 ADJ .1903 "..

## Columbus and seale quadrangles.

## LEE AND RUSSELL COUNTIES.

> The elevations in the following list were determined by extensions from Macon, Ga. For additional elevations in Columbus quadrangle refer to Georgia list (p. 51). The leveling was done in 1907 by J. B. Metcalfe, jr.

COLUMBUS QUADRANGLE.

COLUMBUS, GA., SOUTH ALONG CENTRAL OF GEORGIA RAILWAY, TO BRICKYARD CREEK.

JAMESTOWN, GA., WEST ALONG HIGHWAY, TO 5 MILES SOUTH OF FORT MITCHELL.a
Culpeper Landing, 1.42 miles west of, 20 feet northeast of road forks; iron post stamped " 280 ADJ. 1907".
279.886

## seale quadrangle.

BRICKYARD CREEK, SOUTHWEST ALONG CENTRAL OF GEORGIA RAILROAD, TO FORT MITCAELL; thence south 5 miles to crossroads.

Brickyard, flag station crossing; top of rail.................................. 234.1
Brickyard, at southeast corner of store; iron post stamped "235 ADJ. 1907". 234.857
Fort Mitchell, northeast corner of G. L. Sallass's store; iron post stamped
"Prim. Trav Sta. No. 2, 1906, 316 ADJ. 1907"............................... 316.375
Fort Mitchell, 2.86 miles south of, on road to Jamestown via Culpeper
Landing, at road forks; iron post stamped " 228 ADJ. 1907"............. 227.963
Fort Mitchell, 5 miles south of, 30 feet southeast of road forks; iron post
stamped "Prim. Trav. Sta. No. 3, 1906. 304 ADJ. 1907".............. 309.499
COLUMBUS, GA., Along highway west 5.5 miles; thence south to seale; thence east to CROSSROADS 5 MILES SOUTH OF FORT MITCHELL.

Columbus, Ga., 3.06 miles west of, on road to Crawford, north side of road,
15 feet east of creek; iron post stamped " 338 ADJ. 1907".............. 338.704
Columbus, 5.5 miles west of, south of road to Crawford, 20 feet west of forks; ; $\quad$.... .
iron post stamped " 497 ADJ. 1907"....................................... 497.425




Seale, to left of south entrance of jail, in wall; aluminum tablet stamped
" 357 ADJ. 1907"......................................................................
Seale, 2.6 miles east of, 30 feet southwest of crossroads; iron post stamped
" 391 ADJ. 1907 "....................................................................... 164

$a$ The error distributed in this line is excessive.
seale, west 5.6 miles along central of georgia rallway; thence north alonghighway to crawford; thence east to point 5.5 miles west of columbus.

Feet.

504.831
Sand Fort, southwest corner of store; iron post stamped " 505 ADJ. 1907 ". .
Sand Fort, 5.1 miles north of, on road to Crawford, 15 feet northeast of forks; iron post stamped " 335 ADJ. 1907" ..... 334.409
Crawford, to left of south entrance of brick church, in wall; aluminum tab- let stamped " 452 ADJ. 1907 " ..... 452.533
Columbus, 8.5 miles west of, on road to Crawford, in north pillar of bridge; aluminum tablet stamped " 303 " ..... 302. 849columbus, ga., northwest along central of georgia railway toward smiths station.Smiths Station, 4.4 miles south of, south side of northwest pier of bridgeover Waterworks Creek, in top of pier; aluminum tablet stamped " 307ADJ. 1903" (elevation from Opelika $2.949^{\prime}$ less)

## Bessemer, Bessemer special, Birmingham, Birmingham special, Brookwood, Columbiana, Leeds, Montevallo, and Vandiver quadrangles.

bibB, BLOUNT, CHILTON, CULLMAN, JEFFERSON, AND SHELBY COUNTIES.

The elevations in the following list were determined by extensions from the precise lines of the Coast and Geodetic Survey from Decatur to Birmingham and of the U. S. Engineer Corps from Meridian to Birmingham, which cross this combined area. The leveling was done as follows: In Birmingham, Birmingham Special, and Leeds quadrangles in 1904 by Fulton Pace and W. B. Whitaker; in Bessemer, Bessemer Special, Vandiver, and Montevallo quadrangles, in 1905 by A. D. Cameron and E. A. Stearns; in Brookwood quadrangle in 1905 by E. A. Stearns; in Columbiana quadrangle in 1905 by A. D. Cameron and in 1909 by William Oram; in Montevallo quadrangle in 1905 by A. D. Cameron and E. A. Stearns and in 1907 by A. K. Gilman.

## bIRMINGHAM SPECIAL (BIRMINGHAM) QUADRANGLE.

> birmingham, northwest along southern railway, to linn crossing; thence along highway northwest to robins crossroads.

Birmingham, on south side of west entrance of custom-house, on third step from top, between pillar of arch and pilaster; aluminum tablet Feet. stamped "ADJ. 1903, 592" 591. 960
Birmingham, on left side of third avenue entrance to court-house, 2 feet above ground; aluminum tablet stamped "ADJ. 608, 1903" ..... 608. 109
Boyles, sec. 18, T. 17 S., R. 2 W., 3 paces south of station and 25 paces west of track; iron post stamped " 585 ADJ. 1903" ..... 584.608
Boyles, 30 paces south of station, 25 paces west of track, 4 paces north of large 14 -inch tree, on a stone post marked " $\mathrm{H} 3,517.070$ " ..... 584.329
Sayreton, 1 mile west of, sec. 15, T. 17 S., R. 3 W., in southeast corner of junction of railroad and highway 150 feet south of 2 -story residence, 20 feet south of railroad; iron post stamped "ADJ. 633, 1903" ..... 632.965Coalburg, northeast corner sec. 5, T. 17 S., R. $3 \mathrm{~W} ., 10$ feet west of station,in northeast corner of foundation of water tank; aluminum tablet stamped"ADJ. 419, 1903"418. 561
Republic, sec. 31, T. 16 S., R. 3 W., 300 feet west of station, 40 feet south of track; iron post stamped "ADJ. 401, 1903". ..... 401. 116

Cardiff, sec. 14, T. 16 S., R. 4 W., 110 feet east of station, 40 feet north of tracl:; iron post stamped "ADJ. 351, 1903"
Ono, sec. 4, T. 16 S., R. 4 W. , in east pier of trestle of the Louisville and Nashville Railroad over the Southern Railway at Linn crossing, in third course of masonry from ground, south side; bronze tablet stamped "ADJ. 390, 1903"
Sayre, 0.5 mile west of, sec. 29 , T. $15 \mathrm{~S} .$, R. 4 W ., on top of west pier at south side of bridge over Locust Fork Black Warrior River; aluminum tablet stamped "ADJ. 304, 1903"
coalburg, southwest along highway, to ensley.
Ensley, 0.5 mile north of, sec. 31, T. 17 S., R. 3 W., at steel bridge over Village Creek on macadamized road leading from Pratt City to Ensley, in•abutment under northwest girder; bronze tablet stamped "ADJ. 507, 1903"
507.031
boyles, northeast toward pinson.
Dolcetta, sec. 5, T. 17 S., R. 2 W., 100 feet west of commissary, 10 feet east of pike, 40 feet north of railroad crossing, 400 feet north of Old Dolcito quarry; iron post stamped "ADJ. 549, 1903"
549.073

BIRMINGHAM QUADRANGLE.
1
robbins crossroads, northeast to warrior.
Robbins Crossroads, 1.5 miles north of, sec. 8, T. 15 S., R. 4 W., 60 feet north of residence, 30 feet west of highway, 40 feet east of spring, in solid sandstone; aluminum tablet stamped "ADJ. 498, 1903"
498. 422

Partridge, sec. 2, T. 15 S., R. 4 W ., southeast corner of crossroads; iron post stamped "ADJ. 407, 1903"
407. 581
T. 14 S., R. 4 W., sec. 36,1 mile northeast of Dorsey Creek, 0.25 mile northeast of Mr. Page's residence, in front of $\log$ cabin occupied by Mr . James, 10 feet west of highway; iron post stamped "ADJ. 365, 1903"..
Warrior, 4.5 miles southwest of, sec. 29, T. 14 S., R. 3 W., at southwest corner of Little Bethel Church, 3 , feet north of corner of foundation; aluminum tablet stamped "ADJ. 423, 1903"
warrior, northeast to coilddale.
Coaldale, 0.5 mile southwest of, south side of, sec. 7, T. 14 S., R. 2 W., 0.5 mile east of Azbeth Church, 150 feet north of Mr. Stocley's residence, north side of second-class road, in solid sandstone; aluminum tablet stamped " 572 ADJ. 1903"
572. 188
warrior, northwest along highway, to near arkadelphia; thence northeast to bangor.
Warrior, sec. 13, T. 14 S., R. $3 \mathrm{~W} ., 12$ inches from northwest corner of E. L. Terry's hardware store; aluminum tablet stamped " 551 ADJ. 1903"... T. 14 S., R. 3 W., southwest corner sec. 15,10 feet north of road, 80 feet southwest of Cane Creek Church; iron post stamped "ADJ. 396, 1903"..
T. 14 S., R. 3 W., sec. 8, 2.5 miles northwest of Cane Creek Church, 0.5 mile west of A. Morris's residence, 75 feet north of spring at foot of hill, 10 feet north of highway, in bed rock; bronze tablet stamped " 705 ADJ. 1903"
551.385
396. 211.

Hanby Mill, northeast corner sec. 35, T. 13 S., R. 4 W., 4 miles southeast of Arkadelphia, on northeast abutment of highway bridge over Mulberry River, primary-traverse station No. 5; bronze tablet stamped "311 ADJ. 1903"
311.055

Arkadelphia, 1.5 miles northeast of, north side of sec. 15 , T. 13 S., R. 4 W., 100 feet west of crossroads at Gum Spring Church, in east face of founda-
tion of chimney of $\log$ cabin, north of road; bronze tablet stamped " 398 ADJ. 1903"

Feet.
398.063
T. 12 S., R. $4 \mathrm{~W} .$, sec. 34,4 miles south of Bremen, in chimney of Mr . Robins's residence, top of hill, south of road; bronze tablet stamped " 772 ADJ. 1903"
771. 592
T. $12 \mathrm{~S} .$, R. 4 W. , sec. $22,0.25$ mile northwest of junction of road, in cliff of rock, west of road just as it starts down mountain, 3 feet from highway; bronze tablet stamped " 751 ADJ. 1903"
750.502
T. 12 S., R. 3 W., south side of sec. 19, 2 miles west of Damascus Church, 30 feet west of junction of new road and old road down Dunlaves Mountain, 10 feet south of highway, in bowlder; bronze tablet stamped " 750 ADJ. 1903"
T. 12 S., R. 3 W., south side of sec. $20, \cdot 100$ feet southeast of Damascus Church, 300 feet north of road fork, 3 miles west of former country postoffice, 20 feet west of large oak tree; iron post stamped " 516 ADJ. 1903 ". .
T. $12 \mathrm{~S} .$, R. 3 W. , near center sec. $23,0.5$ mile east of former country postoffice, 0.5 mile west of Thacker Creek, near crest of hill, 100 feet north of large black-gum tree, 10 feet south of highway; iron post stamped " 371 ADJ. 1903"
515. 341
370.856

Bangor, 1.5 miles west of, NW. $\frac{1}{4} \mathrm{sec} .29$, T. $12 \mathrm{~S} .$, R. 2 W ,, in second course of masonry from top of pier, in west face near southwest corner, south of Mulberry Fork Black Warrior River; aluminum tablet stamped " 875 ADJ. 1903"
374.434
bangor; east along highway, to chepultepec; thence southwest along louisville and nashville railroad to village springs.
Bangor, 0.5 mile south of station, sec. 28, T. 12 S., R. 2 W. ., 60 feet east of railroad track, 10 feet south of highway, primary-traverse station No. 2; iron post stamped " 489 ADJ. 1903"
489. 431

Bangor, 2.5 miles southeast of, SW: $\frac{1}{4} \mathrm{sec} .26$, T. 12 S., R. $2 \mathrm{~W} ., 10$ feet south of turn of road, in cliff of rock; bronze tablet stamped " 792 ADJ . 1903"
792.144
T. $12 \mathrm{~S} .$, R. $2 \mathrm{~W} ., \mathrm{SE} . \frac{1}{4}$ sec. 35 , in southwest corner of crossroads, ịn solid sandstone; bronze tablet stamped "799 ADJ. 1903".
798.624
T. 13 S., R. 1 W., sec. 6, 200 feet south of Mr. Walker's residence, 10 feet north of north end of bridge over Sugar Creek, 3 feet west of highway, in solid sandstone; aluminum tablet stamped "431 ADJ. 1903"
Tidmore, 1 mile southwest of, sec. 28 , T. $12 \mathrm{~S} ., \mathrm{R} .1 \mathrm{~W} ., 50$ feet west of Mill Creek, 50 feet east of schoolhouse, 10 feet south of highway, in bowlder; bronze tablet stamped " 472 ADJ: 1903 "
471. 980

Tidmore, sec. 27, T. 12 S., R. 1 W., 60 feet north of former post-office, in foundation of chimney of small 1-room house, 20 feet north of Masonic Hall; aluminumi tablet stamped "515 ADJ. 1903"
515. 234
T. 12 S., R. 1 E., near northwest corner of sec. 31, 0.5 mile north of Tidwell, 100 feet south of crossroads, 50 feet south of road forks, east of highway, on sandstone; bronze tablet stamped " 533 ADJ. 1903"
533. 247

Tidwell, 2 miles south of, NE. $\frac{1}{4} \mathrm{sec} .11$, T. $13 \mathrm{~S} .$, R. $1 \mathrm{~W} ., 500$ feet west of Martin ford of Little Warrior River, halfway down hill, 4 feet east of highway, in bowlder; bronze tablet stamped " 484 ADJ. 1903 "
484. 351

Chepultepec, 4.3 miles northwest of, sec. 33 , T. 12 S., R. 1 E., 0.2 mile south of Blacks Creek, 0.3 mile north of crossroads, 3 feet east of highway, in sandstone: bronze tablet stamped " 619 ADJ. 1903".

Chepultepec, 2.5 miles northwest of, sec. 4, T. 13 S., R. 1 E., 0.5 mile north of crest of Sand Mountain, 100 feet east of S. N. Tate's residence, east side of highway, in ledge of rock; aluminum tablet stamped " 887 ADJ. 1903"

Feet.
886.742

Chepultepec, 1.5 miles northwest of, NW. $\frac{1}{4} \mathrm{sec} .10$, T. 13 S., R. 1 E., 0.25 mile west of Blacks Creek, 130 paces north of Walt. Bell's residence, on top of a sharp ridge, in sandstone; aluminum tablet stamped " 797 ADJ. 1903"
795.738

Chepultepec, 1.5 miles south of, sec. 23, NW. $\frac{1}{4}$, T. 13 S., R. 1 E., 6 paces north of highway at railroad crossing, in limestone rock; aluminum tablet stamped " 722 ADJ. 1903"
22. 150

Swansea, south side of, sec. 32, T. 13 S., R. 1 E., on top of capstone of northwest pier of railroad bridge over Blackburn Fork, Little Warrior River; bronze tablet stamped "606 ADJ. 1903 "
606. 444

Remlap, 1. mile northeast of, sec. 12, T. 14 S., R. 1 W., 0.25 mile west of railroad, near crest of hill, 60 feet north of large oak, in solid limestone, 6 feet west of highway; aluminum tablet stamped " 669 ADJ. 1903 "...
Village Springs, 2.5 miles north of, sec. 23, T. 14 S., R. 1 W., 600 feet north of Little's residence, 200 feet west of railroad, 60 feet east of highway, in limestone; aluminum tablet stamped "686 ADJ. 1903".
Village Springs, 0.2 mile south of station, sec. 3, T. 15 N., R. 1 W., in old turntable foundation, 45 feet west of highway, 15 feet west of railroad, 100 feet south of water tank, 100 feet north of railroad crossing; aluminum tablet stamped " 665 ADJ. 1903."
669. 219
685.695
665.158
at blount springs (SEt from coast and geodetic survey bench mark.)
Blount Springs, 60 feet west of station, sec. 6, T. 13 S., R. 2 W., in triangular stone of culvert, east of railroad; aluminum tablet stamped " 426 ADJ. 1.903 "

## leeds (birmingham) quadrangle.

village springs, southwest along highway near louisvilee and nashillee rallroad, то кetona.
Palmer, sec. 16, T. 15 S., R. 1 W., 0.1 mile south of station on wést side of culvert of Birmingham Mineral Railroad; aluminum tablet stamped " 695 ADJ. 1903".
694. 719

Pinson, sec. 31 , T. 15 S., R. 1 W., 50 feet south of post-office, 350 feet east of railroad, 10 feet east of highway, in limestone rock; aluminum tablet stamped "611 ADJ. 1903 ".
611. 478

Pinson, 1 mile south of, sec. 6, T. 16 S., R. 1 W., 50 feet east of store of G. H. Cole, 10 feet east of highway, in solid limestone rock; bronze tablet stamped " 637 ADJ. 1903 "
637. 334
T. 16 S., R. $2 \mathrm{~W} .$, sec. 14,60 feet south of milestone 10 from Birmingham, 300 feet southwest of residence, 60 feet west of Smiths Chapel, 10 feet east of highway; iron post stamped " 674 ADJ. 1903 "
674. 089
T. 16 S., R. 2 W., sec. 28, 1 mile north of Fivemile Creek, 100 feet east of small creek, 175 feet north of ford, 600 feet north of A. L. Davis's residence, 35 feet west of highway, in solid bed of limestone; bronze tablet stamped " 572 ADJ. 1903".
572. 062
pinson, southeast along hgehway, to trussvilee; thence northeast to argo.
T. 16 S., R. $1 \mathrm{~W} .$, sec. 8, at spring 200 yards west of Taylors Chapel, 10 feet north of spring, in large stone; bronze tablet stamped " 811 ADJ. 1903"..
811. 368

Trussville, T. 16 S., R. 1 W., south side of front entrance to D. N. Talby's store; aluminum tablet stamped " 693 ADJ. 1903 ":
692.651
T. 16 S., R. 1 E., 1,100 feet south of mill, 800 feet west of railroad bridge
over Little Cahaba Creek, 500 feet north of graveyard, east side of highway, in solid limestone; aluminum tablet stamped " 742 ADJ. 1903"....
Argo, sec. 34, T. 15 S., R. 1 E., 100 feet south of former post-office, 60 feet east of Alabama Great Southern Railroad, 3 feet east of highway, in solid sandstone rock; aluminum tablet stamped "801 ADJ. 1903"

Feet.
742. 229
801.032
boyles, east along the louisville and nashyile ratload and the southern railway, to leeds; thence northwest to trussville.
Irondale, 0.5 mile west of, sec. 23, T. $17 \mathrm{~S} ., \mathrm{R} .2 \mathrm{~W}$., in southwest corner of center pier of trestle No. 1 of Birmingham Mineral Railroad, 5 feet above ground; bronze tablet stamped " 773 ADJ. 1903".
Weems, sec. 17 , T. $17 \mathrm{~S} .$, R. 1 W ., on top of abutment stone of west wing of north abutment of Seaboard Air Line Railway; aluminum tablet stamped " 805 ADJ. 1903"
804. 352
T. 17 S., R. 1 W., sec. 15, on top of abutment stone of south wing of west abutment of long trestle just where Central of Georgia and Southern railways leave each other 1 mile west of brick kiln, in top stone in second course of masonry from top; aluminum tablet stamped " 621 ADJ. 1903.".
Henryellen, sec. 18, T. 17 S., R. 1 W., in second course of masonry from top of foundation of Tennessee Coal and Iron Company's commissary, 35 feet from north end; aluminum tablet stamped " 649 ADJ. 1903". 520. 480

Leeds, 0.6 mile west of, sec. 16, T. 17 S., R. 1 E., 615 feet west of trestle over Little Cahaba River, 35 feet north of Southern Railway track, primarytraverse station No. 9; bronze tablet stamped " 627 ADJ. 1903".
626. 463
T. 17 S., R. 1 E., sec. 15, 60 feet west of Cedargrove Church, in limestone;
bronze tablet stamped " 644 ADJ. 1903 "....................................................... 6441
T. 16 S., R. 1 E., sec. 34, 10 feet east of highway, 40 feet north of crest of ridge, 620 feet north of road fork, 0.5 mile southeast of Black Creek, in sandstone; aluminum tablet stamped " 731 ADJ. 1903 "
Trussiville, 4.5 miles southeast of, sec. 32 , T. 16 S., R. 1 E., in fork of grassy ridge and Trussville road, 0.5 mile south of Cahaba River; iron post stamped " 676 ADJ. 1903"
64.
730. 540

Roper station, sec. 30, T. 16 S., R. 1 E., at tank 800 feet north of Seaboard Air Line Railway, 15 feet west of Talladega pike to Trussville, in sandstone; aluminum tablet stamped " 827 ADJ. 1903"
675. 572
827. 1.02

BESSEMER SPECLAL (BESSEMER) QUADRANGLE.
bIRMINGHAM, SOUTHWEST ALONG HIGHWAY VIA POWDERLY, TO BESSEMER.
Elyton (Princeton station), northwest corner of brick building on southeast corner of Broad and Tuscaloosa streets; tablet stamped " 565 ADJ. 1903 "
564. 863

Powderly, 400 feet north of electric railroad crossing, 10 feet west of center of track, in big bowlder; aluminum tablet stamped "524 ADJ. 1903"...
Bessemer, southeast corner of Nineteenth street and Fourth avenue, at main entrance to building of Bessemer Loan and Improvement Company, east end of top stone; top of copper bolt leaded vertically in stone marked "U. S. $\odot$ P. B. ${ }^{\text {M. (Coast Survey value 513.129) }}$
513. 129

Bessemer, top doorstep at south side of east entrance to court-house; aluminum tablet stamped "Prim. Trav. Sta. No. 59. 512 ADJ. 1903"..
512. 404

NEAR HIGHLAND CHURCH, SOUTHWEST TO PELHAM; THENCE WEST TO M'CALLA.
Highland Church, 0.25 mile south of, west of road, in top of limestone bowlder; aluminum tablet stamped " 467 ADJ. 1903 ".
466. 979

Cahaba Valley Creek, west of road just north of ford over creek, in limestone bowlder; aluminum tablet stamped " 445 ADJ. 1903".
445. 350
Pelham, in limestone bowlder at road forks, primary-traverse station No. Feet.2702; t\&̊blet stamped " 437 ADJ. 1903"437. 288
Helena, 200 feet southeast of station, northwest corner of foundation of stone building; aluminum tablet stamped " 416 ADJ. 1903" ..... 416. 062
Helena, 3 miles west of, in top stone of southeast abutment of bridge over Cahaba River; aluminum tablet stamped " 400 ADJ. 1903" ..... 399. 774
Genery, 0.25 mile south of, 15 feet east of track, at road crossing, primary- traverse station No. 173; iron post stamped " 624 ADJ. 1903". ..... 623.847
Birons Ford, 1.2 miles east of, at Dickey Spring, second ford east of Birons "Ford, north of road, in rock; aluminum tablet stamped " 505 ADJ. 1903". ..... 505.224
genery station, north to near parkwood.
Parkwood, 0.8 mile north of, in capstone of southwest abutment Louisville and Nashville Railroad trestle; aluminum tablet stamped " 558 ADJ. 1903" ..... 558. 207
birmingham, southeast to cahaba fiter plant.
Waddell, 1 mile southeast of, 0.7 mile northwest of Cahaba filter plant, on southeast abutment of bridge over Shades Creek, on corner of coping; aluminum tablet (?) stamped " 650 ADJ. 1903" (?) ..... 649.525
helena, southwest along louisville and nashyille railroad to coalmont.
Coalmont, 800 feet south of Beaverdam Creek, west of track, south end of cut, in rock; aluminum tablet stamped " 416 ADJ. 1903" ..... 416. 259
bessemer, southwest along alabama great southern rallroad, to m'calla.
Jonesboro, 1.6 miles southwest of, at milepost " $\mathrm{C}-158$," on southwest stone at bridge abutment; aluminum tablet (?) stamped " 510.5 ADJ. 1903".. ..... 510. 479
VANDIVER (BESSEMER) QUADRANGLE.
cahaba fllter plant, southeast along mghway, to newhope church.
Caldwell ford, 500 feet north of, at road forks near signboard; iron post stamped. "Prim. Trav. Sta. No. 433. 461 ADJ. 1903 ". ..... 460.957
Newhope Church, north of road, 100 feet east of ford over Cahaba Valley Creek, in limestone bowlder; aluminum tablet stamped " 489 ADJ. 1903". ..... 489. 185
newhope church, northeast along road, to leeds.
Bridgeton, 4 miles southwest of, sec. 7, T. 19 S., R. 1 W., north of road on top of hill, in limestone; aluminum tablet stamped " 567 ADJ. 1903 "... ..... 566.855
Bridgeton, 1.25 miles north of, sec. 21 , T. 18 S., R. 1 W., 50 feet north of Cox Creek, 20 feet east of road, in limestone; aluminum tablet stamped " 545 ADJ. 1903" ..... 545.071
Shephard Branch, sec. 11, T. 18 S., R. 1 W., 75 feet north of ford, in lime- stone east of ford; aluminum tablet stamped " 550 ADJ. 1903" ..... 550.047
pelham, northeast to yellowleaf narrows; thence south to lester chapel
Eavens sawmill, sec. 2, T. 20 S., R. 2 W., 25 feet east of road, in sandstone; aluminum tablet stamped " 670 ADJ. 1903" ..... 669. 682
Yellowleaf Narrows, 350 feet southeast of bridge, in road forks, in sandstone bowlder; aluminum tablet stamped " 500 ADJ. 1903 " ..... 499.571
Coalville, 1 mile south of, 5 feet northeast of road on hillside, in sandstone bowlder; aluminum tablet stamped " 593 ADJ. 1903" ..... 593.335
Lester Chapel, 3 miles south of, sec. 34, T. 20 S., R. 1 W., 300 feet north of small stream, 5 feet west of road, in sandstone bowlder; aluminum tablet stamped " 498 ADJ. 1903" ..... 498. 177
WILSONVILLE, NORTHWEST TO PHILLIPS CROSSROADS; THENCE WEST TO YELLOWLEAFNARROWS.
Phillips Crossroads, 3 miles south of, sec. 4, T. 20 S., R. 1. E., 1 mile north of Teague Bridge over Yellowleaf Creek, 10 feet west of road on hillside, in sandstone bowlder; aluminum tablet stamped " 502 ADJ. 1903".
Feet. ..... 502. 297
Phillips Crossroads, 100 feet south of store, in southwest angle of crossroads; iron post stamped "Prim. Trav. Sta. No. 908, 530 ADJ. 1903". ..... 529. 579
Phillips Crossroads, 1.4 miles west of, 20 feet west of roadway, in sandstone bowlder; tablet stamped " 546 ADJ. 1903" ..... 545. 780
MONTEVALLO QUADRANGLE.
pelham, south along louisville and nashville railroad, to ocampo.
Siluria, 200 feet north of station, east of track, in limestone; aluminum tablet stamped "477 ADJ. 1903" ..... 476.975
Longview, at southwest corner of company store; iron post stamped " 563 ADJ. 1903" ..... 563.212
Varnons, on east side of right of way, 50 feet south of kiln, in rock; alumi- num tablet stamped " 551 ADJ. 1903". ..... 550.736
Calera, 100 feet north of station, 66 feet west of railroad, in limestone; aluminum tablet stamped "Prim. Trav. Sta. No. 43, 497 ADJ. 1903"... ..... 496.779
South Calera, east of road, 100 feet north of crossing, 175 feet west of track, in limestone; aluminum tablet stamped " 546 ADJ. 1903". ..... 546. 308
Ocampo, at southwest corner of company store; iron post stamped "Prim. Trav. Sta. No. 432, 549 ADJ. 1903 " ..... 548. 884
coalmont, southwest along loutsville and nashville ratlroad, to antta; thence southeast to wilton junction; thence southwest to sixmile; thence east to ocampo.
Gurnee Junction, 1.5 miles north of, Southern Railway bridge over Cahaba River, in west end of capstone to south abutment; aluminum tablet stamped "Prim. Trav. Sta. No. 41, 368 ADJ. 1903". ..... 368. 039
Gurnee Junction, on south side of cut at west end, on south wye of Southern Railway to Louisville and Nashville Railroad; cross on stone. ..... 444. 07
Anita, 2.4 miles east of, north of road, in red sandstone; aluminum tablet. stamped " 681 ADJ. 1903" ..... 680.812
Aldrich, 0.4 mile north of, 40 feet west of track, 100 feet north of trestle, in limestone; aluminum tablet stamped "429 ADJ. 1905" ..... 428.604
Aldrich, 600 feet south of station, east of Southern Railway at road crossing; point on rock ..... 442. 224
Bibb Furnace, 1.7 miles northeast of, south of road, 75 feet east of ford over Little Cahaba River, in limestone; aluminum tablet stamped "336 ADJ. 1903" ..... 335.964
Ashby, 500 feet north of station, south of road, in rock; aluminum tablet stamped " 454 ADJ. 1903". ..... 454. 920
Curry's ford, 0.25 mile south of, at 3 corners; iron post stamped "Prim. Trav. Sta. No. 349, 427 ADJ. 1903" ..... 426. 354
Ocampo, at southwest corner of company store; iron post stamped "Prim. Trav. Sta. No. 432, 549 ADJ. 1903 " 548. 884
COLUMBIANA QUADRANGLE.
Lester chapel, south to columbiana; thence southwest along southern railwayto calera.
Columbiana, 2.7 miles north of, 10 feet east of roadway, in limestone bowl- der; aluminum tablet stamped " 561 ADJ. 1903" ..... 560. 914
Columbiana, side abutment of steps at south entrance of new jail; alumi- num tablet stamped " 533 ADJ. 1903". ..... 532.935
Columbiana, 3 miles southwest of, northwest pier of railroad trestle across ..... Feet.
Waxahatchee Creek; aluminum tablet stamped "504 ADJ. 1905". ..... 503. 922
Shelby Springs, 100 feet north of west end of station, in pier of trestle; aluminum tablet stamped " 513 ADJ. 1903" ..... 512.679
ocampo, east and north to columbiana.
Ocampo, 3.3 miles east of, 0.25 mile north of Third Creek, 5 feet east of road; aluminum tablet stamped " 630 ADJ. 1903" ..... 630. 498
Barnett, 3.6 miles east of, 800 yards south of railroad, near road forks, 5 feet east of road; aluminum tablet stamped " 643 ADJ. 1903" ..... 643. 11.9
Shrader Mill, 4 miles south of, 100 feet east of road crossing, primary- traverse station No. 565; iron post stamped " 539 ADJ. 1903" ..... 539. 255
Shrader Mill, 1.25 miles south of, 20 feet south of small stream, 5 feet west of road, in sandstone; aluminum tablet stamped " 403 ADJ. 1903" ..... 403. 121
Shrader Mill, 1.25 miles north of, 300 feet north of small stream, 10 feet west of road, in sandstone; aluminum tablet stamped " 433 ADJ. 1903" ..... 433. 1.54
Shelby, 0.25 mile east of, east corner of brick building, near entrance, 300 feet southwest of road forks; aluminum tablet stamped "490 ADJ. 1903". ..... 489. 1.48
columbiana, northeast to wilsonville.
Nelson, 0.5 mile southeast of station, in pier at northwest end of Southern Railway trestle; aluminum tablet stamped " 455 ADJ. 1905". ..... 454.939
calera, via spring junction and shrader mill, to mosteller.
Spring Junction, at grade crossing; top of rail marked " 558 " ..... 558.03
Spring Junction, 0.8 mile southeast of; copper nail in hollow in root of tree, marked " 611 ". ..... 611.08
Spring Junction, 1 mile southeast of, at crossroads; copper nail in root of tree, marked " 634 " ..... 634. 20
Spring Junction, 1.4 miles southeast of, in hollow, 100 feet north of stream, at roadside, in shale outcrop; aluminum tablet stamped " 566 ". ..... 566. 009
Spring Junction, 3.1 miles southeast of, at intersection; copper nail in root of tree, marked " 497 ". ..... 496.97
Spring Junction, 3.7 miles southeast of, at intersection of road; copper nail in stump, marked " 502 ". ..... 502. 13
Sawyers Cove, 3 miles northwest of, 1,000 feet west of intersection, in bowlder west of road; aluminum tablet stamped " 508 " ..... 508. 324
Sawyers Cove, 1.8 miles northwest of, at intersection; copper nail in root of tree, marked " 601 " ..... 601. 04
Sawyers Cove, 0.8 mile northwest of, at turn; copper nail in root of tree, marked " 392 ". ..... 392.57
Sawyers Cove, 0.1 mile southeast of, at intersection; copper nail in root of tree, marked " 435 " ..... 434.85
Sawyers Cove, 0.4 mile southeast of, on large rock outcrop at intersection; mark " 419 ". ..... 41.9. 39
Shrader Mill, 2.6 miles northwest of, opposite house, north of road, at edge of field; iron post stamped " 474 " ..... 474. 320
Shrader Mill, 1.4 miles northwest of, midway up summit; copper nail in. stump, marked " 489 " ..... 449.22
Shrader Mill, 1 mile south of, at intersection; copper nail in root of tree, marked "414". ..... 412.99
Shrader Mill, 0.8 mile northeast of, opposite house; copper nail in stump, marked " 477 ". ..... 476.85
Jordan, 0.8 miles northeast of, at small stream north of road, in large stone outcrop; aluminum tablet stamped " 484 " ..... 483.079
Jordan, 1.4 miles northeast of, at intersection; copper nail in root, marked "408"

Feet.
407.97
453.69
386.35
409. 23
near woods ferry (set by checked spur line from temporary bench mark near JoRDAN).
Jordan, 1.9 miles northeast of, at intersection; copper nail in root, marked "454" ..... 453.63
Woods Ferry, 0.6 mile west of, at summit; copper nail in root, marked " 522 ". ..... 522.01
Woods Ferry, 60 feet west of river, 50 feet south of road, in field, in fint bowlder; aluminum tablet stamped " 374 ". ..... 373.385
SHELBY VIA MOSTELLER TO WILSONVILLE.
Shelby, 1 mile east of, railroad bridge; iron bolt marked " 471 ", ..... 470.72
Kewahatchie, 0.9 mile west of, at railroad bridge; top of rail marked " 442 ". ..... 442.16
Kewahatchie, 150 feet north of railroad, southwest corner of house of G. W. Strong; aluminum tablet stamped " 439 ". ..... 439.523
Kewahatchie, 0.8 mile east of, railroad bridge; top of rail marked " 427 " ..... 426.50
Mosteller, spike in base of railroad signal switch, marked " 422 " ..... 421.88
Mosteller, 1.1 miles east of, railroad bridge across Coosa River, in north side of westernmost pier; aluminum tablet stamped " 385 ADJ. 1908" .. ..... 385. 165
Mosteller, 1.2 miles north of, at summit; copper nail in root, marked "430". ..... 430. 06
Busby, 0.9 mile south of, at intersection; copper nail in root of large pine tree, marked " 403 " ..... 403. 35
Busby, 0.1 mile south of, 600 feet south of crossroads, west of road, in sand- stone bowlder; aluminum tablet stamped " 549 " ..... 548.687
Busby, 0.7 mile north of, at intersection; copper nail in root, marked " 402 " ..... 401. 49
Busby, 1.7 miles north of, at intersection; copper nail in stump, marked "384" ..... 384. 11
Williams, 0.7 mile north of, at summit; copper nail in stump, marked "503" ..... 503. 36
Williams, 1.5 miles north of, 100 feet south of stream, south side of road, in sandstone outcrop; aluminum tablet stamped " 400 ". ..... 399.640
Wilsonville, 2.8 miles southwest of, at intersection, 250 feet north of house belonging to T . W. Weaver, north of road; iron post stamped " 403 " ..... 402. 430
Wilsonville, 1.9 miles southwest of, opposite mail box midway to summit, on rock; mark " 427 " ..... 429.96
COLUMBIANA, VIA LYNCH, TO LONGVIEW.
Columbiana, 0.3 mile west of, railroad bridge; top of rail marked " 519 ".... ..... 519.37
Columbiana, 2.2 miles west of, opposite house; copper nail in root of tree, marked " 544 " ..... 544. 12
Columbiana, 3.3 miles west of, at intersection of roads; iron post stamped "487" ..... 486. 840
Columbiana, 3.8 miles west of, at summit; copper nail in root of tree, marked " 575 " ..... 574: 63
Columbiana, 5 miles west of, in hollow; copper nail in root of tree, marked " 489 " ..... 488.66
Lynch, 1.6 miles east of, at summit, opposite house; copper nail in stump, Feet.
marked " 563 " ..... 562.66
Lynch, 1.4 miles east of, 300 feet east of house belonging to B. E. Hand, north of road, in bowlder; aluminum tablet stamped " 540 " ..... 539. 985
Lynch, 0.1 mile west of, at intersection; copper nail in root of tree, marked " 606 " ..... 606. 20
Lynch, 1.6 miles west of, at intersection, at northwest corner of house belonging to Mr. Payne; iron post stamped " 584 " ..... 583. 901
lynch, north and east to joiner.
Lynch, 0.1 mile west ff , at intersection, near church; copper nail in root of tree, marked " 606 " ..... 606. 20
Camp, 80 feet north of railroad crossing, at property occupied by William Payne, southeast corner of yard; iron post stamped " 582 " ..... 581. 939
Joiner, 0.4 mile east of, at intersection; copper nail in root of tree, marked " 590 " ..... 590. 02
Joiner, 0.6 mile east of, at intersection of roads, 20 feet west of road forks; iron post stamped " 580 " ..... 579.805
Joiner, 1.1 miles east of, at intersection; copper nail in root of tree, marked " 602 " ..... 602.04
Joiner, 1.8 miles east of, at intersection; copper nail in root of tree, marked " 575 " ..... 574.39
BROOKWOOD QUADRANGLE.
at m'calla.
McCalla, southwest of road, 135 feet southeast of center of track; bronze tablet stamped "Prim. Trav. Sta. No. 68. 488 ADJ. 1903" ..... 487. 667
at sixmile.
Sixmile, south side of east abutment of bridge; iron post stamped "Prim. Trav. Sta. No. 257. 333 ADJ. 1903" ..... 333.357
GEORGIA.PRECISE LEVELING.
Atlanta, Baxley, Brunswick, Dalton, Eastman, Everett, Griffin, Jackson, Jesup, Lumber City, McRae, Macon, Marietta, Ringgold, and Rome quadrangles.
appling, bibb, butts, clayton, cobb, coffee, dodge, floyd, fulton, glynn, gor. don, henry, monroe, paulding, polk, pulaski, telfair, twiggs, wayne, and whitfield counties:

The elevations in the following list are a portion of the results of precise leveling carried from Morehead, N. C., through North Carolina, Tennessee, and Georgia to Brunswick, Ga. For description of the methods of leveling see under "Precise leveling" in North Carolina (pp. 58-59). The leveling from Red Clay to Atlanta was done in 1897 by W. C. Hall; the remainder of the line was run in 1898 by E. L. McNair.

> DALTON QUADRANGLE.
red clay, south ilong southern railway, to carbondale.
Red Clay, in front of railroad station; top of west rail.............. ${ }_{8}$ Feet.
Cohutta, 157 feet east of west rail of main track, in north front of W. A.
Williams's brick store; bronze tablet stamped " 866 MC ".................... 865.728
Varnell, in front of station; top of west rail..................................... 807.6

Dalton, in front of station; top of west rail....................................... 758.7
Dalton, in water table at north side of Cleveland street entrance of Whit- Feet. field county Court-house; bronze tablet stamped " 774 MC " ..... 773.419
Phelps, 50 feet west of west rail opposite switch point, at south end of side track, near southeast corner of post-office; iron post stamped " 712 MC ". ..... 711. 283
Carbondale, at road crossing; top of west rail ..... 761.6
RINGGOLD QUADRANGLE.
Carbondale, south along southern railway, to sugar valley.
Miller, 76.4 feet west of west rail, at northeast corner of L. C. Rooker's store; iron post stamped " 719 MC " ..... 717. 756
Sugar Valley, at road crossing; top of west rail. ..... 646. 1 ..... 646. 1
ROME QUADRANGLE.SUGAR VALLEY, SOUTH ALONG SOUTHERN RAILWAY, TO ROCKMART.
Oostanaula, road crossing; top of west rail ..... 630.7
Oostanaula River, west pedestal block of south abutment of bridge H 61.3, 7.6 feet west of west rail; copper bolt stamped " 620 MC ". ..... 618.981
Reeves, at road crossing; top of west rail ..... 636.2
Plainville, in front of station; top of west rail. ..... 677.1
Pinson, 23.3 feet east of west rail and 15.3 feet north of switch point; iron post stamped " 653 MC " ..... 651.718
Shannon, in front of station sign; top of west rail. ..... 684.4
Harper, at road crossing; top of west rail. ..... 677.7
North Rome, in front of station; top of west rail. ..... 630. 1
Etowah River, center of 300 -foot bridge H 78.9 ; top of west rail. ..... 621.4
Rome, in face of steps to Fourth avenue entrance of post-office; aluminum tablet stamped " 614 MC " ..... 612.607
Rome, in front of station; top of west rail ..... 610. 3
Atlanta Junction, in front of station; top of west rail ..... 606. 4
Lindale, in front of station; top of west rail ..... 651. 1
Silver Creek, at road crossing; top of west rail ..... 679.6
Chambers, at road crossing; top of west rail. ..... 702.9
Chambers, 0.08 mile south of, in north abutment of trestle H 86.3, 7 feet west of west rail; copper bolt stamped " 697 " ..... 695.949
Briceville, at road crossing; top of west rail ..... 824.7
Byrd; in front of station sign; top of west rail. ..... 862.0
Seney, in front of station; top of west rail ..... 828.9
Seney, 0.4 mile south of, 6 -foot arch culvert, in west face wall, 6.3 feet south of center of arch; copper bolt stamped " 799 MC " ..... 797. 967
Ravenel, at road crossing; top of west rail ..... 738.4
Long, at road crossing; top of west rail. ..... 734.6
Seaboard Air Line Railway; top of north rail under Southern Railway bridge H 101.7 ..... 745.0
Southern Railway bridge H 101.7 over Seaboard Air Line Railway; top of west rail ..... 765. 0
Rockmart, 0.1 mile north of, Euharlee Creek Bridge, in south abutment 5.7 feet west of west rail; copper bolt stamped " 774 MC " ..... 762. 755
Rockmart, in front of station; top of west rail. ..... 764.4
MARIETTA QUADRANGLE.ROCKMART, SOUTHEAST ALONG SOUTHERN RAILWAY, TO OAKDALE.Feet.
Don, top of west rail at road crossing ..... 912. 2
Beatty Switch, at road crossing; top of west rail ..... 926. 4
Braswell, in front of station; top of west rail ..... 1, 056.1
Braswell, 0.5 mile south of, in west wall of tunnel, 3 feet from north portal; Feet. bronze tablet stamped " 1088 MC" ..... 1, 087.074
South Switch, in front of station; top of west rail. ..... 1, 062. 1
McPherson, 79.8 feet west of west rail, 30 feet south of road crossing, 2 feetfrom northeast corner of J. E. Butler's house; iron post stamped " 1015MC"$1,013.888$
Pumpkinvine Bridge, at center of 360 -foot viaduct $H 116.7$; top of west rail ..... 910.5
Dallas, at road crossing; top of west rail. ..... 1, 002.8
Dallas, west side of south entrance of Paulding County court-house; bronze tablet stamped " 1050 MC " ..... 1., 049.538
Hiram, in front of station; top of west rail ..... 960.0
Powder Springs, 2.2 miles north of; 0.3 mile north of milepost 128 , in rock formation on west side of cut; copper bolt stamped' " 957 MC " ..... 956. 170
Powder Springs, in front of station; top of west rail. ..... 912.6
Sweetwater Creek, center of 130 -foot bridge H 133.4; top of west rail ..... 896.0
Austell, in front of station; top of west rail. ..... 927.4
Austell, W. E. Shelerton's hotel, in north front of building, 6.7 feet from west corner; bronze tablet stamped " 930 MC " ..... 929. 185
Mableton, in front of station; top of south rail. ..... 980.7
Nickajack, at road crossing; top of south rail ..... 850.5
Starbuck field, road crossing; top of south rail ..... 811.6
Lenox, 0.4 mile west of, 70 feet west of milepost 142,8 feet south of south rail, in solid rock; copper bolt stamped " 804 MC" ..... 803.748
Lenox, at road crossing; top of south rail ..... 795.9
ATLANTA QUADRANGLE.
OAKDALE, SOUTHEAST ALONG SOUTHERN RAILROAD, TO TUNIS.
Oakdale, in front of station; top of south rail. ..... 809.2
Chattahoochee River bridge H 144.5, at west end of trestle approach; top of south rail ..... 794.3
Payton, 16 feet south of south rail of main track and 12 feet west of west side of station; iron post stamped " 855 MC " ..... 854. 400
Ellen N., in front of station; top of south rail ..... 893.7
Atlanta, center of Union Station shed; top of rail ..... 1, 032.0
Atlanta, in north newel post of Washington street entrance of state capitol; aluminum tablet stamped " 1050 MC ". ..... 1, 049.546
South Atlanta, road crossing; top of south rail ..... 1,015. 4
Constitution, 4 feet south of station signpost, 25 feet south of railroad; iron post stamped " 847 MOREHEAD, 1898" ..... 847.006
Norton, opposite signpost; top of south rail ..... 815.1
Henrico, at signpost; top of south rail ..... 862. 1.
Conley, top of south rail. ..... 849.6
Fllenwood, 20 feet south of track, 2 feet northwest of station platform; iron post stamped " 848 MOREHEAD, 1898" ..... 847. 734
Rex, opposite signboard; top of west rail. ..... 781.4
Stockbridge, brick post-office building, 18 feet left of front doorway, 2.5 feet above ground; aluminum tablet stamped " 810 MOREHEAD, 1898" ..... 809.546
Tunis, at road crossing; top of west rail ..... 782.0
GRIFFIN QUADRANGLE.tunis, southeast along southern railway, to jenkinsburg.
Flippen, opposite station; top of west rail ..... 860.0
McDonough, granite footstone of stone arch at right of main entrance to Henry County courthouse; aluminum tablet stamped " 866 MOREHEAD, 1898" ..... 865.441
McDonough, in front of station; top of west rail. ..... 860.0
$53493^{\circ}$ - Bull. 441—11——3
Locust Grove, 55 feet north of railroad station, 25 feet west of main track, 3 feet north of small black oak 4 inches in diameter; iron post stamped " 837 MOREHEAD, 1898"
Feet.
836.236

JACKSON QUADRANGLE.
jenkinsburg, southeast along southern rallway to popes ferry.
Jackson, in front of station; top of west rail........................................ 696.5
Jackson, Butts County court-house, in sandstone just above water table at
right of front entrance; aluminum tablet stamped " 727 MOREHEAD,
1898 ".......................................................................................................
Flovilla, in front of station; top of west rail................................. 587.8

Berner, in front of station; top of west rail. . ........................................ 393.7
Juliette, 88 feet south of station, 15 feet west of center of track, 3 feet south
of milepost 217 ; iron post stamped " 375 MOREHEAD, 1898 "........ 375.040
Dames Ferry, 3 feet north of station, 23 feet west of center of track; iron post
stamped " 347 MOREHEAD, 1898 "............................................................ 346.63

## MACON QUADRANGLE.

POPES FERRY, SOUTHEAST ALONG SOUTHERN RAILWAY, TO ADAMS PARK.
Popes Ferry, in front of station; top of west rail.
Holton, 35 feet north of station, 29 feet west of center of track; iron post
stamped " 339 MOREHEAD, 1898 "......................................................... 338.733
Virgin, road crossing; top of west rail............................................. 328.4
Virgin, 0.9 mile south of, at milepost 236 ; top of west rail. . . . . . . . ........ 309.6
Macon, United States post-office building at corner of Mulberry and Third streets, in water table at left of Mulberry street entrance; aluminum tablet stamped " 334 MOREHEAD, 1898 " $a$.
333. 942
Macon, northeast corner of new post-office building; aluminum tablet...... 332.625
Macon, 0.7 mile south of, at crossing of Central of Georgia Railway and
Southern Railway; top of west rail of Southern Railway.................... 310.3
Reid, opposite signboard, 40 feet southwest of center of main track; iron
post stamped " 272 MOREHEAD, 1898"................................................271.719
Bullards, 2 feet south of south end of platform, 35 feet east of center of
main track; iron post stamped " 259 MOREHEAD, 1898"............... 258. 468
Adams Park, 19 feet east of center of track, 3.5 feet south of platform; íron
post stamped " 259 MOREHEAD, 1898"........................................... 258.640

EASTMAN QUADRANGLE.
AdAMS PARK, SOUTHEAST ALONG SOUTHERN RAILWAY, TO cox.
Westlake, 33 feet east of center of main track, 2.5 feet south of station plat-
$\cdots$ form; iron post stamped " 234 MOREHEAD, 1898 "......................... 234.130

Longstreet, in front of station; top of rail........................................... 301.5
Cochran, 55 feet west of station platform, 33 feet west of center of main track, 3 feet north of large telegraph pole; iron post stamped " 342 MOREHEAD, 1898".
341. 471

[^0]Empire, 50 feet north of station platform, 13 feet west of center of main track, 4 feet south of post marked "STOP;" iron post stamped " 381

Feet.MOREHEAD, 1898 "
381. 170
Gresston, 36 feet west of southwest corner of station, 17 feet west of center of track; iron post stamped " 400 MOREHEAD, 1898" ..... 400. 287
Eastman, 37 feet north of station, 17 feet west of center of track; iron post stamped " 357 MOREHEAD, 1898 " ..... 356.697
Godwinsville, 15 feet north of station, 20.5 feet west of center of main track; iron post stamped " 312 MOREHEAD, 1898" ..... 311. 460
Chauncey, 47 feet north of center of main track, 2 feet east of station plat- form; iron post stamped " 300 MOREHEAD, 1898" ..... 299. 294
Misler, in front of station; top of west rail ..... 292.7
Cox, in front of station; top of west rail. ..... 286.8
m'raE QUADRANGLE.
COX, SOUTHEAST ALONG SOUTHERN RALLWAY, TO M'raE.
Achord, opposite signboard; top of south rail ..... 274.. 1
Achord, opposite signboard near west end of siding, 100 feet south of south- west corner of store, 28 feet south of center of main track; iron post stamped ' 275 MOREHEAD, 1898" ..... 274. 532
Helena, crossing of Southern Railway and Georgia and Alabama Railway; southern rail of Southern Railway ..... 246.6
McRae, 8 feet east of railway station platform, 1 foot east of telegraph pole and 32 feet south of center of main track; iron post stamped " 229 MORE- HEAD, 1898" ..... 229. 327
LUMBER CITY QUADRANGLE.
m'rae, southeast along southern rallway, to hazlehurst.
Scotland, 8 inches east of east edge of railway station platform, 35 feetsouth of center of main track; iron post stamped "142 MOREHEAD,1898"141. 769
Towns, 39 feet south of center of railway station platform, 34 feet south of center of main track; iron post stamped " 128 MOREHEAD, 1898". ..... 217. 505
Lumber City, 200 feet east of railway station, 52 feet north of center ofmain track, 26 feet southwest of corner of barber shop, 3.5 feet west ofchinaberry tree; iron post stamped " 146 MOREHEAD, 1898"145. 479
Hazlehurst, 30 feet south of center of main track, 2 feet east of railway station platform; iron post stamped " 256 MOREHEAD, 1898 ". ..... 255.640
BAXLEY QUADRANGLE.
hazlehurst, southeast along southern rallway, to odum.
Graham, 9.5 feet west of station, 26 feet south of center of main track, 2.5 feet north of telegraph pole; iron post stamped " 244 MOREHEAD, 1898". ..... 243.894Pine Grove, 39 feet east of road crossing, 47 feet east of freight platform atstation, 16 feet south of center of main track; between two posts support-ing sign "Pine Grove;" iron post stamped " 229 MOREHEAD, 1898 ".299. 11.6
Baxley, 67 feet east of end of railway station building, 37 feet south ofcenter of main track, 4 feet west of telegraph pole; iron post stamped" 206 MOREHEAD, 1898"205.887
Wheaton, 57 feet northeast of northeast corner of freight platform at station, 44 feet south of corner of shanty, 33 feet north of center of main track; iron post stamped " 200 MOREHEAD, 1898" ..... 200. 480
Surrency, 45 feet south of railway station platform, 37 feet south of center of main track; iron post stamped " 187 MOREHEAL; 1898" ..... 186. 429
Brentwood, 54 feet east of freight building and platform at railway station, 36 feet north of center of main track, 45 feet south of store; iron post stamped " 167 MOREHEAD, 1898 "
Feet.
Odum, 78 feet west of station platform, 25.5 feet south of center of main track, 43.5 feet north of porch of L. Carter \& Bros.' warehouse; iron post stamped " 155 MOREHEAD, 1898"
166.696
154.810

## JESUP QUADRANGLE.

AT JESUP.
Jesup, 2.5 feet southwest of Southern Railway station (also station of Átlantic Coast Line), 33 feet northwest of center of main track of Atlantic Coast Line; iron post stamped " 99 MOREHEAD, 1898"

## EVERETT QUADRANGLE.

GARDI, SOUTHEAST ALONG SOUTHERN RAILWAY, TO POINT 2 miles NORTH OF DOCK JUNCTION.
Gardi, 2.5 feet from southeast corner of railway station, 39 feet northeast of center of main track; iron post stamped "61 MOREHEAD, 1898".
Pandarvis, between signboard posts 850 feet south of head block at north end of siding, 22 feet northeast of center of main track, 174 feet south of corner of dwelling house; iron post stamped " 85 MOREHEAD, 1898"..
Mount Pleasant, 95 feet northwest of railway station, 42 feet southwest of center of main track; iron post stamped " 55 MOREHEAD, 1899 ". 85. 132
Everett, 29 feet west of railway station; 11.5 feet west of center of main track, 109.5 feet northwest of center of crossing of the Southern Railway and the Atlantic Coast Line Railroad, 2.5 feet northwest of telegraph
pole; iron post stamped " 16 MOREHEAD, 1899"
16. 305

Pennick, 160 feet north of head block at south end of siding, 24 feet east of center of main track, between posts supporting signboard; iron post stamped " 18 MOREHEAD, 1899 ".
18. 239

Sterling, in front of station; top of west rail. ..................................... 20.7
Dock Junction, 2 miles north of, at crossing of the Southern Railway and the Atlanta, Birmingham and Atlantic Railroad, 22 feet northeast of center of latter's track, 23.5 feet east of center of Southern track; iron post stamped " 24 MOREHEAD, 1899 "
24. 647

## BRUNSWICK QUADRANGLE.

AT BRUNSWICK.
Brunswick, at southwest corner of Newcastle and Mansfield streets, in foundation wall at right of Newcastle street entrance of city hall; aluminum tablet stamped " 10 MOREHEAD, 1899"
10.688

Brunswick, Glauber \& Isaac's warehouse, near McCullough's wharf; large spike in oak stump under hole made through floor (U. S. Engineer Corps elevation, 7.662)
7.659

Brunswick, 80 feet south of Glauber \& Isaac's warehouse, 12 feet west of office building, on spike in notch on southwest side of live-oak tree 20 inches in diameter (U. S. Engineer Corps elevation, 8.572)
8. 626

Brunswick, McCullough's wharf, 20 feet back from and 16 feet south of edge of ballast pile; top of coupling of $1 \frac{1}{2}$-inch gas pipe driven in ground now about 15 inches above surface (U.S. Engineer Corps elevation, 6.922)
6. 871

Brunswick, northeast corner of F and Oglethorpe streets, top of iron pipe 1 foot below surface of sidewalk, 1 foot from fence on line of Oglethorpe street; bricks to be removed (U. S. Engineer corps elevation, 14.432)...

## Ringgold quadrangle.

DADE COUNTY.
The elevations in the following list are a portion of the results of precise levels extended from Chattanooga to Nashville, Tenn. The section of this line from Chattanooga, Tenn., to Stevenson, Ala., was recovered by the Coast and Geodetic Survey precise levels, the adjustment of which has caused the original elevations by this line at Stevenson to be raised 0.157 foot with respect to Chattanooga. The remainder of the line to Nashville is a spur. The simultaneous double-rodding method was used. The leveling was done in 1899 by W. W. Gilbert.

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Chattanooga, southwest along nashville, chattanooga and st. louls rallway, to
                    stevenson, ala. (portion of line).
Hooker, 2.3 miles west of, at west end face of tunnel, south side of track, 4 Feet.
    feet above rails; bronze tablet stamped " }974\mathrm{ "
970.638
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## Macon and Meriwether quadrangles.

## BALDWIN, BIBB, AND JONES COUNTIES.

The following are the unadjusted results of a precise line of forward and backward levels run in 1906, beginning at an iron post at Holton station, stamped " 339 MOREHEAD, 1898," on the precise line from Atlanta to Brunswick, and running southeast along the Southern Railiway to Macon, thence northeast along the Georgia Railroad to Milledgeville. The elevation of the bench mark at Holton, as determined by the 1903 adjustment, is accepted as 338.733 feet above mean sea level. The total divergence between direct and reverse lines was 0.023 foot in a total distance of 39 miles. The methods of leveling, type of level, and limit of error are those now used by the Coast and Geodetic Survey. The party consisted of 5 persons-2 rodmen, 1 umbrella man, 1 recorder, and the levelman, C. H. Semper.

[^1]HOLTON, VIA MACON, TO JAMES.


Macon, 3.65 miles northeast of; west side of track, 4 feet south of milepost
187; iron post stamped " 351 "........................................................ 351.206
M. and A. Junction, in front of station; top of rail.......................... 348.0
M. and A. Junction, 1.83 miles northeast of; 15 feet west of milepost 72 ,
iron post stamped " 467 ".................................................. 466.909

Roberts, west side of track, 35 feet west of station; iron post stamped " 539 ". $\quad 538.701$
Roberts, 2.36 miles northeast of, west side of track, railroad crossing south
side of highway, 880 feet south of milepost 66 ; iron post stamped " 564 ".
564.317
James, in front of station; top of rail........................................ 490.325


## MERIWETHER QUADRANGLE:

james, northeast along georgia railroad, to milledgeville.
Haddock, in front of station; top of rail. ..... 484. 178
Haddock, Jones County Bank, front face; aluminum tablet stamped " 499 ". ..... 499.212
Browns Crossing, in front of station; top of rail. ..... 362.658
Browns Crossing, 0.93 mile northeast of, north side of track, milepost 53, top of; aluminum tablet stamped " 337 " ..... 337.142
Browns Crossing, 3.84 miles northeast of, west side of track, milepost 50 , top of; aluminum tablet stamped " 356 " ..... 355.582
State Farm, in front of station; top of rail. ..... 321. 421
State Farm, 0.84 miles northeast of; 1.5 miles south of Milledgeville, west side of track, top of milepost 47 ; aluminum tablet stamped " 360 ". ..... 360. 496

## PRIMARY LEVELING.

Dahlonega, Dalton, and Ellijay quadrangles.

## fannin, gilmer, habersham, lumpkin, murray, rabun, towns, union, white,

 AND WHITFIELD COUNTIES.The elevations in the following list were determined from connection with precise leveling at Dalton. The leveling was done as follows: In Dahlonega and Ellijay quadrangles in 1896 by T. S. Mauldin, jr.; in Dalton and Ellijay quadrangles in 1900 by W. S. D. Moore; and in Ellijay quadrangle in 1907 by W. H. Gray and J. S. Martin. The bench marks established in 1896 are stamped with figures of elevation which are nearly 33 feet greater than the heights herein accepted as correct.

## DALTON QUADRANGLE.

## dalton, east along highways and louisville and nashville railroad, to ellijay.


ELLIJAY QUADRANGLE.
ellijay, northeast along louisville and nashville railroad, to mineral bluff.
Ellijay, 6 miles north of, 0.5 mile north of road leading to Wolf Pen Gap, 100 feet east of branch flowing south and 500 feet east of William Harper's residence, in rock north of road; bronze tablet stamped " 1739 ATLANTA".

1, 737. 552
Blue Ridge, in southeast corner of front wall of Boling \& Crawford's store; bronze tablet stamped " 1751 ATLANTA".

1, 718. 219
Toccoa River railroad bridge, top of pier at south end; marked point on marble block

1,548. 02
Cole Crossing, 250 feet west of track, north of road, in ledge of slate rock; copper bolt stamped " 1702 ".
$1,669.541$
mineral bluff, southeast along highway, to morganton; thence west to blueRIDGE.
Mineral Bluff, 0.5 mile east of, in ledge of slate on left of road, 225 feet east Feet. of Burrell's blacksmith shop; copper bolt stamped " 1644 " ..... 1, 611.532
Morganton, grove opposite Baptist Church; copper bolt stamped "1839" ..... 1, 806. 223
MORGANTON, EAST ALONG HIGHWAY, TO YOUNG CANE; THENCE SOUTHWEST TO DICK; THENCE NORTH TO MORGANTON.
Brackett's store, opposite church near store, southwest of and 110 feet from intersection of roads; copper bolt stamped " 1906 " ..... 1, 873. 209
Hemptown Gap, at summit, 65 feet southwest of nail in root of white-oak tree on right of road; copper bolt stamped " 2211 " ..... 2, 178. 122
Young Cane, at side of Butt's store; iron post stamped " 1966 " ..... 1, 933.037
Skeenah Gap, at summit dwelling, in large rock in lane to left; copper bolt stamped " 2388 " ..... $2,355.577$
Cochrans, 0.5 mile west of, in rock at north edge of road; copper bolt stamped " 1887 Ft." ..... $1,853.887$
Wilscot, 0.3 mile southeast of, rock on right of road near spring, in rocky ledge above river; copper bolt stamped " 1859 " ..... 1, 826.439
Morganton, fork of road near William Woody's house, in large rock; copper' bolt stamped "U. S. G. S. 1981 Ft. B. M." ..... 1, 947.821young cane, southeast along highway, to mulky gap; thence south to cavenderbridge; thence west to dial.
Mulky Gap, 200 yards north of summit, in large rock on left of road; copper bolt stamped " 2760 " ..... 2, 727. 753
Cavender Bridge over Toccoa River, near north end, in large rock; copper bolt stamped. "2095" ..... 2,062. 207
TOCCOA RIVER ROAD, SOUTH UP ROCK CREEK ROAD, TOWARD ARGO.
Argo, 2 miles north of, at crossing of Rock Creek, in rock on left edge of road; copper bolt stamped " 2199 " ..... 2, 166. 834
Cavender bridge, south along highway, to dahlonega.
Gaddistown, 0.5 mile south of; copper plug in large rock across road from Anderson \& Jones's store at road forks, stamped "U. S. G. S. 21.52 Ft. B. M." ..... 2, 119. 15
Cooper Gap, summit of, 175 feet to left of road in field; copper bolt stamped"2861"2, 828. 194
Two Run, 2 miles southeast of, in large quartz rock on right of road about700 feet beyond fork of Narrow Gauge and Dahlonega roads; copper boltstamped " 1632 "1, 599. 230
Jay, under west end of bridge across Etowah River, in rock; copper boltstamped "U. S. G. S. B. M. 1360 Ft."1, 327. 801
blatrsville, northwest along highwaf, to culberson, n. c.
Ivylog Church, at Murphy-Culberson road fork; iron post stamped "1949". 1, 915. 851Culberson, N. C., 1.5 miles southeast of, in rock at crossing of creek onright of road, about 700 feet beyond stream; copper bolt stamped "1617". 1, 584. 546
blue ridge, north along louisville and nashville railroad, to m'Cays (double-RUN LINE).
Curtis, 2 miles south of, at right of railroad, on rock ledge; aluminum tabletstamped " 1533 "$1,533.074$
Galloway, 1,800 feet north of, 110 feet south of Cattle Gap, in rock east of railroad; aluminum tablet stamped " 1512 " ..... 1,511. 923Kyle, 2 miles north of, railroad bridge across Toccoa River, north end ofeast abutment, fifth course of stone in abutment, east side; aluminumtabletstamped " 1472 " (elevation possibly plus or minus 1 foot in error). 1, 471.344

## DAHLONEGA QUADRANGLE.


near loudsville, southeast along highway, to cleveland; thence northeast to nacoochee; thence southeast to clarkesville.
Loudsville, 1 mile southeast of post-office, 950 feet south of crossroads, west
of road, in sandstone; bronze tablet stamped " 1597 ATLANTA".......1,596. 459

Nacoochee, 200 feet west of ford to Chattahoochee River, in ledge of rock 6
feet above surface of road; aluminum tablet stamped "1349 ATLANTA". 1, 348. 269
Robert's store, 500 feet south of road fork, 200 feet east of creek, in large bowlder; bronze tablet stamped " 1468 ATLANTA". ..................... 1, 466. 775
Pole, 0.6 mile west of, 0.2 mile east of Cleveland road, north of road, in sandstone; bronze tablet stamped " 1415 ATLANTA".
Clarkesville, north side of east entrance to county court-house; aluminum tablet stämped " 1.372 ATLIANTA".

1,371. 991
cleveland, southeast along highway, to view; thence northeast to clarkesvile.
Benefit, 1 mile northwest of, 2.5 miles southeast of Cleveland, north of road, in rock ledge; bronze tablet stamped " 1476 ATLANTA".

1, 475. 362
Mossy Creek, 1.25 miles east of, 400 feet east of branch flowing northeast, 60 feet north of road, in stone; bronze tablet stamped "1330 ATLANTA". 1, 329.558
Demorest, step at entrance to bank, top of southwest corner................ 1, 349. 17
demorest, south along highway and tallulat falls railway; to cornelia.
 "1522 ATLANTA".

1, 521.391
clarkesville, north along highway via soque, to burton; thence west via hiwassee to blatrsville.

Bowden's mills, 5 miles north of Clarkesville, 500 feet north of road, at edge of creek bed, opposite north end of wool carder building; bronze tablet stamped "1370 ATLANTA".

1, 370.561
Soque, 0.25 mile north of, on right bank of Soque River, 70 feet above
ford, in rock; bronze tablet stamped " 1585 ATLANTA".................. $1,585.650$
Burton, 2 miles south of, 200 feet south of Moccasin Creek ford, west of
road, in rock; bronze tablet stamped " 1784 ATLANTA"..................783.917
Burton, 1,000 feet-north of, 400 feet south of road fork, between road and river, in rock; bronze tablet stamped " 1795 ATLANTA".
$1,795.140$
Dick Creek Gap, 100 feet west of summit, 50 feet south of road, in rock; bronze tablet stamped " 2668 ATLANTA"

2, 668.324
Visage, 1 mile east of, at point where road crosses bend in Hightower Creek, 50 feet west of upper crossing, in rock; bronze tablet stamped "2067 ATLANTA".
Feet. $2,067.822$
Hiwassee, 3.5 miles southeast of, at fork of Unicoi Gap road, north of Clayton road, opposite end of bridge, in rock; bronze tablet stamped "1914 ATLANTA"
1, 914.265
Hiwassee, at northwest corner of front vestibule of county court-house;
aluminum tablet stamped "1984 ATLANTA"........................ 1, 983.634
Hiwassee, 4.5 miles west of, 2,000 feet east of road fork to Warne, at top of bank south of road, in bowlder; bronze tablet stamped "1948 ATLANTA".
1, 947.835
Young Harris, in College Chapel, front wall near southeast corner; bronze tablet stamped " 1928 ATLANTA".
1, 928.416 SOQUE, NORTH ON NACOOCHEE ROAD (SPUR LINE).
Soque, 2.5 miles north of, 800 feet west of fork of Nacoochee and Clayton roads, 70 feet west of Spring branch, north of road, in rock; bronze tablet stamped " 1694 ATLANTA". 1, 694.049
hiwassee, south along highway, to mountain scene (spur line).
Mountain Scene, 2 miles south of, 1,000 feet south of crossing of Center Creek, west of road, in rock; bronze tablet stamped " 2188 ATLANTA". . 2, 187. 547

Acworth, Adairsville, Stilesboro, and Waleska quadrangles.

BARTOW, CHEROKEE, COBB, GORDON, PAULDING, AND PICKENS COUNTIES.

The elevations in the following list were determined by extensions from Rockmart and Brasswell on the precise-level line along the Southern Railway. The leveling was done as follows: In Acworth, Adairsville, Stilesboro, and Waleska quadrangles in 1903 by B. J. Green and in 1905 by W. R. Winstead; in Acworth and Stilesboro quadrangles in 1906 by H. W. Hills.

## stilesboro quadrangle.

STILESBORO, SOUTH TO BRASSWELL.
$\begin{array}{ll}\text { Stilesboro, } 3.8 \text { miles southwest of, } 5 \text { yards northeast of road forks, } 100 \text { yards } & \text { Feet. } \\ \text { west of house on Brasswell road; iron post stamped " } 727 \text { ADJ. 1906"... } & 726.995 \\ \text { Stilesboro, } 7.65 \text { miles southwest of, on Brasswell road, } 5 \text { yards northeast of } & \\ \text { road fork east; iron post stamped "1101 ADJ. 1906"....................100.976 }\end{array}$
ACWORTH, SOUTHWEST TO BRASSWELL. $a$
Acworth, 6.5 miles southwest of, 0.5 mile south of Crowville, 10 yards north of road forks; iron post stamped "979 ADJ: 1906"
980.242

Acworth, 10.25 miles southwest of, 3.25 miles south of Crowville, 14 miles from Yorkville, southwest of road at forks, i:on post stamped "1031 ADJ. 1906" 1, 032. 580
Acworth, 14.5 miles southwest of, 12 miles south of Cartersville, on main Cartersville-Dallas road, at Huntsville settlement on Burnt Hickory Ridge, in triangle plot west of road at intersection with Stilesboro road; iron post stamped " 1059 ADJ. 1906" 1, 059.800
Acworth, 18 miles southwest of, on Brasswell road at intersection with Stilesboro road, in triangular plot southwest of road; iron post stamped "884 ADJ. 1906".
885. 1.96

[^2]ROCKMART, ALONG SEABOARD AIR LINE RAILWAY, TO CARTERSVILLE.
Stilesboro, 400 feet northwest of station, at southwest corner of foundation

Feet. 741. 205
Cartersville, 4.4 miles west of; in northeast corner of east abutment of bridge over Etowah River; aluminum tablet stamped " 680 ADJ. 1903 ".. ..... 680.489
Cartersville, main entrance to court-house, on top of coping of west wing wall; bronze tablet stamped " 787 ATLANTA". ..... 786. 690
Cartersville, southeast along highways, to emerson.
Emerson, 500 feet north of station, at north end of west side of railroad cul- vert; chiseled square ..... 824.39
Cartersville, northwest along railroad, to cassville; thence west along highway TO KINGSTON.
Rogers, in northeast corner of Mr. Hay's yard, 60 feet east of railroad; iron post stamped " 727 ADJ. 1903" ..... 726. 918
Cass, 300 feet southeast of station; top of west rail of main track ..... 750.8
Cassville, 0.4 mile south of, southeast angle of road forks, northeast corner of Baptist Church yard; iron post stamped " 821 ADJ. 1903" ..... 820.791
Cassville, 3.2 miles west of, opposite road fork to north, 10 feet south of road, in front of small house; iron post stamped "752 ADJ. 1903" ..... 752. 134
Kingston, south rail of main line of Nashville, Chattanooga and St. Louis Railway, in front of station. ..... 697.5
Kingston, 600 feet west of station, in southwest corner of front face of Southern Bell Telephone and Telegraph Company exchange; aluminum tablet stamped " 699 ADJ. 1903" ..... 698. 594
ADAIRSVILLE QUADRANGLE.
KINGSTON, NORTH TO FERGUSSON CROSSROADS.
Cement, 125 feet north of switch, at second-class road crossing; top of west rail. ..... 672.0
Cement, 30 feet north of mail rack, in northwest corner of west abutment of railroad culvert; aluminum tablet stamped " 672 ADJ. 1903 " ..... 672. 104
Halls, 150 feet north of station; top of west rail of main track ..... 773.6
Halls, 1,250 feet north of station, in northwest corner of west abutment of railroad culvert; aluminum tablet stamped " 778 ADJ. 1903" ..... 777.941
Adairsville, in north front face of hotel Midway, 8 feet east of main entrance; aluminum tablet stamped " 713 ADJ. 1903 ". ..... 713. 365
Adairsville, 2.3 miles north of, 200 feet north of small stream, 100 feet north of road fork to east, 100 feet west of two houses, 600 feet west of Mart King's house, 20 feet east of road, in top of large rock; aluminum tab- let stamped " 673 ADJ. 1903" ..... 673. 294
fergusson crossroads, east 3 miles; thence south to cassville.
Fergusson crossroads, in south chimney of Mr. Fergusson's house; aluminum tablet stamped " 682 ADJ. 1903". ..... 682. 156
Fergusson crossroads, 3.1 miles east of, in southeast angle of road forks; iron post stamped " 813 ADJ. 1903". ..... 813. 377
Folsom, in front of white house, 10 feet south of road, in southwest angle of road forks; iron post stamped "802 ADJ. 1903" ..... 802.722
Folsom, 3.2 miles south of, 107 feet south of Green schoolhouse, 250 feetnorth of J. M. Green's house, 10 feet west of road, in top of large rock;aluminum tablet stamped " 909 ADJ. 1903".908. 840
Cassville, 4 miles north of, 400 feet north of Oakdale schoolhouse, top of hillat second-class crossroads, 5 feet south of mail box; iron post stamped" 903 ADJ. 1903 "903.383

## point east of fergusson crossroads, north to farmville; thence east to fairmount.

Farmville, in south side of west chimney of G. W. Stewart's house; alu-
Feet.
735. 383

Sonora, southeast angle of crossroads, top of hill, in northwest corner of yard; iron post stamped " 731 ADJ. 1903"
730. 939

Sonora, 3.2 miles east of, 100 feet north of small stream, 60 feet northwest of spring at road fork to left; iron post stamped " 729 ADJ. 1903".
728. 781.

## ACWORTH QUADRANGLE.

emerson, southeast via allatoona and north via webster ferry, to corbin.

Allatoona, Nashville, Chattanooga and St. Louis Railway water tank, on top of east foundation pier; bronze tablet stamped "866 ATLANTA"... 865.877
Corbin, at road intersection; iron post stamped "1046 ATLANTA"........ 1, 045.855
sutallee, southeast to woodstock; thence west to ácworth; thence northwest to allatoona.
Sutallee, in southeast angle of crossroads, opposite store; iron post stamped "1110 ADJ. 1903"
1., 110. 27.1

Etowah River, in large rock at south end of steel bridge; aluminum tablet
stamped " 822 ADJ. 1903"...................................................................... 821.865
Woodstock, 6.5 miles northwest of, 0.4 mile south of Putnam ford, in large rock 6 feet west of road; aluminum tablet stamped " 836 ADJ. 1903".... 835. 983

Woodstock, 200 feet south of station, in southeast corner of Mr. Fowler's
store; aluminum tablet stamped " 967 ADJ. 1903"................................ 967.549
Woodstock, 3.7 miles southwest of, at foot of hill 600 feet east of Noonday Creek Bridge, 8 feet north of road, in large rock; aluminum tablet stamped "899 ADJ. 1903"
899. 291

Acworth, 2.9 miles east of, 0.3 mile southeast of Nashville, Chattanooga and St. Louis Railway milepost C. 106 A. 32, in center of west abutment of culvert over small stream; aluminum tablet stamped " 972 ADJ. 1903". 972. 471

Acworth, 100 feet south of west end of station, at northeast corner of drug
store; aluminum tablet stamped " 912 ADJ. 1903"................................. 911.765

Allatoona, 300 feet north of station, in southeast corner of northeast pier of water tank; bronze tablet stamped " 866 ATLANTA".
865.877
acworth, southwest to brasswell (part of line).
Acworth, 3.25 miles southwest of, at intersection of Crowville and Roxana roads, 20 yards south of house of E . W. Brooks; iron post stamped " 933 ADJ. 1906"
934. 008

WALESKA QUADRANGLE.
CORbIN, Northwest to white; thence southwest to cartersville.
White, at northeast corner outside of J. E. White's yard; iron post stamped "841 ATLANTA"
841.603
white, north along highway via pine log, to fairmount.
Pine Log, in dwelling, yard of William Roberts, north side of gate; iron post stamped "870 ATLANTA".
869.751

Fairmount, 5.3 miles south of, northeast angle of road forks, in north side of large rock; aluminum tablet stamped " 823 ADJ. 1903 "
823.439

Fairmount, in south side of west end of bank of Fairmount, 300 feet north of crossroads; aluminum tablet stamped " 757 ADJ. 1903".................
Fairmount, 2 miles west of, 100 feet south of house to left, in large rock; aluminum tablet stamped " 707 ADJ. 1903"
757.557

## fairmount, east along highway, to jerusalem; thence south to sutallee.

| of road, in | $\begin{aligned} & \text { Feet. } \\ & 1,060.970 \end{aligned}$ |
| :---: | :---: |
| Jerusalem, northwest corner of church; aluminum tablet stamped "1216 <br> ADJ. 1903 " |  |
| Jerusalem, 3.75 miles south of, northwest angle of road forks, 30 feet west of old court-house, 4 feet west of sycamore tree; iron post stamped "971 ADJ. 1903" $\qquad$ | 589 |
| Waleska, 2.9 miles north of, opposite road fork to northwest, 15 feet east of road; iron post stamped "1115 ADJ. 1903" | ,115.088 |
| Waleska, in second pillar at west side of south end of chapel of Reinhardt Military College; aluminum tablet stamped "1153 ADJ. 1903" | 1, 153. 543 |
| Waleska, 3.6 miles south of, at south angle of old road fork to southeast, top of hill; iron post stamped "1122 ADJ. 1903" |  |
| Moores Mills, 780 feet west of former post-office, east of Shoal Creek, 100 feet south of bridge, on top of large rock; aluminum tablet stamped " 894 ADJ. 1903" |  |

## Rome and Wedowee quadrangles.

CARROLL, CHATTOOGA, FLOYD, HEARD, POLK, AND TROUP COUNTIES.
The elevations in the following list were determined by extension from a bench mark at Rome recovered by the precise-level line from Morehead City, N. C., to Brunswick, Ga. A connection was obtained at Lagrange in Wedowee quadrangle with levels extended from McDonough and Macon, but the excessive error was allowed to stand because there was not sufficient data to effect a reliable readjustment.

The leveling in Rome quadrangle was done in 1896 by J. A. McDonough; in Wedowee quadrangle in 1899 by W. S. D. Moore. The standard bench marks set in 1896 in Rome quadrangle, based on a railroad elevation at Rome, are stamped with figures of elevation mostly 15 feet too high.

## ROME QUADRANGLE. <br> AT ROME.

Rome, Second Avenue Bridge crossing Oostanaula River; zèro of gage
established by U. S. Engineer Corps (Engineer Corps old elevation
576.41)

Feet.

Rome, in coping of steps of north side of post-office building; bronze tablet stamped " 627 "
612. 623

East Rome, in front of station; top of rail.
609.5

ROME, NORTHWEST ALONG HIGHWAY VIA CRYSTAL SPRINGS, TO SUMMERVILLE.
Rome, 3.5 miles north of, in W. L. Aycock's front yard, 100 feet south of his
blacksmith shop, on east side of road at road forks; iron post stamped
" 636 ". . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 621.042
Armuchee, John W. Selman's front yard, 20 feet southeast of house; iron
post stamped " 632 ".................................................................... 617. 213
Kartah, northwest corner of J. M. Kendrick's front yard; iron post stamped $\quad$ " 702 ". . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 687.171
Summerville, at southeast corner of county court-house; bronze tablet
stamped " 668 ". . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 653.077
rome, west along central of georgia railway. to lavender; thence northeast ALONG HGHWAY TO CRYSTAL SPRINGS.
Lavender, near station and west of schoolhouse, east side of J. F. Maple's Feet. yard, near front gate; iron post stamped " 697 " ..... 682.765
Fouche, in southwest corner of front yard of G. W. Milum; iron post stamped " 742 " ..... 726.626
Crystal Springs, 1 mile south of, at crossing of Texas Valley road and road across Lavender Mountain from Crystal Springs to Rome, in east side of W. T. Freeman's front yard; iron post stamped " 660 " ..... $665.49{ }^{\text {i }}$
lavender, north along central of georgia rallway via holland's store, to SUMMERVILLE.
Tulip (post-office at Sprite switch), west side of gate in J. P. Bonshilon's front yard; iron post stamped " 710 " ..... 694.862
Lyerly, northwest corner of A. McLeod's front yard, on main Summerville road; iron post stamped " 658 " ..... 642.607
SUMMERVILLE, WEST ALONG HIGHWAY, TO ALPINE.
Raccoon Creek Ford, 0.5 mile west of, at crossroad; iron post stamped " 681 " ..... 666.130
Alpine, in southwest angle of crossroads, 75 feet from large oak tree; iron post stamped " 783 " ..... 768. 588
forney, ala., east to cave spring.
Cave Spring, 1.5 miles west of, 100 feet west of branch, between Lumpkin's house and graveyard, in limestone ledge north of road; copper bolt stamped " 694 " ..... 679.390
rome, along highway south and west via sixmile and briscoe to cave spring;thence north to lavender.
Sixmile, in D. B. Sanders's front yard, north of house, near fence; iron post stamped " 713 " ..... 698.477
Sixmile, 4 miles south of, on Rome-Cedartown road, in front of J. F. Anglin's house; iron post stamped " 858 " ..... 843. 107
Cedartown, 3 miles northeast of, on middle Rome road, in Mrs. M. E. Law- son's yard; iron post stamped " 907 " ..... 892.470
Cave Spring, 5.5 miles southeast of, in R. A. Ray's front yard between corner of house and corner of yard on east; iron post stamped " 770 ".... ..... 755. 326Cave Spring, Deaf and Dumb Institute, in wall near cornerstone of build-ing, 1.3 feet above outer brick of trimming course; bronze tabletstamped " 664 "1
Foster Mills, 0.8 mile north of, 300 feet north of summit of hill, in rock on east side of road; copper bolt stamped " 630 U.S. G. S." ..... 615. 224649.742
livingston west to anniedelle (single spur line).
Anniedelle, 3.5 miles west of Livingston, in corner of yard of Sanford's house; iron post stamped " 610 " ..... 595. 134
WEDOWEE QUADRANGLE.
finley, ala., along highway, to antioch; thence via m'gee bridge to lagrange.
Antioch, in southeast angle of crossroads; iron post stamped " 744 ANNIS- TON" ..... 743.710
McGee Bridge, in south pier of bridge over Chattahoochee River, in west face of southwest corner; bronze tablet stamped " 591 ANNISTON". ..... 590.680
Lagrange, in north face of new county court-house, in coping of foundation; aluminun tablet. ..... 788.797

## Lagrange, north along highway via franklin, to roopville; thence west to graham.


Philpots Ferry, 1.2 miles north of, 50 feet northeast of east end of bridge
over New River; iron post stamped " 625 ANNISTON"...................... 624.783
Franklin, in east face of northeast corner of county court-house; aluminum tablet stamped " 695 ANNISTON".
694.742

Franklin, 3.2 miles southwest of, at Hillabahatchee Creek, 2 feet west of
south end of bridge; iron post stamped " 637 ANNISTON".............. 636.852
Franklin, 3 miles north of, at Humphrey's mill, 2 feet east of north end of bridge over Centralhatchee Creek; iron post stamped " 648 ANNISTON"
647.514

Centralhatchee, 2 miles southeast of, at junction of road from Centralhatchee with Five Notch road; iron post"stamped " 672 ANNISTON"...
671.134

Centralhatchee, in forks of road opposite cotton gin; iron post stamped
" 848 ANNISTON "................................................................................. 847.941

Graham, 2.5 miles northeast of, at junction of McIntosh road with Bowdon-
Wedowee road; iron post stamped " 961 ANNISTON"
960.634

ROOPVILLE, EAST 3 MILES TO STAR POINT SCHOOLHOUSE (SPUR LINE).

> Star Point schoolhouse, 300 feet south of, in angle of crossroads;. iron post stamped " 1074 ANNISTON ".............................................................................

## Butler, Columbus, Griffin, Macon, Opelika, and Talbotton quadrangles.

BIBB, CHATTAHOOCHEE, CRAWFORD, HARRIS, HENRY, HOUSTON, MERIWETHER, MUS. COGEE, PIKE; SPALDING, TAYLOR, TALBOT, AND TROUP COUNTIES.
The elevations in the following list were determined by extensions from Macon and McDonough on the precise-level line from Atlanta to Brunswick. The leveling was done as follows: In Talbotton quadrangle in 1905 by Carroll Caldwell, W. N. Franklin, and F. L. Foust; in Griffin and Opelika quadrangles in 1905 by F. L. Foust; in Butler and Macon quadrangles in 1905 by Carroll Caldwell; and in Columbus quadrangle in 1905 by Carroll Caldwell and in 1907 by J. B. Metcalfe, jr.

GRIFFIN QUUDRANGLE.
m'donough, southwest along southern railway, to molina.

| McDonough , in granite footstone of stone arch, at right of main entrance to county court-house; aluminum tabletstamped " 866 MOORHEAD, 1898". | $\begin{aligned} & \text { Feet. } \\ & 865.441 \end{aligned}$ |
| :---: | :---: |
| McDonough, 3.9 miles south of, 600 feet north of milepost 185, in south chimney of residence of S. G. Gardiner; aluminum tablet stamped " 883 |  |
| ADJ. 1903". | 882.897 |
| Greenwood, 25 feet west of main track, in south brick foundation of station; aluminum tablet stamped " 859. ADJ. 1903". | 859.018 |
| Luella, in front of station; top of rail | 859.9 |
| Luella, 100 feet west of station, 200 feet south of post-office, in southeast corner of Bailey's brick warehouse; aluminum tablet stamped " 866 |  |
| ADJ. 1903"' | 865.652 |
| Towalaga, in front of station; topp,of east rai | 742.8 |

Towalaga, 0.7 mile south of, 200 feet south of milepost $11,1,000$ feet south of house on hill, in southeast corner of culvert; aluminum tablet stamped Feet." 712 ADJ. 1903".71.2. 534
Experiment, in front of station; main track, top of east rail ..... 941. 6
Experiment, 350 feet west of station, 50 feet west of post-office, in small brick monument; aluminum tablet stamped " 946 ADJ. 1903", ..... 946. 205
Griffin, in front of station; top of rail ..... 961.9
Griffin, in front face at northwest corner of county court-house; aluminum tablet stamped " 969 ADJ. 1903" ..... 969.373
Rover, 600 feet northeast of station, 300 feet west of railway, in east chim- ney of G. C. Gaisert's house; aluminum tablet stamped " 977 ADJ. 1903". ..... 977. 460
Rover, in front of station, main track; top of west rail ..... 972.4
Williamson, 275 feet east of Southern Railway, northwest of railway crossing, in south chimney of residence of J. M. Thompson; aluminum tablet stamped " 922 ADJ. 1903 " ..... 921. 727
Reidsboro, in front of station, main track; top of east rail ..... 903.3
Jolly, 300 feet northeast of station, 200 feet northeast of post-office, in granite foundation of south chimney of small house of R. U. Hale; aluminum tablet stamped "881 ADJ. 1903". ..... 881.498
Concord, 250 feet east of station, 300 feet east of post-office, at crossing of county road and main street, at southwest corner of Doctor Mallory's drug store; aluminum tablet stamped " 815 ADJ. 1903" ..... 815. 366
Neal, in front of station; top of west rail. ..... 813.5
Neal, 200 feet west of station, 200 feet north of post-office, in foundation of chimney of residence of G. J. Williamson; aluminum tablet stamped "819 ADJ. 1903" ..... 819. 279
Molina, 300 feet northeast of station, 100 feet east of railway, in southwest corner of Molina warehouse; aluminum tablet stamped " 776 ADJ. 1903". ..... 776.603
TALBOTYON QUADRANGLE.
molina, southwest along southern rallway, to ellerslee.
Molina, 2.3 miles south of, southeast pedestal of bridge over Flint Rıver; aluminum tablet stamped " 679 ADJ. 1903" ..... 679. 569
Woodbury, 0.3 mile south of station, at road crossing; iron post stamped " 780 ADJ. 1903" ..... 780. 480
Raleigh, in front of station, top of rail ..... 754.4
Bullochville, in north wall of brick storehouse of B. F. Bulloch, post-office building; aluminum tablet ..... 929. 664
Nebula, in front of station: top of rail ..... 1, 026. 4
Shiloh, in first pillar east of southwest corner pillar under platform to sta- tion; aluminum tablet ..... 905. 523
Oak Mountain station (Cleola post-office), 75 feet west of railroad, 100 feet southwest of station; iron post stamped "Prim. Trav. Sta. No. 1.1" ..... 675.985
Waverly Hall, in east edge of north wall of large brick storehouse, occupied by I. H. Pitts \& Bro.; aluminum tablet ..... 728.897
Ellerslie, 30 feet north of stone house of R. F. Carter \& Son, 10 feet west of public highway, 100 feet east of station; iron post ..... 716. 160
WOODSBURY, WEST ALONG MACON AND BIRMINGHAM RAILWAY, TO HARRIS.
Snelson, road crossing at flag statior: top of rail ..... 854.9
Snelson, 0.5 mile west of crossing, 10 feet south of track, on embankment in cut, large bowlder; aluminum tablet ..... 889.273
Harris, in northwest corner of intersection of the Macon and Birmingham and the Central of Georgia railways; iron post ..... 884.004
Harris, grade crossing of railroad; top of rail ..... 884. Q
harris, southwest along central of georgia railway, to columbus.
Feet.
Crowders flag station, at road crossing; top of east rail ..... 937.6
Stinson, in pillar under south side of passenger station; aluminum tablet.
White Sulphur Springs, in Hotel Meriwether, in west chimney; aluminum tablet. ..... 789. 600
Cameo, in foundation to section house in northwest corner of road crossing; aluminum tablet ..... 831. 125
Chipley, 100 feet south of station, northeast corner of court to Commercial Hotel; iron post. ..... 922. 469
Tiptop, in northeast corner of yard to residence of R. M. Wall, on south side of highway 75 feet west of track; iron post. ..... $1,036.973$
Hamilton, north side of public square, 200 feet north of court-house, 50 feet southwest of west edge of Robertson Hotel, 200 feet east of railroad cross- ing; iron post stamped " 778 ADJ. 1903" ..... 777. 395
Kingsboro, just north of switch; top of east rail at road crossing. ..... 605.9
Cataula, 4 miles north of, in north pier of railroad bridge over Mulberry Creek; aluminum tablet stamped " 562 ADJ. 1903" ..... 561. 737
Cataula, 10 feet south of station; top of east rail. ..... 692.7
Cataula, 200 feet southeast of station, 175 feet south of post-office, 5 feetnorthwest of house of J. W. Thompson; iron post stamped " 700 ADJ.1903"699.454
Mobley, 200 feet north of switch stand; top of east rail. ..... 654.4
Fortson, 75 feet south of station, 15 feet east of Fortson's store, 100 feet west of track, 50 feet south of highway, 2 feet south of plank fence; iron post stamped " 519 ADJ. 1903" ..... 518. 842
Nankipooh, 40 feet west of track, 10 feet east of southeast corner of small storehouse; iron post stamped " 504 ADJ. 1903" ..... 504. 138
paschal, 'West along central of georgia railway, to schatulga.
Geneva, in chimney in west sidé of hotel called Morris House; aluminum tablet stamped " 581 ADJ. 1903" ..... 580.757

- Juniper, in brick wall at rear of station; aluminum tablet stamped " 422 ADJ. 1903" ..... 421. 380
Box Springs, in foundation 3 feet to right of signal window, near entrance; aluminum tablet stamped " 364 ADJ. 1903" ..... 363.940
Box Springs, 3 miles southwest of, in top of culvert south of track; alumi- num tablet stamped " 366 ADJ. 1903" ..... 366. 214
Upatoi, in south corner of station, in brick foundation; aluminum tablet stamped " 418 ADJ. 1903". ..... 417. 812
Upatoi, 3 miles southwest of, on top of small culvert south of track; alumi- num tablet stamped " 430 ADJ. 1903" ..... 429. 558
Commonwealth, 2.9 miles southwest of, at road crossing 20 feet north of track, 30 feet east of road; iron post stamped "Prim. Trav. Sta. No. 2, 346 ADJ. 1903" ..... 345. 373
cataula, east along highways via ellerslie and baughville, to talbotton; thence southeast along ralload to paschal.
Ellerslie, 5.3 miles east of, north edge of road, opposite small white dwelling occupied by D. U. Biggs; iron post ..... 749. 649
Newry (former post-office), in southwest corner of yard at Hendrick resi- dence north of road; iron post ..... 828. 158
OPELIKA QUADRANGLE.
NEWRY TO LAGRANGE.
Lagrange, 4 miles southeast of, at southwest abutment of bridge over Long Cane Creek; aluminum tablet ..... 659. 430

Mountain Hill, 3.1 miles south of, 200 feet north of road forks, in north chimney of residence of I. U. Nicks; aluminum tablet stamped " 566 ADJ. 1903"

50ิ5. 289
Mountain Hill, 7 miles south of, in northeast corner of north abutment of covered bridge over Mulberry Creek; tablet stamped " 490 ADJ. 1903"..
489. 217

GABBETTVILLE, SOUTHWEST TO WEST POINT.
West Point, west end of Western Railway of Alebama bridge over Chattahoochee River, on north end of granite pier; bronze tablet stamped " 573 ANNISTON".
573. 423

Baughville, in flat edge of rock under stone chimney to H. W. Baldwin's
store (former post-office); aluminum tablet................................. 759.776
Baughville, 3.9 miles north of, south edge of road, 2 feet southwest of post
to mail box, on property of B. F. Childre; iron post..................... 660.319
Talbotton, 10 feet north of southeast corner of court-house; iron post...... 725.587
TALBOTTON, NORTH ALONG HIGHWAYS VIA PLEASANT HILL, TO BULLOCHVILLE.

Edwards Creek; bronze tablet.............................................
Belleview, at residence of J. H. Bryan, in northeast corner of yard; iron post stamped "Prim. Trav. Sta. No. 7".
536. 084
post stamped "Prim. Trav. Sta. No. 7 "..................................
Belleview, 3.2 miles northeast of, 1,000 feet west of residence of the widow Owen, in triangle at road forks to south, on rock; aluminum tablet.
747. 460

Evans Chapel, 1,500 feet west of, in west chimney of Franklin Academy; aluminum tablet.
730.650

Chalybeate, 250 feet northwest of post-office and store, at house of J. D. Nelson, east edge of road; iron post stamped "Prim. Trav. Sta. No. 9". .

Shiloh, 2 miles east of, 200 feet east of crossroads, 15 feet north of edge of road; iron post.
hamilton, west and north along public roads via copeland and troup factory, toNEWRY.
Hamilton, 3.5 miles southwest of, 250 feet southeast of house of Virgil Hud- son (colored), property owned by. John Hudson (white); iron post.
Feet. ..... 659.161
Hamilton, 9.5 miles west of, 0.3 mile north of five points.crossroads, 10 feet off east edge of road to northeast at summit of ridge, in rock; bronze tab- let ..... 853. 249
Copeland, 2.6 miles northeast of, 40 feet southeast of intersection of roads, northwest. of Hopewell Church; iron post. ..... 840.800
Smiths Mill, on Turkey Creek, 300 feet south of, in stone foundation of chimney of house of the late West Smith, occupied by W. L. Blythe; aluminum tablet. ..... 710.041
Troup Factory (old site), 75 feet off north edge of road, 200 feet east of cov- ered bridge over Flatshoal Creek, on embankment, large bowlder; alu- minum tablet ..... 676. 273
Ursula, 0.8 mile northeast of former post-office, at junction of public roads, 40 feet off south edge of east-west road, 200 feet southwest of residence of John Smith; iron post ..... 819. 234
MACON QUADRANGLE.macon, southwest along central of georgia rallway, to everett.
Macon, post-office at corner of Mulberry and Third streets, in water table at left of Mulberry street entrance; aluminum tablet $a$ stamped " 334 MORE- HEAD, 1898 " ..... 333.942
Macon, 5.5 miles south of, in south abutment west corner railroad bridge crossing Rock Creek; aluminum tablet stamped " 283 ADJ. 1903" ..... 283.291
Rutland, road crossing north side of station; top of rail ..... 341. 2
Walden, road crossing at station; top of east rail: ..... 368.4
Echeconnee, in north pillar of A. S. J. Taylor's store; aluminum tablet stamped " 314 ADJ. 1903". ..... 314. 292
Byron, in southwest corner of station; aluminum tablet stamped " 506 ADJ. 1903" ..... 505.885
Powersville, in water tank in front of station; aluminum tablet stamped " 382 ADJ. 1903" ..... 382.037
Ohio Siding, 1.3 miles southwest of, in top stone of rock culvert crossing Mossy Creek; aluminum tablet stamped " 374 ADJ. 1903" ..... 374.127
Fort Valley, in east side of Harris Hotel, 30 feet south of front entrance, 50 feet west of track; aluminum tablet stamped " 524 ADJ. 1903 " ..... 524.010
Fort Valley, 3.3 miles southwest of, in northwest pier of section foreman's house; aluminum tablet stamped " 498 ADJ. 1903" ..... 497.881
Everett station, at southeast corner M. M. Sanford's store, north of track; aluminum tablet stamped " 377 ADJ. 1903 " ..... 377.325
bUtLER QUADRANGLE.
everett, west along central of georgia rallway, to paschal junction.
Everett, 3 miles southwest of, in top of northeast pier of railroad bridge over Flint River; aluminum tablet stamped "319 ADJ. 1903" ..... 318.907
Reynolds station, in northeast corner of Rick Bros. store, 100 feet south of track; aluminum tablet stamped " 435 ADJ. 1903" ..... 434.450
Reynolds, 3.6 miles southwest of, in culvert north of track, 800 feet west of C. M. Carter's house; aluminum tablet stamped " 527 ADJ. 1903". ..... 527.238
Butler, at county court-house; aluminum tablet stamped " 636 ADJ. 1903". ..... 636. 152

[^3]Butler, 3.7 miles southwest of, in southeast end of tenant's house of Super- visor Watson's plantation, in chimney; aluminum tablet stamped "652 ADJ. 1903"

Feet.
652.078
Howard, in northeast corner of O. T. Matthews \& Co. store; aluminum tablet stamped " 634 ADJ. 1903" ..... 634. 225
Paschal Junction, 100 feet east of station, primary-traverse station No. 5; iron post stamped " 656 ADJ. 1903". ..... 655. 320
COLUMBUS QUADRANGLE.
'SCHATULGA, WEST ALONG CENTRAL OF GEORGIA RAILWAY, TO COLUMBUS.
Schatulga, 3.5 miles southwest of, south side of track, 600 feet southwest of road crossing, in brick culvert; aluminum tablet stamped " 270 ADJ. 1903". ..... 269.795
Muscogee Junction, 1 mile west of, 20 feet west of road crossing, north of track; iron post stamped "Prim. Trav. Sta. No. 1, 255 ADJ. 1903" ..... 255.096
Columbus, north side of First avenue west entrance, to post-office building, in brick wall; aluminum tablet stamped " 251 ADJ. 1903" ..... 250. 267
Columbus, 1 mile northwest of station, east end of Central of Georgia Rail- way bridge over Chattahoochee River, north of track, in third step from top of abutment; aluminum tablet stamped " 255 ADJ. 1903" ..... 255. 175
columbus, southeast along seaboard air line, to cusseta.
Columbus station, 3 miles southeast of, in southwest pillar of railroad bridge over Bulls Creek; aluminum tablet stamped " 245 ADJ. 1907" ..... 244. 678
Esquiline flag station, in front of; top of rail ..... 305.4
Columbus, 7.75 miles east of, in southwest pillar of railroad bridge over Upatoi Creek; aluminum tablet stamped " 235 ADJ. 1907" ..... 235. 282
Ochillee, at southwest corner of store; iron post stamped " 273 ADJ. 1907". ..... 273.042Cusseta, in southeast corner of jail, south front; aluminum tablet stamped" 540 ADJ. 1907 "540. 104
pont 5 miles southeast of ochillee, north along highway via cook's mill, to nearUPATOI; THENCE WEST TO CENTRAL OF GEORGIA RAILWAY; THENCE SOUTHEAST ALONG LATTERto point 3 miles southeast of columbus.
Halloca station, 10 feet south of where road crosses track; iron post stamped " 323 ADJ. 1907". ..... 322. 783 ..... 486. 369
Cook's mill, 0.6 mile northwest of, 6.95 miles north of Halloca station, on road to Upatoi, at southwest corner of church; iron post stamped "'290 A.DJ. 1907 " ..... 289.585
Halloca station, 10.3 miles north of, on road to Upatoi where Columbus road turns west, east of forks; iron post stamped " 466 ADJ. 1907" ..... 466. 078
Columbus, 10.5 miles east of, 25 feet northeast of crossroads; iron post stamped "490 ADJ. 1907 " ..... 490. 300
'Columbus, 6 miles east of, on road to county farm, 20 feet southwest of rail- road crossing; iron post stamped " 272 ADJ. 1907 " ..... 272. 013
cusseta, south and west along highway, to jamestown; thence northwest to columbus.Cusseta, 2.5 miles southwest of, on road to Jamestown, at road forks; ironpost stamped "Prim. Trav. Sta. No. 3, 1906, 475 ADJ. 1907"475. 243
Jamestown, 0.25 mile north of, in southwest angle at road forks; iron post stamped "451 ADJ. 1907 " ..... 450.683
Jamestown, 4 miles northwest of, on road to Columbus, northeast of forks; ..... Feet.
iron post stamped " 283 ADJ. 1907 " ..... 282.565
Jamestown, 8 miles northwest of, on road to Columbus, at southwest corner of Colman's store; iron post stamped " 340 ADJ. 1907 " ..... 339.618
Sand Hill Springs, 7 miles south of Columbus, 2 miles north of Shack, east of road; iron post stamped " 242 ADJ. 1907 " ..... 241. 348
Columbus, 4.5 miles southeast of, on Shack-Jamestown road, northeast of forks; iron post stamped " 257 ADJ. 1907" ..... 256. 239
Crawfordville, Eatonton, Greensboro, Jackson, Madison, Meriwether, Milledgeville, and Monticello quadrangles.
BALDWIN, BUTTS, GREENE, JASPER, LINCOLN, MCDUFFIE, MORGAN, OGLETHORPE, TALIA. ferro, Warren, and wilkes counties.

The elevations in the following list were determined by extension from Jackson and adjusted at Lisbon in agreement with leveling extended from Dalton. The leveling was done as follows: In Jackson, Monticello, Madison, Greensboro, and Crawfordsville quadrangles in 1903 by J. A. Parker; in Eatonton, Meriwether, and Monticello quadrangles in 1906 by C. H. Semper, and in Milledgeville quadrangle in 1909 by F. W. Farnsworth.

## JACKSON QUADRANGLE.

JACKSON, EAST ALONG HIGHWAYS, TO MONTICELLO (CHECEED LINE).
Jackson, at right of front entrance of court-house; bronze tablet stamped

Feet.

726. 287

Concord Church, northwest corner, 1.5 feet from rock pillar; iron post
stamped "657 ATLANTA"
656.690

MONTICELLO QUADRANGLE.
MONTICELLO, NORTHEAST ALONG CENTRAL OF GEORGIA RAILWAY, TO GODFREY (CHECKED LINE).

Monticello, southeast end of Bethel Church, between two doors, 5 feet
northwest of main entrance; iron post stamped " 754 ATLANTA"..... 754.151
Monticello, in east corner of court-house, 2 feet from ground, in sandstone; aluminum tablet $a$ stamped " 689 ATLANTA, 1903"
689.234

Machen, grade crossing of Central of Georgia Railway; top of rail. 622.2

Machen, 0.8 mile northeast of, $0: 25$ mile southwest of Shady Dale, near railway crossing, northwest corner of Providence Church; iron post stamped " 626 ATLANTA, 1903"
626. 310

Godfrey, 20 feet south of railway, 1 foot west of station; iron post stamped "615 ATLANTA, 1903"
614.764

WILLARD, NORTHWEST ALONG CENTRAL OF GEORGIA RAILWAY, to MACHEN.

Aikenton, 1.4 miles north of, 20 feet north of track at railroad crossing, Feet. ..... 650.103 ..... 626. 310
MADISON QUADRANGLE.
godfrey, north along central of georgia railway, to madison; thence southeastalong georgia railroad to carey (CHECKED line).
Madison, at northwest corner of station, in brick pillar of shed just under water table, 3 feet from ground; aluminum tablet stamped " 683 AT- LANTA, 1903" ..... 682.567
Buckhead, Morgan County, southeast corner, 100 feet east of intersection of Railroad and Broad streets, brick store of P. H. McWharter, northwest corner; aluminum tablet stamped " 625 ATLANTA" ..... 625. 100
Carey, 0.25 mile west of, east end of Georgia Railroad bridge over Oconee River, 10 feet south of railroad, in stone abutment; aluminum tablet stamped " 445 ATLANTA, 1903" ..... 445.820
MERIWETHER QUADRANGLF.
miledgevilee, north along central of georgia rallway, to near meda.
State farm, 2.4 miles northwest of, railroad crossing; top of rail. ..... 444.1
State farm, 3.5 miles northwest of, 45 feet north of,milepost 192, 50 feet west of track at east margin of highway; iron post stamped " 453 " ..... 453.023
State farm; 6.4 miles northwest of, 0.3 mile south of Meriwether, 25 feet east of track, at milepost 195 ; iron post stamped " 356 " ..... 356.357
Meriwether, in front of station; top of rail. ..... 348.8
Meriwether, 2.7 miles north of, 298 feet north of milepost 198, 20 feet east of track, 10 feet south of private road crossing; iron post stamped " 419 ". . ..... 419.461
Dennis, in front of station; top of rail. ..... 457.0
Dennis, 1 mile north of, on south side of track, 15 feet east of milepost 201; iron post stamped " 464 " ..... 464.367
GREENSBORO QUADRANGLE.
Carey, east along georgia railroad, to robinson (CHECKED line).
Greensboro, at road crossing; top of west rail ..... 602.2
Greensboro, Main and Broad streets, southwest corner of court-house, right of main entrance, 3.5 feet from ground; aluminum tablet stamped "650 ATLANTA, 1903" ..... 649.715
Union Point, 150 feet from center of bank building, between two stores, 2.5 feet above ground; aluminum tablet stamped " 667 ATLANTA, 1903 " ..... 666.848
CRAWFORDVILLE QUADRANGLE.
robinson, east along georgia ratlroad, to barnett; thence north to sharon(CHECKED LINE).
Robinson, in front of station; top of rail ..... 624.0
Robinson, 500 feet east of post-office, at southwest corner of R. C. Monk's store; iron post stamped " 626 ATLANTA, 1903" ..... 625.662
Crawfordville, east of main entrance of court-house, in brick pillar 3 feet from ground; aluminum tablet stamped " 617 ATLANTA, 1903" ..... 616. 827
Barnett, 200 feet west of station, 150 feet southwest of railroad, east corner of J. B. Garrett's house (Balter homestead); iron post stamped " 642 ATLANTA, 1903 "

Feet.
641. 163

Sharon, 200 feet east of station, John O. Keeffee's store on Main street, 50 feet from center of store, in southeast corner; aluminum tablet stamped " 607 ATLANTA, 1903"
sharon, north along georgia rallroad, to washington; thence north along highways to tignali; thence northeast to hisbon.
Hillman, at road crossing; top of rail ..... 468.0
Ficklin, road crossing near station; top of rail ..... 429.0
Washington, 5.5 miles south of, 0.25 mile north of brickyard, 100 feet west of railroad, in front of negro cottage, at east end of Shepard Hall, used as negro school, south of main entrance; iron post stamped " 429 ATLANTA, 1903" ..... 428.732
Washington, in front of station; top of high rail ..... 600.0
Washington, Washington Exchange Bank on Main street, 300 feet south of court-house, in northwest corner of bank building, 3 feet from ground; aluminum tablet stamped " 619 ATLANTA, 1903" ..... 618. 659
Armstrong, 40 feet west of highway at road forks, in front of J. C. Newsome's store, in northeast corner of E. P. Robert's yard; iron post stamped " 607 ATLANTA, 1903" ..... 606.664
Tignall, east of Washington-Broad highway, at southwest corner of William Bolton \& Co.'s store; iron post stamped " 644 ATLANTA, 1903" ..... 643.645
Dyson, 1 mile east of, 300 feet north of center of road, west end of old house, in brick chimney; aluminum tablet stamped " 534 ATLANTA, 1903 ".. ..... 533.569
tignall, west along highways, to anon; thence north and east to bells bridge; thence south to tignall.
Ophelia, 0.2 mile north of, in front of and between two entrances to church; iron post stamped " 599 ATLANTA, 1903 " ..... 598.549
Anon (former post-office), at forks of road, 400 feet from bank, at northwest corner of J. C. Brooks's store; iron post stamped " 498 ATLANTA, 1903" ..... 497.514
Vesta, 300 feet west of former post-office, at road crossing, on north side, back of west end of schoolhouse; iron post stamped " 627 ATLANTA, 1903" ..... 626. 495
Rocky Branch Church, 600 feet east of road forks to Bullard's ferry, south of road, in front of and between two entrances to church; iron post stamped " 485 ATLANTA, 1903 " ..... 484. 389
Bells Bridge over Broad River, 900 feet north of, south end of E. W. Bell's house, at chimney; iron post stamped " 388 ATLANTA, 1903 " ..... 387.428
armstrong, west along highways, to celeste; thence south via philomath to lyne- ville; thence northeast to washington.
Celeste, at southeast corner of E. A. Barnett's store (former post-office); iron post stamped " 648 ATLANTA, 1903" ..... 647.522
Peerman, 5 miles east of, at forks of Woodstock-Lexington road, south end of Jackson Chapel Church; iron post.stamped "653 ATLANTA, 1903". ..... 652.621
Philomath, 600 feet from road forks, at north side, southwest corner of Bryan Brothers' store; iron post stamped " 646 ATLANTA, 1903" ..... 645.454
Lyneville, at forks of roads to Greensboro and Crawfordville, north end of F. L: Asbury's store; iron post stamped " 526 ATLANTA, 1903 ". ..... 525.453
Lyneville, $3: 8$ miles east of, 60 feet from crossing, just inside of yard, in front of E. A. Eaven's house, at gate; iron post stamped " 523 ATLANTA, 1903" ..... 522.391
Tyrone, at road forks, southeast corner of Griffin Brothers' store (former post-office); iron post stamped " 573 ATLANTA, 1903" ..... 572.656
606. 769

## sharon, east along highíays, to wrightsboro; thence tigzag northward to disbon.

Sharon, 9.1 miles east of, at Sharon-Norwood road forks; northwest corner of Charles Mansfield's store; iron post stamped " 534 ATLANTA, 1903 "... ..... 533.774
Wrightsboro, 50 feet from road fork, at northeast corner of O. L. Williams's store; iron post stamped " 392 ATLANTA, 1903" ..... 391. 670
Anthony, 3.3 miles east of crossroads, 40 feet from center of road, in front of Cedar schoolhouse, at left of entrance; iron post stamped " 476 ATLANTA, 1903" ..... 479.669
Aonia, 1.2 miles east of, on north of road, in fork of lane that runs to Mr. Shipp's house; iron post stamped " "463 ATLANTA, 1903" ..... 462.711
Aonia, south of road at forks; northeast corner of Ware \& Tatum store; iron post stamped "499 ATLANTA, 1903". ..... 498.697
Adasburg, north of road, at south corner of Fanning Brothers' store; iron post stamped " 524 ATLANTA, 1903" ..... 523. 597
Metasville, east of road at private forks, at northwest corner of Dr. H. C. Waltrous's house, by brick pillar; iron post stamped " 569 ATLANTA, 1903" ..... 568.570
Possie, 0.4 mile north of former post-office, west of and 10 feet from center of road to Danburg, in front of Mulberry Church; iron post stamped " 472 ATLANTA, 1903" ..... 471:494
Danburg, northeast corner of E. R. Anderson's store, left of main entrance; iron post stamped " 566 ATLANTA, 1903 " ..... 565:458
Graball, 1.1 miles south of, on Augusta road, in front of negro cottage, 0.2mile north of Fishing Creek, 15 feet from center of road; iron post stamped"360 ATLANTA, 1903".359:575
EATONTON QUADRAŃGLE.
NEAR MEDA, ALONG CENTRAL OF GEORGIA RAILWAY, TO WILLARD.
Dennis, 4.2 miles north of, at railroad crossing, 12 feet south of railroad track, at west margin of highway; iron post stamped " 579 ". ..... 579. 0.59
Meda, in front of station platform; top of rail ..... 592. 9
Eatonton, in front of station; top of rail ..... $564: 4$
Eatonton, northwest.corner of county court-house; iron post stamped577. 270
Eatonton, 1.3 miles north of, at railroad crossing 12 feet west of track, at south margin of highway; iron post stamped " 561 i ", ..... 561:404
Eatonton, 4.4 miles northwest of, 20 feet east of track; 7 feet south of mile-: post 213 ; iron post stamped " 464 " ..... 464:393
'Eatonton, 7.5 miles northwest of, 625 feet west of milepost 216, at railroad crossing;" 10 feet south of track; iron post stamped " ${ }^{5444 "}$ ..... 544. 209
Willard, in front of station; top of rail: ..... 560:5
milledgeville quadranale.
near state farm, northeast along georgia pallroad, to devereux. ..... 了 ㅅ i
State farm, 0.8 mile east of, 1.5 miles west of Milledgeville, west side of track, in top of milepost 47; aluminum tablet stamped " 360 " ..... 360.496
Milledgeville, 0.4 mile northeast of, highest point of granite milepost 45 ..... 308. 10
tablet stamped " 291 " ..... 291. 325
Oconee River Railroad bridge, 2 miles northeast of, in top of granite mile- post 41; aluminum tablet stamped " 377 " ..... 376. 756
Thomas siding, 0.2 mile northeast of, on highest point of granite milepost 39 . ..... 403.86
Carrs, 2.2 miles southwest of, in top of granite milepost 38 ; aluminum . Feet. tablet stamped " 445 " ..... 445. 125
Carrs, 0.8 mile northeast of station; in top of granite milepost 35; aluminum tablet stamped " 523 " ..... 522.693
Devereux; 0.4 mile southwest of, in top of granite milepost 32 ; aluminum tablet stamped " 577 " ..... 577.330
DEVEREUX, SOUTH ALONG HIGHWAY, TO FRIENDSHIP CHURCH; THENCE WEST TO MILLEDGEVILLE.a
Devereux, 0.9 mile south of, in southwest angle of road corner; nail in root of hickory tree ..... 603.30
Devereux, 3.4 miles south of, 35 feet south of road fork, in southeast angle of road corner; iron post stamped " 611 " ..... 611. 189
Sheba, at southeast corner of former post-office; iron post stamped " 580 ". . ..... 58;0. 218
Friendship Church, 3.2 miles north of, 3 feet north of post-oak tree, 80 feet northwest of crossroad; iron post stamped " 541 " ..... 540.892
Friendship Church, at northwest corner of; iron post stamped " 492 " ..... 492.512
Friendship Church, 2.4 miles west of, 2 feet north of pine tree, in northwest angle of crossroad; iron post stamped " 486 " ..... 486. 533
Friendship Church, 3 miles west of, 100 feet east of milepost 11, in southeast angle of road corner; nail in root of oak tree ..... 489.99
Union Point Church, at northeast corner of; iron post stamped " 395 " ..... 394.964
Union Point School, at southwest corner of building; iron post stamped "Prim. Trav. Sta. No. 20. 413" ..... 413. 288
Mount Pelian Church, 0.1 mile west of, in southeast angle of road fork; nail in root of oak tree ..... 464.20
Mount Pelian Church, 0.4 mile west of, on top of concrete milepost 4. ..... 471.77
Milledgeville, 3.5 miles east of, 0.8 mile west of Mount Pelian Church, 800 feet east of farmhouse, in large granite bowlder 36 feet south of center of road; aluminum tablet stamped " 435 " ..... 434.911
Oconee River highway bridge, east pier of, on north end of pier; point painted with cross mark on iron cap ..... 268. 429
Milledgeville, 3 feet from southeast corner of county court-house yard fence; iron post stamped "Prim. Trav. Sta. No. 19. 326 " ..... 325.730
point 2 miles northeast of oconee river railroad bridge, north along highway, to island creek; thence east to near devereux.
Bass School, 0.5 mile north of, 200 feet south of small stream, west of road, in large granite bowlder; aluminum tablet stamped " 398 " ..... 397.650
Island Creek, southeast corner of court-house; iron post stamped "Prim. Trav. Sta. No. 18. 465" ..... 465. 117
Island Creek, 2.3 miles east of court-house, 280 feet west of road corner, south of road; nail in root of oak tree. ..... 536. 62
Devereux, 3.5 miles west of, 3.8 miles east of Island Creek court-house, 15 feet north of road corner; iron post stamped " 573 " ..... 573. 323
Devereux, 1.4 miles west of, in northeast angle of road corner; nail in root of oak tree ..... 608.33
milledgeville, to georgia state sanitarium.
Georgia State Sanitarium, at north entrance to freight station; iron poststamped " 399 ".399.089

## GEORGIA-SOUTH CAROLINA.

## PRIMARY LEVELING.

## Carnesville, Crawfordville, Elberton, and Walhalla quadrangles.

ELBERT, FRANKLIN, HABERSHAM, AND HART COUNTIES, GA.; ABBEVILLE, ANDERSON, AND OCONEE COUNTIES. S. C.

The elevations in the following list (Tugaloo and Savannah Rivers Survey) were determined by extensions from Rome and Jackson, Ga. The leveling was done in 1903 by T. B. O'Hagan.

CLARKESVILLE TO TULLULAH FALLS, GA.


|  |  |
| :---: | :---: |
| Panther Creek, 600 feet south of mouth, 50 feet west of river, west edge of ${ }^{\text {' }}$ public road, in large rock; bronze tablet stamped " 715 ATLANTA"... | 713. 793 |
| James Prather homestead, middle step of front entrance; bronze tablet stamped " 728 ATLANTA". | 726. 873 |
| Tugaloo River, Southern Railroad bridge crossing Tugaloo River, on west abutment; bronze tablet stamped " 666 ATLANTA". | 665. 467 |
| Jenkins Ferry, W. J. Perkins's homestead, north side of house, in chimney, 2 feet above ground; bronze tablet stamped " 732 ATLANTA" (on single-spur line). | 730.754 |
| Shelor Ferry, 0.3 mile southwest of, 100 feet northwest of P. E. Martin's house, 10 feet north of road, in large rock; bronze tablet stamped " 630 ATLANTA". | 628.8 |

CARNESVILLE QUADRANGLE.
AT KNOX BRIDGE.

ELBERTON QUADRANGLE.
kNOX BRIDGE, SOUTH DOWN TUGALOO AND SAVANNAH RIVERS, TO LISBON.
Averys Ferry, 20 feet south of river, top of cliff, in rock; bronze tablet
stamped " 588 ATLANTA"................................................ 587.443
Andersonville, S. C., east side of road, 200 feet east of river, northwest of Little Beaverdam Creek, in rock; bronze tablet stamped " 538 ATLANTA"
537. 519

Browns Ferry, S. C., 1,200 feet northeast of, O. C. Brown's house, in brick and stone abutment at rear, northwest corner; bronze tablet stamped " 518 ATLANTA".
Parks Ferry, 0.2 mile above, west side of Ferry road, opposite house, foot
of steep hill, in cliff; bronze tablet stamped " 495 ATLANTA"......... 494.435
Craft Ferry, 125 feet west of boat landing, 60 feet west of river, in rock; Feet.aluminum tablet stamped " 450 ATLANTA".449. 306
Harper Ferry, S. C., 250 feet south of W. J. Taylor's house, side of brook, in limestone; bronze tablet stamped " 420 ATLANTA". ..... 419. 146
Calhoun Falls, S. C., 2 miles west of, Seaboard Air Line bridge over Sa- vannah River, east side of bridge, in abutment; bronze tablet stamped "383 ATLANTA" ..... 382.161
Calhoun Ferry, 2.5 miles southeast of, 50 feet west of river, in large rock; bronze tablet stamped " 320 ATLANTA". ..... 319. 252
CRAWFORDVILLE QUADRANGLE.at Lisbon.
Lisbon, in brick wall of R. L. Cade's store; bronze tablet stamped " 328 ATLANTA". ..... 327.850

## NORTH CAROLINA.

## PRECISE LEVELING.

Asheville, Beaufort, Cary, Clayton, Durham, Garner, Goldsboro, Graham, Greensboro, Hickory, High Point, Hillsboro, Kenly, Lexington, McLeansville, Morganton, Mount Mitchell, Newbern, Newport, Newton, Princeton, Raleigh, Salisbury, Snow Hill, Statesville, and Trent River quadrangles.

ALAMANCE, BUNCOMBE, BURKE, CARTERET, CATAWBA, CRAVEN, DAVIDSON, DURHAM, GUILFORD, IREDELL, JOHNSTON, JONES, LENOIR, MCDOWELL, MADISON; ORANGE, ROWAN, WAKE, AND WAYNE COUNTIES.
The elevations in the following list are a portion of the results of a line of precise leveling begun in 1896 at Morehead City, N: C., and carried westward along the Norfolk and Southern and the Southern railways to Knoxville and Cleveland, Tenn., and to Brunswick, Ga. At MoreheadCity tide-gage readings were made during six lunar months in 1898 through the courtesy of the Superintendent of the Coast and Geodetic Survey. At Brunswick, Ga:; tide-gage readings were made at St. Simons light at various times between 1854 and 1898 by the Coast and Geodetic Survey, and the elevations of several bench marks at. Brunswick were determined from them through precise leveling by the United States Engineer Corps.
In 1899 E . L. McNair connected this line with the tide gage at Morehead City and with four tidal bencoh marks at Brunswick, Ga., one of which was discarded, and the mean closure error of this great circuit of $1,043.2$ miles at Brunswick was - 1.057 feet. "Cleveland and Knoxville are junction points with other links of the preciselevel net, and the adjustment made by the Coast and Geodetic Survey in 1903 corrects the original results with respect: to Morehead City as follows:-Paint Rock, . N.' C.,..- -0.351 ; Knox ville, Tenn., -0.452 ; Cleveland; Tenn., -0.189 ; Cohutta, $\cdot$ Ga.5-0.145, and Brunswick, Gá., $+1: 057$. No adjustment wás put between Morehéd City and SeIma because of the small divergence and flat country

That portion of the entire line included in North Carolina was done in cooperation with the State and with certain railroads of the State, and the route was selected so as to cross every line of railway in the State.
The instruments employed on the section from Morehead City to Paint Rock were a high-grade Buff \& Berger spirit level and two Gurley single-faced nonextensible rods 10 feet in length, made from selected white pine soaked in boiling paraffin. Rapid setting of the targets was accomplished by use of a steel tape passing over drums at each end of the rods. Two rodmen were employed setting on separate steel turning-point pins. The instrument was at all times protected from the wind and sun; fore and back sights were of equal length; no sights of over 300 feet were permitted except when unavoidable. One division of level vial used equaled about 8 seconds of arc. Four steel turning pins, two for each rodman, were so used that those employed for backsights were not removed until the foresight pegs had been used. The limit of total divergence in feet was fixed at $0.42 \sqrt{\text { distance from Morehead City in miles. }}$. The backsights were read first on one set of pins and last on the other set.
The leveling in this State on this line was done in 1896 and 1897 by W. Carvel Hall.

BEAUFORT QUADRANGLE.
MOREHEAD CITY, ALONG NORFOLK AND SOUTHERN RAILWAY, TO atlantic.

NEWPORT QUADRANGLE.
atlantic, along norfolk and southern railway, to riverdale.
Atlantic, 1.9 miles west of, 23 feet south of north rail, at southwest corner
of M. D. Oglesby's freight platform; iron post stamped " 18 "........... 18.544
Newport, in front of station; top of north rail..................................... 18.8
Newport, $2: 3$ miles west of, 25 feet south of north rail in line with telegraph
poles; iron post stamped " 29 ".............................................................. 281
Havelock, in front of station; top of north rail.:.............................. 23.2
Havelock, 1.7 miles west of, 26 feet south of north rail, in line with telegraph
poles; iron post stamped " 26 "........................................................ 26.570
Croatan, in front of station; top of north rail..................................... 29. 3


## NEWBERN QUADRANGLE.

## RIVERDALE, ALONG NORFOLK AND SOUTHERN RAILWAY, TO COVE CREEK.

Scott Creek trestle, 2 feet from north end of west abutment; bronze tablet ..... Feet. stamped " 7 " ..... 7.076
Newbern, northwest corner of Broad and Craven streets, corner stone at northeast corner of Craven County court-house; bronze tablet stamped "16" ..... 14. 861
Newbern, corner of Queen and Hancock streets, top of north rail of main track of Norfolk and Southern Railway at intersection with west rail of Atlantic Coast Line. ..... 11.8
Milepost "G54 M41," 0.7 mile west of, 30 feet south of north rail, in line with telegraph poles; iron post stamped " 27 " ..... 26.521
Clark, top of north rail at road crossing at station. ..... 31.2
Tuscarora, at road crossing at station; top of north rail. ..... 39.1
Tuscarora, 1.1 miles west of, 30 feet south of north rail, in line with tele- graph poles; iron post stamped " 51 " ..... 49. 862
TRENT RIVER QUADRANGLE.
cove, along norfolk and southern railway, to caswell.
Cove, 75 feet south of north rail, 4 feet northeast of northeast corner of L. F. Taylor's store, west of Trenton road; iron post stamped " 48 " ..... 46. 809
Dover, 19 feet east of main crossroad and 77 feet south of north rail; iron post stamped " 64 " ..... 62.841
Caswell, road crossing at station; top of north rail ..... 45.6
SNOW HILL QUADRANGLE.
caswell, along norfolk and southern railway, to falling creek.
Kinston, 0.5 mile east of, top of north rail of Norfolk and Southern Railway at intersection with west rail of Wilmington ànd Weldon division of Atlantic Coast Line ..... 41. 4
Kinston, north rail of main track opposite station. ..... 45.0
Kinston, north face at northwest corner of portico on west end of county court-house; bronze tablet stamped " 48 ". ..... 43.819
Falling Creek, 31 feet south of north rail of main track west of highway; iron post stamped " 55 " ..... 54.419
GOLDSBORO QUADRANGLE.falling creek, along norfolik and southern railway, to goldsboro.
Lagrange, 31 feet south of north rail of main track, at southeast corner of ticket office; iron post stamped "109" ..... 108.395
Bests, in front of station; top of north rail ..... 121.2
Bests, 4.2 miles west of, 30 feet west of county road and 30 feet south of north rail, in line with telegraph poles; iron post stamped " 120 ". ..... 118. 781
Goldsboro, northwest corner of county court-house; bronze tablet stamped "111". ..... 110. 179
Goldsboro, in front of station; top of north rail of northernmost track. ..... 108. 7
PRINCETON QUADRANGLE.
goldsboro, along southern railway, to princeton.
Asylum, in front of station; top of north rail ..... 74.1
Rose, in line with telegraph poles; iron post stamped " 136 " ..... 135.047
Princeton, 23.2 feet north of north rail of main track, east side of platiorm; iron post stamped " 152 " ..... 151. 147

## KENLY QUADRANGLE.

## at pine level.

Pine Level, in front of station; top of north rail................................. 168.4
CLAYTON QUADRANGLE.
SELMA, ALONG SOUTHERN RAILWAY, TO CLAYTON.
Selma, at junction of Southern Railway with Atlantic Coast Line, top of north rail of Southern Railway track at west rail of Atlantic Coast Line track.
175.7

Selma, 158 feet south of north rail of main track of Southern Railway, 128 feet west of west building line of Webb street, near east end of one-story brick store occupied by N. B. Snipe \& Bros.; bronze tablet stamped "178".
177.319

Wilsons Mills, in coping over west edge of opening at north end of 3-by-3foot box culvert; copper bolt stamped "U. S. G. S. 229 Ft. B. M.".... Clayton, 162 feet south of north rail of main track, brick store of W. H. McCullers, sr., \& Son, near east corner in front; bronze tablet stamped "346"
228. 400

GARNER QUADRANGLE.
Clayton, along southern rallway, to garner.
Auburn, in front of station; top of north rail................. 335.6

Garner, 25 feet north of north rail of main track and 12 feet west of southwest corner of ticket office; iron post stamped " 384 ". 382. 685

> GARNER, ALONG SOUTHERN RAILWAY, TO METHOD.

Raleigh, corner stone of state capitol; bronze tablet stamped " 363 "....... 362.435
Caraleigh Junction, at switch point; top of north rail........................... 355.0
CARY QUADRANGLE.
METHOD, ALONG SOUTHERN RALLWAY, TO DURHAM.
Method, in front of station; top of north rail
445. 7

Cary, at intersection with north rail of Seaboard Air Line; top of north
rail of Southern Railway.......................................................................... 495.9
Cary, in front of station; top of north rail........................................ 495.3
Cary, 22 feet south of north rail of main track and 3 feet east of northeast
corner of station; iron post stamped " 497 "............................................. 495.738
Morrisville, in front of station; top of north rail.................................... 299.9
Morrisville, 0.6 mile west of, 33.6 feet south of north rail and 26.8 feet east
of a 6 -inch hickory tree; iron post stamped " 321 "............................... 320.417
Nelson, in front of station (private warehouse); top of north rail........... 402.4
Nelson, 2.1 miles west of, stone over north end of 3-by-3-foot culvert, in
top; copper bolt stamped "U. S. G. S. 360 Ft. B. M."'............................ 359. 113
Brassfield, in front of station; top of north rail....................................... 375.4

- East Durham, in front of station; top of north rail............................ 407.5

DURHAM QUADRANGLE.
durham, along southern rallway, to university.
Durham, west side of Main street entrance to county court-house; bronze
tablet stamped " 406 "................................................................................ 4056
University, in front of station; top of north rail............................... 469.9
University, 1.5 feet north of northwest corner of station; iron post stamped
" 471 "........................................................................................... 470.543
HILLSBORO QUADRANGLE.
UNIVERSITY, ALONG SOUTHERN RAILWAY, TO MEBANE.

Ber (Rop at road crossing; top of rest
Blackwood, 2.5 miles south of, 23 feet east of west rail, 2 feet south of sign-
post at road crossing; iron post stamped " 549 ". .............................. 548.402
Chapel Hill, University of North Carolina, north side of Memorial Hall,
in stone tablet; bronze tablet stamped " 503 "............................................ 586
Oconeechee, at switch point; top of north rail. ............................... 568.3 .

Efland, opposite milepost 37, main track; top of north rail................. 662.2
Efland, 0.2 mile west of station, 32 feet north of north rail in line with tele-
graph poles; iron post stamped " 667 ". . . . . . . . . . . . . . . . . . . . . . . . . . 665.877
graph poles; iron post stamped." 667 ".............
Gratam QUadrangle.
mebane, along southern railway, to burlingion.
Mebane, 28.4 feet south of north rail of main track at northeast corner of
station; iron post stamped " 678 ". . . . . . .......................................... 676.851
Mebane, in front of station, main track; top of north rail. . . . . . . ............ 676.0
Haw River, in front of station, main track; top of north rail............... 535.5
Graham, north front of county court-house, 2 feet west of main doorway;
bronze tablet stamped " 642 "................................................................... 641.
Graham, in front of station, main.track; top of north rail.................... 655.0
Burlington, in front of station; top of north rail of original main track. ... 662.3

## M'LEANSVILLE QUADRANGLE: <br> BURLINGTON, ALONG SOUTHERN RAILWAY, TO M'LEANSVILLE.

Elon College, at road crossing; top of north rail.............................. 715.8
Gibsonville, 25.7 feet north of rail of main track at southeast corner of ticket
office; iron post stamped " 721 "....................................................................

GREENSBORO QUADRANGLE:
M'LEANSVILLE, ALONG SOUTHERN RAILWAY, TO JAMESTOWN.
Greensboro, in front of station; top of north rail. ................................. 835.7
Greensboro, northwest corner of federal court-house and post-office;
bronze tablet stamped " 839 "................................................................... 838.531
Pomona, in front of station; top of west rail. ....................................... 868.4. 4
Pomona, 1.5 miles south of, 2 feet from east end of north back wall of bridge
290.7 ; copper bolt stamped "U. S. G. S. 813 Ft. B. M."...............................238.
Jamestown, in front of station; top of west rail................................... 775.1
Jamestown, 182 feet east of west rail of main track, 185 feet south of station,
in large bowlder; copper bolt stamped "U.S. G. S. 793 Ft. B. M."........
792.311
HIGH POINT QUADRANGLE.
JAMESTOWN, ALONG SOUTHERN RAILWAY, TO LEXINGTON.
High Point, 99 feet west of west rail of main track, J. R. Flagg's drug store,
east corner of brick front; bronze tablet stamped " 940 "......................... 938.843
High Point, in front of station; top of west rail..................................... 935.6

Lake (formerly Conrads), 1 mile west of, coping of east end of north back
wall of bridge 315.9 over Rich Fork; copper bolt stamped "U. S. G. S.
665 Ft. B. M."...........................................................................................
$\qquad$
LEXINGTON QUADRANGLE.
LEXINGTON, ALONG SOUTHERN RAILWAY, TO HOLTSBURG.
Lexington, southeast corner of county court-house; bronze tablet stamped ..... Feet.
"811" ..... 809.503
Linwood, in front of station; top of west rail ..... 657.4
Linwood, 0.7 mile south of, coping at east end of south abutment of bridge
326. 4; copper bolt stamped "U.S. G. S. 630 Ft. B. M." ..... 629.221
SALISBURY QUADRANGLE.
HOLTSBURG, ALONG SOUTHERN RAILWAY, TO CLEVELAND.
Holtsburg, at road crossing at station; top of west rail ..... 630.4
Salisbury, in front of station; top of west rail ..... 749.0
Salisbury, southwest corner of county court-house; bronze tablet stamped " 765 ". ..... 764. 128
Majolica, in front of station; top of north rail. ..... 745.3
Majolica, 3.7 milès west of, at bridge over Second Creek, southeast corner of southeast pedestal block; copper bolt stamped "U. S. G. S. 671 Ft. B. M." ..... 669. 565
Cleveland, at southwest corner of station, 20 feet north of north rail; iron post stamped " 790 ". ..... 788.644
STATESVILLE QUADRANGLE.
Cleveland, along southern railway, to catawba.
Elmwood, at northeast corner of station, 34.5 feet south of north rail; iron post stamped " 838 " ..... 836.544
Statesville, in front of station; top of north rail. ..... 921.7
Statesville, at southeast corner of county court-house; bronze tablet stamped " 926 " ..... 924.834
Eufola (formerly Plotts), 0.2 mile west of station, coping at southeast end of north abutment of bridge; copper bolt stamped "U. S. G. S. 776 Ft. B. M." ..... 775.084
NEWTON QUADRANGLEE
CATAWBA, ALONG SOUTHERN RALLWAY, TO CONOVER.
Catawba, J.'U. Long \& Co's. store, brickwork near north corner of east front, 437 feet south of north rail of main track; bronze tablet stamped " 873 "... ..... 871.900
Catawba, in front of station; top of north rail ..... 832.4
Claremont, 29.5 feet south of north rail of -main track, at northeast corner of station; iron post stamped "U.S. G.S: 970 Ft . B. M." ..... 968. 578
Claremont, in front of station; top of north rail. ..... 967.0
Newton, county court-house, west end of north portico; bronze tablet stamped " 996 ". ..... 994.808
Newton, in front of station; top of north rail ..... 1., 016.0
Conover, road crossing at station; top of north rail. ..... 1, 059.3
HICKORY QUADRANGLE.
CONOVER, ALONG SOUTHERN RAILWAY, TO CONNELLY SPRINGS.
Hickory, in front of station; top of north rail ..... $1,163.6$
Hickory, 148.8 feet north of north rail, northeast corner of First National Bank Building; bronze tablet stamped " 1164 " ..... 1, 163. 085
Hildebran, road crossing at station; top of north rail ..... $1,148.0$
Hildebran, 0.9 mile west of, 3 feet from east end of coping, north end of cul-vert; copper bolt stamped "U. S. G. S. 1087 Ft. B. M.".$1,085.652$

## MORGANTON QUADRANGLE.

> CONNELLY SPRINGS, ALONG SOUTHERN RAILWAY, TO NEBO.

Feet.
Connelly Springs, in front of station; top of north rail......................1, 194.0
Connelly Springs, 142.4 feet north of north rail, south front of James Hudson's brick store, near east corner; bronze tablet stamped " 1193 "......... 1, 191. 762
Valdese, in front of station; top of north rail............................... 1, 202.3
Drexel, 15 feet north of north rail, 0.1 mile east of milepost 74; iron post stamped "1193".

1, 191. 628
Morganton, in front of station; top of north rail............................ 1, 110.2

Calvin, in front of station; top of north rail.................................. 1, 059.5
Glen Alpine, 73.2 feet north of north rail, southeast corner of brick basement of Hennessee \& Co's. store; bronze tablet stamped " 1215 ".

1, 213. 944
Glen Alpine, in front of station; top of north rail.
1, 209.6
Bridgewater, 0.4 mile east of, bridge seat at west end of bridge over Muddy
Creek, 2.8 feet south of south rail; copper bolt stamped "U. S. G. S. 1091
Ft. B. M." /
1, 089.549
Bridgewater, in front of station; top of rail
1, 095.7
Nebo, 134.2 feet north of north rail, 1 foot from east front of J. D. Pitt's store, in south basement wall; bronze tablet stamped " 1298 ". 1,296. 609
Nebo, in front of station; top of north rail.

1. 282.6

## MOUNT MITCHELL QUADRANGLE.

NEBO, ALONG SOUTHERN RAILWAY, TO BILTMORE.

Marion, in front of station; top of north rail.............................. 1,390.6
Greenlee, at east end of platform, 11.7 feet south of north rail; iron post
stamped " 1286 ".............................................................. 284.434

Dendron, in front of station; top of north rail............................... 1, 752.7
Round Knob, 9 feet south of north rail and 46.1 feet east of entrance to Round Knob Hotel, in face of solid rock; bronze tablet stamped " 1829 ". . 1, 828. 176
Mud Cut, 14.2 feet south of north rail of main track and 293 feet east of switch point; iron post stamped " 2153 ".

2, 151.574

Terrell, in front of station; top of north rail............................... 2, 524.2
Black Mountain, in front of station; top of north rail. .................... 2, 365. 6
Swannanoa, 50.6 feet south of north rail, on west side of ticket office; iron
post stamped " 2222 ". ...............................................2, 220.393
Azalea, 12.8 feet south of north rail, 59.8 feet west of switch point, in face of rock; bronze tablet stamped " 2057 ".

2, 055.966

## ASHEVILLE QUADRANGLE.

biltmore, along southern railway, to paint rock.

Feet.
Asheville, in front of station; top of north rail................................ 1, 984. 1.
Montford, in front of station; top of north rail............................. 1, 968.1
Olivette, 1.1 miles east of, 40.8 feet north of north rail of main track, 400 feet east of water tank, in bowlder containing 50 cubic yards; copper bolt stamped "U. S. G. S. 1924 Ft. B. M."'................................. 1, 922.944
Olivette, in front of station; top of north rail................................. 1, 894. 9
Alexander, in front of station; top of north rail............................ 1, 790.9
Alexander, 310 feet west of station, 11.1 feet south of north rail, east side of road crossing; copper bolt stamped "U. S. G. S. 1796 Ft. B. M."'.... 1, 794. 537
Bailey, in front of station; top of north rail................................. 1, 727.2
Bailey, 1 mile west of station, 11.5 feet south of track, 19 feet east of milepost 158, in solid rock; copper bolt stamped "U. S. G. S. 1729 Ft. B. M.". 1, 728.187
Rollins, in front of station; top of north rail............................... 1, 668.2
Marshall, in front of station; top of north rail............................... 1, 643.9
Marshall, southeast corner county court-house; bronze tablet stamped
" 1646 "............................................................... 1, 645.193
Barnard, in front of station; top of north rail............................... 1, 531.6
Barnard, 0.2 mile west of station, 140 feet west of milepost 171., 6.5 feet north of north rail, in solid rock; copper bolt stamped "U. S. G. S. 1529 Ft. B. M.".
1,528. 401
Sandy, in front of station; top of north rail................................... 1, 461. 5
Stackhouse, in front of station; top of north rail.......................... 1, 417.7
Hot Springs, southeast corner of east abutment of Spring Creek Bridge; copper bolt stamped "U. S. G. S. 1326 Ft. B. M."'....................... 1, 325. 026
Paint Rock, north end of west abutment of bridge over Grass Creek; bronze tablet stamped " 1259 "
1, 257.453
Paint Rock, in front of station; top of north rail........................... 1, 265.6

## Clarksville, Durham, Oxford, and Stem quadrangles.

durham and granville counties.
Following is the North Carolina portion of the results of a spur of precise levels run in 1905 from Durham, N. C., north along the Southern Railway to Clarksville, Va.

The method and limit of error were those now adopted by the Coast and Geodetic Survey in all precise-level work. The line was leveled independently in both the forward and backward directions, broken by temporary bench marks into sections 2 to 3 kilometers long. On all sections upon which the backward and forward measures differed more than $4.0 \mathrm{~mm} . \sqrt{\bar{K}}$ (in which K is the distance leveled between adjacent bench marks in kilometers) both the forward and backward measures were repeated until they came within limits, and all the other requirements necessary to obtain accurate results were closely adhered to.

The instruments used were two self-reading rods, 3.2 meters in length graduated to centimeters and reading by estimation tomillimeters; One 1899 type Coast and Geodetic Survey precise level, and one large shade umbrella.

The party consisted of five persons-two rodmen, one umbrella man, one recorder, and R. L. Libby, level man in charge.

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53493^{\circ}-\text { Bull. } 441-11-5
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## DURHAM QUADRANGLE.

DURHAM, NORTH ALONG SOUTHERN RALWWY, TO ELERBEE.
Durham, in foundation of court-house, west side of Main street entrance;

Feet.
405. 176
Durham, corner Main and Cochrane streets, First National Bank building,
in sandstone step to Cochrane street entrance to upstairs apartment;
aluminum tablet stamped " 408 ".......................................................408.410
Durham, 3 miles east of, 50 feet north of Southern Railway tracks, 10 feet east of gate, in southwest corner of 0 . K. Proctor's yard; iron post stamped " 415 ".
414. 775
Gorman (Holloway), opposite point 150 feet west of station sign, 60 feet south of track, near northwest corner of church; iron post stamped " 363 ".
Elerbee, first concrete culvert north of, 0.33 mile north of station sign, square cut in east side of
362.779
257.838

## STEM QUADRANGLE.

ELERBEE, NORTH ALONG SOUTHERN RAILWAY, TO PROVIDENCE.
Cozart, 90 feet east of tracks, 75 feet southeast of small oak tree, nearly opposite south switch, near northwest corner of storehouse of L. Coley; iron post stamped " 332 ".
332. 306

Lyon, near milepost 70,25 feet west of railroad tracks, 10 feet south of public road, nearly opposite railroad station; iron post stamped " 386 "..
Stem, 300 yards southwest of station, 100 yards southeast of track, in north corner of yard of W. H. Jones; iron post stamped " 476 ".
385.814

Stem, 3 miles north of, 0.5 mile north of milepost 65 , at road crossing, 30
feet north of crossing sign, 25 feet west of Southern Railway tracks; iron
Providence, 2 miles south of, 12 feet north of track, near milepost 63 , in top of concrete culvert; square cut.
420.889

## OXFORD QUADRANGLE.

PROVIDENCE, NORTH ALONG SOUTHERN RALLWAY, TO BULLOCK.
Providence, 45 feet northwest of Allen's warehouse, 20 feet east of tracks, 15 feet north of road-crossing sign, 10 feet south of station sign; iron post stamped " 431 "
430. 754

Oxford, 2.7 miles south of, 58.15 feet west of track midway between short trestle and railroad crossing, 20 feet north of milepost; iron post stamped " 455 ".
454. 551

Oxford, 500 feet south of passenger station, 60 feet west of south railroad switch, in northeast corner of yard; iron post stamped " 461 " (destroyed in 1906)
461.080

Oxford, on northwest corner of Crawford and Broad streets, 1 foot from southeast corner of tobacco warehouse owned by Z. W. Lyon, in east wall; aluminum tablet stamped " 476 "
475.878

Oxford, 3 miles north of, 800 feet north of milepost 52 , at road crossing,
45 feet east of road, 10 feet west of tracks; iron post stamped " 524 "... 524.460
Lewis, 150 feet northwest of station, 60 feet north of public road, 15 feet.
west of trácks; iron post stamped " 544 "..................................... 544.471
Gela, 300 feet north of switch, 5 feet west of milepost $48,{ }^{\text {r } 20 ~ f e e t ~ w e s t ~ o f ~}$
track; iron post stamped " 483 ". ......................................................... 483.447
Stovall, 150 feet east of station, southwest corner of L. D. Veozis's yard; Feet.iron post stamped " 478 ".478. 404
Bullock, 50 feet east of track, near milepost 42, 7 feet north of northwest corner of C. G. Royster's yard; iron post stamped " 429 " ..... 429. 190
CLARKSVILLE QUADRANGLE.bullock, north along southern rallway, to clarksville, va.
Soudan, 2 miles south of, in Granville County, N. C., near railroad siding,500 feet south of milepost 39 , east of track, in top of concrete culvert;square cut.322.634
Danbury, Greensboro, Kernersville, Madison, and Martinsville quadrangles.
GUILFORD AND ROCKINGHAM COUNTIES.

Following is the North Carolina portion of the results of a line of precise levels run during the summer of 1905 from Greensboro, N. C., to Buchanan, Va., by R. L. Libby, employing the same methods and equipment as described for the line from Durham, N. C., to Clarksville, Va., except that the new type Coast and Geodetic Survey level was used. From Buchanan, Va., the new line was extended by others to Charleston, W. Va., and a closure error of +0.732 foot has been removed by adjustment over the total distance of 365 miles. The adjustment made in the portion for this State was 0.087 foot over a distance of 42 miles.

GREENSBORO QUADRANGLE.
GREENSBORO, NORTH ALONG SOUTHERN RALWAY, TO SUMMERFIELD.
Greensboro, in federal court-house and post-office; bronze tablet stamped Feet. " 839 ".
838.531

Greensboro, 0.25 mile west of station, the Mount Airy division passes under main line at this point; in face of northeast wing wall of stone culvert; aluminum tablet stamped " 818 ," "as reset in 1907 ".
818. 294

Greensboro, 3 miles northwest of, southwest of Cottage Grove house, 10
feet west of county road, 150 feet west of track, 50 feet south of milepost
66 ; iron post stamped " 851 "............................................................ 776
Battleground, 40 feet east of track, 30 feet west of wagon road, 250 feet north of milepost 63, opposite house of Robert Dennis; iron post stamped " 865 "
864.681

Battleground, 2 miles north of, 500 feet north of milepost 61,50 feet west
of track, 40 feet south of road crossing; iron post stamped " 816 "....... 815.540
Summerfield, in front of station; top of rail.................................... 872.1
Summerfield, 250 feet west of tracks, 0.2 mile northeast of station, in southeast corner of Dr. W. C. Davis's yard; iron post stamped " 881 " $\ldots$


## KERNERSVILLE QUADRANGLE.

summerfield, north along southern rallway, to stokesdale.

Stokesdale, in front of station; top of rail................................................ 947.5

## DANBURY QUADRANGLE.

STOKESDALE, NORTH ALONG SOUTHERN RAILWAY, TO MADISON.Stokesdale, 3 miles north of, 0.33 mile south of milepost 3 , near road cross-ing, 250 feet north of house of J. R. Joyce, 200 feet southeast of T.Vaughn'sFeet.
house, at edge of woods, 30 feet east of tracks; iron post stamped " 901 ".. ..... 901. 267
Ellisboro, in front of station; top of rail. ..... 824.7
Ellisboro, 125 feet west of track, 100 feet northwest of station, west side of public road; iron post stamped " 829 ". ..... 828. 613
MADISON QUADRANGLE.
MADISON, ALONG NORFOLK AND WESTERN RALLWAY, TO STONEVILLE.
Madison, in front of station; top of rail. ..... 577.4
Madison, 40 feet west of railway track, 300 feet north of trestle, in south- east corner of orchard of Mr. Griffin; iron post stamped " 573 " ..... 573.346
Mayodan, in front of station; top of rail ..... 584.5
Mayodan, 0.5 mile north of, 170 feet east of railway track, in masonry dam across Mayo River; aluminum tablet stamped " 594 " ..... 593.789
Mayodan, 300 yards north of station, 60 feet west of railway track, 140 feet southwest of north switch, on rise of hill; iron post stamped " 590 ". ..... 590.303
Stoneville, in front of station; top of rail ..... 818. 1
Stoneville, 700 feet north of station, 40 feet east of railway track, 10 feet east of wagon road, on a lot belonging to R. L. Stone; iron post stamped " 823 " ..... 822.593MARTINSVILLE QUADRANGLE.stoneville, north along norfolk and western rallway, to price.
Stoneville, 3 miles north of, 500 feet north of John Grogan's house, 400 feet north of milepost 43 from Winston Salem, 30 feet east of wagon road, 15 feet east of track; iron post stamped " 990 " ..... 989.740
Price, in front of station; top of rail. ..... 1, 004.5
Price, 125 feet northeast of station, 30 feet east of Norfolk and Western Railway, 50 feet southeast of crossing, 275 feet southeast of milepost 45 ; iron post stamped " 1003 " ..... $1,002.952$
Crowders, Dallas, Hickory, Lincolnton, and Newton quadrangles.
catawba, gaston, and lincoln counties.Following is the North Carolina portion of the results of a double-simultaneous spur line of precise levels run from Newton, N. C.,to Columbia, S. C., in 1900, by C. H. Semper:
HICKORY QUADRANGLE.newton, south along carolina and northwestern railway, to maiden.
Newton, county court-house, west end of north portico; bronze tablet Feet. stamped " 996 COLUMBIA, 1900" ..... 994. 808
Maiden, 200 feet east of station, J. M. Holshouser's brick store, in west front face; bronze tablet stamped " 892 COLUMBIA, 1900" ..... 891. 275
LINCOLNTON QUADRANGLE.
maiden, south along carolina and northwestern rallway, to hardins.
Lincolnton, east side, at north end of county court-house; bronze tablet stamped " 869 COLUMBIA, 1900 " ..... 868.315
Lincolnton, 1.1-miles south of, at junction of Carolina and Northwestern Railway with Seaboard Air Line; top of rail ..... 892.8

## DALLAS QUADRANGLE.

## hardins, south along carolina and northwestern raitway, to gastonla.

| station, at northeast corner of small store; iron post stamped " 844 COLUMBIA, 1900 " | $\begin{aligned} & \text { Feet. } \\ & 842.978 \end{aligned}$ |
| :---: | :---: |
| Dallas, at Main street station, east face at north end of brick cotton mill; bronze tablet stamped " 785 COLUMBIA, 1900" | 784. 526 |
| Gastonia, Gastonia manufacturing building, west side, at main entrance; aluminum tablet stamped " 815 COLUMBIA, 1900". | 81.3. 785 |

CROWDERS QUADRANGLE.
gastonia, south along carolina and northwestern rallway, to crowders.
Ridge, in front of station; top of rail................................................. 791.2
Crowders, in front of station; top of rail............................................ 759.5
Crowders, near station, W. D. Glenn's house, on north face in chimney; bronze tablet stamped " 777 COLUMBIA, 1900 ". 775. 908

## PRIMARY LEVELING.

## Beckford, Courtland, Edenton, Hertford, Okisko, Riddicksville, Suffolk, Winton, and Woodland quadrangles. <br> CHOWAN, GATES, HERTFORD, and PERqUIMANS COUNTIES.

The elevations in the following list were determined by extension from an iron bench-mark post at the west corner of the post-office at Somerset, the elevation of which is accepted as 10.905 feet above mean sea level. - This was determined from a set of observations made on the tide gage at Drummonds Landing consisting of daily readings from October 31 to November 27, 1902, inclusive, one lunar month. The leveling was done as follows: In Edenton, Hertford, and Beckford quadrangles in 1902 by Carroll Caldwell; in Hertford and Okisko quadrangles in 1904 and in Suffolk and Winton quadrangles in 1905 by T. A. Green; and in Winton, Courtland, Riddicksville, and Woodland quadrangles in 1906 by F. L. Foust.

> EDENTON QUADRANGLE.

EDENTON, EAST ALONG HIGHWAY, TO SOMERSET.

| Edenton, 2 miles southeast of, at W. H. Corprews' gage, 2.488 feet reading on tide gage $a$. | Feet. $0.000$ |
| :---: | :---: |
| Edenton, 5 miles southeast of, 300 feet northwest of Pleasant Grove Church, at small storehouse; iron post stamped " 14 ". | 14.476 |
| edenton, northeast along norfolk and southern railway, to hertford |  |
| Edenton, at right of entrance to county court-house; aluminum tablet stamped " 16 " | 1.5. 972 |
| Yeopim station, 15 feet south of center of road, in east corner of N.J. Dall's yard; iron post stamped " 15 " | 14. 562 |

[^4]amboy, SOUTHEAST Along highway, to edenton.
Rockyhock, 200 feet south of crossroads, in front yard of H. B. Jones;

Feet.
27.880
HERTFORD QUADRANGLE.
HERTFORD, NORTHEAST ALONG NORFOLK AND SOUTHERN RALLWAY, TO OKISKO.
Hertford, west of front entrance to county court-house, in wall; bronze tablet stamped " 14 ". ..... 14.539
Winfall, 50 feet west of railroad crossing, in brick foundation of house occu- pied by Mrs. M. S. Rawlins; tablet stamped "15 ADJ. 1903" ..... 15. 748
hertford, southeast along highway, to burgess; thence west to bethel (eva); THENCE NORTHWEST TO YEOPIM.
Hertford, 3.2 miles southeast of, just north of main road forks, in brick chimney of house of Stephen Elliott west of road, in seventh course of bricks above ground; bronze tablet stamped "14 ADJ. 1903" ..... 13.914
Burgess, just north of road forks, west of road, at southeast corner of J. H. Parker's store; iron post stamped " 13 ADJ. 1903"' ..... 13. 260
Bethel (formerly Eva post-office), at store kept by James Gatling, near northwest corner of building, on west side; iron post stamped " 15 ADJ. 1903" ..... 15.039
okisko, south along highway via woodville; to newhope: thence northwest to winfall.
Woodville, at northwest corner of store and post-office kept by N. Bridgt and J. A. Gregory; iron post stamped "5 ADJ. 1903 " ..... 4. 714
Woodville, 3 miles southeast of, 300 feet west of main road forks, at store kept by T. C. Symons, near northwest corner of building; iron post stamped "12 ADJ. 1903" ..... 12. $577^{\circ}$
Newhope (Durants Neck post-office), west of road; at southeast corner of L. B. Perry's store; iron post stamped " 9 ADJ. 1903 " ..... 9. 325
Newhope, 2.6 miles northwest of, just south of road forks, in east side of brick chimney of house east of road; iron post stamped "14 ADJ. 1903". ..... 13. 728
Newhope, 6.6 miles northwest of, at junction with main Hertford-Elizabeth City road, east of road just south of forks; iron post stamped "14 ADJ. 1903" ..... 14.370
AT SOMERSET.
Somerset, at west corner of former post-office; iron post stamped "11". ..... 10. 905
OKISKO QUADRANGLE.AT CHAPANOKE.
Chapanoke, 30 feet southeast of road, 125 feet north of railroad, at south corner of post-office; iron post stamped " 10 ". ..... 10. 414
at NICANOR.
Nicanor, at northeast corner of store kept by L. Vine, on north side, 30feet south of railroad, just west of crossing; iron post stamped "12ADJ. 1903".12. 208
BECKFORD QUADRANGLE.
HERTFORD, NORTHWEST ALONG HIGHWAY, TO AMBOY.
Dwight, 0.5 mile south of, at north corner of H. J. Lane's store; iron post stamped " 49 " ..... 49. 466
Amboy, 20 feet east of center of road, in front yard of W. H. Elliott; iron post stamped " 33 ". ..... 33.093

## 

Ryland, at northeast corner of store and post-office kept by $\grave{W}$. H. Spivey,

Feet.

41. 123
Gliden, at junction with main road, just south of road, 20 feet west of tracks; iron post stamped " 36 ADJ. 1903" ..... 36.387
Trotville, at southeast corner of store and post-office kept by E. Carter, on south side, 20 feet west of tracks, just north of crossing; iron post stamped "39 ADJ. 1903" ..... 38.542
Bosley, at northeast corner of B. H. Ward's store, on north side; iron post stamped " 34 ADJ. 1903" ..... 34. 313
Sunbury, at southwest corner of C. F. Copeland's store, on south side, north side of T forks; iron post stamped "38 ADJ. 1903" ..... 37.795
SUNBURY, NORTH ALONG HIGHWAY, TO WIGGINS CROSSROADS; THENCE EAST AND SOUTH TOnicanor.
Sunbury, 3.3 miles northwest of, in front yard of J. R. Hill, at southwest corner of lot; iron post stamped " 33 ADJ. 1903". ..... 33. 090
Wiggins Crossroads, 3.1 miles east of, at main road forks 0.8 mile south of Corapeake, west of road; iron post stamped " 38 ADJ. 1903". ..... 38. 334
Wiggins Crossroads, 5.5 miles southeast of, in center of main road forks called Folly; iron post stamped "Prim. Trav. Sta. No. 13. 37 ADJ. 1903". ..... 36.830
Acorn, at northeast corner of store (former post-office), kept by L. A. Round- tree, on north side; iron post stamped " 38 ADJ. 1903" ..... 38. 227
Sandycross, just south of crossroads, at northeast corner of unoccupied store, on east side; iron post stamped " 52 ADJ. 1903" ..... 52.322
nicanor, southwest along highway, to dwight.Nicanor, 3.3 miles southwest of station, in front yard of C. W. White'shouse; iron post stamped "14 ADJ. 1903"13. 824
Belvidere, at southeast corner on east side of store kept by R. W. White, west of road, just north of forks; iron post stamped "Prim. Trav. Sta. No. 2. 14 ADJ. 1903" ..... 14. 392
gliden, northwest along hagway, to willow; thence west, via vivian, to gatesville.
Gliden, at junction with main road crossing, 20 feet west of railway tracks, just south of road; iron post stamped " 36 ADJ. 1903". ..... 36. 387
Willow, at northeast corner of store and post-office kept by A. S. Hudgins, on north side; iron post stamped "1903 ADJ. 36 ". ..... 36.026
Vivian, 0.2 mile north of post-office, at main forks, south of road, just west of forks; iron post stamped " 30 ADJ. 1903" ..... 29.820
near sarem, along hghways, to near sunbury.
Sarem, 4.3 miles east of, south of main road forks at New Piny Grove Church, west of road; iron post stamped " 41 ADJ. 1903". ..... 40. 542
Eason Crossroads, at northwest corner of crossroads, at southeast corner of old store; iron post stamped " 36 ADJ. 1903" ..... 36. 285
eason crossroads, south along hegway via vivian, to point 1.6 miles south ofcarter:
Eason Crossroads, 2.6 miles south of, at Flat Branch Church, on west side, at southwest corner of schoolhouse; iron post stamped "35 ADJ. 1903". ..... 34.860
Vivian, at main road forks 0.2 mile north of post-office; iron post stamped " 30 ADJ. 1903" ..... 29. 820
Carter, at northeast corner of store and former post-office, kept by A. Carter, jr., on north side; iron post stamped " 20 ADJ. 1903" ..... 19. 685
Carter, 1.6 miles south of, on land of Peter Bowntree, 0.2 mile south of forksof main and second-class roads, 10 feet north and in front of old unoccu-pied house, in southwest corner of square formed by four cedar trees, 12feet south of big gum tree; iron post stamped "14 ADJ. 1903"14. 449

## WINTON QUADRANGLE.

gatesville, west along highways to eure; thence north along atlantic coast line, TO SAREM
Gatesville, east of front entrance to county court-house, on south side of building; aluminum tablet stamped " 27 ADJ. 1903"

Feet.
27. 155
Eure, at northeast corner of store and post-office kept by L. C. Parker and R. Hill, on north side; iron post stamped " 22 ADJ. 1903 "22. 238
Sarem, at northwest corner of store and post-office kept by J. W. Parker,on west side; iron post stamped " 34 ADJ. 1903".33. 939
EURE, NORTH TO TOPSY.
Topsy, 2.4 miles south of, at junction of Topsy road and main Winton road; iron post stamped " $38 \mathrm{~N} . \mathrm{C} . "$ ..... 38.343EURE, SOUTH TO TUNIS; THENCE SOUTHEAST TO HARRELLSVILLE; THENCE WEST TO UNION.Harrellsville, 8 miles northwest of, 0.3 mile south of railroad crossing, 1mile south of Tunis, in forks of Harrellsville and Ahoskie roads; ironpost stamped " 41 N. C."41. 101
Harrellsville, 3.7 miles north of, 150 feet north of residence of J. H. Pilot, 17 feet north of Pilands Crossroads; iron post stamped " 39 N. C." ..... 39. 029
Harrellsville, 20 feet east of post-office and store kept by J. D. Hill, west of main street; iron post stamped " 65 N . C." ..... 65. 192
Bethlehem, 175 feet south of crossroads, 250 feet southwest of J. D. Thomp- son's store; in front foundation of church; aluminum tablet stamped "48 N. C." ..... 48. 270
Ahoskie, 2.9 miles east of, 450 feet west of G. S. Early's residence, 20 feet north of crossing of Harrellsville and Winton roads; iron post stamped " 50 N. C." ..... 49. 556
Ahoskie, 250 feet south of station, 115 feet north of post-office, in southeast corner of Ahoskie Bank; aluminum tablet stamped " 53 N . C." ..... 52. 561
TUNIS, TO 6 MILES SOUTHWEST OF WINTON.
Winton, front face of county court-house, at southeast corner; aluminum tablet stamped " $46 \mathrm{~N} . \mathrm{C}$. " ..... 44. 581
Winton, 6 miles southwest of, on Winton-Union road, at five forks, 590 feet south of residence of J. A. Golay; iron post stamped " $52 \mathrm{~N} . \mathrm{C}$. ." ..... 52.343
RIDDICKSVILLE QUADRANGLE.
TOPSY, NORTHWEST TO RIDDICKSVILLE.Topsy, 50 feet south of post-office, at road forks, 300 feet north of resi-dence of D. S. Harrell, west side of road; iron post stamped " 33 N.C."..33. 142
Riddicksville, 600 feet east of post-office (residence of J. D. Riddicks), at crossroads, 15 feet west of road; iron post stamped " 34 N . C." ..... 34. 016
WOODLAND QUADRANGLE.
RIDDICKSVILLE, SOUTHWEST TO FERRY; THENCE SOUTHEAST TO WINTON.
Mapleton, 3.8 miles north of, 1.5 miles north of Hills Ferry, in forks of Como-Murfreesboro road; iron post stamped " 27 N. C." ..... 27. 319
Winton, 5.5 miles west of, 0.4 mile east of Mapleton, in forks of Union and Mapleton roads; iron post stamped " 50 N. C." ..... 49. 948
AT UNION
Union, 50 feet south of post=office, at forks in road, in front of hotel; iron post stamped " 54 N. C." ..... 54. 262

## COURTLAND QUADRANGLE.

AT COMO.
Como, at corner of post-office and store just north of road forks; iron post Feet. stamped " 73 N. C., Prim. Trav. Sta. No. 9" ..... 72.838
SUFFOLK QUADRANGLE.
at wiggins crossroads.
Wiggins Crossroads, east of main road at forks, at northwest corner ofstore kept by J. W. Pealor, on north side; iron post stamped " 30 ADJ.1903"30. 1.52Ayden, Chocowinity, Clayton, Eagle Rock, Falkland, Goldsboro, Kenly, NewbernParmele, Raleigh, Rocky Mount, Snow Hill, Springhope, Tarboro, Trent River,Vanceboro, Williamston, Wilson, and Winterville quadrangles.
beaufort, craven, edgecombe, franklin, greene, johnston, jones, martin,NASH, PITT, WAKE, WAYNE, AND WILSON COUNTIES.

The elevations in the following list were determined by extensions from the precise-level line run in 1896. Standard bench marks on the line run north from Kinston were erroneously stamped about 3 feet high. The leveling was done as follows: : In Ayden, Chocowinity, - Parmele, Trent River, and Winterville quadrangles in 1901 by E. H. Cothran and C. B. Kendall; in Newbern quadrangle in 1901 by E. H. Cothran, C. B. Kendall, and C. A. Clunet; in Vanceboro and Williamston quadrangles in 1901 by C. B. Kendall; in Rocky Mount, Springhope, Tarboro, and Wilson quadrangles in 1902 by F. C. Black and Carroll Caldwell; in Snow Hill quadrangle by E. H. Cothran in 1907 and by Carroll Caldwell in 1902; in Clayton, Eagle Rock, Falkland, Goldsboro, Kenly, and Raleigh quadrangles in 1902 by Carroll Caldwell.

NEWBERN QUADRANGLE.

newbern, southwest along trent river road, to olivers.
Newbern, in northeast corner of county court-house; bronze tablet stamped

Feet. " 16 RALEIGH" 14. 861
Newbern, U. S. Engineer Corps bench mark, end of first step of William Ellis dwelling (reported as 9.392 above mean low water) ..... 9. 286
Newbern, in government yard, 5 -foot mark on tide gage. ..... 1. 62
Olivers, 5.6 miles east of, at county line, 120 feet from road forks on left of Trent River road, 21 feet from center, 50 feet east of south front of Gus White's store; iron post stamped " 34 RALEIGH" ..... 32.995
NEWBERN, NORTH TO ASKIN.
Pettifords Ferry, on east side of Neuse River, east side of large cypress, on point above landing; 3 nails (driven by U. S. Engineer Burbank and reported as 2.154 feet above mean low tide) ..... 2. 05
Askin, 2 miles south of, northwest corner of Cicero Gaskin's front yard, at junction of roads; iron post stamped " 28 RALEIGH" ..... 27. 672
vanceboro, southwest to chip.Chip, in northeast corner of W. A. Ewell's store, 200 feet northeast of junc-tion of Streets Ferry and River roads; iron post stamped " 11RALEIGH'10.672

## TRENT RIVER QUADRANGLE.

OLIVERS, NORTHWEST TO TRENTON.
Olivers, 3,010 feet from crossing of Trenton and Quaker Bridge roads, 21feet south of center of Neighborhood road, 51 feet from rear southwestcorner of Piny Grove Church, 37 feet from northwest corner of J. J.Simmons's store; iron post stamped " 47 RALEIGH"Feet.45. 925
Trenton, 33 feet from (front) northeast corner of county court-house, 40 feet from center of Market street, 3 feet from granite shaft marked "N. C. G. S. +U. S. G. S.;" iron post stamped " 29 RALEIGH" ..... 28. 144
trenton, west and north to dover.
Trenton, 4.2 miles west of, 0.5 mile west of Pocoson Branch, at junction ofTrenton road and Free Bridge road, 12 feet west of center of Trentonroad, 57 feet south of southeast corner of cabin belonging to Louis Haven,1.2 miles east of Free Bridge across Trent River; iron post stamped " 47RALEIGH"46. 214
Trenton, 11.4 miles northwest of, at junction of Beaver Creek and Kinston roads, 8.9 miles south of Dover, 12 feet south of Kinston road, 400 feet southeast of residence, 60 feet south of cabin; iron post stamped " 47 RALEIGH" ..... 45. 729
VANCEBORO QUADRANGLE.
VANCEBORO, SOUTHEAST TO ASKIN. .
Wasp, 50 feet southeast of N. P. Willis's house, in southeast corner of front yard; iron post stamped " 24 RALEIGH" ..... 23. 516
VANCEBORO, NORTHWEST ALONG GREENVILLE ROAD, TO CALICO.Vanceboro, 100 feet north of post-office, at road forks, southwest corner ofJ. A. Jackson's store; iron post stamped " 22 RALEIGH"21. 632Vanceboro, 5 miles northwest of, 250 feet south of Vanceboro-Calico road,in southeast corner of C. M. Roch's front yard; iron post stamped " 43RALEIGH'42. 652
VANCEBORO, NORTH ALONG HIGHWAY, TO CHOCOWINITY.
Chocowinity, 6 miles south of, at junction of road running northwest to Calico Hill with Newbern-Washington road; iron post stamped " 67 RALEIGH" ..... 65. 903
Chocowinity, 1.9 miles south of, 15 feet to left of road, in F. H. Van Erstein's front yard; iron post stamped " 49 RALEIGH" ..... 48. 214
AYDEN QUADRANGLE.
GRAINGERS, NORTHEAST AND NORTH ALONG ATLANTIC COAST LINE, TO AYDEN.
Grifton, 1,920 feet south of station, 200 feet north of dwelling house ownedby Mose Spivey, and 6 feet west of track, in stone abutment of railroadbridge across Contentnea Creek; bronze tablet stamped " 32 RALEIGH"Hanrahan, 3 feet east of northeast corner of Jacob McLawhon's store, 57feet west of center of track, 115 feet south of section foreman's house;iron post stamped " 67 RALEIGH"62. 996Ayden, 50 feet southwest of southwest corner of station, 100 feet west ofwest rail; 40 feet north of cènter of main public road, 10 feet east of store ofCannon \& Lyon; iron post stamped " 67 RALEIGH"62. 928
calico, southwest along highway, to anrdnerville.

CHOCOWINITY QUADRANGLE.
oakley, southeast via atlantic coast line, to washington.
Pactolus, 1.40 feet north of station, 120 feet north of north rail, 20 feet west of highway, 12 feet east of front of store of C. E. Bradley \& Co.; iron post stamped " 24 RALEIGH"
21. 014

Wharton, 15 feet west of station, 70 feet east of road crossing, 27 feet south of north rail; iron post stamped " 23 RALEIGH"
18. 588

Washington, at southeast corner of court-house, in foundation wall; bronze tablet stamped " 12 RALEIGH".

## Chocowinty, northwest to grimesland.

Grimesland, on west side of River street,facing Disciples Church, 220 feet northeast of northwest corner of Pitt and River streets, in southeast corner of William Moore's front yard; iron post stamped " 45 RALEIGH"; ...
washington, north along highway, to wlliamston.
Mineola, 250 feet north of forks of Washington-Williamston and Jamesville roads, opposite Disciples Church, 2 feet south of southeast corner of porch to C. H. Hodge's store; iron post stamped " 26 RALEIGH"
25. 271

Mineola, 8.1 miles north of, 100 feet east of east edge of road, 25 feet north of large oak at gate, 17 feet west of southwest corner of J. L. Woodard's blacksmith shop and wood yard; iron post stamped " 66 RALEIGH"...

WINTERVILLE QUADRANGLE.
ayden, north along atlantic coast line, to station.
Winterville, 12 feet east of southwest corner of station platform, 300 feet north of center of main public road, 21 feet east of east rail; iron post stamped " 75 RALEIGH"
71. 758

Greenville, 4 feet west of southeast corner of county court-house, 100 feet north of center of Third street, 57 feet west of center of Evans street; bronze tablet stamped " 68 RALEIGH"
Staton, 100 feet north of small store, 87 feet east of east rail, 27 feet west of road forks, 21 feet north of center of road to Greenville; iron posi stamped " 45 RALEIGH"
greenville, east along road, to grimesland.
Greenville, 6 miles east of, 0.25 mile west of road forks for Blackjack, 200 ieet north of residence of W. L. Wooten, 15 feet north of Washington road; iron post stamped " 63 RALEIGH"

## WILLIAMSTON QUADRANGLE.

Williamston, west along atlantic coast line, to parmele.
Williamston, in northwest corner of foundation of county court-house, 3

Feet.
Everetts, 75 feet west of southwest corner of station platform, 75 feet south of south rail of main line, in northeast corner of L. B. Wynn's front yard; iron post stamped " 68 RALEIGH"65. 983
WILLIAMSTON, NORTHWEST ALONG HIGHWAY TO HAMILTON.
Ballard, 75 feet north of second-class road, in southwest corner of J. R. Ballard's front yard; iron post stamped " 76 RALEIGH"
Hamilton, about 1 foot northeast of northwest corner of post-office, 75 feet east of northeast corner of Front and Liberty streets; iron post stamped " 74 RALEIGH"73. 311

## PARMELE QUADRANGLE.

PARMELE, SOUTHEAST ALONG ATLANTIC COAST LINE, TO OAKLEY.
Parmele, 150 feet south of railroad station, 110 feet south of center of Plymouth and Rocky Mount branch, 100 feet west of center of Weldon and Kinston branch, 1 foot north of store of Dr. I. E. Rich; iron post stamped " 78 RALEIGH"
74.797

Oakley, 100 feet north of north rail Atlantic Coast Line, 75 feet south of highway, 2 feet east of front of store of Gray \& Rogers; iron post stamped " 67 RALEIGH"

PARAGKLE, NORTHWEST ALONG ATLANTIC COAST LINE, TO SPEED.
Hassell, at noftiwest corner of R. H. Salsbury \& Co.'s store; iron post stamped " 75 "R:ALEIGH" (elevation not recorded closer).
75.5

Oak City, $1 \frac{1}{2}$ feet west and 1.5 feet north of northeast corner of store of J. E. Hines, 75 feet southwest of west end of Atlantic Coast Line freight and passenger station; irom post stamped " 84 RALEIGH"
84. 132

Speed, 105 feet north of post-office, 2.5 feet east of northwest corner of W. J. Davenport's store, 1 foot north of building line; iron post stamped " 60 RALEIGH"
59. 895

Parmele, west along atlantic coast line, to mildred.
Bethel, 1 foot southwest of southwest corner of station, 171 feet west of main crossroads, 18 feet north of railroad track; iron post stamped " 68 RALEIGH"
68. 666

Mildred, 220 feet south of south rail of railroad track, 25 feet south of center of main highway, 1 foot north of front of store of Marion Cobb; iron post stamped " 46 RALEIGH"
bethel, southeast along highway, to house.
Bethel, 4 miles south of, at road forks, 50 feet east of center of Greenville road, 20 feet north of center of Neighborhood road, 500 feet north of residence of J. L. Moore; iron post stamped " 66 RALEIGH".

SNOW HILL QUADRANGLE.
kinston, northeast along atlantic coast line, to graingers.
Kinston, north face of northwest corner of portico on west end of county court-house; bronze tablet stamped "48 RALEIGH".
43. 819

Kinston, on. northeast corner of Caswell monument; cross mark (cut by U. S. Engineer Burbank)
43. 10
Kinston, Norfolk and Southern Railway, at Caswell street crossing; top of Feet.
north rail ..... 42.6
Kinston, in front of Atlantic Coast Line station; north rail ..... 42. 1
Graingers, 6 feet south of post-office, 27 feet east of center of highway, 126 feet east of north rail of Atlantic Coast Line; iron post stamped " 77 RALEIGH" ..... 73.800castoria, south to snow hill.
Snow Hill, in wall at $n$ rth side of entrance to county court-house; alumi- num tablet stamped " 64 RALEIGH" ..... 63.888
TARBORO QUADRANGLE.
Speed, southwest along atlantic coast line, to tarboro.
Tarboro, 2.7 miles east of, East Carolina Railway drawbridge, in south or down-river end of coping to east abutment of pier; bronze tablet stamped "48 RALEIGH" ..... 47.799
mildred, northwest along atlantic coast line, to tarboro.
'Tarboro, 100 feet east of cross street, 75 feet north of sidewalk on Main street,in right center column of county court-house; bronze tablet stamped " 52RALEIGH"$51 \div 940$
tarboro, west along atlantic coast line, to rocky mount. ..... $\because$
'Tarboro, in front of station; top of rail ..... 70.8
Hartsboro, at crossing; top of rail ..... 110.95
Penelo, 2 feet west of post-office, 100 feet south of highway, 50 feet north of north rail; iron post stamped " 110 RALEIGH" ..... 110.489
penelo, south along hahway, to st. lewis.
Mercer, 27 feet from center of Tarboro-Wilson road, 24 feet from center of old Sparta road, 5 feet from southwest corner of former post-office, 2 feet from west side; iron post stamped " 113 RALEIGF" ..... 112. 148
St. Lewis, 30 feet from center of Wilson-Tarboro road, 2 feet from north cor- ner of former post-office, 2 feet from northwest (front) side; iron post stamped "115 RALEIGH" ..... 114. 350tarboro, southwest along highway, to crisp.
Tarboro, 6.5 miles southwest of, northwest corner of crossroads, 20 feet from center of road; iron post stamped "103 RALEIGH" ..... 103. 085
Crisp, at northwest corner of former post-office, 30 feet south of crossroads; iron post stamped "104 RALEIGH" ..... 103. 802
FALKLAND QUADRANGLE.
Crisp, south along hghway, to farmville; thence east to bullards crossroads.
Turnage, in southeast corner of Turnage and Jefferson's store; iron post stamped "115 RALEIGH" ..... 114.833
Toddy, at forks of road, at west corner of Jackson Bros. storehouse; iron post stamped " 89 RALEIGH" ..... 89.408
Farmville, in second pier of Eastern Carolina Railroad station; west corner of; aluminum tablet stamped " 85 RALEIGH". ..... 85. 524
Bullards Crossroads, at Smith's store; iron post stamped "74 RALEIGH". ..... 74.132
farmyille, west along road, to saratoga. ${ }^{\dagger}$
Fieldsboro, at south corner of W. H. Cook's store; iron post stamped " 92 RALEIGH" ..... 92. 269
speights bridge, via castoria and willow green, thence n. w. to farmville.
Speight's Bridge, 25 feet east of center of road; iron post stamped " 94 RALEIGH"
Feet. ..... 94.345
Castoria, at southeast corner of post-office and store; iron post stamped " 107 RALEIGH" ..... 106. 860
Willowgreen, at forks of road, 35 feet east of storehouse; iron post stamped "76 RALEIGH" ..... 76. 169
ROCKY MOUNT QUADRANGLE
rocky mount, southwest along atlantic coast line, to elm city.
Rocky Mount, 50 feet south of station, 95 feet west of west rail, 25 feet southof center of cross street, 40 feet west of center of railroad street; iron poststamped "114 RALEIGH"114. 587
South Rocky Mount, in front of station; top of rail.: ..... 125.1
Sharpsburg, 75 feet east of Atlantic Coast Line track, 20 feet north of main public road, 2 feet west of small-store; iron post stamped " 138 RALEIGH" ..... 138. 896
Elm City, 150 feet west of southwest corner of station, 200 feet west of rail, 30 feet south of center of main street, 5 feet west of Elm City Bank; iron post stamped."'135 BALEIGH"." ..... 135.567
rocky mount, west along road, to nashville.
Halifax crossing, 35 feet south of railroad, 12 feet east of center of road; iron post stamped " 143 RALEIGH" ..... 144.049
Nashville, 225 feet north of north rail of Atlantic Coast.Line Railroad, 90 feet west of west line end of station, 9 feet southeast of southeast corner of V. B. Batchelor's tobacco pack house; iron post stamped "189 RALEIGH" ..... 189. 300
stucklands crossroads, via cliftonville, to wilson.
Cliftonville, in A. W. Parker's yard, 5 feet south of front gate, 1 foot west of yard fence; iron post stamped " 173 RALEIGH" ..... 174. 290
WILSON QUADRANGLE.
sarátoga, northwest along highway, to wilson.
Saratoga, east corner of post-office; iron post stamped "120 RALEIGH".. ..... 120.521
Sun, 1 mile west of, 100 feet east of center of road forks, on south side of east fork; iron post stamped " 115 RALEIGH" ..... 115. 235
ELM CITY, SOUTH ALONG ATLANTIC COAST LINE, VIA WILSON AND FREMONT, TO GOLDSBORO.
Wilson, in granite coping of entrance to county court-house; bronze tablet stamped " 145 RALEIGH" ..... 145.085
Black Creek, southwest corner of post-office, 60 feet east of railroad track, 40 feet east of center of street; iron post stamped "126 RALEIGH". ..... 126.833
Fremont, at southwest corner of post-office, 30 feet south of street, 50 feet east of railroad; iron post stamped " 46 RALEIGH" ..... 146. 862FREMONT, EAST ALONG HIGHWAY VIA EUREKA, TO SARATOGA.
Eureka, southwest corner of post-office, 40 feet from center of crossroads; iron post stamped " 126 RALEIGH" ..... 126. 280
Moyton, at southeast corner of former post-office; iron post stamped " 93 RALEIGH" ..... 93.666
St. LEWIS to wilbanks.Wilbanks, 18 feet north of Wilson-Old Sparta road, 45 feet east of RockyMount road, 2 feet from southeast corner of former post-office; iron poststamped "124 RALEIGH"123. 522

## GOLDSBORO QUADRANGLE.

PIKEVILLE TO GOLDSBORO.
Pikeville, northeast corner of Smith's store, 50 feet west of railroad track, Feet.
30 feet north of street; iron post stamped "135.RALEIGH"............. 135.647
Goldsboro, in front of station; top of north rail............................ 108.53

## KENLY QUADRANGLE.

wilson, southwest along atlantic coast line, to selma.
Lucama, at east corner of I. Williams's store, 80 feet west of track, 50 feet
south of center of road; iron post stamped " 134 RALEIGH"......... 133.675
Boyett, at east corner of Kirby's store, 80 feet west of track, 25 feet south
of center of road; iron post stamped " 205 RALEIGH"................... 205.392
Kenly, at west corner of post-office building, 150 feet east of railroad, 25
feet northeast of center of street; iron post stamped " 204 RALEIGH". 204.284
Micro, 90 feet northwest of track, 20 feet southwest of center of road, north-
west corner of post-office; iron post stamped " 192 "............................ 192.240
FREMONT TO PINKNEY (DOUBLE-RODDED LINE).
Pinkney, in northwest corner of R. G. Pittman's yard; iron post stamped "149 RALEIGH"
148. 312
wilson, west along highway, to talbot.
Wilson, 6.2 miles west of, at road fork in front of church, 15 feet from center of road; iron post stamped " 148 RALEIGH".
Talbot, 10 feet south of center of road, 50 feet south of forks; iron post
stamped " 240 RALEIGE"................................................................. 240.038
emit, east to connor.
Connor, in chimney of Mr. Hight's house; bronze tablet stamped ' 273 RALEIGE"

## SPRINGHOPE QUADRANGLE.

SPringhope, southeast along highway, to strickland crossroads.
Springhope, 60 feet northwest of northwest rail of main track of Atlantic Coast Line, 40 feet from line of northeast end of station, 85 feet southwest of center of Pine street, on property line of North Railroad street; iron post stamped " 259 RALEIGH"
260.575
 bunn, east along highway, to nashville.
Bunn, at northwest corner of post-office, 20 feet east of center of road; iron •
post stamped " 295 RALEIGH".......................................................... 295.094
Hunts, at southwest corner of Doctor Edwards's office; iron post stamped
"287 RALEIGH" . ..................................................................... 287.337
Oakland, southwest corner of Barnes's store, 40 feet west of center of road; $\therefore$
iron post stamped " 240 RALEIGH"............................................... 240.74T.
$\because$ talbot, northwest along highway, to eatmon.
Eatmon, 100 feet northwest of, 20 feet east of road, 50 feet south of road
forks; iron post stamped " 240 RALEIGH" $\ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots .240 .038$
eatmon, northwest along road, to unionhope (CONNOR to eatmon checked out).

CLAYTON QUADRANGLE.
CLAYTON, NORTHEAST ALONG HIGHWAY, to EMIT.

SELMA, SOUTHWEST TO SMITHFIELD; THENCE VIA SPILONA AND PRESTON TO WILSONS MLLLS.
Selma, in brick store; bronze tablet stamped " 178 RALEIGH".
177. 319

Smithfield, in northwest corner of county court-house, bronze tablet
stamped " 146 RALEIGH"...................................................................... 145.617

Preston, 30 feet south of center of road forks, in north corner of A. M. San-
ders's yard; iron post stamped " 233 RALEIGH"............................ 232.926
Wilsons Mills, 200 feet west of station, in culvert; copper bolt stamped
" 229 RALEIGH"................................................................................ 228.400
EAGLE ROCK QUADRANGLE.
UNIONHOPE, NORTH VIA PRIVETT, TO BUNN.
Pilot, at north corner of former post-office; iron post stamped " 361 RALEIGH".
361. 767

Privett, northwest corner of post-office; iron post stamped " 326 RA LEIGH" 326.894

PRIVETT, NORTHWEST TO FORESTVILLE.
7 Hartsville, 20 feet north of east corner of former post-office, 30 feet north of center of road; tablet stamped " 282 RALEIGH" 282.764

> RALEIGH QUADRANGLE.

Forestville, in southeast pillar of station, 25 feet northwest of center of track;
bronze tablet stamped " 374 RALEIGH"........................................... 374.079
Neuse, in southeast pillar of station, 30 feet west of track, 15 feet north of
center of public road; tablet stamped " 280 RAIEIGH". .................. 280.666
Millbrook, in northeast pillar of station, 20 feet west of center of track;
aluminum tablet stamped." 311 RALEIGH"................................... 311.637
Raleigh, in corner stone of state capitol; bronze tablet stamped "363
RALEIGH". ................................................................................. 362.435
Dunn, Four Oaks, Great Coharie, Parkersburg, Princeton, and Stedman quadrangles. HARNETT, JOHNSTON, AND SAMPSON COUNTIES.
The elevations in the following list were determined by extensions from the precise-level line along the Southern Railway from Morehead. The leveling was done as follows: In Four Oaks, Dunn, and Great
Coharie quadrangles in 1905 by T. A. Green; and in.Princeton, Sted-man, Parkersburg, and Great Coharie quadrangles in 1906 by F. L.Foust.
FOUR OAKS QUADRANGLE.
smithfield, southwest along atlantic coast line, to four onks; thence south along mghways to blackmans mills.
Smithfield, 3 miles southwest of; in top of southeast corner of east abut- ment of south side of railroad bridge over Neuse River; aluminum tablet Feet. ..... 129. 384stamped "129 ADJ. 1903".
Four Oaks, in northeast corner of brick store of B. B. Adams, on north side; aluminum tablet stamped " 211 ADJ. 1903" ..... 211. 021
Overshot, 5.6 miles northwest of; at main entrance at W. H. Graham's, north of road just west of forks; iron post stamped "175 ADJ. 1903" ..... 174.972
Overshot, in front yard of John J. Rose; iron post stamped "174 ADJ. 1903" ..... 174. 442
NEAR HARPER, NORTHWES' ALONG HIGHWAYS, TO ATLANTIC COAST LINE BRIDGE OVER black creek.
Harper, crossroads, just west of; on north side of road, on old Harper place now owned by Sam Thornton; iron post stamped "184 ADJ: 1903".... ..... 184.061
Beasley, at southwest corner of store and post-office, on south side; iron post stamped " 163 ADJ. 1903" ..... 1.63. 091
Beasley, 3.2 miles northwest of post-office; in front yard of B. Allen; iron post stamped " 120 ADJ. 1903" ..... 120. 469
Beasley, 5.9 miles northwest of; west of maain road, in center of forks at signpost; iron post stamped "115 ADJ. 1903" ..... 115. 098
AT SPILONA.
Spilona, at southeast corner of store; iron post stamped "Prim. Trav. Sta. No. 19, 226 RALEIGH" ..... 225. 808
at m'koy (on circuit from four oaks to m'koy).
McKoy, 30 feet south of center of road, in front yard of J. Marshall Lee; iron post stamped " 210 ADJ. 1903" ..... 210. 674
beasley, south to blackmans mlls.
Newton Grove, at northeast corner of store kept by T. W. Underwood, on east side; iron post stamped " 184 ADJ, 1903" ..... 184. 520
DUNN QUADRANGLE.
FOUR OAKS, WEST TO ERRA.
Ezra, in east side of house owned and occupied by Josephus Johnston, ineighth course of bricks of brick chimney above base, second brick fromsouth side; aluminum tablet stamped " 239 ADJ. 1903".239. 479
foUR OAks, SOUTHWEST along atlantic COAST line, to benson; thence east along HIGHWAYS TO M'KOY.
Four Oaks, 4.4 miles southwest of, west of road at crossing, 20 feet north of tracks; iron post stamped "188 ADJ. 1903" ..... 1.87. 599
Benson, at southeast corner on east side of hotel kept by Mrs. E. J. D. Boy- kin; iron post stamped "Prim. Trav. Sta. No. 21, 243 ADJ. 1903"...... ..... 242.736
Benson, 3.4 miles southeast of, on west side of road at crossroads, near large walnut tree; iron post stamped " 210 ADJ. 1903" ..... 210.417
Mix, 0.4 mile west of, on east side of road at crossroads; iron post stamped "220 ADJ. 1903". ..... 220. 598
Mingo, just north of, east of road north of forks; iron post stamped "Prim. Trav. Sta. No. 22, 207 ADJ. 1903 " ..... 207. 648
$53493^{\circ}$-Bull. 441—11——6

## GREAT COHARIE QUADRANGLE. <br> blackmans mills west to m'koy.

Timothy, 1 mile northeast of former post-office; at main crossroads, in front Feet. yard of Dr. R. H. McLane; iron post stamped "201 ADJ. 1903". . . . . . . 201. 010

Blackmans Mills post-office, 0.5 mile northeast of, south of main road just
east of forks; iron post stamped "194 ADJ. 1903". . . . . . . . . . . . . . . . . . 193.915
NEWTON GROVE, SOUTH to NEAR hobton; thence north via rosin hill to blackmans MTLLS.
Newton Grove, 3.1 miles south of, 250 feet north of road forks at top of hill, 20 feet east of road, opposite residence of Mrs. H. C. Monk; iron post stamped " 184 N. C.".
Hobton, 0.3 mile south of, branch crossing summit south of, at junction of Raleigh and Clinton roads, in fence corner west of road; iron post stamped "175 N. C.".
174. 845

Hobton, 3.9 miles northwest of; at junction of Clinton and Goldsboro roads, '
20 feet from branch crossing; iron post stamped " 159 N . C."............. 158.586

Newton, 8.4 miles south of, at main road forks; iron post. ...................... 178.081
новтом, south то cunton.

| Hobton, 3.3 miles south of, 400 feet south of schoolhouse, at main road forks; iron post stamped " 181 N. C." | 181. 296 |
| :---: | :---: |
| Hobton, 8.3 miles south of; 0.4 mile south of Plainview Church, at road forks; iron post stamped " 172 N. C.". | 171. 477 |
| Hobton, 12.1 miles south of, at main forks of Clinton and Goldsboro roads, opposite James Bell's residence; iron post stamped " 154 N. C.". . . . . . . | 154. 140 |

keener, east to faison.


Orange, 5.8 miles north of post-office, just south of crossing Coharie Creek,
opposite residence of T. A. Jackson; iron post stamped "181 N. C."... 180.806
stedman quadrangle.
salemburg, northwest to orange; thence northeast to lydia.

Earnest, 9 miles north of, at main road forks, just south of residence' of
J. T. Hall, east of road; iron post stamped " 169 N. C."........................ 168.448
Huntley, 1.1 miles north of post-office, 0.3 mile north of main crossroads, at road forks, top of hill opposite residence of T. W. Honeycutt; iron post

Feet.stamped " 177 N. C." 177. 265
Orange, at corner of store and post-office kept by C. M. Hall; iron post stamped "Prim. Trav. Sta. No. 24. 170 N. C.".170. 166
Orange, 2.9 miles north of post-office, at forks of road leading to Lydia, about 0.5 mile east of Lydia, west of road, opposite residence of B. B. Lane; iron post stamped " 180 N . C.". ..... 179. 695
PARKERSBURG QUADRANGLE.CLINTON, NORTHEAST to falison.
Clinton, in front face at northeast corner of county court-house; iron post stamped " 159 N. C.". ..... 158.516
Faison, 50 feet north of rail, in west side of county road, in line with phone post; iron post stamped " 156 N. C." ..... 1.55. 626PRINCETON QUADRANGLE.
beasley, northeast to princeton.
Beasley, 4 miles east of; 230 feet east of graveyard, north of road at forks between houses; iron post stamped " 171 N. C." ..... 170. 618
Beasley, 7.1 miles northeast of; just southwest of second-class road crossing, opposite residence of McCade Williford; iron post stamped " $86 \mathrm{~N} . \mathrm{C}$. .". ..... 85. 871
Beasley, 10.1 miles northeast of; at top of long grade, at junction of Golds- boro and Richardsons Bridge roads, east side of road, opposite new house; iron post stamped " 115 N. C., Prim. Trav. Sta. No. 32" ..... 115. 579
Clarksville and Virgilina quadrangles.
granville and person counties.

The elevations in the following list were determined by extensions from a precise-level bench mark at Clarksville, Va. The leveling was done in 1908 by E. O. Halbert.

CLARKSVILLE QUADRANGLE.

## point 2.5 miles west of nelson, west along southern railway 2 miles.

| Nelson, 2.9 miles miles west of, 500 feet north of railroad, 230 feet north of |  |
| :--- | :--- | :--- |
| highway, in east face of chimney of Tuck Nelson's $1_{2}$-story house, 18 | Feet. |
| inches above ground; aluminum tablet stamped " 447 ". $\ldots \ldots \ldots \ldots \ldots$ | 446.724 |
| North and South Carolina Junction, in front of signpost; top of switch frog.. | 457.5 |

VIRGILINA QUADRANGLE.

State line near virgilina, va., West along southern railway. to state line near CHRISTIE, VA

Virgilina, 2.7 miles west of, top of south head wall of railroad arch culvert over Little Bluewing Creek; aluminum tablet stamped " 410 ", 410. 135

Catawba, Charlotte, Concord, Huntersville, Matthews and Statesville quadrangles. cabarrus, mecklenburg, rowan, and union counties.

The eleviations in the following list were determined by extensions from precise-line bench marks at Salisbury, N. C., and Yorkville, S. C. The leveling was done in 1904 by F. L. Foust.
STATESVILLE QUADRANGLE.
Salisbû́ry, southwest along southern rallway, to glass.a
Feet.
Salisbury, opposite cotton mills; top of west rail. ..... 749.6
Sumner, in front of station; top of west rail ..... 801.7
China Grove, in front of station; top of west rail ..... 820.8
China Grove, 112 feet east of east rail in front of station, in northeast corner of China Grove Bank: aluminum tablet stamped " 823 ADJ. 1903" ..... 823. 129
Landis, in front of station; top of west rail ..... 869.8
Landis, 125 feet east of east rail opposite station, 179 feet east of Landis cotton mills, in northeast corner of Linn Bros.'s brick store; aluminum tablet stamped " 876 ADJ. 1903 " ..... 876. 211
Roselle, in front of station; top of west rail. ..... 851: 5
CONCORD QUADRANGLE.
glass, south along southern railway, to concord; thence southwest along high- ways to harrisburg; thence southwest along southern railway to newell; thence along highways to point 4.9. miles south of newell.a
Glass, in front of station; top of east rail. ..... 771.5
Glass, 175 feet west of west rail, opposite station, near southeast corner of post-office; iron post stamped " 768 ADJ. 1903" ..... 767. 726
Concord, in front of station; top of east rail. ..... 606.2
Concord, south corner of county court-house; iron post stamped " 705 ADJ. 1903" ..... 704. 874
Concord, 6.5 miles southwest of, 300 feet east of Patterson cotton mills, 300 feet north of Coddle crossing, near northeast corner of Patterson store; iron post stamped " 578 ADJ. 1903" ..... 577.737
Rocky River Bridge, Harrisburg road, at north end of wooden bridge over Rocky River, center of roadway ..... 555.7
Harrisburg, 124 feet west of west rail, front of station, 50 feet south of Morri- son's store, in road forks; iron post stamped " 615 ADJ. 1903" ..... 615. 132
Harrisburg, in front of station; top of east rail ..... 610.1
Newell, 400 feet north of station, 100 feet east of post-office, 50 feet west of road, near Southern Railway; iron post stamped " 757 ADJ. 1903" ..... 756. 792
Newell, in front of station; top of east rail ..... 761.4
Newell, 4.9 miles south of, 200 feet south of Hickory GGrove Church, in road forks; iron post stamped "784 ADJ. 1903" ..... 784.050uncas, east along highways, to harrisburg.
Uncas, 5.1 miles east of, 500 feet west of road forks, 300 feet south of Moore- head stand, near road crossing; iron post stamped " 711 ADJ. 1903" ..... 711. 255
point 6 miles east of huntersville, east along highways, to concord.
Huntersville, 8.9 miles east of, 20 feet west of Harris's store, 20 feet north of road; iron post stamped " 716 ADJ. 1903" ..... 715.980
Springsville, 2.9 miles east of former post-office, at summit east of crossing of Coddle Creek, 500 feet east of road forks, between road and Johnson's store; iron post stamped " 720 ADJ. 1903" ..... 720.063
concord, south along hughay, to point $2.9^{\circ}$ miles south of flows.
Concord, 2.3 miles south of, 200 feet southeast "f Baptist Church, top of long hill, east edge of road; iron post stamped " 691 A'DJ. 1903 " ..... 691. 424
Concord, 8 miles south of, summit south of Rocky River crossing, in road forks; iron post stamped " 607 ADJ. 1903" ..... 606.782


[^5]AT WEDDINGTON CHURCH.
Weddington Church, at northwest corner of; iron post stamped " 726 ADJ.

Feet. 725.445
CATAWBA QUADRANGLE.
AT MARVIN CHURCH.
Marvin Church, at southwest corner of; iron post stamped "697 ADJ.1903"696. 763
HUNTERSVILLE QUADRANGLE.
charlotte, north along southern rallway, to derita; thence east along high-WAYS TO UNCAS.Derita, 150 feet east of station, 100 feet east of post-office between stores;iron post stamped " 816 ADJ. 1903"816. 481
Derita, 2.7 miles northeast of; 100 feet east of residence of John Reid, opposite large brick house; iron post stamped "731 ADJ. 1903" ..... 730.862
Uncas, 400 feet east of former post-office, 50 feet east of Sammonds's store, near mail box; iron post stamped " 765 ADJ. 1903" ..... 765. 281
derita, northwest along highway, to cowans ford; thence east via huntersville to point 6 miles east of huntersville.Derita, 2.9 miles west of; 400 feet north of residence of James Auten, nearroad crossing opposite old cotton gin; iron post stamped " 846 ADJ. 1903"..845. 984
Bristow, 100 feet south of former post-office, 100 feet south of Long Creekstore, 500 feet east of crossing of Long Creek, 10 feet north of road;iron post stamped " 694 ADJ. 1903"694. 294
Hopewell, southwest corner of Presbyterian Church, front face; aluminum tablet stamped "741 ADJ. 1903". ..... 740. 768
Cowans Ford, 150 feet west of former post-office, southeast corner of Presby- terian Church, front face; aluminum tablet stamped "811 ADJ. 1903"... ..... 810. 901
Huntersville, in front of box car used as station; top of north rail. ..... 811.4
west of post-office, near northwest corner of J. S. Choat's store; iron poststamped "814 ADJ. 1903"814. 069Huntersville, 6 miles east of; 300 feet east of crossing of small branch, atjunction of Concord and Huntersville roads; iron post stamped " 668 ADJ.1903"667.644

# Gaffney, Kings Mountain, Lincolnton, and Shelby quadrangles. Cleveland, gaston, and lincoln counties. 

The elevations in the following list were determined by extensions from the precise-level line, Newton, N. C., south to Columbia, S. C., and accord with the 1903 adjustment of precise leveling. The leveling in Gaffney and Kings Mountain quadrangles was done in 1906 by L. L. Lee; in Lincolnton and Shelby quadrangles in 1909 by T. P. Hoover.

GAFFNEY QUADRANGLE.
blacksburg, s. C., north along southern rallway, to patterson springs; thence west TO BOILNG SPRINGS; THENCE SOUTHWEST TO BYARSY!LLE.
Earl, 250 feet northwest of station, in northwest angle of four corners, A'. E. Bettice \& Sons's store, in east face of southeast brick pillar; Feet. aluminum tablet stamped " 850 ".......................................... 850.084

Patterson Springs, in north face of northeast brick pillar of station; aluminum tablet stamped "904-1906"
Patterson Springs, 3 miles west of, on Zoar Church road, brick chimney at south end of D. B. Hamrick's house, in east face; aluminum tablet stamped " 776 ".
Feet. ..... 776. 313
Zoar Church, 1.3 miles west of, Weavers Bridge over Broad River, 50 feet west of west end of, south edge of road to Boiling Springs, in top of rock outcrop; aluminum tablet stamped " 685 " ..... 684.674
Boiling Springs, 2.5 miles east of, 0.4 mile east of Beaverdam Creek, on Boiling Springs-Shelby road, junction of T road north, in northwest angle of forks; iron post stamped " 786 " ..... 785.948
Boiling Springs, 300 feet south of crossroads, in north face of northeast pillar of Boiling Springs Baptist Church;aluminum tabletstamped " 877 ". ..... 876. 760Boiling Springs, 3.4 miles southwest of, on road to Gaffney, 200 feet west ofiron bridge over Broad River, north edge of road, in solid rock bluff;aluminum tablet stamped " 650 "649.632
Byarsville, 1.1 miles northwest of, 0.4 mile northwest of Humphrey's gin, junction of second-class road southwest, northwest angle of forks; iron post stamped " 870 " ..... 869. 673
PATTERSON SPRINGS, EAST TO DURBRO (DOUBLE-RODDED LINE).
Patterson Springs, 2.5 miles east of, at former Durbro post-office, D. C. Putnam's house, 2.5 miles southwest of Pleasant Hill Church, in base of outside rock chimney at south end of house; aluminum tablet stamped "765" ..... 764.592
kings mountain quadrangle.
betiany, s. c., northwest to kings mountain; thence southwest along soutrernrallway to grover.
Bethany, S. C., 5.1 miles north of, McGill's store, 15 feet east of Yorkville and Kings Mountain road, immediately in gap of Kings Mountain Ridge, in rock outcrop; aluminum tablet stamped " 1040 " ..... 1, 040.246
Kings Mountain, 2.1 miles south of, junction of Kings Mountain-Yorkville road and road leading southeast to Clover, S. C., in road fork; iron post stamped " 953 " ..... 952.991
Kings Mountain, 200 feet northwest of station, in front of Mountain View Hotel, 15 feet south of entrance to office; iron post stamped " 979 ". ..... 978.488
Kings Mountain, 3.4 miles southwest of, 0.2 mile south of second-class road crossing, rock culvert under railroad, southeast corner; aluminum tablet stamped " 960 " ..... 959.758
Grover, corner of Railroad avenue and Stonewall street, 1.5 feet southwest corner of C. F. Hambright's brick store at south .side; aluminum tablet stamped " 880 " ..... 879. 840
LINCOLNTON. QUADRANGLE.
lincolnton, southwest along seaboard air line, to stubbs.
Lincolnton, 2.7 miles west of, 4 feet south of south rail, in rock; aluminum tablet stamped " 838 " ..... 838. 501
Crouse, 4.3 miles west of Lincolnton, 100 feet north of north track at station, southwest corner of H. E. Hefner's grocery store, in brick wall; aluminum tablet stamped " 855 " ..... 855. 510
Crouse, 2.9 miles west of station, near road crossing, 75 feet north of north track, in brick chimney in south wall of J. H. Black's house; aluminum tablet stamped " 925 " ..... 925. 143
Cherryville, 0.8 mile west of, 100 feet south of south track, in north wall of stone chimney at east side of J. Beard's house; aluminum tablet stamped "908". ..... 908. 620
Waco, in front-of station; point on signal post ..... 917. 18
Waco, 0.9 mile west of, 125 feet south of south track, in brick chimney of house, west side of north wall; aluminum tablet stamped " 896 " ..... 895. 904

> waço, southeast to kings mountain.

| Waco, 4 miles south of, in forks of road going south from Waco to Kings Mountain, intersection of main road and short-cut road on right going out on Shelby and Kings Mountain road; iron post stamped " 952 ".... |  |
| :---: | :---: |
| Waco, 7 miles south of, in southwest corner of forks of private road leading off main Kings Mountain road on right going south from Waco back to house, 300 yards off road; iron post stamped " 1001 " |  |
| Lincolnton, 1 mile west of, on side of road, in front of house, 2 feet behind large poplar tree; rock |  |
| Lincolnton, 3 miles west of, on top of hill looking east down into Lincolnton, in front of James Clarke's house; iron post stamped " 922 "............. |  |
| Lincolnton, $\dot{6} .5$ miles northwest of, in forks of Morganton and Flay roads, in front of J. M. Smith's store; iron post stamped "Prim. Trav. Sta. No. 3, 994 " |  |
| Lincolnton, 8 miles northwest of; intersection of four roads, near church; root of large oak tree. |  |
| Flay, 2 miles east of, on right-hand side of road going toward Flay, 30 feet south of bridge over Indian Creek, 75 feet north of road forks going to Newton; iron post stamped ' 845 " |  |
| Flay, in forks of main road leading south direct to Cherryville, in southwest corner of forks, on bank opposite Childers \& Beam store; iron post stamped " 1050 " |  |
| Flay, 3 miles west of, south of road, in front of house, in root of large oak tree; nail. |  |
| Fallston, in front wall of W. A. Gantt's brick store; aluminum tablet stamped "1029". |  |
| Fallston, 3 miles south of, at the Beams Mills store, 15 feet north of store; iron poststamped "Prim. Trav. 1001 ". |  |
|  |  |
| Beams Mills, 3 miles east of, on east side of Julius Turner's store, in forks of Fallston-Waco road; iron post stamped " 985 ". . . . . . . . . . . . . . . . . . . . . |  |
| Turners store, 1 mile south of, in front of house, in root of aspen tree; nail. . kings mountan, northeast along southern railway, to bessemer city; thence north along highways to crouse. |  |
| Bessemer City, 100 feet south of railroad, in northwest corner of Slater manufacturing mills, 1 foot east of west wall; aluminum tablet stamped " 899 ". |  |
|  |  |
| Bessemer City, 3 miles north of, in forks of Bessemer City and Cherryville roads, barn on left and 100 feet in rear, on road leading south direct to Hovis merchandise store; iron post stamped " 874 ". |  |
| Bessemer City, 6.4 miles north of, 30 feet south of old house in road forks of main Cherryville and Dallas roads; iron post stamped " 977 ". . . . . . . . |  |
| Bessemer City, 9 miles north of, near large oak tree at intersection of roads on top of hill; rock. |  |
|  | 871.67 |
|  |  |

SHELBY QUADRANGLE.
Stubbs, southwest along seaboard alr line, to shelby.
Shelby, south side of county court-house, near fountain; iron post stamped
"Prim. Trav. 895"

## Abingdon, Asheville, Morganton, Mount Mitchell, and Roan Mountain quadrangles.

BUNCOMBE, BURKE, CALDWELL, CLEVELAND, HAYWOOD, MADISON, MCDOWELL, MITCHELL, RUTHERFORD, AND YANCEY COUNTIES.

The elevations in the following list were determined by extensions from the precise-level line along the Southern Railway. The leveling was done as follows: in Asheville quadrangle in 1896 by E. L. Faison and E. M. Long, in 1897 by T. S. Mauldin, jr., and in 1898 by W. S. D. Moore; in Mount Mitchell and Morgantown quadrangles in 1899 and 1900 by W. S. D. Moore and C. A. Clunet; in Roan Mountain quadrangle in 1901 by W. G. Overton; and in Abingdon quadrangle in 1909 by J. B. Metcalfe, jr. Bench marks set in 1896 are stamped mostly 10 feet too high, the field work having been based on an assumed elevation.

## ABINGDON QUADRANGLE.

> DAMASCUS, VA., SOUTH ALONG VIRGINIA-CAROLINA AND LAUREL RAILWAYS, TO LAUREL BLOOMERY, TENN.; THENCE EAST ALONG HIGHWAYS TO LITTLE HORSE CREEK; THENCE NORTH TO POINT 3.1 MILES NORTHEAST OF KONNAROCK, VA. (PORTION OF LINE).

Laurel Bloomery, 4.3 miles east of, at top of Cut Laurel Gap, 8 feet north
of road, 100 feet south of house, just to east of Tennessee-North Carolina state line, on ledge of granite; chiseled oval, marked " 3747 "

Feet. 3, 746: 03
Laurel Bloomery, 6 miles east of, 3 feet north of road, about 0.5 mile southeast of sawmill; cross on rock, marked " 3368 ".

3, 367.31
Hamlock, 1 mile northeast of, 6 feet southeast of road forks to south, 550 feet southwest of where Laurel Creek crosses road, in sandstone ledge at road forks; aluminum tablet stamped " 3123 " 3, 122. 790
Laurel Bloomery, 10.6 miles east of, 75 feet south of road fork to north, 150 feet south of creek crossing, 3 feet east of road; cross on ledge of rock, marked " 3585 "

3,584. 39
Laurel Bloomery, 11.9 miles east of, on top of Big Spring Mountain, 6 feet north of road, in ledge of limestone; bronze tablet stamped " 3920 ". . . . . 3, 919. 332
Apple Grove, 1 mile east of post-office, 20 feet east of road forks to north, north of road; cross on ledge of rock, marked " 2996 "

2, 995.34
Apple Grove, 2.3 miles east of, 200 feet northwest of road forks, near Mr. Hamn's house, 225 feet north of Little Horse Creek, 6 feet north of road; cross on rock, marked " 2949.5 "

2, 948.85
Apple Grove, 2.3 miles east of, at junction of two prongs of Little Horse Creek, 300 feet north of forks to east, 6 feet above level of road, 6 feet northeast of road near Mr. Hamn's house, set in rock ledge; aluminum tablet stamped " 2945 "

2, 944. 672
Little Horse Creek, 2.7 miles north of, on top of mountain, 3 feet east of road forks to northeast; cross on rock ledge, marked " 3747 "

3, 746. 59
Little Horse Creek, 3.7 miles north of, about 0.5 mile from base of north side of mountain, 4 feet east of road, about 0.25 mile southwest of Apple Grove Church; cross on rock, marked " 3304.7 "

3, 304. 13
Little Horse Creek, 4.7 miles north of, at forks of road near junction of Big Horse Creek and Mud Fork, near Bill Miller's house, 10 feet east of road to north, 16 feet northeast of road forks; cross on ledge of rock, marked " 2953 "

2, 952.34

## ROAN MOUNTAIN QUADRANGLE.

at huntdale.
Huntdale, 0.25 mile west of iron bridge over North Toe River, near mouth- of Caney River, on northeast corner of bridge seat; bronze tablet stamped Feet." 2039 ASH 1901 "2,039. 206
huntdale, east to rock creek near red hill.
Brummett, 0.2 mile east of, 20 feet to left of creek, under northwest corner of church; on top of corner stone. ..... $2,106.29$
Herrell, 1.7 miles southwest of, 200 feet south of Widow Street's house, 25
feet from right bank of Rock Creek, on top of bowlder; chiseled circle. ..... $2,292.92$
RED HILL, NORTH UP ROCK CREEK, TO MAGNETIC CITY.a
Magnetic City, 0.35 mile north of, in side of.bowlder fronting road; alumi- num tablet stamped " 2805 ASH" ..... 2, 804. 148
red hill, east along highway, to bakersville; thence southwest to micaville.
Bakersville, left side of hall entrance to county court-house, 3 feet from floor; aluminum tablet stamped " 2471 ASH" ..... 2, 469. 866
bakersville, east along higeway, to spear.
Bakersville, 8.4 miles east of, 30 feet east of point where road crosses top of
Cane Creek Mountain, in root of large chestnut tree; nail ..... 4, 161.29
Spear, mouth of Henson Creek, in rock ledge; bronze tablet stamped " 2840 ASH" ..... $2,838.831$
MORGANTON QUADRANGLE.
WOODLAWN, EAST TO NORTH COVE.
North Cove, 2.5 miles north of, 200 feet south of fork of Linville Falls and Morganton roads, 10 feet west of center of road; iron post stamped " 1596 ASH" ..... 1,595. 635
SPRUCE PINE, NORTHEAST TO Altamont.
Altamont, 1 mile southwest of, at road fork near Pisgah Church; iron post stamped " 3407 ASH" ..... 3, 406. 790
marion, southeast to dysortville; thence north to bridgewater.
Sinclair's mill, on south side of Muddy Creek, in rock; aluminum tablet stamped "1198 ASH". ..... $1,196.838$
Dysortville, in chimney on west side of Doctor Simmon's house; aluminum tablet stamped "1264 ASH". ..... 1,263. 692
Hutchin's store, Hutchin's house at fork of Morganton and Bridgewater roads, in west side of large rock in chimney; bronze tablet stamped "1257 ASH" ..... $1,257.597$
Bridgewater, 0.4 mile east of railroad station, in bridge seat at west end of bridge over Muddy Creek; copper bolt stamped " 1091 MC". ..... 1, 089..549
DYSORTVILLE, NORTHWEST 0.5 MILE (SPUR).
Dysortville, 0.5 mile northwest of, 0.15 mile southwest bf farm gate and100 yards north of South Muddy Creek, in solid rock north of road;aluminum tablet stamped "1182 ASH".1, 184. 369
dysortville, southeast along highway, to casar; thence north via camp creek and enola to morganton.
Fairview Church, north of road at top of hill, in foundation on west side ..... Feet.
of building; bronze tablet stamped "1247 ASH". ..... 1,246. 892
Hodge, 300 feet east of former post-office, in large bowlder south side road; bronze tablet stamped " 1135 ASH" ..... $1,134.514$
Casar, 3.5 miles northeast of, 100 yards south of stream, in foundation stone of Olive Grove Church, at southwest corner; aluminum tablet stamped "1193 ASH" ..... 1, 192. 491
Jacob Fork, 1.25 miles north of, on east side of road opposite small house; in rock ledge; copper bolt stamped " 1270 ASH" ..... 1,269. 528
Morganton, 5.4 miles south of, opposite walnut tree, in large rock east of road at stream; bronze tablet stamped " 1204 " ..... $1,203.097$
Morganton, northwest corner of north portico of county court-house; bronze tablet stamped " $1182 \mathrm{M} \mathrm{C"}$ ..... $1,180.774$
BRIDGEWATER, NORTH: TO PIRDMONT SPRRNGS.
Linvilles store, 250 feet west of, 15 feet north of center of road; iron post stamped "1365 ASH" ..... 1, 363.973
Joy, 1 mile northeast of post-office, in northwest angle of crossroads; iron post stamped "1198 ASH" ..... 1, 197.225
Piedmont Springs, 0.25 mile south of hotel, 10 feet west of road, 90 feet south of ford of Upper Creek; aluminum tablet stamped " 1217 ASH".. 1, 216, 584
joy, northeast to lenoir; thence south southwest via hartland to morganton.
Collettsville, 1.5 feet east of southeast corner of Moore's store; iron post stamped " 1098 ASH" ..... $1,097.028$
Lenoir, west front face of county court-house, in brick water table 2.5 feet above ground and 6.75 feet north of southwest corner of building; alumi- num tablet $a$ stamped " 1182 " ..... 1, 181. 725
Gamewell, on opposite side of road from former post-office, 2 feet west of northwest corner of building; iron post stamped "1078 ASH" ..... $1,077.061$
Hartlard, 1 mile southwest of, in front of schoolhouse, in root of black-oak tree; nail. ..... I, 168. 01
Hartland, 1,000 feet west of former post-office, in angle of Courtney's store building; iron post stamped " 1195 ASH" ..... 1, 194. 431
Catawba River Bridge, 10 feet southeast of lower corner of east end; cross cut on stone, stamped "1019" ..... 1. 018.35
morganton, to insane asylum (single spur line).
Morganton, in front of Southern Railway station; top of north rail. ..... 1, 110. 1
Insane Asylum; floor of cupola. ..... 1, 330.3
MOUNT MITCHELL QUADRANGLE.azalea, southwest to resthaven; thence southeast 4 miles (single spur line).Resthaven, 4 miles southeast of, in fork of old Fort and Fairview roads,20 feet from center of either road; iron post stamped " 2404 ASH".2, 403. 086old fort, southwest to broad river (single spur line).
Old Fort, 40.7 feet north of north rail of main track, at southwest corner of ticket office; iron post stamped " 1437 MC " ..... 1, 436. 095
Byers Fork, 500 feet west of Dougherty's mill on Little Crooked Creek, 20feet north of road, in solid rock; copper bolt stamped " 1534 ASH".$1,533.466$
Broad River, 600 feet south of fork of Old Fort and Black Mountain roads, 100 feet south of ford of Broad River, 10 feet west of center of road; iron post stamped " 2517 ASH" ..... 2, 516. 386
greenlee, south to sugar hill (single spur liné).
Sugar Hill, 1 mile east of post-office, at road fork, 20 feet south of center of Feet.road; iron post stamped " 1282 ASH".1, 280.619
MARION, NORTH VIA WOODLAWN, TO SPRUCEPINE.
Woodlawn, 0.25 mile north of post-office, at Armstrong Creek, in center of triangle formed by forks of road; iron post stamped " 1395 ASH". ..... 1, 393. 977
Mica, 100 feet south of post-office, 30 feet east of center of road, in solid rock; aluminum bolt stamped " 2657 ASH" ..... 2, 656. 719
Sprucepine, 0.25 mile north of, on east end of south pier of highway bridge over North Toe River; copper bolt stamped " 2511 ASH" ..... 2, 510. 695
sprucepine, west to bald creek; thence southwest to ivy.
Micaville, in fork of road, 30 feet northwest of northwest corner of post- office; iron ppist stamped " 2504 ASH" ..... 2,503. 690
Burnsville, 2 deet west of south entrance to county court-house, $a$ alumi- num tablet stamped " 2817 ASH". ..... 2, 816. 678
Bald Creek, 0.25 mile east of post-office, 10 feet north of center of road, in rock; copper bolt stamped " 2555 ASH" ..... $2,554.676$
micaville, south to' threeforks creek (Single spur line).
Celo post-office, 2.6 miles south of, 110 feet south of large oak tree with $X$mark blazed deep on it and opposite private road to east crossing SouthToe River, west of road, in rock ledge; aluminum tablet stamped " 2676ASH"2, 675. 172
Celo, 6 miles south of, 100 feet south of small cabin and 50 feet west of stream flowing northeast, west of road at fork, in rock ledge; aluminum tablet stamped " 2848 ASH" ..... 2, 84.7. 208BURNSVILLE, SOUTH UP CANE RIVER TO POINT 3.8 MILES SOUTH OF PENSACOLA (SINGLE SPURLINE).
Pensacola, in foundation stone at southwest corner. of Baptist Church; aluminum tablet stamped " 2858 ASH" ..... $2,857.825$
Pensacola, 3.8 miles south of, 0.2 mile south of boundary fence of Murchi-son property, 300 feet north of old mill, in top of ledge of rock west ofroad; aluminum tablet stamped " 3113 ASH"3, 112. 373
ivy', SOUTHEAST TO BARNARDSVILLE (SINGLE SPUR LINE).
Barnardsville, 20 feet south of Ivy River, in foundation stone of Burlison's store; aluminum tablet stamped " 2186 ASH". ..... $2,184.867$
burnsville, north via daybook, to huntdale.b
Daybook, 0.5 mile north of, north of house, on east bank of Jack Creek,north of road and 10 feet from center, on ledge; chiseled square2, 295.3
SPEAR, SOUTH TO HUNTERS CHAPEL (NEAR INGALLS).
Spear, 2.34 miles south of, west of road, 100 feet west of North Toe River, 50 feet south of road intersection; on rock ledge; chiseled cross in circle. 2, 786. 74
Hunters Chapel, 100 feet south of, 15 feet north of road, in root of small redoak tree; nail.

## ASHEVILLE QUADRANGLE

at asheville.
Asheville, Federal Building, in wall on east side of south entrance to post- Feet.office; aluminum tablet stamped " 2210 ASH"2, 208. 412
Asheville, 500 feet east of milepost 141, in pedestal block at northeast corner post of train shed, 19.3 feet north of north rail; bronze tablet stamped "1986 A" ..... 1, 984.524
ashevilie, south to sandy bottom.
Asheville, Southern Railroad station, opposite ticket office window; top of nearest rail. ..... $1,984.6$
Asheville, southeast corner of iron highway bridge over French Broad River, abutment pier, 15 feet from center of roadway; chiseled crossing square inside circle ..... $1,980.52$
Carriers Springs, 42 feet from former post-office; at crossing of SouthernRailroad (Murphy branch); top of rail.$2,138.7$
Asheville, 3 miles southwest of, in southeast corner of abutment pier ofhighway bridge over Hominy Creek; copper bolt stamped "U.S. G. S.2002 Ft. B. M."1, 992. 138
Sandy Bottom, just north of, 150 feet beyond bridge over Bent Creek, west of road, in large rock; copper bolt stamped "U.S. G. S. 2022".......? 2, 011.570
SKydand, north along southern rallway, to blltmore.
Buenavista, opposite mail-bag holder; top of east rail. ..... 2, 233.0Biltmore, northeast corner of brick platform at railroad station, on top ofsquare stone; chiseled cross in circle$1,992.96$asheville, west along southern rallroad (murphy branch) to waynesville. ${ }^{2 \prime \prime}$
Asheville, highway bridge across French Broad River, on end of east wing of abutment at north end of bridge; marked point ..... $1,980.28$
Hendersonville road, 0.25 mile east of fork of, midway between two grade crossings, on south edge of highway, in fence corner; iron post stamped " 2082 A" ..... $2,080.705$
Turupike, east of branch flowing into Hominy Creek, just south of switch; copper bolt in rock on north edge of highway, stamped " 2259 A" ..... $2,257.546$
Canton, 30 feet south of railroad, 25 feet east of highway, at east end ofrailroad bridge over Pigeon River; iron post $a$ stamped " 2587 A"
Tuscola, 500 feet east of post-office, 10 feet south of center of highway, 25 feet east of building; iron post stamped " 2595 A" ..... $2,593.858$
tuscola, north to crabtree creek (single spur line).
Pigeon River, bridge over, at southwest corner of pier at east end; chiseled cross. ..... $2,486.62$
Crabtree, 2.8 miles east of, 525 feet east of road fork at brick church, inbowlder 10 feet north of center of road; aluminum bolt stamped " 2610 A". 2, 609. 066
crabtree, north to fines creek (single spur line).
Crabtree, 1 mile west of post-office, 8 feet west of center of road and 10 feetnortheast of north bank of Pigeon River, 300 feet west of mouthrof Crab-tree Creek; iron post stamped " 2452 A"2, 450.957
Fines Creek, 50 feet north of former post office, 20 feet south of center of road; iron post stamped " 2601 A" ..... 2, 600.499

[^6]
## ALEXANDER, WESt VIA LEICEStER, TO SANDYMOSH (SINGLE SPUR LINE):

Alexander, 310 feet west of station, 11.1 feet north of north rail of main Feet.track, in stone; copper bolt stamped " 1796 ASH". . . . . . . . . . . . . . . . . . . . . . 1, 794. 537Leicester, 0.25 mile west of, at road forks northeast to Alexander andwest to Sandymush, in stone north of road; aluminum bolt stamped" 2106 ASH"2, 105. 069
Leicester, 2 miles west of, 300 feet east of Mr. Reynolds's residence, in stone at road fork; aluminum bolt stamped " 2157 ASH" ..... 2, 155. 542
Sandymush, 500 feet east of Union Church, 10 feet north of center of road, in stone; aluminum tablet stamped " 2251 ASH". ..... $2,250.039$
ALEXANDER, NORTHEAST TO MARS HILL; THENCE SOUTHEAST TO IVY (CONNECTING MITCHELL LEVELS).
Alexander, 1.01 miles northeast of, highway bridge over Flat Creek, on west end of south abutment; chisel mark ..... 1, 770.78
Alexander, 4.5 miles northeast of, 2.5 miles south of Jupiter, in road fork; iron post stamped " 2133 A ". ..... 2, 131. 708
Ivy River, 20 feet north of right bank, 0.25 mile below Eller Pond, 200 feet above mouth of Whiteoak branch, in stone; aluminum bolt stamped "1848 A" ..... 1, 847. 342
Mars Hill, 0.5 mile northeast of, 10 feet west of center of road; iron post, stamped " 2417 A". ..... 2, 415. 594
Ivy, 70 feet southeast of southeast corner of post-office; on south side of road; iron post stamped " 2084 ASH" ..... 2,084. 900
MARSHALE, NORTH TO WALNUT RUN (SINGLE SRGR LINE):
Marshall, in wall at southeast corner of county court-house;: bronze tablet stamped " 1646 A". ..... $1,645.193$
Marshall, 5.26 miles north of, 0.5 mile north of Walnut Run post-office, 0.5 mile south of road fork, 350 feet north of dwelling west of road, 10 feet west of center of road; aluminum bolt stamped " 2143 A". ..... $2,141.995$
barnard, north via duell hill and wiite rock, to shelton laurel creek (singleSPUR LINE).
Barnard, 0.2 mile northwest of station, 140 feet west of milepost 171, 65 feet north of north rail of main track; copper bolt stamped "1529 A". ..... 1,528. 401
White Rock, 1 mile southwest of post-office, 150 feet northeast of ford of Shelton Laurel Creek, in stone 15 feet north of road; aluminum bolt stamped "1793 A" ..... 1, 791. 950
2.5 miles south of white rock, east along big laurel creek, to point 2 miles west of little creek (Single spur line).
Big Laurel, 1,000 feet west of post-office, 70 feet north of Spillcorn Creek, inrock 6 feet north of center of road; aluminum bolt stamped " 2004 A". . . 2, 002. 645
Little Creek, 2 miles west of post-office, in bowlder 5 by 7 by 4 feet; alu- minum bolt stamped " 2636 A" ..... 2, 635. 083
hot springs, south via bluff and lee, to spring creek (single spur line).
Hot Springs, southeast corner of east abutment of bridge over Spring Creek; copper bolt stamped " 1326 A". ..... 1, 325. 026
Lee, 2.18 miles south of, 0.25 mile north of road forks,; 500 feet northeast of
ford of Spring Creek, 10 feet southeast of center of road, in sandstone; aluminum bolt stamped " 2237 A". . . ". ..... $2,235.818$
Spring Creek, 2.5 miles south of post-office, 50 feet south of road forks, 10 feet west of center of road, in stone; aluminum bolt stamped " 2473 A". . 2, 472. 358
bluff, west to roaring fork creek (Single spur line).

Pisgah and Saluda quadrangles.
HAYWOOD, HENDERSON, POLK, RUTHERFORD, AND TRANSYLVANIA COUNTIES.
The elevations in the following list were determined by extension from the precise-level line along the Southern Railway at Asheville. The leveling was done as follows: In Pisgah quadrangle in 1896 by E.L. Faison and E. M. Long, and in 1897 by T. S. Mauldin, jr.; in Saluda quadrangle in 1903 by K. A. Parker, and in 1904 by F. L. Foust.

## PISGAH QUADRANGLE.

SANDY hottom, southeast via mills river, to rugby; thence north to skyland.

AVERY CREEK, SOUTHWEST TO LANCE'S (SPUR LINE).
Avery Creek, 100 yards south of, 350 yards south of road, on Mrs. S. R. Lance's property, 30 feet east of spring and near south end, on east side of lane between house and stable; copper bolt stamped "U.S. G.S. 2263", 2, 255. 195

CANDLER, SOUTH TO DUNSMORE (SINGLE SPUR LINE).
Dunsmore, 250 feet east of ford of Stony Fork, inside of pasture fence, south
of road, in large rock; copper bolt stamped " 2388 -A". . . . . ..........2, 287. 258
Canton, soutin up pigeon river and east fork, to lenoir creek.
Lenoir Creek, 200 yards from mouth of, 50 feet east of ford of East Fork Pigeon River, in rock north of river; copper bolt stamped " $2737-\mathrm{A}$ " . . 2, 735. 623

SONOMA, SOUTH UP WESt FORK PIGEON RIVER, TO LaNinia.
Lavinia, about 2 miles south of mouth of West Fork, 25 feet north of branch
crossing just south of Pendleton's house, in rock; copper bolt stamped
"2931-A".
2, 929. 51.9
NEAR' LAVINLA, SOUTHEÁSt UP LITtLE EASt' FORK.
-1
Little East Fork, 0.25 mile south of ford, 3 miles soüth of road fork up West
Fork, about 10 feet west of road, about 50 feet north of crossing of branch, in
rock; copper bolt stampéd " $3127-\mathrm{A}$ ". . . . . . . .'. . . . . . .". . . . . !........... 3, 125. 570
AT WAYNESVILLE.


## MILLS RIVER, WEST TO SITTON (SPUR LINE).

Sitton, 0.5 mile northeast of, east of road next to river, 200 yards south of Mills River Baptist Church, 0.25 mile north of Phillip Allen's house; copper bolt stamped "U. S. G. S. 2166"
Feet. 2156. 181
mill river, southwest along boylston creek road; to brevard.
Henderson-Transylvania county boundary stone, 50 yards beyond branch which runs Mr. Reese's old mill, on west bank of Boylston Creek, west of road, on stone; chiseled cross in chiseled circle
21.99. 19
Henderson-Transylvania county line, 300 feet north of boundary, 300 yards from the old Reese mill, 75 yards from point. where road bends to south, 100 yards from house east of road, 16 feet from center of road, in rock north of road; copper bolt stamped " 2209 "
$21.98 \pm$

Brevard, southeast corner of court-house, in corner stone; bronze tablet stamped " 2239 ".
2228. 888
brevard; southeast to wilson bridge; thence northeast to near bowman bluff.
Davidson River, on bottom stone step of post-office on west side; cross mark.
Calhoun, in southwest corner of foundation of Wilson's store; bronze tablet stamped " 2154 "
2100. 55
Bowman Bluff, 1 mile west of, at sharp bend in road where it parallels river, 10 feet from center of road, west of road on river bank, in large rock; copper bolt stamped "U. S. G. S. 2083'
2073. 137
calhoun, east to osteen.
Grange, Zackey \& Rogers's store, on west end of upper stone step; mark...
Osteen, 100 yards southeast of, north of road at bend, in rock; copper bolt stamped " 2201 "
2097. 99
2190. 333
ecusta, west up davidson river, to cove creek (single spur line).
Avery Creek, 200 yards west of mouth of, 40 feet east of ford, in bed of rocks on side of road toward river; copper bolt stamped "U.S. G. S. 2180 "....
Cove Creek, about 0.3 mile west of, 15 feet north of road, north of Davidson River, 375 feet west of river ford, in large mass of rock on which a large chestnut tree is growing; copper bolt stamped " $2588-\mathrm{A}$ ".
2169. 322
2586. 932
davidson, river, northwest up avery creek and over bennett and chubb gaps, to "the pink beds" (single spur line).
The Pink Beds, directly in front of Sorrell's house, in fence corner north of road; iron post stamped " $3278-\mathrm{A}$ "
3276. 668

Wilson bridge, southwest to carson creek; thence southeast to cox's store.
Connestee Falls, 0.5 mile north of, 100 yards east of "Big Rock," in large rock; copper bolt stamped " 2505 "
2494. ${ }^{\prime} 808$

Cedar Mountain, 0.5 mile south of post-office, road forks, 5 miles north of Ceasars Head, 3 miles south of Buck Forest, 50 feet north of bridge over Little River, 30 feet east of Cox's store, 10 feet from toll gate, in large rock; copper bolt stamped "U. S. G. S. 2695".
2684. 702

CARSON CREEK, WEST TO CHERRYFIELD; THENCE SOUTHWEST TO ROSMAN (SINGLE SPUR LINE).
Rosman, 0.5 mile north of mouth of Middle Fork, 40 feet south of 9 milepost from Brevard, in large rock 5 feet west of center of road, in bank; copper bolt stamped "U. S. G. S. 2189".
2178. 908CHERRYFIELD, NORTHWEST OVER GLOSTER GAP, TO NORTH FORK AND UP TUCKER CREEK(SINGLE SPUR LINE).
Balsam Grove, 3 miles southeast of, 100 yards north of bridge over North Fork French Broad River, 10 feet from center of road, in first large stone west of river; copper bolt stamped " 2625 "rosman, west up sapphire road to indlan creek (single spur line).Tip Top, 2 miles west of, on Sapphire road, 15 feet from west end of. bridgeover Indian Creek, 6 feet from and 2 feet above center of road; copperbolt stamped "U. S. G. S. 2743 "2732. 250rosman, east to east fork; thence south to safsafras gap (single spur line).
East Fork, 100 yards south of Gillespie's house, 0.12 mile south of largewhite church which stands close to former East Fork post-office, 1 milenorthwest of road forks where signboard reads " 5 miles to Sassafras Gap,"in rock 30 feet east of east bank of East Fork French Broad River; copperbolt stamped "U. S. G. S. 2285"2274.651
Sassafras Gap, 290 yards north of state line, 0.5 mile south of frame houseeast of road, 200 yards north of log cabin on same side of road, 100 yardssouth of stream crossing road to west, in large rock; copper bolt stamped"U. S. G. S. 2785 "2774. 360ROSMAN, SOUTHWEST TO ROCKY CREEK AND STATE LINE.
State line, 100 yards north of, 50 feet north of Rocky Creek, about 1.5 miles east of junction with Toxaway River, 15 feet above and 10 feet from center of road, in large overhanging rock; copper bolt stamped "U. S. G. S. 1676" ..... 1665.911
Cane Brake, at state line, about 600 yards nearly south of Rice's store, 250 yards from foot of hill, 200 yards southeast from junction of Rocky Creek and Toxaway River, 30 feet west of road, in large rock; copper bolt stamped "U. S. G. S. 1263" ..... 1252.630
SALUDA QUADRANGLE.
fletcher, southeast along southern railway, to state line near tryon.
Brickton, crossing of public highway ..... 2094
Naples, opposite store, in sill of switch stand; railroad spike ..... 2077.65
Hillgirt, west rail opposite crossing board ..... 2122. 9
Hendersonville, at crossing north of station; top of rail ..... 2125.
Hendersonville, on east side of Main street, 100 feet south of Broad, in brick just above water table of town hall; tablet stamped " 2153 RALEIGH 1903" ..... 2153. 474
Flatrock, 125 feet west of railroad, northwest of station, 20 feet west of center of public road, southeast corner of John Jones's store; iron post stamped " 2199 RALEIGH 1903" ..... 2199. 180
Zirconia, 15 feet north of northwest corner of station, 35 feet south of mile- post 28,25 feet west of railroad, south of highway; $a_{\text {iron post stamped }}$ "2084-RALEIGH-1903" ..... 2083. 934
Saluda, in front of station; top of rail ..... 2074.4
$a$ Description furnished by U.S. Staton, resident, who reset this bench mark, $53493^{\circ}$-Bull. 441-11-7
Saluda, 0.3 mile east of station, 50 feet northwest of railroad, in brick wallat southwest corner of Dr. E. B. Goelet's drug store, 4 feet above ground;aluminum tablet stamped " 2096 RALEIGH 1903".
Feet.
2096. 172
Melrose, in front of station; top of west rail. ..... 1485. 4
Rockcliff, in front of station; top of west rail ..... 1407. 1
Tryon, 300 feet west of post-office, 150 feet north of station and railroad crossing, northeast corner of Ballinger's new store, 3 feet above ground; aluminum tablet stamped "1074 ADJ.". ..... 1074. 712
Tryon, road crossing north of; top of rail ..... 1185
Tryon, near, at state line crossing; top of west rail ..... 1.057 .9
fletcher, southeast along hghway, to hendersonville; thence northeast to bat-Cave; thence east to m'intyre; thence southwest to tryon.
Hendersonville, 4 miles north of, at forks of Edneyville and Henderson- ville roads; iron post stamped " 2171 RALEIGH 1903" ..... 2170.692
Hendersonville, 2 miles north of, 20 feet south of forks of Blue Ridge and Edneyville roads, 500 feet east of residence of A. J. Justin, 50 feet west, of store; iron post stamped " 2196 ADJ." ..... 2195. 556
Edneyville, 300 feet northeast of post-office, 200 feet northeast of road forks leading north and east, 100 feet north of residence of J. A. Justin; iron post stamped " 2248 ADJ." ..... 2247.495
Batcave, 150 feet south of post-office, 10 feet south of wooden bridge across Broad River, 75 feet west of residence of G. W. Freeman, west edge of road, in large granite rock; aluminum tablet stamped " 1472 ADJ.". ..... 1471. 863
Batcave, 3.2 miles east of, 0.2 mile east of Mountain View Inn, 400 feet east of bridge over Broad River, north side of road, in large granite bowlder; aluminum tablet stamped " 1040 ADJ." ..... 1040.072
Chimney Rock; 4 miles east of post-office, 200 feet north of second crossing of road and Broad River, 100 feet north of residence of W. M. Flynn, 100 feet south of store, north edge of road; iron post stamped " 882 ADJ."... ..... 881. 800
McIntyre, 1 mile west of former post-office, 300 feet east of negro cabin north of road, 20 feet northeast of crossing Hickorynut Gap and Millspring roads; iron post stamped "1000 ADJ." ..... 999. 721
Poplar Grove post-office, 100 feet west of, 300 feet south of road forks, 1,000 feet north of crossing of road and Walnut Creek, at summit of long hill; iron post stamped " 935 ADJ." ..... 934. 480
Turners, 0.5 mile north of former post-office, 0.2 mile north of residence of P. Brown, at summit of long hill, 10 feet west of road;' iron post stamped "1078 ADJ." ..... 1078. 174
Turners, 2 miles north of, 500 feet north of road forks, 60 feet east of store on hill, 15 feet west of Dimsdale grist mill, in large granite bowlder on edge of road; $a$ aluminum tablet stamped "1031 ADJ." ..... $1,030.678$
Turners, 3 miles south of, 1.4 miles south of road crossing of Green River, 150 feet south of residence of J. Jones, at summit of long hill, west edge of road; iron post stamped "1053 ADJ." ..... $1,052.511$Millspring, 300 feet north of former post-office, 200 feet north of road crossing,50 feet south of road forks, 50 feet north of storehouse; iron post stamped"1017 ADJ."$1,016.522$
Columbus, at southeast corner of court-house; iron post stamped "1109 ADJ." ..... 1, 109. $199^{\circ}$SALUDA, SOUTHWEST ALONG HIGHWAY, TO STATE LINE.

Saluda, 3.5 miles southwest of, just north of state line, 0.2 mile southwest of L. E. Ward's house, south of road; iron post stamped " 2130 RALEIGH 1903"

2, 130. 295

| Sandy Plains, 5 miles southeast of, 1.5 miles north of state line, 30 feet west of Wilkin's store, 50 feet south of Walker's residence, 16 feet west of road; iron post stamped "1003 ADJ.". | $\begin{aligned} & \text { Feet. } \\ & 1,003.010 \end{aligned}$ |
| :---: | :---: |
| Sandy Plains, 20 feet west of store of Henry Flynn, 40 feet north of road crossing; iron post stamped "1019 ADJ.". |  |
| Columbus, 5 miles southeast of, 5.5 miles southwest of Sandy Plains, 0.3 mile north of state line, 300 feet east of residence of S. E. Waldrof, 20 feet west of road; iron post stamped " 928 ADJ." | $927.921$ |

## SOUTH CAROLINA.

## PRECISE LEVELING.

Chester, Columbia, Crowders, Killian, Ridgeway, and Yorkville quadrangles. Chester, fairfield, richmond, and york countles.
The following is the South Carolina portion of the results of a doublesimultaneous spur line of precise levels run in 1900 by C. H. Semper from Newton, N. C., to Columbia, S. C.

CROWDERS QUADRANGLE.
Crowders, n. c., south along carolina and northwestern ramway, to yorkville.
Bowling Green, in front of station; top of rail
Feet.
Clover, opposite station, in front face of Dr. Campbell's block on Main street; bronze tablet stamped " 815 COLUMBIA 1900".
814. 243

Filbert, in front of station; top of rail.............................................. 800.9

## YORKVILLE QUADRANGLE.

YORKVILLE, SOUTH ALONG CAROLINA AND NORTHWESTERN RALWAY, TO CHESTER.
Yorkville, at station on narrow-gage road, in northeast corner front face of
Methodist Church; bronze tablet stamped " 758 COLUMBIA 1900"..... 756.951
Delphos, in front of station; top of rail............................................ 733.2
Guthries, in front of station; top of rail......................................... 672.9
Guthries, 300 feet south of station, M. G. Guthries's house, in large chimney; bronze tablet stamped " 675 COLUMBIA 1900"
674. 339

McConnells, in front of staton; top of rail........................................ . . 688.3
Lowryville, in front of station, on west of railroad, J. L. Abell's brick block, in north end front face; bronze tablet stamped " 726 COLUMBIA 1900". 725. 186

CHESTER QUADRANGLE.
Chester, south along southern rallway, to white oak.
Chester, near station, front face north end Nicholson Hotel; bronze tablet
stamped " 540 COLUMBIA 1900 "................................................................ 799
Cornwell, 0.3 mile north of, front face of W. O. McKeown \& Son's machine shop; bronze tablet stamped " 640 COLUMBIA 1900 ".
Cornwell, in front of station; top of rail
630.7

Blackstock, 400 feet south of station on corner of highway, in north face of G. L. Kennedy's brick block; aluminum tablet stamped " 627 COLUMBIA 1900"
626. 602


[^7]
## columbia quadrangle.

white oak, south along southern rallway, to simpson.
White Oak, 200 feet east of station, T. G. Patrick's store, north corner, front Feel.
face of foundation; bronze tablet stamped " 556 COLUMBIA 1900" ..... 555. 254
Adgers, in front of station; top of rail. ..... 530.4
Winnsboro, in front face of court-house; aluminum tablet stamped " 546 COLUMBIA 1900" ..... 545. 389
Winnsboro, in front of station; top of rail. ..... 539.0
Rockton, in front of station; top of rail ..... 560.6
Simpson, opposite flag station, 100 feet east of railroad on fence line to front yard of old residence, 10 feet north of gate, top of stone post; bronze tab- let stamped " 608 COLUMBIA 1900" ..... 608. 123
at columbia.
Columbia, Presbyterian Theological Seminary on Blanding street, in front, face near northwest corner of main building; aluminum tablet stamped " 305 COLUMBIA 1900" ..... 303.925
RIDGEWAY QUADRANGLE.simpson, south along southern ranlway, to blythewood.
Ridgeway, Edmunds \& Ruff's brick block on Palmer street, in front face; bronze tablet stamped " 626 COLUMBIA 1900" ..... 624. 811
Campbell, at road crossing near station; top of rail. ..... 586.0
Blythewood, 600 feet south of station, 100 feet east of railroad, in face of large brick chimney of Mrs. Kate Poovey's house; bronze tablet stamped " 506 COLUMBIA 1900". ..... 504.835
KILLIAN QUADRANGLE.
blythewood, south along soutiern rallway, to columbia.
Sharps, at station sign; top of rail ..... 437.6
Killian, Carolina Fire-Brick Works near station, in north face of large chim- ney; aluminum tablet stamped " 340 COLUMBIA 1900". ..... 339. 173
Dents, at station sign; top of rail. ..... 372.4
PRIMARY LEVELING.
Columbia and Prosperity quadrangles.FAIRFIELD, LEXINGTON, NEWBERRY, AND RICHLAND COUNTIES.The elevations in the following list were determined by extensions.from the precise-level line from Newton, N. C. The leveling wasdone in 1901 by F. H. Cothran.
COLUMBIA QUADRANGLE.
COLUMBIA, NORTHWEST ALONG COLUMBIA, NEWBERRY AND LAURENS RAllROAD, TO IRMO; thence west and southwest along highways to rockywell; thence northwest to NEAR SLIGHS.
Feet.
Columbia, Taylor street crossing; top of north rail. ..... 219.8
Columbia, 3 miles west of, at west end of Broad River Bridge, center foun- dation sill of water tank, in south end; nail. ..... 1.64. 46
south of south rail, sunk in ground; iron post stamped " 193 COLUMBTA 1.901" ..... 191. 832
Irmo, 50 feet northwest of the northwest corner of station, 1 foot west ofsouthwest corner of J. W. Hook's store, 15 feet north of center of highway,100 feet north of north rail, sunk in ground; iron post stamped " 351COLUMBIA $1901 "$Feet.349.734
Irmo, 1.5 miles west of, at creek crossing, 300 feet south of residence, 10 feet east of center of road, on stone; chisel mark ..... 360. 22
Irmo, 3 miles southwest of, at crossroads, 20 feet west of Irmo road, 400 feet south of residence of Sam Weed, in root of hickory tree; nail. ..... 388. 52
Irmo, 6.8 miles southwest of, 0.5 mile south of Mrs. Young's residence, on rock; chisel mark ..... 221. 67
Wises Ferry, Saluda River at ferry landing, 15 feet south of south bank, 13 feet west of center of highway, in root of oak tree; nail. ..... 225. 26
Wises Ferry, 2 miles south of, 300 feet north of highway, in John Kaminer's front yard, 30 feet south of front door, sunk in ground; iron post stamped "367 COLUMBIA 1901" ..... 366. 42!)
Wises Ferry, 4 miles south of, 150 feet south of Dudley Creek, 8 feet west of center of road, in root of pine tree; nail. ..... 374.46
Boyleston, 1 mile south of, 100 feet south of T. H. Rowe's residence, corner of road, 10 feet south of center of main road, in root of sweet-gum tree; nail. ..... 384.58
Rockywell, 300 feet south of former post-office, 250 feet north of St. John's Church, 175 feet west of Boyleston Masonic Lodge building, in bowlder; bronze tablet stamped " 391 COLUMBIA 1901" (reported destroyed in 1908) ..... 389.938
Savilla, 1.5 miles southwest of, 1,000 feet west of Little Hollow Creek, 500 feet west of road to left for Ella, 10 feet north of center of Amicks Ferry road, in root of oak tree; nail. ..... 315.67
Ella, 0.8 mile west of former post-office, Corks Ferry road, 8 feet west of center of bridge over Hollow Creek, south side of stream; stone in bed of creek; bronze tablet stamped " 281 COLUMBIA 1901" ..... 280.013
Ella, 2.25 miles northwest of, Amicks Ferry, 20 feet west of highway at ferry landing, in root of large oak tree; nail ..... 275. 24
Derrick, 0.5 mile north of former post-office, 250 feet south of Amicks Ferry road, 25 feet north of east front corner of W. M. Epting's residence; iron post stamped " 407 COLUMBIA 1901" ..... 406. 062
Derrick, 4 miles north of, 20 feet north of center of Corks Ferry road, in root of pine tree; nail ..... 456. 70
Derrick, 8.2 miles north of, 1.50 feet south of residence of M. G. Shealy, 20 feet west of center of Dutch road, in root of large oak tree; nail ..... 557.53
near slighs, east and southeast along columbla, newberry and laurens ralmoad, to chapin; thence northeast along herway to alston.
Chapin, 450 feet north of track, 75 feet north of main crossroads, 1 foot north of office of Carolina News; iron post stamped "484 COLUMBIA 1901" ..... 483. 277
Chapin, 2 miles north of, 0.5 mile north of Martin School, 12 feet west of center of road, in root of oak tree; nail ..... 442. 38
Lattakoo, 80 feet south of former post-office, 20 feet south of residence of W. L. Motes, 25 feet west of center of road; iron post stamped " 540 COLUMBIA 1901". ..... 538. 967
Lattakoo, 1 mile north of, 35 feet east of Newberry road, 200 feet west of residence of $W$. A. Bundrick, in root of hickory tree; nail ..... 514. 27
Lattakoo, 4 miles north of, 1,500 feet south of Peak station, 20 feet east of highway, in root of pine tree; nail. ..... 373.55

## taber church, near slighs, west to prosperity (spur line).

Slighs, 250 feet west of Columbia, Newberry and Laurens Railroad, front yard of residence of Laurence Cancer, 50 feet east of residence; iron post stamped " 597 COLUMBIA 1901".
Feet.
596. 368
COLUMBIA, NORTHWEST ALONG SOUTHERN RAILWAY, TO BLAIRS. -
Montgomery, 25 feet east of flag station, 25 feet east of east rail, 12 feet south of center of highway; iron post stamped " 190 COLUMBIA 1901".
Wallaceville, 30 feet west of center of highway, 75 feet north of north rail, 1 foot north of northeast front corner of J. E. Wallace's store; iron post stamped " 232 COLUMBIA 1901"
189.653
Wallaceville, 75 feet north of post-office, 150 feet north of north rail, 125 feet west of highway, in root of pine tree; nail.
231. 285
Alston, 350 feet west of station, east pier of bridge across Broad River;
bronze tablet stamped " 247 COLUMBIA 1901 ".................................
231.57
Peak, west abutment of Broad River Bridge, 2 feet south of south rail, in guard rail; bolt
246.647
Parr, in northeast corner of platform at station; nail..................... 277.57
Dawkins, 100 feet southwest of station, 125 feet west of railroad, 50 feet south of highway, 1 foot east of store of F. W. Wagner \& Co.; iron post stamped " 278 COLUMBIA 1901"
277. 466
Strother, opposite north end of station; top of west rail.................... 289.7
Blairs, crossing 2 feet south of post-office, 100 feet south of center of highway, 12 feet east of east rail of Southern Railway; iron post stamped " 293 COLUMBIA 1901" (on spur line).
292. 465
blythewood, west and northwest along highways, to monticello.
Blythewood, 2.6 miles west of, 0.5 mile west of gin mill, 150 feet east of residence of Samuel Price, 20 feet west of center of highway, in root of oak tree; nail
529. 75

Pleasant, 10 feet north of former post-office, 75 feet west of Winnsboro pike and 50 feet north of Blythewood road; iron post stamped " 524 COLUMBIA 1901".
523. 395

Pleasant, 4 miles west of, 15 feet west of center of road, 1,500 feet west of
Oak Grove Church, in root of oak tree; nail.................................. 342.63

Lever, 2.8 miles northwest of, 20 feet west of center of pike, 200 feet east
of residence of J. E. Kohn, in root of oak tree; nail......................... 328.13
Lever, 6.5 miles west of, 200 feet south of junction with road running north, 50 feet south of center of road, 800 feet east of cabin, opposite milepost 19 from Columbia, in root of hickory tree; nail.
407. 11

Lever, 8.25 miles northwest of, 400 feet east of center of Monticello pike, 30 feet east of front door of residence of Charley Robinson; iron post stamped " 443 COLUMBIA 1901"
442. 196

Little River, 13.1 miles northwest of Lever, 400 feet west of Kincaid Bridge, 350 feet south of "Old Brick Church," 12 feet south of center of road, in rock; bronze tablet stamped " 287 COLUMBIA 1901"......


> MONTICELLO, WEST ALONG HGHWAY, TO DAWKINS.

Monticello, 2.5 miles west of, 500 feet west of residence, 100 feet east of Chester road, at junction in root of oak tree; nail
478. 12
pleasant, to point 4.2 miles south (Spur line).
Pleasant, 25 feet west of road intersection, 100 feet west of residence of W. Wilson, in root of oak tree; nail
521. 36

Pleasant, 1.8 miles south of, 15 feet east of road, 12 feet south of store of S. E. Sharp, in root of oak tree; nail.
488. 46

Pleasant, 4.2 miles south of ( 5 miles by road mileage), 125 feet east of Winnsboro pike, 500 feet south of milepost 7 from Columbia, 1 foot west of northwest corner of residence of J. E. Cornelius; iron post stamped " 296 COLUMBIA 1901"
294. 991

SIMPSON, TO POINT 4.2 MILES WEST (SPUR LINE).
Simpson, 3 miles west of, 100 feet south of residence of I. C. Caldwell, in root of walnut tree; nail
449. 30

Simpson, 4.2 miles west of, 0.5 mile east of main Columbia and Winnsboro road, 300 feet south of public road, 300 feet west of residence of Tom Blair, in rock; bronze tablet stamped " 500 COLUMBIA. 1901"
498. 926

PROSPERITY QUADRANGLE.
A'T PROSPERITY.
Prosperity, 300 feet north of railway, 21 feet west of center of main street, 20 feet north of center of Broad street, front yard of Prosperity high school, 30 feet east of corner of building; iron post (?).

## Catawba, Charlotte, Gaffney, Kings Mountain, Rock Hill, Sharon, and Yorkville quadrangles. CHEROKEE, CHESTER, UNION, AND YORK COUNTIES.

The elevations in the following list were determined by extensions from the precise-level line from Newton, N. C., to Columbia, S. C. The leveling was done as follows: In Catawba, Charlotte, Rock Hill, Sharon, and Yorkville quadrangles in 1904 and in 1905 by F. L. Foust and in Gaffney and Kings Mountain quadrangles in 1906 by L. L. Lee.

## YORKVILLE QUADRANGLE.

pinevile, n. c., southwest along southern rallway, to rock hil; thence westalong southern railway to yorkville.aRock Hill, in front of station; top of west rail

657.9
Feet.
Rock Hill, 400 feet southeast of station, in west corner of National Union Bank at corner Main street; aluminum tablet stamped " 667 ADJ. 1903".
Newport, 150 feet south of south rail in front of station, 600 feet west of milepost 106, midway between stores; iron post stamped " 697 ADJ. 1903"..
667.580
Yorkville, on narrow-gage road, in northeast corner front face of Methodist Church; bronze tablet stamped " 758 COLUMBIA 1900"
697. 148
756. 951
CHARLOTTE QUADRANGLE.
fort mill, east to pleasant valley.
Fort Mill, 60 feet west of west rail in front of station, at northwest corner of freight station; iron post stamped "624 ADJ. 1903"
624. 446
Fort Mill, 4.8 miles east of, in T. B. Baile's yard 200 feet east of house and 10 feet south of mail box; iron post stamped " 619 ADJ. 1903 ".
618. 657
CATAWBA QUADRANGLE.
at pleasant valley.
Pleasant Valley, 70 feet north of residence of J. W. Davidson, 100 feet east of store, south of road; iron post stamped "Prim. Trav. Sta. 523, 662 ADJ. 1903"
662. 140

## GAFFNEY QUADRANGLE.

blacksburg, via gaffney and lawn, to hickory grove.
Blacksburg, in southwest corner of small park at station; iron post stamped " 767 "
766. 389

Blacksburg, 3.4 miles southwest of, on railway bridge 4303 across Broad River, in top of concrete abutment, in southeast corner; aluminum tablet stamped " 595 "
595. 119

Gaffney, 3.2 miles northeast of, on railroad bridge 431.9 over Cherokee Creek, in top step of rock abutment at southeast corner of bridge; aluminum tablet stamped " 635 "
634. 975

Gaffney, in west face at southwest corner of station, 4 inches above paving;
aluminum tablet stamped " 779 "...................................................................
Gaffney, 3.3 miles south of, east edge of Gaffney-Union road, immediately in front of J. S. Littlejohn's house; iron post stamped " 799 ".
Pettys Store, 0.9 mile southeast of, Howells Ferry and Bates Mill roads, in Fect. forks; iron post stamped " 765 " ..... 765. 293
Lawn, crossing of Howells Ferry and Union roads, in southeast angle; iron post stamped " 739 " ..... 738. 882
Lawn, 2.5 miles southeast of, Smith Ford road, in west face of outside chimney at south end of Hannett's store; aluminum tablet stamped " 716 " ..... 715. 538
Smiths Ford of Broad River, 2.4 miles northwest of, on road to Gaffney, at southwest corner of church; iron post stamped " 646 " ..... 645.965
gaffney, northwest to byarsville.
Gaffney, 2.7 miles north of, on road to Maud, junction of T road northeast, in northeast angle of fork; iron post stamped " 852 " ..... 851.495
Matid, 2.3 miles south of, on Gaffney road, 200 feet south of junction of T road west, east edge of road, in front of C. T. Clary's house; iron post stamped " 840 ". ..... 839. 971
Maud, in west face of outside brick chimney of R. E. Linder's house, at west end of house; aluminum tablet stamped " 956 " ..... 956. 179
KINGS MOUNTAIN QUADRANGLE.
yorkville, north to point 3.8 miles north of bethany.
Yorkville, 3.5 miles north of, on east edge of Kings Mountain road, atjunction of second-class T road west, 60 feet northwest of northwest cornerof Mrs. Neil's lot; iron post stamped " 771 "770.542
Yorkville, 6.5 miles north of, junction of Kings Mountain road and T roadwest to Piedmont Springs and Kings Creek, in northwest angle of fork;iron post stamped " 781 "781. 343
Bethany, 0.9 mile south of, on east side of Kings Mountain and Yorkvilleroad, 0.2 mile north of $T$ road west, in west side of outside chimney atsouth end of R. N. Plaxico's house, occupied by Green Hunt; aluminumtablet stamped " 798 "797.961
Bethany, 2.9 miles north of, McGill's store, on Kings Mountain and York- ville road, at junction of road leading northwest to Shelby, N. C., in northwest angle of fork; iron post stamped " 865 " ..... 865. 159
GROVER, SOUTHWEST ALONG SOUTHERN RAILWAY, TO BLACKSBURG; THENCE SOUTHEAST TO HICKORY.
Blacksburg, 2 miles northeast of, in northwest corner of rock culvert at point of reverse curve; aluminum tablet stamped " 818 " ..... 817. 378
Blacksburg, 3.4 miles southeast of, at highway crossing, 0.2 mile north of overhead highway bridge, in top of solid rock, 100 feet southeast of road crossing, 40 feet east of rail; aluminum tablet stamped " 761 " ..... 761. 026
Kings Creek, in base of outside brick chimney to Wilburn \& Co.'s store, west end; aluminum tablet stamped " 601 " ..... 601.010
Smyrna, in south face of southwest pillar of W. W. Castle's house; aluminum tablet stamped "751" ..... 751.043
SHARON QUADRANGLE.
LOWRYVILLE, WEST ALONG HIGHWAYS, TO CALVIN; THENCE NORTH TO NEAR BLAIRSVILLE ANDEAST TO GUTHRIESVILLE.
Lowryville, 3.3 miles south of, 300 feet north of forks in road, northwestcorner of chimney of T. A. McNinch's house; aluminum tablet stamped"602 ADJ. 1905"601.637

smith ford, south along highways, to near lockhart; thence east to clarkson.
Hopewell, 3 miles south by west of, in road forks; iron post stamped " 527 ADJ. 1905"
526. 887

Pinckney Ferry, 2 miles northeast of, at crossing of the Bullock CreekPinckney Ferry road and the Wilksburg road; iron post stamped " 517 ADJ. 1905 "
516.773

Lockhart, 2.5 miles northeast of, 1,000 feet south of forks of Wilksburg and Lockhart roads, at top of hill opposite schoolhouse; iron post stamped "571 ADJ. 1905"
570. 702

ROCK HILL QUADRANGLE.
at lowryville.
Lowryville, west of track opposite station, in north end of front face of J. L. Abell's brick block; bronze tablet stamped " 726 COLUMBIA 1900"
blairsville, east along highways via m'Connellsville, to guthriesville.
McConnellsville, 1,500 feet south of station, Oliver Presbyterian Church, front face, northeast corner; aluminum tablet stamped " 699 ADJ. 1905". 699.074

Guthriesville, 300 feet south of station, M. E. Guthrie's house, in chimney; bronze tablet stamped " 675 COLUMBIA 1900" 674.339

## Pisgah and Saluda quadrangles.

## GREENVILLE AND SPARTANBURG COUNTIES.

The elevations in the following list were determined by extensions from the precise-level line along the Southern Railway at Asheville. The leveling was done as follows: In Pisgah quadrangle in 1896 by E. L. Faison and E. M. Long, and in 1897 by T. S. Mauldin, jr.; in Saluda quadrangle in 1903 by K. A. Parker, and in 1904 by F. L. Foust.

PISGAH QUADRANGLE.
Cox store, n. C., SOUTH to mouth of mathews creek; thence east and northeast to Middle saluda.
Cæsars Head Mountains, 40 feet south of rock known as Cæsars Head; one Feet. of the highest rock points on summit. $3,216.86$
South Saluda River, 300 yards north of mouth of Mathews Creek, in rock west of road, 50 feet north of gate to Mr. Ferguson's house, 20 feet from center of road; copper bolt stamped "U.S. G. S. 1115". $1,103.559$
Wattacoo, about 2 miles east of post-office, at Capt. John Hagood's house, top of hill, north of main Cæsars Head-Greenville road; iron post stamped "1066" 1, 054. 890
Middle Saluda, 0.25 mile southeast of, in road forks to Jones Gap and up Gap Creek, 200 yards north of Mr. Cantrell's house and 200 yards west of road crossing of Middle Saluda River; iron post stamped "1115". 1. 103.709

## SALUDA QUADRANGLE.

state line south of saluda, n. c., south along highway, to lima (double line).
Merrittsville, west of old Buncombe road, at northeast corner of U. G. Staton's store; iron post stamped " 1212 RALEIGH 1903".

1, 212.432
Lima, 40 feet west of Goodwin's store, 10 feet west of road, at northeast corner of former post-office; iron post stamped "1101 RALEIGH 1903".... 1, 101. 844

State line near tryon, n. C., Southeast to landrum; thence south west along highway TO TYGER; THENCE WEST TO LIMA.
Railroad crossing at state line; top of west rail................................... 1, 057.9
Landrum, in front of station; top of east rail.................................... 1, 051. 8
Landrum, 200 feet northeast of station, 100 feet northeast of crossing of road and highway, in south corner of brick storehouse of Ezell \& Daniells; aluminum tablet stamped " 1063 ADJ."

1,062. 773
Gowansville, 150 feet east of former post-office, 100 feet south of old frame schoolhouse, 200 feet east of crossing of Greenville and Rutherford roads, 20 feet north of road; iron post stamped "1049 ADJ.". 1, 048.446
Tyger, 125 feet north of Liberty Church, 20 feet south of road forks to Gowansville and Tigerville, west edge of road; iron post stamped "1002 ADJ."

1,002. 197
Highland, 100 feet east of former post-office, 20 feet west of storehouse at north edge of road, 150 feet east of road crossing; iron post stamped "1096 ADJ.".
$1,095.761$
Tigerville, 75 feet west of post-office, 200 feet south of residence of W. P.
McKinney, 350 feet west and 10 feet north of road forks; iron post stamped "1003 ADJ."

1, 003. 251
Tigerville, 3.4 miles west of, 200 feet northeast of Cross Plains Church, 100 feet north of Cross Plains schoolhouse, 100 feet west of junction of roads; iron post stamped "1259 ADJ." 1,259. 166
GOWANSVILLE, SOUTHEAST ALONG HIGHWAY, TO INMAN; THENCE NORTHEAST TO NEW PROS- ..... :PECT; Tffence norte to sandy plains, n. c.; thence southwest to landrum, s. c.a$\because$
Andovêf, 3.3 miles southeast of Gowansville, 150 feet north of residence of Newman Turner, 50 feet south of road crossing, in road forks; iron post. stamped "1024 ADJ."
Feet.
Gowansville, 5.2 miles southeast of, 600 feet north of residence of S. A. Day, in road forks; iron post stamped "1051 ADJ.". ..... 1, 051.396
Gowansville, 8.6 miles southeast of, 1,000 feet south of residence of John Davis, 20 feet east of road forks; iron post stamped " 1074 ADJ.".......
nman, 142 feet east of rail in front of station, 251 feet east of post-office, west edge of Howard Gap road; iron post stamped "978 ADJ."......... ..... 978. 131
Inman, in front of station; top of west rail ..... 979.9
Inman, 4.8 miles northeast of, 2.2 miles south of New Prospect, 300 feet east of C. D. Bowling, 40 feet west of junction of Inman and Mills Gap roads, in forks; iron post stamped " 909 ADJ." ..... 909. 253
New Prospect, in northeast corner of church yard, 400 feet east of road forks, 300 feet east of south edge of road; iron post stamped " 921 ADJ.". ..... 921. 284

## TENNESSEE.

## PRECISE LEVELING.

Asheville, Cleveland, Kingston, Knoxville, Loudon, Maynardville, Morristown, and Mount Guyot quadrangles.
bradiey, cooke, hamblen, defferson, knox, loudon, mcminn, and monroe counties.
The elevations in the following list are a portion of the results of a line of precise leveling begun in 1896 at Morehead and continued through North Carolina, Tennessee, and Georgia to Brunswick, Ga. For description of methods of leveling see under "Precise leveling" in North Carolina (p. 59). The leveling was done in 1897 by W. C. Hall.

| ASHEville quadrangle |  |
| :---: | :---: |
| north carolina-tennessee state line, west along southern railway, to swatzel. |  |
|  | 1,254. 2 |
| Wolf Creek station, 0.8 mile west of, 10.5 feet south of north rail, 200 feet west of road crossing, in solid rock; copper bolt stamped "1184 M.C.".... | , 182.987 |
| Swatzel, in front of station sign; top of north rail | 172.7 |
| MOUNT GUYOT QUADRANGLE. |  |
| SWatzel, west along southern railway, to newport. |  |
|  |  |
| Big Creek, west abutment of bridge S. 195.3, north wing wall, 12 feet north of north rail; copper bolt stamped " 1141 M. C." |  |
|  |  |
| Bridgeport, 72.7 feet south of north rail, center of pilaster of J. B. Huff's brick store; bronze tablet stamped "1094 M.C."........................... . 1, 093. 329 |  |
| Pigeon River, at west end of bridge S. 205.4, top of rail....................... |  |
| Newport, in northeast corner of county court-house; bronze tablet stamped " 1058 M. C." $\qquad$ | 1,057. 017 |
| Newport, in front of station; top of north rail................. . . . . . . . . . | , 050.7 |

## MORRISTOWN QUADRANGLE.

newport, north along southern rallway, to morristown; thence southwest tojefferson city.
Rankin, 125 feet south of north rail, 95 feet west of road crossing, in face of bay window of W. V. Fine's brick residence; bronze tablet stamped Feet. "1010 M.C." ..... 1, 008. 834
French Broad River, at east end of bridge S. 216.0; top of rail ..... 998.69
Leadyale, at road crossing; top of north rail ..... 984. 4
White Pine, 67 feet north of north rail and 150 feet east of milepost 219 , in sputhwest corner of brick dwelling occupied by George Ivy; bronze tablet stamped "1142 M.C." ..... 1, 141. 102
White Pine, in front of station; top of north rail ..... 1., 139. 7
Witts Foundry, in front of station; top of north rail ..... 1, 218.7
Roe, in front of station sign; top of north rail ..... 1., 449. 0
Morristown, in front of ticket office; top of north rail of southwest wye ..... 1., 282. 1
Morristown, at northeast corner of county court-house; bronze tablet stamped "1351 M.C." ..... 1, 349. 775
Alpha, road crossing at station; top of rail ..... 1, 305.7
Talbott, 30 feet north of north rail, 4.9 feet west of west end of station; iron post stamped "1193 M.C." ..... 1, 191, 848
Jefferson City, 90 feet east of station, 116 feet south of north rail, in north- east corner of Mossy Creek Bank building; bronze tablet stamped "1118 M.C.' ${ }^{\lambda}$ ..... 1., 116. 611
Jefferson City, in front of station; top of north rail ..... 1, 105. 0
MAYNARDVILLE QUADRANGLE.
jefferson city, southwest along southern rallway, to caswell.
Newmarket, in front of station; top of north rail ..... 1, 04.9. 1
Friends, road crossing at station; top of north rail ..... 985. 2
Hudges, 0.6 mile east of, in southeast corner of east abutment of culvert A 110.4, 13.5 feet south of north rail of track; copper bolt stamped " 905 M. C." ..... 903. 950
Hodges, road crossing at station; top of north rail. ..... 913.7
Strawberry Plains, in front of station; top of north rail ..... 888.4
Holston River, at east end of bridge, A 114.5; top of north rail ..... 836.7
Mascot, in front of station; top of north rail ..... 892.8
Flat Creek, abutment of bridge A 117.7, 9 feet south of north rail; copper bolt stamped " 865 M. C." ..... 863.639
McMillan, in front of station; top of north rail ..... 860.2
Caswell, 0.4 mile east of, south corner of west abutment of bridge A 124.0, 12 feet south of north rail; copper bolt stamped " 867 M. C.". ..... 866. 145
Caswell, at road crossing; top of north rail. ..... 886.7
KNOXVILLE QUADRANGLE
CASWELL, SOUTHWEST ALONG SOUTHERN RAILWAY, TO BEARDEN
Knoxville, under Gay Street Bridge, in front of station; top of rail ..... 890.0
Knoxville, in northeast corner of Clinch street entrance to custom-house; bronze tablet stamped "933 M. C." ..... 932.035
LOUDON QUADRANGLE.hearden, southwest along southern railway, to sweetwater.
Bearden, in front of station; top of north rail ..... 880.8
Stinnet, in front of station sign; top of north rail ..... 938. 1.
Wright, 0.9 mile east of, culvert No. A 138.9, 11.3 feet south of north rail, in east wall; copper bolt stamped " $940 \mathrm{M} . \mathrm{C}$." ..... 939.130
Feet.
Wright, in front of station; top of north rail. ..... 955. 1
Ebenezer, road crossing at station; top of north rail. ..... 902.0
Concord, 24.6 feet west of east end of station and 28.2 feet south of north rail of main track, in north front of building; bronze tablet stamped " 820 M. C." ..... 81.8. 687
Boyd, in front of station; top of north rail ..... 842.3
Warham, in front of station; top of north rail ..... 822. 1
Lenoir, 291.6 feet north of north rail, 154 feet east of station, in southeast corner of Lenoir City Bank; bronze tablet stamped " 799 M. C.". ..... 798: 060
Lenoir, in front of station; top of north rail. ..... 783.4
Loudon, 0.6 mile east of, at west end of bridge A 159.0, over Tennessee River; top of north rail ..... 807.4
Loudon, in southwest corner of Grove street entrance to county court-house; bronze tablet stamped " 784 M . C." ..... 782.635
Philadelphia, 31.6 feet north of north rail, 2 feet east of station; iron post stamped " 860 M. C." ..... 858. 620
Philadelphia, in front of station; top of north rail ..... 858.0
Sweetwater, in front of station; top of north rail. ..... 909.7
Sweetwater, 198 feet north of north rail, in east front of Sweetwater Bank; bronze tablet stamped " 918 M. C." ..... 917. 263
KINGSTON QUADRANGLE.
sweetwater, southwest along southern railway, to mouse creek.
Mouse Creek, in front of station; top of north rail. ..... 976.0
Mouse Creek, 33.6 feet north of north rail, 3.1 feet north of south front of station, in west face of building; bronze tablet stamped " $979 \mathrm{M} . \mathrm{C}$. .".. ..... 977.601
CLEVELAND QUADRANGLE.
mouse creek, southwest along southern rallway, to cleveland; thence south to state line near red clay, ga.
North Athens, at road crossing; top of rail ..... 972.6
Athens, in front of station; top of rail. ..... 974.5
Athens, in northwest corner of Jackson street entrance to county court- house; bronze tablet stamped " 869 M. C." ..... 867.730
Riceville, 18.2 feet south of north rail, in north front of station; 2.2 feet from east corner; bronze tablet stamped " 807 M . C." ..... 806. 232
Sanford, at road crossing; top of north rail ..... 826.7
Calhoun, at road crossing; top of north rail ..... 714.7
Hiwassee River, in south end of west back wall of bridge A 200.5; bronze tablet stamped " 706 M. C." ..... 705. 355
Charleston, in front of station; top of north rail ..... 707.9
Tasso, at road crossing; top of north rail ..... 799.2
Tasso, 0.2 mile west of, in south end of west wall of culvert A. 206.9, 9.4 feet south of north rail; copper bolt stamped " 798 M. C." ..... 797.423
Cleveland, in water table at north side of Ocoee street entrance to county court-house; bronze tablet stamped " 875 M. C." ..... 873.719
Cleveland, in front of station; top of rail ..... 865.2
Blue Spring, 146.7 feet east of west rail of main track, 73.3 feet north of north switch point, in face of rock ledge; bronze tablet stamped " 895 M. C." ..... 894.302
Blue Spring, in front of station; top of west rail. ..... 902.6
Marble.switch, in front of station, at road crossing; top of west rail ..... 907.4
Weatherly, at road crossing; top of west rail. ..... 842.3
Tennessee-Georgia state line; top of west rail ..... 823.0

## Chattanooga, Cleveland, and Ooltewah quadrangles.

## bradifey, hamilton, and james counties.

The elevations in the following list are the results of a line of precise levels run along the Southern Railway and the Western and Atlantic Railroad from Cleveland to Chattanooga. The line recovers bench marks of a line previously run in 1899 by W. W. Gilbert over the same route, and the simultaneous double-rodding method was employed on each. The adjustment made by the Coast and Geodetic Survey lowers the new line 0.008 foot at Cleveland with respect to Chattanooga: The leveling was done during 1902 by D. H. Baldwin.

The standard bench marks were left as stamped by W. W. Gilbert, with the letters "NASHVILLE" in addition to figures of elevations, which are 3 feet too high at Black Fox station and 5 feet too high west of Black Fox as far as Wauhatchie.

CLEVELAND QUADRANGLE.

CLEVELAND, WEST ALONG SOUTHERN RAILWAY, TO OOLTEWAH.

| Cleveland, north side of Ocoee street entrance to county court-house; in water-table; bronze tablet stamped " 875 M. C.". | $\begin{aligned} & \text { Feet. } \\ & 873.719 \end{aligned}$ |
| :---: | :---: |
| Cleveland, in front of station; top of rail | 863. |
| Black Fox, 0.3 mile west of crossing, north end of culvert over Black Fox Creek, 4 feet from west end of Capstone and 5 feet from edge of same; bronze tablet stamped " 789 NASHVILLE 1899 " | 786.278 |
| Tucker Springs, main track in front of station; top of north | 799.4 |
| McDonald, in front of station; top of rail. | 846.4 |
| Hinches, 0.2 mile northeast of, at road crossing, 18 feet west of center of track, 15 feet north of road, in east face of rock ledge; bronze tablet stamped "854 NASHVILLE 1899". | 849. 309 |

OOLTEWAF QUADRANGLE.

OOLTEWAH, WEST ALONG SOUTHERN RAILWAY AND WESTERN aND ATLANTIC RAILROAD, to chattanooga.

Ooltewah, in front of station; top of rail.......................................... 765.2
Ooltewah Junction, in front of station; top of south rail...................... 773.0
Ooltewah Junction, 300 feet west of station, 150 feet east of switch, 18 feet south of center of Atlanta track, 20 feet west of water tank, on top of rock ledge; chiseled square
778.859

Summit in front of flag station; top of rail. ....................................... 902.2
Tyner, in front of station; top of rail. ............................................... 718.5
Tyner, 900 feet southwest of station, 80 feet southwest of highway, east end of culvert under tracks, 3.4 feet from north end, in face of capstone; bronze tablet stamped " 716 NASHVILLE 1899" 710.860

Jersey, in front of flag station; top of rail . . . . . . . . . . . . . . . . . . . . . ........... 689.4
McCarty, 0.3 mile northeast of Southern Railway bridge 235.4, over South Chickamauga Creek, east end of girder bridge, and west,end of truss bridge, southeast corner of pier; chiseled square. 676.636

Kings Bridge, 0.9 mile east of, east end of Western and Atlantic Railroad two-span truss bridge over South Chickamauga Creek; top of south rail.

670: 6

# CHATTANOOGA QUADRANGLE. 

boyce, west along southern rallway, to chattangoga.
Feet.
Boyce, in front of Western and Atlantic station; top of rail.
681.0

Boyce, 600 feet northwest of station, main entrance to Sherman House, east end of stone doorsill, in upper surface; bronze tablet stamped " 688 NASHVILLE 1899"
683.013

Citico Junction, in front of station; top of rail. . . . . . . . . . . . . . . . . . . . . . . . . . . . 670.30
Chattanooga, 3 feet north of southeast corner of post-office in lower course of stone; bronze tablet stamped " 698 NASHVILLE 1899 ".
692.810

## Chattanooga, Columbia, Elora, Fayetteville, Franklin, Groveland, Lewisburg, Nashville, Petersburg, Ringgold, Sewanee, Stevenson, and Winchester.quadrangles.

## DAVIDSON, FRANKLIN, HAMILTON, LINCOLN, MARION, MARSHALL, MAURY, AND WILLIAMSON COUNTIES.

The elevations in the following list are the Tennessee portion of the results of precise levels extended from Chattanooga to Nashville. The section from Chattanooga to Stevenson (Ala.) of this line was recovered by the Coast and Geodetic Survey precise levels, the adjustment of which has caused the original elevations by this line at Stevenson to be raised 0.157 foot with respect to Chattanooga. The remainder of the line to Nashville is a spur. The simultaneous double-rodding method was used. The elevations accord with the 1903 adjustment. The leveling was done in 1899 by W. W. Gilbert.

Chattanooga, southwest along nashville, chattanooga and st. louis railway, to STEVENSON, ALA. (PORTION OF LINE).
Wauhatchie, in center of foundation at northeast side of block signal tower; Feet.
bronze tablet stamped " 674 NASHVILLE 1899 ".................................... 688.58
Wauhatchie, in front of east end of station; top of rail. 675.2

RINGGOLD QUADRANGLE.
Chattanooga, southwest along nashville, chattanooga and st. louis railway, to STEVENSON, ALA. (PORTION OF LINE).

Whiteside, in front of west end of station; top of south rail.................. 872.5
SEWANEE QUADRANGLE.
Chattanooga, southwest along nashyille, chattanooga and st. louis railway, to STEVENSON, ALA. (PORTION OF LINE).
Shellmound, 2.5 miles east of, railroad bridge over highway, east abutment south wing, top of top step; bronze tablet stamped " 639 NASHVILLE 1899"
636.322
"Shellmound, in front of east end of station; top of rail.
anderson, NORTHWEST along nashVille, Chattanooga and st. louis railway, to Junction of tracy branch.
Anderson, 2.3 miles north of, west end of north abutment of stone culvert, top of top step; bronze tablet stamped " 641 NASHVILLE 1899 ".
637.860

Sherwood, opposite north side of station; top of rail.......................... $661: 6$
Sherwood, 2.3 miles north of, plate girder bridge over Crow Creek and highway on top of bridge seat at west end of north abutment; bronze tablet stamped " 704 NASHVILLE 1899 "."
700.729

Tracy Junction, point of switch at junction of Tracy branch with main line
of Nashville, Chattanooga and St. Louis Railway; top of rail. . . . , , $, \ldots, 1,085.3$
CHATTANOOGA, SOUTHWEST ALONG NASHVILLE, CHATTANOOGA AND ST. LOUIS RALWWY, TO STEVENSON (PORTION OF LINE).
Carpenter, 1.7 miles east of, north end of stone culvert, in top of capstone;

Feet.
661.874
anderson, northwest along nashvile, chattanooga and st. louis railway, to
junction of tracy branch.

Anderson, opposite south end of station; top of rail......................... 636.5
WINCHESTER QUADRANGLE.
tracy junction, northwest along nashville, chíttanooga and st. louis railway, to decherd; thence southwest along same to maxwell.

Cowan, 1,500 feet south of station, south end of stone culvert under railroad, top of east capstone; bronze tablet stamped "971 NASHVILLE 1899"..
Decherd, 0.3 mile south of station, stone culvert over Wagner's Creek, in top of fourth stone from south end of west capstone; bronze tablet stamped "952 NASHVILLE 1899"
948.876

Winchester, opposite east side of station; top of rail........................... 958.0
Kasserman, 300 feet east of station, south end of stone culvert, in face of
roof stone; bronze tablet stamped "1003 NASHVILLE, 1899"......... 999.930
Maxwell, opposite east end of station; top of rail............................ . 930.4
ELORA QUADRANGLE.
MAXWELL, SOUTHWEST along NASHVILLE, Chattanooga and st. louts railway, to elora; THENCE NORTHWEST TO KELSO.

Beans Creek, 650 feet south of station, brick house of John Lipscomb, 3 feet
above ground, north side of house, 3 feet west of northeast corner;
aluminum tablet stamped." 916 NASHVILLE 1899"....................... 913.008
Elora, at crossing of Columbia branch opposite station; top of south rail... 925.5

Flintville, 1,450 feet west of station, south end of brick culvert, in middle
face of east capstone; bronze tablet stamped " 895 NASHVILLE 1899".. . 892.228 FAYETTEVILLE QUADRANGLE.
kelso, northwest along nashville, chattanooga and st. louis railway, to howell.
Kelso, opposite south end of station; top of rail.
741.0

Kelso, 1.3 miles north of, at southwest corner of bridge over Elk River, top of bridge seat; bronze tablet stamped " 694 NASHVILLE 1899", as reset in 1910
692.5

Fayetteville, northwost corner of station; top of rail......................... 665.9 .
Fayetteville, east side of court-house, north of entrance, about 4 feet above
ground; aluminum tablet stamped " 724 NASHVILLE 1899"
720.559

## PETERSBURG QUADRANGLE.

howell, northwest along nashville, chattanooga and st. louis railway, to belfast.
Howell, opposite east end of station; top of rail.
748.2

Howell, 0.5 mile west of, bridge seat at southwest corner of bridge 64.4 ; bronze tablet stamped " 713 NASHVILLE 1899".
709. 964
Petersburg, brick flour mill of H. C. Dwiggins, on north side, 18 feet west of northeast corner, 4 feet above ground; aluminum tablet stamped

Feet." 750 NASHVILLE 1899". 746.968
Talley, at east line of station; top of rail. ..... 806.5Talley, 1.1 miles northwest of, at highway crossing, 225 feet east of track,25 feet north of south road fence and 20 feet east of north-south line fence,in bed rock; bronze tablet stamped " 857 NASHVILLE 1899".854. 113
LEWISBURG QUADRANGLE.
belfast, northwest along nashville, chattanooga and st. louis railway, to lewisburg.
Belfast, 2.5 miles west of, top of pier at southwest corner of railroad bridge over a stream at road crossing; bronze tablet stamped " 805 NASHVILLE 1899". ..... 799. 483
Lewisburg, southwest face of court-house, 10.5 feet from south corner, in water table; aluminum tablet stamped " 738 NASHVILLE 1899"a..... ..... 734.537
Lewisburg, in front of west end of station; top of north rail. ..... 741.4
GROVELAND QUADRANGLE.
LEWISBURG, NORTHWEST ALONG NASEVILLE, CHATTANOOGA AND ST. LOUIS RAILWAY, TOcolumbia.
Bryant, 100 feet north of track, close to fence, 36 feet west of Doctor Orr's store, in bed rock; bronze tablet stamped " 690 NASHVILLE 1899 "... ..... 686.712Hills (Groveland post-office), 1.6 miles west of, at north corner of bridgeover Silver Creek, top of pier; bronze tablet stamped " 595 NASH.VILLE 1899"
darks mile northeast along louisville and nashville rallway, to thompsons.
Kleburne, in front of station; top of rail ..... 679.6
Kleburne, 0.4 mile north of, west side of rock cut, in face at north end of ledge; bronze tablet stamped "703 NASHVILLE 1899 ". ..... 700. 192
COLUMBIA QUADRANGLE.
COLUMBIA, NORTHEAST ALONG LOUISVILLE AND NASHVILLE RAILROAD, TO DARKS MILL.
Columbia, west front of county court-house, in face of water table under first pilaster north of entrance; aluminum tablet stamped " 653 NASH- VILLE 1899" ..... 650. 071
Godwin, opposite south end of station; top of west rail. ..... 612.9
Darks Mill, 750 feet south of station, north pier of railroad bridge 12 over Rutherford Creek, top of east stone, top course, main body of east wing wall; bronze tablet stamped " 600 NASHVILLE 1899 ". ..... 596.608
FRANKLIN QUADRANGLE.
thompsons, northeast along louisville and nashville ratlroad, to callender.
Thompsons, 900 feet west of station, west abutment of stone culvert, topof middle step at south end; bronze tablet stamped " 797 NASHVILLE1899"795. 504
West Harpeth, 1,600 feet south of station, south abutment of plate-girder bridge, top of fourth step from bottom of retaining wall; bronze tablet stamped " 697 NASHVILLE 1899 " ..... 695.593
West Harpeth, in front of station; top of rail. ..... 697.8
Franklin, halfway between front entrance and northeast corner of county court-house, in top course of foundation masonry; aluminum tablet Feet. ..... 646.448
Franklin, in front of station; top of west rail ..... 643.5
Callender, 1,900 feet north of station, in cut 80 feet north of highway cross- ing, 15 feet east of center of track, in limestone ledge facing track; bronze tablet stamped "'701 NASHVILLE 1899—697-1901"" ..... 699.797
NASHVILLE QUADRANGLE.callender, north along loulsville and nashville ralroad, to nashville.Brentwood, in front of station; top of east rail.757.7Overtons, 450 feet south of station, west wing of south abutment, overhighway bridge, top course of masonry; bronze tablet stamped " 612NASHVILLE 1,899—608-1901"611.009
Nashville, Broad-street entrance to custom-house, in face of second balus- trade from west end of stone steps; aluminum tablet stamped "498 NASHVILLE 1899—495-1,901,"

## Murfreesboro, Nashville, Nolensville, and Woodbury quadrangles.

## CANNON, DAVIDSON, AND RUTHERFORD COUNTIES.

The elevations in the following list were determined by a spur line of precise levels from Nashville along the Nashville, Chattanooga and St. Louis Railway to Murfreesboro; thence east along highway to Prater. The initial elevation at Nashville was determined by a spur line of precise levels from Stevenson, Ala. A prism level and yard rods were used and the line was leveled in both forward and backward directions. The leveling was done in 1906 by T. A. Green.
NASHVILLE QUADRANGLE.
nashville, southeast along nashville, chattanooga and st. louis railway, to MURFREESBORO (PORTION OF LINE).

Nashville, at Broad-street entrance to custom-house and post-office, in
north side of stone column; bronze tablet stamped " 495 NASHVILLE
1901 ".

Feet.
497. 104

Nashville, in southeast corner of M. E. Church Publishing House, on east
side; aluminum tablet stamped " 499 "..................................................... 501.486

Nashville, 3.7 miles southeast of, in southeast corner of concrete basin of
reservoir at National Fertilizer Co. plant; aluminum tablet stamped
" 504 "

504.934

Glencliff, 1.6 miles southeast of, on north side in northwest corner of west abutment of iron railroad bridge over Mill Creek; aluminum tablet stamped " 469 ".
470.386

Antioch, 220 feet east of station, 45 feet from track, on left of path leading down to spring; aluminum tablet stamped " 503 "
504.702

Antioch, 390 feet south of station, 290 feet south of road forks, east side of south abutment of highway bridge over Mill Creek; aluminum tablet stamped " 501 "
502. 515

Mountview, 590 feet east of station, south of track, in west end of south abutment of concrete culvert; aluminum tablet stamped " 589 "
590.041

Lavergne, 515 feet east of station, 300 feet east of road crossing, 50 feet north of track, in large oval-top rock; bronze tablet stamped " 554 ".

NOLENSVILLE QUADRANGLE.

NASHVILLE, southeast along NashVille, Chattanooga and st. louis railway, to
murfreesboro (portion of line).

Lavergne, 3.1 miles southeast of, in large flat rock 50 feet south of track, 40 feet west of private road through gate leading to house owned by William Cartwright; aluminum tablet stamped " 559 "

Feet.
560.537

Wade, 0.3 mile southeast of station, ịn north end of west abutment of railroad bridge over county road; aluminum tablet stamped " 549 ".
550.392

Florence, in north side of station, 20 feet west of front entrance, in 18th tier above platform and in third brick from west end; aluminum tablet stamped " 560 ".
561. 182

## MURFREESBORO QUADRANGLE.

NASHVILLE, SOUTHEASt along Nashville, Chattanooga and st. louis ralway, to MURFREESBORO (PORTION OF LINE).

National Cemetery, 260 feet east of station, 50 feet south of tracks, in top of east gatepost on north side of cemetery inclosure; tablet stamped " 563 "
Hazen Brigade Monument; top of rail opposite.
563.81 .8

Murfreesboro, in northwest corner of railway station, on west side; aluminum tablet stamped " 582 ".
571.0

Murfreesboro, in northwest corner of foundation of county court-house, 35 feet north of west-front entrance; aluminum tablet stamped " 617 ".
583.410
618. 522
murfreesroro, east along highways via readyville and woodbury, to prater (PORTION OF LINE).

Murfreesboro, 4.4 miles east of, 90 feet north of center of road, in lot of T. H. Saunders, in large rock 100 feet southeast of barn; aluminum tablet stamped " 658 "
658. 704

Kittrell, 261 feet east of former post-office, 60 feet north of center of road, 100 feet west of wagon bridge over Cripple Creek, in limestone; aluminum tablet stamped " 631 ".
631. 816

Kittrell, 3.2 miles east of, 75 feet west of road forks near foot of hill, west side
of road, in large bowlder; aluminum tablet stamped " 779 "............. 780. 305
WOODBURY QUADRANGLE.
murfreesboro, east along highways via readyville and woodbury, to prater (PORTION OF LINE).

Readyville, 2.1 miles east of, 40 feet south of center of road, 35 feet east of gate leading to house of Mrs. H. M. Barton, in limestone; alluminum tablet stamped " 663 ".
664. 654

Braxton, 1.2 miles east of, 200 feet east of oak tree 3 feet in diameter at. southeast corner of wall, 50 feet north of center of road, in limestone ledge; aluminum tablet stamped " 680 ".
Woodbury, on south side of county court-house, in east stone balustrade of
steps leading into front entrance; aluminum tablet not stamped........ 714.567
Woodbury, 2.98 miles east of, 332 feet east of road forks on north bank of
Stone River, in limestone; aluminum tablet not stamped...................725. 088
Prater, south of Stone River, 600 feet west of store kept by Bill Mason, 150 feet northeast of house occupied by C. L. Gumer and owned by Jim Preston, in bench of rock north of road; aluminum tablet not stamped..

## Bartlett and Memphis quadrangles.

## SHELBY COUNTY.

The elevations in the following list are the results of a line of precise levels from Memphis east to Buntyn, and of the Tennessee portion of a line from Memphis south to Tutwiler, Miss. The elevations are based on the 1903 adjustment at Memphis, but are not adjusted for closure error. The method of direct and reverse measures was used, with prism level and yard rods. The leveling was done in 1908 by W. H. Monahan.

## MEMPHIS QUADRANGLE, $a$

MEMPHIS, ALONG SOUTHERN RAILWAY, TO POINT 4 MILES EAST.

Memphis, in water-table of custom-house, at southwest corner, about 2 feet
north of corner of old part of building; head of copper bolt ${ }^{b}$ leaded hori
zontally.

Feet.
273. 994

Memphis, at southeast corner of Front and Jefferson streets, near east end of stone doorsill; U. S. Engineer Corps gage bench mark 3 Nicol 1876, marked "U. S. E. $\wedge$ " (elevation by 1903 adjustment, 274.380).
274. 368

Memphis, on south side of Cossitt Library near railroad track, on top surface
of fifth stone from levee of limestone curb, near cross cut in flagstone
within small square cut in 1901 ; U. S. Engineer Corps bench mark
"T. P. a" (elevation by 1903 adjustment, 240.589).......................... 240.588
Memphis, at South Fourth-street crossing of Southern Railway track; chiseled square on curb
271. 496
memphis, south along yazoo and mississippi valley railroad, to state line.
Memphis, in front of Union Station; top of Illinois Central Railroad rail. .
260.5

Memphis, center of crossing of the Illinois Central Railroad and the FriscoRock Island line.
262. 42

Memphis, 3.6 miles south of post-office, center of crossing of Yazoo and
Mississippi Valley Railroad and street railway at Florida street........... 256.00
Memphis, 4.2 miles south of post-office, on tank at semaphore "L-31;"
chiseled square........................................................................... 245.27

Mallory, in front of station; top of rail............................................. 237. 4
West Junction, at junction of railroad; top of rail.............................. 235.44
West Juncticu, 1.5 miles south of, 80 feet east of road crossing, 300 feet
south of milepost, at corner of fence; iron post stamped " 257 ".......... 256.830
West Junction, 3.4 miles south of, 50 feet east of track just outside of right-
of-way fence, opposite post "L $9-48$;" iron post stamped " 270 ".......... 269.630
Darwin, in front of station at road crossing; top of rail
260.9

## BARTLETT QUADRANGLE.

point 4 mles east of memphis, east along southern railway, to buntyn.
Memphis, 4.miles east of Union Station, 600 feet east of road, on culvert; chiseled square
289. 520

Buntyn, square on upper surface of first brick offset above ground on west side of entrance to Methodist Church; Coast and Geodetic Survey bench mark " A" (adjusted elevation, 300.809)
300.891

[^8]
## PRIMARY LEVELING.

## Abingdon, Cranberry, Greeneville, Morristown, and Roan Mountain quadrangles. CARTER, GREENE, HAMBLEN, SULLIVAN, UNICOI; AND WASHINGTON COUNTIES.

The elevations in the following list were determined by extensions from level line of 1896 along the Southern Railway from Morristown and from Asheville and Marion, N. C., and accord with the 1903 adjustment. Precise-level elevations are given for the Morristown quadrangle on page 109; primary levels for the Roan Mountain quadrangle in the North Carolina list (p. 90) and for the Abingdon quadrangle in the North Carolina list (p. 89) and in Bulletin 434 (for Virginia).

The leveling was done as follows: in Greeneville and Morristown quadrangles in 1902 by C. B. Kendall; in Roan Mountain quadrangle in 1901 by W. G. Overton, in 1902 by C. B. Kendall, and in 1908 by J. B. Metcalfe, jr.; in Abingdon and Cranberry quadrangles in 1908 and 1909 by J. B. Metcalfe, jr.

## MORRISTOWN QUADRANGLE.

morristown, along southern rallway, to mohawk (checked levels).

| Morristown, in northeast corner of county court-house, facing northwest; bronze tablet stamped " 1351 MC ". |  |
| :---: | :---: |
| fet west of station crossing; | 250.49 |
| Russellville station, 1,000 feet northeast of, 200 feet south of main line Southern Railway, 80 feet north of corner of summer residence of W. H. Patterson, in limestone ledge; bronze tablet stamped " 1275 ASH"..... |  |
| Whitesburg, 150 feet east of station, main track at street crossing; top of north rail. |  |
| Rogersville Junction, 200 feet east of station, 60 feet north of main line Southern Railway, brick hotel known as the Smith House, 3 feet to right of main entrance, in south wall; aluminum tablet stamped " 1155 ASH". | 5. 51 |
| Bull Gap, at highway crossing | 201.7 |
| Mohawk, 200 feet west of station, main line at highway crossing; top of north rail. |  |

## GREENEVILLE QUADRANGLE.

MOHAWK, EAST ALONG SOUTHERN RAILWAY, TO JONESBORO` (CHECKED LEVELS).

| brick foundation of residence and hotel of Mrs. S. J. Maloney, 5 feet west of entrance; bronze tablet stamped " 1270 ASH" $\qquad$ |  |
| :---: | :---: |
| Mosheim, 50 feet east of station, main line at highway crossing; top of north rail. |  |
| Rader, main line at highway crossing; to | 1, 215.6 |
| Rader, 1.6 miles east of station, arched railway culvert over Little Chucky Creek, 240 feet east of 62 d milepost, 25 feet south of main line, in third step of stone from top of northwest wing; bronze tablet stamped "1251 |  |
|  | 75 |
| neville station, 75 feet south of, on top of railway bridge over Dep reet, on east end of coping of north abutment; chiseled point. |  |

Greeneville, at northeast corner of intersection of Main and Depot streets, at northwest corner of Greene County Bank, 2 feet east of main entrance, in brownstone water table; aluminum tablet stamped " 1529 ASH".... 1, 527. 290
Afton, 150 feet southeast of station, in southwest corner of brick foundation of store of McLaire Brothers (property of Mrs. A. J. Patterson); bronze tablet stamped "1470 ASH"
$1,468.788$
Fullens, 150 feet west of station, main line at highway crossing; top of
south rail. ..............................................................................................
Limestone, 1,400 feet west of station, east shore abutment of railway bridge over Limestone Creek, in top of north or up-river end of coping; bronze tablet stamped "1389 ASH".
1,387. 270
Limestone, main line opposite ticket office; top of north rail............... 1, 393.7
Washington College station, main line at highway crossing; top of south rail.
Telford, 150 feet northwest of station, in east wall at southwest corner of brick store of E. W. King, occupied by J. L. Humphreys; aluminum tablet stamped " 1550 ASH"
$1,548.316$

## ROAN MOUNTAIN QUADRANGLE.

huntdale, n. C., northwest along carolina, clinchfield and ohio rallway, down NOLICHUCKY RIVER TO ERWIN, TENN.; THENCE NORTH ALONG HIGHWAY TO JONESBORO.

Devils Creek, railroad bridge over, 9 feet from center of railroad track, 8 feet from northeast corr er of bridge, in ledge; bronze tablet stamped "1769 ASH 1901".

1, 769.297
Chestoa, in front of station; top of west rail................................. 1, 705.0
Love, in front of station; top of west rail. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1, 1, 677.4
Erwin, west side of county court-house, at left of main entrance, 3 feet from ground; aluminum tablet stamped "1683 ASH 1901"

1, 683.429
jonesboro, east along highways, to johnson city.
Jonesboro, north side of county court-house, east of main entrance, in brick wall below water table; aluminum tablet stamped "1696 ASH".
$1,695.797$

JOHNSON CITY, SOUTH VIA UNICOI, TO ERWIN.
Johnson City, 7.35 miles south of, 25 feet north of Buffalo Creek, 8 feet
north of center of road, at foot of perpendicular stone 8 feet high and 30
feet long, in stone ledge; aluminum tablet stamped " 1765 ".............765.028
Unicoi, at east corner of hotel; bronze tablet stamped " 1922 ASH"...... 1, 921.746
near shell creek, northwest along east tennessee and western north carolina railroad, to jounson city.

Elkpark, N. C.', 2.46 miles northwest of, at southeast end of railroad trestle; on coping.

2, 961.57
Shell Creek, 0.5 mile west of, 40 feet north of west end of railroad bridge over Wilson Creek, in ledge of rock; bronze tablet stamped " 2626 ASH". 2, 624. 349
Roan Mountain, 0.2 mile west of, 60 feet north of railway, near white-oak tree, in rock ledge; bronze tablet stamped " 2565 ASH".

2,563.473
Hampton, on west wall of Mr. Lambert's brick house, 1 foot from northwest corner, 3 feet from ground; bronze tablet stamped " 1785 ASH".

1,783. 884
Elizabethton, southwest corner of portico to county court-house, in center
of pilaster facing east; aluminum tablet stamped " 1532 ASH"........ 1,530.869

JOHNSON CITY, ALONG HIGHWAYS VIA DEVAULT FORD AND SPURGEON FORD, TO BLUFF CITY.

bluff city, southeast along virginia and southwestern rallway, to elizabethton.
Bluff City, at south shore abutment of highway bridge over Holston River, in east or up-river end of coping; bronze tablet stamped " 1389 ASH". . 1, 388. 554
Childers, at road crossing; top of east rail................................. 1, 477
Elkanah, east bank of Indian Creek, 150 feet east of C. C. Carr's store, in ledge of slate rock; bronze tablet stamped "1505 ASH".............. 1, 504. 106
Keenburg, at road crossing; top of west rail................................ 1, 668
BLUFF CITY, EAST ALONG HIGHWAYS UP SOUTH BANK HOLSTON RIVER, TO ISLAND MILLS.
Bluff City, 5.1 miles east of roller mills, 400 feet northwest of M. E. Webb's store at crossing of river road and Weaver Creek-Bristol road, 80 feet west of Opossum Creek, 35 feet east of northeast corner of Cedar Grove School, in rock ledge across road from schoolhouse; bronze tablet stamped " 1480 ASH"

1, 479.682
ELIZABETHTON, ALONG HIGHWAYS AND VIRGINIA AND SOUTHWESTERN RAILWAY VIA HUNTER, SIAM, AND CARDENS BLUFF, TO HAMPTON.
Durgan's mills, 50 feet west of, at highway crossing; top of east rail........ 1, 566
Siam, north abutment of railway bridge over Watauga River, east or up-river end of coping; chiseled point on top.

1,579. 82
Siam, at road crossing; top of east rail..................................... 1,582
Cardèns Bluff, opposite mail crane; top of east rail........................ 1, 736
hunter, along virginia and southwestern raliway and highway up stony creek VIA WINNER AND CARTER, TO HOUSLEY (DOUBLE SPUR LINE).
Taylor's mill station, at road crossing; top of south rail....................... 1, 787
Carter, 1,000 feet southeast of post-office, 500 feet southeast of ford of Stony Creek near E. A. Cass's store, just in rear of dwelling of Ross Fletcher, at entrance to small cave, in large fragment of cliff; bronze tablet stamped " 1861 ASH".

1, 859.862
CARDEN'S BLUFF, NORTHEAST ALONG VIRGINIA AND SOUTHWESTERN RAILWAY, TO POINT NEAR GOUGE (CHECKED SPUR LINE).
Gouge, in front of station; top of rail....................................... 766
Gouge station, 950 feet southeast of, at milepost 104, in north wing of retaining wall of trestle over small stream; bronze tablet stamped " 1758 ASH"
$1,757.352$
point 0.3 mile northeast of housley, northeast along highway and beaver dam ratlroad, to damascus, va. (portion of line).
Housley, 0.3 mile northeast of former post-office, 400 feet northwest of Stony Creek road, at point of hill 200 feet north of Stony Creek, 150 feet west of a limestone quarry, 30 feet east of second-class road leading north and joining main road near Sam Eastep's house, in rock ledge; bronze tablet stamped " 2107 ".

2, 105.965
Buladeen (Colesville post-office), 300 feet north of railroad station; joint of east rail marked " 2263.7 ".

2, 263. 04
ABINGDON QUADRANGLE.
point 0.3 mile northeast of housley, northeast along highey and beaver damrallroad, to damascus, va. (portion of line).
Colesville, 5.5 miles northeast of, on road to Crandull, east side of road and Feet. on north side of mountain; cross on ledge of rock, marked " 2900.5 " $\ldots .2,899.82$
Crandull, 0.6 mile northeast of, 25 feet north of railroad, in sharp curve, on rock ledge; chisel mark " 2538.4 " ..... $2,537.75$
Crandull, 0.6 mile northeast of, 25 feet north of railroad, in sharp curve in rock ledge; aluminum tablet stamped " 2539 " ..... $2,538.086$
Crandull, 5.6 miles northeast of, 12 feet east of north entrance to tunnel, in rock ledge; aluminum tablet stamped " 21.53 " ..... 2, 1.52. 649
DAMASCUS, VA., SOUTH ALONG VIRGINIA-CAROLINA AND LAUREL RAILWAYS, TO LAUREL BLOOM-ery; thence east along highways to little horse creek (portion of line).
Damascus, 2 miles south of, 25 feet east of road, 6 feet east of Laurel Railway, about 0.25 mile southeast of junction of the Laurel and the Virginia- Carolina railways; cross on rock ledge, marked " 2027 " ..... 2,026. 17
Dollars, 3.4 miles southeast of Damascus, 12 feet west of road fork to east; cross on rock ledge, marked " 2169 " ..... 2, 168.08
Laurel Bloomery, 200 feet southeast of road forks to Mountain City andDamascus, 225 feet south of post-office, 25 feet east of spring, in ledge ofrock at point of hill; aluminum tablet stamped " 2412 "2, 411. 145
Laurel Bloomery, 3.5 miles east of, 3 feet south of road, about 0.5 mile from top of mountain, 100 yards west of sawmill; cross on rock ledge, marked "3334" ..... 3, 333.14
CRANBERRY QUADRANGLE.
POINT 0.3 mile northeast of housley, northeast along beaver dam railroad, to DAMASCUS (PORTION OF LINE).
Buladeen (Colesville post-office), 3.2 miles north of, west of road to Crandull, on south side of mountain; cross on rock ledge, marked " 3112 ". $3,111.23$

## Maynardville and Middlesboro quadrangles. <br> Claiborne, grainger, knox, and union counties.

The elevations in the following list were determined by extensions from a bench mark near Mascot, on the precise-level line along the Southern Railway. For precise-level elevations in Maynardville quadrangle see page 109. The leveling was done in 1903 in Middlesboro quadrangle by W. N. Franklin and F. L. Foust, and in Maynardville quadrangle by W. N. Franklin.

## MAYNARDVILLE QUADRANGLE.

> HODGES TO MASCOT.
Feet.
Straw Plains, in front of Southern Railway station; top of north rail...... 888.5
mascot, north along highway, to corryton (double-rodded inne).
Corryton, 233 feet southwest of Southern Railway station, 68 feet west of storehouse of L. Clapp, 145 feet northwest of northwest corner of postoffice, 256 feet northeast of M. E. Church, in top of large rock; bronze tablet stamped "1047 LEXINGTON".
I., 047. 010
corryton, northeast along southern railway, to cumberland gap (mean of directand reverse lines).
Feet.
Luttrell, in front of station; top of west rail ..... 1, 060.3
Republic Quarry Junction, in front of switch stand; top of west rail ..... $1,063.2$
Luttrell, 1.4 miles north of, 14 feet east of east rail of track, in stone cul- vert; bronze tablet stamped "1082 LEXINGTON" ..... 1, 081.649
Powder Spring, opposite switch stand; top of west rail. ..... $1,224.3$
Powder Spring, 1.4 miles north of, 42 feet east of east rail, 437 feet north- east of large yellow frame dwelling occupied by William Cadle, 40 feet north of apple tree, on large bowlder of red marble; bronze tablet stamped "1258 LEXINGTON". ..... 1, 258. 253
Washburn, in front of station; top of west rail ..... 1, 401
Washburn, 1.7 miles north of, 17 feet north of north rail, 360 feet west ofmilepost 34,50 feet east of cattle guard, in northeast corner of stone cul-vert; bronze tablet stamped "1278 LEXINGTON"1, 278.092
Liberty Hill, in front of station, main track; top of rail ..... 1, 250.5
Williams Springs, in front of station, main track; top of west rail ..... 1, 123
Dutch, in front of station, main track; top of west rail ..... 1, 061.9
Oakman, in front of station, main track; top of west rail ..... 1,034. 2
Oakman, 0.4 mile north of, 10 miles south of New Tazewell, in southeastcorner of south abutment of bridge over Clinch River; aluminum tabletstamped " 1000 LEXINGTON "999. 532
Lone Mountain, in front of station, main track; top of west rail ..... 1, 119. 3
Lone Mountain, 2.1 miles north of, 400 feet north of tunnel, 50 feet north of trestle 47.0, 6 feet west of west rail, in large rock; aluminum tablet stamped " 1344 LEXINGTON" ..... 1,344. 418
New Tazewell, in front of station, main track; top of west rail. ..... 1, 472. 2
Clouds, main track; top of west rail ..... 1,337. 5
MIDDLESBORO QUADRANGLE.clouds, north along southern railway, to cumberland gap.
Powell River, main track, in front of signboard; top of west rail. ..... 1, 041.9
Powell River, 0.9 mile north of station, east edge of south abutment of steel bridge over Powell River; aluminum tablet stamped "1045 LEX- INGTON" ..... $1,045.057$
Powell River, at bridge; surface of water ..... 1,014
Ore Bed Junction, in front of switch stand, main track; top of west rail. ..... 1, 127.0
Arthur, opposite baggage door of station, main track; top of west rail ..... 1,226. 8
Hamilton Springs, in front of station; top of west rail. ..... 1,266. 2
Cumberland Gap, 1,221 feet southeast of station, in west side of north abut-
ment of large culvert, over highway; aluminum tablet stamped "1304LEXINGTON "1, 303. 912
Cumberland Gap, in front of Southern Railway station; top of west rail. . ..... 1, 318.4
Cumberland Gap, Louisville and Nashville Railroad; top of rail ..... 1,319. 4
Cumberland Gap, summit of, on stone Tennessee-Virginia corner post atKentucky state line; chisel point1, 648. 47
Ducktown special (Ellijay and Murphy) quadrangle. POLK COUNTY.The elevations in the following list were determined by extensionsfrom an adjusted elevation at Blue Ridge, Ga. The line was runtwice, but a discrepancy of $\pm 1$ foot occurs in leveling between Gallo-way, Ga., and 2 miles north of Kyle, Ga., and this section should be
rerun. The line from Blue Ridge to Kyle, Ga., is given in list under Ellijay quadrangle, Georgia (pp. 38-39).

DUCKTOWN SPECIAL (ELLIJAY AND MURPHẎ) QUADRANGLE.

Dayton, Decatur, and Pikeville quadrangles.
bledsoe, cumberland, rhea, van buren, and white counties.
The following elevations were determined by a circuit extended from Coast and Geodetic Survey bench marks at Dayton and Evensville. The closure error was 1.143 feet in a total distance of 68 miles. The leveling was done in 1908 by J. B. Metcalfe, jr.

DAYTON QUADRANGLE.
AT DAYTON.
Dayton, on south side Main street, at the northeast corner of the Dayton
Bank and Trust Company building, 1.18 meters above the sidewalk and
0.28 meter west of the northeast corner; horizontal cut in end of a copper
bolt leaded, horizontally lettered "U.S.C. \& G. S." (Coast and Geo- Feet.
detic Survey bench mark "P-2.")................................................................ 399
PIKEVILLE QUADRANGLE.

DAYTON, NORTHWEST ALONG HIGHWAY, TO PIKEVILLE; THENCE NORTH TO SARATOGA; THENCE east to litton; thence south to evensville.

Dayton, 1.4 miles northwest of, on road to Pikeville via Morgan Springs and Loyd Gap, 6 feet southwest of bend in road; chisel mark on sandstone, marked " 751 "750.76

Dayton, 2.6 miles northwest of, on road to Pikeville via Morgan Springs and Loyd Gap, north of road, 30 feet north of small bridge across road; chisel mark on sandstone, marked " 1140 "I., 139. 96

Dayton, 4.3 miles northwest of, north of road to Pikeville via Morgan Springs and Loyd Gap, 20 feet west of place called "The Narrows;" chisel mark on sandstone, marked "1.601" 1, 601. 43
Dayton, 5 miles northwest of, 50 feet west of intersection of Pikeville and Loyd Gap roads, in sandstone ledge; aluminum tablet stamped "1812". 1, 812.527
Dayton, 7 miles northwest of, 3 feet north of road forks; nail in root of 14-inch white-oak tree, marked " 1776.5 ' I. 776.72
Morgan Springs, 200 feet southwest of hotel, 25 feet south of road, 11 feet below level of same, in sandstone ledge; aluminum tablet stamped "1934".
Feet ..... 1, 934. 328
Morgan Springs, 4.4 miles southwest of, on road to Pikeville via Loyd Gap, 100 feet southwest of Parson Manning's residence, 5 feet north of road, in sandstone ledge; aluminum tablet stamped " 1918 ". ..... $1,918.003$
Morgan Springs, 6.7 miles southwest of, 20 feet west of road to Pikeville via Loyd Gap, 600 feet north of top of mountain, in sandstone ledge; alum- inum tablet stamped " 1970 ". ..... $1,970.814$
Morgan Springs, 10.6 miles southwest of, on main valley road to Pikeville, 125 feet north of road leading to sawmill, east of road; nail in root of 16-inch red-oak tree; marked " 875.8 ". ..... 876. 13
Morgan Springs, 11.2 miles west of, in road forks to east; nail in root of 16 -inch white-oak tree, marked " 874.1 ". ..... 874. 4 K
Pikeville, on west side of county court-house, 2 feet to right of main en- trance, in top step; aluminum tablet stamped " 864 " ..... 864.497
Pikeville, 1.8 miles west of, south of road, on side of mountain; cross on sandstone ledge, marked "1199" ..... 1, 199. 42
Pikeville, 3.3 miles west of, just at top of mountain, 3 feet north of road forks, in sandstone ledge; aluminum tablet stamped " 2012 ". ..... 2,012. 118
Pikeville, 4.8 miles northwest of, 50 feet south of road forks, 5 feet east of road; cross on limestone ledge, marked " 1713.4 " ..... 1, 713. 88
Pikeville, 7.2 miles northwest of, 50 feet east of Saratoga Springs road, where small creek crosses, 2 feet south of 16 -inch white-oak tree, in sand- stone ledge; aluminum tablet stamped " 1723 " ..... 1, 723.391
Saratoga, 150 feet southeast of spring, 300 feet southwest of corner of lot fence, in sandstone ledge; aluminum tablet stamped " 1715 " ..... 1, 715. 482
Saratoga, 2.3 miles north of, at road fork to east, 30 feet northeast of bridge over creek in sandstone ledge; aluminum tablet stamped "Prim. Trav. Sta. No. 1, 1667 " ..... 1, 668. 1.50
Farmingdale, 310 feet east of southeast corner of store, 20 feet north of roadin sandstone ledge; aluminum tablet stamped " 1708 ".$1,708.717$
Farmingdale, 2.8 miles east of, just at top of mountain, 30 feet south of road to Litton via Big Spring Gap, in sandstone ledge; aluminum tablet stamped " 1643 " ..... 1., 644. 154
Ninemile, 1.5 miles north of, on road to Litton, 600 feet south of intersec- tion of Litton and old Brown Gap roads, 7 feet east of road, in ledge of limestone; aluminum tablet stamped " 917 " ..... 91.8. 1117
Litton, 800 feet east of schoolhouse, at intersection of Litton-Hinch Moun- tain and Low Gap roads, 10 feet south of north end of stone fence, 3 feet west of north end of stone fence, in limestone ledge; aluminum tablet stamped "983 Prim. Trav. Sta. No. 2" ..... 983. 514
Litton, 3.5 miles south of, east side of road to Evensville; cross on sand- stone ledge, marked "1955.2" ..... 1, 956. 15Lition, 9.2 miles south of, 1.00 feet east of road forks, 10 feet south of road,in sandstone ledge; aluminum tablet stamped " 2104 "..................... 2, 104. 545
DECATUR QUADRANGLE:
near milo.

Litton, 2.7 miles southeast of, on road to Evensville, 175 feet south of road forks, at top of Low Gap, 6 feet east of road, in ledge of sandstone; aluminum tablet stamped " 1983 ".1,983. 658

NEAR EVENSVILLE

Litton, 16.1 miles south of, at top of Paynes Gap, 12 feet south of road, in Feet. sandstone ledge; aluminum tablet stamped " 1729 "...................... 1, 730. 044
Evensville, 1,330 meters south of, on the south abutment of the Cincinnati, New Orleans and Texas Pacific Railway bridge over Little Richland Creek, at the east end on the second step below coping, 2.65 meters east and 1 meter below the east rail, 6 inches south of the north fence and 5 inches west of the east face of the step; bottom of square hole lettered "U. S. C. \& G. S." (Coast and Geodetic Survey bench mark "N-2"). .

## Columbia, Franklin, Lawrenceburg, Linden, and Waynesboro quadrangles.

## hickman, lawrence, lewis, maury, wayne, and Williamson counties.

The elevations in the following list were determined by extension from the precise line from Stevenson, Ala., to Nashville. The leveling was done as follows: In Columbia quadrangle in 1899 by Hargraves Wood; in Franklin quadrangle in 1906 by F. J. McMaugh, and in 1907 by J. G. Martin; in Linden quadrangle in 1902 by A. T. Fowler; in Lawrenceburg quadrangle in 1902 by C. B. Kendall; in Waynesboro quadrangle in 1902 by A. T: Fowler and C. B. Kendall, and in 1903 by B. J. Green.

## FRANKLIN QUADRANGLE.

## franklin, west along highways, to fernvale.

Franklin, halfway between front entrance and northeast corner of county Feet. court-house, top corner of masonry; aluminum tablet stamped " 648 N ". ..... 646.448
Franklin, 2.8 miles west of, 45 feet east of road, 1.50 feet southeast of stone gate, in limestone ledge; aluminum tablet ..... 686. 143
Bingham, 2 miles northeast of, intersection of Natchez track and Hillsboro pike, in limestone ledge; aluminum tablet ..... 721. 804
Hogeye Church, junction
ledge; aluminum tablet ..... 651.347
HOGGEYE CHURCH, SOUTH TO HILLSBORO
Hillsboro, 0.5 mile northeast of, junction of Hillsboro pike and Franklin road, in corner of E. T. Johnson's yard; iron post stamped "Prim. Trav. Sta. No. 9 " ..... 666.471
franklin, southeast along mghway 3.65 miles; thence nouth to peytonsvillethence west to thompsons.Franklin, 3.6 miles southeast of, 0.2 mile east of J. B. Christian's blacksmithshop, on south side of creek, 110 feet south of road, in limestone; alum-inum tablet706. 249
Priest, 160 feet northwest of north end of bridge over Harpeth River, 45 feet north of river bank, in limestone ledge; aluminum tablet ..... 652. 204
Peytonsville, 0.5 mile south of, west of road at T road east arch bridge; aluminum tablet ..... 768. 300
Harpeth, 500 feet south of former post-office, 200 feet west of pike, in lime- stone ledge; aluminum tablet ..... 756.923

## COLUMBIA QUADRANGLE.

COLUMBIA, SOUTH ALONG PIKE, TO M'CAINS.
McCains, 1,250 feet north of former post-office, east of pike, on rock ledge; bronze tablet stamped " 828 NASHVILLE 1899 "

Feet.
824.542

COLUMBIA, via mount pleasant and crossbridges, to bluff point.

Mount Pleasant, northeast corner of Main street and Blue Grass avenue,
front of Anderson's drug store, west of door; aluminum tablet stamped
"684 NASHVILLE 1899"

681.038



Williamsport, south abutment at east side of bridge over Duck River, on
second step from top; bronze tablet stamped " 551 NASHVILLE 1899"

Duck River, about 870 feet east of post-office, on steep hill south of road,
in rock ledge; bronze tablet stamped " 615 NASHVILLLE 1899"

548. 276

'612. 426

681.088

Hampshire, about 4.1 miles northwest of, 1 mile west of Isom, 430 feet south of mouth of Dry Fork, 20 feet east of road, in rock ledge; bronze tablet stamped " 593 NASHVILLE 1899"
590.635

Kettle Mills, 0.8 mile east of former post-office, at Delk Ford, on west side of Duck River, opposite point where road on east side strikes the river, in rock ledge near water; bronze tablet stamped " 521 NASHVILLE 1899"

BLUFF POINT, NORTHEAST ALONG HIGHWAY VIA LICK CREEK AND LODEBAR, TO WHITEOAK.
Bluff Point, 0.8 mile west of, 200 feet east of foot of ridge south of road to Centerville, on rock ledge at spring; aluminum tablet stamped " 531 NASHVILLE 1899"
527. 720

Beale, 0.25 mile north of, 75 feet south of first crossing of Lick Creek, 25 feet west of road, in rock ledge; aluminum tablet stamped " 558 NASHVILLE 1899"
554. 80

Lick Creek, 0.5 mile northeast of, about 350 feet west of second crossing of Lick Creek, at northwest angle of road north to Nashville, small rock ledge; aluminum tablet stamped " 614 NASHVILLE 1899 "
611.37

Whiteoak, 2 miles south of, near head of Porter Creek, 0.25 mile southwest of school house at top of ridge, on rock; aluminum tablet stamped "773 NASHVILLE 1899"
769.832

Whiteoak, 100 feet west of Lick Creek forks and crossing, south of road, in
rock ledge; aluminum tablet stamped " 664 NASHVILLE 1899 "..... 661.001
whiteoak, east 6 miles; thence south along highway via theta and santa fe, to columbia.
Theta, on north side of Sulphur Spring Branch, 150 feet northwest of Carters Creek-Santa Fe pike, 50 feet south of gate, in rock ledge; bronze tablet stamped " 924 NASHVILLE 1899".
921. 691

Theta, 4 miles southwest of, 2.25 miles east of Santa $\mathrm{Fe}, 1,600$ feet north of Pells Branch, on east side of Snow Creek, about 0.9 mile west of Union Church, in rock cliff; bronze tablet stamped " 674 NASHVILLE 1899 "..
Santa $\mathrm{Fe}, 0.8$ mile south of, 80 feet west of pike, on north side of Snow Feet.Creek, in rock ledge; bronze tablet stamped " 616 NASHVILLE 1899 "..Timmons, 600 feet south of Knob Creek Bridge, 200 feet west of Santa Fepike, in large rock ledge; bronze tablet stamped " 588 NASHVILLE1899"613. 372
natchez trace, along highway northeast, to hlleboro; thence northwest tofernvale and west via aden to bonaqua.
Boston, 300 feet west of post-office, 60 feet south of road, in small rock ledge; bronze tablet stamped " 744 NASHVILLE 1899" ..... 740.896
Hillsboro, northeast corner of road to Fernvale, in southwest corner of foundation of P. W. Bond's house; bronze tablet stamped " 683 NASH- VILLE 1899" ..... 679.934
Fernvale, 0.25 mile south of, 100 feet southeast of South Harpeth Creek, north of road near spring, on rock; bronze tablet stamped " 607 NASH- VILLE 1899" ..... 603. 750
Aden, opposite former post-office, southeast of road, in rock; bronze tablet stamped " 724 NASHVILLE 1899 " ..... 721.318
Naomi, 6.1 miles west of, 1.8 miles east of Bonaqua Springs, north of Bona- qua road, opposite road to Lyles, in south side of foundation of west chimney of Henry Raney's house; bronze tablet stamped " 920 NASH- VILLE 1899" ..... 916. 809
BONAQUA, SOUTHWEST ALONG NASHVILLE, CHATTANOOGA AND ST. LOUIS RAILWAY, TO CENTER-ville; thence east along highway to bluff point.
Bonaqua Springs, 100 feet west of, under bridge over Big Spring Creek, opposite White Sulphur Springs, in rock ledge; bronze tablet stamped "750 NASHVILLE 1899 " ..... 746.922
Lyles, 3.8 miles southwest of, 880 feet east of milepost "L-28," shallow cut north of railroad, in small rock ledge; bronze tablet stamped "824 NASHVILLE 1899" ..... 820.869
Graham, 0.1 mile southwest of, on east side of Mill Creek Bridge, on top of stone coping of north pier; aluminum tablet ${ }^{a}$ stamped " 533 NASH- VILLE 1903" ..... 533.383
Centerville, southwest side of county court-house; aluminum tablet stamped " 635 NASHVILLE 1899" ..... 631.884
LAWRENCEBURG QUADRAANGLE.
mount pleasant, southwest along louisvile and nashvile rallroad and highwaysvia rockdale, summertown, napier, and strathmore, to ovilla.
Rockdale station, opposite ticket office, top of south rail ..... 722.9
Summertown, 200 feet west of post-office, 75 feet east of junction of Law- renceburg road with Waynesboro pike, in northwest corner of front yard to the Central Hotel, 25 feet north of northwest corner of building; iron post stamped " 1006 NASHVILLE 1902" ..... 1006. 874
Lindauer, 150 feet east of former post-office, at road crossing, top of south rail. ..... 802.39
Quercus station, highway crossing, top of rail. ..... 833.92Napier, 400 feet west of post-office (commissary store of Napier iron works),125 feet south of south bank of Chiefs Creek, 30 feet south of road leadingfrom Natchez Trace road to post-office, in northeast corner of front yardof residence of Doctor Stockard; iron post stamped "771 NASHVILLE1902"771. 234

[^9]
## WAYNESBORO QUADRANGLE.

strathmore, northwest along highways, to allens creer; thence south to ovilla.
Strathmore, 70 feet east of southeast corner of post-office (commissarystore of Dunstin \& Sons), 300 feet east of Laurel Hill cotton factory,on north edge of road leading west to Maurice, at intersection with roadleading west from cotton factory, at corner of fence; iron poststamped " 760 NASHVILLE 1902 "

Feat.
759.998

Allens Creek, 100 feet north of post-office, 60 feet west of Nashville, Chattanooga and St. Louis Railway, main line, at north corner of brick office of Buffalo Iron Co., in north wall; aluminum tablet stamped " 691 NASHVILLE 1902"
691.517

Allens Creek, 4.7 miles southwest of, 50 feet south of Repp's store, in northwest corner of front yard of residence of D. W. Repp; iron post stamped "891 NASHVILLE 1902"
891. 238

OVILLA, WEST ALONG WAYNESBORO PIKE, TO WAYNESBORO.
Ovilla, 60 feet west of post-office, north of road; iron post stamped "970 NASHVILLE"
969.783

Ovilla, 7.3 miles west of, 248 feet west of Forty-eight Creek ford on Waynesboro pike, 32 feet north of pike; iron post stamped " 711 NASHVILLE"
711. 110

Waynesboro, southeast corner of court-house yard; iron post stamped
" $752 \cdot$ NASHVILLE 1902".............................................................. 753.209
waynesboro, west along highways, to a point 4 miles west of sorby; thence north to a point on waynesboro pike 4 miles east of clifton.

Sorby, 50 feet southwest of former post-office, on opposite side of road, on inside of fence, in field, just west of wire fence dividing two fields; iron post stamped " 506 NASHVILLE"
506.849

Sorby, 4 miles west of, on west side of road leading northwest to Clifton, on
north side of Hardin Creek, at road forks, 150 yards east of church, 8 feet
east of cherry tree; iron post stamped " 456 NASHVILLE". . . ....... 456.369
Waynesboro, 8.8 miles west of, 110 feet south of Friendship schoolhouse, 50 feet west of road to south, on south side of pike, at corner of rail fence; iron post (not stamped)
585.023

DOUBLE-RODDED SPUR 3 miLes WEST TO CLIFTON.
Clifton, on north wall of J. C. Russ's brick hotel building, 8.5 feet from northwest corner, 3 feet from ground; aluminum tablet stamped "409 NASHVILLE 1903"
409. 122
hardin creer church, south along highway, to stout; thence east to holt's store; thence north to waynesboro.

Martins Mills, 250 feet west of post-office and store, north of road, in southwest corner of dwelling yard; iron post stamped " 533 NASHVILLE" 1903".
533.925

Pinhook, 0.5 mile south of Lutts post-office, 150 feet north of store, to left, in northwest corner of yard to Mrs. Nancy Morrow's dwelling; iron post stamped " 611 NASHVILLE 1903"
611. 175

Pinhook, 5.5 miles south of, at road fork to Waterloo, 3 feet north of signpost " 25 miles to Waynesboro," west of road, in field fence corner; iron post stamped " 815 NASHVILLE 1903".
815. 592

Stout, 1 mile north of post-office, in yard to D. W. Morris's dwelling, east of entrance gate, near fence; iron post stamped " 545 NASHVILLE 1903".


## Nashville quadrangle.

## davidson, robertson, sumner, williamson, and wilson counties.

The elevations in the following list were determined by extensions from the precise-level lines from Stevenson, Ala., to Nashville and from Nashville to Prater. A discrepancy of 1 foot occurs at White House between two unchecked results, which can not be rectified until further field work is done; the elevations west of White House are unreliable. The leveling was partly done in 1899 by H. H. Smith and concluded in 1901 by C. B. Kendall.

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53493}-\mathrm{ Bull. 441—11--9
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## NASHVILLE QUADRANGLE.

## Callender, along highway via bushville and belleview, to watkins.

Callender, 1,900 feet north of station, road crossing leading west to tollgate on Franklin pike and east to Wilson pike, 15 feet east of main line of Louisville and Nashville Railroad; bronze tablet stamped " 701 NASH. 1899-1901'".
Feet.
699.797
Belleview, 100 feet northeast of store of T. F. Herrin, jr., 125 feet northwest of railroad station and 20 feet east of Harding pike; iron post stamped "592 NASH. 1901"
594.587
Watkins, 0.3 mile east of, 300 feet west of blacksmith shop, 15 feet northeast of spring, 25 feet south of road, 3 feet south of south bank of small stream, in rock ledge; bronze tablet stamped " 398 NASH. 1901.".
400. 932
whites creek, along highway via dry fork and addie, to springfield.
Dry Fork, 100 feet west of Freeman's store, south of road, on large bowlder; aluminum tablet stamped " 526 NASH. 1901".
528. 065
Whites Creek, 100 feet south of, northeast corner stone of north abutment of bridge over creek; aluminum tablet stamped " 466 NASF. 1901 ".
468. 875
Springfield, southeast corner stone of court house; aluminum tablet stamped "673 NASH. 1901".
675.897
springfield, via greenbrier and hygeia springs, to ridgetop.
Ridgetop, 80 feet north of northwest corner of station, 100 feet west of Louisville and Nashville track, corner of fence; iron post stamped " 876 NASH. 1901"
878.971
goodlettsville, south along gallatin pike, to nashville.
Edgefield, 55 feet south of main line Louisville and Nashville track, 150 feet south of station, about 70 feet south of switch tower, 1.5 feet east of northeast corner of porch to post-office and store of W. T. Burkhardt; iron post stamped "436 NASH. 1901".
438.910

NASHVILLE, EAST ALONG HIGHWAY VIA GLENCLIFF AND ANTIOCH, TO LAVERGNE.
Una, 900 feet east of former post-office, in milestone " 8 miles to Nashville;" bronze tablet stamped " 675 NASH. 1901"
679.161

Antioch, 175 feet east of Antioch Cooperative store, 30 feet south of railroad track, on left of path leading down to spring, in large bowlder; bronze tablet stamped " 502 NASH. 1901 " (recovered by precise line)
504.702

Lavergne, 400 feet east of station, 30 feet east of switch stand, 30 feet west of cattle guard, north of track, in large bowlder slightly oval on top; bronze tablet stamped " 553 NASH. 1901" (recovered by precise line)..
555.983
lavergne, north along highway via stewarts ferry and nonaville, to lygia (best of two lines).
Centralville, 40 feet west of former post-office, in rock; bronze tablet stamped " 542 NASH. 1901 "
545.355

Greenlawn, 75 feet north of Lebanon pike, 5 feet east of southeast corner of porch to store of J. H. Adams, 2 feet inside of wire fence; iron post stamped " 673 NASHं. 1901".
675. 169

Lygia, 300 feet east of junction of Cottontown road and Long Hollow pike,
west abutment of bridge over West Fork of Station Camp Creek, in north
or up-creek end of coping; bronze tablet stamped. " 484 NASH. 1901"... 486.406
white house, southeast along road, to lygia (mean of two lines).
White House, 275 feet southwest of post-office, 2 feet east of east line of fence to front yard of T. H. Covington's residence, 5 feet south of northeast corner, 85 feet northeast of store of Jernigan \& Freeland, west edge of Louisville-Nashville pike; iron post stamped " 857 NASH. 1901 ".... Feet. Cottontown, 80 feet southeast of post-office, 2 feet east of northeast corner of Christian Church, 175 feet northwest of G. W. Mitchell's store, 250 feet southeast of West Fork of Station Camp Creek, west edge of Red River pike; iron post stamped " 569 NASH. 1901 ".
GOODLETTSVILLE, NORTH ALONG HiGHWAY, TO WHITE HOUSE; THENCE SOUTHWEST TO GREENBRIER.

Greenbrier, 3.5 miles northeast of, 3.5 miles southwest of Baggettsville, at foot of cliff, north of road, in large bowlder; bronze tablet stamped " 618 NASF. 1901"
620. 471

## Woodbury quadrangle.

## CANNON, RUTHERFORD, AND WILSON COUNTIES.

The elevations in the following list were determined by extensions from the precise line of levels, Nashville to Prater. The leveling was done in 1906 by A. T. Bagley.

## WOODBURY QUADRANGLE.

WOodbury, north to auburn; thence west to milton; thence south to readyville.
Woodbury, 2.4 miles north of, on Doolittle Branch road, in limestone ledge
east of road, opposite and 150 feet south of $\log$ cabin and barn of $A$.

Feet.
848.01
787.370

Auburn, 100 feet south of former post-office, 40 feet east of bridge over Marshall Creek, 150 feet west of junction of Saunders Fork and Marshall Creek, in limestone ledge; aluminum tablet stamped " 677 "
679.051

Auburn, 2.6 miles west of, on Milton road, 75 feet west of Porterville road fork to southeast, in rock ledge; aluminum tablet stamped " 788 "
789. 359

Milton, in limestone ledge outcrop in plot of grass at forks of Wilson County and Auburn roads, 200 feet northeast of Milton Seminary, 180 feet southeast of W. T. Elrod's frame house; aluminum tablet stamped " 759 "....
Milton, 3.4 miles south of, on Milton-High Hill road, T road east to Halls Hill pike, 900 feet northeast of Mount Carmel Presbyterian Church, 8 feet west of center of road, in limestone ledge; aluminum tablet stamped " 765 "
766.940

Milton, 6 miles south of, on north side of Halls Hill pike, 1,100 feet east of Stone River Presbyterian Church, at T road south to Readyville, in limestone ledge; aluminum tablet stamped " 616 " (Prim. Trav. Sta. No. 1)
618. 116
auburn, to 3.9 miles northeast of.
Auburn, 1.6 miles northeast of, on Liberty road, southeast corner of crossroads, 400 feet north of house of E. J. Robinson, 60 feet south of scale shed, in limestone ledge; aluminum tablet stamped " 671 "
672.953
milton, north to ewingsville (SPur line).
Ewingsville, 4 feet south of southwest corner of schoolhouse, in rock ledge; aluminum tablet

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[^0]:    , a This bench mark was destroyed with building in 1906, and the new one was established in 1907 by precise levels from Holton.

[^1]:    MACON QUADRANGLE

[^2]:    $a$ The error in this line (-1.247) is excessive; an arbitrary adjustment of 1 foot was made at, first part of line.

[^3]:    $a$ This bench mark was destroyed in 1906; for new elevation see under " Precise leveling," $p$
    p. 34.

[^4]:    a Mean water level from observations taken September 18 to October 16,1902 , inclusive, is at 2.623 feet reading on gage, about 0.195 foot above mean sea level accepted from Drummonds Landing gage at Somerset.

[^5]:    - Portion of line from Salisbury, N. C., to Yorkville, S. C.

[^6]:    $a$ November 6, 1909, reported reset 3 to 8 feet higher.

[^7]:    $a$ North Carolina portion of circuit from Gowansville, S. C., southeast to Inman, S. C.; thence northeast to New Prospect, S. C.; thence north to Sandy Plains; thence southwest to Landrum, S. C. (See p. 108.)

[^8]:    a The correction to elevations of the U.S. Engineer Corps based on the Memphis datum in this vicinity is about 6.8 feet, to be subtracted to reduce to mean sea level.
    $b$ This bench mark is called "P.B. M. Memphis (new)" and was transferred from position of original permanent bench mark on account of removing of west wall and enfarging of building.

[^9]:    a This bench mark was set by the Nashville, Chattanooga and St. Louis Railway after construction work. Kindness of Chief Engineer Hunter McDonald.

