DEPARTMENT OF THE INTERIOR UNITED STATES GEOLOGICAL SURVEY

GEORGE OTIS SMITH, DIRECTOR

BULLETIN 441

RESULTS OF SPIRIT LEVELING

IN

ALABAMA, GEORGIA, NORTH CAROLINA, SOUTH CAROLINA, AND TENNESSEE

1896 TO 1909, INCLUSIVE

R. B. MARSHALL, CHIEF GEOGRAPHER

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 TENNES-SEE, 1896 TO 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 $0.017\sqrt{D}$, 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 $0.05\sqrt{D}$, 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 3¹/₂ 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 3½ 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.

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.

CHATTANOOGA, SOUTHWEST ALONG NASHVILLE, CHATTANOOGA AND ST. LOUIS RAILWAY, TO STEVENSON.

	reet.
Bridgeport, at west end of east bridge over Tennessee River; top o	f 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 Nas	shville,
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 ca	pstone;
bronze tablet stamped "624 NASHVILLE, 1899"	621. 443
Stevenson, 840 feet north of station, east end of stone culvert, top of	south-
east corner of capstone; bronze tablet stamped "627 NASHV	ILLE,
1899 "	624.095

STEVENSON, NORTHWEST ALONG NASHVILLE, CHATTANOOGA AND ST. LOUIS RAILWAY, TO ANDERSON FARM.

	reet.
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 above	
rail, 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.

·	reet.
Broomtown, at crossroads; iron post stamped "693"	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	011.000
"608"	593. 053
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-Pied-	
mont 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 lime-	500 543
stone ledge; copper bolt stamped "U. S. G. S. 597" Moshat, crossing of Cave Spring, Center, and Cedar Bluff roads, in north-	582. 541
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" Anderson's gin, 400 feet southwest of, at road fork; iron post stamped "R	585. 632
587"	572.299

LOOKOUT MOUNTAIN, NORTHEAST ALONG ALABAMA GREAT SOUTHERN RAILROAD, TO COLLINSVILLE.

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Milepost 78, 180 feet west of, south of track, at tangent point; top of iron rail set endwise in ground	Feet. 633. 12 674. 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" Firestone, south end of bridge over Little River, in northeast corner of	565. 85 8
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" Portersville, 500 feet northeast of station, Alabama Great Southern Railroad	1, 145. 272
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 ROAD.	
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. 54 8
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" Floy, north side of road in front of W. H. Elrod's house; iron post stamped	1, 159. 314
"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 RAILROAD 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" 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	922. 947
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".Blanche, 0.25 mile southeast of, 10 feet north of center of road to Broom-	1, 228. 596
town, in slate ledge; aluminum bolt stamped "760 A"	748. 28 6

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CENTER, SOUTH TO BALL FLAT.

CENTER, SOUTH TO TALL FLAT.	
Ricks, 7.6 miles south of Center, in northeast corner of crossroads; iron post stamped "622 R"	Feet. 607. 501
Center, 10 miles south of, at road forks and crossing, 120 yards west of mile- board, 5 feet from large oak tree; iron post stamped "591 R"	575. 760
BOMAR, SOUTH VIA SANFORD SPRING, TO SPRING GARDEN.	
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" Rockrun Iron and Mining Company, in yard of store, by fence just north of entrance to office; iron post stamped "754"	1, 056. 877 739. 375
GADSDEN QUADRANGLE.	
GADSDEN, NORTHWEST TO LOOKOUT MOUNTAIN.	•
Gadsden, southwest corner of foundation of court-house, Broad street front;	
bronze tablet stamped "569 R" 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"	
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" Wilson Ridge station (Southern Railway), 15 feet north of water tank, 20 feet west of railroad; iron post stamped "729 R" Parkers Creek, 200 feet south of, in small outcropping rock, west of road to Edwardsville; copper bolt stamped "822 A" Jenkins, 200 feet west of former post-office, 6.8 miles east of Jacksonville, 	701. 224 713. 446 820. 902
in ledge of rock on north side of Jenkins-Jacksonville road, 100 feet west of White Plains road; aluminum bolt stamped "805 R" Jacksonville, in east pilaster front of court-house; tablet stamped "734 R".	789. 570 719. 01 2
JACKSONVILLE, NORTH TO ALLSUP; THENCE EAST TO SPRING GARDEN.	
Jacksonville, in front of station sign; top of east rail Allsup, west of center of road, 75 feet north of mail box; iron post stamped	627.4
 "684 R" Shady Grove Church, 0.5 mile west of, north of Spring Garden-Goshen road, 300 feet northeast of Harrison Rutherford's house, in ledge of slate; bolt stamped "675 R" 	669. 176 660. 216
	000. 210
JENKINS, NORTHEAST TO SPRING GARDEN.	
Jacksonville, 9.5 miles from, at southwest corner of Nances Creek-Jackson- ville road, near sign "Piedmont 6½ miles;" iron post stamped "780 R". Piedmont (station on Southern Railway); top of north rail Piedmont, in front of brickwork Eubanks & Cheney's general store; bronze tablet stamped "720 R".	763. 786 700. 0
tablet stamped "721 R"	704. 559

ADELIA, WEST VIA MACK, TO READS.

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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. 751. 181
Mack, south of Jacksonville-Gadsden road, 100 feet east of Hokes Bluff road, opposite former post-office; iron post stamped "623 R"	608.068
READS, NORTH TO HOKES BLUFF.	
Reads, Louisville and Nashville Railroad crossing; top of rail Colvin, crossing east of station; top of rail 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	539. 4 641. 2
rock; copper bolt stamped "594 R" 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"	578. 915 546. 688
GLENCOE, NORTHWEST TO GADSDEN.	
East Gadsden, 0.1 mile southeast of station, southeast corner of forks of Gadsden-Jacksonville and Hokes Bluffroads; iron post stamped "566 R"	550. 695
JACKSONVILLE, WEST TO ALEXANDRIA; THENCE NORTH TO READS.	
Alexandria, Louisville and Nashville Railroad; top of west rail Hebron, 1.5 miles south of, 0.6 mile northwest of Tallasahatchee Creek Bridge; southwest corner fork of Hebron and Grayton roads; iron post	563. 8
stamped "582 R".,	567. 231
ALEXANDRIA, SOUTHWEST TO MORRISVILLE; THENCE SOUTHEAST TO ANNISTON.	
Alexandria, northwest corner of Hebron and Morrisville roads, opposite	•
blacksmith shop and 150 feet west of post-office; iron post stamped "577 R"	562. 276
Morrisville, east of road, 100 feet southwest of bridge over Cane Creek; iron post stamped "570 R"	555. 034
ANNISTON, NORTHEAST 3 MILES.	
Anniston, in stone base of south face of southeast column of porch at east side of Union Station; bronze tablet stamped "710 A"Anniston, between Twenty-fifth and Twenty-sixth streets; in wall of J. L.	709. 028
Murphy's yard on east side of Noble street; copper bolt stamped "810 A". Anniston, 3 miles northeast of station, 25 feet south of Rocky Hollow road, 200 feet west of where road crosses ridge, in bowlder; copper bolt stamped	808. 970
"1135 A" 1	, 133. 752
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"	691 041
Choccolocco, opposite east end of station, 20 feet north of Southern Bail-	631. 841
way; iron post stamped "671 A" White Plains, west of Main street, opposite road to Jenkins; iron post stamped "722 A"	670. 022 721. 373
LITTLE TERRAPIN CREEK, SOUTH TO EDWARDSVILLE.	
Edwardsville, 11 miles north of, west of road to Edwardsville, 300 feet south of Saunders Branch, in rock; copper bolt stamped '1266 A" 1	, 264. 977
Edwardsville, near southeast corner court-house, on east side; bronze tablet stamped "987 A"	985. 458

EDWARDSVILLE, WEST VIA HEFLIN AND OLD DAVISVILLE, TO CHOCCOLOCCO.

EDWARDSVILLE, WEST VIA HEFLIN AND OLD DAVISVILLE, TO CHOCCOLOCCO.	
 Heflin, 100 feet west of station, east of street, 40 feet north of Southern Railway; iron post stamped "975 A" Old Davisville, southeast corner of Chulafinnee-Iron City and Anniston roads; iron post stamped "724 A" 	Feet. 974. 343 723. 339
	. 201 000
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". Chulafinnee, 100 feet north of crossroads, in front of J. T. Rusk's store; iron post stamped "871 A". 	886. 843 870. 609
HICKS, WEST TO JENIFER; THENCE NORTH AND EAST TO ANNISTON.	
Hicks, opposite fork of road to Boiling Spring; iron post stamped "647 A".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;	645. 997
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" Coldwater, on west wall near northwest corner of pumping station, 18 inches	576. 875
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" Rockdale, iron bridge over Little Tallapoosa River, in top of east end of	1, 100. 563
south pier; copper bolt stamped "789 A"	788. 113 853. 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"Stroud, 18 feet south of southwest corner of railroad station; iron post	683. 346
stamped "851 ANNISTON" Finley, at road forks, 400 feet south of former post-office; iron post stamped	850. 847
"775 ANNISTON"	774, 585
Rock Mills, 10 feet south of, east end of bridge over Wehadkee Creek, in	
stone; copper bolt stamped "744 ANNISTON" Pittman, 1 mile south of, in northeast angle of road forks; iron post stamped	744. 130
"927 ANNISTON"	926. 897
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 "1201 ANNISTON"	1, 200. 695

Sewell, west of road, at southeast corner of store; iron post stamped "1254	Feet.
ANNISTON" 1	1, 253. 616
Graham, 2 feet south of southeast corner of Masonic Building; iron post	
stamped "1098 ANNISTON"	097 938

Dadeville, Opelika, Talladega, and Wetumpka quadrangles.

AUTAUGA, CHAMBERS, CLAY, CHILTON, COOSA, ELMORE, 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 Dadeville 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"	Feet. 433. 362
JENIFER, SOUTHWEST AND SOUTHEAST ALONG SOUTHERN RAILROAD, TO KELLYTON (DOUBLE-RODDED LINE).	
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". Talladega, at southeast corner of J. W. Cowen's store, 2 feet above ground;	531. 622
bronze tablet stamped "558 A" Berney, north side of William W. Matson's house, in brick chimney; bronze	557. 026
tablet stamped "609 A" Rendalia, north side of Walker Reynolds's house, in brick chimney; bronze	608. 034
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 "S18 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).

WEIGHTRA (DOUBLE-RODDED LINE).	
Kellyton, Webb Brothers' store, in north wall near northeast corner; bronze tablet stamped "776 A"	Feet. 775. 398
T. 22 N., R. 20 E., near northwest corner of sec. 8, at road forks; iron post stamped "802 A".	
Nixburg, northwest corner of sec. 7, T. 21 N., R. 20 E., at post-office; iron	800. 678
post stamped "732 A". T. 21 N., R. 19 E., SW. ½ sec. 1, on summit north of road; iron post stamped	731. 276
"735 A" (on single spur line) Equality, 2.5 miles south of, sec. 12, T. 20 N., R. 19 E., at road fork, oppo-	734. 271
site blacksmith shop; iron post stamped "746 A" Central, southeast corner sec. 30, T. 20 N., R. 20 E., opposite post-office;	745. 058
iron post stamped "637 A" Sandtuck, northeast corner sec. 14, T. 19 N., R. 19 E., opposite store; iron	636. 056
post stamped "489 A" Wetumpka, at northeast corner of court-house; bronze tablet stamped	487. 427
"178 A" Wetumpka, northwest corner of church, T. 18 N., R. 18 E.; bronze tablet stamped "183 A" (unchecked bench mark)	$177.\ 157$ $181.\ 614$
. SEC. 8, T. 22 N., R. 2) E., NORTHWEST TO SEC. 16, T. 23 N., R. 19 E. (SINGLE SPUR LINE).	101. 014
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" Rockford, sec. 13, T. 22 N., R. 18 E., in front wall of McEwen's store;	791. 397
 aluminum tablet stamped "736 A" T. 22 N., R. 18 E., NW. ¹/₄ sec. 4, in front of King's residence, in large oak tree; aluminum tablet stamped "590 A" T. 22 N., R. 17 E., near quarter corner north side sec. 2, at road fork; iron 	734. 896 588. 974
post stamped "682 A"	681. 710
Buyck, near center of sec. 22, T. 20 N., R. 18 E.; iron post stamped "459 A" Wetumpka, 3.7 miles north of, at road forks; iron post stamped "242 A".	457. 922 241. 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 WEST TO TRAVELERS REST.	
Rockford, at road forks, 4 miles south of, near center sec. 1, T. 21 N., R. 18 . E., 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. 1 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

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 T. 23 N., R. 16 E., near center sec. 36, north of road at creek; iron post stamped "564 A". T. 22 N., R. 16 E., near center of NW. ¹/₄ sec. 2, at road forks; iron post 	Feet. 562. 876
stamped "655 A"	653. 909
SEC. 19, T. 21 N., R. 18 E., SOUTHWEST TO SEC. 1, T. 20 N., R. 17 E. (SINGLE SPUR LINE).	
T. 21 N., R. 17 E., NE. ‡ sec. 25, at road forks; iron post stamped "555 A". T. 20 N., R. 17 E., quarter corner north side of sec. 1, in front of house west	555. 073
of road; iron post stamped "486 A"	485. 060
SANDTUCK, SOUTHEAST ALONG HIGHWAY, TO BURLINGTON.	
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; iron 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 KNIGHTS FERRY (SINGLE SPUR LINE).	•••
Wetumpka, station platform	182. 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" T. 18 N., R. 16 E., at northeast corner of crossroads; iron post stamped	369. 304
"629 A"	625. 775
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. 83 <u>6</u>
RAYS HILL, NORTHEAST VIA ALPHA SPRINGS, TO DEATSVILLE.	
Alpha Springs, T. 19 N., R. 16 E., at railroad crossing; iron post stamped	001 050
''313 A''.Deatsville, T. 19 N., R. 17 E., opposite water tank, in front of house; iron post stamped ''299 A''.	321. 070 306. 908
DADEVILLE QUADRANGLE.	
KELLYTON, SOUTHEAST ALONG CENTRAL OF GEORGIA RAILWAY. TO ALEXANDER CITY; THENCE ALONG HIGHWAY SOUTH TO DIKE; THENCE EAST TO DADEVILLE.	
Alexander City, sec. 27, T. 23 N., R. 21 E., in front of court-house; iron	
post stamped ''711 A '' T. 22 N., R. 21 E., quarter corner north line of sec. 3, at southeast corner of	709.850
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. ¹ / ₄ sec. 1, at road forks; iron post stamped "629 A" Dadcville, in sec. 4, T. 21 N., R. 23 E., in northeast corner of court-house;	626.625
bronze tablet stamped "737 A"	735. 132
DADEVILLE, NORTHEAST ALONG HIGHWAY, TO EASTON, THENEE EAST TO DUDLEYVILLE. T. 22 N., R. 23 E., near southwest corner sec. 27, at road forks; iron post	-1
stamped "725 A". Easton, sec. 12, T. 22 N., R. 23 E., at road forks; iron post stamped "787	722.766
A''. Dudleyville, 0.25 mile northwest of, sec. 1, Τ. 22 N., R. 24 E., at road forks; iron post stamped "730 Λ''.	784. 814 - 727. 565
53493°-Bull. 441-11-2	

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EASTON, NORTH (SINGLE SPUR LINE).

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Easton, 2.6 miles north of, southeast corner sec. 35, T. 23 N., R. 23 E., 10 feet west of road; iron post stamped "753 A"	Feet. 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, SOUTHEAST ALONG HIGHWAY VIA STOW FERRY, TO DADEVILLE.	
T. 22 N., R. 22 E., SE. ‡ sec. 6, in northeast corner of crossroads; iron post	
stamped "601 A" T. 23 N., R. 22 E., SW. ‡ sec. 32, at road forks; iron post stamped "543 A". Jacksons Gap, at road crossing; top of rail	598. 644 540. 994 644. 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 A" Barnesville (Walnut Hill), NW. ‡ sec. 24, T. 20 N., R. 22 E.; iron post stamped "635 A"	674. 394 633. 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" Fordyce, 2.9 miles north of Dudleyville, sec. 30, T. 23 N., R. 25 E.; iron	685. 826
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
road forks; iron post stamped "809 A"	806. 559
of Paul Huffman, 3 feet from ground; tablet stamped "768 A" Thornton, 5.4 miles east of south center of sec. 21, T. 20 N., R. 24 E., in	765. 977
foundation of chimney; tablet stamped "782 A"	780. 207
WAVERLY, SOUTH TO LOACHAPOKA.	
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 Loachapoka, 1.5 miles east of, southeast corner of sec. 29, T. 19 N., R. 25 E.;	676.1
iron post stamped "669 A" Beehive, 1 mile north of, north of southeast corner of sec. 6, T. 18 N., R.	666. 749
25 E.; iron post stamped "562 A"	560. 193
LOACHAFOKA, SOUTHWEST ALONG WESTERN RAILWAY OF ALABAMA, TO NOTASULGA; THENCE WEST ALONG, HIGHWAY TO NEAR GOLDDUST; THENCE NORTH TO BARNESVILLE.	
 T. 18 N., R. 23 E., southeast corner of SE. ¹/₄ sec. 5, 150 feet south of road, in small branch, in stone ledge; bronze tablet stamped "393 A" T. 19 N., R. 23 E., southwest corner of SW. ¹/₄ sec. 32, in foundation of 	390. 677
chimney; bronze tablet stamped "574 A" Thaddeus, T. 19 N., R. 22 E., sec. 24, in foundation of chimney of house	571. 567
owned by S. E. Segrest; bronze tablet stamped "633 A"	630. 260

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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" Burlington, sec. 3, T. 18 N., R. 21 E., in front of former post-office, at road 	Feet. 202. 391
forks; iron post stamped "545 A" Kent, sec. 22, T. 19 N., R. 21 E., at Weldon's crossroads, in foundation of	542.803
chimney; bronze tablet stamped "596 A" Channahatchee, T. 20 N., R. 21 E., 100 yards north of former post-office, in	594.092
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 RAILWAY TO MOUNT JEFFERSON.	
T. 19 N., R. 26, Auburn Polytechnic Institute, in northeast corner of	
laboratory; aluminum tablet stamped "713 A" Opelika, T. 19 N., R. 27 E., in corner stone of court-house; aluminum	710: 760
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; THENCE NORTHWEST ALONG HIGHWAY TO FINLEY.	
Cusseta, 2.5 miles southwest of, at road forks, west of railroad; iron post	
stamped "774 ANNISTON" Cusseta, road crossing; top of rail	773. 420 723. 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	720.1
stamped "635 ANNISTON" Lanett, 3.6 miles northwest of, north of road, between two oak trees; iron	635. 251
post stamped "695 ANNISTON" Fredonia, 1.5 miles southeast of, 85 feet southeast of Hardley Creek, in	694.73
stone ledge; bronze tablet stamped "686 ANNISTON"	685. 694
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West Point, 2.5 miles south of station, 0.5 mile north of park, 0.5 mile south- east 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	3. x 1
"634 ADJ. 1903" Langdale, 500 feet northwest of cotton mills, 30 feet southeast of south end	634. 347
of highway bridge, 25 feet southwest of creek, 5 feet north of road, in sandstone; aluminum tablet stamped "549 ADJ. 1903"	549. 539
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RESULTS OF SPIRIT LEVELING, 1896 TO 1909.

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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 schoolhouse; iron post stamped "700 ADJ. 1903"	Feet. 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"	631. 110
Jester, 500 feet west of station, 10 feet north of oak tree, 40 feet south of rail- road crossing; iron post stamped "619 ADJ. 1903"	619. 204
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	714.550
of road forks, in center between roads; iron post stamped "678 ADJ. 1903"	677.679
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	0171010
ADJ. 1903". 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	673.937
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	450. 277
road forks; iron post stamped "ADJ. 1903, 519"	519. 121
rail; aluminum tablet stamped "658 ADJ. 1903" 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,	657. 944
708"	708. 451
300 feet south of church; iron post stamped "586 ADJ. 1903" Chewacla, 3.5 miles southeast of, 120 feet north of milepost 22 from Colum-	685. 953
bus, 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" 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	750. 685
ADJ. 1903"	769.830
SALEM, SOUTH ALONG HIGHWAY, TO 1 MILE NORTH OF MEADOWS CROSSROADS; THENCE NORTH- WEST 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"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	526. 575
ADJ. 1903" Auburn, 6 miles southeast of, near signboard "29 miles to Columbus," in	616.084
road fork; iron post stamped "637 ADJ. 1903" Auburn, 3 miles southeast of, 0.25 mile north of A. E. Heard's residence,	637.091
at southwest corner of crossroads; iron post stamped "663 ADJ. 1903"	662. 886

Columbus and Scale 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.

COLUMBUS, GA., SOUTH ALONG CENTRAL OF GEORGIA RAILWAY, TO BRICKYARD CREEK.	
Columbus, 3.37 miles south of, 10 feet northeast of road crossing; iron post stamped "250 ADJ 1907"	Feet. 250. 488
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 MITCHELL; 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". Fort Mitchell, northeast corner of G. L. Sallass's store; iron post stamped	234.857
"Prim. Trav Sta. No. 2, 1906, 316 ADJ. 1907" Fort Mitchell, 2.86 miles south of, on road to Jamestown via Culpeper	316. 375
Landing, at road forks; iron post stamped "228 ADJ. 1907" Fort Mitchell, 5 miles south of, 30 feet southeast of road forks; iron post	227.963
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" Columbus, 5.5 miles west of, south of road to Crawford, 20 feet west of forks;	338. 704
iron post stamped "497 ADJ. 1907"	497.425
Soals Chapel, 2.08 miles south of, 15 feet southeast of forks; iron post stamped "331 ADJ. 1907"	
Seale, 9.36 miles north of, 20 feet southwest of forks; iron post stamped	336.064
Seale, 5.27 miles north of, at road forks; iron post stamped "373 ADJ. 1907"	372.860
Seale, 2.65 miles north of, 20 feet west of forks; iron post stamped "439 ADJ. 1907"	438, 945
Seale, to left of south entrance of jail, in wall; aluminum tablet stamped "357 ADJ. 1907"	357.511
Seale, 2.6 miles east of, 30 feet southwest of crossroads; iron post stamped	
"391 ADJ. 1907" Seale, 6.81 miles east of, at southeast corner of schoolhouse; iron post	391.164
stamped "343 ADJ. 1907"	.343.067

a The error distributed in this line is excessive.

SEALE, WEST 5.6 MILES ALONG CENTRAL OF GEORGIA RAILWAY; THENCE NORTH ALONG HIGHWAY TO CRAWFORD; THENCE EAST TO POINT 5.5 MILES WEST OF COLUMBUS.	
montant to owner only and the most to tone to a main a box of concerned.	Feet.
Sand Fort, southwest corner of store; iron post stamped "505 ADJ. 1907"	504.831
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"	302.849
COLUMBUS, GA., NORTHWEST ALONG CENTRAL OF GEORGIA RAILWAY TOWARD SMITHS STATION.	
Smiths Station, 4.4 miles south of, south side of northwest pier of bridge	
over Waterworks Creek, in top of pier; aluminum tablet stamped "307	
ADJ. 1903" (elevation from Opelika 2.949′ less)	306.674

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 stamped "ADJ. 1903, 592"	Feet. 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 "H 3, 517.070"	584.329
Sayreton, 1 mile west of, sec. 15, T. 17 S., R. 3W., 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"	632.965
Coalburg, northeast corner sec. 5, T. 17 S., R. 3 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 track; 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. 	Feet. 351. 231
 Sayre, 0.5 mile west of, sec. 29, T. 15 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". 	390. 221 303. 724
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.	
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	400 400
sandstone; aluminum tablet stamped "ADJ. 498, 1903" Partridge, sec. 2, T. 15 S., R. 4 W., southeast corner of crossroads; iron post stamped "ADJ. 407, 1903"	498. 422 407. 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 sfeet north of corner of foundation;	365. 601
aluminum tablet stamped "ADJ. 423, 1903"	423. 511
WARRIOR, NORTHEAST TO COALDALE.	
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" warrior, northwest along highway, to near arkadelphia; thence northeast to bangor.	572. 188
Warrior, sec. 13, T. 14 S., R. 3 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	551. 385
 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 	396. 211
ADJ. 1903" 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	704. 818
ADJ. 1903"	311.055

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RESULTS OF SPIRIT LEVELING, 1896 TO 1909.

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 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" T. 12 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; 	771. 592
bronze tablet stamped "751 ADJ. 1903" 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 Moun- tain, 10 feet south of highway, in bowlder; bronze tablet stamped "750	750. 502
 ADJ. 1903" T. 12 S., R. 3 W., south side of sec. 20, 100 feet southeast of Damascus Church, 300 feet north of road fork, 3 miles west of former country post- office, 20 feet west of large oak tree; iron post stamped "516 ADJ. 1903". 	750. 277 515. 341
T. 12 S., R. 3 W., near center sec. 23, 0.5 mile east of former country post- office, 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" Bangor, 1.5 miles west of, NW. 4 sec. 29, T. 12 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	370. 856
ADJ. 1903 " bangor; east along highway, to chepultepec; thence southwest along louisville and nashville railroad to village springs.	. 374. 43 4
 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" Bangor, 2.5 miles southeast of, SW. 4 sec. 26, T. 12 S., R. 2 W., 10 feet south of turn of road, in cliff of rock; bronze tablet stamped "792 ADJ. 	489. 431
1903" T. 12 S., R. 2 W., SE. ¹ / ₄ sec. 35, in southwest corner of crossroads, in solid	792. 144
 sandstone; bronze tablet stamped ''799 ADJ. 1903" 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 	798.624
solid sandstone; aluminum tablet stamped "431 ADJ. 1903" Tidmore, 1 mile southwest of, sec. 28, T. 12 S., R. 1 W., 50 feet west of Mill Creek, 50 feet east of schoolhouse, 10 feet south of highway, in	431. 484
bowlder; bronze tablet stamped "472 ADJ. 1903" 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	471. 980
 Hall; aluminum tablet stamped "515 ADJ. 1903" 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, 	515. 234
on sandstone; bronze tablet stamped "533 ADJ. 1903" Tidwell, 2 miles south of, NE. ½ sec. 11, T. 13 S., R. 1 W., 500 feet west of Martin ford of Little Warrior River, halfway down hill, 4 feet east of high-	533. 247
way, in bowlder; bronze tablet stamped "484 ADJ. 1903" 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	484. 351
sandstone; bronze tablet stamped "619 ADJ. 1903"	619.073

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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. 4 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. 4, T. 13 S., R. 1 E., 6 paces north of highway at railroad crossing, in limestone rock; aluminum	•
tablet stamped "722 ADJ. 1903" Swansea, south side of, sec. 32, T. 13 S., R. 1 E., on top of capstone of north- west pier of railroad bridge over Blackburn Fork, Little Warrior River;	722. 156
bronze tablet stamped "606 ADJ. 1903" 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,	606. 444
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	669. 219
 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 	685. 695
tablet stamped "665 ADJ. 1903"	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 trian- gular stone of culvert, east of railroad; aluminum tablet stamped "426 ADJ. 1903"	424. 629
LEEDS (BIRMINGHAM) QUADRANGLE.	
VILLAGE SPRINGS, SOUTHWEST ALONG HIGHWAY NEAR LOUISVILLE AND NASHVILLE RAILROAD, TO KETONA.	
Palmer, sec. 16, T. 15 S., R. 1 W., 0.1 mile south of station on west side of culvert of Birmingham Mineral Railroad; aluminum tablet stamped	
"695 ADJ. 1903" 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	694. 719
stamped "611 ADJ. 1903". 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	611. 478
stamped "637 ADJ. 1903". T. 16 S., R. 2 W., sec. 14, 60 feet south of milestone 10 from Birmingham, 300 feet southwest of residence, 60 feet west of Smiths Chapel, 10 feet	637. 334
 east of highway; iron post stamped "674 ADJ. 1903" 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" 	674. 089 572. 062
PINSON, SOUTHEAST ALONG HIGHWAY, TO TRUSSVILLE; THENCE NORTHEAST TO ARGO.	
 T. 16 S., R. 1 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". Trussville, T. 16 S., R. 1 W., south side of front entrance to D. N. Talby's 	811. 368
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 NASHVILLE RAILROAD AND THE SOUTHERN RAIL- WAY, TO LEEDS; THENCE NORTHWEST TO TRUSSVILLE.	
Irondale, 0.5 mile west of, sec. 23, T. 17 S., R. 2 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"	772. 523
Weems, sec. 17, T. 17 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 rail- ways 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 	620. 480
 feet from north end; aluminum tablet stamped "649 ADJ. 1903" 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, primary- 	649. 090
traverse station No. 9; bronze tablet stamped "627 ADJ. 1903" T. 17 S., R. 1 E., sec. 15, 60 feet west of Cedargrove Church, in limestone;	626. 463
 bronze tablet stamped "644 ADJ. 1903" 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 	644. 191
sandstone; aluminum tablet stamped "731 ADJ. 1903" Trussville, 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	730. 540
stamped "676 ADJ. 1903" 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 sand-	675. 572
stone; aluminum tablet stamped "827 ADJ. 1903"	827. 102
BESSEMER SPECIAL (BESSEMER) QUADRANGLE.	
BIRMINGHAM, SOUTHWEST ALONG HIGHWAY VIA POWDERLY, TO BESSEMER.	
Elyton (Princeton station), northwest corner of brick building on south- east 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	523. 711
 "U. S. ⊙ P. B. M. (Coast Survey value 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" 	513. 129 512. 404
NEAR HIGHLAND CHURCH, SOUTHWEST TO PELHAM; THENCE WEST TO M'CALLA.	0.224 101
Highland Church, 0.25 mile south of, west of road, in top of limestone bowl-	
der; aluminum tablet stamped "467 ADJ. 1903" Cahaba Valley Creek, west of road just north of ford over creek, in limestone	466. 979
bowlder: aluminum tablet stamped "445 ADJ, 1903"	445. 350

Pelham, in limestone bowlder at road forks, primary-traverse station No. 2702; tablet stamped "437 ADJ. 1903"	Feet. 437. 288
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" Birons Ford, 1.2 miles east of, at Dickey Spring, second ford east of Birons 	623. 847
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 FILTER 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 NASHVILLE 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 RAILROAD, TO M'CALLA.	
Jonesboro, 1.6 miles southwest of, at milepost "C-158," on southwest stone at bridge abutment; aluminum tablet (?) stamped "510.5 ADJ. 1903"	510. 479
VANDIVER (BESSEMER) QUADRANGLE.	
CAHABA FILTER PLANT, SOUTHEAST ALONG HIGHWAY, 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" Newhope Church, north of road, 100 feet east of ford over Cahaba Valley Creek, in limestone bowlder; aluminum tablet stamped "489 ADJ. 1903".	460. 957 489. 185
NEWHOPE CHURCH, NORTHEAST ALONG ROAD, TO LEEDS.	100. 100
 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" 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 	566. 855
ADJ. 1903" Shephard Branch, sec. 11, T. 18 S., R. 1 W., 75 feet north of ford, in lime-	545. 071
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
bowlder; aluminum tablet stamped "500 ADJ. 1903" Coalville, 1 mile south of, 5 feet northeast of road on hillside, in sandstone	499. 571
bowlder; aluminum tablet stamped "593 ADJ. 1903" 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	593. 335
stamped "498 ADJ. 1903"	498. 177

WILSONVILLE, NORTHWEST TO PHILLIPS CROSSROADS; THENCE WEST TO YELLOWLEAF NARROWS.

IAAAO WS.	
 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" Phillips Crossroads, 100 feet south of store, in southwest angle of crossroads; iron post stamped "Prim. Trav. Sta. No. 908, 530 ADJ. 1903" Phillips Crossroads, 1.4 miles west of, 20 feet west of roadway, in sandstone bowlder; tablet stamped "546 ADJ. 1903" 	Feet. 502. 297 529. 579 545. 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" Longview, at southwest corner of company store; iron post stamped "563	476. 975
ADJ. 1903". Varnons, on east side of right of way, 50 feet south of kiln, in rock; alumi-	563. 212
num tablet stamped "551 ADJ. 1903" Calera, 100 feet north of station, 66 feet west of railroad, in limestone;	550. 736
aluminum tablet stamped "Prim. Trav. Sta. No. 43, 497 ADJ. 1903" South Calera, east of road, 100 feet north of crossing, 175 feet west of track, in	496. 779
limestone; aluminum tablet stamped "546 ADJ. 1903" Ocampo, at southwest corner of company store; iron post stamped "Prim.	546. 308
Trav. Sta. No. 432, 549 ADJ. 1903"	548. 884
COALMONT, SOUTHWEST ALONG LOUISVILLE AND NASHVILLE BAILROAD, TO ANITA; 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" Gurnee Junction, on south side of cut at west end, on south wye of Southern Bailway to Laujaville and Nachville Bailway, area an stars	368. 039
Railway to Louisville and Nashville Railroad; cross on stone Anita, 2.4 miles east of, north of road, in red sandstone; aluminum tablet stamped '681 ADJ. 1903''	444. 07 680. 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" Aldrich, 600 feet south of station, east of Southern Railway at road crossing;	428. 604
point on rock. 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	442. 224
ADJ. 1903". Ashby, 500 feet north of station, south of road, in rock; aluminum tablet	335.964 *
stamped "454 ADJ. 1903". Curry's ford, 0.25 mile south of, at 3 corners; iron post stamped "Prim.	454. 920
Trav. Sta. No. 349, 427 ADJ. 1903 "	426. 354
Trav. Sta. No. 432, 549 ADJ. 1903"	548. 884
CÒLUMBIANA QUADRANGLE.	
LESTER CHAPEL, SOUTH TO COLUMBIANA; THENCE SOUTHWEST ALONG SOUTHERN RAILWAY TO CALERA.	
Columbiana, 2.7 miles north of, 10 feet east of roadway, in limestone bowl- der; aluminum tablet stamped "561 ADJ. 1903" Columbiana, side abutment of steps at south entrance of new jail; alumi-	560. 914
num tablet stamped "533 ADJ. 1903"	532. 935

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Columbiana, 3 miles southwest of, northwest pier of railroad trestle across Waxahatchee Creek; aluminum tablet stamped "504 ADJ. 1905" Shelby Springs, 100 feet north of west end of station, in pier of trestle;	Feet. 503. 922
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" Barnett, 3.6 miles east of, 800 yards south of railroad, near road forks, 5	630. 498
feet east of road; aluminum tablet stamped "643 ADJ. 1903" Shrader Mill, 4 miles south of, 100 feet east of road crossing, primary-	643. 119
traverse station No. 565; iron post stamped "539 ADJ. 1903" Shrader Mill, 1.25 miles south of, 20 feet south of small stream, 5 feet west of	539. 255
road, in sandstone; aluminum tablet stamped "403 ADJ. 1903" Shrader Mill, 1.25 miles north of, 300 feet north of small stream, 10 feet west	403. 121
of road, in sandstone; aluminum tablet stamped "433 ADJ. 1903" Shelby, 0.25 mile east of, east corner of brick building, near entrance, 300	433. 154
feet southwest of road forks; aluminum tablet stamped "490 ADJ. 1903".	489. 148
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" Spring Junction, 0.8 mile southeast of; copper nail in hollow in root of tree,	558.03
marked "611". Spring Junction, 1 mile southeast of, at crossroads; copper nail in root of	611.08
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" Spring Junction, 3.1 miles southeast of, at intersection; copper nail in root of tree, marked "497"	566. 009
Spring Junction, 3.7 miles southeast of, at intersection of road; copper nail	496. 97
in stump, marked "502" Sawyers Cove, 3 miles northwest of, 1,000 feet west of intersection, in bowlder west of road; aluminum tablet stamped "508"	502.13
Sawyers Cove, 1.8 miles northwest of, at intersection; copper nail in root of tree, marked "601"	508. 324
Sawyers Cove, 0.8 mile northwest of, at turn; copper nail in root of tree,	601. 04
marked "392"	392.57
Sawyers Cove, 0.1 mile southeast of, at intersection; copper nail in root of tree, marked "435"	434. 85
mark "419"	419. 39
	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".	412. 55
Jordan, 0.8 miles northeast of, at small stream north of road, in large stone outcrop; aluminum tablet stamped "484"	483.079

RESULTS OF SPIRIT LEVELING, 1896 TO 1909.

Jordan, 1.4 miles northeast of, at intersection; copper nail in root, marked "408"	Feet. 407.97
Jordan, 1.9 mile northeast of, at intersection; copper nail in root, marked "454".	459 60
Mosteller, 1.3 miles southwest of, at turn in road; copper nail in root of tree,	453.69
marked "386" Mosteller, 0.9 mile southwest of, at intersection; copper nail in root, marked	386. 35
"409"	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. 69
Woods Ferry, 0.6 mile west of, at summit; copper nail in root, marked	400.00
"522". Woods Ferry, 60 feet west of river, 50 feet south of road, in field, in flint	522. 01
bowlder; aluminum tablet stamped "374"	373. 385
SHELBY VIA MOSTELLER TO WILSONVILLE.	
Shelby, 1 mile east of, railroad bridge; iron bolt marked "471" Kewahatchie, 0.9 mile west of, at railroad bridge; top of rail marked "442". Kewahatchie, 150 feet north of railroad, southwest corner of house of	470. 72 442. 16
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" Mosteller, 1.1 miles east of, railroad bridge across Coosa River, in north	421.88
side of westernmost pier; aluminum tablet stamped "385 ADJ. 1908" Mosteller, 1.2 miles north of, at summit; copper nail in root, marked	385. 165
"430" Busby, 0.9 mile south of, at intersection; copper nail in root of large pine	430.06
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" Busby, 1.7 miles north of, at intersection; copper nail in stump, marked	401. 49
"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" Wilsonville, 2.8 miles southwest of, at intersection, 250 feet north of house	399. 640
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" Columbiana, 3.3 miles west of, at intersection of roads; iron post stamped	544. 12
"487" Columbiana, 3.8 miles west of, at summit; copper nail in root of tree,	486. 840
marked "575"	574.63
Columbiana, 5 miles west of, in hollow; copper nail in root of tree, marked "489"	488.66

GEORGIA.

Lynch. 1.6 miles east of, at summit, opposite house; copper nail in stump, marked "563"	Feet. 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 of, 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 ALONG SOUTHERN RAILWAY, TO CARBONDALE.

	Feet.
Red Clay, in front of railroad station; top of west rail	822. 9
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
Waring, 24 feet west of west rail of main track and 6.6 feet north of mile-	
post H. 35; iron post stamped "795 MC"	794.013
Dalton, in front of station; top of west rail	758.7

52 RESOLID OF STIRIT REVERING, 1000 TO 1000.	
Dalton, in water table at north side of Cleveland street entrance of Whit field county Court-house; bronze tablet stamped "774 MC" 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". Carbondale, at road crossing; top of west rail	
RINGGOLD QUADRANGLE.	101.0
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
ROME QUADRANGLE.	
SUGAR VALLEY, SOUTH ALONG SOUTHERN RAILWAY, TO ROCKMART.	
Oostanaula, road crossing; top of west rail	
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" Reeves, at road crossing; top of west rail	$\begin{array}{c} 618.\ 981 \\ 636.\ 2 \end{array}$
Plainville, in front of station; top of west rail	
Pinson, 23.3 feet east of west rail and 15.3 feet north of switch point; iron	L
post stamped "653 MC"	
Shannon, in front of station sign; top of west rail	684.4
Harper, at road crossing; top of west rail.	
North Rome, in front of station; top of west rail Etowah River, center of 300-foot bridge H 78.9; top of west rail	. 630. 1 . ⁻ 621. 4
Rome, in face of steps to Fourth avenue entrance of post-office; aluminum	
tablet stamped "614 MC"	
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	
Silver Creek, at road crossing; top of west rail	. 679.6
Chambers, at road crossing; top of west rail.	
Chambers, 0.08 mile south of, in north abutment of trestle H 86.3, 7 fee west of west rail; copper bolt stamped "697"	
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.	
Seney, 0.4 mile south of, 6-foot arch culvert, in west face wall, 6.3 fee	
south of center of arch; copper bolt stamped "799 MC"	
Ravenel, at road crossing; top of west rail	. 738.4
Long, at road crossing; top of west rail Seaboard Air Line Railway; top of north rail under Southern Railway	. 734.6
bridge H 101.7.	. 745.0
Southern Railway bridge H 101.7 over Seaboard Air Line Railway; to)
of west rail Rockmart, 0.1 mile north of, Euharlee Creek Bridge, in south abutmen	
5.7 feet west of west rail; copper bolt stamped "774 MC"	
Rockmart, in front of station; top of west rail	. 764.4
MARIETTA QUADRANGLE.	· · · · ·
ROCKMART, SOUTHEAST ALONG SOUTHERN RAILWAY, TO OAKDALE.	
Don, top of west rail at road crossing	Feet. . 912. 2
Beatty Switch, at road crossing; top of west rail	. 926.4
Braśwell, in front of station; top of west rail	

GEORGIA.

 Braswell, 0.5 mile south of, in west wall of tunnel, 3 feet from north portal; bronze tablet stamped "1088 MC" South Switch, in front of station; top of west rail McPherson, 79.8 feet west of west rail, 30 feet south of road crossing, 2 feet from northeast corner of J. E. Butler's house; iron post stamped "1015 	1, 087. 074 1, 062. 1
MC"	1, 013. 888
Pumpkinvine Bridge, at center of 360-foot viaduct H 116.7; top of west rail	
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
Ellenwood, 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.	

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RESULTS OF SPIRIT LEVELING, 1896 TO 1909.

 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" Jenkinsburg, 25 feet west of Southern Railway station, 20 feet south of track; iron post stamped "766 MOREHEAD, 1898" 	Feet. 836. 236 765. 148
JACKSON QUADRANGLE.	
JENKINSBURG, SOUTHEAST ALONG SOUTHERN RAILWAY, TO POPES FERRY.	
Jackson, in front of station; top of west rail Jackson, Butts County court-house, in sandstone just above water table at right of front entrance; aluminum tablet stamped "727 MOREHEAD, 1898"	696. 5
Flovilla, in front of station; top of west rail Cork, 10 feet south of station platform; iron post stamped "546 MORE-	726. 287 587. 8
HEAD, 1898" Berner, in front of station; top of west rail Juliette, 88 feet south of station, 15 feet west of center of track, 3 feet south	545. 597 393. 7
of milepost 217; iron post stamped "375 MOREHEAD, 1898" Dames Ferry, 3 feet north of station, 23 feet west of center of track; iron post stamped "347 MOREHEAD, 1898"	375. 040 346. 663
· •	010.000
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"	348. 29 338. 733
 Virgin, road crossing; top of west rail Virgin, 0.9 mile south of, at milepost 236; top of west rail Macon, United States post-office building at corner of Mulberry and Third streets, in water table at left of Mulberry street entrance; aluminum 	328. 4 309. 6
tablet stamped "334 MOREHEAD, 1898" ^a Macon, northeast corner of new post-office building; aluminum tablet Macon, 0.7 mile south of, at crossing of Central of Georgia Railway and	333. 942 332. 625
Southern Railway; top of west rail of Southern Railway Reid, opposite signboard, 40 feet southwest of center of main track; iron	310. 3
post stamped "272 MOREHEAD, 1898" Bullards, 2 feet south of south end of platform, 35 feet east of center of	271. 719
main track; iron post stamped "259 MOREHEAD, 1898" Adams Park, 19 feet east of center of track, 3.5 feet south of platform; iron post stamped "259 MOREHEAD, 1898"	258. 468 258. 640
	200.010
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- form; iron post stamped "234 MOREHEAD, 1898" McGriff, 12.5 feet west of center of track, 4.5 feet south of pump house; iron post stamped "259 MOREHEAD, 1898" 	234.130 258.517
Longstreet, in front of station; top of rail 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 MORE-	301. 5
HEAD, 1898"	341. 471

 ϵ . This bench mark was destroyed with building in 1906, and the new one was established in 1907 by precise levels from Holton.

GEORGIA.

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 MOREHEAD, 1898"	Feet. 381. 170
Gresston, 36 feet west of southwest corner of station, 17 feet west of center of track; iron post stamped "400 MOREHEAD, 1898" Eastman, 37 feet north of station, 17 feet west of center of track; iron post	400. 287
stamped "357 MOREHEAD, 1898" Godwinsville, 15 feet north of station, 20.5 feet west of center of main track;	356. 697
iron post stamped "312 MOREHEAD, 1898"Chauncey, 47 feet north of center of main track, 2 feet east of station platform; iron post stamped "300 MOREHEAD, 1898"Misler, in front of station; top of west rail	311. 460 299. 294 292. 7
Cox, in front of station; top of west rail	286.8
M'RAE QUADRANGLE.	
COX, SOUTHEAST ALONG SOUTHERN RAILWAY, TO M'RAE.	
Achord, opposite signboard; top of south rail 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	274.1
stamped ''275 MOREHEAD, 1898" Helena, crossing of Southern Railway and Georgia and Alabama Railway;	274. 532
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-	246. 6
HEAD, 1898"	229.327
LUMBER CITY QUADRANGLE.	
M'RAE, SOUTHEAST ALONG SOUTHERN RAILWAY, TO HAZLEHURST.	
Scotland, 8 inches east of east edge of railway station platform, 35 feet south of center of main track; iron post stamped "142 MOREHEAD,	
1898" Towns, 39 feet south of center of railway station platform, 34 feet south of center of main track; iron post stamped "128 MOREHEAD, 1898"	 141. 769 217. 505
Lumber City, 200 feet east of railway station, 52 feet north of center of main track, 26 feet southwest of corner of barber shop, 3.5 feet west of	217.000
chinaberry tree; iron post stamped "146 MOREHEAD, 1898" Hazlehurst, 30 feet south of center of main track, 2 feet east of railway station platform; iron post stamped "256 MOREHEAD, 1898"	145. 479 255. 640
BAXLEY QUADRANGLE.	200.040
HAZLEHURST, SOUTHEAST ALONG SOUTHERN RAILWAY, 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". Pine Grove, 39 feet east of road crossing, 47 feet east of freight platform at	243. 894
station, 16 feet south of center of main track, between two posts support- ing sign "Pine Grove;" iron post stamped "229 MOREHEAD, 1898" Baxley, 67 feet east of end of railway station building, 37 feet south of center of main track, 4 feet west of telegraph pole; iron post stamped	2?9.116
	205. 887
	200. 480
	186. 42 9

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RESULTS OF SPIRIT LEVELING, 1896 TO 1909.

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. 166. 696
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"	َ 154. 810
JESUP QUADRANGLE.	
AT JESUP.	
Jesup, 2.5 feet southwest of Southern Railway station (also station of Atlantic Coast Line), 33 feet northwest of center of main track of Atlantic Coast Line; iron post stamped "99 MOREHEAD, 1898"	99. 496
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 	61. 341
corner of dwelling house; iron post stamped "85 MOREHEAD, 1898"	85. 132
 Mount Pleasant, 95 feet northwest of railway station, 42 feet southwest of center of main track; iron post stamped "55 MOREHEAD, 1899" 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 	55. 443
and the Atlantic Coast Line Railroad, 2.5 feet northwest of telegraph pole; iron post stamped "16 MOREHEAD, 1899" 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	16. 305
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; alu-	
minum tablet stamped "10 MOREHEAD, 1899" Brunswick, Glauber & Isaac's warehouse, near McCullough's wharf; large spike in oak stump under hole made through floor (U. S. Engineer Corps	10. 688
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, 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)... 14.725

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.

CHATTANOOGA, SOUTHWEST ALONG NASHVILLE, CHATTANOOGA AND ST. LOUIS RAILWAY, TO STEVENSON, ALA. (PORTION OF LINE).

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 Railway 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.

MACON QUADRANGLE.

HOLTON, VIA MACON, TO JAMES.

Holton, 35 feet north of station, 29 feet west of center of track; iron post	Feet.
stamped "MOREHEAD, 339, 1898"	338. 733
Molton, 5.10 miles south of, at road to Macon Gas and Light Company's	
plant, corner of fence; iron post stamped "310"	310. 423
Macon, northeast corner of new post-office; aluminum tablet stamped	
···333 "	332.625
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".	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
James, 0.94 mile northeast of, west side of track, milepost 63, top of;	
aluminum tablet stamped "486"	485. 680

MERIWETHER QUADRANGLE.

JAMES, NORTHEAST ALONG GEORGIA RAILROAD, TO MILLEDGEVILLE.

	Feet.
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.

Dalton, north side of Cleveland street entrance to county court-house, in water table; bronze tablet stamped "774 M. C."	Feet. 773. 419
Oran, 1.5 miles east of, 0.5 mile east of Federal road, on north edge of road,	
in limestone; bronze tablet stamped "800 ATLANTA"	799. 213
Hassler Mill, 1 mile northeast of, 1.5 miles east of junction of Dalton road	
with Westfield pike, 0.1 mile north of John Gregory's residence, west	
edge of road, in limestone; bronze tablet stamped "919 ATLANTA"	918. 195
Conasauga, on south side of road opposite John McClurd's store, in sand-	
stone; bronze tablet stamped "1518 ATLANTA" 1	, 517. 225

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 AT-	
LANTA " 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	. 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 BLUE RIDGE.

•

RIDGE.	
Mineral Bluff, 0.5 mile east of, in ledge of slate on left of road, 225 feet east of Burrell's blacksmith shop; copper bolt stamped "1644" 1, Morganton, grove opposite Baptist Church; copper bolt stamped "1839" 1, MORGANTON, EAST ALONG HIGHWAY, TO YOUNG CANE; THENCE SOUTHWEST TO DICK;	611.532
MORGANION, EAST ALONG HIGHWAY, TO YOUNG CANE, THENCE SOUTHWEST TO DICK, THENCE NORTH TO MORGANION.	
 Brackett's store, opposite church near store, southwest of and 110 feet from intersection of roads; copper bolt stamped "1906"	178. 122 933. 037 355. 577
stamped "1887 Ft."	853. 887
ledge above river; copper bolt stamped "1859"	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."	947. 821
YOUNG CANE, SOUTHEAST ALONG HIGHWAY, TO MULKY GAP; THENCE SOUTH TO CAVENDER BRIDGE; THENCE WEST TO DIAL.	
Mulky Gap, 200 yards north of summit, in large rock on left of road; copper	,
bolt stamped "2760"	
TOCCOA RIVER ROAD, SOUTH UP ROCK CREEK ROAD, TOWARD ARGO.	062.207
Argo, 2 miles north of, at crossing of Rock Creek, in rock on left edge of road; copper bolt stamped "2199"	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. 2152 Ft. B. M."	119.15
Cooper Gap, summit of, 175 feet to left of road in field; copper bolt stamped "2861"	
Two Run, 2 miles southeast of, in large quartz rock on right of road about 700 feet beyond fork of Narrow Gauge and Dahlonega roads; copper bolt	828. 194
stamped "1632"	599. 230
stamped "U. S. G. S. B. M. 1360 Ft." 1,	327. 801
BLAIRSVILLE, NORTHWEST ALONG HIGHWAY, TO CULBERSON, N. C.	
Ivylog Church, at Murphy-Culberson road fork; iron post stamped "1949". 1, Culberson, N. C., 1.5 miles southeast of, in rock at crossing of creek on right of road, about 700 feet beyond stream; copper bolt stamped "1617". 1,	
BLUE RIDGE, NORTH ALONG LOUISVILLE AND NASHVILLE RAILROAD, TO M'CAYS (DOUBLE- RUN LINE).	001.010
Curtis, 2 miles south of, at right of railroad, on rock ledge; aluminum tablet	
stamped "1533"	533. 074
railroad; aluminum tablet stamped "1512"	511. 923
east abutment, fifth course of stone in abutment, east side; aluminum tablet stamped "1472" (elevation possibly plus or minus 1 foot in error). 1,	471. 344

DAHLONEGA QUADRANGLE.

BLAIRSVILLE, SOUTHEAST ALONG HIGHWAY, TO TESNATEE GAP; THENCE SOUTHWEST TO DAHLONEGA.

DANBOADGA.	
Blairsville, in foundation wall at northwest corner of county court-house; Feet. bronze tablet stamped "1892 ATLANTA"	536 337 142 349 355
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"	562 269 775 666
CLEVELAND, SOUTHEAST ALONG HIGHWAY, TO VIEW; THENCE NORTHEAST TO CLARKES- VILLE.	
 Benefit, 1 mile northwest of, 2.5 miles southeast of Cleveland, north of road, in rock ledge; bronze tablet stamped "1476 ATLANTA". 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". Demorest, step at entrance to bank, top of southwest corner. 1, 349. 	558
DEMOREST, SOUTH ALONG HIGHWAY AND TALLULAH FALLS RAILWAY, TO CORNELIA.	
Cornelia, at southwest corner of King & Seller's store; bronzo tablet stamped "1522 ATLANTA"	391
 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"	650 917 140

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 Clay-	,
ton 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 AT-	° . •
LANTA"	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.

Stilesboro, 3.8 miles southwest of, 5 yards northeast of road forks, 100 yards	Feet.
west of house on Brasswell road; iron post stamped "727 ADJ. 1906"	726.995
Stilesboro, 7.65 miles southwest of, on Brasswell road, 5 yards northeast of	
road fork east; iron post stamped "1101 ADJ. 1906"	1, 100 . 976
ACWORTH, SOUTHWEST TO BRASSWELL.4	
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, 196

a The error in this line (-1.247) is excessive; an arbitrary adjustment of 1 foot was made at first part of line.

RESULTS OF SPIRIT LEVELING, 1896 TO 1909.

ROCKMART, ALONG SEABOARD AIR LINE RAILWAY, TO CARTERSVILLE.

 Stilesboro, 400 feet northwest of station, at southwest corner of foundation of M. E. Church; aluminum tablet stamped "741 ADJ. 1903" Cartersville, 4.4 miles west of; in northeast corner of east abutment of bridge over Etowah River; aluminum tablet stamped "680 ADJ. 1903" Cartersville, main entrance to court-house, on top of coping of west wing wall; bronze tablet stamped "787 ATLANTA" 	Feet. 741. 205 680. 489 786. 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. 918 750. 8 820. 791 752. 134 697. 5
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 Cement, 30 feet north of mail rack, in northwest corner of west abutment of railroad culvert; aluminum tablet stamped "672 ADJ. 1903"	672. 0 672. 104
Halls, 150 feet north of station; top of west rail of main track	773. 6 777. 941
Adairsville, in north front face of hotel Midway, 8 feet east of main entrance;	777.941
aluminum tablet stamped "713 ADJ. 1903" 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-	713. 365
let stamped "673 ADJ. 1903" FERGUSSON CROSSROADS, EAST 3 MILES; THENCE SOUTH TO CASSVILLE.	673. 294
Fergusson crossroads, in south chimney of Mr. Fergusson's house; aluminum tablet stamped "682 ADJ. 1903" Fergusson crossroads, 3.1 miles east of, in southeast angle of road forks; iron	682. 156
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" Folsom, 3.2 miles south of, 107 feet south of Green schoolhouse, 250 feet north of J. M. Green's house, 10 feet west of road, in top of large rock; 	802. 722
aluminum tablet stamped "909 ADJ. 1903" Cassville, 4 miles north of, 400 feet north of Oakdale schoolhouse, top of hill	908. 840
at second-class crossroads, 5 feet south of mail box; iron post stamped "903 ADJ. 1903"	903. 383

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POINT EAST OF FERGUSSON CROSSROADS, NORTH TO FARMVILLE; THENCE EAST TO FAIRMOUNT.

POINT EAST OF FERGUSSON CROSSROADS, NORTH TO FARMVILLE, THENCE EAST TO FARMOUNT.	
Farmville, in south side of west chimney of G. W. Stewart's house; alu- minum tablet stamped "735 ADJ. 1903"	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"Corbin, at road intersection; iron post stamped "1046 ATLANTA"	865. 877 1, 045. 855
SUTALLEE, SOUTHEAST TO WOODSTOCK; THENCE WEST TO ACWORTH; THENCE NORTHWEST TO ALLATOONA.	
Sutallee, in southeast angle of crossroads, opposite store; iron post stamped "1110 ADJ. 1903"	1, 110. 271
Etowah River, in large rock at south end of steel bridge; aluminum tablet	
stamped ''822 ADJ. 1903" Woodstock, 6.5 miles northwest of, 0.4 mile south of Putnam ford, in large	821. 865
rock 6 feet west of road; aluminum tablet stamped "836 ADJ. 1903" Woodstock, 200 feet south of station, in southeast corner of Mr. Fowler's	835. 983
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" Acworth, 2.9 miles east of, 0.3 mile southeast of Nashville, Chattanooga	899. 291
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". Acworth, 100 feet south of west end of station, at northeast corner of drug	972. 471
store; aluminum tablet stamped "912 ADJ. 1903"	911. 765
Acworth, 4 miles north of, in northeast corner of north abutment of railroad	0
bridge 375 over Allatoona Creek; aluminum tablet stamped "862 ADJ. 1903"	862. 180
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".	0.43 .000
i i i i i i i i i i i i i i i i i i i	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;	757. 557
aluminum tablet stamped "707 ADJ. 1903"	707. 529

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FAIRMOUNT, EAST ALONG HIGHWAY, TO JERUSALEM; THENCE SOUTH TO SUTALLEE.

Fairmount, 3.6 miles northeast of, at top of hill, 20 feet north of road, in Fee large soapstone; aluminum tablet stamped "1061 ADJ. 1903"	
Jerusalem, northwest corner of church; aluminum tablet stamped "1216 ADJ. 1903"	645
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"	589
 Waleska, 2.9 miles north of, opposite road fork to northwest, 15 feet east of road; iron post stamped "1115 ADJ. 1903"	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"	900
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	
	. 491

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.

AT ROME.

Rome, Second Avenue Bridge crossing Oostanaula River; zero of gage	
established by U. S. Engineer Corps (Engineer Corps old elevation	Feet.
576.41)	561.47
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	
"702"	687.171
Summerville, at southeast corner of county court-house; bronze tablet	
stamped ''668"	653.077
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ROME, WEST ALONG CENTRAL OF GEORGIA RAILWAY. TO LAVENDER; THENCE NORTHEAST ALONG HIGHWAY TO CRYSTAL SPRINGS.	
Lavender, near station and west of schoolhouse, east side of J. F. Maple's yard, near front gate; iron post stamped "697" Fouche, in southwest corner of front yard of G. W. Milum; iron post	Feet. 682.765
 stamped "742" 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 	726. 626
W. T. Freeman's front yard; iron post stamped "660"	665. 49 1
LAVENDER, NORTH ALONG CENTRAL OF GEORGIA RAILWAY 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"Lyerly, northwest corner of A. McLeod's front yard, on main Summerville	694.862
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	eee 190
"681"	666. 130 768. 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" Cave Spring, 5.5 miles southeast of, in R. A. Ray's front yard between	892.470
corner of house and corner of yard on east; iron post stamped "770"	755. 326
Cave Spring, Deaf and Dumb Institute, in wall near cornerstone of build- ing, 1.3 feet above outer brick of trimming course; bronze tablet	1
stamped "664" Foster Mills, 0.8 mile north of, 300 feet north of summit of hill, in rock on	649.742
east side of road; copper bolt stamped "630 U. S. G. S."	615.224
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; aluminum tablet	788. 797

LAGRANGE, NORTH ALONG HIGHWAY VIA FRANKLIN, TO ROOPVILLE; THENCE WEST TO GRAHAM.

Wares, in northwest angle of crossroads; iron post stamped "751 ANNIS- TON"	Feet. 750.608
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 ANNIS-	
TON "	647.514
Centralhatchee, 2 miles southeast of, at junction of road from Central-	
hatchee 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
Roopville, on east side of street, 200 feet south of road leading west; iron	
post stamped "1253 ANNISTON"	1,252.671
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 sou	of, in angle of crossroads; iron post	
stamped "1074 ANNISTON"	1,073.27	4

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 QUADRANGLE.

M'DONOUGH, SOUTHWEST ALONG SOUTHERN RAILWAY, TO MOLINA.

McDonough, in granite footstone of stone arch, at right of main entrance to	Feet.
county court-house; aluminum tablet stamped "866 MOORHEAD, 1898"	865.441
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
ADJ. 1903" Towalaga, in front of station; top of east rail	742.8
	141 L L

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 "712 ADJ. 1903"	Feet. 712. 534
Experiment, in front of station; main track, top of east rail Experiment, 350 feet west of station, 50 feet west of post-office, in small brick monument; aluminum tablet stamped "946 ADJ. 1903"	941. 6 946. 205
Griffin, in front of station; top of rail Griffin, in front face at northwest corner of county court-house; aluminum	961. 9
tablet stamped "969 ADJ. 1903"	969. 373
ney of G. C. Gaisert's house; aluminum tablet stamped "977 ADJ. 1903". Rover, in front of station, main track; top of west rail Williamson, 275 feet east of Southern Railway, northwest of railway crossing, in south chimney of residence of J. M. Thompson; aluminum tablet	977. 460 972. 4
stamped "922 ADJ. 1903" Reidsboro, in front of station, main track; top of east rail 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	921. 727 903. 3
tablet stamped "881 ADJ. 1903". 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	881. 498
store; aluminum tablet stamped "815 ADJ. 1903" Neal, in front of station; top of west rail 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	815. 366 813. 5
"819 ADJ. 1903" Molina, 300 feet northeast of station, 100 feet east of railway, in southwest	819. 279
corner of Molina warehouse; aluminum tablet stamped "776 ADJ. 1903". TALBOTTON QUADRANGLE.	776. 603
MOLINA, SOUTHWEST ALONG SOUTHERN RAILWAY, TO ELLERSLIE.	
Molina, 2.3 miles south of, southeast pedestal of bridge over Flint River;	
aluminum tablet stamped "679 ADJ. 1903"	679. 569
Raleigh, in front of station, top of rail Bullochville, in north wall of brick storehouse of B. F. Bulloch, post-office	780. 48 0 754. 4
building; aluminum tablet	
	929. 664. 026. 4
Shiloh, in first pillar east of southwest corner pillar under platform to sta- tion; aluminum tablet	
Shiloh, in first pillar east of southwest corner pillar under platform to station; aluminum tablet	026.4
 Shiloh, in first pillar east of southwest corner pillar under platform to station; aluminum tablet Oak Mountain station (Cleola post-office), 75 feet west of railroad, 100 feet southwest of station; iron post stamped "Prim. Trav. Sta. No. 11" Waverly Hall, in east edge of north wall of large brick storehouse, occupied by I. H. Pitts & Bro.; aluminum tablet Ellerslie, 30 feet north of stone house of R. F. Carter & Son, 10 feet west of 	026. 4 905. 523
 Shiloh, in first pillar east of southwest corner pillar under platform to station; aluminum tablet Oak Mountain station (Cleola post-office), 75 feet west of railroad, 100 feet southwest of station; iron post stamped "Prim. Trav. Sta. No. 11" Waverly Hall, in east edge of north wall of large brick storehouse, occupied by I. H. Pitts & Bro.; aluminum tablet 	026. 4 905. 523 675. 985 728. 897
 Shiloh, in first pillar east of southwest corner pillar under platform to station; aluminum tablet Oak Mountain station (Cleola post-office), 75 feet west of railroad, 100 feet southwest of station; iron post stamped "Prim. Trav. Sta. No. 11" Waverly Hall, in east edge of north wall of large brick storehouse, occupied by I. H. Pitts & Bro.; aluminum tablet 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 woodsbury, WEST ALONG MACON AND BIRMINGHAM BAILWAY, TO HARRIS. Snelson, road crossing at flag station; top of rail	026. 4 905. 523 675. 985 728. 897
 Shiloh, in first pillar east of southwest corner pillar under platform to station; aluminum tablet Oak Mountain station (Cleola post-office), 75 feet west of railroad, 100 feet southwest of station; iron post stamped "Prim. Trav. Sta. No. 11" Waverly Hall, in east edge of north wall of large brick storehouse, occupied by I. H. Pitts & Bro.; aluminum tablet 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 woodsbury, WEST ALONG MACON AND BIRMINGHAM BAILWAY, TO HARRIS. 	026. 4 905. 523 675. 985 728. 897 716. 160

HARRIS, SOUTHWEST ALONG CENTRAL OF GEORGIA RAILWAY, TO COLUMBUS.

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	859.827
tablet	789. 600
Cameo, in foundation to section house in northwest corner of road crossing;	
aluminum tablet Chipley, 100 feet south of station, northeast corner of court to Commercial	831. 125
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 Cataula, 4 miles north of, in north pier of railroad bridge over Mulberry	605.9
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 feet northwest 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 side of hotel called Morris House; aluminum	
tablet stamped "581 ADJ. 1903" Juniper, in brick wall at rear of station; aluminum tablet stamped "422	580. 757
ADJ. 1903". Box Springs, in foundation 3 feet to right of signal window, near entrance;	421. 380
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" Upatoi, 3 miles southwest of, on top of small culvert south of track; alumi-	417.812
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 RAILROAD TO PASCHAL.	1
Ellerslie, 5.3 miles east of, north edge of road, opposite small white dwelling	
occupied by D. U. Biggs; iron post Newry (former post-office), in southwest corner of yard at Hendrick resi-	749.649
dence north of road; iron post	828. 158
OPELIKA QUADRANGLE.	
NEWRY TO LAGRANGE.	

MOUNTAIN HILL, NORTH ALONG HIGHWAY, TO JONES CROSSROADS; THENCE NORTHWEST TO GABBETTVILLET; THENCE NORTHEAST TO LAGRANGE.

Mountain Hill, 1.2 miles north of, on long hill 50 feet north of road, in front face of south chimney of J. W. Cline's residence; aluminum tablet stamped "779 ADJ. 1903"	Feet. 778. 892
Whitesville, 200 feet south of former post-office, 50 feet west of store at cross- • roads; iron post stamped "735 ADJ. 1903. Prim. Trav. Sta. No. 13"	734. 381
Jones Crossroads, 750 feet south of former Paulina post-office, at foot of short hill, at road forks, 100 feet east of road, in chimney of H. P. Studi- vant's house; aluminum tablet stamped "801 ADJ. 1903"	800. 228
Jones Crossroads, 3 miles northwest of, in southeast corner of east pedestal Alfred's bridge over Flat Shoal Creek; aluminum tablet stamped "613	89 0. 22 8
ADJ. 1903" Gabbettville, 100 feet south of station, 100 feet east of post-office, in front	612. 289
face of brick warehouse; aluminum tablet stamped "606 ADJ. 1903" Cannonville, 3.3 miles northeast of, 700 feet north of highway crossing, in southeast culvert over small stream; aluminum tablet stamped "648	605. 417
ADJ. 1903"	647. 426
MOUNTAIN HILL, SOUTH ALONG HIGHWAYS (DOUBLE-RODDED SPUR LINE).	
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"	565. 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 Alabama bridge over Chatta- hoochee River, on north end of granite pier; bronze tablet stamped "573	
ANNISTON". West Point, in northwest corner of freight station, in twelfth layer of brick from bottom, 1.6 feet south of north end; aluminum tablet stamped "570	573. 423
ADJ. 1903"	570. 503
store (former post-office); aluminum tablet Baughville, 3.9 miles north of, south edge of road, 2 feet southwest of post	759. 776
to mail box, on property of B. F. Childre; iron post Talbotton, 10 feet north of southeast corner of court-house; iron post	660. 319 725. 587
TALBOTTON, NORTH ALONG HIGHWAYS VIA PLEASANT HILL, TO BULLOCHVILLE.	
Talbotton, 2.5 miles north of, southwest corner of abutment of bridge over	
Edwards Creek; bronze tablet Belleview, at residence of J. H. Bryan, in northeast corner of yard; iron	536. 084
post stamped "Prim. Trav. Sta. No. 7" Belleview, 3.2 miles northeast of, 1,000 feet west of residence of the widow	747.460
Owen, in triangle at road forks to south, on rock; aluminum tablet Evans Chapel, 1,500 feet west of, in west chimney of Franklin Academy;	730. 650
aluminum tablet	789.492
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"	791. 221
SHILOH, EAST ALONG PUBLIC HIGHWAY (SPUR LINE, CHECKED).	
Shiloh, 2 miles east of, 200 feet east of crossroads, 15 feet north of edge of road; iron post	866. 74 0
53493°—Bull. 441—11—4	

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HAMILTON, WEST AND NORTH ALONG PUBLIC ROADS VIA COPELAND AND TROUP FACTORY, TO NEWRY.

Hamilton, 3.5 miles southwest of, 250 feet southeast of house of Virgil Hud- son (colored), property owned by John Hudson (white); iron post Hamilton, 9.5 miles west of, 0.3 mile north of five points crossroads, 10 feet	Feet. 659. 161
off east edge of road to northeast at summit of ridge, in rock; bronze tab-	050 040
let Copeland, 2.6 miles northeast of, 40 feet southeast of intersection of roads,	853. 249
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	
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. Ursula, 0.8 mile northeast of former post-office, at junction of public roads,	676. 273
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 RAILWAY, 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 RAILWAY, 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

a This bench mark was destroyed in 1906; for new elevation see under "Precise leveling," p. 34.

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 Butler, 3.7 miles southwest of, in southeast end of tenant's house of Supervisor Watson's plantation, in chimney; aluminum tablet stamped "652 ADJ. 1903". Howard, in northeast corner of O. T. Matthews & Co. store; aluminum tablet stamped "634 ADJ, 1903". Paschal Junction, 100 feet east of station, primary-traverse station No. 5; 	Feet. 652. 078 634. 225
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" Columbus, 1 mile northwest of station, east end of Central of Georgia Railway bridge over Chattahoochee River, north of track, in third step from top of abutment; aluminum tablet stamped "255 ADJ. 1903" 	250. 267 255. 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" Esquiline flag station, in front of; top of rail	244. 678 305. 4
Columbus, 7.75 miles east of, in southwest pillar of railroad bridge over Upatoi Creek; aluminum tablet stamped "235 ADJ. 1907" Ochillee, at southwest corner of store; iron post stamped "273 ADJ. 1907". Cusseta, in southeast corner of jail, south front; aluminum tablet stamped	235. 282 273. 042
"540 ADJ. 1907"	540. 104
POINT 5 MILES SOUTHEAST OF OCHILLEE, NORTH ALONG HIGHWAY VIA COOR'S MILL, TO NEAR UPATOI; THENCE WEST TO CENTRAL OF GEORGIA RAILWAY; THENCE SOUTHEAST ALONG LATTER TO POINT 3 MILES SOUTHEAST OF COLUMBUS.	
Halloca station, 10 feet south of where road crosses track; iron post stamped "323 ADJ. 1907". Halloca, 2.8 miles north of station; on road to Upatoi via Cook's mill, at	322. 783
northwest corner of schoolhouse (old court-house) yard, iron post stamped "Prim. Trav. Sta. No. 4 1906, 486 ADJ. 1907" 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	486. 369
ADJ. 1907" Halloca station, 10.3 miles north of, on road to Upatoi where Columbus road	289. 585
turns west, east of forks; iron post stamped "466 ADJ. 1907" Columbus, 10.5 miles east of, 25 feet northeast of crossroads; iron post	466. 078
stamped "490 ADJ. 1907" Columbus, 6 miles east of, on road to county farm, 20 feet southwest of rail-	490. 300
road crossing; iron post stamped "272 ADJ. 1907" CUSSETA, SOUTH AND WEST ALONG HIGHWAY, TO JAMESTOWN; THENCE NORTHWEST TO COLUMBUS.	272. 013
Cusseta, 2.5 miles southwest of, on road to Jamestown, at road forks; iron post stamped "Prim. Trav. Sta. No. 3, 1906, 475 ADJ. 1907"Jamestown, 0.25 mile north of, in southwest angle at road forks; iron post	475. 243
stamped "451 ADJ. 1907"	450. 683

RESULTS OF SPIRIT LEVELING, 1896 TO 1909.

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 (CHECKED LINE).

Jackson, at right of front entrance of court-house; bronze tablet stamped	Feet.
"727 MC"	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.	
Willard, 1.5 miles northwest of, at railroad cossing, 120 feet south of mile-	
post 219, 12 feet east of track; iron post stamped "590"	589.647
Athon Siding, in front of station; top of rail	603. 7
Athon Siding, 7 feet north of track, 50 feet east of warehouse; iron post	

a Permission was granted L. O. Benton, August 5, 1908, to remove this bench mark.

603.562

635.6

stamped "604".....

Aikenton, in front of station; top of rail.....

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GEORGIA.	00
 Aikenton, 1.4 miles north of, 20 feet north of track at railroad crossing, east margin of highway; iron post stamped "650" Machen, 0.8 mile northeast of, 0.25 mile southwest of Shady Dale, northwest corner of Providence M. E. Church, near crossing; iron post stamped "626 ATLANTA, 1903" 	Feet. 650. 103 626. 310
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MADISON QUADRANGLE.	
GODFREY, NORTH ALONG CENTRAL OF GEORGIA RAILWAY, TO MADISON; THENCE SOUTHEAST , ALONG 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" 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 	625. 100
stamped "445 ATLANTA, 1903"	445. 820
MERIWETHER QUADRANGLE.	
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MILLEDGEVILLE, NORTH ALONG CENTRAL OF GEORGIA RAILWAY, TO NEAR MEDA.	
State farm, 2.4 miles northwest of, railroad crossing; top of rail State farm, 3.5 miles northwest of, 45 feet north of milepost 192, 50 feet	444. 1
west of track at east margin of highway; iron post stamped "453" State farm, 6.4 miles northwest of, 0.3 mile south of Meriwether, 25 feet	453. 023
east of track, at milepost 195; iron post stamped "356"	356. 357
Meriwether, in front of station; top of rail Meriwether, 2.7 miles north of, 298 feet north of milepost 198, 20 feet east	348. 8
of track, 10 feet south of private road crossing; iron post stamped "419" Dennis, in front of station; top of rail	419.461
Dennis, 1 mile north of, on south side of track, 15 feet east of milepost 201;	457.0
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 Greensboro, Main and Broad streets, southwest corner of court-house, right of main entrance, 3.5 feet from ground; aluminum tablet stamped	602. 2
"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 RAILROAD, TO BABNETT; 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

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RESULTS OF SPIRIT LEVELING, 1896 TO 1909.

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"	606. 769
SHARON, NORTH ALONG GEORGIA RAILROAD, TO WASHINGTON; THENCE NORTH ALONG HIGH- WAYS TO TIGNALL; THENCE NORTHEAST TO LISBON.	
 Hillman, at road crossing; top of rail Ficklin, road crossing near station; top of rail 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, 	468. 0 429. 0
1903" Washington, in front of station; top of high rail Washington, Washington Exchange Bank on Main street, 300 feet south of court-house, in northwest corner of bank building, 3 feet from ground;	428. 732 600. 0
aluminum tablet stamped "619 ATLANTA, 1903" 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	618. 659
ATLANTA, 1903" Tignall, east of Washington-Broad highway, at southwest corner of William Bolton & Co.'s store; iron post stamped "644 ATLANTA, 1903" Dyson, 1 mile east of, 300 feet north of center of road, west end of old house,	606. 664 643. 645
in brick chimney; aluminum tablet stamped "534 ATLANTA, 1903" TIGNALL, WEST ALONG HIGHWAYS, TO ANON; THENCE NORTH AND EAST TO BELLS BRIDGE; THENCE SOUTH TO TIGNALL.	5 33. 569
 Ophelia, 0.2 mile north of, in front of and between two entrances to church; iron post stamped "599 ATLANTA, 1903" 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" 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, 	598. 549 497. 514
1903" 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	626. 495
stamped "485 ATLANTA, 1903" 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"	484. 389 387. 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" Peerman, 5 miles east of, at forks of Woodstock-Lexington road, south end	647. 522
of Jackson Chapel Church; iron post stamped "653 ATLANTA, 1903" Philomath, 600 feet from road forks, at north side, southwest corner of Bryan Brothers' store; iron post stamped "646 ATLANTA, 1903"	652. 621 645. 454
Lyneville, at forks of roads to Greensboro and Crawfordville, north end of F. L. Asbury's store; iron post stamped "526 ATLANTA, 1903" 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,	525. 453
1903" Tyrone, at road forks, southeast corner of Griffin Brothers' store (former post-office); iron post stamped "573 ATLANTA, 1903"	522.391

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GEORGIA.	55
SHARON, EAST ALONG HIGHWAYS, TO WRIGHTSBORO; THENCE ZIGZAG NORTHWARD TO LISBON.	
Sharon, 9.1 miles east of, at Sharon-Norwood road forks, northwest corner of Charles Mansfield's store; iron post stamped "534 ATLANTA, 1903"	Feet. 533. 774
Wrightsboro, 50 feet from road fork, at northeast corner of O. L. Williams's store; iron post stamped "392 ATLANTA, 1903" Anthony, 3.3 miles east of crossroads, 40 feet from center of road, in front of	391. 670
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.	020.001
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" Danburg, northeast corner of E. R. Anderson's store, left of main entrance;	471: 494
iron post stamped "566 ATLANTA, 1903" Graball, 1.1 miles south of, on Augusta road, in front of negro cottage, 0.2	565: 458
mile north of Fishing Creek, 15 feet from center of road; iron post stamped "360 ATLANTA, 1903"	359. 575
EATONTON QUADRANGLE.	
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"	579.059
Meda, in front of station platform; top of rail Eatonton, in front of station; top of rail	592. 9 564. 4
Eatonton, northwest corner of county court-house; iron post stamped "Prim. Trav. Sta. No. 16, 577"	577. 270
Eatonton, 1.3 miles north of, at railroad crossing 12 feet west of track, at south margin of highway; iron post stamped "561"	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 '544''	544. 209
Willard, in front of station; top of rail:	560. 5
MILLEDGEVILLE QUADRANGLE	ndeel Selvate

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1 / 1·	NEAR STATE FARM, NORTHEAST ALONG GEORGIA RAILROAD, TO DEVEREUX.) i 41
Milledgeville, 0.4 mile northeast of, highest point of granite milepost 45	State farm, 0.8 mile east of, 1.5 miles west of Milledgeville, west side of	
 Milledgeville, 1.4 miles northeast of, in top of granite milepost 44; aluminum 291, 32 Conee River Railroad bridge, 2 miles northeast of, in top of granite milepost 41; aluminum tablet stamped "377". 	track, in top of milepost 47; aluminum tablet stamped "360"	360. 496
tablet stamped "291"291.3Oconee River Railroad bridge, 2 miles northeast of, in top of granite mile- post 41; aluminum tablet stamped "377"	Milledgeville, 0.4 mile northeast of, highest point of granite milepost 45	.308.10
Oconee River Railroad bridge, 2 miles northeast of, in top of granite mile- post 41; aluminum tablet stamped "377"	Milledgeville; 1.4 miles northeast of, in top of granite milepost 44; aluminum	1.1.13
post 41; aluminum tablet stamped "377" 376.74	tablet stamped "291"	291. 325
	Oconee River Railroad bridge, 2 miles northeast of, in top of granite mile-	
Thomas siding, 0.2 mile northeast of, on highest point of granite milepost 39. 403.8	post 41; aluminum tablet stamped "377"	376. 756
	Thomas siding, 0.2 mile northeast of, on highest point of granite milepost 39.	403.86

RESULTS OF SPIRIT LEVELING, 1896 TO 1909.

Carrs, 2.2 miles southwest of, in top of granite milepost 38; aluminum tablet stamped "445".	. Feet. 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" Friendship Church, 3.2 miles north of, 3 feet north of post-oak tree, 80 feet	58;0. 218
northwest of crossroad; iron post stamped "541"	540.892
Friendship Church, at northwest corner of; iron post stamped "492" Friendship Church, 2.4 miles west of, 2 feet north of pine tree, in northwest	492. 512
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"	489.99 394.964
Union Point School, at southwest corner of building; iron post stamped	001.001
"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 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	471. 77
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 BAILROAD 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" Island Creek, southeast corner of court-house; iron post stamped "Prim.	397.650
Trav. Sta. No. 18. 465" Island Creek, 2.3 miles east of court-house, 280 feet west of road corner,	465. 117
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" Devereux, 1.4 miles west of, in northeast angle of road corner; nail in	573. 323
root of oak tree	608 . 33
MILLEDGEVILLE, TO GEORGIA STATE SANITARIUM.	
Georgia State Sanitarium, at north entrance to freight station; iron post stamped "399"	399. 089

^a An excessive error is distributed in this line.

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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.

WALHALLA QUADRANGLE.

CLARKESVILLE TO TULLULAH FALLS, GA.

Clarkesville, Habersham County court-house, north side of east entrance;	Feet.
bronze tablet stamped "1373 ATLANTA"	1, 371. 991
Tallulah Falls, 20 feet south of station, 70 feet east of public road, in rock;	
bronze tablet stamped "1569 ATLANTA" (on single spur line)	1, 568. 302
POINT 2 MILES SOUTH OF TALLULAH FALLS, SOUTH DOWN TUGALOO AND SAVANNAH RIVERS, TO KNOX BRIDGE.	
Panther Creek, 600 feet south of mouth, 50 feet west of river, west edge of	
public road, in large rock; bronze tablet stamped "715 ATLANTA"	713. 79 3
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	100.101
•	
house, 10 feet north of road, in large rock; bronze tablet stamped "630	
ATLANTA"	628.875
•	

CARNESVILLE QUADRANGLE.

AT KNOX BRIDGE.

Knox Bridge, 200 feet west of, in chimney of S. A. Glenn's house; bronze	
tablet stamped "613 ATLANTA"	612. 241

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 AT-	
LANTA"	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"	516. 891
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; aluminum tablet stamped "450 ATLANTA"	Feet. 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 Morehead City 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 bench 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; Knoxville, Tenn., -0.452; Cleveland, Tenn., -0.189; Cohutta, Ga., -0.145; and Brunswick, Ga., +1.057. No adjustment was put between Morehead City and Selma 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.

Morehead City, 8.3 feet east of station, 5.6 feet north of north rail of rail- road, 96.9 feet west of railroad company's wharf bulkhead, iron post	Feet.
stamped "7"	6. 951
Morehead City, northwest corner of Eighth and Arendal streets, southeast	
corner of brick house owned by George Dees; bronze tablet stamped	
" 17 "	16.951
Morehead City, in front of station; top of rail	12.1
Atlantic, road crossing at station; top of north rail	18.8

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
poles; iron post stamped "29"	28.131
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
Riverdale, 5 feet north of north rail at mail catcher, iron post stamped	÷
···25 "	24.989
	· • • •

NEWBERN QUADRANGLE.

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

Scott Creek trestle, 2 feet from north end of west abutment; bronze tablet stamped "7"	Feet. 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	14.001
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" Dover, 19 feet east of main crossroad and 77 feet south of north rail; iron	46.809
post stamped "64"	62.841

Caswell, road crossing at station; top of north rail......

CASWELL, ALONG NORFOLK AND SOUTHERN BAILWAY, 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 and 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

45.6

GOLDSBORO QUADRANGLE.

FALLING CREEK, ALONG NORFOLK 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 platform;	
iron post stamped "152"	151.147

KENLY QUADRANGLE.

AT PINE LEVEL.

AT PINE LEVEL.	Feet.
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 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	175. 7
"178" Wilsons Mills, in coping over west edge of opening at north end of 3-by-3-	177. 319
 foot 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 	228. 400
"346"	344.812
GARNER QUADRANGLE.	
CLAYTON, ALONG SOUTHERN RAILWAY, TO GARNER.	
Auburn, in front of station; top of north rail	335. 6
west corner of ticket office; iron post stamped "384"	382. 685
RALEIGH QUADRANGLE.	
GARNER, ALONG SOUTHERN RAILWAY, TO METHOD.	
Raleigh, corner stone of state capitol; bronze tablet stamped "363" Caraleigh Junction, at switch point; top of north rail	362. 435 355. 0
CARY QUADRANGLE.	
METHOD, ALONG SOUTHERN RAILWAY, TO DURHAM.	
Method, in front of station; top of north rail Cary, at intersection with north rail of Seaboard Air Line; top of north	445. 7
rail of Southern Railway	495.9
Cary, in front of station; top of north rail Cary, 22 feet south of north rail of main track and 3 feet east of northeast	495. 3
corner of station; iron post stamped "497"	495.738
Morrisville, in front of station; top of north rail Morrisville, 0.6 mile west of, 33.6 feet south of north rail and 26.8 feet east	299. 9
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
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 RAILWAY, TO UNIVERSITY.	

tablet stamped "406" 405.	
University, in front of station; top of north rail	
University, 1.5 feet north of northwest corner of station; iron post stamped "471"	549

HILLSBORO QUADRANGLE.

UNIVERSITY, ALONG SOUTHERN RAILWAY, TO MEBANE.

UNIVERSITY, ALONG SOUTHERN BAILWAY, TO MEBANE.	Feet.
Blackwood (Robson), at road crossing; top of west rail.	484.8
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"	501.786
Oconeechee, at switch point; top of north rail Hillsboro, northwest corner of Orange court-house; bronze tablet stamped	568.3
"543"	542. 5 0 0
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
GRAHAM QUADRANGLE.	
MEBANE, ALONG SOUTHERN RAILWAY, TO BURLINGTON.	
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;	0.41 070
bronze tablet stamped "642" Graham, in front of station, main track; top of north rail	641. 072 655. 0
Burlington, in front of station; top of north rail of original main track	662.3
M'LEANSVILLE QUADRANGLE.	002.0
BURLINGTON, ALONG SOUTHERN BAILWAY, 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	110.0
office; iron post stamped "721"	719. 925
McLeansville, 95 feet south of north rail, near southwest corner of small store;	N 10 0 10
iron post stamped "744"	743. 343
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;	000 501
bronze tablet stamped "839" Pomona, in front of station; top of west rail	838. 531 868. 4
Pomona, 1.5 miles south of, 2 feet from east end of north back wall of bridge	000.1
290. 7; copper bolt stamped "U. S. G. S. 813 Ft. B. M. "	812.238
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,	000 040
east corner of brick front; bronze tablet stamped "940" High Point, in front of station; top of west rail	938. 843 935. 6
Thomasville, 28 feet east of west rail, at southwest corner of ticket office;	000.0
iron post stamped "852"	850. 780
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."	664 001
UUU 1 0. D. D1	004, 441

LEXINGTON QUADRANGLE.

LEXINGTON, ALONG SOUTHERN RAILWAY, TO HOLTSBURG.

Lexington, southeast corner of county court-house; bronze tablet stamped "811"	Feet. 809. 503
Linwood, in front of station; top of west rail Linwood, 0.7 mile south of, coping at east end of south abutment of bridge	657.4
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	504 100
"765" Majolica, in front of station, top of north rail	764. 128 745. 3
Majolica, 3.7 miles west of, at bridge over Second Creek, southeast corner	740. 5
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.	
of north abutiment of bridge; copper bolt stamped "U. S. G. S. 776 Ft. B. M.".	775.084
NEWTON QUADRANGLE.	

NEWTON QUADRANGLE.

CATAWBA, ALONG SOUTHERN RAILWAY, 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 BAILWAY, 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 Hud-		•
son's brick store, near east corner; bronze tablet stamped "1193"		
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. 62	28
Morganton, in front of station; top of north rail	1, 110. 2	
Morganton, county court-house, extreme northwest corner of north portico;		
bronze tablet stamped "1182"	1, 180. 77	74
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. 94	44
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. "	1,089.54	49
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. 60	09
Nebo, in front of station; top of north rail		

MOUNT MITCHELL QUADRANGLE.

NEBO, ALONG SOUTHERN RAILWAY, TO BILTMORE.

Marion, county court-house, west face at south end of portico; bronze		
tablet stamped "1438"	1,436.857	7
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"	1. 284. 434	1
Old Fort, 40.7 feet north of north rail of main track, at southwest corner of		
ticket office; iron post stamped "1437"	1, 436. 095	5
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	6
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	4
Swannanoa tunnel, 2.6 feet east of west portal in north side wall; bronze		
tablet stamped "2522"	2, 520. 671	1
Terrell, in front of station; top of north rail	2, 524. 2	
Black Mountain, in front of station; top of north rail		•
Swannanoa, 50.6 feet south of north rail, on west side of ticket office; iron		
post stamped ''2222"	2, 220. 393	3
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	6

ASHEVILLE QUADRANGLE.

BILTMORE, ALONG SOUTHERN RAILWAY, TO PAINT ROCK.

Biltmore, Salisbury branch, top of north rail of main track in front of	
station	1, 992. 1
Biltmore, office of the Biltmore estate, northwest pillar of porte-cochère,	
in bottom stone; bronze tablet stamped "1996"	1, 994. 437
Asheville, 19.3 feet north of north rail, 505 feet east of milepost 141, in	
pedestal block of northeast corner post of train shed; bronze tablet	
stamped "1986"	

Asheville, in front of station; top of north rail.1, 984.1Montford, in front of station; top of north rail.1, 968.1Olivette, 1.1 miles east of, 40.8 feet north of north rail of main track, 400feet east of water tank, in bowlder containing 50 cubic yards; copperbolt stamped "U. S. G. S. 1924 Ft. B. M."Olivette, in front of station; top of north rail.1, 922.944Olivette, in front of station; top of north rail.1, 894.9Alexander, 310 feet west of station, 11.1 feet south of north rail, east sideof road crossing; copper bolt stamped "U. S. G. S. 1796 Ft. B. M."1, 727. 2Bailey, in front of station; top of north rail.1, 727. 2Bailey, 1 mile west of station, 11.5 feet south of track, 19 feet east of mile-post 158, in solid rock; copper bolt stamped "U. S. G. S. 1729 Ft. B. M."1, 668.2Marshall, in front of station; top of north rail.1, 643.9Marshall, in front of station; top of north rail.1, 643.9Marshall, in front of station; top of north rail.1, 645.193Barnard, in front of station; top of north rail.1, 531.6Barnard, 0.2 mile west of station, 140 feet west of milepost 171, 6.5 feetnorth of north rail, in solid rock; copper bolt stamped "U. S. G. S. 1529Ft. B. M."Tt. B. M."1, 401.5Stackhouse, in front of station; top of north rail.1, 417.7Hot Springs, southeast corner of east abutment of Spring Creek Bridge;copper bolt stamped "U. S. G. S. 1326 Ft. B. M."1, 325.026Paint		Feet.
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."		
feet east of water tank, in bowlder containing 50 cubic yards; copper bolt stamped "U. S. G. S. 1924 Ft. B. M."	Montford, in front of station; top of north rail	1, 968. 1
bolt stamped "U. S. G. S. 1924 Ft. B. M."1,922.944Olivette, in front of station; top of north rail.1,894.9Alexander, in front of station; top of north rail.1,790.9Alexander, 310 feet west of station, 11.1 feet south of north rail, east side1,794.537Bailey, in front of station; top of north rail.1,797.2Bailey, 1 mile west of station, 11.5 feet south of track, 19 feet east of mile-1,727.2Bailey, 1 mile west of station; top of north rail.1,728.187Rollins, in front of station; top of north rail.1,668.2Marshall, in front of station; top of north rail.1,643.9Marshall, southeast corner county court-house; bronze tablet stamped"1646"."1646".1,645.193Barnard, in front of station; top of north rail.1,531.6Barnard, 0.2 mile west of station, 140 feet west of milepost 171, 6.5 feetnorth of north rail, in solid rock; copper bolt stamped "U. S. G. S. 1529Ft. B. M."1,528.401Sandy, in front of station; top of north rail.1,417.7Hot Springs, southeast corner of east abutment of Spring Creek Bridge;1,325.026Paint Rock, north end of west abutment of bridge over Grass Creek; bronze1,257.453		
Olivette, in front of station; top of north rail	feet east of water tank, in bowlder containing 50 cubic yards; copper	
Alexander, in front of station; top of north rail.1, 790.9Alexander, 310 feet west of station, 11.1 feet south of north rail, east side1, 794.537Bailey, in front of station; top of north rail.1, 796. Ft. B. M."1, 727.2Bailey, 1 mile west of station, 11.5 feet south of track, 19 feet east of mile-post 158, in solid rock; copper bolt stamped "U. S. G. S. 1729 Ft. B. M."1, 728. 187Rollins, in front of station; top of north rail.1, 668. 2Marshall, southeast corner county court-house; bronze tablet stamped1, 645. 193Barnard, in front of station; top of north rail.1, 65 feetnorth of north rail, in solid rock; copper bolt stamped "U. S. G. S. 1729 Ft. B. M."1, 531. 6Barnard, in front of station; top of north rail.1, 559Ft. B. M."1, 528. 401Sandy, in front of station; top of north rail.1, 461. 5Stackhouse, in front of station; top of north rail.1, 461. 5Stackhouse, in front of station; top of north rail.1, 417. 7Hot Springs, southeast corner of east abutment of Spring Creek Bridge; copper bolt stamped "U. S. G. S. 1326 Ft. B. M."1, 325. 026Paint Rock, north end of west abutment of bridge over Grass Creek; bronze tablet stamped "1259".1, 257. 453	bolt stamped "U. S. G. S. 1924 Ft. B. M."	1, 922. 944
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."	Olivette, in front of station; top of north rail	1, 894. 9
of road crossing; copper bolt stamped "U. S. G. S. 1796 Ft. B. M."1, 794. 537Bailey, in front of station; top of north rail1, 727. 2Bailey, 1 mile west of station, 11.5 feet south of track, 19 feet east of mile- post 158, in solid rock; copper bolt stamped "U. S. G. S. 1729 Ft. B. M."1, 728. 187Rollins, in front of station; top of north rail1, 668. 2Marshall, in front of station; top of north rail1, 668. 9Marshall, southeast corner county court-house; bronze tablet stamped "1646"1, 645. 193Barnard, in front of station; top of north rail1, 531. 6Barnard, 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. 15291, 528. 401Sandy, in front of station; top of north rail1, 461. 5Stackhouse, in front of station; top of north rail1, 417. 7Hot Springs, southeast corner of east abutment of Spring Creek Bridge; 		
Bailey, in front of station; top of north rail.1, 727. 2Bailey, 1 mile west of station, 11.5 feet south of track, 19 feet east of mile- post 158, in solid rock; copper bolt stamped "U. S. G. S. 1729 Ft. B. M.".1, 728. 187Rollins, in front of station; top of north rail.1, 668. 2Marshall, in front of station; top of north rail.1, 668. 2Marshall, southeast corner county court-house; bronze tablet stamped1, 645. 193Barnard, in front of station; top of north rail.1, 65 feetnorth of north rail, in solid rock; copper bolt stamped of milepost 171, 6.5 feet1, 528. 401Sandy, in front of station; top of north rail.1, 528. 401Sandy, in front of station; top of north rail.1, 461. 5Stackhouse, in front of station; top of north rail.1, 461. 5Stackhouse, in front of station; top of north rail.1, 417. 7Hot Springs, southeast corner of east abutment of Spring Creek Bridge; copper bolt stamped "U. S. G. S. 1326 Ft. B. M."1, 325. 026Paint Rock, north end of west abutment of bridge over Grass Creek; bronze tablet stamped "1259".1, 257. 453	Alexander, 310 feet west of station, 11.1 feet south of north rail, east side	
 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	of road crossing; copper bolt stamped "U. S. G. S. 1796 Ft. B. M."	1, 794. 537
post 158, in solid rock; copper bolt stamped "U. S. G. S. 1729 Ft. B. M.". 1, 728. 187Rollins, in front of station; top of north rail	Bailey, in front of station; top of north rail	1, 727. 2
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 1, 645.193 Barnard, in front of station; top of north rail. 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 1, 528.401 north of north rail, in solid rock; copper bolt stamped "U. S. G. S. 1529 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; 1, 325.026 Paint Rock, north end of west abutment of bridge over Grass Creek; bronze 1, 257.453	Bailey, 1 mile west of station, 11.5 feet south of track, 19 feet east of mile-	
Marshall, in front of station; top of north rail	post 158, in solid rock; copper bolt stamped "U.S.G.S. 1729 Ft. B. M.".	1, 728. 187
Marshall, southeast corner county court-house; bronze tablet stamped 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 1, 531. 6 north of north rail, in solid rock; copper bolt stamped "U. S. G. S. 1529 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; 1, 325. 026 Paint Rock, north end of west abutment of bridge over Grass Creek; bronze 1, 257. 453	Rollins, in front of station; top of north rail	1, 668. 2
 ('1646''	Marshall, in front of station; top of north rail	1, 643. 9
Barnard, in front of station; top of north rail	Marshall, southeast corner county court-house; bronze tablet stamped	
 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."		
north of north rail, in solid rock; copper bolt stamped ⁷ U. S. G. S. 1529 Ft. B. M. ⁹	Barnard, in front of station; top of north rail	1, 531. 6
Ft. B. M.".1, 528. 401Sandy, in front of station; top of north rail.1, 461. 5Stackhouse, in front of station; top of north rail.1, 417. 7Hot Springs, southeast corner of east abutment of Spring Creek Bridge; copper bolt stamped "U. S. G. S. 1326 Ft. B. M.".1, 325. 026Paint Rock, north end of west abutment of bridge over Grass Creek; bronze tablet stamped "1259".1, 257. 453	Barnard, 0.2 mile west of station, 140 feet west of milepost 171, 6.5 feet	
Sandy, in front of station; top of north rail	north of north rail, in solid rock; copper bolt stamped "U. S. G. S. 1529	
Stackhouse, in front of station; top of north rail	Ft. B. M."	1, 528. 401
 Hot Springs, southeast corner of east abutment of Spring Creek Bridge; copper bolt stamped "U. S. G. S. 1326 Ft. B. M."		
copper bolt stamped "U. S. G. S. 1326 Ft. B. M."	Stackhouse, in front of station; top of north rail	1, 417. 7
Paint Rock, north end of west abutment of bridge over Grass Creek; bronze tablet stamped "1259" 1, 257. 453	Hot Springs, southeast corner of east abutment of Spring Creek Bridge;	
tablet stamped ''1259 '' 1, 257. 453	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	
Paint Rock, in front of station; top of north rail 1, 265.6	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 mm. \sqrt{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 to millimeters; 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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DURHAM QUADRANGLE.

DURHAM, NORTH ALONG SOUTHERN RAILWAY, TO ELERBEE.

Durham, in foundation of court-house, west side of Main street entrance;	Feet.
bronze tablet stamped "406"	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 O. 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".	362.779
Elerbee, first concrete culvert north of, 0.33 mile north of station sign,	
square cut in east side of	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
Wilkins, 25 feet east of track, 25 feet south of road, opposite store of A. Max;	
iron post stamped "360"	359.742
Lyon, near milepost 70, 25 feet west of railroad tracks, 10 feet south of	
public road, nearly opposite railroad station; iron post stamped "386"	385.814
Stem, 300 yards southwest of station, 100 yards southeast of track, in north	
corner of yard of W. H. Jones; iron post stamped "476"	476.172
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	
post stamped "434"	433.819
Providence, 2 miles south of, 12 feet north of track, near milepost 63, in	
top of concrete culvert; square cut	420.889

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OXFORD QUADRANGLE.

PROVIDENCE, NORTH ALONG SOUTHERN RAILWAY, 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	4
"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) Oxford, on northwest corner of Crawford and Broad streets, 1 foot from	461.080
southeast corner of tobacco warehouse owned by Z. W. Lyon, in east	
wall; aluminum tablet stamped "476" Oxford, 3 miles north of, 800 feet north of milepost 52, at road crossing,	475. 878
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, 20 feet west of	011.471
track; iron post stamped "483"	483.447

NORTH CAROLINA.

Stovall, 150 feet east of station, southwest corner of L. D. Veozis's yard; Fee	et.
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 RAILWAY, 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 RAILWAY, TO SUMMERFIELD.

Greensboro, in federal court-house and post-office; bronze tablet stamped "839"	Feet. 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"	850.776	
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 Summerfield, 250 feet west of tracks, 0.2 mile northeast of station, in	872.1	
southeast corner of Dr. W. C. Davis's yard; iron post stamped "881"	880. 831	
Summerfield, about 4 miles north of, 0.25 mile north of first siding north of		
Summerfield, 500 feet north of railway cut, 50 feet west of track, near		
small gully; iron post stamped "910"	909. 699	
KERNERSVILLE QUADRANGLE.		
SUMMERFIELD, NORTH ALONG SOUTHERN RAILWAY, TO STOKESDALE.		

Stokesdale, 140 feet east of track, 40 feet south of Main street, in northwest	
corner of J. L. Dwiggins's yard; iron post stamped "942"	942.211
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 crossing, 250 feet north of house of J. R. Joyce, 200 feet southeast of T. Vaughn's house, at edge of woods, 30 feet east of tracks; iron post stamped "901". Ellisboro, in front of station; top of rail. Ellisboro, 125 feet west of track, 100 feet northwest of station, west side of public road; iron post stamped "829". 	Feet. 901. 267 824. 7 828. 613
MADISON QUADRANGLE.	
MADISON, ALONG NORFOLK AND WESTERN RAILWAY, TO STONEVILLE.	
Madison, in front of station; top of rail Madison, 40 feet west of railway track, 300 feet north of trestle, in south-	577.4
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	000 500
"823 " .	822 . 593 -
MARTINSVILLE QUADRANGLE.	
STONEVILLE, NORTH ALONG NORFOLK AND WESTERN RAILWAY, 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 test northeast of station 30 test east of Norfolk and Western	

Crowders, Dallas, Hickory, Lincolnton, and Newton quadrangles.

CATAWBA, GASTON, AND LINCOLN COUNTIES.

Following is the North Carolina portion of the results of a doublesimultaneous 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 RAILWAY, 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

NORTH CAROLINA.

DALLAS QUADRANGLE.

HARDINS, SOUTH ALONG CAROLINA AND NORTHWESTERN RAILWAY, TO GASTONIA.

Hardins, near station, 100 feet west of track, on line with north margin of	
station, at northeast corner of small store; iron post stamped "844	Feet.
COLUMBIA, 1900 "	842.978
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"	813. 785

CROWDERS QUADRANGLE.

GASTONIA, SOUTH ALONG CAROLINA AND NORTHWESTERN RAILWAY, 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, Biddicksville, Suffolk, Winton, and Woodland quadrangles.

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.

Feet. 0.000
14.476
15.972
14. 562

• 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 ses level accepted from Drummonds Landing gage at Somerset.

AMBOY, SOUTHEAST ALONG HIGHWAY, TO EDENTON.

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Rockyhock, 200 feet south of crossroads, in front yard of H. B. Jones; iron post stamped "27"	Feet. 27.880
HERTFORD QUADRANGLE.	
HERTFORD, NORTHEAST ALONG NORFOLK AND SOUTHERN RAILWAY, TO OKISKO.	
Hertford, west of front entrance to county court-house, in wall; bronze	
tablet stamped "14" Winfall, 50 feet west of railroad crossing, in brick foundation of house occu- pied by Mrs. M. S. Rawlins; tablet stamped "15 ADJ. 1903"	14. 539 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.	10.000
Parker's store; iron post stamped "13 ADJ. 1903" Bethel (formerly Eva post-office), at store kept by James Gatling, near northwest corner of building, on west side; iron post stamped "15 ADJ.	13. 260
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	10 585
stamped "12 ADJ. 1903" Newhope (Durants Neck post-office), west of road, at southeast corner of	12. 577 ⁻
L. B. Perry's store; iron post stamped "9 ADJ. 1903" Newhope, 2.6 miles northwest of, just south of road forks, in east side of	9. 325
brick chimney of house east of road; iron post stamped "14 ADJ. 1903". 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.	13. 728
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, 30 feet south of railroad, just west of crossing; iron post stamped "12 ADJ. 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
post stamped "33"	33. 093

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Ryland, at northeast corner of store and post-office kept by W. H. Spivey, on north side; iron post stamped "Prim. Trav. Sta. No. 3 41"	Feet. 41. 123
Gliden, at junction with main road, just south of road, 20 feet west of tracks; iron post stamped "36 ADJ. 1903" Trotville, at southeast corner of store and post-office kept by E. Carter, on	36. 387
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 TO NICANOR.	
Sunbury, 3.3 miles northwest of, in front yard of J. R. Hill, at southwest corner of lot; iron post stamped "33 ADJ. 1903"Wiggins Crossroads, 3.1 miles east of, at main road forks 0.8 mile south of	33. 090
Corapeake, west of road; iron post stamped "38 ADJ. 1903" Wiggins Crossroads, 5.5 miles southeast of, in center of main road forks	38. 334
called Folly; iron post stamped "Prim. Trav. Sta. No. 13. 37 ADJ. 1903". Acorn, at northeast corner of store (former post-office), kept by L. A. Round-	36. 830
tree, on north side; iron post stamped "38 ADJ. 1903" Sandycross, just south of crossroads, at northeast corner of unoccupied	38. 227
store, on east side; iron post stamped "52 ADJ. 1903"	52. 322
Nicence 2.2 miles continuent of station in front word of (' W White's	
Nicanor, 3.3 miles southwest of station, in front yard of C. W. White's house; iron post stamped "14 ADJ. 1903" 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.	13. 824
No. 2. 14 ADJ. 1903"	14. 392
GLIDEN, NORTHWEST ALONG HIGHWAY, 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 HIGHWAYS, 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 HIGHWAY VIA VIVIAN, TO POINT 1.6 MILES SOUTH OF CARTER.	
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" Vivian, at main road forks 0.2 mile north of post-office; iron post stamped	34. 860
"30 ADJ. 1903" Carter, at northeast corner of store and former post-office, kept by A. Carter,	29. 820
jr., on north side; iron post stamped "20 ADJ. 1903"	19. 685
feet south of big gum tree; iron post stamped "14 ADJ. 1903"	14. 449

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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 N. C."	38. 343
EURE, SOUTH TO TUNIS; THENCE SOUTHEAST TO HARRELLSVILLE; THENCE WEST TO UNION.	
Harrellsville, 8 miles northwest of, 0.3 mile south of railroad crossing, 1 mile south of Tunis, in forks of Harrellsville and Ahoskie roads; iron	
post stamped "41 N. C."	41. 101
17 feet north of Pilands Crossroads; iron post stamped "39 N. C." Harrellsville, 20 feet east of post-office and store kept by J. D. Hill, west	39. 029
of main street; iron post stamped "65 N. C."	65. 192
Bethlehem, 175 feet south of crossroads, 250 feet southwest of J. D. Thompson's store, in front foundation of church; aluminum tablet stamped	40.050
"48 N. C."	48. 270
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	44 507
tablet stamped "46 N. C."	44. 581
feet south of residence of J. A. Golay; iron post stamped "52 N. C."	52. 343
RIDDICKSVILLE QUADRANGLE.	
	•
TOPSY, NORTHWEST TO RIDDICKSVILLE.	
Topsy, 50 feet south of post-office, at road forks, 300 feet north of residence of D. S. Harrell, west side of road; iron post stamped "33 N.C.".Riddicksville, 600 feet east of post-office (residence of J. D. Riddicks),	33. 142
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

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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 of	
store kept by J. W. Pealor, on north side; iron post stamped "30 ADJ.	•
1903 "	$30.\ 152$

Ayden, Chocowinity, Clayton, Eagle Rock, Falkland, Goldsboro, Kenly, Newbern Parmele, 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 "16 RALEIGH"	Feet. 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	0.05
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
Junction of roads, non post stamped 28 KALLIGH	21.012
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 "11	
RALEIGH"	10.672

TRENT RIVER QUADRANGLE.

OLIVERS, NORTHWEST TO TRENTON.

Olivers, 3,010 feet from crossing of Trenton and Quaker Bridge roads, 21 feet south of center of Neighborhood road, 51 feet from rear southwest corner of Piny Grove Church, 37 feet from northwest corner of J. J. Simmons's store; iron post stamped "47 RALEIGH" 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.	Feet. 45. 925
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 of Trenton road and Free Bridge road, 12 feet west of center of Trenton road, 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 "47 RALEIGH"	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".	40. 214 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 of J. A. Jackson's store; iron post stamped "22 RALEIGH" Vanceboro, 5 miles northwest of, 250 feet south of Vanceboro-Calico road, in southeast corner of C. M. Roch's front yard; iron post stamped "43 RALEIGH"	21. 632 42. 652
	42.002
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	45 000
RALEIGH" Chocowinity, 1.9 miles south of, 15 feet to left of road, in F. H. Van Erstein's	65. 903
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 owned by Mose Spivey, and 6 feet west of track, in stone abutment of railroad bridge across Contentnea Creek; bronze tablet stamped "32 RALEIGH" Hanrahan, 3 feet east of northeast corner of Jacob McLawhon's store, 57 feet west of center of track, 115 feet south of section foreman's house;	28. 072
iron post stamped "67 RALEIGH" Ayden, 50 feet southwest of southwest corner of station, 100 feet west of west rail, 40 feet north of center of main public road, 10 feet east of store of Cannon & Lyon; iron post stamped "67 RALEIGH"	62. 996 62. 928

NORTH CA	ROLINA.	
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CALICO, SOUTHWEST ALONG HIGHWAY, TO GARDNERVILLE.

Calico, 75 feet west of former post-office, 10 feet left of road to Gardnerville, in fence corner; iron post stamped "43 RALEIGH" Gardnerville, 200 feet south of, at right of road, in southeast corner of J. E. Gardner's front yard; iron post stamped "34 RALEIGH"	Feet. 41. 924 32. 980
	52. 500
GARDNERVILLE, SOUTH ALONG HIGHWAY, TO FORT BARNWELL.	
 Maplecypress, 3 feet north of northwest corner of J. B. Gardner's store; iron post stamped "23 RALEIGH"	22. 454 41. 598
CHOCOWINITY QUADRANGLE.	
OAKLEY, SOUTHEAST VIA ATLANTIC COAST LINE, TO WASHINGTON.	
Pactolus, 140 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
tablet stamped "12 RALEIGH"	11. 049
CHOCOWINITY, 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"	44. 467
WASHINGTON, NORTH ALONG HIGHWAY, TO WILLIAMSTON.	
 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" 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" 	25. 271 64. 838
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;	71, 700
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 post	64. 261
stamped "45 RALEIGH"	41. 538
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"	62. 130

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WILLIAMSTON QUADRANGLE.

WILLIAMSTON, WEST ALONG ATLANTIC COAST LINE, TO PARMELE.

WILLIAMSTON, WEST ALONG ATLANTIC COAST LINE, TO PARMELE.	
 Williamston, in northwest corner of foundation of county court-house, 3 feet above ground; bronze tablet stamped "61 RALEIGH" 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" 	Feet. 59. 902 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" 	74. 963 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 Ply- mouth 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"	63. 552
PARAMELE, NORTHWEST ALONG ATLANTIC COAST LINE, TO SPEED.	
 Hassell, at northwest corner of R. H. Salsbury & Co.'s store; iron post stamped "75*RALEIGH" (elevation not recorded closer) Oak City, 1½ 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 	75. 5
passenger station; iron post stamped "84 RALEIGH" 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	84. 132
"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". Mildred, 220 feet south of south rail of railroad track, 25 feet south of center	68. 666
of main highway, 1 foot north of front of store of Marion Cobb; iron post stamped "46 RALEIGH"	45. 926
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 resi- dence of J. L. Moore; iron post stamped "66 RALEIGH"	66. 230
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

NORTH CAROLINA	A
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Kinston, Norfolk and Southern Railway, at Caswell street crossing; top of	Feet.
north rail	42. 6 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"	73.800
CASTORIA, 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 "52 RALEIGH"	5 Z .
TARBORO, WEST ALONG ATLANTIC COAST LINE, TO BOCKY MOUNT.	51 *94 0
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 HIGHWAY, 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 RALEIGH"	110 140
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	112. 148
stamped "115 RALEIGH"	114.350
TARBORO, 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"Crisp, at northwest corner of former post-office, 30 feet south of crossroads;	103. 085
iron post stamped "104 RALEIGH"	103, 802
FALKLAND QUADRANGLE.	
CRISP, SOUTH ALONG HIGHWAY, TO FARMVILLE; THENCE EAST TO BULLARDS CROSSROADS.	
Turnage, in southeast corner of Turnage and Jefferson's store; iron post stamped "115 RALEIGH"	 000 kTT
Toddy, at forks of road, at west corner of Jackson Bros. storehouse; iron	114.833
post stamped "89 RALEIGH" Farmville, in second pier of Eastern Carolina Railroad station; west corner	89.408
of; aluminum tablet stamped "85 RALEIGH"	85. 524
Bullards Crossroads, at Smith's store; iron post stamped "74 RALEIGH".	74. 132
FARMVILLE, WEST ALONG ROAD, TO SARATOGA.	
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	Feet.
RALEIGH" Castoria, at southeast corner of post-office and store; iron post stamped "107	94. 345
RALEIGH" Willowgreen, at forks of road, 35 feet east of storehouse; iron post stamped "76 RALEIGH"	106.860
	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 south of center of cross street, 40 feet west of center of railroad street; iron post stamped "114 RALEIGH"	114. 587
South Rocky Mount, in front of station; top of rail 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	125. 1
RALEIGH" 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	138. 896
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" Sun, 1 mile west of, 100 feet east of center of road forks, on south side of east	120. 521
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,	140.000
40 feet east of center of street; iron post stamped "126 RALEIGH" Fremont, at southwest corner of post-office, 30 feet south of street, 50 feet	126.833
east of railroad; iron post stamped "46 RALEIGH"	146.862
FREMONT, 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
RALEIGH"	93. 666
ST. LEWIS TO WILBANKS.	
Wilbanks, 18 feet north of Wilson-Old Sparta road, 45 feet east of Rocky Mount road, 2 feet from southeast corner of former post-office; iron post	
stamped "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" Boyett, at east corner of Kirby's store, 80 feet west of track, 25 feet south	133. 675
of center of road; iron post stamped "205 RALEIGH" 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".	205.392 204.284
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"	148.916
stamped "240 RALEIGH"	240. 038
EMIT, EAST TO CONNOR.	
Connor, in chimney of Mr. Hight's house; bronze tablet stamped "273 RALEIGH"	273. 146
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	260. 575
 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
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. 575 245. 523
 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" Finch, south side of Raleigh road opposite road from Springhope; iron.post stamped "244 RALEIGH" 	
 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" Finch, south side of Raleigh road opposite road from Springhope; iron post stamped "244 RALEIGH" Strickland, at crossroads, in southeast corner of Ed. Strickland's yard, behind large gate when open; iron post stamped "177 RALEIGH" 	245. 523
 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" Finch, south side of Raleigh road opposite road from Springhope; iron post stamped "244 RALEIGH" Strickland, at crossroads, in southeast corner of Ed. Strickland's yard, behind large gate when open; iron post stamped "177 RALEIGH" BUNN, EAST ALONG HIGHWAY, TO NASHVILLE. Bunn, at northwest corner of post-office, 20 feet east of center of road; iron 	245. 523
 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" Finch, south side of Raleigh road opposite road from Springhope; iron post stamped "244 RALEIGH" Strickland, at crossroads, in southeast corner of Ed. Strickland's yard, behind large gate when open; iron post stamped "177 RALEIGH" 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" Hunts, at southwest corner of Doctor Edwards's office; iron post stamped 	245. 523 178. 057 295. 094
 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" Finch, south side of Raleigh road opposite road from Springhope; iron.post stamped "244 RALEIGH" Strickland, at crossroads, in southeast corner of Ed. Strickland's yard, behind large gate when open; iron post stamped "177 RALEIGH" 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" Hunts, at southwest corner of Doctor Edwards's office; iron post stamped 	245. 523 178. 057
 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" Finch, south side of Raleigh road opposite road from Springhope; iron.post stamped "244 RALEIGH" Strickland, at crossroads, in southeast corner of Ed. Strickland's yard, behind large gate when open; iron post stamped "177 RALEIGH" 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" Hunts, at southwest corner of Doctor Edwards's office; iron post stamped "287 RALEIGH" Oakland, southwest corner of Barnes's store, 40 feet west of center of road; 	245. 523 178. 057 295. 094 237. 337
 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" Finch, south side of Raleigh road opposite road from Springhope; iron.post stamped "244 RALEIGH" Strickland, at crossroads, in southeast corner of Ed. Strickland's yard, behind large gate when open; iron post stamped "177 RALEIGH" 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" Hunts, at southwest corner of Doctor Edwards's office; iron post stamped "287 RALEIGH" Oakland, southwest corner of Barnes's store, 40 feet west of center of road; iron post stamped "240 RALEIGH" 	245. 523 178. 057 295. 094 237. 337

RESULTS OF SPIRIT LEVELING, 1896 TO 1909.

EATMON, NORTHWEST ALONG ROAD, TO UNIONHOPE (CONNOR TO EATMON CHECKED OUT).	
Dry Wells, northeast corner of former post-office, 30 feet from center of road;	Feet.
iron post stamped "319 RALEIGH"	319. 514
Unionhope, 50 feet east of former post-office, in front of Mr. Murray's house; iron post stamped "330 RALEIGH"	330. 129
CLAYTON QUADRANGLE.	
CLAYTON, NORTHEAST ALONG HIGHWAY, TO EMIT.	
Clayton, in east corner of Mr. McCuller's store; bronze tablet stamped	
"346 RALEIGH". Archer, 250 feet west of crossroads, in southwest pillar of Masonic Hall;	344. 812
bronze tablet stamped "338 RALEIGH" Emit, north corner of former post-office, east angle of crossing, 25 feet east	337. 548
of center of road; iron post stamped "287 RALEIGH"	286. 740
SELMA, SOUTHWEST TO SMITHFIELD; THENCE VIA SPILONA AND PRESTON TO WILSONS MILLS.	
Selma, in brick store; bronze tablet stamped "178 RALEIGH" Smithfield, in northwest corner of county court-house, bronze tablet	177. 319
stamped "146 RALEIGH" Spilona, at southeast corner of former post-office; iron post stamped "226	145. 617
RALEIGH"	225.808
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 RA- LEIGH"	361. 767
Privett, northwest corner of post-office; iron post stamped "326 RA- LEIGH".	326. 894
PRIVETT, NORTHWEST TO FORESTVILLE.	-
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, SOUTHWEST ALONG SEABOARD AIR LINE, TO RALEIGH.	
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 RALEIGH"	280. 666
Millbrook, in northeast pillar of station, 20 feet west of center of track;	200,000
aluminum tablet stamped "311 RALEIGH."	311. 637
Raleigh, in corner stone of state capitol; bronze tablet stamped "363	0.00
RALEIGH"	362.435

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, Stedman, Parkersburg, and Great Coharie quadrangles in 1906 by F. L. Foust.

FOUR OAKS QUADRANGLE.

SMITHFIELD, SOUTHWEST ALONG ATLANTIC COAST LINE, TO FOUR OAKS; THENCE SOUTH ALONG HIGHWAYS TO BLACKMANS MILLS.

	 Smithfield, 3 miles southwest of; in top of southeast corner of east abutment of south side of railroad bridge over Neuse River; aluminum tablet stamped "129 ADJ. 1903" Four Oaks, in northeast corner of brick store of B. B. Adams, on north side; aluminum tablet stamped "211 ADJ. 1903" 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" Overshot, in front yard of John J. Rose; iron post stamped "174 ADJ. 1903" 	Feet. 129. 384 211. 021 174. 972 174. 442
	NEAR HARPER, NORTHWEST 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" Beasley, at southwest corner of store and post-office, on south side; iron	184. 061
	post stamped "163 ADJ. 1903" Beasley, 3.2 miles northwest of post-office; in front yard of B. Allen; iron	163. 091
	post stamped "120 ADJ. 1903" Beasley, 5.9 miles northwest of; west of main road, in center of forks at	120.469
	signpost; iron post stamped "115 ADJ. 1903"	115.098
	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 MILLS.	
	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 EZRA.	
	Ezra, in east side of house owned and occupied by Josephus Johnston, in eighth course of bricks of brick chimney above base, second brick from south side; aluminum tablet stamped "239 ADJ. 1903"	23 <u>9</u> . 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" Benson, at southeast corner on east side of hotel kept by Mrs. E. J. D. Boy-	187. 599
•	kin; iron post stamped "Prim. Trav. Sta. No. 21, 243 ADJ. 1903" Benson, 3.4 miles southeast of, on west side of road at crossroads, near large	242. 736
	walnut tree; iron post stamped "210 ADJ. 1903" Mix, 0.4 mile west of, on east side of road at crossroads; iron post stamped	210. 417
	"220 ADJ. 1903" Mingo, just north of, east of road north of forks; iron post stamped "Prim.	220. 598
	Trav. Sta. No. 22, 207 ADJ. 1903 "	207.648
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GREAT COHARIE QUADRANGLE.

BLACKMANS MILLS WEST TO M'KOY.

	Timothy, 1 mile northeast of former post-office; at main crossroads, in front yard of Dr. R. H. McLane; iron post stamped "201 ADJ. 1903" Blackmans Mills post-office, 0.5 mile northeast of, south of main road just	Feet. 201. 010
	east of forks; iron post stamped "194 ADJ. 1903"	$193.\ 915$
	NEWTON GROVE, SOUTH TO NEAR HOBTON; THENCE NORTH VIA ROSIN HILL TO BLACKMANS MILLS.	
	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.".	184. 080
	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.". Hobton, 3.9 miles northwest of; at junction of Clinton and Goldsboro roads,	174. 845
	20 feet from branch crossing; iron post stamped "159 N. C." Rosin Hill, 150 feet north of main road forks, at northwest corner of store kept by Jonah McPhin; iron post stamped "Prim. Trav. Sta. No. 23.	158. 586
	175 N. C."	174.926
	HOBTON, SOUTHEAST 2.4 MILES (SINGLE LINE).	
	Newton, 8.4 miles south of, at main road forks; iron post	178.081
	HOBTON, SOUTH TO CLINTON.	
	Hobton, 3.3 miles south of, 400 feet south of schoolhouse, at main road forks; iron post stamped "181 N. C."	181. 296
-	forks; iron post stamped "172 N. C."	171. 477
	opposite James Bell's residence; iron post stamped "154 N. C."	154.140
	KEENER, EAST TO FAISON.	
	Faison crossing, 5.5 miles north of, at 3 forks in road opposite Hill School; iron post stamped "157 N. C."	156. 827
	Faison, 2.5 miles north of, at junction of main road, 350 feet west of resi- dence of S. T. Marshborn, 20 feet west of junction; iron' post stamped "152 N. C."	152. 024
	CLINTON, NORTHWEST TO SALEMBURG.	
	Clinton, 3.3 miles west of, 0.3 mile west of crossing of Coharie Creek, main	
	forks in road opposite residence of William Morton; iron post stamped "91 N. C."	91. 355
	Clinton, 7.1 miles west of; road forks opposite Mount Pleasant Church; iron post stamped "173 N. C."	173. 059
	ROSIN HILL, SOUTHWEST TO LYDIA.	
	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.	
	Salemburg, 400 feet west of crossroads, at southeast corner of store of Royal	
	Brothers; iron post stamped "168 N. C." 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 stamped "177 N. C.".	Feet. 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.	170.100
Lane; iron post stamped "180 N. C."	179.695
PARKERSBURG QUADRANGLE.	
CLINTON, NORTHEAST TO FAISON.	
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."	155. 626

PRINCETON 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 N. 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 12-story house, 18	Feet.
inches above ground; aluminum tablet stamped "447"	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.

Catawba, Charlotte, Concord, Huntersville, Matthews and Statesville quadrangles.

CABARRUS, MECKLENBURG, ROWAN, AND UNION COUNTIES.

The elevations 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.

SALISBÜRY, SOUTHWEST ALONG SOUTHERN RAILWAY, TO GLASS.ª

	Feet.
Salisbury, opposite cotton mills; top of west rail	749.6
Summer, 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
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-	000.1
son's store, in road forks; iron post stamped "615 ADJ. 1903"	615. 132
Harrisburg, in front of station; top of east rail	610. 102 610. 1
Newell, 400 feet north of station, 100 feet east of post-office, 50 feet west of	010.1
road, near Southern Railway; iron post stamped "757 ADJ. 1903"	756. 792
Newell, in front of station; top of east rail	761.4
	701.4
Newell, 4.9 miles south of, 200 feet south of Hickory Grove Church, in road	
forks; iron post stamped "784 ADJ. 1903"	784.050
UNCAS, 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	110.000
of Coddle Creek, 500 feet east of road forks, between road and Johnson's	
	720.063
store; iron post stamped "720 ADJ. 1903"	120.005
CONCORD, SOUTH ALONG HIGHWAY, TO POINT 2.9 MILES SOUTH OF FLOWS.	· · · ·
Concord, 2.3 miles south of, 200 feet southeast of Baptist Church, top of	
long hill, east edge of road; iron post stamped "691 ADJ. 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
torne, non por soumpour out the toos the toos	

a Portion of line from Salisbury, N. C., to Yorkville, S. C.

Flows, 50 feet east of former post-office, 100 feet west of store of P. B. Bost, 20 feet west of road; iron post stamped "678 ADJ. 1903" Flows, 2.9 miles south of, junction of Monroe and Pioneer Mill roads, oppo- site residence of Barney Conner; iron post stamped "698 ADJ. 1903"	Feet. 678.386 699.582
MATTHEWS QUADRANGLE.	
point 4.9 miles south of newell, along highways, to point 1.5 miles south of hickory grove church. \mathfrak{a}	
Hickory Grove Church, 1.5 miles south of, 100 feet west of road crossing, 100 feet west of road forks; iron post stamped "784 ADJ. 1903"	784.039
POINT 2.9 MILES SOUTH OF FLOWS, SOUTHWEST ALONG HIGHWAYS, TO INDIAN TRAIL; THENCE NORTHWEST ALONG SEABOARD AIR LINE TO MATTHEWS.	
Flows, 6.3 miles south of, 200 feet north of Dulins Grove Church, in forks of Charlotte and Arlington roads; iron post stamped "767 ADJ. 1903" Arlington, at southeast corner of former post-office, in front face; iron post	767.077
stamped "641 ADJ. 1903" Arlington, 4.3 miles south of, 20 feet south of crossing of old Lawyers and Stevens Mill roads, 10 feet south of road; iron post stamped "682 ADJ.	641. 608
1903" Indian Trail, 200 feet west of west rail in front of station, at southeast corner of post-office; iron post stamped "696 ADJ. 1903" Matthews, 200 feet south of south rail in front of station, 50 feet east of Heath	681. 840 696. 473
& Reid store, between stores; iron post stamped "731 ADJ. 1903" CHARLOTTE QUADRANGLE.	730. 897
POINT 1.5 MILES SOUTH OF HICKORY GROVE CHURCH, SOUTHWEST ALONG HIGHWAYS, TO PINEVILLE.	
Sardis, in front of station; top of west rail Sardis, 150 feet north of west rail, in front of station, near northeast corner of former post-office; iron post stamped "719 ADJ. 1903"	717. 6 719. 272
Sardis, 3.5 miles west of, summit north of creek crossing; iron post stamped "726 ADJ. 1903"	725. 908
Shearan Church, 2.4 miles south of, 20 feet south of Cooper's store, 100 feet west of Cooper's residence, 10 feet south of road; iron post stamped "636	
ADJ. 1903" Pineville, 400 feet east of station, 150 feet south of Reed & Crelf drug store,	636. 543
near southwest corner of post-office; iron post stamped "571 ADJ. 1903" PINEVILLE, NORTH ALONG HIGHWAY, TO LODO; THENCE EAST ALONG BAILROAD TO	571. 151
CHARLOTTE.	
Pineville, 4.4 miles northwest of, 225 feet southwest of Center Church, 75 feet east of road; iron post stamped "651 ADJ. 1903" Shopton, 0.1 mile north of, 150 feet east of residence of Frank Bynum, in	650. 619
road forks; iron post stamped "728 ADJ. 1903" Dixie, 200 feet north of schoolhouse, 250 feet south of store east of road, in	728.116
road forks; iron post stamped "748 ADJ. 1903" Lodo (Juneau), 1.1 miles east of, 325 feet south of crossing of Southern Rail-	747. 819
way and county road, 300 feet west of Moores Church, in road forks; iron	
way and county road, 300 feet west of Moores Church, in road forks; from post stamped "745 ADJ. 1903," Charlotte, in, front face at northwest corner "of county court-house; alumi- num tablet stamped "759 ADJ. 1903."	745. 453

· Portion of line from Salisbury, N. C., to Yorkville, S. C.

v.

AT WEDDINGTON CHURCH.

Weddington Church, at northwest corner of; iron post stamped "726 ADJ. Feet.

CATAWBA QUADRANGLE.

AT MARVIN CHURCH.

AT MARVIN CHURCH, \	
Marvin Church, at southwest corner of; iron post stamped "697 ADJ. 1903"	696. 763
HUNTERSVILLE QUADRANGLE.	
CHARLOTTE, NORTH ALONG SOUTHERN RAILWAY, 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" Derita, 2.7 miles northeast of; 100 feet east of residence of John Reid,	816. 481
opposite large brick house; iron post stamped "731 ADJ. 1903" Uncas, 400 feet east of former post-office, 50 feet east of Sammonds's store,	730. 862
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, near road crossing opposite old cotton gin; iron post stamped "846 ADJ. 1903". Bristow, 100 feet south of former post-office, 100 feet south of Long Creek store, 500 feet east of crossing of Long Creek, 10 feet north of road; 	845. 984
iron post stamped "694 ADJ. 1903" Hopewell, southwest corner of Presbyterian Church, front face; aluminum	694. 294
tablet stamped "741 ADJ. 1903"Cowans Ford, 150 feet west of former post-office, southeast corner of Presby-	740. 768
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 Huntersville, 125 feet southeast of south rail in front of station, 300 feet west of post-office, near northwest corner of J. S. Choat's store; iron post	811. 4
stamped ''814 ADJ. 1903''	814.069
Huntersville, 6 miles east of; 300 feet east of crossing of small branch, at junction 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 RAILWAY, TO PATTERSON SPRINGS; THENCE WEST TO BOILING SPRINGS; THENCE SOUTHWEST TO BYARSVILLE.

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"	904.050

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". Boiling Springs, 3.4 miles southwest of, on road to Gaffney, 200 feet west of	876. 760
 iron bridge over Broad River, north edge of road, in solid rock bluff; aluminum tablet stamped "650" 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" 	649. 632 869. 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.	
BETHANY, S. C., NORTHWEST TO KINGS MOUNTAIN; THENCE SOUTHWEST ALONG SOUTHERN RAILWAY 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"	, <u>9</u> 40. 246
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" 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" 	978. 488 959. 758
Grover, corner of Railroad avenue and Stonewall street, 1.5 feet southwest	909.100
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". 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	855. 510
tablet stamped ''925''. 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	925. 143
"908"	908.620 017.18
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"	917. 18 895. 904

RESULTS OF SPIRIT LEVELING, 1896 TO 1909.

WACO, 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" 	Feet. 952. 052 1, 001. 160
LINCOLNTON, WEST ALONG HIGHWAY, TO FALLSTON; THENCE SOUTHEAST TO WACO. a	
Lincolnton, 1 mile west of, on side of road, in front of house, 2 feet behind	
large poplar tree; rock	784.28
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"	$921.\ 918$
Lincolnton, 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"	993. 803
Lincolnton, 8 miles northwest of; intersection of four roads, near church;	1 014 01
root of large oak tree Flay, 2 miles east of, on right-hand side of road going toward Flay, 30 feet	1, 014. 21
south of bridge over Indian Creek, 75 feet north of road forks going to	
Newton; iron post stamped "845"	844. 854
Flay, in forks of main road leading south direct to Cherryville, in southwest	011.001
corner of forks, on bank opposite Childers & Beam store; iron post	
stamped ''1050 "	1,050.732
Flay, 3 miles west of, south of road, in front of house, in root of large oak	
tree; nail	985.97
Fallston, in front wall of W. A. Gantt's brick store; aluminum tablet	
stamped ''1029 ''	1,029.044
Fallston, 3 miles south of, at the Beams Mills store, 15 feet north of store;	
iron post stamped "Prim. Trav. 1001"	
Beams Mills, 2 miles east of, south of road, top of hill, in root of tree; nail	958.53
Beams Mills, 3 miles east of, on east side of Julius Turner's store, in forks	005 000
of Fallston-Waco road; iron post stamped ''985"	
Turners store, 1 mile south of, in front of house, in root of aspen tree; nail	1,000.12
KINGS MOUNTAIN, 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 "	899. 504
Bessemer City, 2 miles north of, in front of barn, in root of tree; nail	821.32
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"	874.633
Bessemer City, 6.4 miles north of, 30 feet south of old house in road forks of	077 050
main Cherryville and Dallas roads; iron post stamped "977"	977.259
Bessemer City, 9 miles north of, near large oak tree at intersection of roads on top of hill; rock	844.80
Bessemer City, 10:6 miles north of; at crossroads; root of tree	871.67
SHELBY QUADRANGLE.	
STUBBS, SOUTHWEST ALONG SEABOARD AIR LINE, TO SHELBY.	
Shelby, south side of county court-house, near fountain; iron post stamped	
"Prim. Trav. 895"	894. 980

a An excessive error has been distributed in this line.

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

BUNCOMBE, BURKE, CALDWELL, CLEVELAND, HAYWOOD, MADISON, M¢DOWELL, 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 FOINT 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	Feet.
state line, on ledge of granite; chiseled oval, marked "3747"	3, 746. 03
Laurel Bloomery, 6 miles east of, 3 feet north of road, about 0.5 mile south-	
east 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	0, 122. 700
feet south of creek crossing, 3 feet east of road; cross on ledge of rock,	
	3, 584. 39
Laurel Bloomery, 11.9 miles east of, on top of Big Spring Mountain, 6 feet	3, 001.00
north of road, in ledge of limestone; bronze tablet stamped "3920"	3 010 339
Apple Grove, 1 mile east of post-office, 20 feet east of road forks to north,	3, 313, 332
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.	2, 000.01
Hamn's house, 225 feet north of Little Horse Creek, 6 feet north of road;	
cross on rock, marked "2949.5"	2 048 85
Apple Grove, 2.3 miles east of, at junction of two prongs of Little Horse	2, 940. 00
Creek, 300 feet north of forks to east, 6 feet above level of road, 6 feet north-	
east of road near Mr. Hamn's house, set in rock ledge; aluminum tablet	
	9 044 679
stamped "2945" Little Horse Creek, 2.7 miles north of, on top of mountain, 3 feet east of	2, 544. 072
road forks to northeast; cross on rock ledge, marked "3747"	2 746 50
Little Horse Creek, 3.7 miles north of, about 0.5 mile from base of north	3, 740. 00
side of mountain, 4 feet east of road, about 0.25 mile southwest of Apple	
Grove Church; cross on rock, marked "3304.7"	2 204 12
Little Horse Creek, 4.7 miles north of, at forks of road near junction of Big	3, 304. 13
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".	2 052 94
	2, 302. 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 "2039 ASH 1901"	Feet. 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	·
RED HILL, NORTH UP ROCK CREEK, TO MAGNETIC CITY.	
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 HIGHWAY, 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 Spear, mouth of Henson Creek, in rock ledge; bronze tablet stamped	4, 161. 29
"2840 ASH"	
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"	
Altamont, 1 mile southwest of, at road fork near Pisgah Church; iron post	
stamped ''3407 ASH"	
MARION, SOUTHEAST TO DYSORTVILLE; THENCE NORTH TO BRIDGEWATER.	
Sinclair's mill, on south side of Muddy Creek, in rock; aluminum tablet stamped "1198 ASH" Dysortville, in chimney on west side of Doctor Simmon's house; aluminum	1, 196. 838
tablet stamped "1264 ASH" 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, 263. 692
Bridgewater, 0.4 mile east of railroad station, in bridge seat at west end of bridge over Muddy Creek; copper bolt stamped "1091 MC"	
DYSORTVILLE, NORTHWEST 0.5 MILE (SPUR).	•
Dysortville, 0.5 mile northwest of, 0.15 mile southwest of farm gate and 100 yards north of South Muddy Creek, in solid rock north of road; aluminum tablet stamped "1182 ASH"	

a Part of a line to Unicoi in which an excessive error was distributed.

DYSORTVILLE, SOUTHEAST ALONG HIGHWAY, TO CASAR; THENCE NORTH VIA CAMP CREEK AND ENGLA TO MORGANTON.

 Fairview Church, north of road at top of hill, in foundation on west side of building; bronze tablet stamped "1247 ASH". Hodge, 300 feet east of former post-office, in large bowlder south side road; bronze tablet stamped "1135 ASH". 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". Jacob Fork, 1.25 miles north of, on east side of road opposite small house; in rock ledge; copper bolt stamped "1270 ASH". Morganton, 5.4 miles south of, opposite walnut tree, in large rock east of road at stream; bronze tablet stamped "1204". Morganton, northwest corner of north portico of county court-house; bronze tablet stamped "1182 M C". 	1, 246. 892 1, 134. 514 1, 192. 491 1, 269. 528 1, 203. 097
BRIDGEWATER, NORTH TO PLEDMONT SPRINGS.	
 Linvilles store, 250 feet west of, 15 feet north of center of road; iron post stamped "1365 ASH". Joy, 1 mile northeast of post-office, in northwest angle of crossroads; iron post stamped "1198 ASH". 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, 197. 225
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" 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-	1, 097. 028
num tablet ^a stamped "1182" Gamewell, on opposite side of road from former post-office, 2 feet west of	1, 181. 725
northwest corner of building; iron post stamped "1078 ASH" Hartland, 1 mile southwest of, in front of schoolhouse, in root of black-oak	
tree; nail. Hartland, 1,000 feet west of former post-office, in angle of Courtney's store	
building; iron post stamped "1195 ASH" 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	
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,	2, 403. 086
OLD 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"	
feet north of road, in solid rock; copper bolt stamped "1534 ASH" 1 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"	L

^a Set July 19, 1909, by s. T. Montgomery.

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GREENLEE, SOUTH TO SUGAR HILL (SINGLE SPUR LINE).

Sugar Hill, 1 mile east of post-office, at road fork, 20 feet south of center of road; iron post stamped "1282 ASH"	Feet. 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" 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, WEST TO BALD CREEK; THENCE SOUTHWEST TO IVY.	
 Micaville, in fork of road, 30 feet northwest of northwest corner of post-office; iron post stamped "2504 ASH". Burnsville, 2 feet west of south entrance to county court-house, a aluminum tablet stamped "2817 ASH". Bald Creek, 0.25 mile east of post-office, 10 feet north of center of road, in rock; copper bolt stamped "2555 ASH". 	2, 816. 678
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 South Toe River, west of road, in rock ledge; aluminum tablet stamped "2676 ASH".	
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"	
LINE).	·.
Pensacola, in foundation stone at southwest corner of Baptist Church; aluminum tablet stamped "2858 ASH"	-
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 square	
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 Hunters Chapel, 100 feet south of, 15 feet north of road, in root of small red- oak tree; nail	
 Court-house torn down and tablet removed in 1908. Excessive error distributed in this line. 	

ASHEVILLE QUADRANGLE.

AT ASHEVILLE.

 Asheville, Federal Building, in wall on east side of south entrance to post-office; aluminum tablet stamped "2210 ASH". 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". 	2, 208. 412
ASHEVILLE, SOUTH TO SANDY BOTTOM.	
Asheville, Southern Railroad station, opposite ticket office window; top of nearest rail. Asheville, southeast corner of iron highway bridge over French Broad	1, 984. 6
River, abutment pier, 15 feet from center of roadway; chiseled crossing square inside circle	
Carriers Springs, 42 feet from former post-office, at crossing of Southern Railroad (Murphy branch); top of rail Asheville, 3 miles southwest of, in southeast corner of abutment pier of	2, 138. 7
highway bridge over Hominy Creek; copper bolt stamped "U.S.G.S. 2002 Ft. B. M."	1 999 138
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"	-
SKYLAND, NORTH ALONG SOUTHERN RAILWAY, TO BILTMORE.	
Buenavista, opposite mail-bag holder; top of east rail	2, 233. 0
square stone; chiseled cross in circle	1, 992. 96
	•
 Asheville, highway bridge across French Broad River, on end of east wing of abutment at north end of bridge; marked point. 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
Turnpike, east of branch flowing into Hominy Creek, just south of switch; copper bolt in rock on north edge of highway, stamped "2259 A"Canton, 30 feet south of railroad, 25 feet east of highway, at east end of	2, 257. 546
railroad 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, in bowlder 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 feet northeast of north bank of Pigeon River, 300 feet west of mouth ^o f Crab-	•
tree Creek; iron post stamped "2452 A" Fines Creek, 50 feet north of former post office, 20 feet south of center of road, iron post stamped "2601 A"	
a November 6, 1909, reported reset 3 to 8 feet higher.	

ALEXANDER, WEST VIA LEICESTER, TO SANDYMUSH (SINGLE SPUR LINE).

Alexander, 310 feet west of station, 11.1 feet north of north rail of main reet. Feet. track, in stone; copper bolt stamped "1796 ASH"
stone at road fork; aluminum bolt stamped "2157 ASH"
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
iron post stamped "2133 A"
"1848 A"
stamped "2417 A"
MARSHALL, NORTH TO WALNUT RUN (SINGLE SPUR. LINE)
Marshall, in wall at southeast corner of county court-house; bronze tablet'stamped "1646 A"
BARNARD, NORTH VIA DUELL HILL AND WHITE ROCK, TO SHELTON LAUREL CREEK (SINGLE SPUR 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"
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, in rock 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"
aluminum bolt stamped "2237 A" ⁴

BLUFF, WEST TO ROARING FORK CREEK (SINGLE SPUR LINE).

Bluff, 6.3 miles west of post-office, 1.34 miles west of mouth of Roaring Fork	
15 feet north of bank, 20 feet west of ford, 10 feet west of center of road,	Feet.
in stone; aluminum tablet stamped "2766 A" 2,7	64.472

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 BOTTOM, SOUTHEAST VIA MILLS RIVER, TO RUGBY; THENCE NORTH TO SKYLAND.

Avery, 0.75 mile north of, east side of hollow, 40 feet north of spring, 45 feet	
east of blacksmith shop at foot of Ball Mountain, in large rock; copper	Feet.
bolt stamped "U. S. G. S. 2184"	2, 174. 105
Gypsy, 100 feet northeast of former post-office, west of road, in rock; copper	
bolt stamped "U. S. G. S. 2182"	2, 172.015
Mills River, 20 feet east of former post-office, in rock; copper bolt stamped	
"U. S. G. S. 2086"	2,075.546
Fletcher, east side of stone curb of well at southeast corner of post-office;	
bronze tablet stamped "2123"	2, 112.383
Fletcher, Southern Railway station; top of rail	
Skyland, in front of station; top of rail	2, 253.8

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, 387. 258 CANTON, SOUTH 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-A"... 2, 735.623 SONOMA, SOUTH UP WEST FORK PIGEON RIVER, TO LAVINIA. 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 NEAR' LAVINIA, SOUTHEAST UP LITTLE EAST FORK. Little East Fork, 0.25 mile south of ford, 3 miles south of road fork up West Fork, about 10 feet west of road, about 50 feet north of crossing of branch, in AT WAYNESVILLE. Waynesville, 135 feet north of station, 40 feet east of main track; iron post

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
MILLS 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	2199. 19
100 yards from house east of road, 16 feet from center of road, in rock north of road; copper bolt stamped "2209" Brevard, at entrance to court-house, west end of bottom step; chiseled	2198±
cross	2227.09
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	2100. 55
stamped "2154" 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	2143. 360
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	2097. 99
stamped ''2201 ''	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-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-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.`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 mile- post from Brevard, in large rock 5 feet west of center of road, in bank; copper bolt stamped "U. S. G. S. 2189"	2178. 908
TEFT THE FOR THE ALL AND THE FOR THE F	

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CHERRYFIELD, 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" Tucker Creek, 3.1 miles above mouth, in fork of road near ford of north fork of creek, 4 feet east of oak tree; iron post stamped "2976-A" 	Feet
ROSMAN, WEST UP SAPPHIRE ROAD TO INDIAN CREEK (SINGLE SPUR LINE).	ı
Tip Top, 2 miles west of, on Sapphire road, 15 feet from west end of bridge over Indian Creek, 6 feet from and 2 feet above center of road; copper bolt stamped "U. S. G. S. 2743"	2732. 250
ROSMAN, EAST TO EAST FORK; THENCE SOUTH TO SASSAFRAS GAP (SINGLE SPUR LINE).	
 East Fork, 100 yards south of Gillespie's house, 0.12 mile south of large white church which stands close to former East Fork post-office, 1 mile northwest 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; copper bolt stamped "U. S. G. S. 2285"	2274. 651 2774. 360
ROSMAN, 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" 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" 	1665. 911 1252. 630
SALUDA QUADRANGLE.	
FLETCHER, SOUTHEAST ALONG SOUTHERN RAILWAY, TO STATE LINE NEAR TRYON.	
Brickton, crossing of public highway Naples, opposite store, in sill of switch stand; railroad spike Hillgirt, west rail opposite crossing board Hendersonville, at crossing north of station; top of rail 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	2094 2077. 65 2122. 9 2125.
1903". 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".	2153. 474 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; <i>a</i> iron post stamped "2084-RALEIGH-1903"	2083. 934
Saluda, in front of station; top of rail	2074. 4
<i>a</i> Description furnished by U. S. Staton, resident, who reset this bench mark. 53493°—Bull. 441—11—7	

RESULTS OF SPIRIT LEVELING, 1896 TO 1909.

 Saluda, 0.3 mile east of station, 50 feet northwest of railroad, in brick wall at southwest corner of Dr. E. B. Goelet's drug store, 4 feet above ground; aluminum tablet stamped "2096 RALEIGH 1903" Melrose, in front of station; top of west rail Rockcliff, in front of station; top of west rail 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." Tryon, road crossing north of; top of rail 	Feet. 2096. 172 1485. 4 1407. 1 1074. 712 1185 1057. 9
FLETCHER, SOUTHEAST ALONG HIGHWAY, 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 Hendersonville roads; iron post stamped "2171 RALEIGH 1903" 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 	2170. 692
of store; iron post stamped "2196 ADJ." 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	2195. 556
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." Batcave, 3.2 miles east of, 0.2 mile east of Mountain View Inn, 400 feet east 	1471. 863
of bridge over Broad River, north side of road, in large granite bowlder; aluminum tablet stamped "1040 ADJ." Chimney Rock, 4 miles east of post-office, 200 feet north of second crossing	1040. 072
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." 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	1078. 174
of road; a aluminum tablet stamped "1031 ADJ." 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.". 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.". Columbus, at southeast corner of court-house; iron post stamped "1109 ADJ."	
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

¢ On single spur line north from Turners.

SOUTH CAROLINA.

AT AND NEAR SANDY PLAINS.4

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	Feet.
road; iron post stamped "1003 ADJ." 1	l, 003. 010
Sandy Plains, 20 feet west of store of Henry Flynn, 40 feet north of road	
crossing; iron post stamped "1019 ADJ." 1	1, 018. 656
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	١
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 COUNTIES.

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 RAILWAY, TO YORKVILLE.	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 RAILWAY, 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 RAILWAY, TO WHITE OAK.

Chester, near station, front face north end Nicholson Hotel; bronze tablet	
stamped "540 COLUMBIA 1900"	538. 799
Cornwell, 0.3 mile north of, front face of W. O. McKeown & Son's machine	
shop; bronze tablet stamped "640 COLUMBIA 1900"	639.228
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 COLUM-	
BIA 1900"	$626.\ 602$
Woodwards, in front of station; top of rail	578.0

^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.)

COLUMBIA QUADRANGLE.

WHITE OAK, SOUTH ALONG SOUTHERN RAILWAY, TO SIMPSON.

White Oak, 200 feet east of station, T. G. Patrick's store, north corner, front face of foundation; bronze tablet stamped "556 COLUMBIA 1900"	Feet. 555, 254
Adgers, in front of station; top of rail	530. 4
Winnsboro, in front face of court-house; aluminum tablet stamped "546	000.1
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	000.0
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
500 COLOMDIA 1900	303. 920
RIDGEWAY QUADRANGLE.	
SIMPSON, SOUTH ALONG SOUTHERN RAILWAY, 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 SOUTHERN RAILWAY, TO COLUMBIA.	
	197 0
Sharps, at station sign; top of rail Killian, Carolina Fire-Brick Works near station, in north face of large chim-	437.6
ney; aluminum tablet stamped "340 COLUMBIA 1900"	339.173
	000.170

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 was done in 1901 by F. H. Cothran.

COLUMBIA QUADRANGLE.

COLUMBIA, NORTHWEST ALONG COLUMBIA, NEWBERRY AND LAURENS RAILROAD, 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 entl; nail	164.46
Leaphart, 3 feet east of station, 75 feet west of highway crossing, 25 feet	
south of south rail, sunk in ground; iron post stamped "193 COLUMBIA	
1901 "	191.832

SOUTH CAROLINA.

Irmo, 50 feet northwest of the northwest corner of station, 1 foot west of southwest 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 "351	Feet.
COLUMBIA 1901" Irmo, 1.5 miles west of, at creek crossing, 300 feet south of residence, 10	349. 734
feet east of center of road, on stone; chisel mark Irmo, 3 miles southwest of, at crossroads, 20 feet west of Irmo road, 400 feet	360. 22
south of residence of Sam Weed, in root of hickory tree; nail Irmo, 6.8 miles southwest of, 0.5 mile south of Mrs. Young's residence, on	388. 52
rock; chisel mark Wises Ferry, Saluda River at ferry landing, 15 feet south of south bank, 13	221. 67
feet west of center of highway, in root of oak tree; nail 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	225. 26
"367 COLUMBIA 1901" Wises Ferry, 4 miles south of, 150 feet south of Dudley Creek, 8 feet west	366. 429
of center of road, in root of pine tree; nail Boyleston, 1 mile south of, 100 feet south of T. H. Rowe's residence, corner	374.46
of road, 10 feet south of center of main road, in root of sweet-gum tree; nail	384. 58
Church, 175 feet west of Boyleston Masonic Lodge building, in bowlder; bronze tablet stamped "391 COLUMBIA 1901" (reported destroyed in	000.000
1908) 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	389. 938
road, in root of oak tree; nail Ella, 0.8 mile west of former post-office, Corks Ferry road, 8 feet west of	315. 67
center of bridge over Hollow Creek, south side of stream, stone in bed of creek; bronze tablet stamped "281 COLUMBIA 1901" Ella, 2.25 miles northwest of, Amicks Ferry, 20 feet west of highway at	280. 013
ferry landing, in root of large oak tree; nail 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	275. 24
post stamped "407 COLUMBIA 1901" Derrick, 4 miles north of, 20 feet north of center of Corks Ferry road, in	406. 062
root of pine tree; nail Derrick, 8.2 miles north of, 150 feet south of residence of M. G. Shealy, 20	456.70
feet west of center of Dutch road, in root of large oak tree; nail NEAR SLIGHS, EAST AND SOUTHEAST ALONG COLUMBIA, NEWBERRY AND LAURENS RAILROAD, TO CHAPIN; THENCE NORTHEAST ALONG HIGHWAY TO ALSTON.	557. 53
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	100.000
1901"	483. 277
center of road, in root of oak tree; nail 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	442.38
COLUMBIA 1901" Lattakoo, 1 mile north of, 35 feet east of Newberry road, 200 feet west of	538. 967
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. $_{\diamond}$	
 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 	189. 653
stamped "232 COLUMBIA 1901" Wallaceville, 75 feet north of post-office, 150 feet north of north rail, 125	231. 285
feet west of highway, in root of pine tree; nail Alston, 350 feet west of station, east pier of bridge across Broad River; bronze tablet stamped "247 COLUMBIA 1901"	231. 57 246. 647
Peak, west abutment of Broad River Bridge, 2 feet south of south rail, in	
guard rail; bolt Parr, in northeast corner of platform at station; nail Dawkins, 100 feet southwest of station, 125 feet west of railroad, 50 feet south	253. 4 277. 57
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 Blairs, crossing 2 feet south of post-office, 100 feet south of center of high- way, 12 feet east of east rail of Southern Railway; iron post stamped	289. 7
"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 Blythewood, 3.5 miles west of, 12 feet east of center of highway, 100 feet	529. 75
east of residence, in root of oak tree; nail 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 COLUM-	550. 53
BIA 1901". Pleasant, 2 miles west of, 300 feet west of bridge across ditch, 12 feet east	523. 395
of road, in root of pine tree; nail Pleasant, 4 miles west of, 15 feet west of center of road, 1,500 feet west of	446. 41
Oak Grove Church, in root of oak tree; nail Lever, 2 miles west of, 20 feet west of road forks; iron post stamped "354 COLUMBIA 1901"	342. 63 352. 963
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 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	407. 11
stamped "443 COLUMBIA 1901" 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	442. 196
of road, in rock; bronze tablet stamped "287 COLUMBIA 1901"	286. 536

SOUTH CAROLINA.

Little River, 2.5 miles northwest of, at junction with road from east, 15 feet north of Monticello road, on rock; chisel mark Monticello, 500 feet east of post-office, 200 feet east of junction with Winns-	Feet. 447. 17
boro road, 30 feet south of Monticello road, in root of ash tree; nail Monticello, 100 feet east of Winnsboro road, 150 feet north of Columbia road, 50 feet south of post-office, in chimney of McMachen residence; bronze tablet stamped "513 COLUMBIA 1901"	503. 42 512. 022
•	012.022
MONTICELLO, NORTHEAST ALONG HIGHWAY, TO STEVENSON; THENCE EAST TO WINNSBORO.	
Monticello, 3 miles northeast of, 15 feet east of center of road, 500 feet-east of residence, in root of oak tree; nail	444. 68
400 feet west of residence, in root of oak tree; nail Stevenson, 300 feet east of road, 500 feet east of former post-office, in chim-	491. 70
ney of J. E. Stevenson's house; bronze tablet stamped "536 COLUMBIA 1901"	534. 783
Stevenson, 3 miles east of, 350 feet north of milepost 5 from Winnsboro, 800 feet north of Shady Grove Church, 10 feet west of center of road, in root	
of large oak tree; nail Stevenson, 5 miles east of, 100 feet east of milepost 3 from Winnsboro, residence belonging to A. J. Willurfurd, in north chimney; bronze	531, 19
tablet stamped "500 COLUMBIA 1901":	499, 077
. MONTICELLO, WEST ALONG HIGHWAY, 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 Pleasant, 4.2 miles south of (5 miles by road mileage), 125 feet east of Winns- boro pike, 500 feet south of milepost 7 from Columbia, 1 foot west of	488. 46
northwest corner of residence of J. E. Cornelius; iron post stamped "296 COLUMBIA 1901"	004 001
	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.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	449. 30
Blair, in rock; bronze tablet stamped "500 COLUMBIA 1901"	498. 926
PROSPERITY QUADRANGLE.	
AT PROSPERITY.	
Prosperity, 300 feet north of railway, 21 feet west of center of main street.	

RESULTS OF SPIRIT LEVELING, 1896 TO 1909.

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.

PINEVILLE, N. C., SOUTHWEST ALONG SOUTHERN RAILWAY, TO ROCK HILL; THENCE WEST ALONG SOUTHERN RAILWAY TO YORKVILLE.⁴

	reet.
Rock Hill, in front of station; top of west rail	657. 9
Rock Hill, 400 feet southeast of station, in west corner of National Union	
Bank at corner Main street; aluminum tablet stamped "667 ADJ. 1903".	667.58 0
Newport, 150 feet south of south rail in front of station, 600 feet west of mile-	
post 106, midway between stores; iron post stamped "697 ADJ. 1903"	697.148
Yorkville, on narrow-gage road, in northeast corner front face of Methodist	
Church; bronze tablet stamped "758 COLUMBIA 1900"	756. 951

Fint

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. 44 6
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 stat	
"767 "	
Blacksburg, 3.4 miles southwest of, on railway bridge 4303 across I	Broad
River, in top of concrete abutment, in southeast corner; alum	inum
tablet stamped "595"	595. 119
Gaffney, 3.2 miles northeast of, on railroad bridge 431.9 over Che	
Creek, in top step of rock abutment at southeast corner of bridge; a	lumi-
num tablet stamped "635"	634. 975
Gaffney, in west face at southwest corner of station, 4 inches above pa	.ving;
aluminum tablet stamped "779"	779.084
Gaffney, 3.3 miles south of, east edge of Gaffney-Union road, immedi	
in front of J. S. Littlejohn's house; iron post stamped "799"	798. 527

a Portion of line from Salisbury, N. C., to Yorkville, S. C.

SOUTH CAROLINA.

Pettys Store, 0.9 mile southeast of, Howells Ferry and Bates Mill roads, in forks; iron post stamped "765"	Feet. 765. 293
Lawn, crossing of Howells Ferry and Union roads, in southeast angle; iron post stamped "739"Lawn, 2.5 miles southeast of, Smith Ford road, in west face of outside	738. 882
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" Maud, 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	851. 495
"840" Maud, in west face of outside brick chimney of R. E. Linder's house, at west end of house; aluminum tablet stamped "956"	839. 971 956. 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, at junction of second-class T road west, 60 feet northwest of northwest corner of Mrs. Neil's lot; iron post stamped "771" Yorkville, 6.5 miles north of, junction of Kings Mountain road and T road west to Piedmont Springs and Kings Creek, in northwest angle of fork; 	770. 542
iron post stamped "781" Bethany, 0.9 mile south of, on east side of Kings Mountain and Yorkville road, 0.2 mile north of T road west, in west side of outside chimney at south end of R. N. Plaxico's house, occupied by Green Hunt; aluminum	781. 343
tablet stamped "798" 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"	797. 961 865. 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"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	817. 378
crossing, 40 feet east of rail; aluminum tablet stamped "761" Kings Creek, in base of outside brick chimney to Wilburn & Co.'s store,	761. 026
west end; aluminum tablet stamped "601" Smyrna, in south face of southwest pillar of W. W. Castle's house; aluminum tablet stamped "751"	601. 010 751. 043
SHARON QUADRANGLE.	1011010
LOWRYVILLE, WEST ALONG HIGHWAYS, TO CALVIN; THENCE NORTH TO NEAR BLAIRSVILLE AND EAST TO GUTHRIESVILLE.	·
Lowryville, 3.3 miles south of, 300 feet north of forks in road, northwest corner of chimney of T. A. McNinch's house; aluminum tablet stamped "602 ADJ. 1905"	601. 637
	552.001

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RESULTS OF SPIRIT LEVELING, 1896 TO 1909.

Clarkson, 200 feet west of former post-office; iron post stamped "633 ADJ. 1905"	Feet. 633. 431
Calvin, 2.6 miles north of former post-office, 300 feet south of road forks, 300 feet south of J. A. Day's house, at north foot of short hill; iron post stamped "557 ADJ. 1905"	556. 822
Blairsville, 3 miles southwest of, 600 feet east of road forks, near large oak tree in corner of grove; iron post stamped "630 ADJ. 1905"	630. 109
Blairsville, 2.9 miles south of Sharon, 700 feet north of road forks, in chimney of R. L. Rainy's house; aluminum tablet stamped "669 ADJ. 1905" McConnellsville, 3.5 miles west of, road forks at top of hill opposite George	669. 083
Foster's house; iron post stamped "624 ADJ. 1905"	623. 748
YORKVILLE, WEST ALONG SOUTHERN RAILWAY, TO HICKORY GROVE; THENCE WEST ALONG HIGHWAYS, TO NEAR SMITH FORD AND SOUTHEAST TO BLAIRSVILLE.	
Yorkville, at station of narrow-gage road, northeast corner of front face of Methodist Church; bronze tablet stamped "758 COLUMBIA 1900"	756. 951
 Sharon, 300 feet east of, 200 feet north of road crossing, 20 feet south of road; iron post stamped "638 ADJ. 1905" Hickory Grove, 0.2 mile south of station, 100 feet north of post-office, 100 feet west of crossroads, in front face of J. N. McGill's store; aluminum 	637. 488
tablet stamped "686 ADJ. 1905" Hickory Grove, 5 miles southwest of, 100 feet east of road forks, in J. A. Thompson's yard; iron post stamped "546 ADJ. 1905"	685. 394 , 545. 829
Hoodtown, 150 feet west of, in road forks; iron post stamped "608 ADJ. 1905"	608. 097
Hickory Grove, 3.7 miles west of, 1 mile southeast of Smith Ford, in yard of H. C. Smith; iron post stamped "518 ADJ. 1905"	517.007
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 Creek- Pinckney 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	570 700
 "571 ADJ. 1905". Lockhart, 5.5 miles southeast of, 100 feet east of Calvin and Wilksburg roads, 500 feet west of Brawley's house; iron post stamped "565 ADJ. 1905". 	570. 702 565, 696
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"	725.186
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

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SOUTH CAROLINA.

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 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; irðn post stamped "1066"	
Middle Saluda, 0.25 mile southeast of, in road forks to Jones Gap and up	1,001.000
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 cor- ner of former post-office; iron post stamped "1101 RALEIGH 1903"	1 101 044
	1, 101. 844
STATE LINE NEAR TRYON, N. C., SOUTHEAST TO LANDRUM; THENCE SOUTHWEST 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."	1 069 779
Gowansville, 150 feet east of former post-office, 100 feet south of old frame	1,002.775
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."	1 009 107
Highland, 100 feet east of former post-office, 20 feet west of storehouse at	1,002.197
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."	1 002 951
Tigerville, 3.4 miles west of, 200 feet northeast of Cross Plains Church, 100	1,000.201
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; THENCE NORTH TO SANDY PLAINS, N. C.; THENCE SOUTHWEST TO LANDRUM, S. C.4	مند :
Andover, 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	Feet.
stamped "1024 ADJ."	1,024.306
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."	1,074.113
Inman, 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.

BRADLEY, COOKE, HAMBLEN, JEFFERSON, 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 0000
North Carolina-Tennessee state line crossing; north rail	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."	1, 182. 987
Swatzel, in front of station sign; top of north rail	1, 172. 7

Foot

MOUNT GUYOT QUADRANGLE.

SWATZEL, WEST ALONG SOUTHERN RAILWAY, TO NEWPORT.

Delrio, in front of station; top of north rail	1, 140. 0
Big Creek, west abutment of bridge S. 195.3, north wing wall, 12 feet north	
of north rail; copper bolt stamped "1141 M. C."	1, 139. 711
Bridgeport, in front of station; top of north rail	1, 086. 1
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	1, 088. 5
Newport, in northeast corner of county court-house; bronze tablet stamped	
"1058 M. C."	1,057.017
Newport, in front of station; top of north rail	1,050.7

a The North Carolina portion of this line appears in another list (p.99).

MORRISTOWN QUADRANGLE.

NEWPORT, NORTH ALONG SOUTHERN RAILWAY, TO MORRISTOWN; THENCE SOUTHWEST TO JEFFERSON CITY.

JEFFERSON CITY, SOUTHWEST ALONG SOUTHERN RAILWAY, TO CASWELL.

Newmarket, in front of station; top of north rail Friends, road crossing at station; top of north rail Hodges, 0.6 mile east of, in southeast corner of east abutment of culvert	985.2
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	896.7
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.

BEARDEN, 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,	æ ¹
in east wall; copper bolt stamped "940 M. 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."	818.687
Boyd, in front of station; top of north rail	842.3
Warham, in front of station; top of north rail Lenoir, 291.6 feet north of north rail, 154 feet east of station, in southeast	822. 1
corner of Lenoir City Bank; bronze tablet stamped "799 M. C."	798.060
Lenoir, in front of station; top of north rail Loudon, 0.6 mile east of, at west end of bridge A 159.0, over Tennessee	783.4
River; top of north rail	807.4
Loudon, in southwest corner of Grove street entrance to county court-house;	500 UDE
bronze tablet stamped "784 M. C.". Philadelphia, 31.6 feet north of north rail, 2 feet east of station; iron post	782. 635
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	0== 001
station, in west face of building; bronze tablet stamped "979 M. C."	977.601
CLEVELAND QUADRANGLE.	
MOUSE CREEK, SOUTHWEST ALONG SOUTHERN RAILWAY, 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-	867.730
house; bronze tablet stamped "869 M. C." Riceville, 18.2 feet south of north rail, in north front of station; 2.2 feet	807.730
from east corner; bronze tablet stamped "807 M. C."	806. 232
Sanford, at road crossing; top of north rail	800. 252 826. 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	191.425
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 Weatherly, at road crossing; top of west rail	907.4 842-3
Tennessee-Georgia state line; top of west rail	842. 3 823. 0
TATTORN CONFIRMINATION OF A DE LOSS CONTRACTORNESS CONTRACTORNESS	

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Chattanooga, Cleveland, and Ooltewah quadrangles.

BRADIEY, 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;	Feet.
in water-table; bronze tablet stamped "875 M. C."	873. 719
Cleveland, in front of station; top of rail	863.8
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 rail	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

OOLTEWAH QUADRANGLE.

OOLTEWAH, WEST ALONG SOUTHERN RAILWAY AND WESTERN AND ATLANTIC BAILROAD, TO CHATTANOOGA.

Ooltewah, in front of station; top of rail	765.2
Ooltewah Junction, in front of station; top of south rail	773. Ó
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 RAILWAY, TO CHATTANQOGA.

		Feet.
	Boyce, in front of Western and Atlantic station; top of rail	681. 0
ł.	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 QUADRANGLE.

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; bronze tablet stamped "674 NASHVILLE 1899" Wauhatchie, in front of east end of station; top of rail	Feet. 668. 582 675. 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 NASHVILLE, 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	627.0
ANDERSON, NORTHWEST ALONG NASHVILLE, CHATTANOOGA AND ST. LOUIS RAILWAY, TO JUNC- TION 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" Sherwood, opposite north side of station; top of rail 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" Tracy Junction, point of switch at junction of Tracy branch with main line of Nashville, Chattanooga and St. Louis Railway; top of rail	637. 860 661: 6 700. 729 L, 085. 3

STEVENSON QUADRANGLE.

CHATTANOOGA, SOUTHWEST ALONG NASHVILLE, CHATTANOOGA AND ST. LOUIS RAILWAY, TO STEVENSON (PORTION OF LINE).	
Carpenter, 1.7 miles east of, north end of stone culvert, in top of capstone; bronze tablet stamped "665 NASHVILLE 1899"	Feet. 661. 874
ANDERSON, NORTHWEST ALONG NASHVILLE, 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, CHATTANOOGA 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 	968. 105
stamped "952 NASHVILLE 1899"	948. 876 958. 0 999. 930 930. 4
ELORA QUADRANGLE.	000.1
MAXWELL, SOUTHWEST ALONG NASHVILLE, CHATTANOOGA AND ST. LOUIS 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" Elora, at crossing of Columbia branch opposite station; top of south rail Elora, 155 feet north of station, east end of culvert under highway, north side of track, in top of capstone; bronze tablet stamped "929 NASH-	913. 008 925. 5
VILLE 1899 " Flintville, 1,450 feet west of station, south end of brick culvert, in middle face of east capstone; bronze tablet stamped "895 NASHVILLE 1899"	925. 757 . 892. 228
FAYETTEVILLE QUADRANGLE.	
KELSO, NORTHWEST ALONG NASHVILLE, CHATTANOOGA AND ST. LOUIS RAILWAY, TO HOWELL.	•
Kelso, opposite south end of station; top of rail 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	741. 0
in 1910 Fayetteville, northwost corner of station; top of rail Fayetteville, east side of court-house, north of entrance, about 4 feet above ground; aluminum tablet stamped "724 NASHVILLE 1899"	692. 5 665. 9 720. 559
PETERSBURG QUADRANGLE.	
HOWELL, NORTHWEST ALONG NASHVILLE, CHATTANOOGA AND ST. LOUIS RAILWAY, TO BELFAST.	
Howell, opposite east end of station; top of rail Howell, 0.5 mile west of, bridge seat at southwest corner of bridge 64.4;	748. 2
bronze tablet stamped "713 NASHVILLE 1899" 53493°—Bull. 441—11——8	709.964

RESULTS OF SPIRIT LEVELING, 1896 TO 1909.

 Petersburg, brick flour mill of H. C. Dwiggins, on north side, 18 feet west of northeast corner, 4 feet above ground; aluminum tablet stamped "750 NASHVILLE 1899"	Feet. 746. 968 806. 5 854. 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 Lewisburg, in front of west end of station; top of north rail	734. 537 741. 4
GROVELAND QUADRANGLE.	
LEWISBURG, NORTHWEST ALONG NASHVILLE, CHATTANOOGA AND ST. LOUIS RAILWAY, TO COLUMBIA.	
 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" Hills (Groveland post-office), 1.6 miles west of, at north corner of bridge over Silver Creek, top of pier; bronze tablet stamped "595 NASH-VILLE 1899" 	686. 712 591. 948
DARKS MILL, NORTHEAST ALONG LOUISVILLE AND NASHVILLE RAILWAY, TO THOMPSONS.	001.040
Kleburne, in front of station; top of rail Kleburne, 0.4 mile north of, west side of rock cut, in face at north end of ledge; bronze tablet stamped ''703 NASHVILLE 1899"	679. 6 700. 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 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"	612. 9
wall; bronze tablet stamped "600 NASH VILLE 1899"	596. 608
FRANKLIN QUADRANGLE.	
THOMPSONS, NORTHEAST ALONG LOUISVILLE AND NASHVILLE BAILROAD, TO CALLENDER. Thompsons, 900 feet west of station, west abutment of stone culvert, top	
of middle step at south end; bronze tablet stamped "797 NASHVILLE 1899" 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"	795. 504 695. 593
West Harpeth, in front of station; top of rail	697.8

a Reestablished on north front of building, 1907.

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Franklin, halfway between front entrance and northeast corner of county court-house, in top course of foundation masonry; aluminum tablet stamped "648 NASHVILLE 1899" Franklin, in front of station; top of west rail 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	Feet 646.448 643.5
tablet stamped "701 NASHVILLE 1899—697–1901."	699. 797
NASHVILLE QUADRANGLE.	
CALLENDER, NORTH ALONG LOUISVILLE AND NASHVILLE RAILROAD, TO NASHVILLE.	•
Brentwood, in front of station; top of east rail Overtons, 450 feet south of station, west wing of south abutment, over	757.7
highway bridge, top course of masonry; bronze tablet stamped "612 NASHVILLE 1899-608-1901"	611.009
Nashville, Broad-street entrance to custom-house, in face of second balus-	011.000
trade from west end of stone steps; aluminum tablet stamped "498 NASHVILLE 1899-495-1901"	497.104

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	Feet.
1901"	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	FO 1 100 1
"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	470 000
stamped "469" Antioch, 220 feet east of station, 45 feet from track, on left of path leading	470. 386
down to spring; aluminum tablet stamped "503"	504. 702
Antioch, 390 feet south of station, 290 feet south of road forks, east side of	004.702
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	002.0.0
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"	555. 9 83

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" Wade, 0.3 mile southeast of station, in north end of west abutment of railroad bridge over county road; aluminum tablet stamped "549" 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" 	Feet. 560. 537 550. 392 561. 182
MURFREESBORO QUADRANGLE.	
NASHVILLE, SOUTHEAST ALONG NASHVILLE, CHATTANOOGA AND ST. LOUIS RAILWAY, TO MURFREESBORD (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. 818 571. 0 583. 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" 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" 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" 	658. 704 631. 816 780. 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; aluminum tablet stamped "663". 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; 	664. 654
aluminum tablet stamped "680"	683. 615
Woodbury, on south side of county court-house, in east stone balustrade of steps leading into front entrance; aluminum tablet not stampedWoodbury, 2.98 miles east of, 332 feet east of road forks on north bank of	714. 567
Stone River, in limestone; aluminum tablet not stamped 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	725. 088
Preston, in bench of rock north of road; aluminum tablet not stamped	758. 749

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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 horizontally.	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) 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	274. 368
"T. P. a" (elevation by 1903 adjustment, 240.589) Memphis, at South Fourth-street crossing of Southern Railway track; chis-	240. 588
eled 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 Memphis, center of crossing of the Illinois Central Railroad and the Frisco-	260. 5
Rock Island line Memphis, 3.6 miles south of post-office, center of crossing of Yazoo and	262.42
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
Memphis, 4.3 miles south of post-office, 40 feet east of track, 240 feet north of	240.27
semaphore; iron post stamped "247"	247. 108
Mallory, in front of station; top of rail	237.4
West Junction, at junction of railroad; top of rail. West Junction, 1.5 miles south of, 80 feet east of road crossing, 300 feet	235.44
south of milepost, at corner of fence; iron post stamped "257" West Junction, 3.4 miles south of, 50 feet east of track just outside of right-	256. 830
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 MILES 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

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 enlarging of building.

PRIMARY LEVELING.

Abingdon, Cranberry, Greeneville, Morristown, and Roan Mountain quadrangles. CARTER, GREENE, HAMBLEN, SULLIVAN, UNICOL: 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 RAILWAY, TO MOHAWK (CHECKED LEVELS).

Morristown, in northeast corner of county court-house, facing northwest	Feet.
bronze tablet stamped "1351 MC"	1, 349. 775
Russellville, 100 feet west of station, crossing; top of north rail	1, 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"	1,273.785
Whitesburg, 150 feet east of station, main track at street crossing; top of	
north rail.	1, 186. 2
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".	1, 153. 511
Bull Gap, at highway crossing	1, 201. 7
Mohawk, 200 feet west of station, main line at highway crossing; top of	
north rail	1,087.5

GREENEVILLE QUADRANGLE.

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

Midway, 75 feet northwest of station, 25 feet south of main line of railroad,	
brick foundation of residence and hotel of Mrs. S. J. Maloney, 5 feet west	
of entrance; bronze tablet stamped "1270 ASH" 1,268.61	10
Mosheim, 50 feet east of station, main line at highway crossing; top of north	
rail	
Rader, main line at highway crossing; top of north rail 1, 215.6	
Rader, 1.6 miles east of station, arched railway culvert over Little Chucky	
Creek, 240 feet east of 62d milepost, 25 feet south of main line, in third	
step of stone from top of northwest wing; bronze tablet stamped "1251	
ASH " 1, 249. 75	58
Greeneville station, 75 feet south of, on top of railway bridge over Depot	
street, on east end of coping of north abutment; chiseled point 1,553.20	6

Greeneville, at northeast corner of intersection of Main and Depot streets,	
at northwest corner of Greene County Bank, 2 feet east of main entrance,	Feet.
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	1, 460. 4
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	1,525.1
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 RAILWAY, 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 correr 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	1,677.4
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" Johnson City, Jonesboro Bank of Johnson City, in front of building on triangle; bronze tablet stamped "1626 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" Unicoi, at east corner of hotel; bronze tablet stamped "1922 ASH" NEAR SHELL CREEK, NORTHWEST ALONG EAST TENNESSEE AND WESTERN NORTH CAROLINA RAILROAD, TO JOHNSON CITY.	1, 765. 028 1, 921. 746
Elkpark, N. C., 2.46 miles northwest of, at southeast end of railroad trestle; on coping	2, 961. 57
over Wilson Creek, in ledge of rock; bronze tablet stamped "2626 ASH".	,
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

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JOHNSON CITY, ALONG HIGHWAYS VIA DEVAULT FORD AND SPURGEON FORD, TO BLUFF CITY. Johnson City, at Unaka Bank, in southwest corner of west wall; U. S. G. S. Feet. tablet stamped "1626 ASH"..... 1,625.992 Carnegie, crossing of Carolina, Churchfield and Ohio Railroad and the Southern Railway; opposite switch stand; top of rail...... 1,600.8 Davault ford, 0.9 mile west of, 75 feet west of Johnson City-Flourville road, 15 feet north of Jonesboro-Bristol road, 3 feet south of Union School, in rock ledge; bronze tablet stamped "1425 ASH"..... 1,424.119 Gross's store, 0.6 mile east of former post-office, 1 mile southeast of Spurgeon ford of Holston River, 700 feet northwest of junction of Spurgeon ford road with Bluff City road, on northeast edge of road near fence corner and large oak, in rock ledge; bronze tablet stamped "1444 ASH".. 1, 443. 767 BLUFF CITY, SOUTHEAST ALONG VIRGINIA AND SOUTHWESTERN RAILWAY, 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 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 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 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 Cardens Bluff, opposite mail crane; top of east rail...... 1,736 HUNTER, ALONG VIRGINIA AND SOUTHWESTERN RAILWAY 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 CARDEN'S BLUFF, NORTHEAST ALONG VIRGINIA AND SOUTHWESTERN RAILWAY, TO POINT NEAR GOUGE (CHECKED SPUR LINE). Gouge, in front of station; top of rail..... 1,766 Gouge station, 950 feet southeast of, at milepost 104, in north wing of retaining wall of trestle over small stream; bronze tablet stamped "1758 POINT 0.3 MILE NORTHEAST OF HOUSLEY, NORTHEAST ALONG HIGHWAY AND BEAVER DAM RAILROAD, 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

ABINGDON QUADRANGLE.

POINT 0.3 MILE NORTHEAST OF HOUSLEY, NORTHEAST ALONG HIGHWAY AND BEAVER DAM RAILROAD, TO DAMASCUS, VA. (PORTION OF LINE).

Colesville, 5.5 miles northeast of, on road to Crandull, east side of road and on north side of mountain; cross on ledge of rock, marked "2900.5"		Feet. 899. 82	2
Crandull, 0.6 mile northeast of, 25 feet north of railroad, in sharp curve,			
on rock ledge; chisel mark "2538.4"		537.75	5
Crandull, 0.6 mile northeast of, 25 feet north of railroad, in sharp curve in rock ledge; aluminum tablet stamped "2539"		538. 08	36
Crandull, 5.6 miles northeast of, 12 feet east of north entrance to tunnel,			
in rock ledge; aluminum tablet stamped ''2153"	2, 1	1.52.64	19
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")26. 17	/
Dollars, 3.4 miles southeast of Damascus, 12 feet west of road fork to east;			,
cross on rock ledge, marked "2169"	2, 1	.08, 08)
Laurel Bloomery, 200 feet southeast of road forks to Mountain City and Damascus, 225 feet south of post-office, 25 feet east of spring, in ledge of			
rock at point of hill; aluminum tablet stamped "2412"		(11 1 <i>4</i>	15
Laurel Bloomery, 3.5 miles east of, 3 feet south of road, about 0.5 mile from		(I.I., I.J	U
top of mountain, 100 yards west of sawmill; cross on rock ledge, marked	•		
"3334"	3, 3	33.14	ł

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.

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.

Straw Plains, in front of Southern Railway station; top of north rail..... 888.5

MASCOT, NORTH ALONG HIGHWAY, TO CORRYTON (DOUBLE-RODDED LINE).

CORRYTON, NORTHEAST ALONG SOUTHERN RAILWAY, TO CUMBERLAND GAP (MEAN OF DIRECT AND REVERSE LINES).

AND REVERSE LINES).	Feet.
Luttrell, in front of station; top of west rail	
Republic Quarry Junction, in front of switch stand; top of west rail	
Luttrell, 1.4 miles north of, 14 feet east of east rail of track, in stone cul-	
vert; bronze tablet stamped "1082 LEXINGTON"	
Powder Spring, opposite switch stand; top of west rail	
Powder Spring, 1.4 miles north of, 42 feet east of east rail, 437 feet north-	1, 221. 0
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 "	
Washburn, in front of station; top of west rail	
Washburn, 1.7 miles north of, 17 feet north of north rail, 360 feet west of	
milepost 34, 50 feet east of cattle guard, in northeast corner of stone cul-	
vert; bronze tablet stamped "1278 LEXINGTON "	· · ·
Liberty Hill, in front of station, main track; top of rail	
Williams Springs, in front of station, main track; top of west rail	
Dutch, in front of station, main track; top of west rail	
Oakman, in front of station, main track; top of west rail	
Oakman, 0.4 mile north of, 10 miles south of New Tazewell, in southeast	
corner of south abutment of bridge over Clinch River; aluminum tablet	
stamped "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 "	
New Tazewell, in front of station, main track; top of west rail	
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	Ē
steel bridge over Powell River; aluminum tablet stamped "1045 LEX-	
INGTON "	
Powell River, at bridge; surface of water	1,014
Ore Bed Junction, in front of switch stand, main track; top of west rail	
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 "1304	ł ,
LEXINGTON "	
Cumberland Gap, in front of Southern Railway station; top of west rail	
Cumberland Gap, Louisville and Nashville Railroad; top of rail	1, 319. 4
Cumberland Gap, summit of, on stone Tennessee-Virginia corner post at	5
Kentucky state line; chisel point	1, 648. 47

Ducktown special (Ellijay and Murphy) quadrangle. POLK COUNTY.

The elevations in the following list were determined by extensions from an adjusted elevation at Blue Ridge, Ga. The line was run twice, but a discrepancy of ± 1 foot occurs in leveling between Galloway, Ga., and 2 miles north of Kyle, Ga., and this section should be

122,

rerun. The line from Blue Ridge to Kyle, Ga., is given in list under Ellijay quadrangle, Georgia (pp. 38-39).

DUCKTOWN SPECIAL (ELLIJAY AND MURPHY) QUADRANGLE.

M'CAYS, NORTH ALONG LOUISVILLE AND NASHVILLE RAILROAD, TO POINT 0.7 MILE NORTH OF HUNTER.

Isabella Junction, 0.4 mile northwest of, 200 feet north of large creek, 200 feet south of switch post, in rock ledge; aluminum tablet stamped "1467"	Feet.
Isabella Junction, 3.1 miles north of, 250 feet west of spring, 400 feet east	
of large stream, 50 feet east of railroad, in rock ledge; aluminum tablet	
stamped "1441"	
Ducktown (Postelle post-office), 800 feet east of station, 150 feet southwest	
of spring, in large bowlder; aluminum tablet stamped "1559"	
Postelle, 2.6 miles north of, 250 feet north of Brush Creek schoolhouse, 200	
feet east of railroad, in large bowlder; aluminum tablet stamped "1638".	
Hunter, 0.7 mile north of, 4.9 miles north of Postelle, in north abutment on	
east side of bridge over Niger Creek; aluminum tablet	1, 617. 944

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- detic Survey bench mark "P-2.")	Feet. 702. 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 sand-	
stone, 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"	
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 "1601"	
Dayton, 5 miles northwest of, 50 feet west of intersection of Pikeville and	•
Loyd Gap roads, in sandstone ledge; aluminum tablet stamped "1812".	
Dayton, 7 miles northwest of, 3 feet north of road forks; nail in root of	
14-inch white-oak tree, marked "1776.5"	

RESULTS OF SPIRIT LEVELING, 1896 TO 1909.

Morgan Springs, 200 feet southwest of hotel, 25 feet south of road, 11 feet	
below level of same, in sandstone ledge; aluminum tablet stamped	Feet
"1934"	
Morgan Springs, 4.4 miles southwest of, on road to Pikeville via Loyd Gap,	- 48-53
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-	
	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	0- 1 IA
16-inch white-oak tree, marked "874.1"	874.46
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	7 700 10
sandstone ledge, marked "1199"	1, 199. 42
Pikeville, 3.3 miles west of, just at top of mountain, 3 feet north of road	0.010 110
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 #10 00
Pikeville, 7.2 miles northwest of, 50 feet east of Saratoga Springs road,	1, 713. 88
where small creek crosses, 2 feet south of 16-inch white-oak tree, in sand-	
stone ledge; aluminum tablet stamped "1723"	1 799 901
Saratoga, 150 feet southeast of spring, 300 feet southwest of corner of lot	1, 720. 091
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	1,110.102
over creek in sandstone ledge; aluminum tablet stamped "Prim. Trav.	
Sta. No. 1, 1667".	
Farmingdale, 310 feet east of southeast corner of store, 20 feet north of road	2,000,200
in 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"	918.117
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"	1,956.15
Litton, 9.2 miles south of, 100 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; alum-	
inum tablet stamped "1983"	, 983. 658

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NEAR EVENSVILLE.

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")...

742.927

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.

Feet.
646.448
686. 143
000. 143
721.804
651. 347
666. 471
706. 249
450 004
652.204
768.300
756.923

COLUMBIA QUADRANGLE.

COLUMBIA, SOUTH ALONG PIKE, TO M'CAINS.

COLUMBIA, SOUTH ALONG FIKE, 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" Columbia, 7.2 miles northwest of, on southwest side of Williamsport pike, 1,500 feet northwest of road to Crossbridges, 500 feet west of gate to Allen Harlan's place, on limestone ledge; bronze tablet stamped "666 NASH-	681. 038
VILLE 1899"	663. 403
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,	548. 276
in rock ledge; bronze tablet stamped "615 NASHVILLE 1899"	612.426
MOUNT PLEASANT, ALONG HIGHWAY VIA MOUNT JOY, HAMPSHIRE, AND ISOM, TO WILLIAMSPORT.	
Mount Joy, about 1.1 miles west of, 0.25 mile east of road to Baptist Branch, at store south of road, in rock cliff; bronze tablet stamped "684	
NASHVILLE 1899" 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	681. 088
 tablet stamped "593 NASHVILLE 1899" 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 	590. 635
1899 "	518.121
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" 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 NASH-	527. 720
VILLE 1899" 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	554.80
ledge; aluminum tablet stamped "614 NASHVILLE 1899"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	611. 37
"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" Theta, 4 miles southwest of, 2.25 miles east of Santa Fe, 1,600 feet north of 	921. 691
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"	670. 883

 Santa Fe, 0.8 mile south of, 80 feet west of pike, on north side of Snow Creek, in rock ledge; bronze tablet stamped "616 NASHVILLE 1899" Timmons, 600 feet south of Knob Creek Bridge, 200 feet west of Santa Fe pike, in large rock ledge; bronze tablet stamped "588 NASHVILLE 1899"	Feet. 613. 372 584. 748
NATCHEZ TRACE, ALONG HIGHWAY NORTHEAST, TO HILLSBORO; THENCE NORTHWEST TO FERNVALE 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" Hillsboro, northeast corner of road to Fernvale, in southwest corner of foundation of P. W. Bond's house; bronze tablet stamped "683 NASH- 	740. 896
VILLE 1899" 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-	679.934
VILLE 1899" Aden, opposite former post-office, southeast of road, in rock; bronze tablet stamped "724 NASHVILLE 1899"	603. 750 721. 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 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 QUADRANGLE.	
MOUNT PLEASANT, SOUTHWEST ALONG LOUISVILLE AND NASHVILLE RAILROAD AND HIGHWAYS VIA ROCKDALE, SUMMERTOWN, NAPIER, AND STRATHMORE, TO OVILLA.	
Rockdale station, opposite ticket office, top of south rail 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	722. 9
post stamped "1006 NASHVILLE 1902" Lindauer, 150 feet east of former post-office, at road crossing, top of south	1006.874
rail Quercus station, highway crossing, top of rail Napier, 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 leading from Natchez Trace road to post-office, in northeast corner of front yard of residence of Doctor Stockard; iron post stamped "771 NASHVILLE 1902".	802. 39 833. 92
100M	111.401

^aThis bench mark was set by the Nashville, Chattanooga and St. Louis Railway after construction work. Kindness of Chief Engineer Hunter McDonald.

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WAYNESBORO QUADRANGLE.

STRATHMORE, NORTHWEST ALONG HIGHWAYS, TO ALLENS CREEK; THENCE SOUTH TO OVILLA.

STRATHMORE, NORTHWEST ALONG HIGHWAYS, TO ALLENS CREEK; THENCE SOUTH TO OVILLA.	
 Strathmore, 70 feet east of southeast corner of post-office (commissary store of Dunstin & Sons), 300 feet east of Laurel Hill cotton factory, on north edge of road leading west to Maurice, at intersection with road leading west from cotton factory, at corner of fence; iron post stamped "760 NASHVILLE 1902"	Feet. 759. 998 691. 517 891. 238
OVILLA, WEST ALONG WAYNESBORD PIKE, TO WAYNESBORD.	
 Ovilla, 60 feet west of post-office, north of road; iron post stamped "970 NASHVILLE". 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 NASH- 	969. 783
VILLE" Waynesboro, southeast corner of court-house yard; iron post stamped	711. 110
"752 ·NASHVILLE 1902"	753. 209
 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". 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 	506. 84 9
east of cherry tree; iron post stamped "456 NASHVILLE".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;	456. 36 9
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 CREEK 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 south- west 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 "	545. 270

Stout, 4.4 miles northeast of, at road forks just east of mouth of prong of Second Creek, in front yard of dwelling; iron post stamped "630 NASH- VILLE".	Feet. 630. 466
Holt's store, on Waynesboro-Florence road, 2 miles north of Cypress Inn post-office, at northeast corner of crossroads, north of Iron City road, inside of fence and 3 feet from southeast corner of John Piggs's shop; iron	
post stamped "753 NASHVILLE 1903" Victory, in northwest corner of yard to F. M. Piggs's dwelling; iron post	753. 602
stamped "728 NASHVILLE 1903" Cyclone, in front yard of S. H. Strictlin's dwelling, 3 feet west of entrance	728.882
gate; iron post stamped "803 NASHVILLE 1903"	803. 957
Pleasant Valley, in southeast corner of graveyard just west of church; iron post stamped "941 NASHVILLE 1903" Iron City, in top of coping of west pier of iron bridge over Shoal Creek, at	941. 74 0
northwest corner; bronze tablet stamped "558 NASHVILLE 1903"	$558.\ 252$
Pinkney, in southeast corner of yard to dwelling of superintendent of Pinkney Mining Company; iron post stamped "679 NASHVILLE 1903".	680. 092
Lodi, at northwest corner of yard to Daniel McGee's dwelling; iron post stamped "777 NASHVILLE 1903"	777. 727
IRON CITY, NORTHWEST UP HOLLY CREEK.	
Iron City, 8.9 miles northwest of, in front yard of the J. C. Hollis place; iron post stamped "773 NASHVILLE 1903"	773. 54 9
ALLENS CREEK, NORTHEAST ALONG NASHVILLE, CHATTANOOGA AND ST. LOUIS RAILWAY, TO CENTERVILLE.	
Allens Creek, 2.2 miles north of, on northwest corner of coping of north pier of railway bridge over Buffalo River; chiseled cross	650. 2 5
LINDEN QUADRANGLE.	
ALLENS CREEK, NORTHEAST ALONG NASHVILLE, CHATTANOOGA AND ST. LOUIS RAILWAY, TO CENTERVILLE.	
Hohenwald, in court-house yard, 5 feet north of east entrance gate; iron post stamped "981 NASHVILLE 1903"	981. 702
Etna, in yard of Ætna Furnace Company's office building, about 30 feet west of northwest corner of railway station; iron post stamped "692	001.102
NASHVILLE 1903"	692. 308

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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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" 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" 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" 	Feet. 699. 797 594. 587 400. 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" Whites Creek, 100 feet south of, northeast corner stone of north abutment of bridge over creek; aluminum tablet stamped "466 NASH. 1901" 	$528.\ 065$ $468.\ 875$
Springfield, southeast corner stone of court house; aluminum tablet stamped "673 NASH. 1901"	. 075 007
	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" Antioch, 175 feet east of Antioch Cooperative store, 30 feet south of railroad	679. 161
track, on left of path leading down to spring, in large bowlder; bronze tablet stamped "502 NASH. 1901" (recovered by precise line) Lavergne, 400 feet east of station, 30 feet east of switch stand, 30 feet west	504. 702
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" Greenlawn, 75 feet north of Lebanon pike, 5 feet east of southeast corner of	545. 355
porch to store of J. H. Adams, 2 feet inside of wire fence; iron post stamped "673 NASH. 1901" Lygia, 300 feet east of junction of Cottontown road and Long Hollow pike,	675. 169
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

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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 north- east corner, 85 feet northeast of store of Jernigan & Freeland, west edge	Feet.
of Louisville-Nashville pike; iron post stamped "857 NASH. 1901"	860.165
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"	571. 639
GOODLETTSVILLE, NORTH ALONG HIGHWAY, TO WHITE HOUSE; THENCE SOUTHWEST TO GREEN- <i>t</i> BRIER.	
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 NASH. 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. Davenport; aluminum tablet stamped "846"Woodbury, 6.4 miles north of, on east branch of Saunders Fork, in lime-	Feet. 848. 01
 stone ledge west of road, 800 feet south of J. C. Duggin road forks, 130 feet southwest of log house; aluminum tablet stamped "785" 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 	787. 370
Creek, in limestone ledge; aluminum tablet stamped "677" Auburn, 2.6 miles west of, on Milton road, 75 feet west of Porterville road	679.051
fork to southeast, in rock ledge; aluminum tablet stamped "788" Milton, in limestone ledge outcrop in plot of grass at forks of Wilson County	789. 359
and Auburn roads, 200 feet northeast of Milton Seminary, 180 feet south- east 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 foot wort of control of road in limestane ledges cluminum tablet stamped	760. 573
feet west of center of road, in limestone ledge; aluminum tablet stamped "765"	766. 940
No. 1)	618. 116
AUBURN, TO 3.9 MILES NORTHEAST OF.	
Auburn, 1.6 miles northeast of, on Liberty road, southeast corner of cross- roads, 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	739.076



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